

Line Clearance and Herbicide Specifications

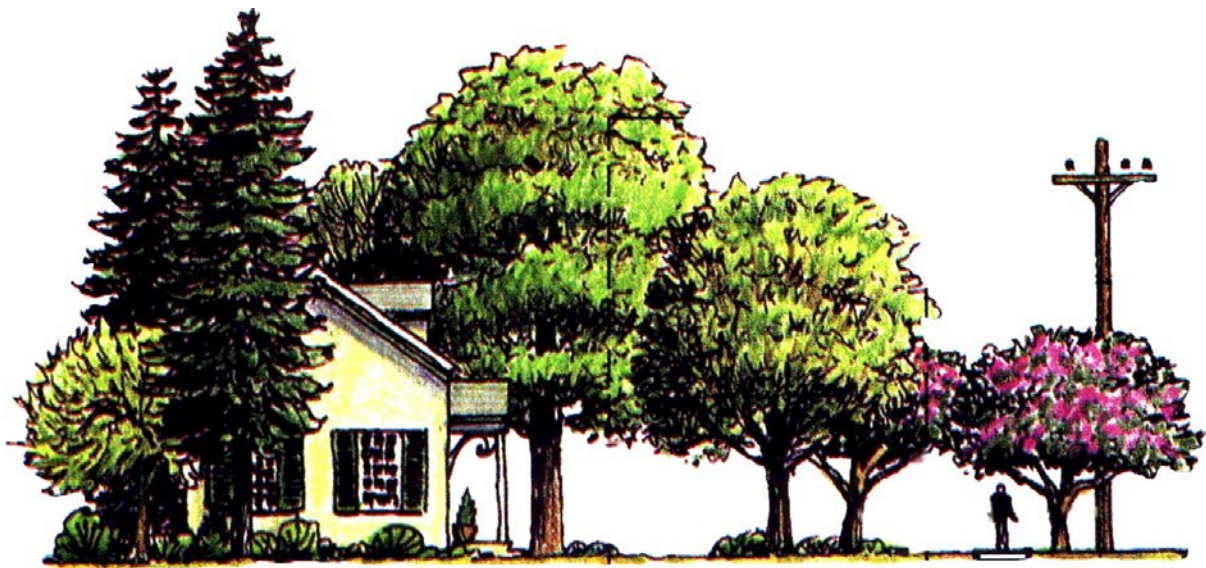


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Rights-of-Way Purpose Statement

REA Energy Rights-of-Way program exists to provide Reliable, Economical and Affordable electric energy to our consumers by maintaining our systems Rights-of-Way in a manner consistent with tested and approved methods.

Rights-of-Way Vision Statement

The Goal of maintaining REA Energy Rights-of-Ways is to effectively and economically use the best-tested and approved methods of Rights-of-Way maintenance in order to provide the most affordable and reliable electrical energy to our consumers. To provide visual and physical access to our power line system by REA Energy line and maintenance personnel for the purpose of construction, maintenance and power outage restoration.

The Rights-of-Way maintenance program is designed to help reduce tree related outages by providing a better visual and physical access to poles, wire and associated power line physical plant. REA Energy is committed to maintaining our Rights-of-Ways in such a way that our line personnel will be able to construct and maintain the power lines without using man-hours to cut or make access to the Rights-of Way.

We will make every effort to maintain our Rights-of Ways to the maximum width in order to give as much clearance as possible between trees and the conductor. There are many locations that this is not possible due to the use or narrow profile construction or the use of private property that does not permit the normal Rights-of Way cutting or maintenance. The rights of the property owners are always a concern to REA Energy as well as the ability to provide reliable electric energy. This balance of Rights-of Way widths and trimming along with the property owners concerns are of great importance to us at REA Energy.

DIRECTORY

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REA Energy Cooperative Inc Outage Reporting System

1-800-332-7273

Answers 24 hours a day

GENERAL INSTRUCTIONS

- A. Line Clearance methods, both manual and chemical techniques, will be in accordance with the Line Clearance Specifications Manual, and as specified on the bid information sheets.
- B. The location and extent of this work shall be in accordance with the maps of circuits provided and shall include primary circuits, primary URD and all secondary, service, and yard light wires originating from the primary circuit right-of-way.
- C. The REA Energy Cooperative, Inc. (REA Energy) Rights-of-Way Superintendent or his representative has the responsibility for inspecting and approving work performed under this agreement. The exercise of this responsibility by REA Energy shall not lessen or relieve the Contractor from responsibility under this agreement.
- D. When clearing vegetation for an individual circuit on a pole, the Contractor must clear for all REA Energy circuits on that pole.
- E. Work may begin as soon as a properly executed contract is received and the project start date has been reached as stated on the bid information sheet. The REA Energy Rights-of-Way Superintendent or his representative must also be notified as to the project start date. The scheduling of all lump sum projects is the Contractor's responsibility except in cases of critical need as determined by REA Energy. REA Energy may, at its discretion, require that specific sites be completed in order to maintain reliability of service. All lump sum projects, including final inspection and rework, must be completed on or before the project end date on the bid information sheet. A 10% penalty will be assessed to each project not completed on time. The 10% penalty will be calculated based on the percentage of work which has not been completed.
- F. On all lump sum projects, once a job is started, there will be at least one crew working that job at all times until the job is completed, unless otherwise approved by the REA Energy Rights-of-Way Superintendent or his representative.
- G. All requests for tree crews to be released to another utility for storm work must be approved by the REA Energy Rights-of-Way Superintendent or his representative.

CONTRACTOR'S RESPONSIBILITIES

The Contractor will be responsible for:

- A. All work to be done in accordance with the Line Clearance Specifications.
- B. Making available during the progress of this line clearance, a competent General Foreman, who shall be satisfactory to REA Energy. The General Foreman shall be in full charge of the Contractor's work. If the REA Energy Rights-of-Way Superintendent or his representative determines the Contractor's supervision is inadequate, REA Energy reserves the right to require additional supervision. All instructions given to the General Foreman shall be as binding as if given to the Contractor. The General Foreman shall not be changed without approval of REA Energy.
- C. Providing and identifying working headquarters where REA Energy may contact the General Foreman for matters pertaining to work performance under this Agreement.
- D. Furnishing all supervision, labor, tools, equipment, supplies, and material necessary for performance and completion within the proposed schedule of the work specified in this Agreement.
- E. The Contractor shall employ only competent employees, and at the request of the Cooperative shall remove from the work any employee who, in the opinion of the Cooperative, is deemed incompetent, untrustworthy, disorderly, or otherwise detrimental to the work.
- F. Notifying the Rights-of-Way Superintendent or his representative before any crews or crew members are to be added or removed from a project. The REA Energy Rights-of-Way Superintendent or his representative shall have the right to direct the Contractor to remove or replace individuals and/or crews that do not meet REA Energy standards.
- G. The Contractor shall work progressively along the line from the starting point and shall complete all work in a given section of the line before starting work on another section.
- H. Contractor will be billed by REA Energy for any unplanned outages resulting from the Contractor's actions.
- I. Contractor is not permitted to use properties owned by REA Energy for equipment and material storage or off duty parking, unless otherwise approved by REA Energy.

- J. Use open fires for burning brush only when required by the property owner and approved by local authorities, insuring those lit are always under control and are "dead out". Fires for "open burning" are prohibited under any other conditions.
- K. A crew foreman will contact REA Energy immediately if there is a tree-caused outage and provide pertinent information such as property number, location, and extent of damage.
- L. A crew foreman will contact the REA Energy Rights-of-Way Superintendent or his representative when damage is discovered to REA Energy facilities such as broken insulators, frayed wires, broken poles or crossarms, broken guy wires, etc.
- M. Work locations of all crews must be reported to the REA Energy Rights-of-Way Superintendent or his representative office between 7 a.m. and 7:30 a.m. each day.
- N. The Contractor shall comply with the requirements of any applicable Federal, State, or Local laws with respect to the licensing of Contractors, arborists, and/or pesticide applicators.
- O. Removing all Contractor-generated trash, including empty drinking cups, lunch papers, oil containers, etc. prior to leaving an area.
- P. Contractor General Foreman must make a final inspection with the REA Energy Rights-of-Way Superintendent or his representative of the completed line, to insure all line clearance work has been completed in accordance with the Line Clearance Specifications before any billings are submitted.
- Q. Re-trimming or re-spraying will be done at no expense to REA Energy, if the work is not to the satisfaction of the Rights-of-Way Superintendent or his representative or if clearances defined in the Line Clearance Specifications are not met.
- R. Contractor is responsible for all costs if it is necessary for a crew to return to an area to clean up debris left by them, or to remove a tree(s) that should have been removed, but was not.
- S. The cost incurred by REA Energy to repair our facilities that are damaged by the Contractor's negligent action.
- T. Performing all work during an eight (8) hour, five (5) day week coinciding with REA Energy work hours, unless otherwise approved by REA Energy.

- U. Crews are not permitted to work during REA Energy observed holidays. The holidays are: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, First Day PA Buck Season, and Christmas Day. When a holiday falls on Sunday, it will be observed on the following Monday. When the holiday falls on a Saturday, it will be observed on the preceding Friday.

CUSTOMER RELATIONS

- A. Where approval of private access is given, the contractor shall bear the cost of any damage claims that may arise due to the use of such access by the Contractor.
- B. All ruts and damage caused by Contractor's equipment must be repaired to the reasonable satisfaction of the property owner.
- C. The Contractor shall provide for protection of all property and line along, and adjacent to, the line right-of-way including, but not limited to, power lines, communication lines, railroad crossings, streets, roads, buildings, lawns, fences, drains, irrigation ditches, culverts, and pipelines. The Contractor shall determine the extent of protection required in all cases and provide this protection.
- D. The Contractor shall comply with all reasonable requests of the property owners and tenants, relative to access to right-of-way and to the general conduct of work.
- E. In cases of disagreement between any property owner or tenant and the Contractor, or in the event of any claims for damages by a property owner or tenant, the Contractor shall notify the REA Energy Rights-of-Way Superintendent or his representative immediately and shall not perform any further operations against the objections of the property owner or tenant without prior approval of REA Energy. Any condition which, in Contractor's opinion, could result in a damage claim to REA Energy should be brought to the attention of the Rights-of-Way Superintendent or his representative.
- F. The Contractor General Foreman will immediately investigate damage claims as they are reported and settle the claims as soon as possible. A written report of the claim and settlement shall be submitted to the REA Energy Rights-of-Way Superintendent or his representative.
- G. Complaints of any nature received from property owners or those in authority over trees removed, trimmed or areas chemically treated shall receive immediate attention and shall be resolved in a timely manner by the Contractor. All unresolved complaints shall be reported immediately to the Rights-of-Way Superintendent or his representative.
- H. The Contractor does not represent the Cooperative and has no authority to obligate the Cooperative for any payment or benefit of any kind to any person. The Contractor shall not make any payments to property owners, local inspectors or other persons for any right to trim or remove trees except on written approval of the Cooperative.

PROPERTY OWNER CONTACTS

- A. The Contractor shall obtain the necessary acknowledgement(s), consents(s) or permission(s) from the property owner(s), authorized agent(s) or board having authority there upon of trees/brush to be trimmed, removed or treated. When the property owner refuses to consent to work being done, the Contractor's General Foreman shall make contact with the property owner to secure consent for the work to be done. When consent to do any work cannot be obtained by the Contractor, a "Refusal of Proper Clearance Report" (Exhibit A) must be filled out.

This form must be submitted the same week the refusal occurs and be included with the timesheet to the REA Energy Rights-of-Way Superintendent or his representative.

- B. The Contractor shall secure all permits and licenses imposed by law, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of this work. REA Energy may, if it so elects, obtain the necessary permits and licenses itself, in which case it shall do so at its own expense. Notwithstanding that REA Energy elects to secure the necessary licenses, permits and/or permission from owners, it shall be the Contractor's duty to ascertain that the necessary licenses, permits and/or permission from owners has been obtained before commencing any work hereunder. In any event, Contractor shall have the sole liability for any fine, penalty, or other damages arising as a result of failure of REA Energy or Contractor to obtain all necessary licenses, permits and/or permission of owners.
- C. The Contractor is not responsible for removing logs from the property, but must make it clear to the property owner during contact that wood remains on site.
- D. All Contractor personnel with responsibilities which include property owner contacts, must have photo identification that includes the employee name, company, and the Contractor's office telephone number.

REPORTING AND INVOICING

- A. For the purposes of record-keeping, the Contractor shall submit to the Rights-of-Way Superintendent or his representative weekly timesheets showing the location of work performed that week, the names and the number of crew members and equipment hours involved, the number of trees trimmed, removed, measured area of brush cut/treated, amount and type of chemical applied, miles of line cleared, complaints received, property numbers and corresponding span lengths, and any other pertinent information.

The area of brush cleared or chemically treated shall be measured by the Contractor. Measurements shall be the square foot area of the brush area removed and/or treated.

All lineal footage along the circuit shall be reported - whether or not physical work has been accomplished.

- B. For the purpose of the Agreement and data recording, a woody plant measuring at least six inches (6") in diameter, twelve inches (12") above ground will be considered as a tree. All smaller trees will be considered brush.
- C. Upon completion of monthly inspection, invoices shall be submitted for payment monthly to the attention of the Rights-of-Way Superintendent or his representative. Lump sum invoices must also list percentage of work completed and miles or acres completed.

Monthly payments for lump sum work will be based on the percentage of total work completed as determined during the monthly inspection by the REA Energy Rights-of-Way Superintendent or his representative and the Contractor's representative. Ten percent (10%) of the monthly lump sum amount will be retained until the project is satisfactorily completed. This monthly inspection will not be treated as a final inspection of those areas. That will be handled as stated in *Paragraph E* of this section.

- D. Payment will be withheld for areas that cannot be satisfactorily cleared and will not be included in payment for the overall project.
- E. Prior to final payment, the Contractor's General Foreman shall make a final inspection of the completed line with the Cooperative's Rights-of-Way Superintendent or his representative to insure all line clearance work has been completed to the satisfaction of REA Energy.

SAFETY

The Contractor shall be cognizant of the hazards when working in close proximity to electrical and communications circuits and, accordingly, taking all necessary precautions to prevent injury and loss of life of workers and damage to equipment and property. In this area of safety and health, the Contractor shall:

- A. TREAT EVERY CIRCUIT, EQUIPMENT AND/OR LINE, AT ALL TIMES, AS ENERGIZED. It shall be the responsibility of the Contractor to familiarize all employees with industry safety practices and requirements. Safety equipment, including but not limited to hardhats and safety glasses with sideshields, shall be supplied by the Contractor and worn by all personnel at all times.
- B. Inquire and be aware of the nature of the circuits involved in all cases before work is commenced. The electric circuits are to continue in normal operation during this work; therefore, the Contractor is to use all necessary protection for their employees and to guard against interference with the normal operation of the circuits. If in the judgment of the Contractor's Foreman, it is hazardous to trim or remove trees with circuits energized, the REA Energy Rights-of-Way Superintendent or his representative shall be contacted for safe resolution of the problem.

GENERAL CLEARING REQUIREMENTS

When proper notification has been given, all designated trees shall be trimmed or removed in accordance with the following REA Energy methods, so as to provide maximum clearance, without unnecessary injury to the tree.

- A. Emphasis is to be placed on tree removal with chemical stump treatment to supplement removal. All stumps of deciduous trees removed that are larger than a three inch (3") diameter at three inches (3") above ground level must be treated with a herbicide approved by the Rights-of-Way Superintendent or his representative. This material must include a marking dye.
- B. All branches (sucker growth, deadwood, stubs, livingwood) that are to be removed will be removed at the branch collar. (See Diagrams 1-2)
- C. Directional trimming will be used to train a tree or a branch to grow away from the conductors. The lateral branch that is chosen to become the new leader must be at least one-third the diameter of the stem being removed and growing in a direction away from the conductors. (See Diagram 3)
- D. The practice of "shearing", "stubbing", or "round over" shall not be permitted. Trimming shall conform to the drop crotch and directional trimming method. All trimming shall be accomplished with as few saw cuts as possible.
- E. A lawn tree is defined as a tree growing in a lawn area maintained 360 degrees around the tree.
- F. Large or overgrown brush must be removed. Trimming or topping brush is not permitted.
- G. All apparatus including but not limited to switch cabinets and pad mount transformers shall be cleared in front of access doors / lids to a minimum distance of 10'. The width of this clearing will be equal to the width of the access door / lid.
- H. The Contractor must investigate all trees along the edge of the right-of-way and off the right-of-way (including the opposite side of the road for lines adjacent to a road) for hazardous defects but not limited to butt decay, poor root anchorage, severely leaning trees, lightning, insect, diseased, vehicle or animal damage. All hazard trees must be removed.
- I. When trees and brush are removed, they must be flush cut no higher than three inches (3") from, and parallel to the ground line.
- J. When clearing for a designated, individual circuit on a pole, the Contractor must clear for all REA Energy circuits on that pole.

- K. Rights-of-way on which past vegetation maintenance practices have established wider or narrower limits than those defined in Rural Clearing shall be maintained to the **full extent of the previously maintained width**.
- L. A patrol path, at least ten feet (10') wide, directly under the wire zone, and if there are dense patches of woody low-growing vegetation (i.e., mountain laurel, Rhododendron, spice bush, etc.) that cover the entire width of the right-of-way, a path at least ten feet (10') wide directly under the wire zone, must be cut through this woody low-growing vegetation. Blackberry, goldenrod, blueberry, sweet fern, etc., do not have to be cleared. Right of ways that have been treated with herbicide during the Cut and Trim cycle must have a path of at least ten (10') wide directly under the wire zone. The patrol path does not need to be cleared on rights-of-way that are immediately adjacent to a road which are accessible to REA Energy crews from the road right-of-way.
- M. Vines growing on poles and guy wires will be cut at ground line and as high as can be safely reached from the ground. Stumps of the vines will be treated using a herbicide approved by the Rights-of-Way Superintendent or his representative. Vines do not have to be completely removed; however, if vines are entwined in electrical equipment, notification must be made to the REA Energy Rights-of-Way Superintendent or his representative.

LAWN TREE CLEARING

Primary Circuit Rights-of-Way - Lawn

A. Lawn / Yard Tree Removal Incentive

Upon approval of REA Rights-of-Way Superintendent or representative, tree removal along primary circuit rights-of-way will be paid at the contractors bid price per DBH (Diameter at Breast Height.) All stumps of deciduous trees removed are to be chemically treated.

It is Cooperative policy that all wood too large for a brush chipper to handle must remain on the property. It is the Contractor's responsibility to inform the property owner of this policy before any tree removal proceeds.

Wood will be cut into lengths which can be handled by one person, unless the land owner allows wood to be left in longer lengths.

- B. The rights-of-way clearing zone required on lawn trees extend out from the primary conductors to a minimum distance of ten feet (10'). All tree/branches extending into the primary clearing zone are to be trimmed to provide a minimum of ten feet (10') of clearance between the conductors and the nearest branch. The primary clearing zone is ten feet (10'), extending to sky around all equipment energized at primary voltages.

During crown reduction trimming, every reasonable effort shall be made to regain and improve the clearances secured at the last trimming. Sucker growth must be completely removed and not trimmed.

The Growth Table at the end of this manual contains a list of common tree species with their respective average annual normal growth and average annual sucker growth rates. The Contractor must refer to this list to determine the desired clearance required by species in order to achieve four years of clearance below and along side the primary conductors, during crown reduction trimming.

Trees growing beneath the conductors that have never been trimmed and are capable of growing into the conductors will be trimmed by the directional trimming procedures if the tree is within ten feet (10') of the primary wires.

- C. When a lawn tree is side trimmed, the minimum acceptable clearance distance is ten feet (10'). All limbs will be trimmed to this clearance distance for a distance from the ground to sky. Shortening of the branches (tipping) is not acceptable. If it should occur, the guidelines for directional trimming will be followed.

- D. All deadwood in the tree that is a hazard to the conductors will be removed.

Individual Services and Yardlight Circuits

Branches or trees contacting individual service or yardlight wires shall be cut down or trimmed to provide a minimum three foot (3') clearance. Trimming of service is required to provide clearances for snow load and rubbing caused by wind etc. Services are defined as the span or spans from the transformer to the customer's meter location.

Anchor Guys

All primary anchor guys shall have a clear zone of five feet (5') including the ground entry point. Climbing vines shall be severed and removed from the ground line to the highest point that can be safely reached from the ground.

RURAL CLEARING

Primary Circuit Rights-of-Way – Rural Overhead Lines

These rights-of-way clearing zones shall be defined by vertical planes (“Ground to Sky”) extending twenty feet (20’) from the center of the pole. Rights-of-way width shall be forty feet (40’) for all REA Energy primary circuits. Rights-of-way on which past vegetation maintenance practices have established wider or narrower limits than those defined in Rural Clearing shall be maintained to the **full extent of the previously maintained width**. Right-of-Way for new secondary and service shall be cleared seven and one-half foot (7.5’) on both sides from the center totaling fifteen feet (15’) from ground to sky.

- A. Trees or brush within the clearing zone shall be cut at the stump. All stumps must be flush cut no higher than three inches (3”) from, and parallel to the ground line. Stumps of deciduous trees larger than three inches (3”) at base shall be treated with the specified cut surface herbicide application as soon as practical the same day as cutting.
- B. Trees located outside the clearing zone that have limbs extending into the zone will have those limbs removed to the main stem at the branch collar. This will be performed for all limbs on these edge trees for a distance from the base of the tree to a point as high in the tree as can be safely climbed.
- C. All smaller trees growing along side the clearing zone that are over-crowned to such an extent that the direction of the growth is toward the right-of-way will be removed.
- D. All hazard trees will be removed regardless of their position along the rights-of-way. Stumps of hazard trees removed beyond the clearing zone will not require stump treatment.
- E. All brush on the rights-of-way will be cut to the clearing edge or to the previously established wider limits.
- F. Contractor will not "top" or "trim" large or overgrown brush.
- G. Trees growing on the opposite side of the road from the conductor that have limbs extending past the middle of the road will be trimmed back to the center of the road or to the main stem if a sufficient lateral is not present.
- H. Poles must have all woody vegetation cleared within a five foot (5’) radius of the pole.
- I. Clearing requirements for new individual services and yard light circuits shall be cleared seven and one-half foot (7.5’) on both sides from the center totaling fifteen feet (15’) from ground to sky.

- J. Anchor guys are the same as in the guidelines for the lawn tree clearing section of the specification manual.

Primary Circuits: Underground Lines

The Right-of Way clearance for Primary Underground lines on private property is 15' in width. This Right-of Way is to be surface cleared using best practices.

Underground lines on public lands will be cleared to the permitted width not to exceed 15'.

All apparatus including but not limited to switch cabinets and pad mount transformers shall be cleared in front of access doors / lids to a minimum distance of 10'. The width of this clearing will be equal to the width of the access door / lid.

BRUSH AND WOOD DISPOSAL

1. **General**

Where trees are removed, all non-chippable wood will be cut into lengths which can be handled by one person, unless the land owner allows wood to be left in longer lengths.

It is Cooperative policy that all wood too large for a brush chipper to handle must remain on the property. It is the Contractor's responsibility to inform the property owner of this policy during property owner contacts.

2. **Rural Sites**

The Contractor shall satisfactorily dispose of all tree parts that are trimmed or removed. Disposal (windrowing, chipping, lopping, etc.) shall be made at a location that is agreeable to the landowner. (Lopping must be below knee height.) Brush and logs must not be left in any waterway or within ten feet (10') of the center line of any distribution line. Danger trees are to be limbed and cut full length along edge of right-of-way or as the property owner requests.

Cuttings, either from danger trees or brush, on a rights-of-way immediately adjacent to road will be kept on the edge of the rights-of-way away from the edge of the road.

3. **Lawn Trees**

Unless agreed to by the property owner, all cut material shall be removed from the right-of-way occupied by trees of landscape value. The work site shall be clear of all debris daily unless otherwise agreed to by the property owner.

HERBICE TREATMENT

GENERAL INSTRUCTIONS:

1. CONTRACTOR shall remove brush on the rights-of-way floor. All woody plant species will be removed from the rights-of-way floor using a best management practices approach, which emphasizes the judicious use of herbicides. CONTRACTOR will mark the circuit map indicating areas treated and those untreated, differentiating between the two. Herbicide treatments will be accomplished in compliance with the COOP's specification
2. CONTRACTOR shall begin work no earlier than June 5th each year, and all herbicide treatment work must be completed by September 28th of each year, unless otherwise approved by REA Energy. Fifty percent (50%) of the work must be completed by August 7th. All cutting and stump treatment areas must be completed by November 16th of each calendar year, unless otherwise approved by REA Energy.

SPECIFICATIONS:

The following are herbicide mixes approved for use on COOP Rights-of-Way:

- **High Volume Foliar** - Rates are per 100 gallons of water

8 1/2 Ounces	Streamline
2 Quarts	Garlon 3A
1 Pint	NuFilm IR (sticker - spreader)
4 to 6 Ounces as needed	Elite Secure Ultra (drift retardant)
- **High Volume Foliar** – Standing or Running Water Areas - Rates are per 100 gallons of water

3 quarts	Garlon 3A
2 quarts	Surfactant (non ionic, aquatic)
- **Low Volume Foliar** - Rates are per 100 gallons of water

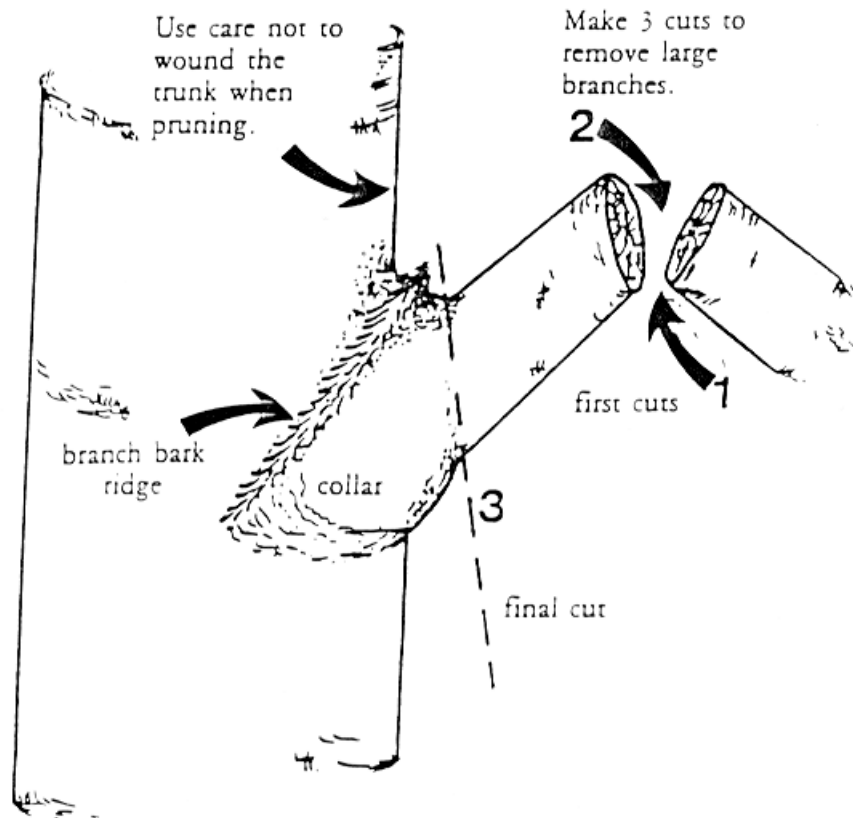
40 ounces	Streamline
3 gallons	Garlon 3A
2 Quarts	NuFilm IR (sticker – spreader)
4 to 8 ounces	Elite Secure Ultra (drift retardant) – if needed
- **Low Volume Foliar** – Standing or Running Water Areas - Rates are per 100 gallons of water

5 gallons	Garlon 3A
2 quarts	Surfactant (non ionic, aquatic)
- **Low Volume Basal and Cut Stump Treatment**

Blend in Returnable/Refillable Closed System Drums (Eco Pak, LCC)

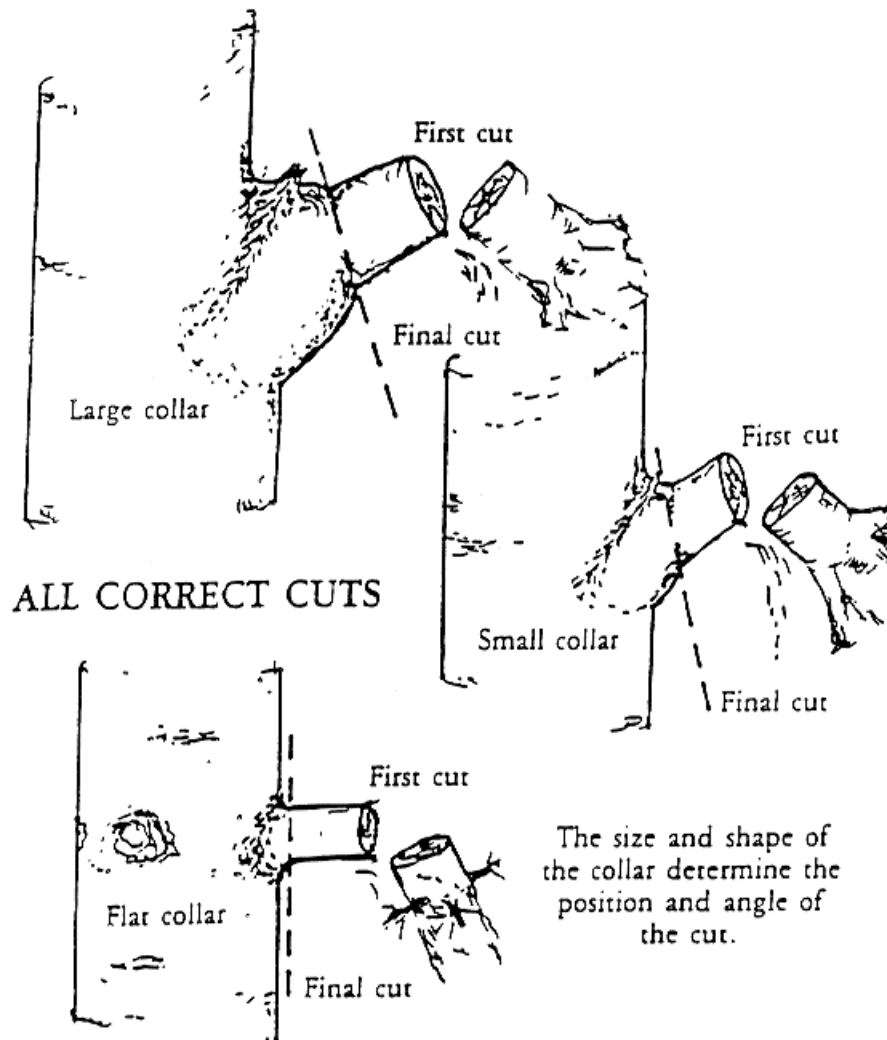
15%	Garlon 4
2%	Stalker
2%	Milestone VM
81%	Ax It or Elite Premier Blue (basal oil with blue dye)

NATURAL TARGET TRIMMING

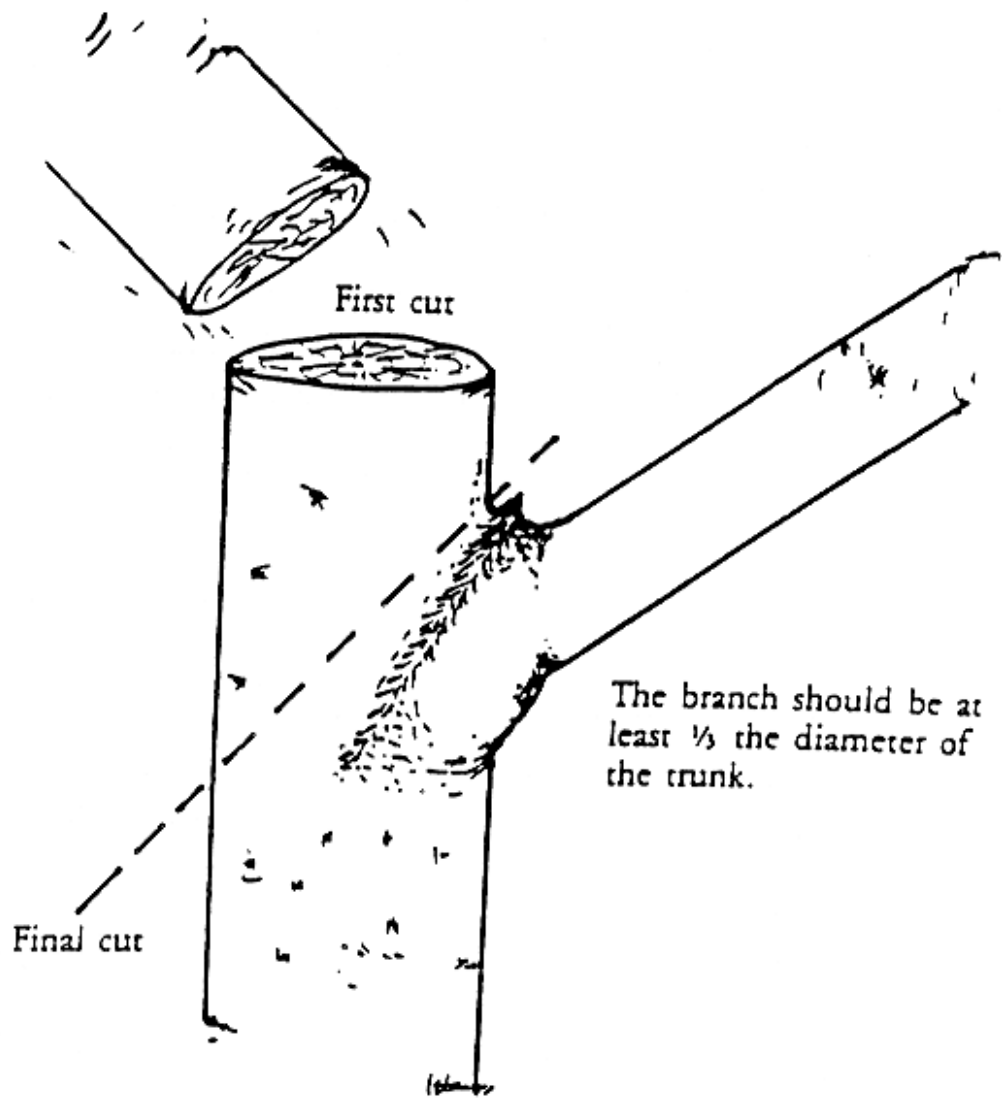


Cut as close as possible to the branch collar. Do not injure or remove the collar. Injury or removal of the collar destroys a major defense system of the tree, and also leads to excessive sprouting. Do not leave stubs. Stubs are entry courts for rot-causing fungi. Do not paint the trimming cuts. Wound dressings do not stop rot.

NO SET ANGLE FOR A CORRECT CUT



REMOVING LEADER ON YOUNG TREES



REFUSAL OF PROPER CLEARANCE REPORT

SPECIFIC PROBLEM:

EXACT LOCATION OF REFUSAL (PROPERTY NUMBER, ETC.):

SIGNATURE OF PERSON REFUSING CLEARANCE:

_____ DATE: _____

PROPERTY OWNER'S NAME:

ADDRESS:

TELEPHONE NUMBER: _____

CONTACT MADE BY

FOREMAN: _____ DATE: _____

GENERAL FOREMAN: _____ DATE: _____

FORWARDED TO: _____ (REA Energy)

DATE FORWARDED: _____

NOTE: THIS FORM IS TO BE SUBMITTED WEEKLY TO THE REA Energy RIGHTS-OF-WAY SUPERINTENDENT OR HIS REPRESENTATIVE ALONG WITH TIMESHEETS FOR THAT WEEK.

TREE GROWTH TABLE

Species (Common Name)	Average Annual Normal Growth (In.)	Average Annual Sucker Growth (In.)	Mature Height (Feet)	Remarks
Atlanthus (Tree of Heaven)	48"	60"	50'	Fast growing, weak wooded. Remove if possible.
Alder, Red	36"	84"	120'	Weak wooded.
Ash	13"	36"	80'	Strong wood but tends to split. Will not stand heavy topping.
Basswood (Linden)	18"	27"	75'	Wood not very strong. Tends to split. Watch dead wood.
Beech, American	12"	30"	60'	Strong wood. Mature trees do not stand topping well.
Birch, White	21"	52"	50'	Very touchy. Intolerant of heavy trimming. Form is spoiled by topping.
Boxelder	26"	72"	50'	Weak wooded. Suckers grow rapidly. Remove if possible.
Catalpa	12"		60'	Soft, weak wood. Slow growing.
Cedar, Eastern Red (Juniper)	15"	15"	50'	Host to the Cedar-Apple rust.
Cherry, Wild Black	14"	24"	60'	Found mostly in rural areas. Does not stand heavy topping. Dies back easily. Watch dead wood.
Elm, American	26"	60"	85'	Strong, flexible wood. Avoid tight crotches.
Elm, Chinese	40"	72"	65'	Wood rather brittle, strips easily.
Fir, Douglas	18"	21"	125'	
Gum, Sweet	12"	20"	90'	A strong, slow growing tree.
Hackberry	18"	30"	60'	Strong, stringy wood, similar to Elm.
Hickory	14"	21"	65'	Wood very strong and tough. Will not stand heavy topping.
Locust, Black	18"	80"	80'	Normal growth is moderate. Terrific sucker growth when topped. Remove small trees if possible. Watch thorns.
Locust, Honey	22"	33"	80'	Watch thorns.
Magnolia	20"	42"	90'	Wood splits easily.
Maple, Big Leaf	30"	72"	60'	
Maple, Norway	15"	35"	50'	Wood tends to split.
Maple, Red	18"	42"	75"	Wide spreading as a mature tree. Sucker growth rapid. Can stand heavy trimming.

Species (Common Name)	Average Annual Normal Growth (In.)	Average Annual Sucker Growth (In.)	Mature Height (Feet)	Remarks
Maple, Silver	25"	65"	65"	Suckers grow rapidly. A rather weak and brittle tree.
Maple, Sugar	18"	40"	75'	Mature trees cannot stand heavy topping.
Oak, Black and Red	18"	30"	85'	Very sturdy tree.
Oak, White	9"	18"	75'	A sturdy and slow growing tree. Dies back when topped heavily. Sucker growth thin.
Oak, Willow	24"	40"	50'	Strong, tough. Can be topped safely.
Pine, Australian	60"	144"	100'	Has hard wood. Grows rapidly. Watch weak crotches. Suckers profusely.
Plane (Sycamore)	34"	72"	100'	Rank growth of suckers when topped.
Poplar, Carolina (Cottonwood)	52"	80"	85'	Wood very brittle, breaks abruptly. Suckers grow at tremendous rate. Remove if possible.
Poplar, Lombardy	45"	72"	60'	Very brittle. Remove if possible. A short-lived tree.
Sassafras	24"	36"	50'	Won't stand heavy topping.
Tulip Tree (Yellow Poplar)	30"	52"	100'	Wood splits easily.
Walnut, Black	20"	40"	80'	Strong wood. Dies back under heavy topping.
Willow, Black	40"	70"	50'	Very weak and brittle. Breaks easily in storms.
Willow, Weeping	48"	72"	50'	A weak wooded tree. Remove if possible.