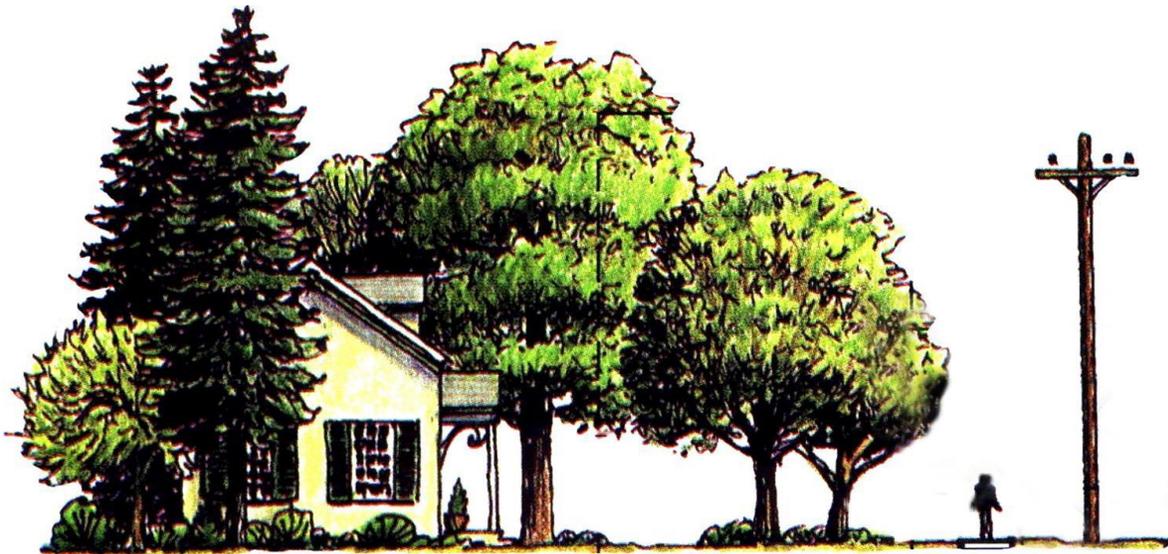


# Line Clearance / Fecon Mulching Mower and Herbicide Specifications Manual



**REVISED 6/4/18**

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**PEOPLE YOU CAN COUNT ON.™**

## TABLE OF CONTENTS

	<i>Page</i>
PURPOSE & VISION STATEMENT .....	3
DIRECTORY .....	4
<b>LINE CLEARANCE</b>	
GENERAL INSTRUCTIONS .....	5
CONTRACTOR'S RESPONSIBILITIES .....	5
CUSTOMER RELATIONS .....	8
PROPERTY OWNER CONTACTS .....	9
REPORTING AND INVOICING .....	10
SAFETY .....	11
GENERAL CLEARING & PRUNING REQUIREMENTS FOR ALL ROW's .....	12
TREE PRUNING .....	12
DANGER / HAZARD TREES .....	14
BRUSH & WOOD DISPOSAL .....	15
EXISTING PRIMARY CIRCUITS RIGHT-of-WAY OVERHEAD LINE .....	16
NEW WORK PLAN RIGHT-of-WAY CLEARING .....	17
FECON MULCHING MOWER / CUT STUBBLE APPLICATION .....	18
HERBICIDE APPLICATION .....	18
<b>EXHIBITS / DIAGRAMS / TABLE</b>	
Exhibit A - REFUSAL OF PROPER CLEARANCE REPORT .....	21
Exhibit B - PROPERTY DAMAGE FORM .....	22
Exhibit C - CONTRACTOR INFORMATION SHARING CHECKLIST .....	23
DIAGRAM 1 - PROPER LIMB REMOVAL .....	26
DIAGRAM 2 - PROPER PRUNING CUTS .....	27
DIAGRAM 3 - PROPER REMOVAL OF TREE LEADER .....	28
DIAGRAM 4 - RURAL RIGHT-OF-WAY TRIMMING .....	29
DIAGRAM 5 -YARD TREE TRIMMING .....	30
DIAGRAM 6 -SERVICE DROP TRIMMING .....	31
DIAGRAM 7 -MOWING .....	32
TABLE 1 - TREE GROWTH TABLE .....	33

## **Right-of-Way Purpose Statement**

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

## **Right-of-Way Vision Statement**

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

The Right-of-Way maintenance program is designed to help reduce tree related outages by providing a better visual and physical access to poles, wire and equipment. REA Energy is committed to provide safe, reliable electrical service to our members and employees by maintaining our Right-of-Way.

## DIRECTORY

*Purchasing and Facilities Manager*

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*Safety & Right-Of-Way Forestry Manager*

**David E. Daugherty, CSP**

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*Right-Of-Way Forestry Supervisor*

**Brendan P. Short**

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REA Energy Cooperative Inc. Outage Reporting System

**1-800-332-7273**

*Answers 24 hours a day*

## GENERAL INSTRUCTIONS

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- A. Line Clearance methods, mechanical, manual and chemical techniques, will be in accordance with this 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 substations provided and shall include primary circuits, primary URD and all secondary, service, and yard lights & wires originating from the primary circuit Right-of-Way.
- C. The REA Energy Cooperative, Inc. (REA Energy) Forestry Manager or their REA designee 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. 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 Forestry Manager or their REA designee shall also be **notified three (3) weeks prior** to the project start date.
- E. The scheduling of all Bid Work projects will be at the discretion of REA Energy. REA Energy may, at its discretion, require that specific sites be completed to maintain reliability of service.
- F. All Bid Work projects, including final inspection and rework, must be completed on or before the project end date on the bid information sheet.
- G. On all Bid Work 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 Forestry Manager or their REA designee.
- H. All requests for tree crews to be released to another utility for storm work must be approved by the REA Forestry Manager or their REA designee.

## CONTRACTOR'S RESPONSIBILITIES

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The Contractor will be responsible for:

- A. All work is 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 Forestry Manager or their REA designee 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 Forestry Manager or their REA designee.

- C. OSHA's Contractor Information Transfer Requirements shall be met prior to the start of any project or section. The REA Contractor Information Sharing Checklist shall be the document utilized to meet this requirement. The contractor shall not begin work until contractor's onsite personnel have reviewed the completed form. Contractor's onsite crew/leader foreman is responsible to share the information from the REA Contractor Information Sharing Checklist with their employees (reference OSHA 1910.269 and/or 29 CFR 1926 Subpart V).
- D. Time & Material (T&M), Maintenance & Work Plan work will be appointed at the discretion of REA Energy Forestry Manager or their designee.
- E. Time & Material (T&M), Maintenance & Work Plan equipment shall be approved by REA Energy Forestry Manager or their designee, any equipment that shall be added from time to time shall also need the approval from the REA Forestry Manager or their designee.
- F. Time & Material (T&M), Maintenance & Work Plan Cutting General Foreman shall document his daily activities, including working crew location and duration with each crew within their timesheet.
- G. Time & Material (T&M), Maintenance & Work Plan cutting crews shall work a straight forty (40) hours in a calendar week prior to being eligible for overtime that maybe accrued by emergency line maintenance or storm work on REA Energy facilities.
- H. During the performance of all work the Contractor's designated crew foreman at each location shall be proficient in English, for safety and communication reasons.
- I. Heavy duty recovery straps/tree savers shall be used to protect the health of timber and bark tree damage when winching equipment.
- J. Providing and identifying working headquarters where REA Energy Forestry Manager or their REA designee may contact the General Foreman for matters pertaining to work performance under this Agreement.
- K. 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.
- L. The Contractor shall employ only competent employees. The Contractor shall train their employees so that they complete work in a safe manner. At the request of REA Energy shall remove from the work any employee who, in the opinion of REA Energy, is deemed incompetent, untrustworthy, disorderly, or otherwise detrimental to the work.
- M. Notifying the REA Forestry Manager or their REA designee before any crews or crew members are to be added or removed from a project. The REA Forestry Manager or their REA designee shall have the right to direct the Contractor to

remove or replace individuals and/or crews that do not meet REA Energy standards.

- N. **The Contractor shall work progressively along the line(s) from the substation or metering point outward** and shall complete all work in a given section of the line before starting work on another section.
- O. Contractor will be billed by REA Energy for any unplanned outages resulting from the Contractor's actions.
- P. 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.
- Q. A crew foreman will contact REA Forestry Manager or their REA designee, immediately if there is a tree-caused outage and provide pertinent information such as property number, location (pole number(s)), and extent of damage. **A written incident investigation report with actions to prevent recurrence shall be provided to REA Energy within 48 hours.**
- R. A crew foreman will contact the REA Forestry Manager or their REA designee when damage is discovered to REA Energy facilities such as broken insulators, frayed wires, broken poles, crossarms, broken guy wires, etc.
- S. **Work locations** of all crews must be reported to the REA Forestry Manager or their REA designee, **between 7:00 a.m. and 7:15 a.m. each day.**
- T. The Contractor shall comply with applicable local, state and federal regulatory requirements and REA Energy's Safe Work Practices, procedures and policies. The Contractor shall also comply with the requirements of any applicable Federal, State, or Local laws with respect to the licensing of Contractor's, arborists, and/or pesticide applicators.
- U. Contractor General Foreman shall make a final inspection with the REA Forestry Manager or their REA designee of the completed circuit or line, to insure all line clearance work has been completed in accordance with the Line Clearance Specifications.
- V. Re-trimming or re-spraying will be done at no expense to REA Energy, if the work is not to the satisfaction of the REA Forestry Manager or their REA designee.
- W. 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 were not. This will include T&M maintenance and work plan crews.
- X. The contractor is responsible for the cost incurred by REA Energy to repair any REA Energy's facilities that are damaged by the Contractor's negligent action.
- Y. Performing all work during an eight (8) hour, five (5) day week coinciding with

REA Energy work hours, unless otherwise approved by REA Forestry Manager or their REA designee.

- Z. 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 of PA Rifle Deer 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.
- AA. Private vehicles of employees belonging to members of a contractor tree crew will not be permitted at any job site.
- BB. Bid & T&M work plan crews are responsible for locating a designated parking location for staging of equipment and for employees to report to at the beginning of the work day as well at the closing of the work day. This location shall be within the Circuit where the work is located, REA Forestry Manager or their REA designee shall be made aware of the parking locations. Changes to these locations shall be brought to the REA Forestry Manager or their REA designee attention.
- CC. Removing all Contractor-generated trash, including empty drinking cups, lunch papers, oil containers, etc. prior to leaving an area.

## CUSTOMER RELATIONS

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- A. The Contractor Foreman shall notify property owners of known property damage prior to leaving the property and notify their General Foreman. The General Foreman or designee shall contact the property owner by the end of the next business day.
- B. 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.
- C. All ruts and damage caused by Contractor's equipment shall be repaired to the reasonable satisfaction of the property owner.
- D. Contractor shall contact the property owner by the end of the next business day after being notified of property damage and have **all property damage fixed and resolved within fourteen (14) days upon** contact with the property owner. Upon completions REA Forestry Manager or their REA designee shall be notified in writing.
- E. The Contractor General Foreman will immediately investigate damage claims as they are reported and settle the claims as soon as possible. A REA Damage Form shall be filled out and submitted to the REA Forestry Manager or their REA designee within **48 hours** of the claim. (Exhibit B)

- F. 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, wells, bodies of water and pipelines. The Contractor shall determine the extent of protection required in all cases and provide this protection.
- G. 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.
- H. 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 Forestry Manager or their REA designee immediately **in writing** 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 REA Forestry Manager or their REA designee the same day or next business day.
- I. 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 **fourteen (14) days** by the Contractor. All unresolved complaints shall be reported **in writing** immediately to the REA Forestry Manager or their REA designee.
- J. The Contractor does not represent REA Energy and has no authority to obligate REA Energy 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 REA Forestry Manager or their REA designee.

## **PROPERTY OWNER CONTACTS**

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- A. The Contractor shall have a full-time Pre-Planner that shall notify and make acknowledgements to all property owners before trees or brush are trimmed, removed or treated. The contractor's Pre-Planner also shall keep a contact record list that shall include the date landowner was spoken with or was left a door card, landowners address, and work that is to be performed on each individual property. This work is to be clearly typed or hand written on a contact customer spread sheet. Upon 100% notification of the circuit a copy of the spreadsheet shall be given to the REA Forestry Manager or their REA designee.
- B. When a property owner refuses to allow the work necessary to satisfy REA's specifications, the Pre-Planner shall complete a Refusal of Proper Clearance Report (Exhibit A) and notify their Supervisor /GF within two (2) working days. Pre- Planners shall not compromise REA clearances. The Supervisor/GF should contact the property owner within **fourteen (14) days** to try to resolve the situation. Supervisor/GF should not negotiate work below the specification

without written authorization from the REA Forestry Manager or their REA designee. If the Supervisor/GF cannot resolve the refusal, they shall refer it to their REA Forestry Manager or their REA designee, by turning in the Refusal of Proper Clearance Report within two (2) days. The Supervisor/GF shall make every effort to successfully resolve the refusal before turning over to the REA Forestry Manager or their REA designee.

- C. 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.
- D. The Contractor is not responsible for removing logs from the property, **but shall make it clear to the property owner during contact that wood remains on site.**
- E. All Contractor personnel performing vegetation maintenance work for REA and directly involved in contacting customers shall be required to have in their possession identification, complete with photograph, associating them with their employer. This identification shall be prominently displayed while engaged in customer contact activities.
- F. Any vehicles used in relation to the job shall be appropriately marked to establish the association to the contractor, including Supervisor vehicles.

## **REPORTING AND INVOICING**

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- A. For the purposes of record-keeping, the Contractor shall submit to the REA Forestry Manager or their REA designee, **Time & Material (T&M)** weekly timesheets showing the location of work performed on a daily basis, the names, employee working class 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, pole 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 physical work has been accomplished.

- B. For this Agreement and data recording, a woody plant measuring at least six inches (6.0") in diameter, at four and one-half foot (4'.6" DBH) Diameter at Breast Height, above ground shall be considered as a tree. All smaller trees will be considered brush.
- C. **Bid Work & T&M invoices shall be submitted for payment monthly** to the attention of the REA Forestry Manager or their REA designee. Bid Work invoices shall list the percentage of work completed and miles or acres completed.

Monthly payments for Bid Work shall be based on the percentage of total work completed as determined during the monthly inspection by the REA Forestry Manager or their REA designee and the Contractor's representative. Ten percent (10%) of the monthly Bid Work amount shall be retained until the satisfactory completion of each substation. If any herbicide work is performed after September 1st, the retainage for the herbicide application portion shall be held until April 15th of the following year so the effectiveness may be assured. This monthly inspection shall not be treated as a final inspection of those areas. That shall be defined *Paragraph E* of this section.

- D. Payment shall be withheld for areas that cannot be satisfactorily cleared and shall 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 REA Forestry Manager or their REA designee to insure all line clearance work has been completed to the satisfaction of REA Energy.

## **SAFETY**

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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 REA Energy's Safe Work Practices Manual. The Contractor shall follow the utility vegetation management industries best safety practices and requirements. Safety equipment, including but not limited to Hardhats, High-Visibility Vest, and Safety Glasses with side shields, shall be supplied by the Contractor and worn by all personnel at all times during active working practices.
- 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 Forestry Manager or their

REA designee shall be contacted for safe resolution of the problem.

## **GENERAL CLEARING & PRUNING REQUIREMENTS FOR ALL ROWs**

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

- A. All woody vegetation (Ex. Black Walnut, Sumac, Russian Olive, High Bush Honeysuckle, Maple and Birch) shall be mowed with a Fecon mulching mower within REA Right-of-Way. Where mowing application is applicable.
- B. Un-mowable areas trees or brush within the Right-of-Way shall be cut at the stump. All stumps shall be flush cut no higher than three inches (3.0") from, and parallel to the ground line. Stumps of deciduous trees larger than one inches (1.0") at base shall be treated with a cut surface herbicide which include a marking dye. Application shall be done as soon as practical after cutting.
- C. All smaller trees growing alongside the Right-of-Way that are over-crowned to such an extent that the direction of the growth is toward the Right-of-Way shall be removed.
- D. Trees located outside the Right-of-Way that have limbs extending into the Right-of-Way shall have those limbs removed to the main stem at the branch collar or sufficient lateral.
- E. Trees growing on the opposite side of the road from the conductor that have limbs extending past the middle of the road shall be trimmed back to the center of the road or to the main stem if a sufficient lateral is not present.
- F. All branches (sucker growth, deadwood, stubs, and living wood) that are to be removed shall be removed at the branch collar.
- G. Vines growing on poles and guy wires shall be cut at ground line and as high as can be safely reached from the ground. Stumps of the vines shall be treated using an approved herbicide pertaining a marking dye. Vines do not have to be completely removed; however, if vines are entwined in electrical equipment, notification shall be made to the REA Forestry Manager or their REA designee by next business day.
- H. All primary anchor guys shall have a clear zone of five feet (5'-0") including the ground entry point.

## **TREE PRUNING**

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All pruning shall be considered routine. All trees shall be pruned by the guidelines detailed in the most current revision of the American National Standard for Tree Care Operations-Tree, Shrub and Other Woody Plant Maintenance – Standard Practices (ANSI A300).

- A. The practice of "shearing", "stubbing", or "round over" shall not be permitted.
- B. All pruning cuts shall be made back to lateral branches at least one-third the diameter of the limb being removed or to the branch collar at the parent stem.
- C. A minimum number of cuts shall be utilized to achieve required clearances.
- D. Cuts shall be restricted to large diameter branches made well within the crown or along the main stem.
- E. Every effort shall be made during the pruning process, to prevent damage to surrounding property and/or the tree itself. Precautions shall be taken to avoid stripping or tearing bark when cutting limbs.
- F. Tree spikes shall not be permitted in any lawn or landscape tree's that are to be pruned. They will, however, be permitted in any tree(s) to be removed or in rural trees to be pruned.

### **Acceptable Pruning Methods**

Every effort shall be made to prune trees, to ensure that they will not grow back into the primary conductors within the given cycle.

#### A. **Directional Pruning**

This is the preferred pruning technique to be utilized when a tree is located directly under the conductor or located within the Right of Way corridor (Yard Trees only). In order to achieve necessary tree-to-conductor clearances, entire branches and/or branches that have laterals growing towards the conductor(s) should be removed. All cuts shall be made back to lateral branches that grow away from the conductor(s). When required to preserve vertical clearance above the conductors, side branches should be pruned back to laterals growing away from the conductors.

#### B. **Crown Reduction**

This technique is to be utilized when a tree is located under the conductors and directional pruning is not feasible (Yard Trees, Curb Sidewalk Trees). In this situation, all top branches shall be pruned back to lower the crown of the tree and achieve the necessary tree-to-conductor clearance. When feasible, entire branches that have sprouts from old topping cuts growing into the lines should be removed.

#### C. **Side Pruning**

To be utilized when a tree grows beside the conductors (Rural Right-of-Way). When the parent stem of a tree is at the edge of the Right-of-Way, limbs protruding into the Right-of-Way shall be removed at the branch bark collar on

the main stem. Any exceptions to the above methods of pruning will only be performed at the discretion of and with the approval of the REA Forestry Manager or their REA designee.

D. **Mechanical Pruning**

Mechanical pruning shall be acceptable on rural cross-country Right-of- Ways. These Right-of-Ways are defined as rural in nature that are located beside wooded lots or forested land along existing roads. The same for Right-of-Way not located beside an existing state, township or other roadways, not accessible by REA Energy equipment.

Any exceptions to the above methods (A through D) of pruning shall only be performed at the discretion of the REA Forestry Manager or their REA designee.

**DANGER / HAZARD TREES**

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Contractor shall investigate all trees along the edge or behind the natural tree edge of the Right-of-Way for danger / hazard trees. Any danger/hazard tree, which is located within the Right-of-Way or off Right-of-Way (including the opposite side of the road) shall be removed. Contractor shall perform an ANSI A300 (93.4.2.1) Level 1, limited visual assessment from the Right-of-Way during circuit trimming to identify visibly high-risk trees which within reasonable judgement constitute a potential hazard to REA Energy's wires at the time of inspection. A danger/hazard tree is defined as a tree having one or more of the following defects that could cause the tree to damage REA Energy lines and equipment if it fell.

- A. Decay, cankers, hollows-present in the main trunk of the tree and must show visible signs of decay.
- B. Disease and insect damage has affected the tree to such an extent that the tree's survival is in doubt.
- C. Root System-Is exposed to such an extent that the support system of the tree is reduced.
- D. Leaning Trees-Trees that have such a lean toward the Right-of-Way that they cannot be pruned without removing their canopy.
- E. Splits-That are to such an extent that the splitting is affecting the stability of the tree.
- F. Over crowned trees-Trees that are over crowned to such an extent that their growth is toward the Right-of-Way.
- G. Dead or dying trees along the natural large tree edge that can hit the conductor, pole or equipment shall be removed.
- H. Stumps of hazard trees removed beyond the clearing zone will not require stump treatment.

## **BRUSH AND WOOD DISPOSAL**

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It is REA Energy's policy that all wood too large for a brush chipper to handle shall remain on the property. **It is the Contractor's responsibility to inform the property owner of this policy during property owner contacts.** The method of disposal shall be at the discretion of the contractor; however, **the work shall be done to the satisfaction of the property owner.**

Disposal of all debris resulting from a removal, re-clearing, and/or tree pruning operation shall be the responsibility of the contractor. It shall be kept current as the job progresses and shall be carried out using either one or a combination of the methods below.

If all the below options are available, it is in the best interest for both the contractor and REA Energy that the least-costly method be chosen.

### **Stacking**

- A. The merchantable (six inches and larger) timber and non-merchantable timber and/or debris shall be separated and stacked in neat piles along and parallel with the edge of the Right-of-Way. The maximum permissible debris pile height shall be five to six feet unless site conditions are such that higher piles are acceptable (Example, depressions, rough terrain in remote areas, etc.). Merchantable wood shall be cut into handling lengths and separated from the non-merchantable wood. Piles shall be dressed of protruding limbs and kept clear of pole sites.
- B. **With the property owner's permission**, a tree may be dropped off the Right-of-Way limbed and left in full log lengths with all debris safely on the ground. **All attempts shall be made to drop these trees parallel to the Right-of-Way.**
- C. **With the property owner's permission** brush and limbs may be dragged off the Right-of-Way with the cut butts facing away from the Right-of-Way. **Contractor shall be responsible for resolving customer complaints resulting from B and C.**

### **Chipping**

Chips may be scattered randomly on the Right-of-Way or adjacent areas **with the permission of the property owner.** In the event the chips must be removed from the job site, disposal is the responsibility of the contractor.

### **Drop and Lop**

**Upon verifiable approval of the property owner and the REA Forestry Manager or their REA designee**, non-merchantable brush, limbs, and debris may be left scattered on the floor of the Right-of-Way provided the following guidelines are met.

- A. All debris from pruning, re-clearing, or removal work shall be mulched (diced or cut up with a chain saw) to a height not to exceed (24.0") inches above the level of the ground.

The floor of the Right-of-Way shall be kept clear of any debris within (10'-0") feet from the center phase of the primary conductor.

**Brush and logs shall not be left in any waterway. All roads, trails, and streams (Including their banks) shall be kept open.**

### **Fecon Mulching Mower**

A Fecon mulching mower will be permitted to mulch debris behind mechanical pruning. **Within the rural right-of-ways** these ROWs are defined as rural in nature that are located beside wooded lots or forested land along existing roads. Same for Right-of-Ways not located beside an existing state, township or other roadways, not accessible by REA Energy equipment.

### **Stump Removal**

Stump removal shall be the sole responsibility of the property owner, unless authorized by the REA Forestry Manager or their REA designee.

## **EXISTING PRIMARY CIRCUIT RIGHT-OF-WAY – OVERHEAD LINES**

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### **Right-of-Way Cutting in Rural Right-of-Way**

These Right-of-Ways are defined as rural in nature that are located beside wooded lots or forested land along existing roads. Same for Right-of-Way not located beside an existing state, township or other roadways, not accessible by REA Energy equipment.

- A. **Three Phase, Two Phase and Single Phase ROWs** – Cutting and clearance, Clear zone shall be (15'-0") measured outward from the outermost conductor. (See Diagram 4)

### **Right-of-Way Cutting in Residential Right-of-Way**

These Right-of-Ways are defined as being in residential yards.

- A. **Three Phase, Two Phase and Single Phase ROWs** – Cutting and clearance a minimum of a (15'-0") clear-zone measured outward from the outermost conductor with (10'-0") clear zone from encroaching limbs under phase conductors shall be cleared. Note, overhanging limbs above phase conductors encroaching into the (15'-0") clear zone shall be removed no matter the distance above the conductor. Vegetation shall not be permitted within the clear-zone of any phase conductor. (see Diagram 5)
- B. **Lawn Trees** – Are defined as a shade tree growing in a lawn area maintained 360 degrees around the tree and are permitted in Residential Right-of-Way. Directional trimming shall be used to train a tree or a branch to grow away from the conductors.

### **Primary Circuits Right-of-Way: Underground Lines**

Primary underground Right-of-way shall not be cleared unless incorporated within the general bid package, stating specific substation or metering point and line locations.

The Right-of Way clearance for Primary Underground lines on private property shall be seven and a half feet (7'-6") from the center of the line. Right-of-Way width shall be fifteen feet (15'-0") in total width. This Right-of Way is to be surface cleared using best management practices.

Underground lines on public lands shall be mowed by a Fecon mulching mower to the permitted width not to exceed (15'-0") feet.

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'-0") feet. The width of this clearing shall be equal to the width of the access door / lid.

### **Individual Services and Yard lights**

Branches or trees contacting individual services, yard lights and yard light wires shall be cut down or trimmed to provide a minimum five-foot (5'-0") 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. (See Diagram 6)

## **NEW WORK PLAN RIGHT-OF-WAY CLEARING**

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### **Primary Circuit Right-of-Way: Overhead Lines**

These Right-of-Way clearing zones shall be defined by vertical planes ("Ground to Sky") extending twenty feet (20'-0") from the center of the pole. Right-of-Way width shall be forty feet (40'-0") for all REA Energy overhead primary circuits.

### **Primary Circuits Right-of-Way: Underground Lines**

The Right-of Way clearance for Primary Underground lines on private property shall be seven and a half feet (7'-6") from the center of the line. Right-of-Way width shall be fifteen feet (15'-0") in total width. This Right-of Way is to be surface cleared using best practices.

Underground lines on public lands shall be cleared to the permitted width not to exceed (15'-0") feet.

Landscaped areas shall not be disturbed without permission from land owner or REA Forestry Manager or their designee.

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'-0") foot. The width of this clearing shall be equal to the width of the access door / lid.

### **Secondary and Service Right-of-Way: Overhead Lines**

Right-of-Way for secondary and service lines shall be seven and a half feet (7'-6") from the center of the line. Right-of-Way width shall be fifteen (15'-0") feet for all REA Energy secondary and service lines.

### **FECON MULCHING MOWER / CUT STUBLE APPLICATION**

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**All woody vegetation (Ex. Black Walnut, Sumac, Russian Olive, High Bush Honeysuckle, Maple and Birch) shall be mowed with a Fecon mulching mower within REA Right-of-Way. Where mowing application is applicable. (See Diagram 7)**

These Right-of-Ways are defined as rural in nature that are located beside wooded lots or forested land along existing roads. Same for Right-of-Way not located beside an existing state, township or other roadways, not accessible by REA Energy equipment.

- A. With Fecon mulching mower saplings and brush shall be mulched off as close to the ground as applicable.
- B. Vegetation is to be mulched up in a manner that the right-of-way has a uniform appearance, not leaving un-mulched debris within the right-of-way.
- C. Wood too large to be mulched shall be moved to the edge of the right-of-way and be left parallel to the right-of-way.
- D. All areas that have been mowed with the fecon mulching mower shall have a cut stubble application applied.

Contractor will mark the circuit map indicating areas mowed and those un-mowable, differentiating between the two.

Un-mowable areas shall be brush cut and stump treated.

### **HERBICIDE APPLICATION**

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All woody vegetation within un-mowable areas Greater than four foot (4'-0") in height shall be brush cut and Basel stump treated. All woody vegetation shorter than four foot (4'-0") shall be Basel sprayed or Low Volume Foliar. (Ex. Black Walnut, Sumac, Russian Olive, High Bush Honeysuckle, Maple, and Birch)

Woody vegetation within the Right-of-Way shall be cut at the stump. All stumps shall be flush cut no higher than three inches (3.0") from, and parallel to the ground line. Stumps of deciduous trees larger than one inch (1.0") at base shall be treated with the specified cut surface herbicide containing a marking dye. The application shall be applied as

soon as practical, preferably same day as cutting.

Contractor shall mark the circuit map indicating areas treated. Herbicide treatments shall be accomplished in compliance with the REA's specification.

- A. The contractor shall use the proper and appropriate herbicide treatment in accordance with manufacturer labels and all industry, state and federal regulations and standards that govern herbicide usage.
- B. Notification shall be given to the property owner prior to all herbicide applications.
- C. The contractor's employees involved in applying, mixing and transporting herbicides shall have the appropriate training, experience, permits, licenses, etc. required to complete the work.
- D. All woody vegetation on the right of way shall be controlled with herbicide.
- E. The contractor shall inspect the herbicide treatment within 4 weeks following the application; any uncontrolled areas shall be retreated at no additional cost to REA Energy. **The Contractor shall date and initial the spray map noting when the herbicide inspection was completed.**
- F. Herbicide work will be inspected by REA Forestry Manager or their REA designee during the year following the initial herbicide treatment. The representative will determine the necessity for re-treatment based on the control obtained at the time of inspection. Retreatment shall be done at no additional cost to REA Energy.
- G. Foliar type herbicide applications shall achieve a minimum of 95% control of all woody stem species in each span (between consecutive structures or poles). Basel spray herbicide applications shall achieve a minimum of 90% control of incompatible woody stem species in each span.
- H. The contractor shall notify REA Forestry Manager or their REA designee immediately of any chemical spills, off target damage and incorrect use of chemicals, a detailed description **in writing** of the event and how it was mitigated by the contractor will be provided to REA Forestry Manager or their REA designee in writing within 48 hours.
- I. Foliar herbicide treatments shall begin upon full leaf out. Foliar applications shall not be applied after October 1, and shall be stopped at an earlier date if deemed necessary by the REA Forestry Manager or their REA designee.
- J. Cut stubble herbicide application shall not be applied when the ground is frozen or saturated. Cut stubble application shall not be permitted from December 1<sup>st</sup> to March 31<sup>st</sup>, and shall be stopped at an earlier date or extended, if deemed necessary by the REA Forestry Manager or their REA designee.
- K. Application of cut stubble shall be applied before re-sprouting occurs.

- L. Cut stubble herbicide application shall achieve a minimum of 95% control of all woody stem species in each span (between consecutive structures or poles).
- M. Cut stubble application shall be applied with a broadcast application and a 5'-0" foot buffer shall be maintained from the edges of the right-of-way.

**EXHIBIT A**

**REFUSAL OF PROPER CLEARANCE REPORT**

SPECIFIC PROBLEM:

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

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SIGNATURE OF PERSON REFUSING CLEARANCE:

\_\_\_\_\_ DATE: \_\_\_\_\_

PROPERTY OWNER'S NAME:

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ADDRESS:

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TELEPHONE NUMBER: \_\_\_\_\_

CONTACT MADE BY

PRE-PLANNER: \_\_\_\_\_ DATE: \_\_\_\_\_

GENERAL FOREMAN: \_\_\_\_\_ DATE: \_\_\_\_\_

FORWARDED TO: \_\_\_\_\_ (REA Energy)

DATE FORWARDED: \_\_\_\_\_

NOTE: This form shall be submitted to the REA Forestry Manager or their REA designee the same day or next business day following the refusal.

**EXHIBIT B**

**PROPERTY DAMAGE CLAIM**

NAME: \_\_\_\_\_

PROPERTY #: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE #: \_\_\_\_\_

DATE OF INCIDENT: \_\_\_\_\_ TIME: \_\_\_\_\_

ITEMS DAMAGED: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

WHAT HAPPENED (Use back of form if necessary):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CLAIM TAKEN BY: \_\_\_\_\_

DATE: \_\_\_\_\_

DATE REPORTED TO REA ENERGY: \_\_\_\_\_

**EXHIBIT C**

**CONTRACTOR INFORMATION SHARING CHECKLIST**

<u>Project / Services Name:</u>	<u>Work Order / Invitation to Bid Number:</u>	<u>Effective Date:</u>	
<u>Contractor Company Name:</u>	<u>Contractor Contact:</u>	<u>Contractor Phone No.:</u>	
<u>REA Energy (REA) Contact:</u>	<u>REA Contact Email:</u>	<u>REA Contact Phone No.:</u>	
<u>Description of Work Location(s) and Scope:</u>			
<u>General Safety Requirements:</u>			
<input type="checkbox"/> Contractors ( <i>Construction, Electrical, Maintenance at Height, Vegetation Management, etc.</i> ) shall conduct documented Job Briefings (tailgate session) with all workers that will be involved in the job at the start of each shift, when the scope of work changes, and/or before new work assignments. These discussions must cover actual and potential hazards of the job.			
<input type="checkbox"/> Contractors shall keep the job site neat, clean, and free of debris, trash, and hazards. Contractors shall store all materials in a neat and orderly fashion in a safe location.			
<input type="checkbox"/> No worker under the influence of alcohol and/or drugs (other than prescribed that do not have limitations that affect job duties) shall be allowed on the REA's properties or job sites.			
<input type="checkbox"/> All Contractor personnel reporting for work in an unfit condition to safely perform assigned work functions shall be immediately dismissed from the job site.			
<input type="checkbox"/> Contractors shall have training and certification records, licenses, and other such documentation for their employees that are pertinent to the work being performed either on site or available within 24 hours and subject to review by the REA Personnel, upon formal request.			
<input type="checkbox"/> Inspection, maintenance, repair, and certification records of cranes, hoists, personnel lifts, scaffolds, excavation, etc., are subject to review by REA and shall be readily available upon request.			
<b>I. Characteristics of the REA Energy's installation related to safety (required):</b>			
<b>1910.269 Information Sharing Checklist:</b>	<b>Information to Provide During Review</b>	<b>Contractor Initials</b>	<b>Host Initials</b>
1. The nominal voltages of lines and equipment			
2. Maximum switching-transient voltages			

3. The presence of hazardous induced voltages			
4. The presence and condition of protective grounds and equipment grounding conductors			
5. The locations of circuits and equipment, including electric supply lines, communication lines and fire-protective signaling circuits			
<b>II. Conditions that are related to safety, if the information is available in existing records:</b>			
<b>1910.269 Information Sharing Checklist:</b>	<b>Information to Provide During Review</b>	<b>Contractor Initials</b>	<b>Host Initials</b>
6. Condition of the protective grounds and equipment grounding conductors			
7. Condition of the poles			
8. Environmental conditions relating to safety; i.e., PCBs, walking/working surface, additional work in area, etc.			
<b>III. Information about the design and operation of REA's installation:</b>			
<b>REA Information Sharing:</b>	<b>Information to Provide During Review</b>	<b>Contractor Initials</b>	<b>Host Initials</b>
1. Information on electric equipment, such as safety information provided by manufacturers, that relates to the required hazard assessment; i.e., Versa-Tech Reclosers, Hotline Tag, One-Shot, etc.			
2. All known sources of electric energy, including known sources of back feed.			
3. Load current for, and the opening and closing ratings of, devices used to open and close circuits under load.			
4. Other			
<b>IV. Other known system information related to safety or requested by the contractor:</b>			
<b>Information Sharing:</b>	<b>Information to Provide During Review</b>	<b>Contractor Initials</b>	<b>Host Initials</b>
<b>(1) The Cooperative's responsibilities.</b> Before work begins, the Cooperative shall inform contract employers of: <ul style="list-style-type: none"> <li>Information about the design and operation of the Cooperative's installation that is necessary for the contract to make the assessments required by 29 CFR 1910.269 and/or 1926 Subpart V; and</li> </ul>			

- Any other information about the design and operation of the Cooperative's installation that is known by the Cooperative, that the contract employer requests, and that is related to the protection of the contract employer's employees.

**(2) Contract employer responsibilities.**

- The contract employer shall ensure that each of its employees is instructed in the hazardous conditions relevant to the employee's work that the contract employer is aware of as a result of the information communicated to the contract employer by the Cooperative within this document and verbally.
- Before work begins, the contract employer shall advise the host employer of any unique hazardous conditions presented by the contract employer's work.
- The contract employer shall advise the Cooperative of any unanticipated hazardous conditions found during the contract employer's work that the host employer did not mention under paragraph (c)(1) of this section. The contract employer shall provide this information to the host employer within 2 working days after discovering the hazardous condition.

**(3) Joint Cooperative and contract-employer responsibilities.** The contract employer and the Cooperative shall coordinate their work rules and procedures so that each employee of the contract employer and the Cooperative is protected.

**As a Contractor to the Cooperative, I understand that I am responsible for ensuring that all my employees, along with others under my management or supervision, are trained prior to reporting to work to ensure that they comply with regulatory and Cooperative safety and health requirements. I/we must certify to the Cooperative that I/we received and understood this training. I/we understand that as Contractors, I/we are wholly responsible for the actions of our employees while on cooperative property and agree to indemnify the Cooperative for any claims, demands, lawsuits, OSHA penalties, or other liability resulting from my/our actions or actions of my/our employees.**

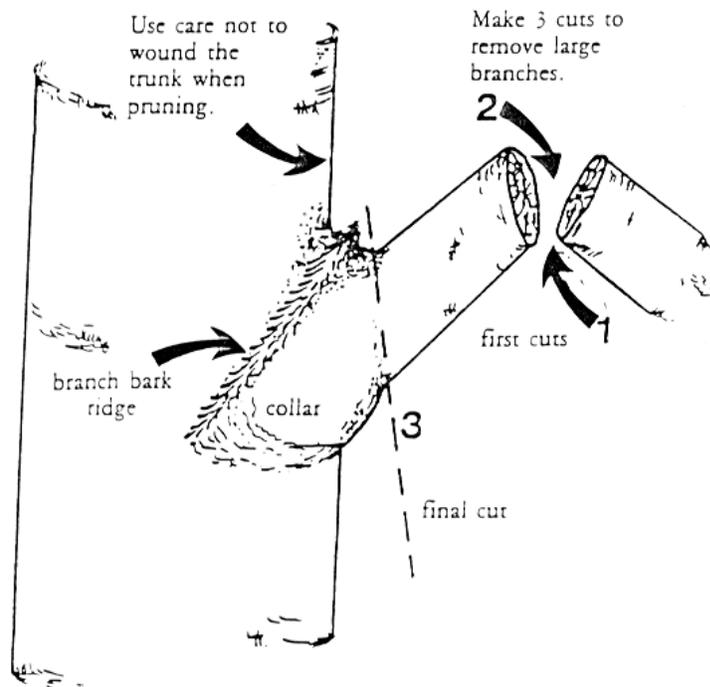
Signature of Contractor Contact:

Signature of REA Energy Contact:

Date:

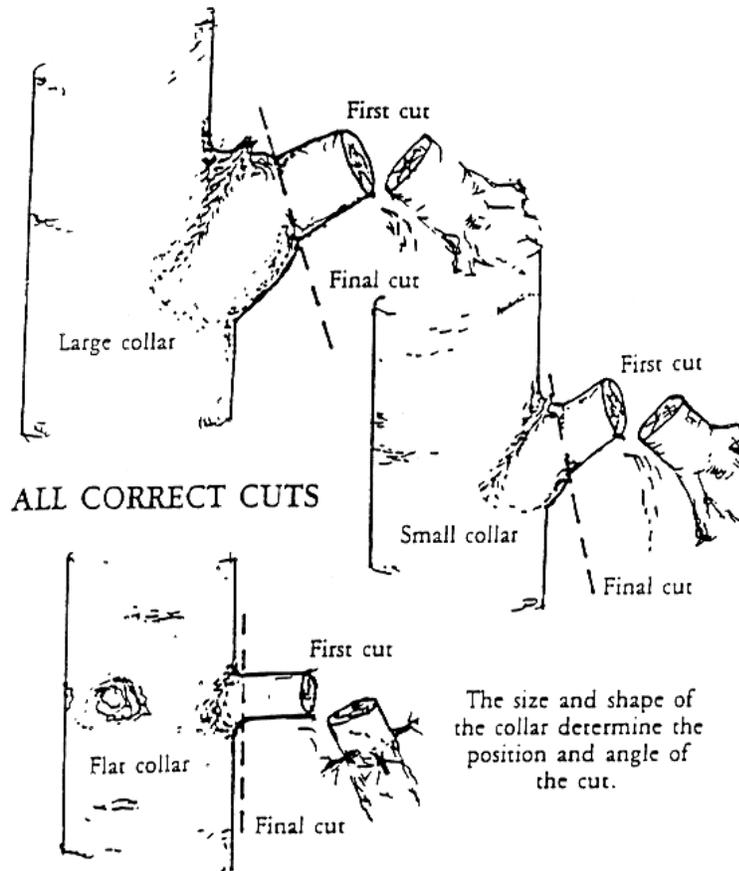
Date:

**NATURAL TARGET TRIMMING**

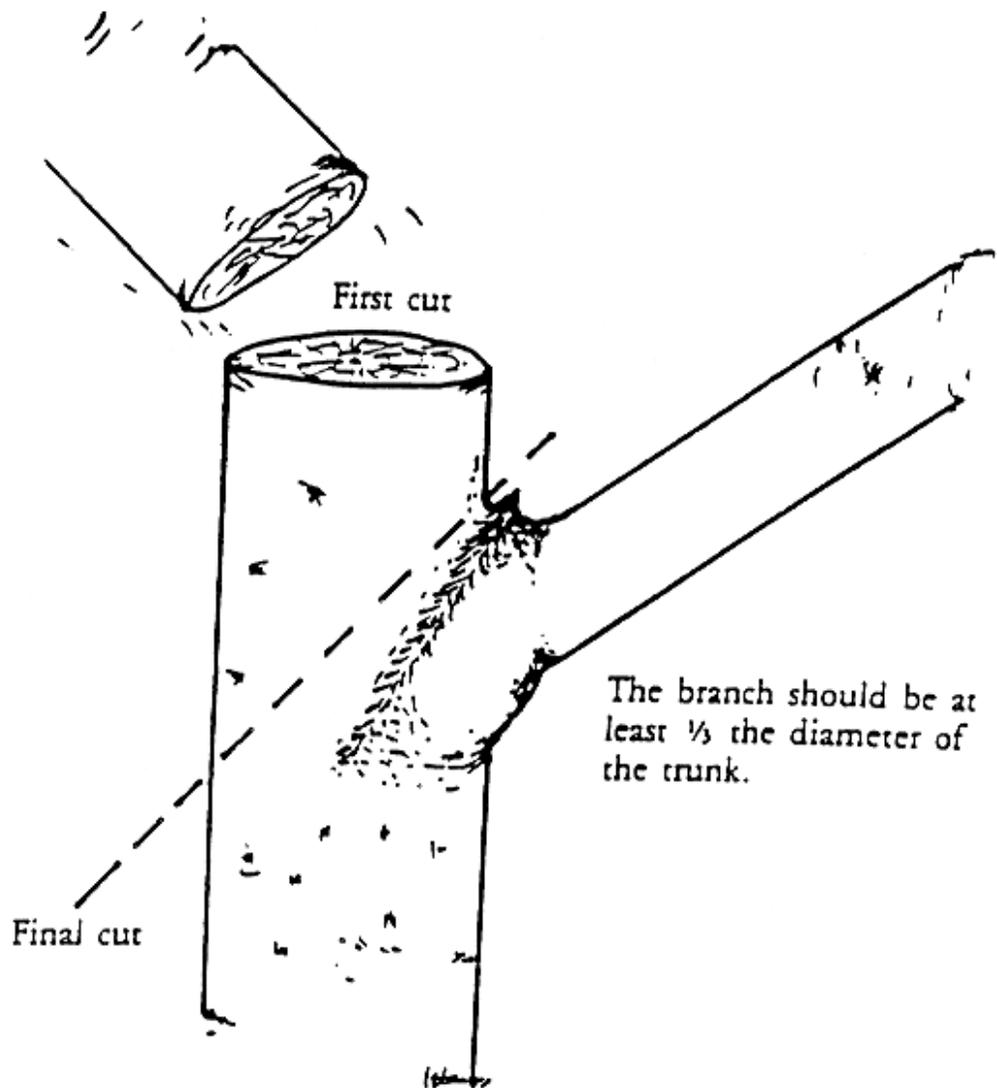


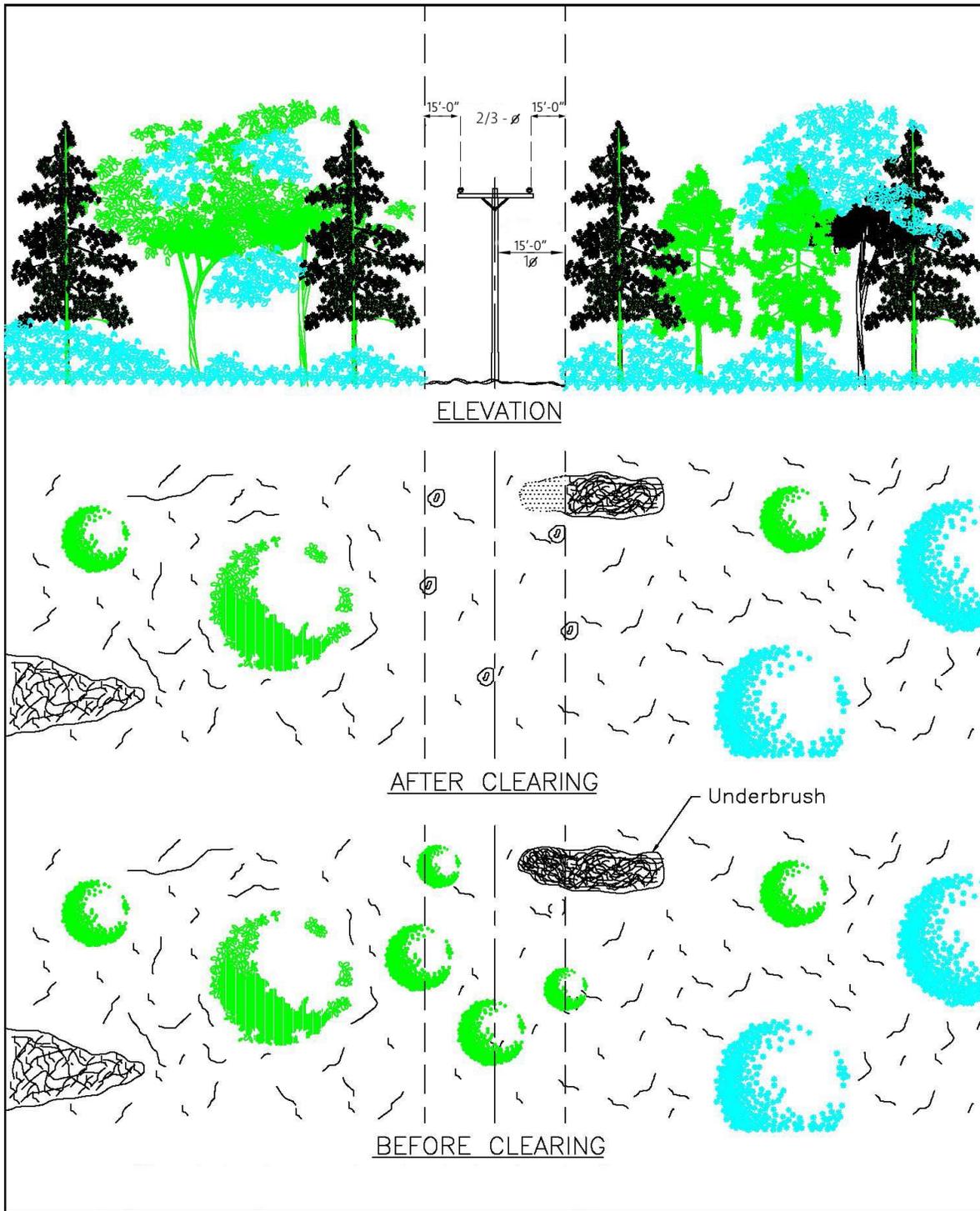
Cut as close as possible to the branch collar. Do not injure or remove the collar. Injury or removal of the collar destroys a major defense system of the tree, and leads to excessive sprouting. Do not leave stubs. Stubs are entry courts for rot-causing fungi. Do not paint the trimming cuts. Wound dressings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

# NO SET ANGLE FOR A CORRECT CUT

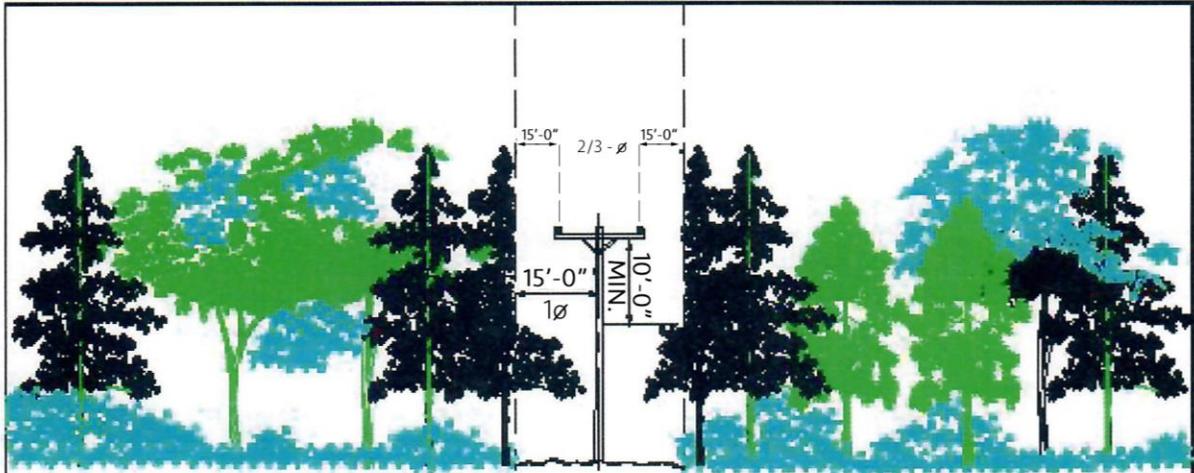


## REMOVING LEADER ON YOUNG TREES

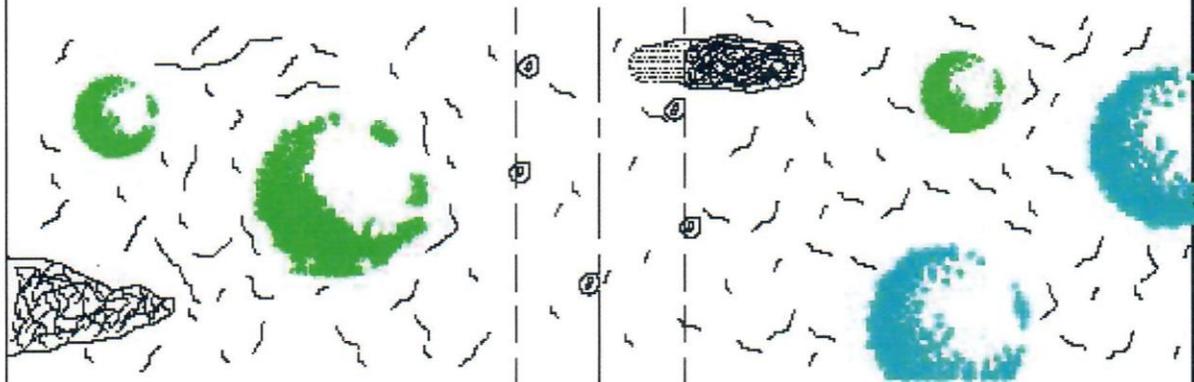




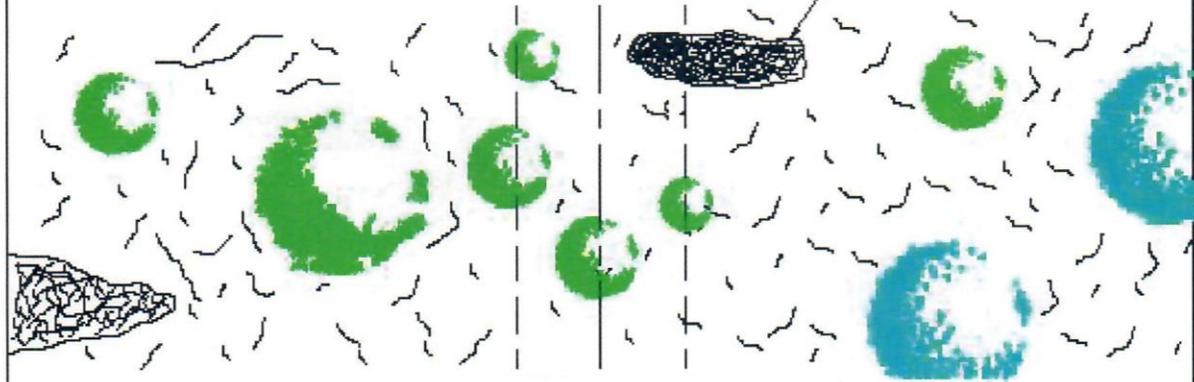
<p>RURAL RIGHT-OF-WAY TRIMMING</p> <p>CLEAR ZONE SHALL BE 15'-0" MEASURED OUTWARD FROM EACH OUTERMOST CONDUCTOR</p>	<p>RIGHT-OF-WAY CLEARING SPECIFICATIONS</p>	
	<p>REA ENERGY</p>	<p>2017</p>



ELEVATION



AFTER CLEARING



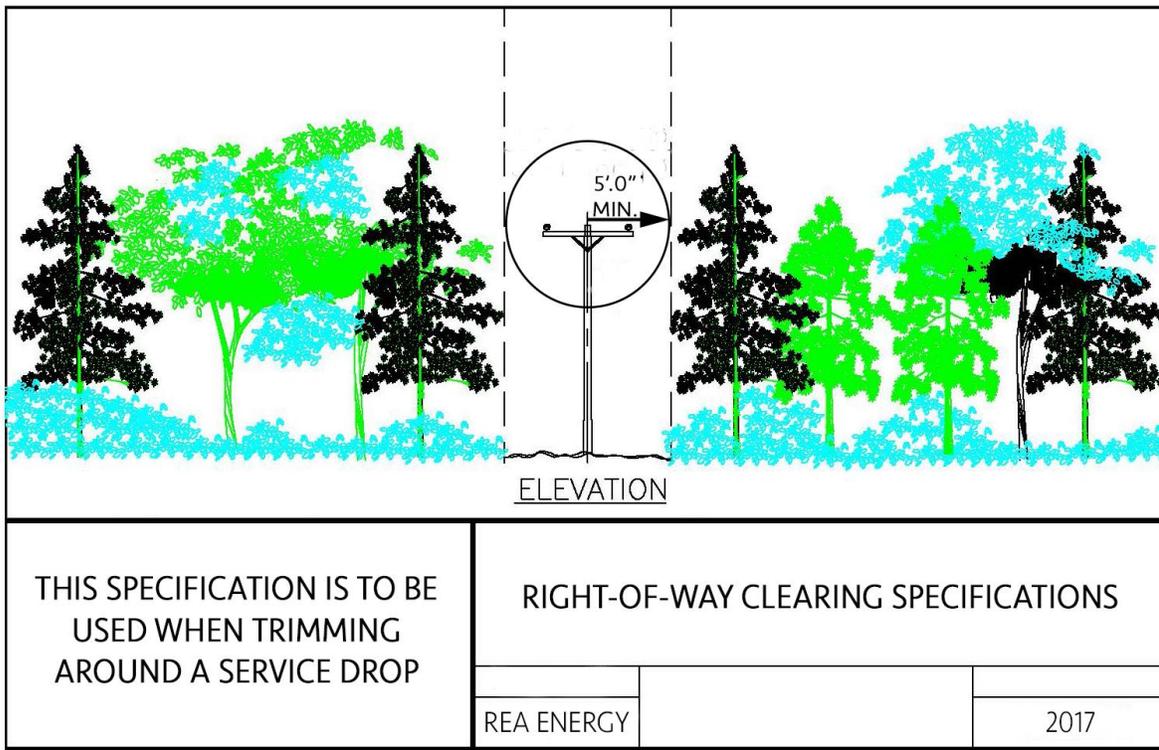
BEFORE CLEARING

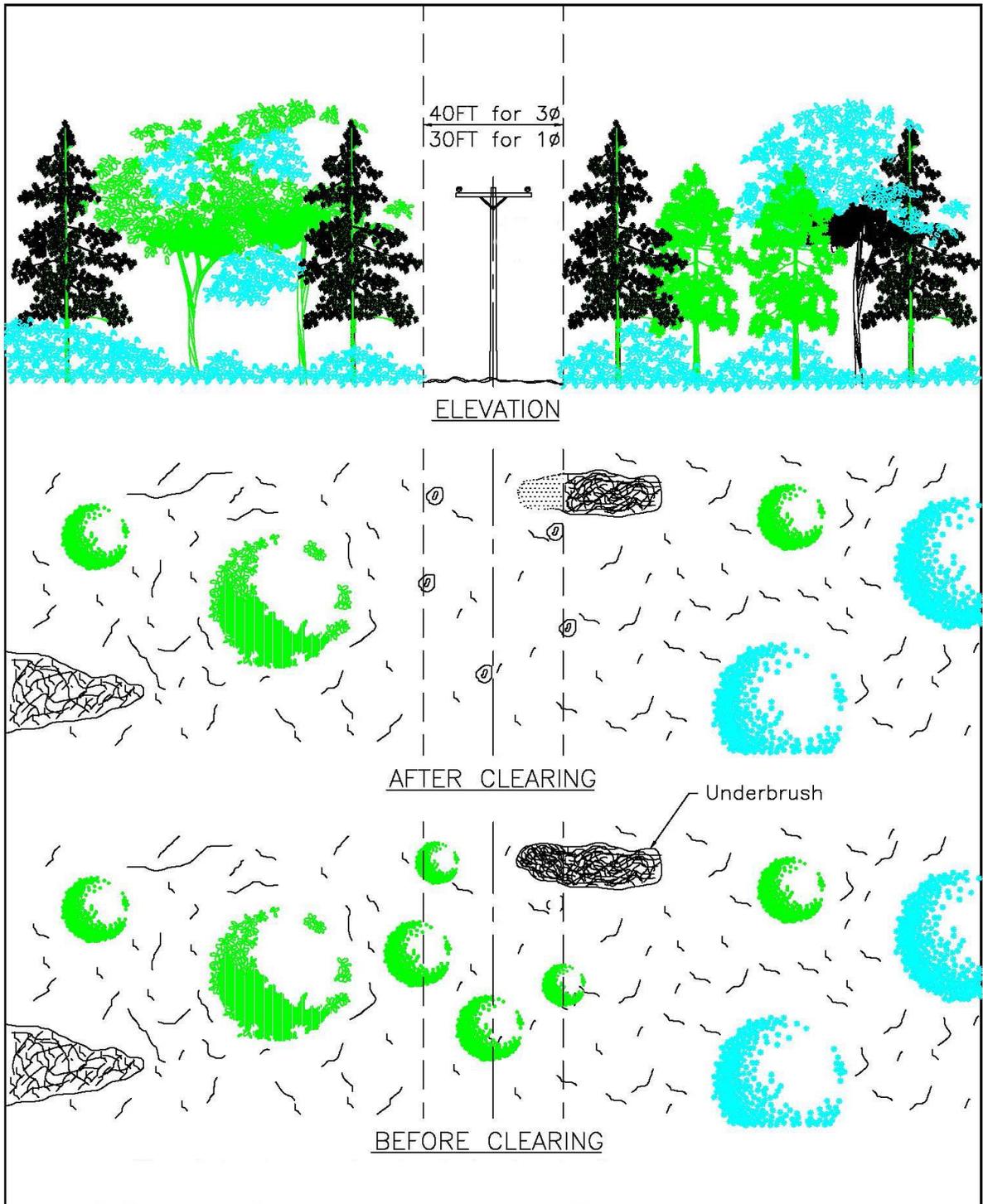
THIS SPECIFICATION IS TO BE USED WHEN TRIMMING ON MAINTAINED YARDS.

RIGHT-OF-WAY CLEARING SPECIFICATIONS

REA ENERGY

2017





THIS SPECIFICATION IS TO BE USED WHEN MOWING ON ALL RURAL RIGHT-OF-WAY	RIGHT-OF-WAY CLEARING SPECIFICATIONS	
	REA ENERGY	2017

**TABLE 1**

**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.