



ENVIRONMENTAL MANAGEMENT SYSTEM
Rivanna Water and Sewer Authority



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| Right-of-Way Maintenance Policy | Prepared By: Director of Water and Wastewater Operations; Water Resources Manager; Chief Engineer |
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1.0 PURPOSE AND SCOPE

The policy outlined in this document has been created to establish a way to manage vegetation on the distribution and sewer collection systems that poses a threat or hazard to the system's integrity and infrastructure. These systems allow the Rivanna Water and Sewer Authority (RWSA) to convey potable water and recover wastewater for approximately 100,000 customers within the City of Charlottesville and Albemarle County. Access to water lines and sewer lines is critical for operation, maintenance, and emergency repair. In addition, providing unobstructed right of way allows RWSA to accurately meet our Miss Utility marking requirements. Minimizing intrusive vegetation in utility easements provides ready access for these activities, promotes longevity of the infrastructure, and is essential to compliance with environmental regulations and water quality goals.

The intrusion of tree roots into sewer lines can cause blockages within the system than can result in sewage backups into homes, businesses, streets, and easements. Growing roots will exert considerable pressure at the cracks and joints where they have entered a sewer pipe and can cause the pipe to break and collapse, resulting in expensive replacement projects and environmental damage from sewage leaks. Trees can also grow over the top of water and sewer lines and the weight of the trunks can crush the pipes, resulting in leaks and expensive repairs.

Existing vegetation within the right-of-way and near pumping stations or other facilities must be managed in an appropriate manner and in a timely fashion to prevent the potential for service disruptions, while recognizing the aesthetic and environmental concerns which vegetation management creates. The objective of this policy is to manage vegetation with minimal adverse environmental impact. RWSA will

incorporate this policy into the annual clearing contract Scope of Work in accordance with the necessary line maintenance requirements.

2.0 APPLICABLE REGULATIONS

The Virginia Erosion and Sediment Control Law (Code of Virginia §10.1-560) specifies that activities that may result in soil erosion from water or wind and the movement of sediments into state waters or onto lands in the Commonwealth are considered “land disturbing activities” and are regulated through the Virginia Erosion and Sediment Control Regulations (4VAC50-30).

Clearing and vegetation management operations conducted by RWSA are intended to be limited to the cutting of vegetation without causing disturbance to soils and typically do not involve the removal of any stumps or “grubbing”. Therefore these clearing activities are not subject to the plan submittal and approval requirements of local erosion and sediment control regulations. (As a reference, applicable regulations for preventing erosion and controlling sedimentation within the City of Charlottesville are found in Chapter 10, Article II of the City Code. The applicable regulations for activities within Albemarle County are found in Chapter 17, Article II, Division 1 of the County Code.)

Although RWSA clearing activities are not subject to formal local government approval, individual site conditions may necessitate the temporary control of sediment and stabilization to prevent erosion. In those instances temporary silt fence shall be installed to protect off-site properties, and appropriate seed with straw mulch will be applied to prevent erosion. Silt fence, seeding, and straw mulching should be in accordance with Chapter 3 - Section 3.05 (Silt Fence), Section 3.31 (Temporary Seeding), Section 3.32 (Permanent Seeding), and Section 3.35 (Mulching) of the latest version of the Virginia Erosion and Sediment Control Handbook, respectively.

To minimize adverse impact to streams and water quality, RWSA will not allow clearing within 2 feet of any stream, unless deemed necessary. It is important to note that both the City and the County have provisions for the preservation of stream-side or “riparian” buffer vegetation. Protected areas typically extend 100 feet on each side of a stream. Many of the RWSA lines and facilities are within that riparian area and both the City and the County codes specifically exempt the construction, installation and maintenance of water and sewer lines by public agencies from their buffer vegetation requirements. These exemptions allow RWSA to remove vegetation within riparian areas for the management of water and sewer lines. The exemptions can be found in Chapter 10, Article IV of the City Code, and in Chapter 17, Article III, Division 1 of the County Code.

Water quality regulations do not mandate the installation of stabilized stream crossings as part of vegetation clearing operations. However if a live watercourse must be crossed and poor site conditions indicate the need for a stable crossing to execute the work, the use of a temporary vehicular stream crossings in accordance with Chapter 3 – Section 3.24 (Temporary Vehicular Stream Crossing) of the latest version of the Virginia Erosion and Sediment Control Handbook may be employed.

Vegetation clearing is allowed within jurisdictional wetlands provided that no disturbance to soils occurs. If work will involve excavating, dredging, redistributing soils, removing vegetation by the roots, or cutting through layers of soil, then a permit from federal and state permitting agencies may be necessary. If jurisdictional wetlands will be traversed and site conditions indicate a potential for significant soil disturbance to execute the work then wetlands mats or other stable crossing methods should be employed.

3.0 GUIDELINES

3.1 Initial Clearing

RWSA easement widths can vary from 20 to 50 feet. Where easements have not been maintained for several years, the entire width of the easement may need to be cleared of large trees and other obstructions initially. When clearing large woody material, tree stumps shall be cut to a maximum of 3” from the level ground surface to allow reasonable clearing for vehicles accessing the right of way. Stumps will only be removed if they pose a direct threat to the integrity of water or sewer line. Woody vegetation shall be chipped when possible and spread on the site where the vegetation was removed. Large woody vegetation that cannot be chipped shall be cut and removed from the site. Erosion and sediment control measure shall be implemented in accordance with RWSA’s Technical Specifications for Utility Easement Clearing (attached).

3.2 Vegetation Management

Following the initial clearing, an area of 10 feet on either side of the line will be mowed or brush hogged periodically to ensure optimum accessibility, except where groundcover alternatives acceptable to RWSA are maintained by the property owner. Where easement widths exceed 20 feet the remaining outer width of the easement will be allowed to naturally revegetate or may be planted by the property owner with vegetation acceptable to RWSA and will be cleared only in areas where necessary to make repairs or perform extensive maintenance, or as deemed necessary by RWSA.

3.3 Acceptable Groundcover Options for Inner 20 Feet

Where property owners are immediately adjacent to the inner 20 feet of an easement (closest to the line), acceptable alternative to periodic mowing include the maintenance of turf or lawn, the establishment of native grasses, or the establishment of low-growing shallow rooted groundcovers that provide equal or better visibility and accessibility to the line as periodic mowing. While RWSA will voluntarily exercise reasonable care when performing inspection, operation, or maintenance activities in the areas of the alternative plantings, RWSA cannot guarantee that damage will not occur and cannot commit to the replace damaged vegetation. The following is the approved list of groundcovers permitted within RWSA easements:

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| <i>Festuca arundinacea</i> | Tall Fescue |
| <i>Poa pratensis</i> | Kentucky Bluegrass |
| <i>Lolium perenne</i> | Perennial Ryegrass |
| <i>Achillea millefolium</i> | Common Yarrow |
| <i>Andropogon virginicus</i> | Broom Sedge |
| <i>Asclepias tuberosa</i> | Butterfly Milkweed |
| <i>Elymus virginicus</i> | Virginia Wild Rye |
| <i>Lolium multiflorum</i> | Annual Rye |
| <i>Panicum dichotomiflorum</i> | Smooth Panic Grass |
| <i>Panicum virgatum</i> | Switch Grass |
| <i>Sorghastrum nutans</i> | Indian Grass |
| <i>Rudbeckia hirta</i> | Black-Eyed Susan |

3.4 Acceptable Shrubs and Trees for Outer 20 Feet

Where easements widths exceed a total of 20 feet RWSA may allow the installation of appropriate shrub and tree species a minimum of 10 feet from the sewer line. While there are no shrubs and trees that are

completely “sewer safe”, appropriate species offer the sewer line less risk of intrusion from roots because they are smaller in size, shallow-rooted, slower growing, and drought resistant. Alternative plantings must be approved by RWSA prior to installation, and while RWSA will voluntarily exercise reasonable care when performing inspection, operation, or maintenance activities in the areas of the alternative plantings, RWSA cannot guarantee that damage will not occur and cannot commit to replaced damaged vegetation. Because of the risk of damage, plantings should be inexpensive and expendable. The following is the approved list of shrubs and trees permitted with RWSA easements:

SHRUBS

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| <i>Kalmia latifolia</i> | Mountain Laurel |
| <i>Cephalanthus occidentalis</i> | Buttonbush |
| <i>Cornus amomum</i> | Silky Dogwood |
| <i>Ilex verticillata</i> | Winterberry |
| <i>Lindera benzoin</i> | Northern Spicebush |
| <i>Rhododendron catawbiense</i> | Rosebay Rhododendron |
| <i>Viburnum dentatum</i> | Southern Arrowwood |

TREES

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|-------------------------------|---------------------|
| <i>Alnus serrulata</i> | Tag Alder |
| <i>Amelanchier arborea</i> | Serviceberry |
| <i>Asimina triloba</i> | PawPaw |
| <i>Carpinus caroliniana</i> | American Hornbeam |
| <i>Cercis Canadensis</i> | Eastern Redbud |
| <i>Chionanthus virginicus</i> | White Fringetree |
| <i>Cornus florida</i> | Flowering Dogwood |
| <i>Hamamelis virginiana</i> | American Witchhazel |
| <i>Ilex opaca</i> | American Holly |
| <i>Juniperus virginiana</i> | Eastern Redcedar |
| <i>Magnolia tripetala</i> | Umbrella Magnolia |
| <i>Magnolia virginiana</i> | Sweetbay Magnolia |
| <i>Prunus virginiana</i> | Chokecherry |

3.5 City and County Notification

At least 10 days prior to start of work, RWSA Engineering will coordinate with the Water Resources Manager to send a map showing the sections of the rights-of-way in which initial clearing will be conducted, a written description of the work to be done, the approximate removal time for the work crews, and a RWSA contact person to the appropriate City and County contacts listed below:

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| City of Charlottesville Environmental Administrator | Kristel Riddervold |
| City of Charlottesville Park and Trails Planner | Chris Gensic |
| Albemarle County Water Resources Manager | Greg Harper |
| Albemarle County Erosion Control Officer | Kenny Thacker |
| Albemarle County Parks and Recreation – Greenway/Blueway Division | Dan Mahon |

3.6 Public Notification

RWSA Engineering will notify all property owners whose property is within the easement clearing operation. When possible, notifications will also be made to appropriate Homeowner’s Associations.

Notification will be made by phone and regular mail. Questions and complaints from the public will be handled through the RWSA Chief Engineer.

Vegetation that has been assessed by RWSA Engineering to pose an immediate threat to human life or the functioning of the transmission lines will be removed without prior public notification.

4.0 RESPONSIBILITIES

4.1 The Chief Engineer and designees are responsible for:

- Managing contractors and their work in accordance with these procedures; and
- Ensuring proper notifications are carried out.
- Compliance with current RWSA safety and health policies for all Authority employees. Audit of work related activities to ensure compliance with policies

4.2 The Water Resources Manager is responsible for:

- Coordinating with the Chief Engineer regarding recommended erosion and sediment control procedures and equipment.
- Forwarding Notification documentation to the City and County of clearing activities.

5.0 ATTACHMENTS

5.1 2009-2010 Utility Easement Clearing – Technical Specifications

A. Scope of Work

The work shall include tree cutting, chipping and bush hogging of easements to facilitate maintenance and repair of utility lines. In general, easements are a full 20 feet in width, unless otherwise specified or identified in the field. Large diameter trees in the outer two feet of the easement can remain as long as they do not interfere with access to utility appurtenances. Downed existing trees 18” in diameter and smaller, shall be chipped. Downed trees greater than 18” in diameter shall be cut. Chipped and mulched material may be left onsite. Any trees or brush that are cut down and not chipped or mulched, must be removed from the site unless otherwise approved in writing by the property owner and RWSA. All tree stumps shall be cut to within a maximum of three (3) inches from level ground surface to allow reasonable clearance for vehicles accessing the right-of-way.

B. Clearing Classes

At the option of the OWNER, the OWNER may expand the scope of the Contract to include the clearing of additional 20’ wide water line or sewer line easements. For this purpose, four (4) distinct classes of clearing are generally defined as follows:

Class A: Tall grass, weeds, brambles, small shrubs, bushes, saplings and trees less than 1” in dia. at base of trunk along flat terrain.

Class B: Small trees between one and six inches in diameter that can be chipped and underbrush along moderate to flat terrain or lesser clearing class along rough terrain with limited access.

Class C: Large trees that cannot be chipped, small trees and underbrush along moderate to flat terrain or lesser clearing class along rough terrain with limited access.

Class D: Large trees that cannot be chipped, small trees and underbrush along rough terrain with limited access requiring primarily hand work to clear and remove debris.

Class E: Mowing and bush (brush) hogging of easements consisting of tall grass, brambles, and brush free of saplings and large or small trees. All vegetation in the easement shall be cut to a minimum height of 4" and a maximum height of 6". Mowing shall include trimming around manholes, valve boxes, and related RWSA structures. All Class E work shall be completed during the months of May and June unless otherwise requested by the Authority.

If the scope of work is expanded, RWSA staff will visit the proposed work site with the Contractor to determine the class of work necessary. After agreeing to the scope of work, the contract may be extended to include the work at the stipulated unit price.

C. Work Description

NOTE: This section will list the site specific activities associated with the contract.

This short description shall not in any way limit the contractor's obligation to clear the easement. It is the bidder's responsibility to visit the site to determine the scope of work necessary and to include all work in the unit price offered in this contract. Actual measured clearing length shall be the basis for final payment made. Quantities in the proposal form are estimated only and for the purpose of comparing bids.

D. Pre-Construction Conference

A pre-construction conference will be held at the office of the Owner within two weeks after the Notice of Award and will be attended by the Contractor and Owner. The Contractor shall notify the Owner 14 days prior to the start of any clearing operations.

E. Protection of Existing Facilities

The contractor shall conduct his work so as to minimize damage to existing trees, shrubs, structures, and other improvements outside the easement area. The Contractor shall use due diligence to protect all existing facilities, structures, and utilities within the easement including, but not limited to fencing, manhole frames and covers, vent pipes, and valve boxes. Any damage to any existing facility, structure, or utility shall be repaired by the Contractor to the satisfaction of the Owner and the property owner at the Contractor's expense. The contractor is required to promptly restore any landscaped property to its existing condition following completion of each project.

F. Location of Easement

The Owner shall locate the centerline of the utility or easement prior to commencing each phase of the work. It is the contractor's obligation to restrict his work to the area defined by the centerline and to protect the location of the centerline located by the Owner.

G. Cleanup

The contractor shall clean up his work daily and shall at all times maintain the project in as neat and orderly a manner as is consistent with normal operation. The Contractor shall restore all cleared areas to pre-existing grade with free drainage.

H. Work Under Electric Lines

Where an easement crosses under an overhead high voltage transmission line or other electrical conductor, special precautions shall be taken to prevent damage to the power lines. All work shall be conducted in accordance with the Virginia Overhead high Voltage Line Safety Act. As a minimum, the following procedures will be followed:

- (a) A minimum of fifteen (15) feet shall be maintained between any part of the vehicles or construction equipment being used in the installation of the pipeline and the overhead electric wires.

I. Ingress and Egress to Easement

Approximate locations for ingress and egress to the easements are shown on the maps in the Drawing section for general reference for the Contractor.

J. Notification of Property Owners

The Owner will contact and distribute flyers or letters to the residents in the vicinity of the clearing project 10 business days prior to the start of work. The flyers or letters will be prepared by the Owner. The purpose of this notification procedure is to inform the neighbors of the clearing operations and to establish a good working relationship with the surrounding property owners and occupants whose property may be affected by the clearing operations of the Contractor.

K. Stream Crossings

The Contractor shall use due diligence to minimize erosion and ensure that all stream banks are protected from all activities associated with the clearing project. No clearing activities shall be conducted within 2 feet of any stream bank, unless requested otherwise by the Owner. The Contractor shall use due diligence not to disturb soil, deposit cleared materials into streams, or conduct any other activity which may deteriorate the quality of existing streams or intermittent stream/storm channels.

L. Erosion and Sediment (E&S) Control Measures

- 1) Silt fence shall be installed in compliance with Chapter 3 - Section 3.05 (Silt Fence) of the latest version of the Virginia Erosion and Sediment Control Handbook. Seed application rates shall be in compliance with Table 3.32-D (Site Specific Seeding Mixtures for Piedmont Area) for General Slope and Low Maintenance Slope in Chapter 3 - Section 3.32 (Permanent Seeding) of the latest version of the Virginia Erosion and Sediment Control Handbook. Straw mulch application rates shall be in compliance with Table 3.35-A (Organic Mulch Materials and Application Rates) in Chapter 3 - Section 3.35 (Mulching) of the latest version of the Virginia Erosion and Sediment Control Handbook.
- 2) Silt fence shall be installed (where identified as needed by the Owner) prior to work efforts. Where existing tree coverage prevents early installation, silt fence shall be in place at the end of each working day in the extents of the cleared area. In areas identified for seeding and strawing, the seeding and strawing shall be completed by the end of each work day unless further progress of the

clearing work requires access across the previously cleared area designated for seeding and strawing. The Owner shall provide an estimate of the amounts of each type of E&S control measure to the Contractor prior to the start of work for ordering purposes. Final E&S control measure quantities and locations will be determined in the field by the Owner and may be adjusted during the clearing process to accommodate unforeseen site conditions. The Owner will not pay for the installation of E&S control measures that were not directed and approved by the Owner.

- 3) If E&S control measures are not installed properly and identified as such by the Owner, the Contractor shall re-install or correct the installation at no additional cost to the Owner. If the E&S control measures fail or become damaged prior to final completion at the clearing site, it shall be the Contractor's responsibility to replace/correct the E&S measure at no additional cost to the Owner.

M. Site Security and Trail Closure

In areas with public walking trails, the Contractor shall isolate the area to be cleared from the public by placing barricades and/or caution tape at all access points to the area during work hours. The Contractor is responsible for daily maintenance and inspections to ensure the access points are clearly marked as a dangerous work area. The Contractor shall maintain a safe work site by marking any hazards left behind between times of clearing with caution tape including but not limited to brush piles, holes, or exposed debris. The Owner shall provide advanced notice of trail closures to any organization maintaining trails within the clearing area at least 10 business days prior to anticipated work.

N. Schedule

Prior to the start of work, within 15 days of Notice to Proceed, the Contractor shall provide a detailed schedule of work to include mobilization, clearing and mowing. The schedule shall include a 25%, 50%, and 75% anticipated completion date. The schedule is subject to review and concurrent by the owner to ensure work is complete prior to the end of each fiscal year.

6.0 REVISION HISTORY

| Revision No. | Effective Date | Responsible Person | Description of Revision |
|---------------------|-----------------------|---------------------------|--------------------------------|
| 00 | | Chief Engineer | Initial Issue |
| | | | |