

Greenville Utilities

Vegetation Management Guidelines



***Greenville
Utilities***

1.0 Overview

Greenville Utilities Commission (GUC) acknowledges that trees in rural and urban settings are a vital element of the quality of life. However, when tree limbs become too close to power lines, it is dangerous and electric service can be impaired. Greenville Utilities' power line right-of-way responsibilities are first, to maintain public safety and the safety of our employees, and second, to provide reliable power to our community.

Trees growing near energized conductors are hazardous to public safety. Trees do not have to physically touch conductors to be dangerous, given the right conditions electricity can arc from power lines to nearby trees. When these trees become energized, they can catch fire and can potentially electrocute anyone near the tree at ground level.

Trees cause the majority of power outages affecting the Utility's customers. Fallen trees and tree limbs that become entangled in lines, wind-blown branches that cross the lines as they fall to the ground, and tree limbs that grow into or close to power lines are the major causes of outages. Not only are such service interruptions inconvenient for customers, but they can also threaten public safety when power is interrupted to vital services such as hospitals, traffic signals, and fire alarm systems, or to customers with life-support systems.

As part of the Utility's obligation to provide safe and reliable electrical service to customers, the utility has developed a vegetation management program designed to keep tree limbs and shrubs safely away from power lines.

The Utility will trim all trees and vegetation around its energized power lines, fiber optic cables, utility poles and pad mount transformers. All tree trimming will be done to obtain maximum clearance with due regard to current and future tree health and symmetry. It is important to keep alleys and rights-of-way clear of debris so crews have access to perform maintenance or emergency functions safely.

2.0 Clearances

The Utility attempts to maintain a five-year trim cycle in rural areas and a three-year trim cycle in urban areas. According to the National Electric Safety Code, the amount of clearance needed in a given area depends on the voltage of the line and the type of line construction. Line sag during temperature extremes, as well as wind movement of power lines and trees also must be taken into consideration.

All tree trimming shall conform to good forestry standards with respect to line-clearing procedures. Because proper pruning requires cutting at certain points, branches will be cut at a main branching point, or at the trunk, leaving no stub. At a minimum, trees shall be trimmed back to existing cuts of prior line-clearing activities. Any limb within 10 feet of all electrical lines will be cut back. Sometimes this may mean the branch is cut more than 10 feet from the lines, but it helps preserve the health of the tree.

Directional pruning is the preferred method of trimming. Figure 1 illustrates the 10 foot minimum side clearance from tree limbs to the nearest conductor.

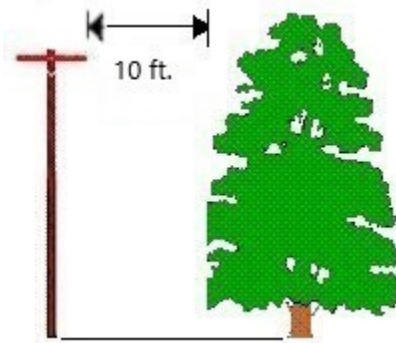


Figure 1: Minimum Side Clearance

In general, the trimming guidelines in Table 1 shall be used to maintain a minimum 10 feet of clearance.

Table 1: Minimum Trimming Guidelines

Pruning Methods	Tree Growth	Secondary Service	Primary Distribution ³
Topping	Fast Growers ¹	6 Ft.	10 Ft.
	Slow Growers ²	4 Ft.	8 Ft.
Directional	Fast Growers	6 Ft.	8 Ft.
	Slow Growers	4 Ft.	6 Ft.
Overhang	Fast Growers	6 Ft.	15 Ft.
	Slow Growers	4 Ft.	12 Ft.

¹ Fast Growers will be defined as any species whose average annual growth is greater than 24 inches or its annual sucker growth is greater than 60 inches. (Elm, Pine, Soft Maple, Poplar, Willow, etc.)

² Slow Growers will be defined as any species whose average annual growth is 24 inches or less and its annual sucker growth is 60 inches or less. (Cedar, Hard Maple, Oak, Hickory, Fruit Trees, etc.)

³ Trimming distances in Table 1 are for distribution lines at a voltage of 12.47 kV. Sub-transmission and transmission lines require greater trimming distances.

Any limb above the line to a maximum height of 20 feet will be removed. Certain main branches on older trees can remain inside the minimum clearance or overhang the line, but this depends on the health of the tree, direction of growth and likelihood of its limbs reaching the lines. Figure 2 illustrates how overhang will be trimmed.

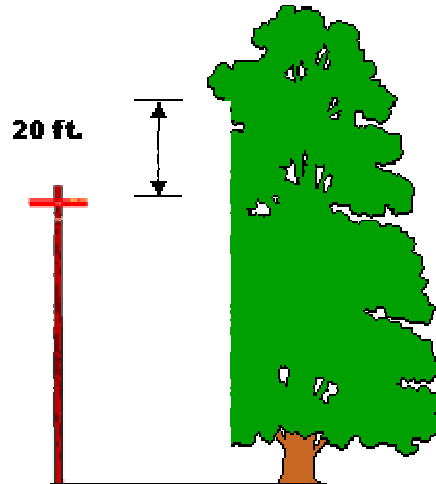
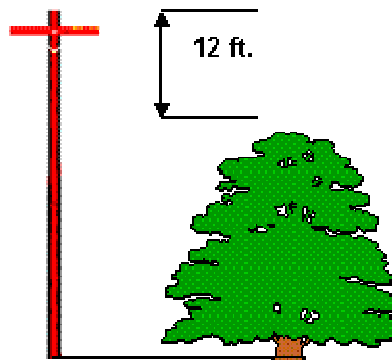


Figure 2: Overhang Trimming Method

All species located within the utility easement that have a maturity height exceeding 15 feet and with trunk diameters of 10 inches or less at chest height will be removed at ground level. Slow growing species may be left if they have a minimum trunk size exceeding 10 inches and will be pruned/topped to maintain 12 feet of clearance to the nearest primary conductor. Figure 3 illustrates the required minimum clearance for trees located within the utility easement.



3.0 Services and Street Lights

Trimming for services to residences and private lights is the responsibility of the customer. To reduce the risk of electrical hazards, the Utility will drop the service wire and re-connect it after a qualified contractor has completed the tree work. There is no charge for this service, but it must be scheduled 48 hours in advance. Contact the Utility's dispatch center to schedule this service.

4.0 Danger Tree Identification and Removal

While designing electric transmission lines an Engineer will designate danger trees along the transmission route. Danger trees are trees outside of the utility easement that

may cause undue interference with transmission lines. Greenville Utilities Commission will remove, trim, or top any tree at the discretion of the commission that is designated as a danger tree. See Appendix A for Greenville Utilities' danger tree agreement.

Appendix B illustrates the methodology used in designating danger trees. Any tree within the utility easement will be removed. Trees that will reach within 5 feet of a point underneath the outside conductor will be designated as danger trees. A 45-degree line will be drawn 5 feet from the outside conductor extending upward. Any vegetation above the line will be topped or removed at the discretion of the commission.

5.0 Stump Removal/Grinding

After removing trees within a new easement, Greenville Utilities Commission will remove or grind stumps and repair the property owner's yard at the completion of the project. Stump removal is only provided for established residential and commercial properties. Stumps on unimproved rural tracts of land will not be removed. GUC is not responsible for removing or grinding stumps of trees within an established easement or trees that were removed during routine annual trimming.

Greenville Utilities Commission may agree to reimburse for stump removal in the event a property owner elects to hire an outside contractor to remove a stump prior to project completion. Property owners shall seek GUC's reimbursement approval prior to removing the stump. If the stump is removed prior to project completion GUC will not reimburse the property owner for removal of debris or landscaping associated with stump grinding. See Table 2 column 2 for the appropriate reimbursement level. The Commission is not responsible for any damages or inadequate work caused by the property owner's contractor.

In the event a property owner elects to hire an outside contractor to remove a stump upon project completion, Greenville Utilities Commission may agree to reimburse the expense. Property owners shall seek GUC's reimbursement approval prior to removing the stump. If the stump is removed upon project completion GUC will reimburse the property owner for removal of debris or landscaping associated with stump grinding. See Table 2 column 3 for the appropriate reimbursement level. The Commission is not responsible for any damages or inadequate work caused by the property owner's contractor.

GUC will use the guidelines in Table 2 when evaluating reimbursement requests. Reimbursement levels are determined by stump diameter.

Table 2: Stump Removal Reimbursement

Stump Diameter (inch)	Cost for Stump Grind Only	Cost Stump Grind & Lanscape
<10	\$ 30.00	\$ 45.00
11-15	\$ 45.00	\$ 67.50
16-20	\$ 60.00	\$ 90.00
21-25	\$ 75.00	\$ 112.50
26-30	\$ 90.00	\$ 135.00
31-35	\$ 105.00	\$ 157.50
36-40	\$ 120.00	\$ 180.00
41-45	\$ 135.00	\$ 202.50
46-50	\$ 150.00	\$ 225.00
51-55	\$ 165.00	\$ 247.50
56-60	\$ 180.00	\$ 270.00
61-65	\$ 195.00	\$ 292.50
66-70	\$ 210.00	\$ 315.00
71-75	\$ 225.00	\$ 337.50
76-80	\$ 240.00	\$ 360.00
81-85	\$ 255.00	\$ 382.50
86-90	\$ 270.00	\$ 405.00

¹Costs in the table above will be used as guidelines and are subject to change based on the labor market. Reimbursements will be approved on a case-by-case basis.

Appendix A, Danger Tree Agreement

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NORTH CAROLINA

PITT COUNTY

**AGREEMENT TO CUT, TRIM, REMOVE, AND CLEAR
DANGER TREES ON ADJOINING PROPERTY
TO PREVENT UNDUE INTERFERENCE
WITH 115 kV ELECTRIC TRANSMISSION LINES**

THIS AGREEMENT made and entered into on this the ____ day of _____, 20____, by and between Greenville Utilities Commission of the City of Greenville, North Carolina (hereinafter referred to as "Commission") and _____ (hereinafter referred to as "Owner").

WITNESSETH:

THAT WHEREAS, Owner currently owns a tract or parcel of land denominated Parcel Number _____ according to the records in the Office of Tax Administration, Pitt County, North Carolina, with a physical address of _____, Greenville, NC 27834; and

WHEREAS, Commission is concerned that the existence of several trees and vegetation in the area with such electric transmission line now or in the future; and

WHEREAS, Commission has requested from Owner, and Owner has agreed to grant to Commission, a right to cut, clear, trim, and remove any danger trees or vegetation, or limbs, or branches that might unreasonably interfere with the reasonable operation and maintenance of such electric transmission lines; and

WHEREAS, the parties desire to reduce to writing their agreements with respect thereto.

NOW, THEREFORE, for and in consideration of the mutual promises and covenants set forth herein, and other good and valuable consideration passing from each party to the other, receipt of which is hereby respectively acknowledged by each of the parties hereto, Commission and Owner do hereby agree each with the other as follows:

1. Owner hereby grants to the City of Greenville for the use and benefit of Commission an access easement to go upon the property of Owner at reasonable times and with the least interference to any reasonable use of Owner of such property in order to cut, clear, trim, and remove any danger trees or vegetation that may interfere unreasonably (in the discretion of Commission), in the reasonable opinion of Commission, with the operation and maintenance of a 115 kV electric transmission line constructed. For and in consideration of such grant, Commission hereby agrees to pay to Owner the full sum of _____ Dollars (\$_____) contemporaneously with the execution of this Agreement.

2. The parties stipulate and agree that it is anticipated that a line will be established from the outward boundaries of the electric transmission line so as to designate an approximately 45° angle within which any trees or vegetation may be removed, or cut, or trimmed, or cleared.

3. Commission will designate an engineer to designate all danger trees and vegetation with

advance notice to Owner, and Owner hereby agrees that thereafter Commission, or its employees or agents, may reasonably remove or top off, at its option, any such danger tree or vegetation, as herein provided.

IN TESTIMONY WHEREOF, Commission has executed this Agreement through its General Manager and attested by its Executive Secretary, all pursuant to authority of its Board of Commissioners duly given, and Owner shall adopt the word SEAL as his or her seal as hereunto described as hand and seal to this Agreement on this the year first above written. This Agreement shall become effective if and when all parties have entered into this Agreement on this the day and year first above written.

GREENVILLE UTILITIES COMMISSION OF
THE CITY OF GREENVILLE, NORTH CAROLINA

By: _____
Anthony C. Cannon
Title: General Manager/Chief Executive Officer

ATTEST:

Amy Carson Wade, Executive Secretary

[OFFICIAL SEAL]

OWNER:

By: _____ (SEAL)
Authorized Signatory

NORTH CAROLINA
PITT COUNTY

I, _____, a Notary Public for the aforesaid County and State, do hereby certify that Amy Carson Wade personally appeared before me this day and acknowledged that she is the Executive Secretary of Greenville Utilities Commission, and that by authority duly given and as an act of Greenville Utilities Commission, the foregoing instrument was signed in its name by Anthony C. Cannon, its General Manager/CEO, sealed with its official seal, and attested by herself as the Executive Secretary, all pursuant to the authority of the Board of Commissioners of Greenville Utilities Commission.

WITNESS my hand and seal, this the _____ day of _____, 20____.

NOTARY PUBLIC

My Commission Expires: _____

NORTH CAROLINA
PITT COUNTY

I, _____, a Notary Public in and for the aforesaid County and State, do hereby certify that _____, Owner, personally appeared before me this day and acknowledged the due execution of the foregoing Agreement.

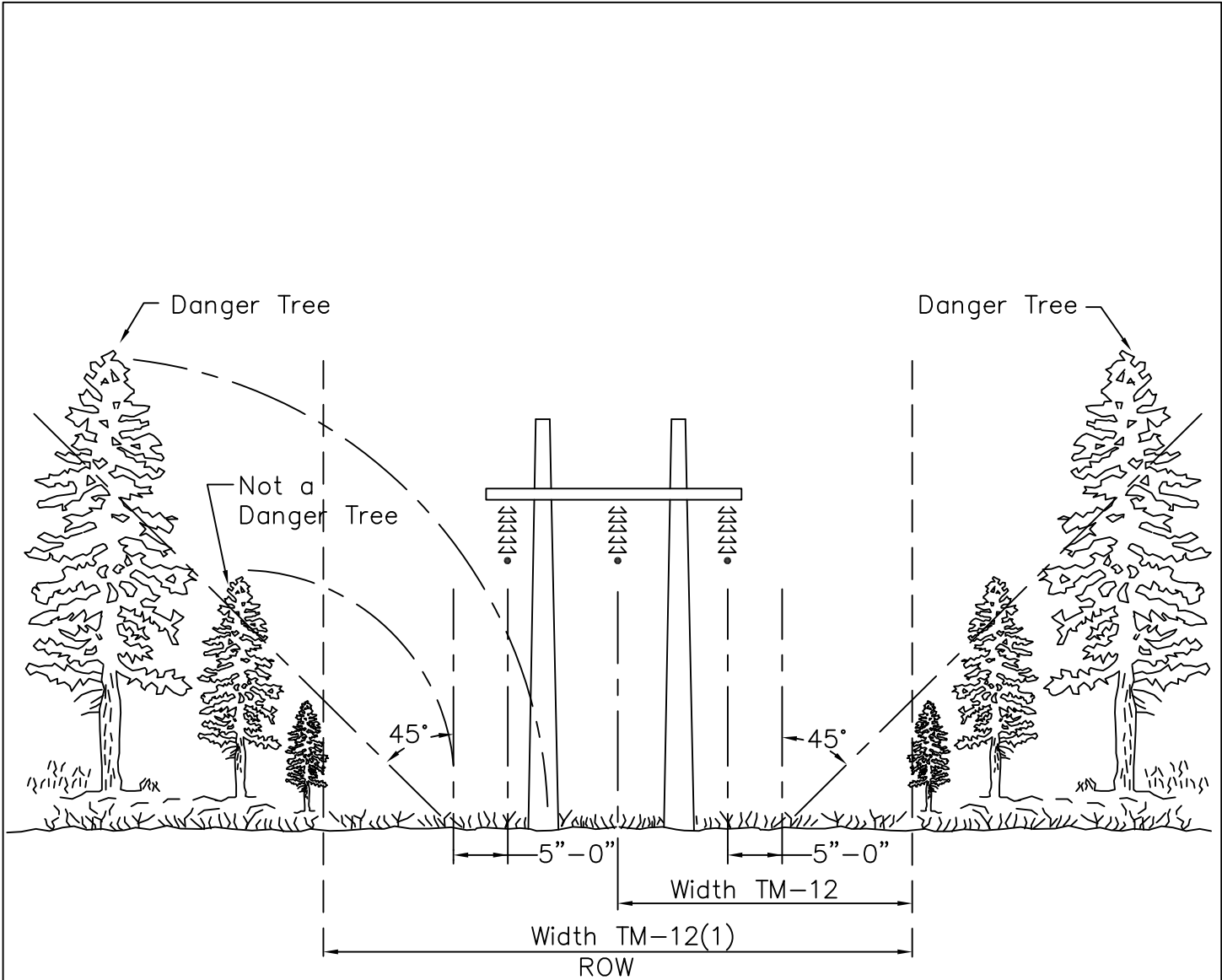
WITNESS my hand and seal, this the _____ day of _____, 20____.

NOTARY PUBLIC

My Commission Expires: _____

Appendix B, Right-Of-Way Clearing Guide

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NOTES:

1. Engineer will designate all danger trees which shall be removed or topped at option of contractor. In approximately level terrain, trees which would reach within 5 feet of a point underneath the outside conductor in falling are examples of danger trees.
2. As directed by the engineer, portions of the right-of-way (ROW) must be cut so that stumps will not prevent the passage of tractor and trucks along the ROW.
3. The unit for clearing one-half of the ROW is "WIDTH TM-12."
4. The unit for clearing the full ROW is "WIDTH TM-12(1)."
5. The unit for clearing danger trees is "TM-13."

TRANSMISSION ROW CLEARING
RIGHT-OF-WAY CLEARING GUIDE

NO.	REVISION	DATE	