



PUCO EXHIBIT FILING

Date of Hearing: 6/14/12

FILE

Case No. 11-4177-EL-CSS

PUCO Case Caption: \_\_\_\_\_

Charles Paquette, MD

-VS-

Ohio Edison Company.

List of exhibits being filed:

Complainant's Ex. 1

Company Exs. 1, 2, 3, 4, 5, 6, 7,  
8 and JL-1 of Ex. 10

PUCO

RECEIVED-DOCKETING DIV  
2012 JUN 29 PM 4:16

Reporter's Signature: Maria DiPaolo Jones  
Date Submitted: 6/28/12

This is to certify that the images appearing are an accurate and complete reproduction of a case file document delivered in the regular course of business.  
Technician [Signature] Date Processed 6/28/12

BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

- - -

Charles Paquelet, MD, :  
Complainant, :  
vs. : Case No. 11-4177-EL-CSS  
Ohio Edison Company, :  
Respondent. :

- - -

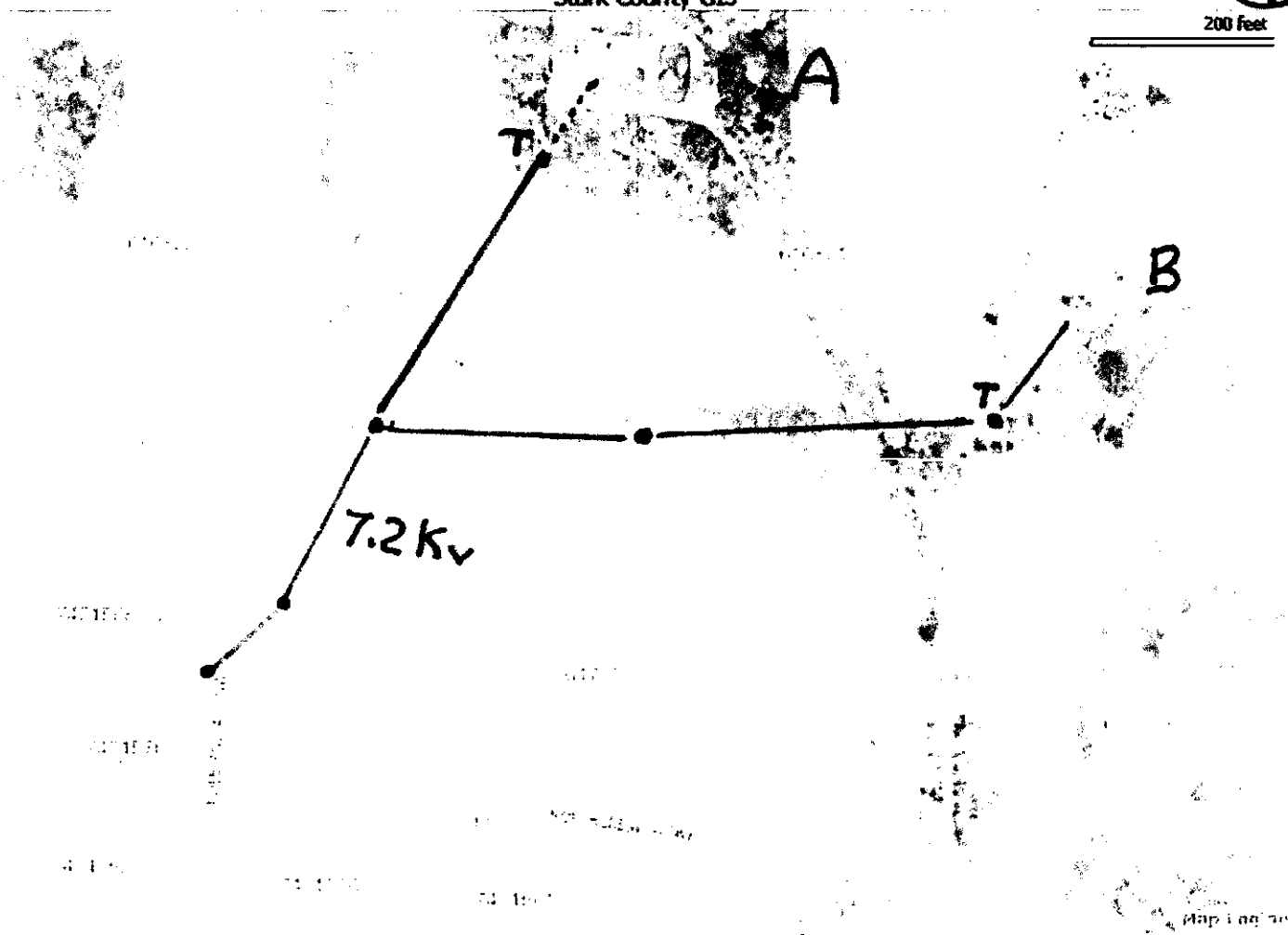
PROCEEDINGS

before Mr. Kerry K. Sheets, Hearing Examiner, at the  
Public Utilities Commission of Ohio, 180 East Broad  
Street, Room 11-C, Columbus, Ohio, called at 10:00  
a.m. on Thursday, June 14, 2012.

- - -

ARMSTRONG & OKEY, INC.  
222 East Town Street, 2nd Floor  
Columbus, Ohio 43215  
(614) 224-9481 - (800) 223-9481  
Fax - (614) 224-5724

- - -



Notes





3





**Public Utilities  
Commission**

Ted Strickland, Governor  
Alan R. Schriber, Chairman



**Commissioners**

Ronda Hartman Fergus  
Valerie A. Lemmie  
Paul A. Centolella  
Cheryl Roberto

March 25, 2010

John Paquelet

11849 Northcrest

Massillon, OH 44647

CASE ID: JPAQ031710NB

Dear Mr. Paquelet:

Thank you for contacting the Public Utilities Commission of Ohio (PUCO) regarding tree trimming.

The PUCO requires that electric companies have a tree-trimming program to keep their lines clear of overgrown trees and limbs that could interfere with the safety and reliability of electric service. The companies have established policies and procedures to trim trees in the easement. The electric company is permitted to have access to trim the trees in the easement or right of way. Questions regarding the location and dimensions of an easement should be directed to the county clerk's office.

4901:1-10-27(E)(1)(f) of the Ohio Administrative Code, known as the Electric Service and Safety Rules, require each electric company to have a vegetation management program and provide PUCO with a description of that program. Our offices review it and either accept it or request the companies make changes. FE companies are required to trim every circuit at least once every four years. They are required to trim enough so that re-growth will not make contact with the electric lines before the next four year trim is due.

Should you have questions about this or any other utility-related matter, please contact the PUCO Consumer Hotline at 1-800-686-PUCO (7826). For additional information regarding the PUCO, you may also visit us on the web at [www.PUCO.ohio.gov](http://www.PUCO.ohio.gov).

Sincerely,

Stephen Watson  
Customer Service Investigator  
Service Monitoring and Enforcement Department

### OBJECTIVE

The objective of all work covered by these documents is to maintain safe, reliable and economical electric service, through effective line clearance and satisfactory public relations.

### SCOPE OF SERVICES

The right-of-way shall be free of all vegetative obstructions which interfere with the construction, operation, maintenance and repair of the electric facilities. The Contractor's work is described in detail and shall be completed in conformance with these specifications and all other provisions of the contract documents.

### GENERAL POLICY STATEMENT

This contract will be under the direct supervision of the contracting agency or its authorized representatives. FirstEnergy, at its sole discretion may make changes altering, adding to, or reducing the extent of the Work. Such changes shall be initiated by written order of FirstEnergy and Contractor shall submit the proposed cost or credit to FirstEnergy for any changes in the Work within 15 working days after receipt of the written order for FirstEnergy's approval. Such changes to the Work shall not proceed without FirstEnergy's approval.

The Contractor shall furnish competent supervision as required, and may designate a Supervisor as the Contractor's representative in all matters relating to the work to be performed. The Contractor shall have full responsibility for the work and good conduct of its employees. Directions and instructions shall be given to such employees by the Contractor or its representatives, and in no circumstances by FirstEnergy or its representatives.

A copy of the FirstEnergy Vegetation Management Specifications shall be given to every crew before starting work on any project and Contractor and the Contract Supervisor shall go over the FirstEnergy Vegetation Management Specification with every crew member prior to starting work under any project.

Recieved from Ms Carrie Dunn January 11. 2012 as part  
of initial interrogatories

6

Services is a third-party contractor, Ohio Edison does not have information on the exact credentials of the individuals employed by Nelson Tree Services. However, I have requested this information and as soon as I receive it, I will pass it along to you.

In your third question, you asked what I instructions were give the crew that performed the most recent work on your property. Ohio Edison instructed Nelson Tree Services to get full clearance and proper cuts in accordance with the vegetation management specifications and ANSI A300 standards for utility pruning.

If you have any questions, please do not hesitate to contact me.

Very truly yours,

*Carrie M. Dunn*

Carrie M. Dunn

CMD/jhp

Enclosures

Taken from "First Energy vegetation Specification Manual"

timesheets, the Contractor shall refer to the Instructions for Filling out the FirstEnergy Weekly Timesheets. (Exhibit 4)

For recording purposes, a tree qualified for "tree pruned" status shall be defined as being a plant with a central trunk that is six inches (6") in diameter at breast height (dbh). Breast height shall be 4.5 feet above ground level. Multiple trunks originating from the same common root crown shall be considered as one (1) tree. The trunk with the largest diameter will be considered to be the size of the tree.

### DISTRIBUTION CLEARING ZONE

The degree and type of tree clearance required for electric lines to function effectively is dependent on the voltage of the conductor, the type of tree, its growth rate and branching habit.

The distribution clearing zone is defined as a corridor measured at a distance of 15' (fifteen feet) on either side of the pole line or to the established large tree edge, whichever is greater in width. Emphasis is to be placed on controlling all incompatible vegetation within this clearing zone. All incompatible vegetation overhanging the clearing zone corridor shall be pruned back to the main stem. In cases where incompatible vegetation is not controlled, such as in maintained lawn areas, vegetation shall be pruned following directional pruning methods and as further defined in the current ANSI 300 Standards and Amendments. Pruning shall be done in such a manner to achieve a minimum of four years of clearance from FirstEnergy primary conductors based on tree species and growing conditions. In cases where four years of clearance is unattainable 12' (twelve feet) of clearance around primary conductors shall be achieved. (Refer to Procedure for Refusals and Skips page 9.)

Regardless of tree species, structures with fuses or disconnects must have all woody vegetation cleared within an eight foot (8') radius of the fuse/disconnect side of the structure.

When clearing vegetation for an individual circuit on a pole or structure, the

## **Annex C**

### **Applicable ANSI A300 interpretations**

---

The following interpretations apply to Part 1 – *Pruning*:

#### **C-1 Interpretation of “should” in ANSI A300 standards**

“An advisory recommendation” is the common definition of “should” used in the standards development community and the common definition of “should” used in ANSI standards. An advisory notice is not a mandatory requirement. Advisory recommendations may not be followed when defensible reasons for non-compliance exist.

#### **C-2 Interpretation of “shall” in ANSI A300 standards**

“A mandatory requirement” is the common definition of “shall” used in the standards development community and the common definition of “shall” used in ANSI standards. A mandatory requirement is not optional and must be followed for ANSI A300 compliance.

**flickr**  
from YAHOO!

Home The Tour Sign Up Explore Upload

Favorite Actions Share

News Older



Fagus sylvatica 'Fastigiata'

#### Comments and faves



Add your comments here.

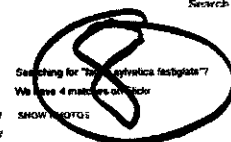
Want to format your comment?

[Formatting help](#)

You [Sign in](#) [Create Your Free Account](#)  
 Explore [Places](#) [Last 7 Days](#) [This Month](#) [Popular Tags](#) [The Commons](#) [Creative Commons](#) [Search](#)  
 Help [Community Guidelines](#) [The Help Forum](#) [FAQ](#) [Signup](#) [Get Help](#)  
[Flickr Blog](#) [About Flickr](#) [Jobs](#) [Terms of Use](#) [Your Privacy](#) [About Our Ads](#) [Copyright/Policy](#) [Yahoo! Safety](#) [Report Abuse](#)

You aren't signed in [Sign in](#) [Help](#)

Search



Searching for "Fagus sylvatica 'Fastigiata'"  
 We have 4 matches on flickr

By Edgewood [SHOW PHOTOS](#)  
 To real name give

This photo was taken on January 29, 2008 using a Canon PowerShot A950 IS

163 views

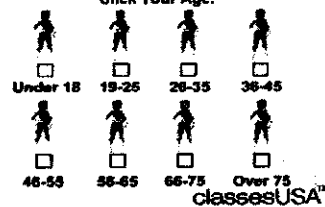
This photo belongs to

Edgewood Nursery's photostream (7)



Advertisement

Hate Your Job? Go Back To  
 School With A Grant.  
 See If You Qualify!  
 Click Your Age:



Want to go ad-free? Get Flickr Pro!

Tags

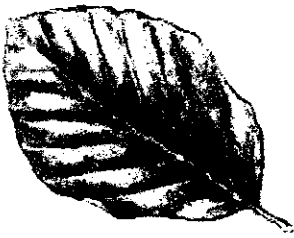
Tree

License

All Rights Reserved

Privacy

This photo is visible to everyone



## #33 - Fastigate European Beech (*Fagus sylvatica* 'Fastigiata')

This beech is well-suited to a narrow growing space; its habit of tight, upright branches provides an interesting accent in the landscape. The tree is distinguished from its parent, the European Beech, only by this columnar form.





9



10



(11)

If the property owner refuses to allow the tree to be removed, the contractor shall prune the tree for line clearance at that time, and notify the FirstEnergy representative by phone. While clearing the tree from the conductor, obtain the property owner's name, address and phone number, and reason for refusal. The contractor is also to notify the FirstEnergy representative promptly in writing, giving property owner's name, address, phone number, and reason for refusal. A copy of the written notice is to be sent to the Claims Department, 76 South Main Street, Akron, Ohio 44308.

Down and span guys are to be freed of weight, strain or displacement because of pressure caused by contact with tree parts, particularly from fast-growing trees. Vines growing on poles, towers, and guy wires will be cut at ground line and as high as can be safely reached from the ground. Stumps of vines will be treated using an approved cut surface treatment. Notification to the property owner shall be given prior to removing cultivated vines. All noxious vines should be removed, as directed by the designated FirstEnergy representative, from poles, towers, and guys and treated with an appropriate herbicide. If vines are entwined in electrical equipment, FirstEnergy shall be notified.

Communication conductors owned by FirstEnergy shall be maintained to the same clearance as secondary voltages, or as directed by the designated FirstEnergy representative. Allowance shall be made for wire sag and horizontal displacement due to extreme weather conditions and high winds.

Antennas, their supports or other objects attached to or in a tree such that their placement or maintenance has or would cause someone to be in close proximity to the conductor are to be reported promptly in writing to FirstEnergy.

#### DEBRIS & WOOD DISPOSAL

The Contractor shall leave the wood that is too large to be clipped in handling lengths for the property owner to cut into final firewood lengths. The Contractor shall communicate

this to the property owner at the time of notification. The Contractor shall document this notification as directed by FirstEnergy.

The Contractor shall satisfactorily dispose of all tree parts that are pruned or removed in a manner that is acceptable to the landowner and FirstEnergy. Accepted FirstEnergy methods of disposal include windrowing, chipping, lopping, and stacking. Lopping must be below knee height. Brush and logs must not be left in any waterway or within 15 feet of the centerline of any distribution line or more than 10 feet from the edge of a transmission line clearing zone. Debris from clearing zone areas that are adjacent to a road shall be kept on the edge of the clearing zone away from the edge of the road.

Debris that is generated from emergency work, where tree clearing is required, is to be left in a reasonably safe manner. Under these conditions an Emergency Work door card (form 441) is to be left for the property owner. Situations may occur that require debris generated by emergency work to be cleaned up, the work shall be done at the direction of FirstEnergy.

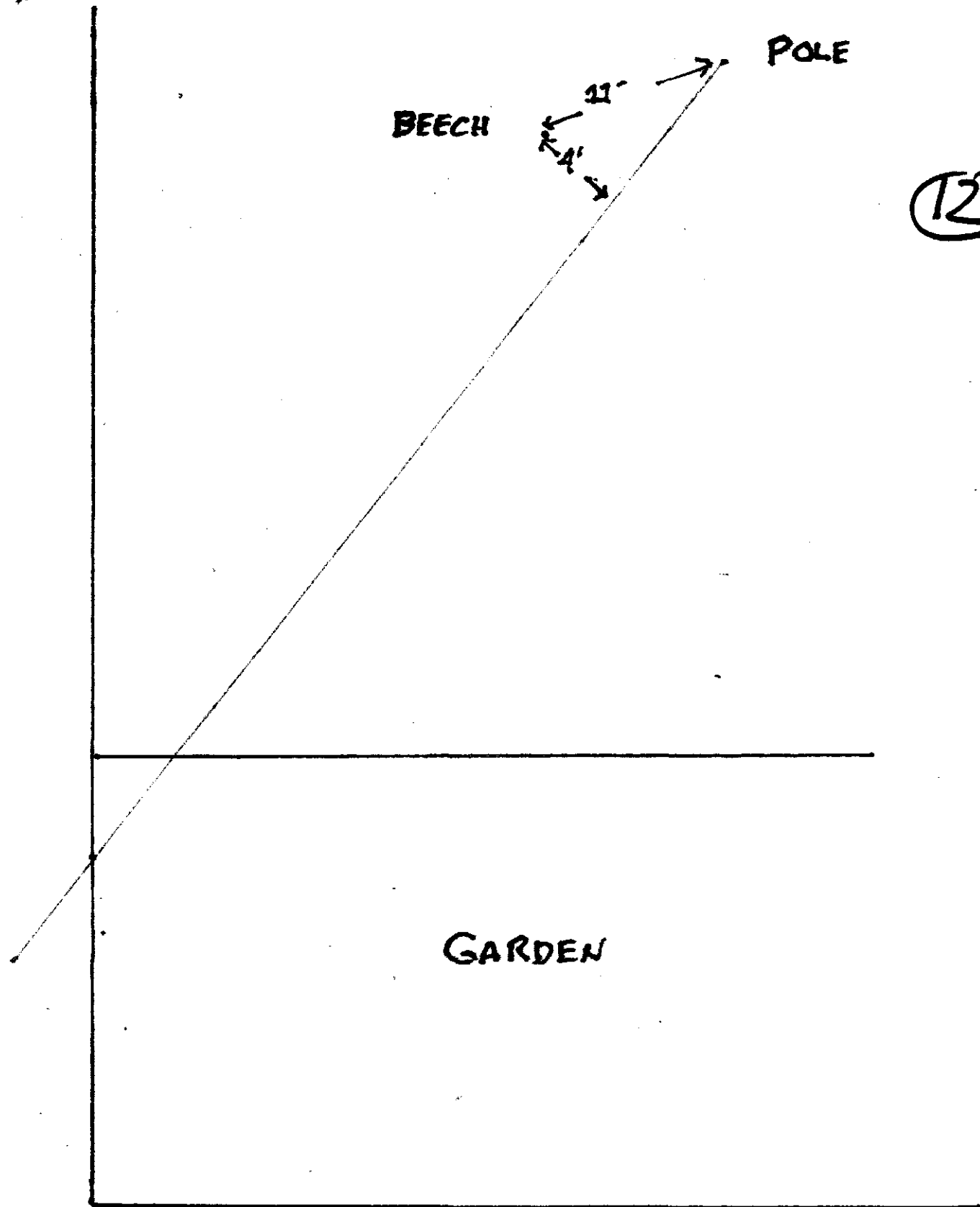
#### **WORK SITE APPEARANCE UPON COMPLETION OF WORK**

Work sites shall be left in a condition equal to that which existed prior to the commencement of the Contractor's operations.

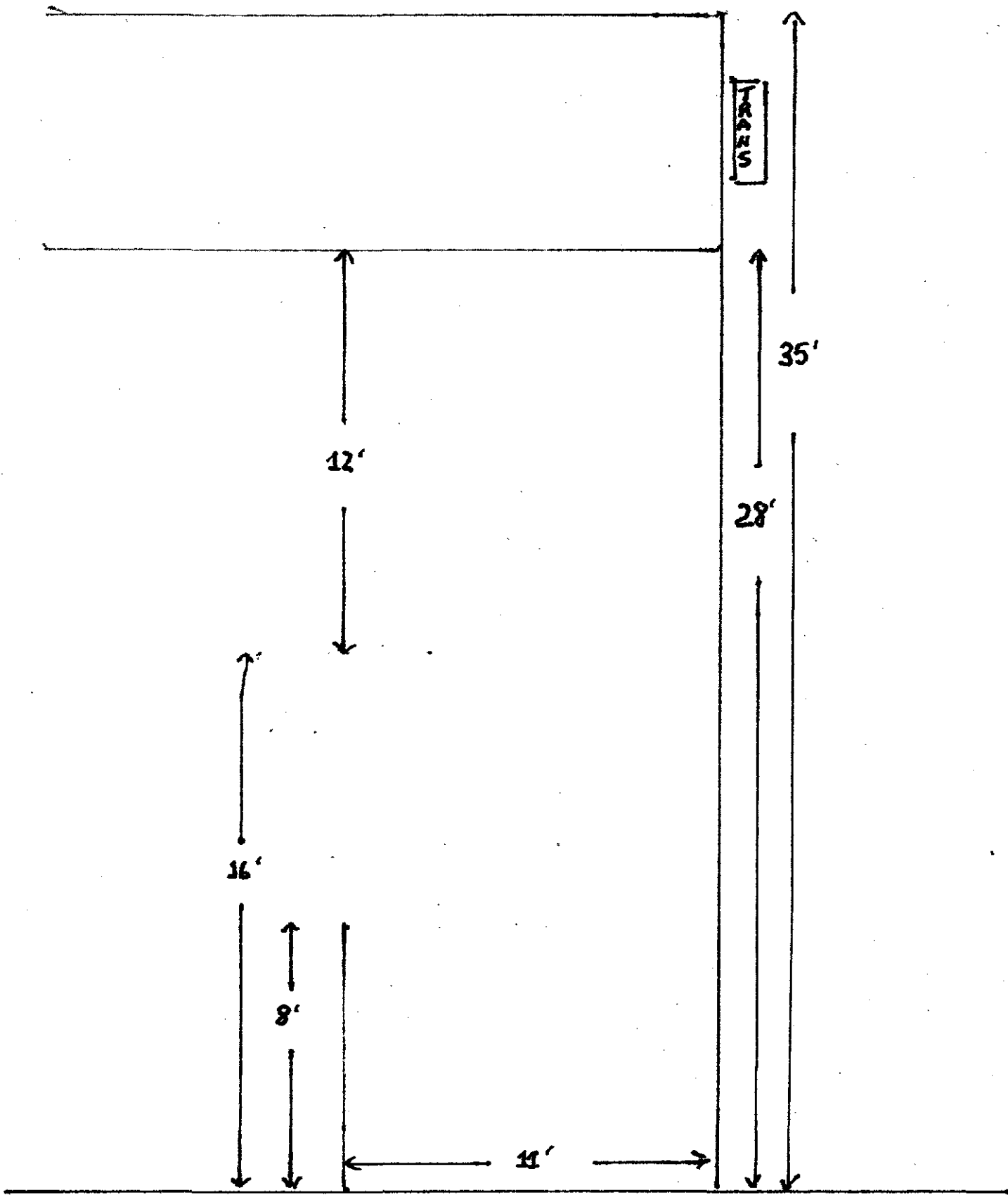
All Contractor-generated trash, including empty drinking cups, lunch papers, oil containers, cigarette butts etc. must be properly disposed of and not left on site.

#### **WORK INSPECTION**

FirstEnergy has the responsibility for inspecting and approving work performed under these specifications. The exercise of this responsibility by FirstEnergy Forestry shall not lessen or relieve the Contractor from responsibility under this agreement. The purpose of this inspection is to ensure specification compliance. Payment will be withheld for areas



1 BLOCK = 2 FEET



1 BLOCK = 1 FOOT

Trees dangerous to the conductor located on the clearing zone corridor and those adjacent to the clearing zone corridor shall be removed as directed by FirstEnergy.

All vegetation that is removed shall be cut as closely to the ground line as possible and shall not exceed a height of 3" (three inches) above the ground level unless otherwise directed by FirstEnergy.

Trees, brushwood, and slash shall be placed or disposed of as designated by the detailed property and provision list or as directed by FirstEnergy. Designated trees are to be left in lengths as long as possible, preferably whole tree lengths and shall be placed in neat piles with the tree lengths parallel to and along the edge of the clearing zone corridor and separated from other piles or wind rows.

Slash and brushwood generated from the clearing operation shall be placed in piles or windrows along the edge of the clearing zone corridor and separated from other piles unless otherwise directed by FirstEnergy. Any disposal of brush, wood, slash, logs or trees shall be in accordance with the laws and regulations of the appropriate governing authority.

#### **TREE PRUNING METHODS**

All pruning, both initial and re-pruning, shall be done in accordance with modern arboriculture standards using the current ANSI 300 Standards and Amendments. Directional pruning is the preferred method of line clearance pruning. Whenever possible, the Contractor shall obtain clearance in this manner.

The drop crotch method will be used.

Pruning cuts are to be made back to the main stem, or to a lateral branch which is at least one third the diameter of the portion being removed. Limbs shall not be stubbed off at the

edge of the clearing limits. Pruning shall be done in a manner that will promote growth away from the power lines.

Dead branches and structurally weak limbs overhanging primary conductors shall be removed.

A minimum number of cuts shall be utilized to achieve required clearances.

Where practical, cuts should be primarily restricted to large diameter branches, made well within the crown. Shaping through the use of small diameter branches in the outer crown shall be avoided.

Cuts are to be made outside the branch bark ridge leaving no stub.

Precautions shall be taken to avoid stripping or tearing of bark when cutting limbs.

All severed twigs, branches and limbs shall be removed from pruned trees.

The practices known as "shearing", "stubbing", pollarding, or "rounding over" shall be avoided. Exceptions to drop crotch and directional pruning techniques shall be used only when directed to do so by the FirstEnergy representative.

### **TREE REMOVAL**

A woody plant six inches (6") in diameter at four and one-half feet (4.5') above the ground (dbh) will be considered for purposes of recording a tree. All growths less than this measurement will be considered brush.

Trees that are expected to be removed are those that are:

- Dead or defective which constitute a hazard to the conductor.
- Trees that have fast growth rates or trees that cannot be pruned for effective conductor clearance.



Taken from Best Management Practices- ANSI A300 Part I

Unfortunately, trees do not always have sufficiently large lateral branches, growing in the right direction, to assume dominance. Large trees with an excurrent, or upright, growth habit that are growing directly beneath a facility often pose this dilemma. If these trees are to be retained, it may be necessary to prune to smaller laterals in order to obtain the required clearance. Whenever practical, such trees should be removed and, if appropriate, replaced with compatible species.

### ***Pre-Established Clearing Limits***

Many pruning specifications require a minimum clearance between tree branches and utility facilities. If used, such pre-established clearing limits should allow for variables such as

- tree species characteristics
- expected growth rate
- natural tree structure
- expected reaction to pruning
- wood strength
- overall tree health
- length of time until next scheduled pruning
- type of facility (voltage, construction type, etc.)

Factors such as the presence of other trees, buildings, terrain, and other site features also contribute to the shape or growth patterns of trees and should be taken into account when obtaining clearances.

Utility arborists should be familiar with the characteristics of trees in the areas where they work and should obtain clearances accordingly. For example, more clearance may be necessary on fast-growing or weak-wooded trees. When minimum clearances are required, pruning cuts should be made at the next suitable lateral or parent limb beyond the specified distance whenever practical (see Figure 8).

### ***Rounding Over and Stubbing Cuts***

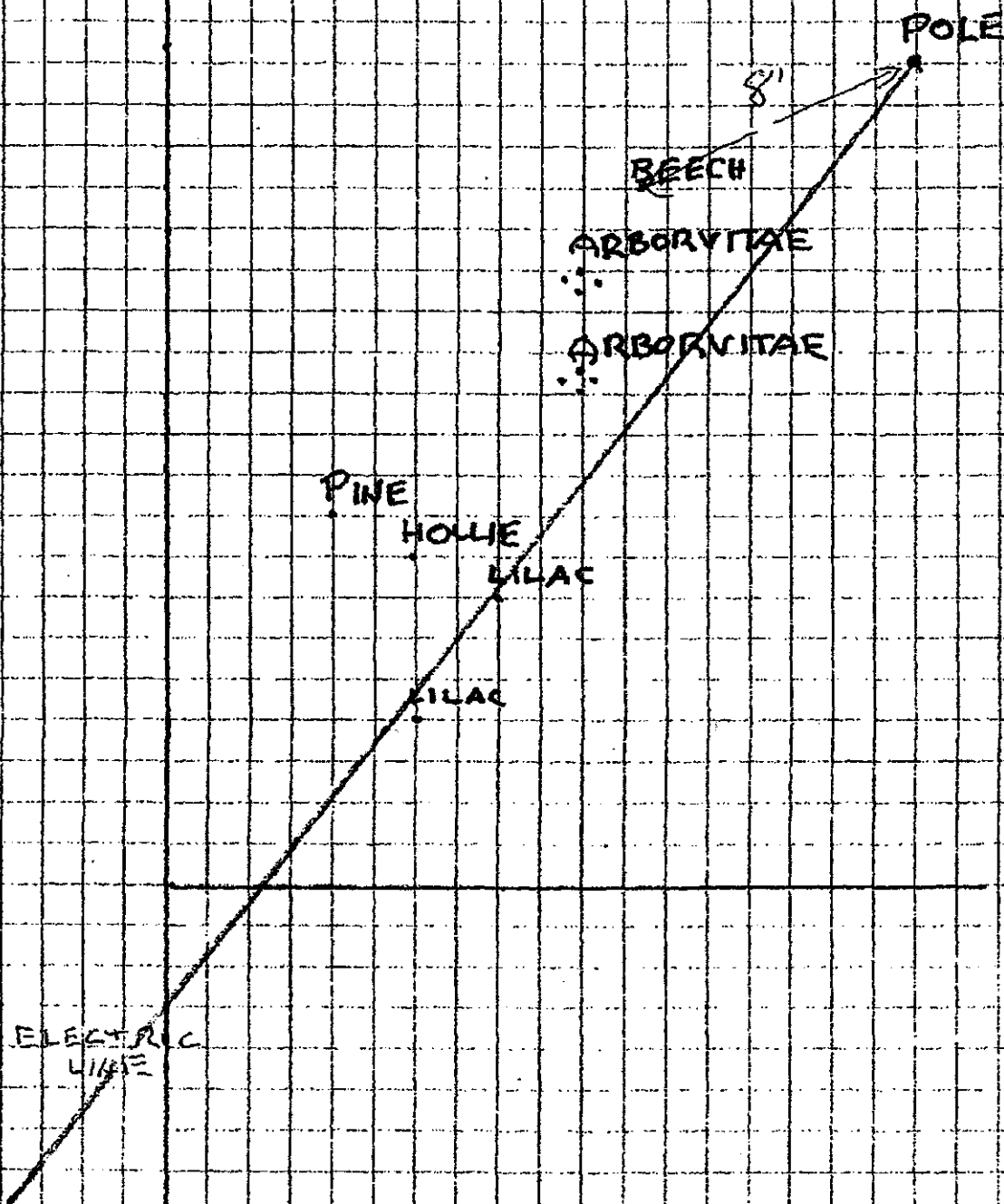
Rounding over, or *topping*, is the now discredited practice of indiscriminately stubbing the entire crown of a tree (Figure 12). In this process, a series of heading cuts are made between lateral branches, rather than at the lateral. This once widespread practice is now considered unacceptable because it severely damages trees and encourages rapid re-growth. Many tree species respond to heading, topping, rounding over, or other severe treatments with a flush of fast-growing sprouts, which can rapidly overtake conductors (Figure 13).

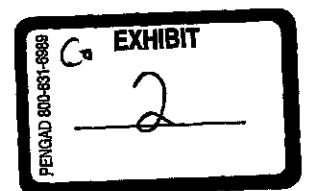
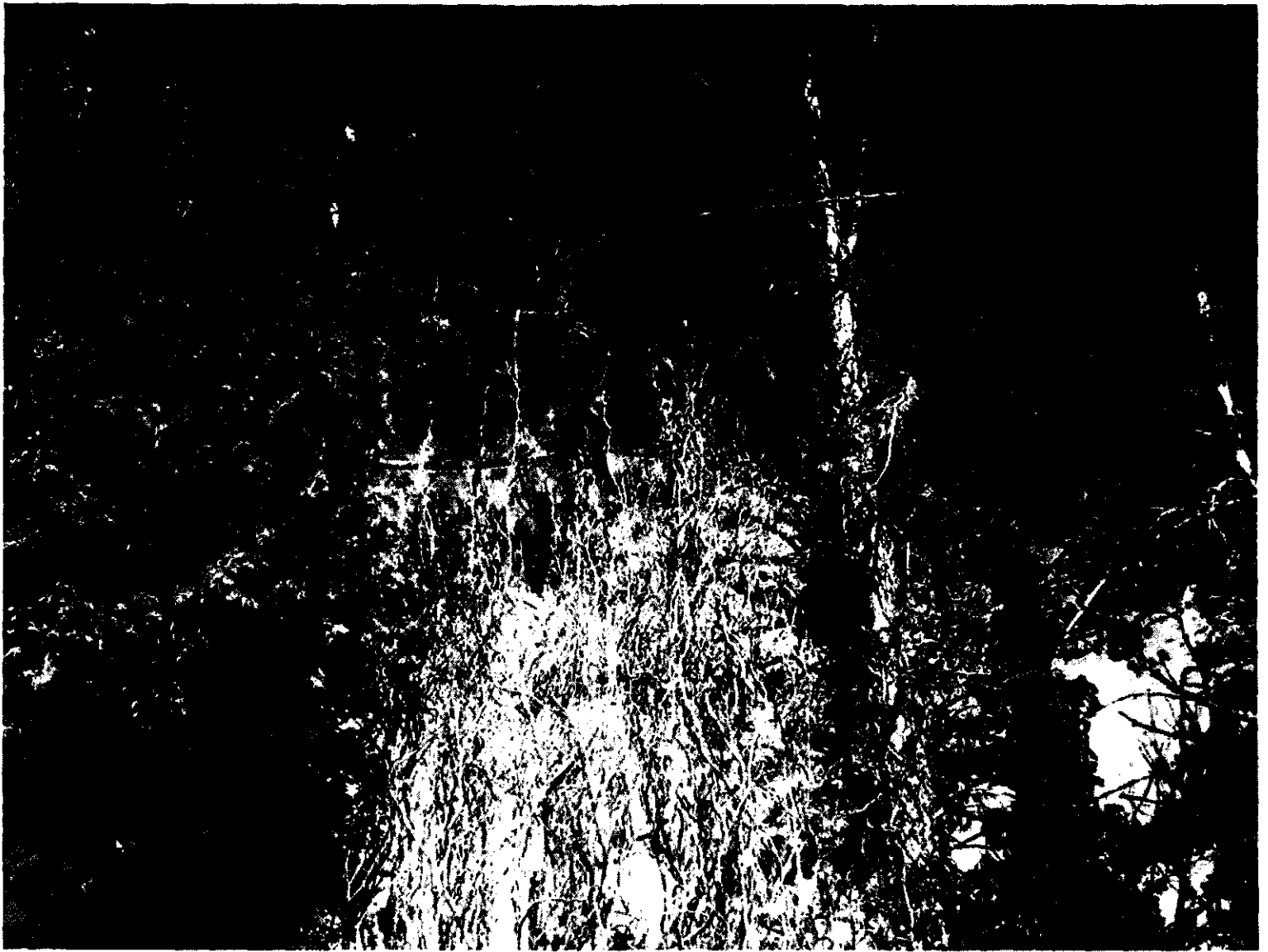


Figure 12. Rounding over and is now a



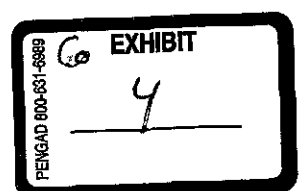
Figure 13. Many fast-growing sprouts







PENIGAD 800-831-6989	EXHIBIT	EXHIBIT
	6 3	<del>TW</del>



3-5K " dry  
notes

CHARLES J. PAQUELET, M.D.

11849 Northcrest N.W.  
Massillon, Ohio 44647

October 16, 2011

Dear Bill,

thank you for your willingness to help me with my dispute with First Energy Co. My complaint is that more of my tree (*Fagus sylvatica fastigata*) was removed than necessary and it was done in such a manner as to irreparably damage the tree.

The First Energy Company identifies two authoritative guides they use in their vegetation management program. I have enclosed copies of pertinent parts and have highlighted the guidelines that were violated.

I think I planted the tree probably from a gallon container about 1985. I estimate the tree was about 25 to 30 feet tall and quite "tight". I don't think this tree was pruned before this episode. The existing trunk measures 8' and the logs on the ground that represent the middle part of the tree also measure 8'. The smallest end of the logs on the ground measures about 4". I suspect that part, the upper part of the tree went to the chipper.

\* The photos of the pole show the "hot wire" above and the "ground wire" 7' below with the transformer on the opposite of the pole relative to the beech tree. And, the distance of the trunk of the beech tree to the pole is 8'. There should be a cross bar on the pole. In December 2004 we had an ice storm. The cross bar broke and shorted out the system. In First Energy's repair they cut off the cross bar and lowered the ground wire 7' from the original 35'.

I suspect the crew that pruned my trees used this lower wire as a guide and achieved a clearance of 12' accounting for why my tree is now 16' tall with the unexplained removal of another 8' of the trunk.

I would think my descriptions and explanations are at best confusing. I'll give you a call when I get back from Montana and maybe Judy and I can come and visit with you and Nancy. Besides we can make plans for Italy!

Charles

Company



# American National Standard

ANSI A300 (Part 1)-2008 Pruning  
Revision of ANSI A300 (Part 1)-2001

*for Tree Care Operations —  
Tree, Shrub, and Other Woody Plant  
Management —  
Standard Practices (Pruning)*

---



Company



- 3.5.4 Smoking shall be prohibited when handling or working around flammable liquids.
- 3.5.5 Clothing contaminated by flammable liquid shall be changed as soon as possible.
- 3.5.6 Open flame and other sources of ignition shall be avoided.

---

## 4 ELECTRICAL HAZARDS

### 4.1 General

- 4.1.1 All overhead and underground electrical conductors and all communication wires and cables shall be considered energized with potentially fatal voltages.
- 4.1.2 The employer shall certify that each employee has been trained to recognize and is appropriately qualified to work within proximity to electrical hazards that are applicable to the employee's assignment.
- 4.1.3 Arborists and other workers shall be instructed that
  - (a) electrical shock will occur when a person, by either **direct contact** or **indirect contact** with an energized electrical conductor, energized tree limb, tool, equipment, or other object, provides a path for the flow of electricity to a grounded object or to the ground itself. Simultaneous contact with two energized conductors **phase to phase** will also cause electric shock that may result in serious or fatal injury.
  - (b) electrical shock may occur as a result of **ground fault** when a person stands near a grounded object (for example, if an uninsulated aerial device comes into contact with a conductor with outriggers down).
  - (c) in the event of a downed energized electrical conductor or energized grounded object, there exists the hazard of **step potential**.
- 4.1.4 If the **minimum approach distance** for a **qualified line-clearance arborist** (shown in Table 1) or for a qualified arborist (shown in Table 2) cannot be maintained during arboricultural operations, the **electrical system owner/operator** shall be advised and an electrical hazard abatement plan implemented before any work is performed in proximity to energized electrical conductors.

### 4.2 Working in Proximity to Electrical Hazards

- 4.2.1 The items contained in section 4.1 shall always be included in the review of this section.
- 4.2.2 An inspection shall be made by a qualified arborist to determine whether an **electrical hazard** exists before climbing, otherwise entering, or performing work in or on a tree.



**Table 1. Minimum approach distances from energized conductors for qualified line-clearance arborists and qualified line-clearance arborist trainees.**

Nominal voltage in kilovolts (kV) phase to phase	Includes 1910.269 elevation factor, sea level to 5,000 ft*		Includes 1910.269 elevation factor, 5,000–10,000 ft*		Includes 1910.269 elevation factor, 10,001–14,000*	
	ft-in	m	ft-in	m	ft-in	m
0.051 to 0.3	<i>Avoid contact</i>		<i>Avoid contact</i>		<i>Avoid contact</i>	
0.301 to 0.75	1-01	0.33	1-03	0.38	1-04	0.41
0.751 to 15.0	2-05	0.70	2-09	0.81	3-00	0.88
15.1 to 36.0	3-00	0.91	3-05	1.04	3-09	1.00
36.1 to 46.0	3-04	1.01	3-10	1.16	4-02	1.09
46.1 to 72.5	4-02	1.26	4-09	1.44	5-02	1.30
72.6 to 121.0	4-06	1.36	5-02	1.55	5-07	1.68
138.0 to 145.0	5-02	1.58	5-11	1.80	6-05	1.96
161.0 to 169.0	6-00	1.80	6-10	2.06	7-05	2.23
230.0 to 242.0	7-11	2.39	9-00	2.73	9-09	2.95
345.0 to 362.0	13-02	3.99	15-00	4.56	16-03	4.94
500.0 to 550.0	19-00	5.78	21-09	6.60	23-07	7.16
765.0 to 800.0	27-04	8.31	31-03	9.50	33-10	10.29

\*Exceeds phase to ground; elevation factor per 29 CFR 1910.269.

Note: At time of publication, the minimum approach distances in this table for voltages between 301 and 1,000 volts exceed those specified by 29 CFR 1910.269, in anticipation of OSHA adopting these distances during the life of ANSI Z133.1-2006.

- 4.2.3 Only qualified line-clearance arborists or **qualified line-clearance arborist trainees** shall be assigned to work where an electrical hazard exists. Qualified line-clearance arborist trainees shall be under the direct supervision of qualified line-clearance arborists.
- 4.2.4 A second qualified line-clearance arborist or line-clearance arborist trainee shall be within visual or voice communication during line-clearing operations aloft when an arborist must approach closer than 10 feet (3.05 m) to any energized electrical conductor in excess of 750 volts (**primary conductor**) or when
- branches or limbs are being removed, which cannot first be cut (with a nonconductive pole pruner/pole saw) to sufficiently clear electrical conductors, so as to avoid contact; and/or
  - roping is required to remove branches or limbs from such electrical conductors.

**Table 2. Minimum approach distances to energized conductors for persons other than qualified line-clearance arborists and qualified line-clearance arborist trainees.**

Nominal voltage in kilovolts (kV) phase to phase*	Distance	
	ft-in	m
0.0 to 1.0	10-00	3.05
1.1 to 15.0	10-00	3.05
15.1 to 36.0	10-00	3.05
36.1 to 50.0	10-00	3.05
50.1 to 72.5	10-09	3.28
72.6 to 121.0	12-04	3.76
138.0 to 145.0	13-02	4.00
161.0 to 169.0	14-00	4.24
230.0 to 242.0	16-05	4.97
345.0 to 362.0	20-05	6.17
500.0 to 550.0	26-08	8.05
785.0 to 800.0	35-00	10.55

\*Exceeds phase to ground per 29 CFR 1910.333.

**4.46 stub:** Portion of a branch or stem remaining after an internodal cut or branch breakage.

**4.47 subordination:** Pruning to reduce the size and ensuing growth rate of a branch or leader in relation to other branches or leaders.

**4.48 sucker:** Shoot arising from the roots.

**4.49 thin:** pruning to reduce density of live branches (7.5).

**4.50 throw line:** A small, lightweight line with a weighted end used to position a climber's rope in a tree.

**4.51 topping:** Reduction of tree size using internodal cuts without regard to tree health or structural integrity. Topping is not an acceptable pruning practice (6.1.7).

**4.52 tracing:** The removal of loose, damaged tissue from in and around the wound.

**4.53 trunk:** The main woody part of a tree beginning at and including the trunk flare and extending up into the crown from which scaffold branches grow.

**4.54 trunk flare:** 1. The area at the base of the plant's trunk where it broadens to form roots. 2. The area of transition between the root system and trunk (syn.: root flare).

**4.55 urban/residential areas:** Populated areas including public and private property that are normally associated with human activity.

**4.56 utility:** A public or private entity that delivers a public service, such as electricity or communications.

**4.57 utility space:** The physical area occupied by a utility's facilities and the additional space required to ensure its operation.

**4.58 vista/view prune:** Pruning to enhance a specific view without jeopardizing the health of the tree (6.4).

**4.59 wound:** An opening that is created when the bark of a live branch or stem is cut, penetrated, damaged, or removed.

**4.60 woundwood:** Partially differentiated tissue responsible for closing wounds. Woundwood develops from callus associated with wounds.

## 5 Pruning practices

### 5.1 Tree inspection

**5.1.1** An arborist or arborist trainee shall visually inspect each tree before beginning work.

**5.1.2** If a condition is observed requiring attention beyond the original scope of the work, the condition should be reported to an immediate supervisor, the owner, or the person responsible for authorizing the work.

**5.1.3** Job briefings shall be performed as outlined in ANSI Z133.1, subclause 3.1.4.

### 5.2 Tools and equipment

**5.2.1** Equipment, tools, and work practices that damage living tissue and bark beyond the scope of normal work practices shall be avoided.

**5.2.2** Climbing spurs shall not be used when entering and climbing trees for the purpose of pruning.

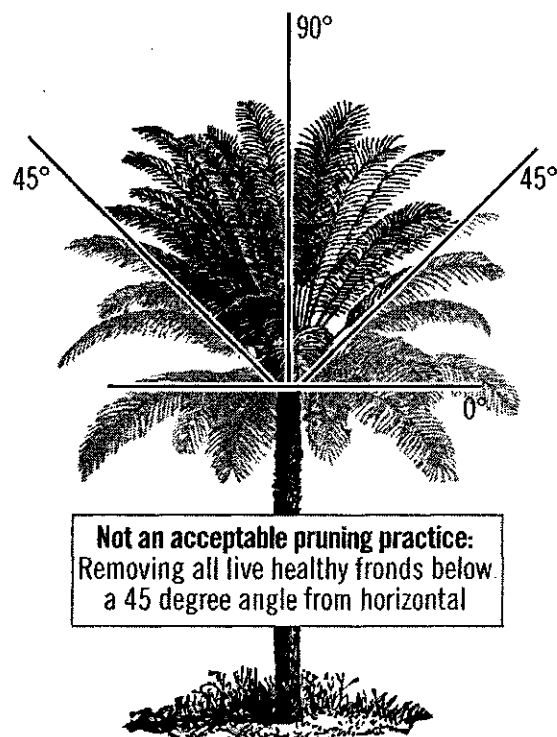
#### Exceptions:

- when branches are more than throw-line distance apart and there is no other means of climbing the tree;
- when the outer bark is thick enough to prevent damage to the inner bark and cambium;
- in remote or rural utility rights-of-way.

### 5.3 Pruning cuts

**5.3.1** Pruning tools used in making pruning cuts shall be sharp.

**5.3.2** A pruning cut that removes a branch at its point of origin shall be made close to the trunk or parent branch without cutting into the branch bark ridge or branch collar or leaving a stub (see Figure 5.3.2).



**Figure 8.3b An overpruned palm (not an acceptable pruning practice).**

**8.4** Fronds removed should be severed close to the petiole base without damaging living trunk tissue.

**8.5** Palm peeling (shaving) should consist of the removal of only the dead frond bases at the point they make contact with the trunk without damaging living trunk tissue.

## **9 Utility pruning**

### **9.1 Purpose**

The purpose of utility pruning is to prevent the loss of service, comply with mandated clearance laws, prevent damage to equipment, maintain access, and uphold the intended usage of the facility/utility space while adhering to accepted tree care performance standards.

### **9.2 General**

**9.2.1** Only a qualified line-clearance arborist or line-clearance arborist trainee shall be assigned to

line clearance work in accordance with ANSI Z133.1, 29 CFR 1910.331 – 335, 29 CFR 1910.268 or 29 CFR 1910.269.

**9.2.2** Utility pruning operations are exempt from requirements in subclause 5.1, *Tree Inspection*, for conditions outside the utility pruning scope of work.

**9.2.3** Job briefings shall be performed as outlined in ANSI Z133.1, subclause 3.1.4.

### **9.3 Utility crown reduction pruning**

#### **9.3.1 Urban/residential areas**

**9.3.1.1** Pruning cuts should be made in accordance with subclause 5.3, *Pruning cuts*. The following requirements and recommendations of 9.3.1.1 are repeated from subclause 5.3 *Pruning cuts*.

**9.3.1.1.1** A pruning cut that removes a branch at its point of origin shall be made close to the trunk or parent branch, without cutting into the branch bark ridge or collar, or leaving a stub (see Figure 5.3.2).

**9.3.1.1.2** A pruning cut that reduces the length of a branch or parent stem shall be made at a slight downward angle relative to the remaining stem and not damage the remaining stem. Smaller cuts shall be preferred (see Fig. 5.3.3).

**9.3.1.1.3** The final cut shall result in a flat surface with adjacent bark firmly attached.

**9.3.1.1.4** When removing a dead branch, the final cut shall be made just outside the collar of living tissue.

**9.3.1.1.5** Tree branches shall be removed in such a manner so as not to cause damage to other parts of the tree or to other plants or property. Branches too large to support with one hand shall be precut to avoid splitting of the wood or tearing of the bark (see Figure 5.3.2). Where necessary, ropes or other equipment shall be used to lower large branches or portions of branches to the ground.

**9.3.1.1.6** A cut that removes a branch with a narrow angle of attachment should be made from the outside of the branch to prevent damage to the parent branch (see Figure 5.3.8).

**9.3.1.2** A minimum number of pruning cuts should be made to accomplish the purpose of facility/utility pruning. The structure and growth habit of the tree should be considered.

**9.3.1.3** Trees directly under and growing into facility/utility spaces should be removed or pruned. Such pruning should be done by removing entire branches or leaders or by removing branches that have laterals growing into (or once pruned, will grow into) the facility/utility space.

**9.3.1.4** Trees growing next to, and into or toward, facility/utility spaces should be pruned by reducing branches to laterals (5.3.3) to direct growth away from the utility space or by removing entire branches. Branches that, when cut, will produce sprouts that would grow into facilities and/or utility space should be removed.

**9.3.1.5** Branches should be cut to laterals or the parent branch and not at a pre-established clearing limit. If clearance limits are established, pruning cuts should be made at laterals or parent branches outside the specified clearance zone.

**9.3.2 Rural/remote locations – mechanical pruning**

Cuts should be made close to the main stem, outside of the branch bark ridge and branch collar. Precautions should be taken to avoid stripping or tearing of bark or excessive wounding.

**9.4 Emergency service restoration**

During a utility-declared emergency, service must be restored as quickly as possible in accordance with ANSI Z133.1, 29 CFR 1910.331 – 335, 29 CFR 1910.268, or 29 CFR 1910.269. At such times, it may be necessary, because of safety and the urgency of service restoration, to deviate from the use of proper pruning techniques as defined in this standard. Following the emergency, corrective pruning should be done as necessary.

## **Applicable ANSI A300 Interpretations**

The following interpretations apply to Part 1 – *Pruning*:

### **C-1 Interpretation of “should” in ANSI A300 standards**

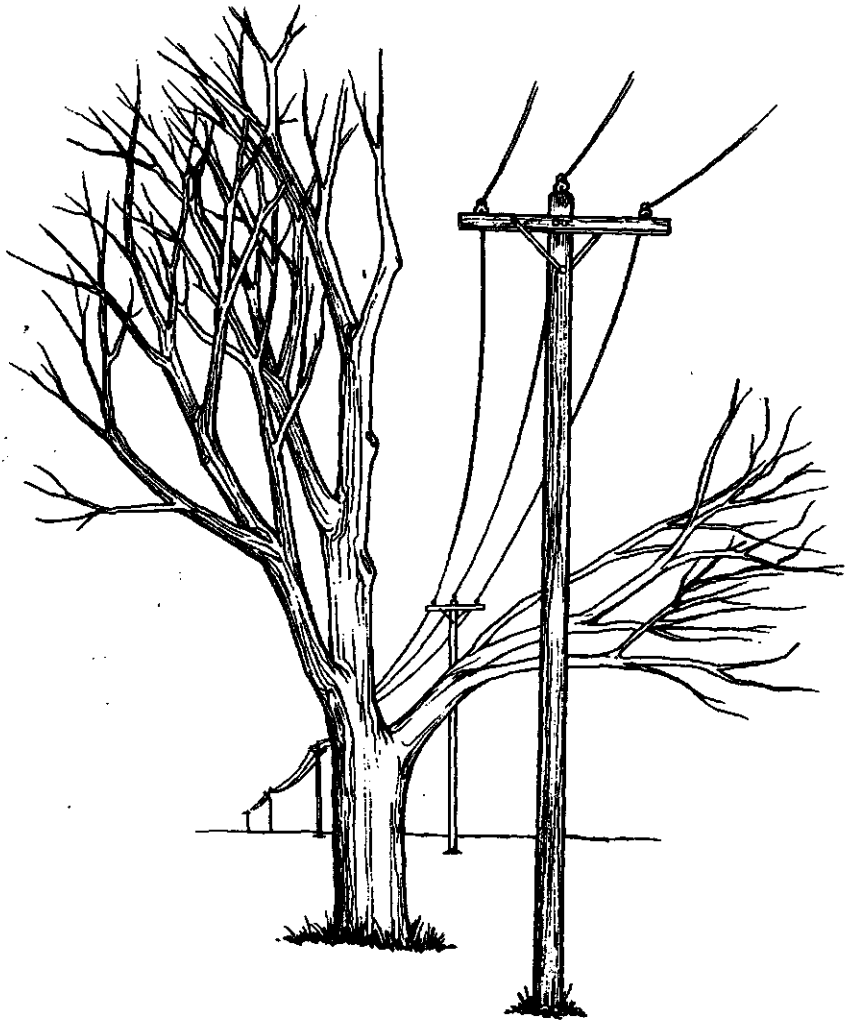
“An advisory recommendation” is the common definition of “should” used in the standards development community and the common definition of “should” used in ANSI standards. An advisory notice is not a mandatory requirement. Advisory recommendations may not be followed when defensible reasons for non-compliance exist.

### **C-2 Interpretation of “shall” in ANSI A300 standards**

“A mandatory requirement” is the common definition of “shall” used in the standards development community and the common definition of “shall” used in ANSI standards. A mandatory requirement is not optional and must be followed for ANSI A300 compliance.

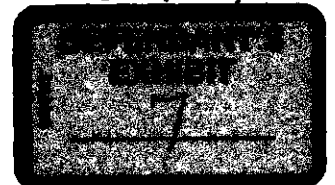
# Best Management Practices

## UTILITY PRUNING OF TREES



Special companion publication to the ANSI A300 Part 1: Tree, Shrub, and  
Other Woody Plant Maintenance—Standard Practices, Pruning

Company



# **Best Management Practices**

## **UTILITY PRUNING OF TREES**

**Geoffrey P. Kempter**

**Special companion publication to the ANSI A300 Part 1: Tree, Shrub, and  
Other Woody Plant Maintenance—Standard Practices, Pruning**

---

ISBN 13: 978-1-881956-44-0

ISBN 10: 1-881956-44-X

Copyright © 2004 by International Society of Arboriculture

All rights reserved. Printed in the United States of America. Except as permitted under the United States Copyright Act of 1976, no part of this publication may be reproduced or distributed in any form or by any means or stored in a database or retrieval system without the prior written permission of the International Society of Arboriculture (ISA).



Editorial Coordinators: Peggy Currid and Sharon Lilly

Copyeditor: Lena Singer

Text and Cover Composition: Kathy Ashmore

Illustrations by Timothy N. Stiles

Printed by Premier Print Group, Champaign, IL

International Society of Arboriculture

P.O. Box 3129

Champaign, IL 61826-3129

(217) 355-9411

[www.isa-arbor.com](http://www.isa-arbor.com)

[isa@isa-arbor.com](mailto:isa@isa-arbor.com)

15

0112-RF-2000



# **ACKNOWLEDGMENTS**

## **The Best Management Practices Review Committee**

Jenny Arkett, Duquesne Light Co., Pittsburgh, PA

Bob Bell, Pacific Gas and Electric, Fresno, CA

Steve Cieslewicz, CN Utility Consulting, LLC, Sebastopol, CA

Jim Clark, HortScience, Inc., Pleasanton, CA

Kevin Eckert, ArborGlobal, LLC, Kailua, HA

Ray Henning, Austin Energy, Austin, TX

Tim Johnson, Artistic Arborist, Inc., Phoenix, AZ

Sharon Lilly, International Society of Arboriculture, Champaign, IL

Randy Miller, PacifiCorp, Bountiful, UT

Mike Neal, Arizona Public Service, Phoenix, AZ

Matt Simons, Conectiv Power Delivery, Mays Landing, VA

Tom Smiley, Bartlett Tree Research Laboratories, Charlotte, NC

Jeff Smith, Dominion Virginia Power, Norfolk, VA

Derek Vannice, International Society of Arboriculture, Champaign, IL

Thanks also to Peter Fengler, Brian Fisher, Ed Gilman, John Goodfellow, Hyland Johns, Paul Johnston, Jim Orr, Robert Rouse, Ruth Stein, Robert Tate, and Kristin Wild.

## Foreword

Utility tree pruning programs are necessary to ensure the safe and reliable delivery of vital services, such as electricity and other utility services, and to protect roads and highways, sidewalks, street and traffic lighting, signage, buildings, pipelines, and other right-of-way corridors. However, utility arborists must recognize that in most cases, trees and urban forests add value to property and enhance the quality of life in a variety of ways.

This booklet describes current best practices in utility tree pruning based on scientific research and proven methodology as documented in the *American National Standard for Tree Care Operations—Tree, Shrub, and Other Woody Plant Maintenance—Standard Practices (Pruning)* (ANSI A300 Part 1), which contains a specific section on utility pruning. The use of these methods enhances the safe and reliable delivery of utility services while preventing unnecessary injury to trees to the greatest extent possible.

Specifications should be written with the understanding that trees are living, dynamic organisms, each one unique. Practitioners in the field will encounter situations that defy expectations. Furthermore, communities and members of the public value trees for differing reasons. Practitioners of utility arboriculture must be prepared to accommodate a variety of circumstances and adjust as necessary.

For additional details on pruning practices, please refer to ISA's publication, *Best Management Practices: Tree Pruning*.

# Table of Contents

Introduction .....	1
Purpose of Utility/Facility Pruning .....	2
Safety .....	3
Tools and Equipment .....	4
Utility Pruning .....	5
Pruning Cuts .....	5
Pruning Method .....	8
Tree Response to Utility Pruning .....	15
Cycle Pruning .....	15
Palm Pruning .....	16
Pruning vs. Removal .....	17
Remote/Rural Environments .....	19
Mechanical Methods .....	19
Chemical Side Trimming .....	19
Emergency Service Restoration .....	20
Threat from Storms .....	20
Deviation from Standards Following Storms .....	20
Corrective Pruning .....	20
References/Suggested Reading .....	21
About the Author .....	22

## Introduction

Trees must coexist with a variety of human-made structures, both above and below ground. Most commonly they compete for space with overhead power lines, but trees also conflict with communication lines, street lighting, buildings, lines-of-sight, sidewalks, roads, other right-of-way corridors, and underground utilities. By far, the best way to maximize the many benefits provided by trees is to plant them where they will not outgrow their space (Figure 1). However, trees that threaten the integrity of utility or other vital infrastructure must be pruned or removed.

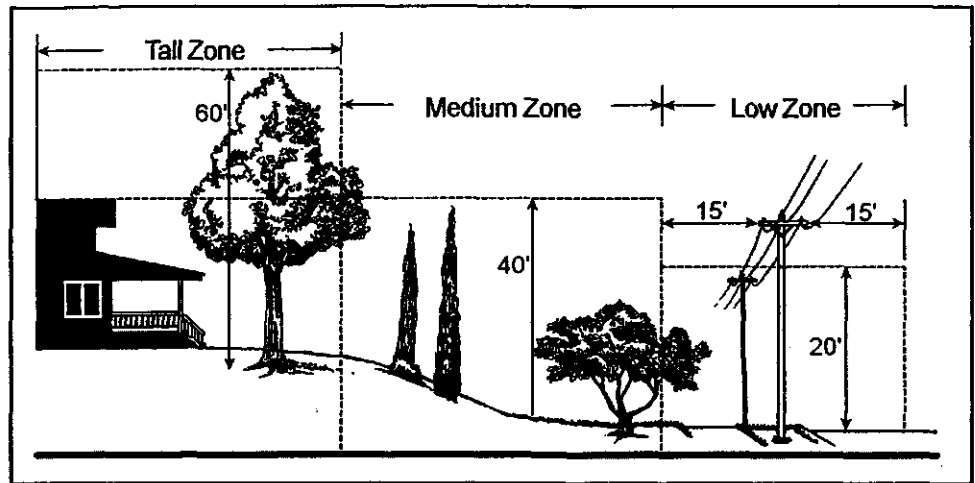


Figure 1. Proper selection and placement of trees minimizes the need for utility pruning.

Trees encroaching on utility facilities may pose significant public safety risks. For example, falling trees and branches have the potential to bring down high-voltage electric lines, increasing the risk of fire or personal injury. Dense vegetation may conceal power lines, endangering children who climb trees, or could otherwise increase the likelihood of accidental contact. Tree growth may also obscure street lighting or lines-of-sight along roadways, increasing the danger of vehicular accidents. Though utility tree pruning programs cannot guarantee public safety, they can reduce the overall risk of accidents.

Each tree is unique in its structure and position in the landscape. When trees affect utility facilities, utility arborists must determine the type and extent of pruning before work begins. In any given circumstance, there may be multiple acceptable approaches to accomplishing the pruning objectives.

## **Purpose of Utility/Facility Pruning**

Trees are among the most common causes of utility service interruption. Utility pruning is undertaken to maintain an acceptable level of safety, prevent the loss of critical services, and ensure the intended use of the facility. If not properly maintained, vegetation may also damage infrastructure and impede access to utility facilities by maintenance and repair personnel.

Utility pruning operations provide access and adequate service along easements and rights-of-way across private and public property. In some areas, government authorities have adopted performance standards such as mandatory minimum clearances between energized conductors and surrounding vegetation. Utility tree pruning programs must be designed to meet these requirements.

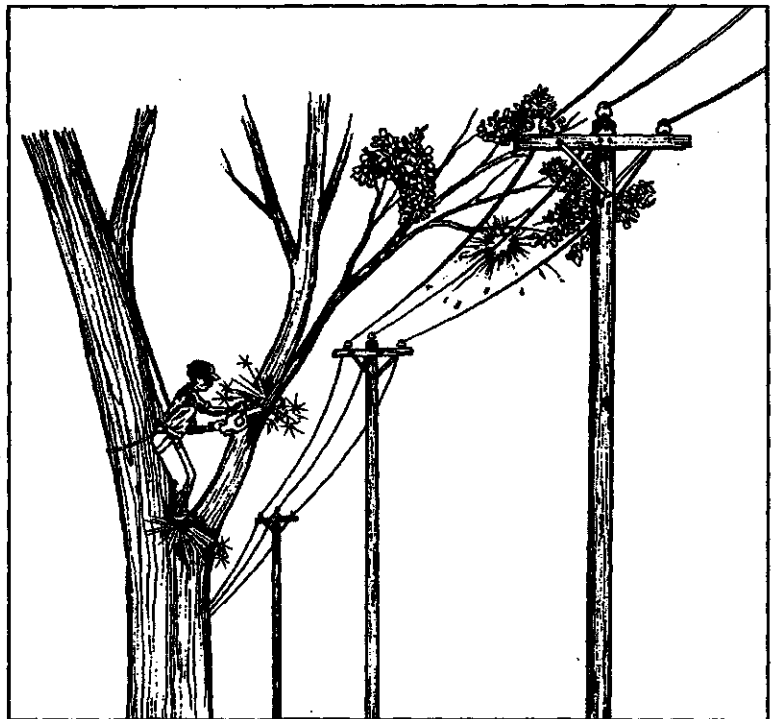
Utility pruning operations should remove only those branches necessary to ensure the effective intended use of the utility space. Obtaining excessive clearance is needlessly costly, may unnecessarily injure trees, and often leads to adverse public relations. At the same time, inadequate clearance could result in service interruptions, damaged infrastructure, or safety hazards.

Utility arboriculture specifications generally focus on the part of the tree with the greatest potential to affect the utility or facility space. The remaining portions of the tree are outside the scope of work, unless exceptions are specified. These scope limitations may be due to easement limitations, liability, the large number of individual properties involved, the need to concentrate limited resources on achieving the specified pruning objective, or a combination of these and other factors. Therefore, the scope of work is usually limited to specified areas, which often include only portions of individual trees.

## Safety

Primary electric utility lines carry voltages that are many times greater than household current. *Both primary and secondary lines have the potential to kill or severely injure people who make contact with them, either directly or indirectly (Figure 2). Therefore, it is essential that only those who are properly trained in the practices and hazards associated with utility arboriculture engage in clearing vegetation from power lines!* Members of the public or arborists who are not qualified to work around high-voltage power lines should **NEVER** attempt to clear trees and branches from these facilities.

The Occupational Safety and Health Administration (OSHA) requires employers to provide their employees with the necessary training to work near energized conductors. Employers must document employee progress and certify that this training has taken place. The *American National Standard for Arboricultural Operations—Pruning, Maintaining, Repairing, and Removing Trees, and Cutting Brush—Safety Requirements* (ANSI Z133.1) details safety requirements for arborists, including minimum approach distances to energized conductors for qualified line-clearance workers, as well as other individuals.



**Figure 2. Indirect contact with energized conductors can be as deadly as direct contact.**

## Tools and Equipment

Utility arboriculture is practiced in a variety of settings, wherever there are facilities that must be protected from encroaching vegetation. Appropriate tools and equipment often vary considerably according to local conditions, requirements, or customs. They could also differ according to urban or rural locations, or various regions of the country. Regardless of how work is accessed or which tools are used, utility tree workers must safely position themselves, their equipment, and their tools to make proper pruning cuts.

Work practices that cause additional injury to the tree, beyond the scope of work, must be minimized. For example, saws and other tools must be the correct size and controlled to avoid unnecessary damage. Large, pruned limbs should be lowered carefully, and ropes should not damage bark.

When using aerial lifts, the type and size of the unit should be appropriate. Correctly matching the lift to the type of work increases efficiency and may enhance the quality of work. For example, specialized lifts can provide access in areas difficult to reach any other way.

Climbers should be careful not to cause unnecessary damage to trees when accessing the work. Climbing spurs should be used only when there is no other safe and practical method for climbing the tree. Exceptions may also be made if the bark is thick enough to prevent damage to underlying tissues, or if the tree is in a remote or rural area. Whenever possible, climbers should be discouraged from using spurs.

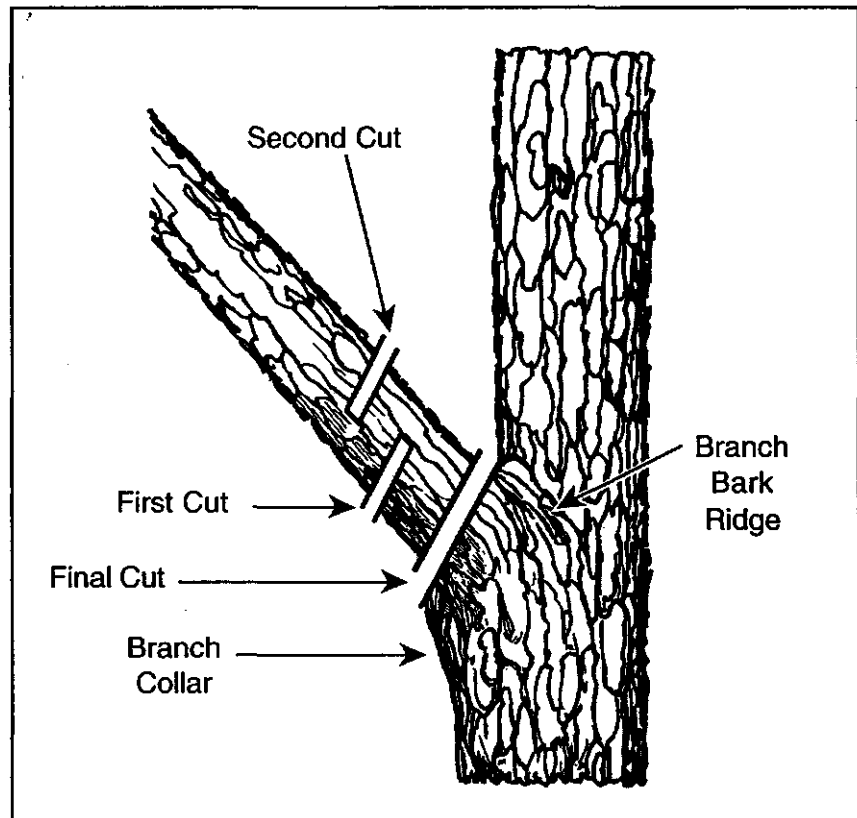
Common pruning tools include hand saws, chain saws, pole saws, and pole pruners. Power tools may be powered by gasoline engines or hydraulics. These tools, and the systems that power them, must be properly maintained and used according to manufacturer's recommendations. Workers must be trained in the safe use of all available pruning tools.

## Utility Pruning

Utility pruning is often perceived differently from other types of pruning because the objectives are different. However, when pruning trees in urban and suburban environments, the tools and methods used are similar to those used for other pruning purposes. Likewise, utility arborists are expected to adhere to the same professional standards as other arborists.

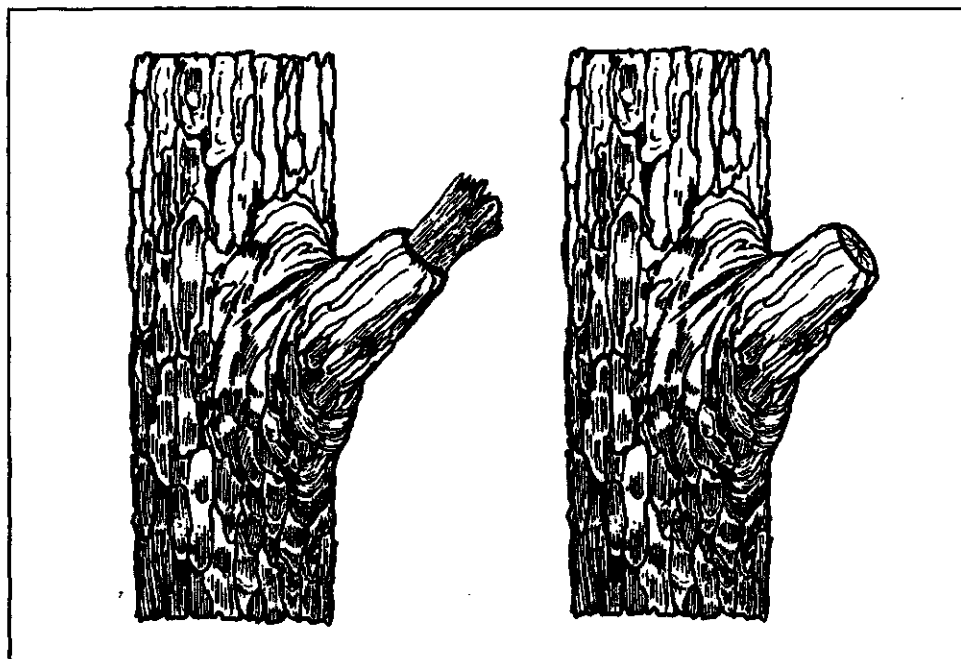
### Pruning Cuts

The quality of pruning cuts has a direct impact on the overall effectiveness of utility pruning. Poorly made cuts may create a future hazard or promote the growth of unwanted sprouts. A proper pruning cut should be made close to the parent branch or limb but without leaving a stub or damaging the branch bark ridge or branch collar (Figure 3). When removing dead branches, cuts should not damage the collar of living tissue, which may often extend some distance from the parent stem (Figure 4). Well-made cuts will begin to close evenly from all sides (Figure 5).

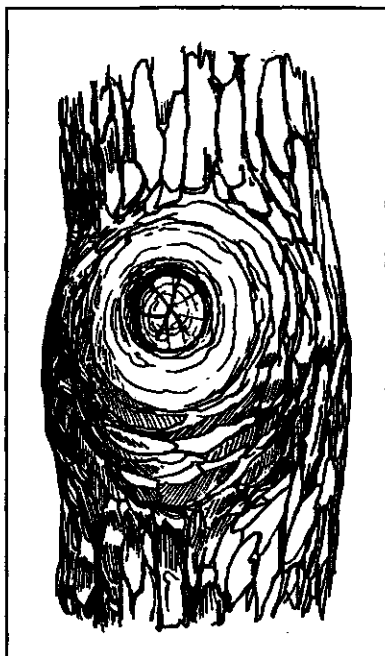


**Figure 3.** Pruning cuts should not damage the branch bark ridge or branch collar, or leave a stub. Large limbs should be pre-cut to avoid tearing of bark.





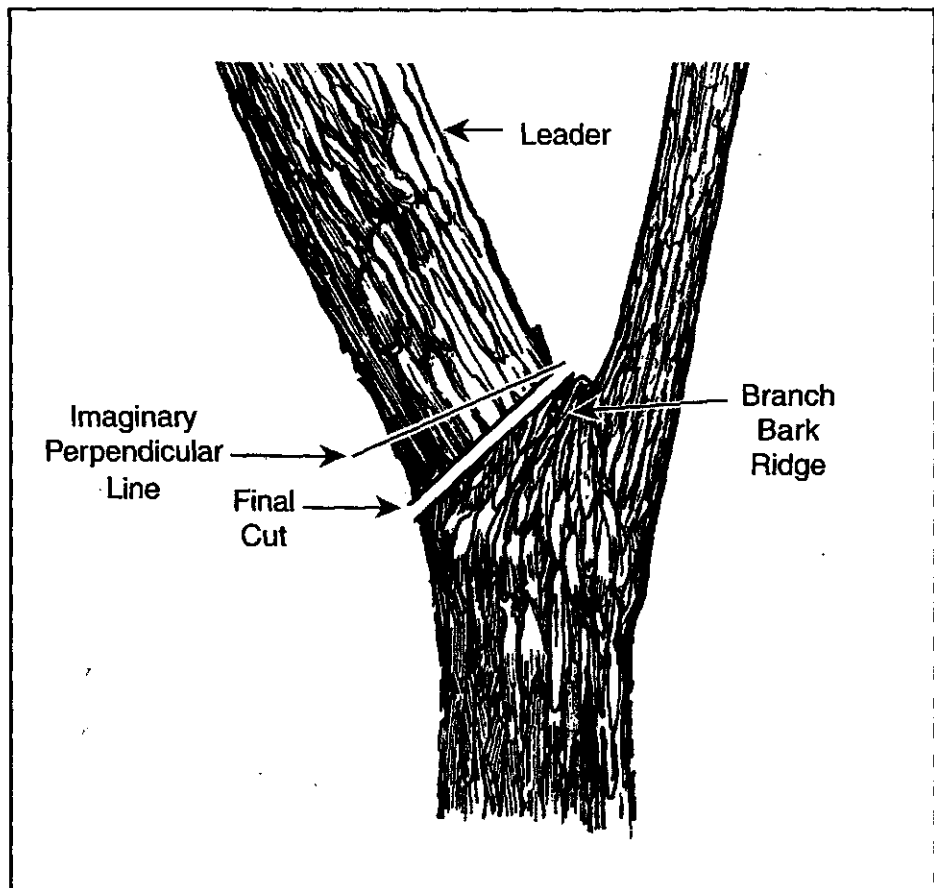
**Figure 4.** On dead branches, pruning cuts should be made outside the living branch collar, which may extend some distance from the parent stem.



**Figure 5.** Well-made cuts will close evenly from all sides.

If the branch collar is not clearly defined, the optimal location for the pruning cut must be estimated, like when removing a codominant stem. When removing a codominant stem, make a cut that bisects the angle formed by the branch bark ridge and an imaginary line perpendicular to the removed stem (Figure 6). Pruning wounds that result from the removal of large codominant stems may not close or compartmentalize as well as smaller pruning cuts.

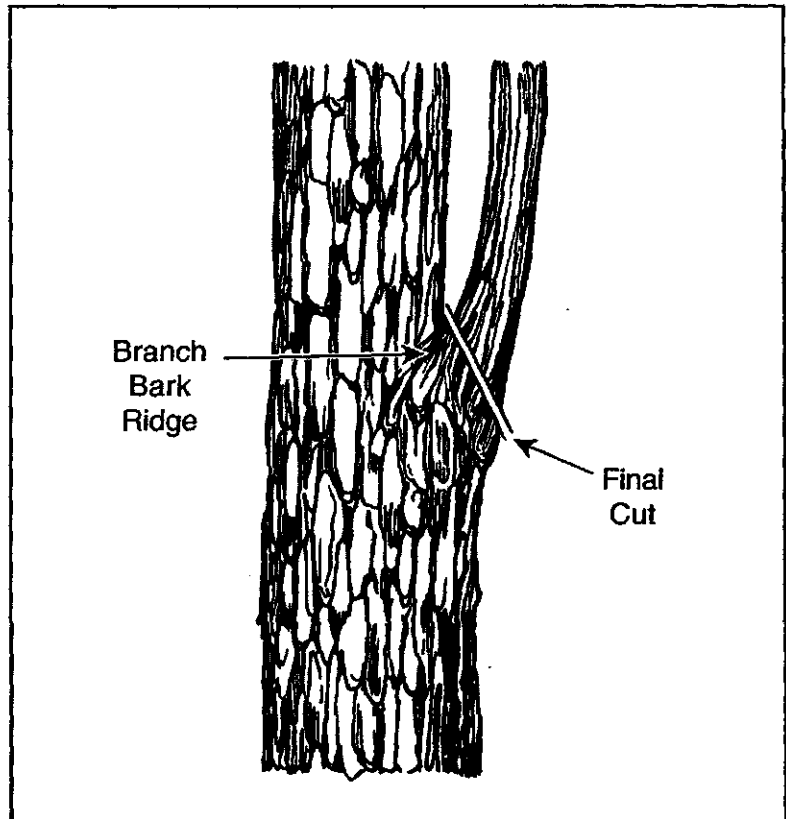
If a branch's angle of attachment is so narrow that a saw cannot be placed between it and the parent stem, the cut should be made from the outside of the branch (Figure 7). Again, it is important not to damage the branch collar. Care should be taken to avoid accidentally cutting into the remaining parent stem.



**Figure 6.** When removing a leader or codominant stem, the cut should bisect the angle between the branch bark ridge and an imaginary line perpendicular to the leader or stem.

A well-placed pruning cut minimizes injury to surrounding tissues and exposes the branch protection zone, an area at the base of branches containing chemicals that resist pathogens. Pruning here ensures the best opportunity for the tree to compartmentalize and close the resulting wound with as little impact as possible on overall tree health. Completed cuts should be flat and even. The bark surrounding the wound should not be loosened or otherwise damaged. It is not necessary to use wound treatments, unless in response to a specific threat against which such treatments are known to be effective.

Pruning operations must not cause unnecessary damage to other parts of the tree, other trees, or surrounding property. Whenever necessary, large limbs should be carefully lowered to the ground. When making large cuts, or when wood splitting or bark tearing is likely, branches should be pre-cut (see Figure 3).



**Figure 7. Branches with a narrow angle of attachment should be cut from the outside.**

### **Pruning Method**

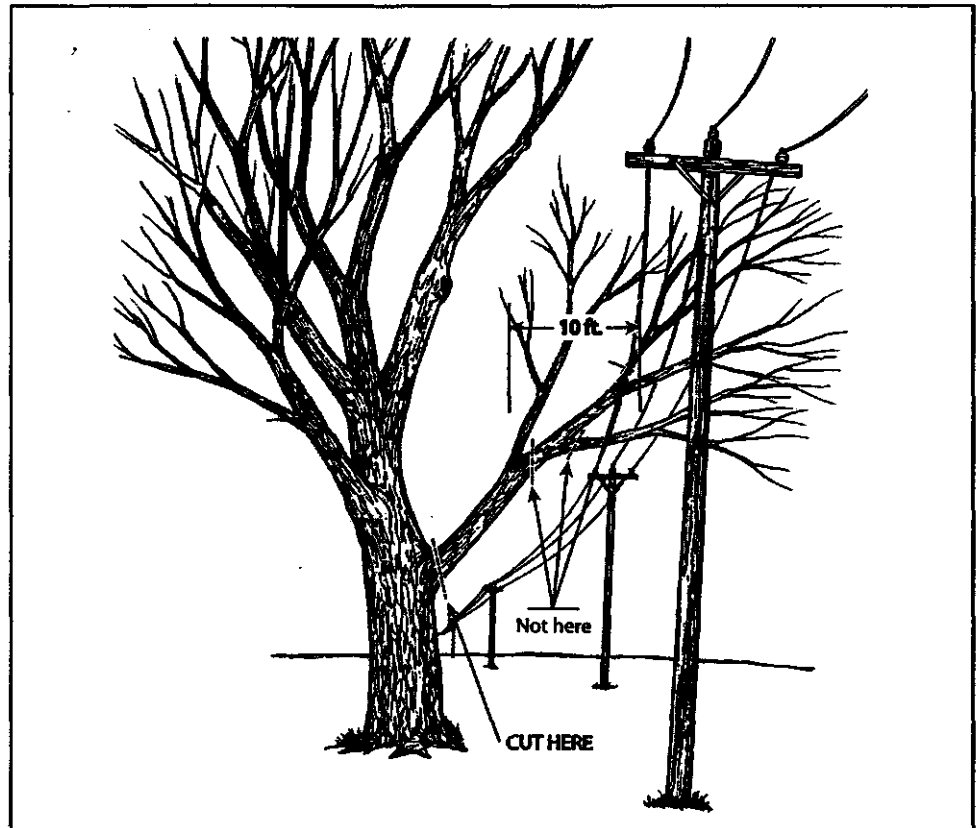
Decisions about which branches to prune are based on the individual characteristics of each tree (including growth rate, mature size, shape, and other factors), the work specification, the expected length of time before the next pruning, and other factors such as the type of utility facility. If circumstances allow, the intended use of the tree should be considered. In some cases, removing a few branches will suffice, while in others more branches should be pruned. There could be many acceptable approaches. While every effort should be made to minimize injury to trees, however, utility pruning operations must achieve required clearance objectives.

Achieving the required objectives may require considerable change in the appearance of the tree. However, the visual impact of utility pruning will be softened as the tree responds with new growth. In subsequent pruning, utility arborists should remove the largest and most vigorous shoots, leaving smaller, suppressed shoots that pose no threat. Noninterfering branches will continue to grow to their full size, making the cleared utility space a decreasing proportion of the crown over time.

### *Minimum Number of Cuts*

Arborists should consider the natural structure of the tree, including expected growth patterns and mature size and shape, before work begins. The number of pruning cuts should be minimized to save time and reduce the number of injuries to the tree. The intent is to remove whole branches that are growing toward facilities and otherwise would have to be repeatedly pruned (Figure 8).

Branches that have been severely headed or stubbed in the past may be badly decayed and often accumulate heavy sprout growth. In some situations, large dominant leaders have grown directly toward or into facilities. In either case, it is usually best to remove such branches completely, although the decision to remove large limbs and leaders must be considered carefully. Large wounds may take years, if ever, to close, increasing the risk of decay in the parent stem. When necessary for the overall health and appearance of the tree, interfering branches or leaders may be subordinated, or reduced in length. Subordination may be used to



**Figure 8.** Remove whole branches when practical. When clearance distances are specified (for example, 10 feet), the cut should be made at the next suitable lateral or parent limb beyond the specified distance.

remove a branch over more than one pruning cycle rather than all at once. Subordination may also require cutting to laterals of less than recommended size, but only as a temporary measure.

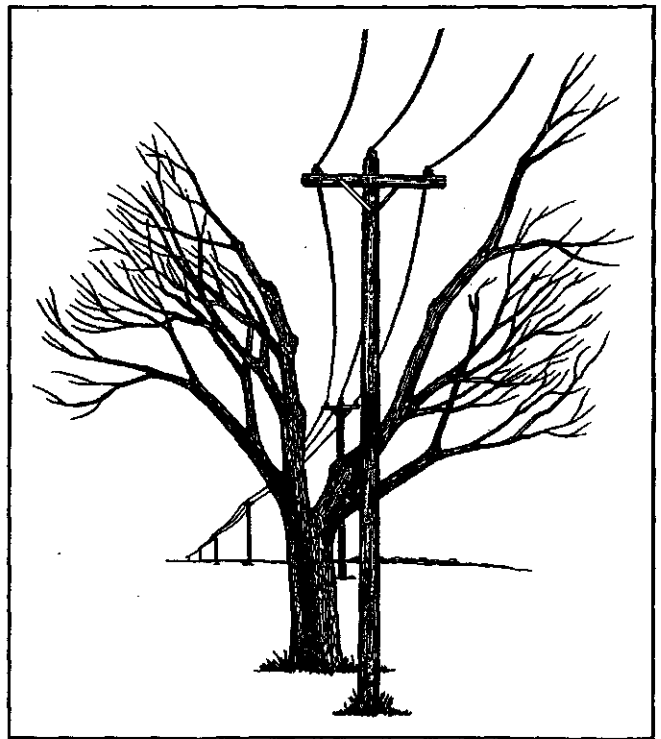
### ***Directional Pruning***

Directional pruning is accomplished by pruning unwanted branches back to lateral branches or parent stems that are growing away from the facility (Figure 9). These lateral branches should be of sufficient size to become dominant, thus discouraging the growth of sprouts. This method is often referred to as *drop-crotching*, or *natural pruning*. Directional pruning is most effective when natural tree characteristics such as size, shape, and expected growth rate are taken into consideration. It also is important to understand the effect of other factors, such as apical dominance, on expected tree response to pruning.

Apical dominance is the suppression of lateral buds (located along the sides of branches) by terminal buds (found at branch tips). When terminal buds are removed, apical dominance is reduced. The tree increasingly sprouts from lateral buds as a result, which is why trees respond with vigorous sprout growth when they are severely headed or rounded over. Directional pruning conserves as many terminal buds as possible, leading to less vigorous sprouting from lateral buds.

The effect of directional pruning on the shape of the tree depends

on the tree's natural growth habit and where the tree is relative to the facility. Trees growing directly beneath facilities assume a different shape than trees growing beside them (Figure 10). Removal of overhanging limbs may or may not be appropriate, depending on the type of facility, tree species, or other site conditions (Figure 11).



**Figure 9.** Directional pruning (also known as natural pruning) encourages growth away from conductors.



**Figure 10. Directional pruning causes trees to assume different shapes depending on the location of utility facilities.**



**Figure 11. Removal of overhang may or may not be necessary depending on the type of utility facility, tree species, or other factors. Overhang is never acceptable over high-priority facilities such as high-voltage electric transmission lines.**

Unfortunately, trees do not always have sufficiently large lateral branches, growing in the right direction, to assume dominance. Large trees with an excurrent, or upright, growth habit that are growing directly beneath a facility often pose this dilemma. If these trees are to be retained, it may be necessary to prune to smaller laterals in order to obtain the required clearance. Whenever practical, such trees should be removed and, if appropriate, replaced with compatible species.

### ***Pre-Established Clearing Limits***

Many pruning specifications require a minimum clearance between tree branches and utility facilities. If used, such pre-established clearing limits should allow for variables such as

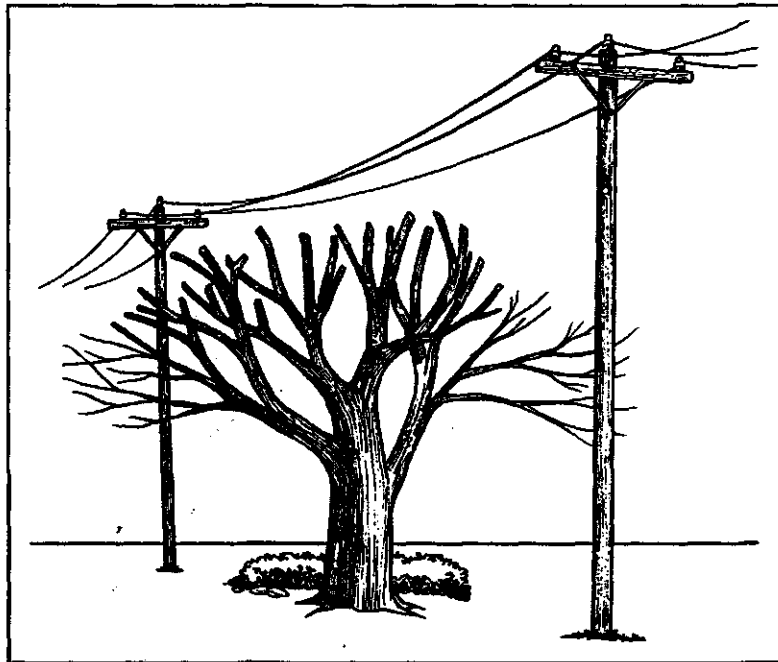
- tree species characteristics
- expected growth rate
- natural tree structure
- expected reaction to pruning
- wood strength
- overall tree health
- length of time until next scheduled pruning
- type of facility (voltage, construction type, etc.)

Factors such as the presence of other trees, buildings, terrain, and other site features also contribute to the shape or growth patterns of trees and should be taken into account when obtaining clearances.

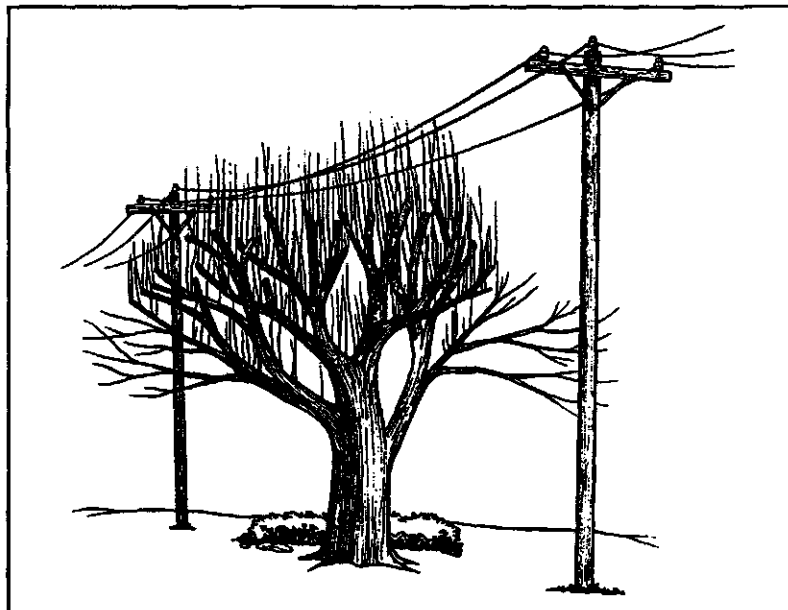
Utility arborists should be familiar with the characteristics of trees in the areas where they work and should obtain clearances accordingly. For example, more clearance may be necessary on fast-growing or weak-wooded trees. When minimum clearances are required, pruning cuts should be made at the next suitable lateral or parent limb beyond the specified distance whenever practical (see Figure 8).

### ***Rounding Over and Stubbing Cuts***

Rounding over, or *topping*, is the now discredited practice of indiscriminately stubbing the entire crown of a tree (Figure 12). In this process, a series of heading cuts are made between lateral branches, rather than at the lateral. This once widespread practice is now considered unacceptable because it severely damages trees and encourages rapid re-growth. Many tree species respond to heading, topping, rounding over, or other severe treatments with a flush of fast-growing sprouts, which can rapidly overtake conductors (Figure 13).



**Figure 12. Rounding over, topping, or stubbing severely damages trees and is now a discredited practice.**



**Figure 13. Many trees respond to rounding over with a flush of fast-growing sprouts directly back toward the electric facilities.**

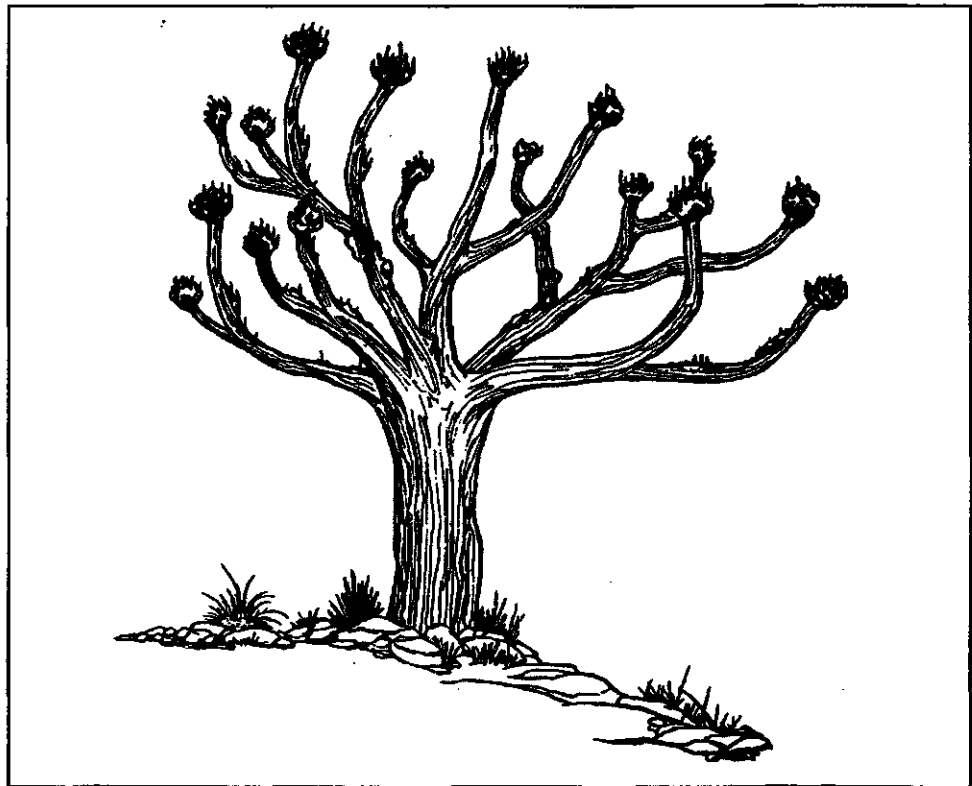


Trees sprout heavily following rounding over or severe pruning and produce rapid new growth, often right back into the area in which it is least desirable. In addition, repeated rounding over depletes food stores, weakens trees, and increases susceptibility to insects, diseases, and failure. In contrast, directional pruning cuts to laterals, which removes only what is necessary, protects tree health, and more effectively clears the facility.

### ***Pollarding***

Pollarding is an established pruning method that maintains certain species of trees and shrubs at a predetermined size by systematically removing annual growth. Many people mistakenly refer to the indiscriminate rounding over and heading of trees to reduce their size as *pollarding* (Figure 14).

True pollarding is a careful and deliberate process. It is accomplished by making strategically placed heading cuts, after which all new shoots are carefully removed



**Figure 14.** The practice of pollarding requires annual removal of all sprout growth, without damaging the woody knobs that form at the ends of branches. Rounding over or stubbing is *not* the same as pollarding. Pollarding is generally not practical under utility facilities.

every year, without damaging the woody knobs, or *knuckles*, that develop at the sites of the original cuts. For more information on pollarding, refer to *Best Management Practices: Tree Pruning* (published by ISA).

Though pollarding is effective in controlling the size of certain tree species, the required frequency of pruning and accompanying cost make routine use of this method impractical along utility corridors.

### Tree Response to Utility Pruning

Following pruning, the amount of sprout growth is determined by a number of factors, including

- **Species:** Some tree varieties such as sycamore (*Platanus* spp.), cottonwood (*Populus* spp.), certain maples (*Acer* spp.), linden (*Tilia* spp.), and others are known for prolific sprouting following pruning.
- **Pruning method:** Trees cut back to suitable laterals sprout less than trees that are rounded over, headed back, or pruned to laterals too small to assume dominance.
- **Vitality:** Trees in good health, with plenty of stored reserves, are likely to respond with vigorous growth, often in the form of sprouts. Severely stressed trees may also invest their last reserves in heavy sprout growth.
- **Amount removed:** The larger the percentage of crown removed, the stronger the expected growth response from a vigorous tree.

### Cycle Pruning

Pruning for clearance is best done on a regular, cyclical basis. Cycle pruning has many demonstrable advantages, including enhanced utility reliability, reduced biological and aesthetic impact on trees and neighborhoods, and stabilized or reduced tree maintenance budgets. To allow for variation in re-growth rates among different species, clearance distances should be recommended for individual species based on expected growth rates.

Cycle length is the amount of time between scheduled pruning operations. The cycle length should be established to ensure that tree growth will not overtake utility facilities prior to the next scheduled pruning. The optimal pruning cycle length is determined by the amount of clearance that can realistically be obtained as well as the expected growth rates of the trees present. Maintenance cycles generally are shorter in areas with long growing seasons or with a high percentage of fast-growing tree species. Likewise, in areas with short growing seasons or many slow-growing tree species, maintenance cycles can be longer.

Cycle lengths may vary even under the same growing conditions. For example, in urban areas, comparatively large clearances may not be achievable due to restricted easements or for aesthetic reasons. In rural areas, or when easements allow, greater clearance distances may permit longer pruning cycles.

The type of utility construction or the priority of the facility might also affect planned cycle length.

### ***Mid-Cycle Pruning***

When economically feasible, fast-growing trees that would otherwise shorten cycle length may be controlled with a mid-cycle pruning program. Such treatments target trees that are growing significantly faster than most of the other trees on a scheduled pruning cycle, enabling a longer cycle for the remaining trees.

### ***Tree Growth Regulators***

Tree growth regulators (TGRs) are chemical products designed to slow tree growth. They are effective in reducing the rate of shoot growth and in reducing the volume of material that must be pruned and disposed of in the future.

TGRs sometimes are used to extend or maintain pruning cycles, often by targeting fast-growing trees. Their use has the potential to reduce the overall amount of pruning required to maintain utility corridors.

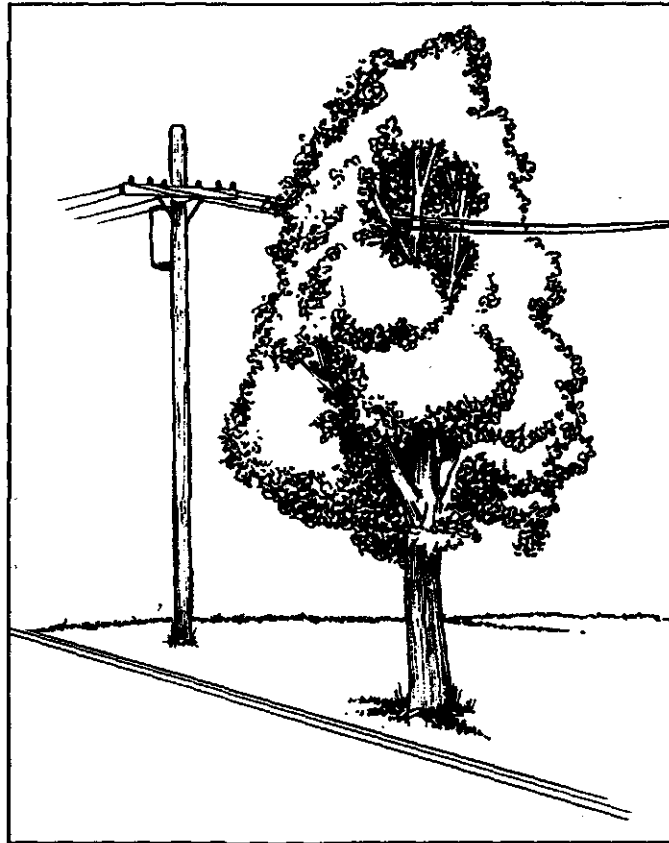
### ***Recovering Overgrown Facilities***

Without a cyclical pruning program, trees grow to assume their natural shape and size, often completely hiding the presence of a utility facility. This situation is inherently unsafe and poses an unacceptable threat to utility services. Such trees may require extensive pruning, or even complete removal, before the facility is sufficiently cleared (Figure 15). The results of these operations can significantly alter the appearance of trees and neighborhoods.

The cost of pruning operations in recovery situations has been shown to be significantly higher than that incurred in routine, cyclical maintenance. In addition, the costs of service interruptions, repairing damaged facilities, and associated negative publicity can be significant. Further, liability for injury, fires, and property damage can be significantly larger if it can be demonstrated that an inadequate clearance program was a contributing factor. To avoid the many problems inherent in recovering overgrown facilities, a routine maintenance program with an appropriate cycle length should be implemented.

### ***Palm Pruning***

Many palm species grow large enough to affect utility facilities. Even palms not immediately adjacent to facilities may pose a threat because of their height and



**Figure 15.** Trees not maintained on cycle will assume their natural form regardless of the presence of utility facilities. Recovery of the facility may require extensive pruning or tree removal.

reduced in height or directionally pruned like other trees. Side pruning, likewise, is not recommended, because palms quickly replace pruned fronds.

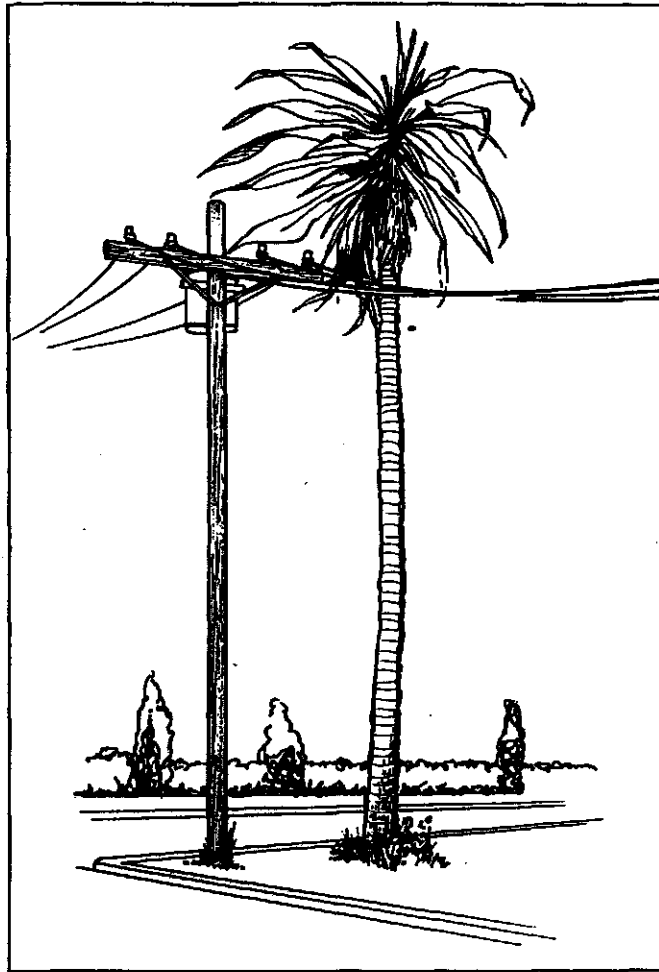
The best solution for palms interfering with utility facilities is removal or relocation. Relocation should be undertaken only if the operation can be cost-effectively accomplished without further impacting the facility.

### **Pruning vs. Removal**

As a general rule in utility vegetation management, trees costing as much or more to prune than to remove should be removed. But there may be cases when pruning is preferred over removal, or vice versa, regardless of cost considerations. For example, local policies may give consideration to property owner preference. Under some circumstances, relocation of young, tall-growing trees may be a practical alternative to removal.

large fronds, especially during high winds. Flexible palm stems sway, and fronds may break free and travel a considerable distance from the tree (Figure 16).

Members of the palm family (*Palmae* spp.) are physiologically different from other trees encountered in utility arboriculture. All upward growth in palms begins in the bud, or meristem, located at the top of the stalk, just below the point where the fronds originate. If this bud is damaged or removed, then the remaining stem will die. Therefore, palms cannot be



**Figure 16. Palms cannot be directionally pruned and pose unique challenges because of their growth habit and large fronds.**

Removing trees that otherwise must be repeatedly pruned certainly saves future maintenance dollars, even if the removal cost is considerably higher than pruning. However, when making the decision to allocate resources for removals over pruning, it is important to consider the effect of the decision on overall program objectives.

## Remote/Rural Environments

Utilities operating in remote or rural areas must frequently maintain many miles of wooded utility corridors. In such areas with high tree density, typical arboricultural practices that have been described thus far may prove impractical. For example, climbing spurs, which rarely are used for pruning in urban settings, may be acceptable for utility pruning operations in these locations. Utility arborists should carefully weigh long-term costs versus the potential impact on tree health before specifying the practices described in this section.

### Mechanical Methods

In many rural locations, large-scale, mechanized operations are used to increase efficiency. Large saws are mounted on high-reaching booms to prune limbs alongside right-of-way corridors. In some areas, saws might even be suspended from helicopters.

When undertaking mechanized pruning operations, it should be understood that the cuts obtained will be of lesser quality than those obtained when cutting by hand. An effort should be made to make cuts outside the branch bark ridge and branch collar and to minimize excessive wounding to the bark and to the parent trunk or limb.

### Chemical Side Trimming

*Chemical side trimming* is a method that applies a specific type of herbicide to selected branches along the side of a right-of-way corridor. The branches eventually die and are naturally shed by the tree. This method has been shown to be an efficient way to control branches that will not threaten facilities when they fall. To avoid future hazards, care must be taken to prevent excessive treatment.

# **Emergency Service Restoration**

## **Threat from Storms**

Extreme weather, such as high winds or ice storms, often causes tree failures, which may severely impact utility facilities. Storms can be local events or can affect entire regions. The level of threat depends on the probability of severe weather occurring in an area, the tree density and species mix, and the amount of maintenance done on trees near utility facilities.

No geographical areas are completely free from the threat of storms, though some areas are more likely to experience severe storms on a regular basis. Utility storm response plans should include provisions for widespread tree failures. Additionally, a cyclical tree pruning program, using appropriate specifications, will help reduce the potential of damage to facilities caused by tree and branch failure during storms.

## **Deviation from Standards Following Storms**

Following severe storms, tree damage is often widespread, and utility services may be interrupted across a large area. At such times, government authorities or utilities may declare an emergency. Emergency service workers, including utility arborists, are likely to be involved in a coordinated effort to restore critical services. Damaged trees have the potential to imperil the safety of both the public and utility workers. To expedite restoration efforts under such urgent circumstances, it may be necessary for workers to deviate from standard pruning practices until the emergency is over and services are restored.

## **Corrective Pruning**

Following a storm emergency, the condition of remaining trees should be assessed. Ideally, this assessment will be performed by utilities, local governments, and other property owners as a coordinated effort. Corrective pruning methods should be employed when practical and should follow clearly defined goals and objectives.

## References/Suggested Reading

- American National Standards Institute. 2008. *American National Standard for Tree Care Operations—Tree, Shrub, and Other Woody Plant Maintenance—Standard Practices (Pruning)* (A300, Part 1). Tree Care Industry Association, Manchester, NH.
- American National Standards Institute. 2006. *Arboricultural Operations—Pruning, Trimming, Repairing, Maintaining, and Removing Trees, and Cutting Brush—Safety Requirements* (Z133.1). International Society of Arboriculture, Champaign, IL.
- Browning, D.M., and H.V. Wiant. 1997. The economic impacts of deferring electric utility tree maintenance. *Journal of Arboriculture* 23:106–112.
- Clark, J.R., and N.P. Matheny. 1993. *A Handbook of Hazard Tree Evaluation for Utility Arborists*. International Society of Arboriculture, Champaign, IL.
- Eisner, N.J., E.F. Gilman, and J.C. Grabosky. 2002. Branch morphology impacts compartmentalization of pruning wounds. *Journal of Arboriculture* 28:99–105.
- Gilman, E.F., and S.J. Lilly. 2008. *Best Management Practices: Tree Pruning*. International Society of Arboriculture, Champaign, IL.
- Harris, R.W., J.R. Clark, and N.P. Matheny. 2004. *Arboriculture: Integrated Management of Landscape Trees, Shrubs, and Vines* (4th ed.). Prentice Hall, Upper Saddle River, NJ.
- Institute of Electrical and Electronics Engineers. 2002. *National Electric Safety Code*. IEEE, New York, NY.
- Johnstone, R.A. 1988. Economics of utility lateral trimming. *Journal of Arboriculture* 14:74–77.
- Lilly, S.J. 2010. *Arborists' Certification Study Guide*. International Society of Arboriculture, Champaign, IL.
- O'Callaghan, D.P., and D.L. Ham (Eds.). 2002. *Utility Specialist Certification Study Guide*. International Society of Arboriculture, Champaign, IL.
- Occupational Safety and Health Administration. 29 CFR 1910.269, *Electric Power Generation, Transmission and Distribution*. U.S. Department of Labor, Washington, DC.
- Shigo, A. 1990. *Pruning Trees Near Electric Utility Lines*. Shigo and Trees, Associates, Durham, NH.



## **About the Author**

**Geoffrey Kempter** is manager of technical services for the Asplundh Tree Expert Co. in Willow Grove, Pennsylvania. He has been a utility arborist since 1989 and an ISA Certified Arborist since 1992. He serves as the Asplundh representative on the ANSI A300 Tree Care Standards Committee. Kempter is a 1981 graduate of the University of Michigan School of Natural Resources in Ann Arbor, Michigan.



P.O. Box 3129  
Champaign, IL 61826-3129  
[www.isa-arbor.com](http://www.isa-arbor.com)



BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

~~~~~

CHARLES PAQUELET, M.D.,

Plaintiff,

vs.

Case No. 11-4177-EL-CSS

OHIO EDISON COMPANY,

Defendant.

~~~~~

Deposition of

DOUGLAS YATES

June 4, 2012

9:57 a.m.

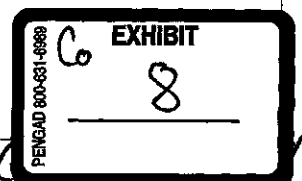
Taken at:

Klyn Nurseries, Inc.

3322 South Ridge Road

Perry, Ohio

Eva Petrone, RPR



	Page 2
1	APPEARANCES:
2	
3	On behalf of the Defendant:
4	Roetzel & Andress, by
5	DENISE M. HASBROOK, ESQ.
6	One SeaGate
7	Suite 1700
8	Toledo, Ohio 43604
9	(419) 242-5243
10	dhasbrook@ralaw.com
11	~~~~~
12	
13	ALSO PRESENT:
14	Charles Paquelet, M.D.
15	~~~~~
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	

	Page 3
1	TRANSCRIPT INDEX
2	
3	APPEARANCES..... 2
4	
5	INDEX OF EXHIBITS ..... 4
6	
7	EXAMINATION OF DOUGLAS YATES:
8	By Ms. Hasbrook..... 5
9	
10	REPORTER'S CERTIFICATE..... 110
11	
12	EXHIBIT CUSTODY
13	EXHIBITS RETAINED BY COURT REPORTER
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	

	Page 4
1	INDEX OF EXHIBITS
2	NUMBER DESCRIPTION MARKED
3	Exhibit A Curriculum Vitae..... 8
4	
5	Exhibit B February 7, 2012 Invoice..... 20
6	
7	Exhibit C Diagram of Dr. Paquelet's .... 24
8	Property
9	Exhibit D Copy of a Photograph with .... 31
10	Labels
11	
12	Exhibit E Klyn Nurseries Advertisement.. 32
13	
14	Exhibit F ANSI Standard Safety ..... 35
15	Requirements for
16	Arboricultural Operations
17	
18	Exhibit G ANSI Standard for Tree, ..... 40
19	Shrub and Other Woody Plant
20	Standard Practices (Pruning)
21	for Tree Care Operators
22	Exhibit H Douglas Yates' Report..... 42
23	Exhibit I Douglas Yates' Report Dated .. 56
24	2/7/12
25	
1	Exhibit J Copy of Photograph with ..... 60
2	Labels
3	Exhibit K FirstEnergy Vegetation ..... 68
4	Management Specifications
5	
6	Exhibit L Handwritten Notes..... 96
7	
8	Exhibit M Proposal Dated 2/4/12..... 97
9	
10	Exhibit N Interrogatory Responses..... 98
11	
12	Exhibit O Rough Draft of Douglas ..... 98
13	Yates' Report
14	Exhibit P Letter Dated October 16, .... 100
15	2011
16	
17	Exhibit Q Best Management Practices .... 103
18	for Utility Pruning of Trees

	Page 5
1	DOUGLAS YATES, of lawful age, called for
2	examination, being by me first duly sworn, as
3	hereinafter certified, deposed and said as
4	follows:
5	EXAMINATION OF DOUGLAS YATES
6	BY MS. HASBROOK:
7	Q. We were introduced previously, but
8	I'll go ahead and do it on the record so it's
9	all in one place, but I'm Denise Hasbrook. I'm
10	one of the attorneys that represent Ohio
11	Edison.
12	We are here by mutual agreement as
13	to the time and place and that's convenient for
14	you to conduct your, we call it a discovery
15	deposition, correct?
16	A. Yes.
17	Q. And I don't know if you -- you have
18	done some court testimony before so I assume
19	you have had your deposition taken before?
20	A. Yes.
21	Q. Again, I know you know how this
22	works, but I'll do it again so it's on the
23	record. If you don't understand any of my
24	questions, let me know. We are in kind of a
25	cavernous room here, so I'll certainly speak up

Page 6

1 and I would like you to do the same so we know  
 2 exactly what we are talking about when we are  
 3 answering questions.  
 4 I have got some documents here  
 5 today and I'll put those in front of you, a lot  
 6 of them were from your file as well and things  
 7 that you have seen before.  
 8 If you want to take a break for any  
 9 reason, of course let me know that, too.  
 10 And then finally, the rule that Eva  
 11 will let us know if we violate is if we both  
 12 talk together, I'm sure we will hear something  
 13 from her, but I will try not to do it and I may  
 14 need to remind you to wait for my question to  
 15 be fully out of my mouth before you answer and  
 16 I will try to do the same thing for you. All  
 17 right?  
 18 A. Okay.  
 19 Q. Before we started, and I apologize,  
 20 I probably should have gone through this while  
 21 we were waiting for a moment for Dr. Paquelet,  
 22 did you bring your complete file with respect  
 23 to this matter?  
 24 A. Except for the book that I gave you  
 25 guys.

Page 7

1 Q. The one book that I have, and there  
 2 may be others because I know you have been  
 3 dealing with other attorneys, I have the  
 4 Guide for Plant Appraisal?  
 5 A. Yes.  
 6 Q. That's one of the books that you  
 7 gave to her in connection with this case. Were  
 8 there other books?  
 9 A. This other one was the Ohio book,  
 10 which this is 2002, and there's two revisions  
 11 since then.  
 12 Q. Let me get this. This is the  
 13 Guide to Appraisal of Trees and Other Plants in  
 14 Ohio?  
 15 A. I sent that to PUCO. I sent my  
 16 originals to PUCO.  
 17 Q. Did you send the originals in  
 18 connection with your testimony, was it attached  
 19 to the testimony?  
 20 A. Yes, it was attached to the  
 21 testimony.  
 22 Q. This particular edition I have here  
 23 is marked "old," but says it's Sixth Edition  
 24 2002.  
 25 A. Correct.

Page 8

1 Q. Is that the edition that you sent  
 2 to the PUCO?  
 3 A. No. There's a newer edition.  
 4 Q. Okay. And what edition was that?  
 5 A. What's this one?  
 6 Q. That's 2002.  
 7 A. It's got to be the eighth edition,  
 8 I believe.  
 9 Q. Were there any other books that you  
 10 have used that you did not bring with you?  
 11 A. No.  
 12 Q. And I'll ask you if you -- we will  
 13 kind of get going into this and then I will  
 14 take a little break and take a look at your  
 15 files.  
 16 A. Okay.  
 17 Q. First of all, let's start with your  
 18 CV.  
 19 - - - - -  
 20 (Thereupon, Deposition Exhibit A,  
 21 CV, was marked for purposes of  
 22 identification.)  
 23 - - - - -  
 24 Q. Mr. Yates, I'm going to show you  
 25 what I have marked as Defendant's Exhibit A.

Page 9

1 This is a copy of your CV, correct?  
 2 A. Yes.  
 3 Q. I see at the top there is just,  
 4 looks like it's written in handwriting, an 11  
 5 over the 7, is that your writing?  
 6 A. Yes, that's my writing.  
 7 Q. Was that your way of updating it?  
 8 A. Yes.  
 9 Q. So this CV as it would read as of  
 10 November 1st of 2011, correct?  
 11 A. Yes.  
 12 Q. Is there anything that you would  
 13 add to it or supplement if you were doing this  
 14 CV, redoing it for today?  
 15 A. No. Everything is accurate.  
 16 Q. Okay. Now, you previously owned or  
 17 were affiliated with Riverwood Landscape and  
 18 Tree Service?  
 19 A. Yes. I owned it.  
 20 Q. Was that a sole proprietorship?  
 21 A. Yes.  
 22 Q. What were the years that you owned  
 23 that?  
 24 A. That was -- I have to do my math  
 25 here. Had to be -- I came here in 2005. From

Page 10

1 2000 through 2005.

2 Q. And is it fair to say that that

3 employed about five to ten people?

4 A. Uh-huh.

5 Q. Okay. And what was the reason that

6 you either stopped doing business in that name

7 or left that company?

8 A. It was not -- I was unable to be

9 profitable.

10 Q. Okay. And so for economic reasons

11 then, did you close the business?

12 A. Yes.

13 Q. And where was it located?

14 A. Kirtland, Ohio.

15 Q. And I'm not familiar, is that east

16 of Cleveland?

17 A. Yes. It's just west of here by ten

18 miles.

19 Q. Was it like an ornamental shrubbery

20 and tree retailer?

21 A. No. We mostly did tree work, going

22 out to people's houses, trimming trees and

23 planting trees and some shrub work, but

24 minimal.

25 Q. Would you say that it was more of a

Page 11

1 tree trimming and a removal company or a

2 nursery, or about half and half?

3 A. No. 95 percent tree service and

4 five percent nursery.

5 Q. Who were your clients? And, again,

6 I'm still talking about Riverwood Landscape, or

7 customers.

8 A. I had a lot of residential

9 customers in several cities at that time. We

10 did the City of Euclid, Village of Bratenahl.

11 Q. What's that village?

12 A. Bratenahl.

13 Q. Any other?

14 A. Wade Hill, Kirtland Hills and

15 Mentor.

16 Q. Any others that come to mind?

17 A. No, not that come to mind.

18 Q. Focusing on the municipality work,

19 was it mainly clearing road right-of-way?

20 A. Yes.

21 Q. What were your goals, what kind of

22 obstructions were you clearing it for?

23 A. It was mostly for either diseased

24 trees and removal or pruning trees that were

25 either hazardous to, like, the intersection or

Page 12

1 the street, hazards that had to be taken down

2 or removed.

3 Q. And those hazards that you were

4 referring to, would they be because they

5 blocked visibility to drivers or because they

6 would fall?

7 A. More of the hazard to drivers.

8 Q. At any time you were doing work for

9 Riverwood Landscaping services, were you

10 clearing for electrical lines?

11 A. No.

12 Q. Did you have any customers or

13 clients that were utilities or providers of

14 electrical service?

15 A. No.

16 Q. In doing the work for the

17 municipality, did you apply the National

18 Electric Safety Code, the NESC?

19 A. Oh, yes.

20 Q. Do you know what that is?

21 A. Yes. That's the code that tells

22 how far you can work into a conductor and

23 specifies the distance you can be away from it

24 with your crews, because if you are not a

25 certified line clearance tree trimmer, you

Page 13

1 cannot be within ten feet of a conductor.

2 Q. The ten-foot rule, that's an OSHA

3 rule, right?

4 A. I think so.

5 Q. The ten-foot rule is not a safety

6 rule for the lines; it's a rule for the

7 workers, correct?

8 A. Yes.

9 Q. Is it your understanding that the

10 ten-foot rule was in the NESC or is it in the

11 OSHA standards?

12 A. I thought it was in the OSHA

13 standards.

14 Q. Okay. I think you are right on

15 that. So I just want to be clear then because

16 my question was about the NESC.

17 A. Okay.

18 Q. Now that we are kind of clear on

19 that, did you apply or use the NESC, the

20 National Electrical Safety Code?

21 A. Not to my knowledge.

22 Q. Okay. Probably the word "safety"

23 is what got you. Sure. And what you were

24 saying is that in the OSHA context, you had to

25 always be sure that you and your crews were far

Page 14

1 enough away from those lines so that they  
 2 wouldn't get -- hurt anybody?  
 3 A. Correct.  
 4 Q. But in your trimming, you were not  
 5 ever trying to maintain or trying to get a  
 6 certain clearance around electrical lines, you  
 7 were not doing that kind of work?  
 8 A. Correct.  
 9 Q. What was your particular role? I  
 10 know you were an owner of the company, but in  
 11 doing the work for the municipalities, taking  
 12 away the diseased trees, what was your role?  
 13 A. I was the manager. I generally  
 14 prepared the bids, and in some cases, do  
 15 the -- hard to say.  
 16 Q. What do you mean, do the work?  
 17 A. No. No. No. I managed the work.  
 18 Q. Did you do it according to certain  
 19 specifications that the cities have?  
 20 A. Yes. Most cities write their own  
 21 specifications that are based on some of the  
 22 guidelines that we are talking about here.  
 23 Q. Okay, but the difference is none of  
 24 those guidelines had to do with how far they  
 25 had to be away from the electrical lines?

Page 15

1 A. Correct.  
 2 Q. But they would have certain  
 3 specifications so that they would get what they  
 4 were paying for, they wanted certain kinds of  
 5 trees removed?  
 6 A. Right.  
 7 Q. In connection with that business  
 8 failure, and you told us that in 2005 you  
 9 decided it wasn't economically feasible to  
 10 continue with that business, did you file a  
 11 bankruptcy?  
 12 A. Yes.  
 13 Q. And that was a personal bankruptcy,  
 14 correct?  
 15 A. Yes.  
 16 Q. Would you say that the reason for  
 17 the bankruptcy was the failure of this  
 18 business?  
 19 A. Yes.  
 20 Q. I assume that everything on  
 21 your -- I won't go through everything that's  
 22 written on Exhibit A, but everything is correct  
 23 to the best of your knowledge as far as where  
 24 you got your degrees and so on, correct?  
 25 A. Yes.

Page 16

1 Q. I do want to focus on the last  
 2 paragraph where it says you have testified as  
 3 an expert witness in the courts of Lake, Geauga  
 4 and Cuyahoga Counties. What kinds of cases  
 5 were those cases?  
 6 A. Those were all tree related cases.  
 7 Q. Can you be more specific? First of  
 8 all, how many times have you testified as an  
 9 expert witness?  
 10 A. Probably 30 times.  
 11 Q. Is there any one of those counties  
 12 that you testified in more than the other?  
 13 A. Mostly Lake County.  
 14 Q. What were the kinds of  
 15 controversies that you provided expertise for?  
 16 A. Mostly property line disputes. A  
 17 couple utility disputes. One was CEI against  
 18 one of my clients in Perry who CEI cut down a  
 19 cherry tree in their backyard and it was  
 20 clearly not within CEI's right-of-way.  
 21 Q. It was neither on the right-of-way  
 22 nor on the easement?  
 23 A. It was not on the easement.  
 24 Q. What was your role? You are not a  
 25 real property expert.

Page 17

1 A. No. My role was to determine the  
 2 value of the tree.  
 3 Q. Okay. Would that be true in the  
 4 utility disputes, all of them, that your role  
 5 was to determine the value of the tree that was  
 6 wrongfully removed?  
 7 A. Correct.  
 8 Q. Did you ever provide testimony on  
 9 how far the company should trim -- the electric  
 10 utility should trim in relation to its wires in  
 11 any of those cases?  
 12 A. No, never.  
 13 Q. And the property line cases that  
 14 you testified for, that would be -- just tell  
 15 me what the nature of your testimony would be  
 16 with that. Like was a tree removed and then  
 17 you were again talking about the value?  
 18 A. Right. The value of the tree.  
 19 Q. You were not there to say this is  
 20 where the property ends and this is where it  
 21 starts?  
 22 A. No.  
 23 Q. Did any of those cases actually go  
 24 to court?  
 25 A. The one in Perry did.

<p style="text-align: right;">Page 18</p> <p>1 Q. That CEI case?</p> <p>2 A. Yes.</p> <p>3 Q. What was the amount of controversy,</p> <p>4 what did you say the value of the tree should</p> <p>5 be?</p> <p>6 A. I don't recall. It was more than</p> <p>7 five years ago, but it was in the ballpark of</p> <p>8 probably 1,500, maybe 2,000.</p> <p>9 Q. Was it more than one tree or one</p> <p>10 tree?</p> <p>11 A. One tree.</p> <p>12 Q. How did that case end?</p> <p>13 A. CEI paid.</p> <p>14 Q. In connection with that case, did</p> <p>15 you have any reason to review the vegetation</p> <p>16 management specifications or policies of the</p> <p>17 company?</p> <p>18 A. I did review it at that time, yes.</p> <p>19 Q. Did you provide testimony on that</p> <p>20 or was your testimony --</p> <p>21 A. No. My testimony was strictly on</p> <p>22 the value.</p> <p>23 Q. Strictly on the value?</p> <p>24 A. Right.</p> <p>25 Q. And then what did you do between</p>	<p style="text-align: right;">Page 20</p> <p>1 consult with them on.</p> <p>2 A. I rewrote the tree management plan</p> <p>3 two years ago.</p> <p>4 Q. Tell me what you mean by a "tree</p> <p>5 management plan."</p> <p>6 A. It's a document that puts in effect</p> <p>7 all of the items that I want to be represented</p> <p>8 based on the tree lawn trees in Willoughby so</p> <p>9 that there is a standard of pruning and a</p> <p>10 standard of removal and a standard for planting</p> <p>11 and a standard for all of the stuff that goes</p> <p>12 on, insect problems, disease problems, hazard</p> <p>13 problems.</p> <p>14 Q. And is this mainly for esthetics of</p> <p>15 the community?</p> <p>16 A. Yes.</p> <p>17 Q. And safety, because you need to get</p> <p>18 rid of the bad ones?</p> <p>19 A. Right.</p> <p>20 - - - - -</p> <p>21 (Thereupon, Deposition Exhibit B,</p> <p>22 February 7, 2012 Invoice, was marked</p> <p>23 for purposes of identification.)</p> <p>24 - - - - -</p> <p>25 Q. Mr. Yates, I'll show you what I</p>
<p style="text-align: right;">Page 19</p> <p>1 Riverwood Landscape and your current -- you are</p> <p>2 currently employed with?</p> <p>3 A. Klyn Nurseries.</p> <p>4 Q. Could spell that for the record?</p> <p>5 A. K-L-Y-N, Nurseries.</p> <p>6 Q. When did you start working here?</p> <p>7 A. Five years ago.</p> <p>8 Q. Did you go right to here from --</p> <p>9 A. No. I did consulting for a year</p> <p>10 between the time I left Riverwood.</p> <p>11 Q. What type of consulting?</p> <p>12 A. Tree consulting.</p> <p>13 Q. Would that be regarding tree</p> <p>14 removals or which trees should be removed or</p> <p>15 appraisals of trees?</p> <p>16 A. A little bit of everything. I'm a</p> <p>17 consulting arborist for the City of Willoughby</p> <p>18 and as that, I get a certain stipend every</p> <p>19 month, plus I also can generate some extra</p> <p>20 income every once in a while based on stuff,</p> <p>21 like tree stuff.</p> <p>22 Q. So your consulting contract with</p> <p>23 the City of Willoughby, is it still in force?</p> <p>24 A. Yes.</p> <p>25 Q. Tell me what kinds of projects you</p>	<p style="text-align: right;">Page 21</p> <p>1 have marked Defendant's Exhibit B and ask if</p> <p>2 you recognize this as the invoice you gave to</p> <p>3 Dr. Paquelet in connection with this case.</p> <p>4 A. Yes.</p> <p>5 Q. This invoice, according to the date</p> <p>6 at the top, was prepared on February 7 of 2012;</p> <p>7 is that correct?</p> <p>8 A. Correct.</p> <p>9 Q. And as of that time, you had done</p> <p>10 eight hours of work at \$100 an hour for a total</p> <p>11 of \$800, correct?</p> <p>12 A. Correct.</p> <p>13 Q. Was the invoice paid?</p> <p>14 A. Yes.</p> <p>15 Q. Have you issued any additional</p> <p>16 invoices to Dr. Paquelet?</p> <p>17 A. Not yet.</p> <p>18 Q. How many more hours have you put</p> <p>19 in, approximately, since February of 2012?</p> <p>20 A. About three.</p> <p>21 Q. About three more hours than what's</p> <p>22 on here?</p> <p>23 A. Yes.</p> <p>24 Q. Would those be three hours in</p> <p>25 connection with writing your testimony?</p>



Page 22

1 A. Yes.

2 Q. Had your report been written by

3 this time, by February 7 of 2012?

4 A. Yes.

5 Q. So the report preparation, that's

6 what's in here?

7 A. That's all that's in there.

8 Q. And so have you done anything other

9 than what we see here that's listed on Exhibit

10 B and then drafting your testimony?

11 A. No.

12 Q. Have you ever been to

13 Dr. Paquelet's property?

14 A. No, I have not.

15 Q. And that includes, just so we are

16 clear, you were not there before you wrote the

17 report, you were not there before you drafted

18 the testimony?

19 A. No.

20 Q. You were never there?

21 A. Never there.

22 Q. For the additional approximately

23 three hours' work that you did, did you

24 generate an additional -- you have not yet

25 gotten to the invoice yet?

Page 23

1 A. No, no.

2 Q. And we can go off -- well, let's

3 just say this on the record, but when you do

4 that, the invoice for your time here is paid by

5 us.

6 A. Okay.

7 Q. So you will want to separate that

8 out when you do that, and if you want to give

9 it to Dr. Paquelet, he can give it to me or

10 whatever, but that's separate.

11 A. Okay.

12 Q. And your testimony time will be the

13 same, your rate, will that also be \$100 per

14 hour?

15 A. My rate is \$150 an hour for

16 testimony.

17 Q. For deposition like we are in

18 today?

19 A. Right.

20 Q. Do you plan to do any other work

21 between now and the hearing when it is

22 scheduled June 14 of next week?

23 A. Probably not.

24 - - - - -

25 (Thereupon, Deposition Exhibit C,

Page 24

1 Diagram of Dr. Paquelet's Property,

2 was marked for purposes of

3 identification.)

4 - - - - -

5 Q. Mr. Yates, I'm going to show you

6 what I have just marked Defendant's Exhibit C.

7 And this was in the file that was given to me

8 by FirstEnergy and I don't know where it came

9 from. Is this your writing?

10 A. No. This is Dr. Paquelet's.

11 Q. Was this given to you in connection

12 with your work on the case?

13 A. Right. The first meeting we had,

14 we prepared this document so I can have a

15 better sense of how far the tree was away from

16 the pole primarily and where the electrical

17 line was.

18 Q. It's your understanding that this

19 would be a diagram of Dr. Paquelet's

20 property --

21 A. Correct.

22 Q. -- as drawn by him?

23 A. Correct.

24 Q. That eight foot there that's

25 between the pole and the beech, you have never

Page 25

1 verified that?

2 A. No, but Dr. Paquelet says that he

3 did measure it and it's actually 11 feet, not 8

4 feet.

5 Q. And that's one of the rounds of

6 questions I had for you because in your report

7 you said that it was 8 feet and then in your

8 testimony you said it was 11 feet.

9 A. Yeah.

10 Q. Now, you have no personal knowledge

11 either way?

12 A. I have not seen it.

13 Q. But why did it change between the

14 report and the testimony?

15 A. My guess is that he estimated it

16 when it was 8 feet and then he measured it and

17 it was 11.

18 Q. Is that what he told you or is that

19 what you are just --

20 A. Yes.

21 Q. Okay. So for purposes of your

22 testimony, he told you to assume it was 11

23 rather than 8?

24 A. Yes.

25 Q. The beech that I see there, that

Page 26

1 would be the beech tree that we are --

2 A. That's the beech in question.

3 Q. Be sure I'm done with my questions

4 before you give the answers.

5 A. I'm sorry.

6 Q. It just makes it really hard.

7 That's okay.

8 And the wire, according to your

9 understanding, would be the electric wire that

10 we are talking about here?

11 A. Correct.

12 Q. Do you know what voltage that wire

13 is?

14 A. No.

15 Q. Do you believe the voltage of the

16 wire matters or is significant in calculating

17 how far a tree needs to be from an electric

18 line?

19 A. I don't think it's in the purview

20 of my opinion, I don't think my opinion matters

21 in that because I'm not a utility contractor.

22 Q. So what you are saying is you don't

23 know the answer to that, but you are also not

24 offering any opinions on that?

25 A. Right.

Page 27

1 Q. Just so we can kind of tie that up

2 a little better and then we don't have to go

3 back to it anymore, there are two tables that

4 determine clearances in the NESC --

5 MS. HASBROOK: And I think it's

6 very important that we need to put on the

7 record, and I understand we have nonattorneys,

8 but we can't coach the witness while he is

9 testifying; and so, Dr. Paquelet, you can't

10 show him documents and point to them with his

11 testimony. He is on his own here. You will

12 have your chance to testify at trial and so if

13 there is anything you want to correct, you can

14 do that, but he is on his own here.

15 Q. So it's not a big deal, but for our

16 record you have shown him the first page of

17 your report, correct? And I don't see it, is

18 that what it is?

19 A. Yes. That's just that there's four

20 years of clearance for conductor.

21 Q. Now, let's just kind of back up a

22 little bit. First I need to get my question

23 out and then we will kind of talk about what

24 was just shown to you.

25 My question that I was saying is

Page 28

1 there are two clearance tables in the NESC, one

2 is for horizontal, one is for vertical

3 clearance, they are 232 and 234. I think what

4 you are telling me is you have never seen those

5 tables, you are not an expert on any of that,

6 right?

7 A. Correct.

8 Q. So I'm not going to belabor that

9 point anymore.

10 A. Okay.

11 Q. Now, I had a couple of other

12 questions just on your general, your CV and

13 your background. You are a municipal

14 specialist and I don't know even where I have

15 seen that, websites or something. Tell me what

16 that is.

17 A. I have taken -- the municipal test

18 is an additional test that the ISA offers to

19 prove your competency in the municipal

20 arboriculture area so that you are more

21 familiar with working governments and utilities

22 and agencies and things like that, as well as

23 counsel people and not just homeowners. So

24 there is a whole separate test that I took to

25 get that certification.

Page 29

1 Q. Because you told me you have no

2 expertise in utility line clearance, can I

3 assume that that is not something that's

4 tested?

5 A. No.

6 Q. So a minute ago you said that you

7 had to have more expertise in municipal and

8 utility matters, what did you mean by that?

9 A. When you work for the city, you

10 have to coordinate with CEI when they prune the

11 trees in the city. So I have worked with CEI

12 many, many times when they prune the trees, but

13 that's on a management level.

14 Q. How do you work the CEI in that

15 context? Tell me what your role is.

16 A. My role is to keep them from

17 cutting the trees down when they want to cut it

18 down mostly. I have defended many trees that

19 they want to cut down when they are -- they

20 think they are going to interfere with their

21 primary and they are not.

22 Q. So you are a liaison then to try to

23 save the trees for the municipality.

24 A. Correct.

25 Q. But doing that, you don't know what

Page 30

1 their clearance requirements are, you are not  
 2 an expert on that?  
 3 A. No.  
 4 Q. For the municipality, what makes it  
 5 different working for them than any other  
 6 commercial customers, is it the red tape?  
 7 A. It's the red tape. There is a lot  
 8 of red tape in any government entity and it's  
 9 just knowing how to navigate through that.  
 10 Q. And when did you obtain that  
 11 certification?  
 12 A. The first year it was offered I  
 13 think four years ago, five years ago.  
 14 Q. And is that something that is  
 15 required for your Village of Willoughby Hills?  
 16 A. No, it's not a requirement.  
 17 Q. Now, this as a municipal specialist  
 18 is not the same thing as being a qualified line  
 19 clearance arborist, is it?  
 20 A. No.  
 21 Q. And you are not a qualified --  
 22 A. No.  
 23 Q. Let me get my whole question out.  
 24 You are not a qualified line  
 25 clearance arborist, are you?

Page 31

1 A. No.  
 2 Q. Are you familiar with that term as  
 3 used in ANSI 133.1?  
 4 A. Yes.  
 5 -----  
 6 (Thereupon, Deposition Exhibit D,  
 7 Copy of a Photograph with Labels,  
 8 was marked for purposes of  
 9 identification.)  
 10 -----  
 11 Q. We are up to Exhibit D here. This  
 12 is something else that is just somewhere in my  
 13 file and I don't know where it came from. Do  
 14 you recognize this?  
 15 A. Yes. This came from us.  
 16 Q. "Us" meaning Klyn Nursery?  
 17 A. No. Dr. Paquelet. These were his  
 18 photographs that I copied based on -- to give  
 19 you everything we have got.  
 20 Q. You just held it up and I'm sure  
 21 somewhere in my file I have a color photo as  
 22 well, this is just a black and white version.  
 23 A. Right.  
 24 Q. You did not verify any of these  
 25 measurements, did you?

Page 32

1 A. No.  
 2 Q. Did you utilize the document or any  
 3 of the information on it for forming your  
 4 opinions?  
 5 A. No.  
 6 Q. Well, that saves a lot of  
 7 questions.  
 8 -----  
 9 (Thereupon, Deposition Exhibit E,  
 10 Klyn Nurseries Advertisement, was  
 11 marked for purposes of  
 12 identification.)  
 13 -----  
 14 Q. I'm going to show you what is  
 15 Exhibit E and this is a document that I have  
 16 pulled out and I don't even know why. Do you  
 17 have a connection with this document -- well, I  
 18 know why, because on the last page Klyn  
 19 Industries is all over the commercial on that.  
 20 Do you see that on the last page?  
 21 A. I see that.  
 22 Q. And I guess that led to my question  
 23 because your name was on it and it's promoting  
 24 you as a board certified master arborist for  
 25 municipal specialty that we talked about.

Page 33

1 Did you have any input into  
 2 drafting this article, the full article itself?  
 3 A. The article about the million  
 4 trees?  
 5 Q. Yes.  
 6 A. No. I haven't read it, actually.  
 7 Q. Okay.  
 8 A. I should.  
 9 Q. I would expect you would recognize  
 10 it if you did. I was a little unclear. This  
 11 is simply a paid ad?  
 12 A. Right.  
 13 Q. And is this how you promote your  
 14 expertise, by paid ads in publications?  
 15 A. Yes. My boss realizes that he  
 16 doesn't pay as well as he should or could, but  
 17 it's a very bad economy right now and he is  
 18 very upfront about me doing consulting work on  
 19 the side and getting paid what I was getting  
 20 paid 20 years ago for it.  
 21 Q. So any work that you would get as a  
 22 result of this ad, for example, would be  
 23 separate?  
 24 A. Right. Totally separate.  
 25 Q. Does that include the work you are

Page 34

1 doing in connection with this case, too?

2 A. Correct.

3 Q. Are you an actual employee of Klyn?

4 A. Yes.

5 Q. Or are you a contractor?

6 A. I'm employed by Klyn Nurseries.

7 Q. And you have been an employee then

8 since?

9 A. Five years.

10 Q. 2007?

11 A. Yes.

12 Q. Tell me just a little bit about

13 Klyn. How many employees do they have?

14 A. They have about 90 employees. It's

15 seasonal. He has about 30 people that he

16 carries through the winter.

17 Q. What is your primary duty here as

18 an employee?

19 A. I'm in sales.

20 Q. Sales of what?

21 A. Sales of trees, shrubs, perennials

22 and landscape plants.

23 Q. Do you do any consulting work as an

24 employee for Klyn?

25 A. No, I do not.

Page 35

1 - - - - -

2 (Thereupon, Deposition Exhibit F,

3 ANSI Standard Safety Requirements

4 for Arboricultural Operations, was

5 marked for purposes of

6 identification.)

7 - - - - -

8 Q. Showing you what I have marked

9 Defendant's Exhibit F, and we have just

10 referred to that a moment ago. This is a copy

11 of ANSI 133.1, the 2006 version. You said that

12 you were familiar with it?

13 A. Yes.

14 Q. And focusing on the -- and this is

15 just an excerpt, obviously, but the page that

16 we have, which is 34 from the edition, talks

17 about the qualified line clearance arborist.

18 And you said a moment ago you were familiar

19 with this and you do not qualify as a line

20 clearance arborist, correct?

21 A. Correct.

22 Q. Have you had any training in the

23 equipment or hazards in line clearance as it

24 relates to trees?

25 A. Yes. I have had several seminars

Page 36

1 and classes about, usually put on by CEI, about

2 staying away from conductors, mostly.

3 Q. And that would go in more with that

4 ten-foot rule that we talked about with OSHA?

5 A. Right.

6 Q. Now, and don't get rid of that just

7 yet.

8 A. Okay.

9 Q. If you would pull up page 34 again,

10 which is in Defendant's Exhibit F, looking at

11 qualified arborists, just a couple definitions

12 up, you are a qualified arborist, correct?

13 A. Correct.

14 Q. Now, are you aware that ANSI

15 standard 300 only allows a qualified line

16 clearance arborist to work where an electrical

17 hazard exists?

18 A. Yes.

19 Q. So by implication, you are not

20 qualified to work there?

21 A. No.

22 Q. Now, I think you mentioned just a

23 moment ago, but the International Society of

24 Arboriculture, the ISA, is a recognized

25 authoritative agency for arborist

Page 37

1 certifications, correct?

2 A. Yes.

3 Q. And that's where -- you got your

4 certified arborist certificate through them,

5 correct?

6 A. Correct.

7 Q. When did you pass the examination?

8 A. 1974.

9 Q. Somewhere I saw that you passed it

10 the first time it was offered?

11 A. Right.

12 Q. Do you know how many people have

13 that licensure?

14 A. Right now, I think there is 46,000

15 in the country.

16 Q. And you have maintained that

17 licensure, correct?

18 A. Maintained that since.

19 Q. And once you received that

20 certification, you have to do 30 hours of

21 continuing education every three years?

22 A. Right.

23 Q. And you have maintained that?

24 A. Right. But with the board

25 certified master arborist, I have to have 60

<p style="text-align: right;">Page 38</p> <p>1 hours of education and the municipal adds 12 to 2 that, so now it's 72. 3 Q. When did you obtain the master 4 certification? 5 A. That was the first time it was 6 offered as well and that was eight years ago. 7 Q. Now, the ISA also has a certified 8 utilities specialist designation. 9 A. Right. 10 Q. And you do not have that? 11 A. I do not have that. 12 Q. And since you are not certified in 13 that area, can I assume that you haven't 14 attended any continuing education on new 15 methods or industry practices for utility 16 specialists? 17 A. Correct. 18 Q. You have never worked for a utility 19 company, right? 20 A. No. 21 Q. You have worked as a consultant, as 22 a liaison with CEI as we talked about, correct? 23 A. Right. Right. 24 Q. Have you ever attended any seminars 25 or classes on proper utility line clearance for</p>	<p style="text-align: right;">Page 40</p> <p>1 build buildings, but part of what they do is -- 2 I managed the tree and landscape division for 3 them for 20 years. 4 Q. And does that mean that you were 5 helping them to landscape their projects after 6 they were complete? 7 A. No. It was a separate division 8 maintained by the same bean counters, but it's 9 still within the realm of JTO's scope. 10 Q. So what years were you affiliated 11 with JTO? 12 A. 1975 to '95. My numbers might be 13 getting mixed up there a little bit. It was a 14 long time ago. 15 Q. All right. In the course of your 16 former business where it was really more 17 involved in tree trimming, you said like 90 18 percent, were you ever involved in trimming a 19 tree for the purpose of maintaining adequate 20 clearance near an electric line? 21 A. No. 22 - - - - - 23 (Thereupon, Deposition Exhibit G, 24 ANSI Standard for Tree, Shrub and 25 Other Woody Plant Standard Practices</p>
<p style="text-align: right;">Page 39</p> <p>1 various voltages of lines? 2 A. No. 3 Q. I have looked at some of your 4 articles. I don't see that any of your 5 articles have to do with utility line 6 clearances. You have never authored any papers 7 on that subject, have you? 8 A. No. 9 Q. Which makes sense if you are not an 10 expert in it, right? 11 A. Right. 12 Q. Have you ever consulted, either in 13 your former business or today, when you are 14 doing this consulting on the side, have you 15 ever consulted for a public utility? 16 A. No. 17 Q. Have you ever consulted for any 18 electrical utility that was engaged in a 19 forestry program? 20 A. No. 21 Q. I saw something on your resume, I 22 believe it was in your CV, JTO, Inc. 23 A. Yes. 24 Q. What is that? 25 A. It's a construction company. They</p>	<p style="text-align: right;">Page 41</p> <p>1 (Pruning) for Tree Care Operators, 2 was marked for purposes of 3 identification.) 4 - - - - - 5 Q. We now are putting in front of you 6 Exhibit G, and I assume that we have already 7 established you're familiar with ANSI 300, 8 correct? 9 A. Yes. 10 Q. Obviously, this is excerpts from 11 it. Do you understand the 2008 edition to be 12 the most recent edition? 13 A. Yes. 14 Q. So looking at Section 4, it's on 15 the first page that I have there, the excerpt, 16 it's Section 4.57 where it says Utility Space. 17 This is not something that you have dealt with 18 in your experience, been tested on or had 19 training on, is it? 20 A. No. 21 Q. So you couldn't be able right now 22 to tell me what the physical area, or the 23 utility space is as it's defined would be for a 24 72 volt line, for example? 25 A. Correct.</p>

Page 42

1 Q. Now, looking at the second page,  
 2 utility pruning section, I have several  
 3 sections there from Section 9. Are you  
 4 familiar with that subsection of ANSI A300?  
 5 A. I'm sorry, where are you at?  
 6 Q. In your exhibit, it would be the  
 7 second page where it says Utility Pruning.  
 8 A. Okay.  
 9 Q. And the question is if you are  
 10 familiar with this subsection of ANSI A300?  
 11 A. No.  
 12 Q. Now, in your report -- and here,  
 13 let's get your report in front of you so you  
 14 have got a nice, clean copy to work with.  
 15 - - - - -  
 16 (Thereupon, Deposition Exhibit H,  
 17 Douglas Yates' Report, was marked  
 18 for purposes of identification.)  
 19 - - - - -  
 20 Q. I'm showing you what we just marked  
 21 Exhibit H and this is the report that you  
 22 authored in connection with this case on  
 23 February 7, 2012, correct?  
 24 A. Correct.  
 25 Q. And that is the same report that a

Page 43

1 few moments ago when Dr. Paquelet showed you a  
 2 page, it was the second page of this report,  
 3 Defendant's Exhibit H, correct?  
 4 A. Correct.  
 5 Q. I would like you to look at the  
 6 second page of your report towards the top.  
 7 The first, I believe it would be the first full  
 8 sentence, the International Society of  
 9 Arboriculture Guide called Best Management  
 10 Practices for Utility Pruning of Trees is the  
 11 ANSI A300 part 1, correct?  
 12 A. Correct.  
 13 Q. Is that what we have here, a  
 14 subsection of that, then, is what we have in  
 15 Defendant's Exhibit G, correct?  
 16 A. Correct.  
 17 Q. And so you refer to it in your  
 18 report, but the particular section that deals  
 19 within that guide that you say is the  
 20 authoritative practices of utility pruning, you  
 21 had never seen, correct?  
 22 A. Correct.  
 23 Q. Were you aware, before I just  
 24 showed it to you, that subsection 9 with  
 25 multiple sections on utility pruning even

Page 44

1 existed?  
 2 A. No.  
 3 Q. I would like you to look at 9.3 and  
 4 that deals with utility crown reduction  
 5 pruning. Do you see that?  
 6 A. Yes.  
 7 Q. There are several sections under  
 8 that. And under 9.3.1.1, which is just two  
 9 underneath it, it says, "Pruning cuts should be  
 10 made in accordance with subclause 5.3," which  
 11 we don't have there.  
 12 Now, "should" is not mandatory as  
 13 it is stated under ANSI A300, right?  
 14 A. Correct.  
 15 Q. When you have to do something, it's  
 16 gong to say "shall" or "must," won't it?  
 17 A. Yes.  
 18 Q. And also, before we move on, the  
 19 purpose of utility pruning under 9.1 is to  
 20 prevent loss of service as stated in what you  
 21 say is the authoritative guide, ANSI A300 part  
 22 1, right?  
 23 A. Yes.  
 24 Q. So in rendering your opinions in  
 25 connection with this case, you are not taking

Page 45

1 into account any aspects of loss of utility  
 2 service, are you?  
 3 A. No.  
 4 Q. And then it says that purpose, and  
 5 this again is the authoritative guide stated in  
 6 your report, says that it is to comply with  
 7 mandated clearance laws also. And we have  
 8 already established the NESC as a mandatory  
 9 clearance law is not something you have ever  
 10 read or are familiar with, right?  
 11 A. Correct.  
 12 Q. And you are not offering your  
 13 opinions with any consideration of preventing  
 14 damage to the company's equipment or  
 15 maintaining access, correct?  
 16 A. Correct.  
 17 Q. You are not offering any opinions  
 18 with the intention of dealing with the stated  
 19 purpose of ANSI, that the trimming is to uphold  
 20 the intended usage of the facility and utility  
 21 space, right?  
 22 A. Yes.  
 23 Q. And we just established that you  
 24 didn't know what that utility space would even  
 25 be for this line, right?

Page 46

1 A. Correct.

2 Q. And all of this, according to the

3 stated purpose, has to be done while the

4 company is adhering to the accepted tree care

5 performance standards, right?

6 A. Yes.

7 Q. As you read this with all of your

8 experience, do you understand this to mean that

9 there's competing principles and purposes here?

10 A. Yes.

11 Q. Only one of which is to adhere to

12 the accepted tree care performance standard,

13 while all those other things are going on, is

14 that fair?

15 A. Yes.

16 Q. Now I would like you to turn the

17 page to the second to the last page. There is

18 another provision in ANSI A300 which is quoted

19 in your report, at least that standard is, this

20 subsection under 9.3.1.3 deals with trees

21 directly growing under and growing into

22 facility utility spaces should be removed or

23 pruned. Do you see that?

24 A. Yes.

25 Q. But you are offering no opinions on

Page 47

1 whether this tree does or does not fall into

2 9.3.1.3 because you have never seen it before,

3 right?

4 A. Correct.

5 Q. Then going over to the last page,

6 and this is what I think we just established

7 and you agreed with me that the interpretations

8 that apply when it says "should" is an advisory

9 recommendation, correct?

10 A. Correct.

11 Q. Are you aware as you sit here today

12 as to whether the ANSI standards for utility

13 pruning prohibit utility crown reduction

14 pruning or any other method of pruning as long

15 as the clearance laws are upheld?

16 A. Yes.

17 Q. What is that?

18 A. What do you mean?

19 Q. Maybe I didn't understand your

20 question. Let's read it again so we both know

21 we're saying.

22 (The record was read.)

23 Q. Are you aware as you sit here today

24 that in effectuating the purposes that we just

25 looked at under 9.1, that the utility must use

Page 48

1 a particular method of pruning?

2 A. Yes.

3 Q. Okay. Then what do you base that

4 on?

5 A. Based on the document.

6 Q. And so that particular method of

7 pruning would be what?

8 MS. HASBROOK: Dr. Paquelet, I

9 don't know if you are pointing with your pen

10 there or what, but we can't be giving any --

11 DR. PAQUELET: I'm not.

12 MS. HASBROOK: You are tapping your

13 pen on a specific document? I just wanted to

14 be sure. I'm not sure from over here.

15 A. I guess what you are asking is that

16 the purpose of utility pruning is to prevent

17 the loss of service, comply with mandated

18 clearance laws and prevent damage to equipment,

19 maintain access and uphold the intended usage

20 of the facility utility space while adhering to

21 accepted tree care performance standards.

22 Q. Right. And in doing that, is the

23 utility company required to do that by using

24 any particular method of pruning or removal?

25 A. They are required to not cause

Page 49

1 damage to the tree as they do their pruning.

2 Q. And show me in the subpart ANSI

3 A300 that specifically applies to utility

4 pruning that states that.

5 A. Okay. 9.3.1.5, "Tree branches

6 shall be removed in such a manner so as not to

7 cause damage to other parts of the tree or

8 other plants or property. Branches too large

9 to support with one hand shall be precut to

10 avoid splitting the wood or tearing the bark.

11 Where necessary, ropes or other equipment shall

12 be used to lower branches or portions of

13 branches to the ground."

14 Q. Okay. That has to do with only

15 removing tree branches, right, a method of

16 removing tree branches?

17 A. Yes.

18 Q. But that section does not state the

19 particular type of pruning that is being done;

20 it doesn't state whether it's utility crown

21 reduction pruning or directional pruning, does

22 it?

23 A. No.

24 Q. All right. And, in fact, we

25 established up under 9.3.1.1 that pruning cuts

Page 50

1 should be made in accordance with subclause 5.3  
 2 that, you understand that deals with pruning  
 3 cuts, right?  
 4 A. Yes.  
 5 Q. And "should" we said is not  
 6 mandatory, correct?  
 7 A. I'm still not sure.  
 8 Q. Let's look at page 13, the last  
 9 page of ANSI A300. C-1, Interpretation of  
 10 "should" in ANSI A300 Standards. "An advisory  
 11 recommendation is the common definition of  
 12 'should' used in the standards development  
 13 community and in the common definition of  
 14 'should' used in ANSI standards."  
 15 Does that refresh your recollection  
 16 that "should" is not mandatory?  
 17 A. No. That reinforces my point that  
 18 tree branches shall be removed because it says  
 19 "shall."  
 20 Q. I'm going to go back to the  
 21 question that I asked you, and we were talking  
 22 about 9.3.1.1. Do you see that?  
 23 A. Yes.  
 24 Q. Okay. That says, and that's the  
 25 section we were talking about, "Pruning cuts

Page 51

1 should be made in accordance with subclause 5.3  
 2 pruning cuts."  
 3 Do you see that?  
 4 A. Yes, I see that.  
 5 Q. So at least in that section, how  
 6 the pruning cuts are made are advisory only,  
 7 correct?  
 8 A. Yes.  
 9 Q. Did this tree grow directly under  
 10 the line?  
 11 A. No.  
 12 Q. How do you know that?  
 13 A. Because Dr. Paquelet said it was  
 14 either 8 or 11 feet away from the line.  
 15 Q. Let's pull out that, this one right  
 16 here that we looked at. Now I'm looking at  
 17 Exhibit C. Do you see where he drew the line  
 18 right here?  
 19 A. Yes.  
 20 Q. This is the electric line.  
 21 A. Yes.  
 22 Q. And the eight feet looks to me to  
 23 be a line between the beech tree and the pole.  
 24 A. Correct.  
 25 Q. And isn't that what you wrote in

Page 52

1 your report?  
 2 A. Yes.  
 3 Q. It's between the equipment or the  
 4 actual pole and the beech tree, right?  
 5 A. Correct.  
 6 Q. Now, the beech tree obviously has  
 7 branches. Do you know if any of the branches  
 8 are directly under the utility line that comes  
 9 off the pole?  
 10 A. No, I do not.  
 11 Q. Looking at your report, and I can't  
 12 remember what we marked that as, but do you  
 13 have it in front of you? Here it is.  
 14 Defendant's Exhibit H. On page 2 right under  
 15 the sentence that I read before where you say  
 16 ANSI A300 part 1 is the national standard, then  
 17 you go on and say, "This is the national  
 18 standard that Ohio Edison claims to follow."  
 19 A. Correct.  
 20 Q. Now, do you know if Ohio Edison  
 21 follows Section 9 or some other section?  
 22 A. No. I have got the vegetation  
 23 management policy here and I have highlighted  
 24 the areas where they say that they are  
 25 following A300 standards.

Page 53

1 Q. My question is, when Ohio Edison  
 2 says that it's following ANSI A300 standard, we  
 3 were reading from ANSI A300, right?  
 4 A. Yes.  
 5 Q. Do you know if Ohio Edison or  
 6 FirstEnergy is following Section 9 that we read  
 7 from, the section that's stated utility  
 8 practices?  
 9 A. No. I have no way of knowing if  
 10 they are following the standard or not. I only  
 11 know what their policy says.  
 12 Q. Okay. And does their policy state  
 13 a particular section within ANSI A300 that they  
 14 are following?  
 15 A. No. What it says is, "All pruning  
 16 shall be done in accordance with modern  
 17 arboricultural standards, including the ANSI  
 18 A300 standards and amendments, directional  
 19 pruning is the preferred method of clearance.  
 20 Wherever possible, contractor shall gain  
 21 clearance for this manner, drop crotch pruning  
 22 will be used, pruning cuts are to be made back  
 23 to the main stem to a lateral, which is at  
 24 least 1/3 diameter of the portion being  
 25 removed. Limbs shall not be stubbed off at the



Page 54

1 edge of the clearing limits. Pruning shall be  
 2 done in a manner that will promote growth away  
 3 in the power lines."  
 4 Q. Okay. And so that does not state a  
 5 particular section of the ANSI A300, right?  
 6 A. No, it does not.  
 7 Q. Would you agree that the ANSI  
 8 standard that they are using is Section 9, the  
 9 one that you never read before today?  
 10 A. Yes.  
 11 Q. But you cited on page 12 of the  
 12 guide and that's -- is that where you were just  
 13 reading from?  
 14 A. Yes.  
 15 Q. Okay. Do you have any opinions on  
 16 what the overall objective of the Ohio Edison  
 17 tree trimming crews should have been here?  
 18 A. Yes.  
 19 Q. What should they have been?  
 20 A. They should have realized that it  
 21 was a specimen tree because fastigate European  
 22 Beech are very rare and they should have  
 23 realized that it was probably -- the homeowner  
 24 needed to be talked to before they cut any  
 25 branches and gotten written permission to take

Page 55

1 off whatever they wanted to take off. And I'm  
 2 sure Dr. Paquelet, not speaking for him, but  
 3 I'm sure Dr. Paquelet would have been very  
 4 responsible to their needs for clearance for  
 5 the wires.  
 6 Q. Do you see anything in Section 9,  
 7 which is the utility section of ANSI 300, that  
 8 requires what you just said the company should  
 9 have done? I have lost it now. It's the ANSI  
 10 300 which is somewhere over here. I think it's  
 11 right underneath your report there.  
 12 Okay. And the three things that I  
 13 heard you say is they shouldn't have removed  
 14 portions of -- they should have realized it was  
 15 a specimen tree, they should have gotten  
 16 written permission from Dr. Paquelet and talked  
 17 to him. Do you see any of these requirement in  
 18 ANSI 3009?  
 19 A. No. Just because it's not, doesn't  
 20 make it right.  
 21 Q. So this is really your personal  
 22 opinion?  
 23 A. This is my personal opinion.  
 24 Q. Not based on any --  
 25 A. -- as --

Page 56

1 Q. Wait. Okay, you can finish. Go  
 2 ahead.  
 3 A. As a person who speaks for the  
 4 trees, that's what I do. I'm an arborist.  
 5 Q. And in speaking for the trees, your  
 6 personal opinion on this issue is not based on  
 7 any industry standard, rule or guideline, is  
 8 it?  
 9 A. Correct.  
 10 Q. Keep your report handy out there  
 11 because now we are going to kind of look at  
 12 that and compare it to your testimony, so let  
 13 me get that in front of you.  
 14 - - - - -  
 15 (Thereupon, Deposition Exhibit I,  
 16 Douglas Yates' Report Dated 2/7/12,  
 17 was marked for purposes of  
 18 identification.)  
 19 - - - - -  
 20 Q. I'm going to put Exhibit I in front  
 21 of you and some of my questions are going to  
 22 deal with that and some of my questions are  
 23 going to deal with your report which is also in  
 24 front of you.  
 25 A little bit of background on your

Page 57

1 report, February 7, 2012. When were you first  
 2 contacted about the case, putting it in the  
 3 perspective you wrote your report February 7?  
 4 A. Probably January 1.  
 5 Q. What were you asked to do?  
 6 A. I was asked to do a report of the  
 7 damages done to the beech tree.  
 8 Q. And that would be an evaluation?  
 9 A. An evaluation, right.  
 10 Q. And in doing so, you were asked to  
 11 look at the cost of replacing the tree?  
 12 A. Uh-huh.  
 13 Q. That's a yes?  
 14 A. Yes.  
 15 Q. Were you asked to do anything else?  
 16 A. I was asked to prepare a report  
 17 based on what I found.  
 18 Q. Okay.  
 19 A. The normal response.  
 20 Q. Okay. And, again, what you found  
 21 with respect to valuation of the tree?  
 22 A. Right.  
 23 Q. Now, what did Dr. Paquelet give  
 24 you? We have already talked about two of these  
 25 diagrams, and I will say for the record they

Page 58

1 were Exhibits C and D. What else did he give  
 2 you to work with?  
 3 A. He gave me these photographs, he  
 4 gave me this document.  
 5 Q. Wait a minute, so we have a record,  
 6 what's "this document"?  
 7 A. That is my bill.  
 8 Q. Wait a minute. Right now I'm  
 9 talking about when he first hired you and  
 10 before you wrote your report, what did he give  
 11 you?  
 12 A. Okay. I'm sorry.  
 13 Q. That's all right. C and D, we know  
 14 that.  
 15 A. C and D.  
 16 Q. Okay. What else?  
 17 A. He gave me -- there's photographs  
 18 here I'm not finding. He gave me several  
 19 photographs.  
 20 Q. Is that part of your file or part  
 21 of his file? Now he is pushing them over --  
 22 so, but I need --  
 23 A. These are my files. That  
 24 photograph and that photograph.  
 25 Q. That's the one we have already

Page 59

1 marked?  
 2 A. And that photograph.  
 3 Q. Okay.  
 4 A. And this. This is a normal growth  
 5 pattern of the beech tree in question.  
 6 Q. And these photographs you have  
 7 already sent into the PUCO or they are attached  
 8 to your report or your testimony, right?  
 9 A. Yes.  
 10 Q. Let me make sure they both are.  
 11 Just so we have got it tied up here and on your  
 12 report, and I have numbered the pages in your  
 13 testimony, pages 5 and 6 you have some photos.  
 14 Do you see those?  
 15 A. Yes.  
 16 Q. But I don't see that, one of the  
 17 photos is included in the report and that would  
 18 be the photo on the left, that is not included  
 19 in your report, correct?  
 20 A. This is the first one. You mean  
 21 this picture?  
 22 Q. Right.  
 23 A. I didn't think it would be  
 24 necessary for the case.  
 25 Q. But you did review the photo?

Page 60

1 A. Right.  
 2 Q. What I'm going to do is I want to  
 3 mark this as an exhibit, but I don't want to  
 4 take away your only photo, so we will, on the  
 5 break, make a copy and you can put that in.  
 6 A. Okay.  
 7 Q. But actually, we better take the  
 8 break now because I want to ask you questions  
 9 about it.  
 10 (Recess taken.)  
 11 - - - - -  
 12 (Thereupon, Deposition Exhibit J,  
 13 Copy of Photograph with Labels, was  
 14 marked for purposes of  
 15 identification.)  
 16 - - - - -  
 17 MS. HASBROOK: Back on the record.  
 18 Q. On the break I had the opportunity  
 19 to review your file that you brought in  
 20 connection with the list of documents that we  
 21 asked you to bring and I thank you for doing  
 22 that. I just want to cover -- make sure there  
 23 is nothing that you didn't bring that is part  
 24 of your file.  
 25 A. Yes.

Page 61

1 Q. Now, before the break we were  
 2 looking at Defendant's Exhibit J, which this is  
 3 a black and white copy that we are going to  
 4 include in the transcript of the color photos  
 5 that you got from Dr. Paquelet. Do you know  
 6 when these photos were taken?  
 7 A. No.  
 8 Q. And so this tree trimming actually  
 9 took place in February of 2002. Do you even  
 10 know if the pictures were taken that winter?  
 11 DR. PAQUELET: 2010.  
 12 MS. HASBROOK: I'm sorry. 2010.  
 13 A. I don't know if they were taken  
 14 that winter or not.  
 15 Q. We were looking at the photo that  
 16 would be to the left of Exhibit J, and you have  
 17 in front of you your testimony which we have  
 18 marked as Defendant's Exhibit I. And we were  
 19 noting that that photo, the one on the left, is  
 20 not included in your testimony?  
 21 A. No. That's photo number 1, shows  
 22 the total lack of drop crotch pruning.  
 23 Q. Now look at your testimony. First  
 24 of all, you are reading right now from your  
 25 report, so we know what you got on the record.

Page 62

1 Your report is Exhibit H. I'm asking you to  
 2 focus on your testimony. The testimony that  
 3 you filed with the comission, Exhibit I.  
 4 A. Okay.  
 5 Q. In this testimony, you have several  
 6 of the photos incorporated within your  
 7 testimony. Let's go to those pages. And they  
 8 are actually numbered, which will make it easy.  
 9 The photos are in CP 0006 and CP 0007, right?  
 10 A. Uh-huh.  
 11 Q. Now, the photo on the left, Exhibit  
 12 J, the same photo that you said that you  
 13 referred to where you read to me where you  
 14 referred to it in your report is not in your  
 15 transcript of your testimony to the PUCO,  
 16 correct?  
 17 A. Correct.  
 18 Q. Why isn't that photo included?  
 19 A. I must have missed it.  
 20 Q. That photo, and I'm still referring  
 21 to the one on the left, Exhibit J, what does  
 22 that photo show us?  
 23 A. It shows many, many, many pruning  
 24 cuts that were made improperly with huge stubs  
 25 being left in the tree.

Page 63

1 Q. When you say "improperly," this is  
 2 pursuant to your own personal opinion?  
 3 A. Correct.  
 4 Q. What am I seeing in the one to the  
 5 right, which we are going to call, I guess you  
 6 labeled that one photo number 2?  
 7 A. Yes.  
 8 Q. What is that showing us?  
 9 A. That's the final topping cut of the  
 10 tree where they just cut the entire top out of  
 11 the tree to get their clearance.  
 12 Q. Do you know --  
 13 A. With no -- you could see that has  
 14 been -- that what I talked about is the -- when  
 15 you do directional pruning, you are supposed to  
 16 have at least 25 percent of the branch left  
 17 based on the size of the trunk and that's a,  
 18 probably a six-inch trunk there and the  
 19 branches left there are less than two inches.  
 20 Q. When you say they are probably less  
 21 than two inches, you are just looking at  
 22 your -- you are just looking at a picture in  
 23 order to determine that, right?  
 24 A. Yes.  
 25 Q. Let's look at your report, Exhibit

Page 64

1 H. Now, Exhibit H, you say down on the bottom  
 2 of the first page, it's the third from the last  
 3 sentence, approximately, "A side branch cannot  
 4 be cut more than 33 percent of the main cut."  
 5 A. Yes.  
 6 Q. Didn't you just say a minute ago 25  
 7 percent?  
 8 A. I was just trying to recall from  
 9 memory, but it's 33 percent.  
 10 Q. Thirty-three percent according to  
 11 what?  
 12 A. According to the ANSI standards.  
 13 Q. What ANSI standards?  
 14 A. ANSI 300 standards.  
 15 Q. What section?  
 16 A. Section 9.  
 17 Q. Could you pull out Section 9 that  
 18 we just looked at here and show me where it  
 19 says that. If you have got the ANSI standard,  
 20 the whole thing, you are certainly able to look  
 21 at that if you want. Here is Section 9,  
 22 Utility Pruning, and the question on the table  
 23 is show me the section in Section 9, ANSI  
 24 standard 300 that says a side branch cannot be  
 25 cut more than 33 percent of the main cut.

Page 65

1 Just so we don't waste a lot of  
 2 time, we are talking about ANSI 300. That's  
 3 not what you are looking at right now. So I  
 4 just want to be sure we are clear because you  
 5 are looking at a different document?  
 6 A. This is the ANSI 300 standard for  
 7 utility pruning of trees.  
 8 Q. I see, my mistake. I'm sorry. But  
 9 this is -- no, it's not my mistake. This is a  
 10 special companion publication to the ANSI 300.  
 11 This is the best management practices that is  
 12 published by ISA, correct?  
 13 A. Correct.  
 14 Q. I am not talking about a  
 15 publication that the ISA did. The question is  
 16 in ANSI 300, Section 9, you said that it says  
 17 what you have written in your report. You have  
 18 the ANSI 300 in front of you and I want you to  
 19 find that for me.  
 20 A. It must not be in this section.  
 21 Q. Okay. Now, on your -- I would like  
 22 you to look at your testimony. No. I keep  
 23 getting them mixed up here. Your report, which  
 24 is Exhibit H. That same sentence that we were  
 25 just reading, "A side branch cannot be cut more

<p style="text-align: right;">Page 66</p> <p>1 than 33 percent of the main cut and these are 2 all 50 to 80 percent." 3 Don't you want the side branch to 4 be at least 33 percent or more of the main cut? 5 I mean, isn't that the goal? 6 A. No. You are doing your math 7 backwards. 8 Q. Okay. 9 A. The idea is to leave more branch, 10 not less branch. 80 percent of the branches 11 were cut. 12 Q. Well, you are not saying how many 13 of the branches were cut, you are saying a side 14 branch cannot be cut more than 33 percent, you 15 are talking about diameter, aren't you? 16 A. Yes. 17 Q. So it can't be more than 33 percent 18 of what, the main? 19 A. Right. So if this is eight inches, 20 you can't have more than two-and-a-half inches 21 of side branch. 22 Q. Okay. 23 A. It should be bigger than 24 two-and-a-half inches. 25 Q. I see. So you would want the</p>	<p style="text-align: right;">Page 68</p> <p>1 Q. Upon what did you base your 2 statement that there has to be no more than 3 four feet of clearance between the tree and the 4 primary conductor? 5 A. Based on the FirstEnergy's 6 vegetation management guide specifications. 7 Q. Let's look at those. You have got 8 your own in front of you, but we will go ahead 9 and mark it here. 10 A. Yes. 11 - - - - - 12 (Thereupon, Deposition Exhibit K, 13 FirstEnergy Vegetation Management 14 Specifications, was marked for 15 purposes of identification.) 16 - - - - - 17 Q. We have marked the specifications 18 and guidelines that you are referring to as 19 Exhibit K, correct? 20 A. Yes. 21 Q. I do notice that, at least in the 22 information you gave us, you gave us a 2003 23 revision, this is a 2007 revision? 24 A. Okay. 25 Q. So we will talk about what you base</p>
<p style="text-align: right;">Page 67</p> <p>1 percentage to be less than 33 percent? 2 A. Yes. 3 Q. Okay. That's your point there. 4 All right. 5 Now, in your testimony, which I 6 think we have that in front of you, too -- 7 let's get that in front of you because I'm 8 going to compare your testimony with your 9 report. G. Do you see your testimony, right 10 here, I? H and I. 11 A. Okay. 12 Q. You got those two in front of you. 13 The testimony on page 3, you say that, towards 14 the bottom, "Irregardless of the size or 15 location of the tree, there should be no more 16 than four feet of clearance between the tree 17 and the primary conductors." 18 Do you see that? 19 A. Uh-huh. 20 Q. Now, you did not offer that opinion 21 anywhere in your report which we have marked as 22 Exhibit H, did you? 23 A. No. 24 Q. Why not? 25 A. Must have slipped my mind.</p>	<p style="text-align: right;">Page 69</p> <p>1 it on and look in this revision and see if it's 2 different. But first of all, you used the 2003 3 revision, right? 4 A. Correct. 5 Q. What section, then, did you refer 6 to? 7 A. I referred to distribution clearing 8 zone, page 11 on this document. 9 Q. All right. 10 A. "The degree and type of tree 11 clearance required for electric lines to 12 function effectively is dependent on the 13 voltage of the conductor, the type of tree, its 14 growth rate, branching habit. Distribution 15 clearing zone is defined as a corridor measured 16 at a distance of 15 feet on either side of the 17 pole line or to the established large tree 18 edge, whichever is greater in width. 19 "Emphasis is to be placed on 20 controlling all incompatible vegetation within 21 this clearing zone. All incompatible 22 vegetation overhanging the clearing zone 23 corridor shall be pruned back to the main stem. 24 In cases where incompatible vegetation is not 25 controlled, such as maintained lawn areas,</p>

Page 70

1 vegetation shall be pruned following  
 2 directional pruning methods and is further  
 3 defined in the current ANSI 300 standards.  
 4 "Pruning shall be done in such  
 5 manner as to achieve minimum of four years  
 6 clearance from FirstEnergy's primary conductors  
 7 based on tree species and growing conditions.  
 8 In cases where four years of clearance is  
 9 unattainable, 12 feet of clearance shall be  
 10 achieved.  
 11 "Regardless of tree species,  
 12 structures or fuses or disconnects must have  
 13 all the vegetation cleared within an eight-foot  
 14 radius of the fuse, disconnect side of the  
 15 structure."  
 16 Q. Okay. I realize you just read me  
 17 the section on the distribution clearing zone,  
 18 page 11.  
 19 A. Yes.  
 20 Q. But I want to be sure you knew the  
 21 question. The question is upon what did you  
 22 base your statement that irregardless of the  
 23 size or location of the tree, there should be  
 24 no more than four feet of clearance between the  
 25 tree and the primary conductors, because what

Page 71

1 you just read me says 15 feet on either side of  
 2 the pole line. Do you see that on the top  
 3 sentence of the paragraph?  
 4 A. No. Where is that? Which page?  
 5 Q. Go to page 11, right where you were  
 6 just reading. The vegetation -- go to the  
 7 vegetation management plan. Are you looking  
 8 right now from where you testified to it? I  
 9 just want to help you find what you are looking  
 10 for.  
 11 A. Yes.  
 12 Q. At the bottom on page 3, do you see  
 13 that?  
 14 A. Okay. Yes.  
 15 Q. All right. See, I thought you knew  
 16 what I was talking about because you have  
 17 already answered my question once, but if you  
 18 weren't clear on my question, then let's go  
 19 through it again.  
 20 A. Okay.  
 21 Q. The question is on the bottom of  
 22 page 3, you made the statement, "Irregardless  
 23 of the size or location of the tree, there  
 24 should be no more than four feet of clearance  
 25 between the tree and the primary conductors."

Page 72

1 The question that I believe you  
 2 were answering a minute ago where you read me  
 3 that long excerpt, the question is where did  
 4 you find the fact that there should be no more  
 5 than four feet of clearance between the tree  
 6 and the primary conductors, what do you base  
 7 that on?  
 8 A. I'm not sure where I was coming  
 9 from with that comment.  
 10 Q. Okay.  
 11 A. I have no idea.  
 12 Q. Then looking at what you read, the  
 13 part of the FirstEnergy Vegetation Management  
 14 Plan, which was page 11, and let's just make  
 15 sure, I believe it's identical in what I have  
 16 marked which is the 2007 version. We don't  
 17 have to spend a lot of time with it, but they  
 18 are really very similar.  
 19 The 2007 version, and you can  
 20 compare it against yours, actually says, and  
 21 I'm reading right where you read, "The  
 22 distribution clearing zone is defined as a  
 23 corridor measured at a distance of 15 feet on  
 24 either side of the pole line or the established  
 25 large tree edge, whichever is greater in

Page 73

1 width," right?  
 2 A. Right.  
 3 Q. So it doesn't say four feet?  
 4 A. No.  
 5 Q. It says 15 feet.  
 6 A. Right.  
 7 Q. Right. Now, when you said in this  
 8 case there is at least 12 feet of clearance  
 9 between the tree and the ground line and 19  
 10 between the tree and the hotline, you are not  
 11 going by measurements you made yourself.  
 12 A. No.  
 13 Q. You are going off of what  
 14 Dr. Paquelet told you?  
 15 A. Yes.  
 16 Q. And what he gave you on Defendant's  
 17 Exhibit D, right?  
 18 A. Correct.  
 19 Q. Okay. So if we turn the page then  
 20 in your testimony, this information about the  
 21 Ohio Edison did an emergency repair and cut off  
 22 the crossbar and everything up at the top of  
 23 your testimony on page 4 --  
 24 A. Yes.  
 25 Q. -- that's all things that

Page 74

1 Dr. Paquelet told you, right?

2 A. Yes.

3 Q. And you have not taken any steps in

4 order to try to corroborate or verify any of

5 that, have you?

6 A. Correct.

7 Q. Now, upon what do you base your

8 conclusion that the crew pruning the tree used

9 the lower ground as a reference for their

10 pruning to remove enough foliage to attain a

11 12-foot zone of clearance?

12 A. Just based on his comment to me.

13 Q. Okay.

14 A. Based on his measurement.

15 Q. And down just, the next question

16 and answer, down under kind of the middle of

17 the page when you say, "The trunk of the tree

18 is 11 foot from the pole," that's what we

19 talked about before where you were first told

20 and we see on that map that it was 8 and it was

21 corrected and now you say that it's 11, right?

22 A. Correct.

23 Q. Now, going down on page 4, upon

24 what do you base your conclusion that, when you

25 are asked, "Did the Ohio Edison Company comply

Page 75

1 with this standard?" And you were specifically

2 asked about ANSI 300 standard that we have been

3 talking about today --

4 A. Right.

5 Q. -- and you said, "No. The drop

6 crotch method was not used and the tree was

7 severely topped."

8 A. Yes.

9 Q. Can you find in ANSI standard 300

10 where it says that the drop crotch method

11 cannot be used and a tree cannot be severely

12 topped in order to achieve the purposes and

13 directives of the standard?

14 A. Yes.

15 Q. Okay.

16 A. 3.3.1.1.5. "Tree branches shall be

17 removed in such" -- I'm sorry. "Tree branches

18 shall be removed in such a manner so as not to

19 cause damage to other parts of the tree or

20 other plants or property. Branches too large

21 to support with one hand shall be precut to

22 avoid splitting the wood or tearing the bark.

23 When necessary, ropes or other equipment shall

24 be used to lower branches or portions of the

25 branches to the ground."

Page 76

1 Q. Okay. And this is what we have

2 already gone through in looking at that, under

3 that same section under 9.3 which overall deals

4 with utility crown reduction pruning, there is

5 also 9.3.1 which we talked about already, the

6 pruning cuts should be made in accordance with

7 subclause 5.3. It's all on the same section,

8 right?

9 A. Yes. But this says "shall."

10 Q. That's right.

11 A. This says "shall."

12 Q. That says "shall." All right. No.

13 I don't see in here what you say, which is,

14 "The drop crotch method was not used and the

15 tree was severely topped." That's what you are

16 saying that the company did wrong.

17 A. It did not use the drop crotch

18 method.

19 Q. I don't see the word drop crotch in

20 9.3.1.5, do you?

21 A. 9.3 describes proper pruning cuts.

22 It takes into account -- whether it's called

23 drop crotch pruning or topping cuts or

24 pollarding cuts, it's still a practice that's

25 totally discredited in the industry.

Page 77

1 Q. The question is just one of

2 semantics. I don't see the word "drop crotch"

3 or "rounding" or "topping" in 9.3.1.1.5; those

4 terms are not specifically in that section.

5 A. No, it's not. That's because they

6 are trying to put it into legalese that does

7 not fit with normal vernacular and it's just to

8 make people more confused, but that's what it's

9 talking about.

10 Q. Now, going to your report, and now

11 I'm after the pictures, I'm on Bates page CP

12 0008. You are asked specifically if you

13 reviewed the photos of the tree and the

14 question is taken shortly after pruning by Ohio

15 Edison, but you don't really know what month

16 those were taken, do you?

17 A. Nope.

18 Q. You say that the photos show the

19 beech was topped at 16 feet. What photo shows

20 you specifically that the beech was topped at

21 16 feet?

22 A. Photo number 2. The top of the

23 tree is right there. That's the very, very,

24 very, very top, yes.

25 Q. I can see the tree. I'm

Page 78

1 specifically asking about 16 feet. How do you  
 2 know that that distance is 16 feet?  
 3 A. Dr. Paquelet measured it.  
 4 Q. You are relying on Dr. Paquelet  
 5 then for that?  
 6 A. Yes.  
 7 Q. Where in your documents is that  
 8 measurement?  
 9 A. It's -- I'm not sure. I don't  
 10 recall where it is.  
 11 Q. Then how do you know as you sit  
 12 here today that that's based upon  
 13 Dr. Paquelet's measurement?  
 14 A. Because he told me it was at 16  
 15 feet from day one.  
 16 Q. So there is nothing written?  
 17 A. I don't think there is anything  
 18 written.  
 19 Q. And unlike some of these diagrams  
 20 wherein things were memorialized in Exhibit C  
 21 and D --  
 22 A. Right.  
 23 Q. -- that statement of the 16 feet is  
 24 not memorialized in your file?  
 25 A. No.

Page 79

1 Q. And the central trunk or leader at  
 2 eight feet, is that also not memorialized  
 3 anywhere?  
 4 A. No.  
 5 Q. And he just told you that in a  
 6 telephone conversation, right?  
 7 A. Correct.  
 8 Q. How do you know that the logs were  
 9 too large to be chipped placed at the base of  
 10 the tree?  
 11 A. Because I have been in the tree  
 12 business for 30 years and I know what diameter  
 13 wood normally, crews normally chip and it's  
 14 much smaller than that.  
 15 Q. Show me the picture of the logs  
 16 that you are basing your observation on. And  
 17 if we go to your testimony, that is included in  
 18 your testimony. Let's look at your testimony.  
 19 Flip your testimony over one page. So you are  
 20 looking at --  
 21 A. That's 7.  
 22 Q. -- CP 0007. That photograph, you  
 23 are telling me that you could tell by that  
 24 photograph with no perspective, nothing showing  
 25 a scale?

Page 80

1 A. There is a broom in there for  
 2 scale.  
 3 Q. How long is the broom?  
 4 A. My guess is five foot.  
 5 Q. You really don't even know how long  
 6 the scale item is for sure, do you?  
 7 A. No. Definitely not.  
 8 Q. But that gave you enough  
 9 information to know that it couldn't be  
 10 chipped?  
 11 A. No. The fact that it was left  
 12 behind gave me the indication that it could not  
 13 be chipped.  
 14 Q. Then when you say further down,  
 15 "Those pieces lay end to end measure eight  
 16 feet." What pieces are you talking about  
 17 there?  
 18 A. The pieces with the broom in there,  
 19 the pieces with the broom.  
 20 Q. Are you going by the fact that  
 21 since that's a little bit longer than a  
 22 five-foot broom, it must be eight feet?  
 23 A. Yes.  
 24 Q. What is the point of this  
 25 testimony? I didn't understand this paragraph.

Page 81

1 What are you saying Ohio Edison should have  
 2 done here?  
 3 A. Done a better job of cleanup.  
 4 Q. Okay. Did you put a dollar value  
 5 to that?  
 6 A. No.  
 7 Q. I noticed in your report which we  
 8 have marked as Exhibit H you give an opinion as  
 9 to the basic value of the tree being \$2,168 and  
 10 then you talk about your calculations and then  
 11 you come up with the total value of \$2,200.  
 12 A. Correct.  
 13 Q. I did not see that in your  
 14 testimony that you submitted to the PUCO. It's  
 15 not there, is it?  
 16 A. I'm not sure what you are saying.  
 17 Q. Well, why did you give us an  
 18 opinion in your report about the value of the  
 19 tree being a total of \$2,200, why isn't it in  
 20 your testimony? Why did you abandon that  
 21 opinion?  
 22 A. I didn't. I think I didn't think  
 23 there was any place for it.  
 24 Q. That may be the answer. My  
 25 question is why didn't you include it?

Page 82

1 A. Because there was no place for it.

2 Q. What do you mean there is no place?

3 A. There was no place asking for my

4 opinion of the value of the tree.

5 Q. So the questions were given to you

6 by Dr. Paquelet and he just didn't ask that

7 question.

8 A. Right.

9 Q. While we are talking about that

10 issue, I think you understand where the 2,200,

11 how the calculation works, but where did you

12 get the basic value of \$2,168? Was that on

13 like a chart of some kind?

14 A. Yes. That's from that green book

15 there, the guide to appraisal.

16 Q. And this book is fairly old, if I

17 recall. But is this the kind of thing -- it's

18 a copyright of 2000. Is this the kind of thing

19 that doesn't change much?

20 A. Right.

21 Q. And that's where you got the basis

22 from.

23 A. Yes.

24 Q. While we are talking about the

25 book, the guide for plant appraisal, there is

Page 83

1 some sections in here about conduct as an

2 expert witness.

3 A. Yes.

4 Q. Have you read those sections

5 before?

6 A. Oh, yeah.

7 Q. There is also plant appraisal

8 within easements and right-of-way, I assume you

9 read those sections?

10 A. Right.

11 Q. You will agree with me that where

12 there's rights-of-way and easements, whether

13 they are prescriptive or express or whatever

14 kind they are, it can affect, according to this

15 chapter, it can affect the value of the tree,

16 right?

17 A. Yes.

18 Q. Now, the cost of cleanup, you say,

19 and this is in your report, it's also not in

20 the testimony, are the cost of cleanup is \$450.

21 How did you arrive at that figure?

22 A. I have been doing tree work for 25

23 years, I know how much it costs for two men and

24 equipment to do three hours worth of work and.

25 Q. And you also assumed that this

Page 84

1 would take three hours worth of work?

2 A. Right.

3 Q. What cleaning up specifically?

4 A. Clean up the branches on the

5 ground, the logs that are left behind, the ruts

6 in their lawn, anything that needs to be

7 cleaned up.

8 Q. Do you know specifically that there

9 were ruts in the lawn?

10 A. No.

11 Q. And the branches that you know for

12 sure were there are in the upper picture.

13 Let's see, I think they are in your testimony.

14 They are at the bottom of number 2006 -- or

15 1006, right?

16 A. Right.

17 Q. Now, those look like they are maybe

18 three branches?

19 A. Yes.

20 Q. So you are saying that it would

21 take, for what you know is there, which is

22 three branches, it would take about three hours

23 to clean those up?

24 A. I'm assuming there is more debris

25 left behind than that.

Page 85

1 Q. On what do you base that

2 assumption?

3 A. Just conversations with

4 Dr. Paquelet.

5 Q. Did he tell you specifically that

6 there was debris and ruts?

7 A. No, not really.

8 Q. Do you know which voltage line this

9 was?

10 A. No.

11 Q. You talk in your testimony about

12 the growth rate on page 3 being expected to be

13 9 to 12 inches per year for this tree, right?

14 A. Yes.

15 Q. And that, would you agree with me,

16 is dependent on factors like climate, rainfall,

17 temperature, things like that?

18 A. Yes.

19 Q. Even the best arborist with

20 master's certification can't precisely predict

21 the amount of growth per species per year?

22 A. Right, but beeches grow much slower

23 than other trees.

24 Q. In providing your testimony in

25 connection with the case, you are not offering



Page 86

1 any disagreement with the clearance zone  
 2 distances that Ohio Edison has under its  
 3 specifications?  
 4 A. No.  
 5 Q. No, because you have no expertise  
 6 in that, right?  
 7 A. Correct.  
 8 Q. Upon what do you base your  
 9 conclusion that drop crotch pruning was not  
 10 accomplished here?  
 11 A. By looking at the photographs.  
 12 Q. And specifically?  
 13 A. Photo 1-A.  
 14 Q. And according to your report,  
 15 that's the one that's not in it?  
 16 A. Yes.  
 17 Q. I got it. Go ahead. I interrupted  
 18 you.  
 19 A. If you look at the page, there are  
 20 at least five cuts here that were cut back just  
 21 stubs instead of back to a qualified branch.  
 22 Q. Do you know if the company could  
 23 have gotten its required clearance by not doing  
 24 it that way?  
 25 A. No.

Page 87

1 Q. Is drop crotch and directional  
 2 pruning the same thing in your mind?  
 3 A. Yes.  
 4 Q. Is crown reduction also a standard  
 5 method of tree trimming?  
 6 A. Yes.  
 7 Q. In your opinion, was that done  
 8 here?  
 9 A. No.  
 10 Q. What do you base that on?  
 11 A. The fact that when they made this  
 12 cut, they left a huge stub with minimal side  
 13 branches.  
 14 Q. Okay. The specifications I believe  
 15 we marked right here on Exhibit K, we talked  
 16 about page 11, distribution clearing zone, and  
 17 I think we have discussed the 15 feet clearance  
 18 requirement. Is that the section of the  
 19 vegetation management plan that you believe  
 20 applies to this situation?  
 21 A. Yes.  
 22 Q. Now, there's also page 16, tree  
 23 pruning methods. It's just kind of more  
 24 general statements saying that all pruning,  
 25 both initial and re pruning, shall be done in

Page 88

1 accordance with modern arboricultural standards  
 2 using the ANSI 300 standards and amendments,  
 3 right?  
 4 A. Yes.  
 5 Q. Then it says, "Directional pruning  
 6 is the preferred method of line clearance  
 7 pruning," correct?  
 8 A. Yes.  
 9 Q. And then it follows with, "Whenever  
 10 possible, the contractor shall obtain clearance  
 11 in this manner," correct?  
 12 A. Correct.  
 13 Q. As I believe you answered before,  
 14 you are not offering an opinion, nor do you  
 15 know whether it was possible to get the  
 16 required clearances by using that method of  
 17 pruning?  
 18 A. Correct.  
 19 Q. Down at the very bottom of that  
 20 same page 16 it says, under the UVM policy, the  
 21 vegetation management policy, it says,  
 22 "Exception to drop crotch and directional  
 23 pruning techniques shall be used only when  
 24 indicated as being acceptable by the  
 25 FirstEnergy representatives." Do you see that?

Page 89

1 A. I see that.  
 2 Q. So that does allow the FirstEnergy  
 3 representative to make a decision that the  
 4 clearances can't be obtained using that kind of  
 5 method, correct?  
 6 A. Right.  
 7 Q. Now, the health of the tree. You  
 8 come out by saying on page 4 of your testimony,  
 9 I'm sorry, that the pruning can be expected to  
 10 lead to the death of the tree.  
 11 A. Correct.  
 12 Q. On what do you base that?  
 13 A. The fact that I have watched  
 14 thousands of beech die over the years after  
 15 being topped. It's totally, totally, totally  
 16 irresponsible practice.  
 17 Q. Do you know if the company had the  
 18 option or right to completely remove this tree  
 19 in this case because it was under the line?  
 20 A. I have no idea.  
 21 Q. How long would you expect this  
 22 tree, given what you have seen on the  
 23 photographs, because you have never actually  
 24 seen the tree, how long do you think it will  
 25 live?

Page 90

1 A. It's going to be dead within five  
2 years.  
3 Q. It is not dead now?  
4 A. No. It's not dead now.  
5 Q. Okay.  
6 A. It's much weaker now than it was a  
7 year ago.  
8 Q. Upon what do you base that on?  
9 A. On the branch that Dr. Paquelet  
10 brought me this year which showed the branch  
11 extension.  
12 Q. I don't believe you mentioned the  
13 branch when I asked you what you reviewed in  
14 connection with giving your report and your  
15 testimony.  
16 A. I'm sorry.  
17 Q. That's okay. You probably forgot,  
18 but tell me about that. When did you see the  
19 branch?  
20 A. Probably two months ago.  
21 Q. Okay. You need to do your best to  
22 remember on your own about two months ago.  
23 A. About two months ago.  
24 Q. After you wrote your report but  
25 before you responded to the testimony?

Page 91

1 A. Right.  
2 Q. How big was the branch?  
3 A. Six, eight feet.  
4 Q. And do you know where on the tree  
5 the branch came from?  
6 A. It came from one of the long ends  
7 of the sucker growth that was growing off.  
8 Q. How long before it was brought into  
9 your office was it cut?  
10 A. The same day.  
11 Q. What did you observe when you  
12 looked at that branch?  
13 A. That it has grown very little this  
14 year. In fact, I believe it's only about three  
15 or four inches, where last year it grew about  
16 eight or ten inches, and before that it grew  
17 basically four inches a year for the last ten  
18 years.  
19 Q. You can tell that from the one  
20 branch?  
21 A. Yes.  
22 Q. Tell me how you go about that.  
23 A. Let me show you the branch.  
24 Q. Okay.  
25 A. This thing is called branch bundle

Page 92

1 scars, leaf bundle scars. And you can see this  
2 is one year, a whole series of scars here that  
3 are bundles together, and then if you look last  
4 year, we had a huge rain event, too, so we got  
5 a lot of growth last year.  
6 Q. That would be from about here?  
7 A. That would be from here down to  
8 here.  
9 Q. Okay.  
10 A. And then we have, this is the year  
11 before that. This is the year before that.  
12 This is the year before that. This is the year  
13 before that. And this is the year before that.  
14 Q. So where would it be in 2010 -- I'm  
15 going to go back here. If this would be 2011,  
16 it would be right around here, wouldn't it?  
17 A. Yes.  
18 Q. Since it was cut by the company,  
19 this would be the growth in these areas.  
20 A. Right.  
21 Q. But it looks like, and for our  
22 record because none of this shows up, we have  
23 the actual branch in front of us that we are  
24 looking at that Dr. Paquelet brought in, and  
25 just to kind of quantify this, when you said

Page 93

1 there was a really good rain season, that was  
2 after the trimming was done by the company?  
3 A. Right.  
4 Q. And I want to estimate, and help me  
5 with this, how many inches would you say this  
6 growth is?  
7 A. That's probably eight inches.  
8 Q. That was after the trimming?  
9 A. Right.  
10 Q. And then the next year, which would  
11 be 2011.  
12 A. Right.  
13 Q. It's about five inches?  
14 A. Yes.  
15 Q. What do you think, knowing your  
16 experience, what do you think it will be this  
17 year?  
18 A. Probably half of that.  
19 Q. Okay.  
20 A. Every year it declines a little  
21 bit.  
22 Q. Before you walk away, and we can go  
23 back many years, there are other years where  
24 there was only, it looks like two inches?  
25 A. Right.

Page 94

1 Q. Why would that be, because it was  
2 dry?

3 A. Yeah. Just dry.

4 Q. From looking at the branch, you  
5 were able to tell that the tree wasn't dead?

6 A. No. It's definitely going sucker  
7 probably for 20 years, but the main trunk is  
8 what's dying.

9 Q. Upon what do you base your opinion  
10 that the tree could have been left to maturity  
11 with little or no pruning, posing no threat to  
12 the power lines?

13 A. Just based on the normal  
14 characteristics of a fastigate tree that it  
15 goes in a very, very tight column and it does  
16 not get wide and just the fact that it's very  
17 slow growing as well.

18 Q. That's on the tree end, but on the  
19 line end, you don't know what the definition of  
20 how close a tree can get before it is a threat,  
21 right?

22 A. Right.

23 Q. Do you know that voltage can arc,  
24 for example?

25 A. Oh, yeah.

Page 95

1 Q. And you don't know what the arc  
2 potential of this line would be?

3 A. No.

4 Q. So when you talk about a threat to  
5 the power line in the context you are using it  
6 at, are you talking about actual contact?

7 A. No, I'm just talking about  
8 clearance.

9 Q. Clearance of how many feet?

10 A. Whatever the utility needs. I'm  
11 not sure.

12 Q. We just read 15 feet?

13 A. Right. 15 feet is normal.

14 Q. Do you know if this tree was within  
15 15 feet of the power line before the  
16 company --

17 A. I have no idea.

18 Q. I'm almost done. I'm doing pretty  
19 good here.

20 I might have asked you this and I  
21 apologize. You are not offering any opinion on  
22 whether the company's specifications are  
23 correct within the utility industries for  
24 clearances?

25 A. No.

Page 96

1 Q. What I want to do now, and I think  
2 I'm done, I want to go through the documents we  
3 copied from your file.

4 - - - - -

5 (Thereupon, Deposition Exhibit L,  
6 Handwritten Notes, was marked for  
7 purposes of identification.)

8 - - - - -

9 Q. Showing you what we marked as  
10 Exhibit L. This was a single page and I don't  
11 know if it connected to another one or not.  
12 This is your handwriting, first of all,  
13 correct?

14 A. Correct.

15 Q. There is a series of numbers and  
16 then answers. Were you helping out with the  
17 interrogatory responses here?

18 A. Yes.

19 Q. Were these notes that you made and  
20 gave to Dr. Paquelet or --

21 A. No. I did the interrogatory. I  
22 prepared it.

23 Q. You answered them?

24 A. Yes.

25 - - - - -

Page 97

1 (Thereupon, Deposition Exhibit M,  
2 Proposal Dated 2/4/12, was marked  
3 for purposes of identification.)

4 - - - - -

5 Q. Showing you Exhibit M. This is a  
6 proposal that was in your file and it's dated  
7 February 4 of 2012. What is this?

8 A. This is my rates.

9 Q. Okay. Why did you write this out  
10 in 2012 after -- was it in connection with  
11 getting ready to do your report?

12 A. Yes.

13 Q. And does this refresh your  
14 recollection --

15 A. We didn't think it would be going  
16 this far, just a handshake kind of thing in the  
17 beginning.

18 Q. Does this, by chance, refresh your  
19 recollection of when you were contacted by  
20 Dr. Paquelet or do you still think it was right  
21 around the first of the year and this would  
22 have been prepared a little bit later?

23 A. Yes.

24 - - - - -

25 (Thereupon, Deposition Exhibit N,

Page 98

1 Interrogatory Responses, was marked  
2 for purposes of identification.)  
3 - - - - -  
4 Q. This one, I believe, should be near  
5 Exhibit L because it -- and maybe I'm wrong,  
6 but is this also interrogatory responses? And  
7 I'm showing you Exhibit N.  
8 A. Yes. Yes.  
9 Q. Okay. And you've got at the top  
10 there Dr. Paquelet, DY visit, what does that  
11 mean?  
12 A. I was going to visit him, but I  
13 never got the time to go see him.  
14 Q. You weren't saying in there that  
15 you were together in a visit when you were  
16 doing these?  
17 A. No. That was a note to myself to  
18 call up and set up a visit, but that just  
19 didn't happen.  
20 - - - - -  
21 (Thereupon, Deposition Exhibit O,  
22 Rough Draft of Douglas Yates'  
23 Report, was marked for purposes of  
24 identification.)  
25 - - - - -

Page 99

1 Q. Showing you what we have got marked  
2 Defendant's Exhibit O. These were also notes  
3 from your file, correct?  
4 A. Correct.  
5 Q. And tell me what that says?  
6 A. This is the rough draft of my  
7 report.  
8 Q. You have, up at the top, a series  
9 of numbers, 8, 5, 9, 8, 2005. Do you know what  
10 that means?  
11 A. No idea.  
12 Q. How about next to it, 3 to 5,000?  
13 A. That was a note I wrote to myself.  
14 When I do appraisals, I always guess in my head  
15 before I go through the formula what it's going  
16 to be. And I was assuming it was going to be  
17 between 3 and 5,000.  
18 Q. What did you base that on? Just by  
19 knowing what kind of tree it was?  
20 A. Just by doing hundreds and hundreds  
21 of appraisals.  
22 Q. When did you write this out in  
23 connection with when you authored the report?  
24 We know the report I think was February 7.  
25 A. Probably two weeks later.

Page 100

1 Q. Two weeks earlier?  
2 A. Yeah.  
3 - - - - -  
4 (Thereupon, Deposition Exhibit P,  
5 Letter Dated October 16, 2011, was  
6 marked for purposes of  
7 identification.)  
8 - - - - -  
9 Q. And Exhibit P, what is that?  
10 A. That's a letter that my boss, Bill  
11 Hendricks, sent to Dr. Paquelet asking him to  
12 basically be the expert witness on this case.  
13 Q. It's the other way around, right,  
14 Dr. Paquelet sent it to Bill?  
15 A. Right.  
16 Q. Bill decided not to do it and gave  
17 you the assignment?  
18 A. Right. Bill is not qualified to do  
19 it. He is a very good plants man, but not an  
20 arborist.  
21 Q. Do you see up there on the upper  
22 left we have got 3 to 5K on the upper left  
23 corner of that?  
24 A. Uh-huh.  
25 Q. That's your writing?

Page 101

1 A. That's my writing.  
2 Q. So already October 16 of 2011  
3 before you had reviewed anything at all, you  
4 already had an opinion that the damages would  
5 be 3 to \$5,000?  
6 A. Yes.  
7 Q. What's that other eight feet by  
8 something?  
9 A. Eight inch diameter.  
10 Q. Oh. I see. Eight inch by.  
11 A. Eight inch diameter.  
12 Q. What is that here?  
13 A. It looks like notes.  
14 Q. So does this refresh your  
15 recollection that you may have started working  
16 on this as early as October of 2011 rather than  
17 January of 2012?  
18 A. Yes. That does.  
19 Q. Did you ever take any effort in  
20 order to verify any of that suspicion that  
21 Dr. Paquelet gave you suspecting, second to the  
22 last paragraph, that the crew that pruned his  
23 trees used the lower wire as a guide and  
24 achieved clearance of 12 feet?  
25 A. No.

Page 102

1 Q. That very opinion of Dr. Paquelet  
2 also made it into your testimony before the  
3 PUCO, didn't it?  
4 A. Yes.  
5 Q. So really what you are doing is  
6 just restating what was Dr. Paquelet's opinion  
7 there?  
8 A. Correct.  
9 Q. You didn't make that clear, but to  
10 the PUCO, you told the PUCO, you are telling  
11 them it's your opinion, right?  
12 A. Okay.  
13 Q. Correct?  
14 A. Yes.  
15 Q. That really isn't --  
16 A. That isn't my opinion.  
17 Q. Fair enough. Okay. Did you ever  
18 have meetings with Dr. Paquelet?  
19 A. Yes.  
20 Q. Were they here at the nursery?  
21 A. Yes.  
22 Q. How many meetings?  
23 A. Two or three.  
24 Q. You have to go by your own  
25 recollection. He is doing really good.

Page 103

1 A. Three, I believe.  
2 Q. And is Dr. Paquelet a customer of  
3 this nursery?  
4 A. Yes.  
5 Q. And do you know how much money per  
6 year he spends here?  
7 A. No.  
8 Q. Do you know how long he has been a  
9 customer?  
10 A. About 20 years.  
11 Q. Tell me Bill's last name again?  
12 A. Hendricks, H-E-N-D-R-I-C-K-S.  
13 Q. Did you ever speak to Bill  
14 Hendricks about your opinions or consult with  
15 him once he handed this off to you?  
16 A. No. I'm very clear about those.  
17 Q. Okay. You want to keep your job?  
18 A. Yes.  
19 Q. Give me a moment off the record to  
20 go through my outline and I think we are about  
21 done.  
22 (Off the record.)  
23 - - - - -  
24 (Thereupon, Deposition Exhibit Q,  
25 Best Management Practices for

Page 104

1 Utility Pruning of Trees, was marked  
2 for purposes of identification.)  
3 - - - - -  
4 Q. I'm going to show you Exhibit Q,  
5 and I know that this is also in your file and  
6 we had briefly alluded to it before, but I want  
7 to ask you a couple questions.  
8 A. Uh-huh.  
9 Q. What's Exhibit Q?  
10 A. It's Best Management Practices for  
11 Utility Pruning of Trees.  
12 Q. And what organization printed this?  
13 A. This is printed by the ISA.  
14 Q. All right. And this is printed to  
15 be a companion or an explanation, if you will,  
16 for ANSI A300, correct?  
17 A. Correct.  
18 Q. Now, focusing on this guideline, I  
19 am after the introduction, the next page,  
20 purpose of utility facility pruning?  
21 A. Uh-huh.  
22 Q. Did you rely on this in forming  
23 your opinions?  
24 A. Yes.  
25 Q. And it says in that second

Page 105

1 paragraph that in some areas, government  
2 authorities have adopted performance standard  
3 such as mandatory minimum clearances between  
4 conductors and vegetation. The question I have  
5 is do you know if that is the case in Ohio?  
6 A. No, I don't know.  
7 Q. It makes a point that the purposes  
8 of, then going in the next paragraph, utility  
9 pruning operations should remove only those  
10 branches necessary to ensure the effective  
11 intended use of the utility space, correct?  
12 A. Correct.  
13 Q. And that's what we have talked  
14 about where before, you don't know what that  
15 utility space, what that distance is, correct?  
16 A. Correct.  
17 Q. It also states at the last sentence  
18 there that at the same time, any adequate  
19 clearance could result in service  
20 interruptions, damage to infrastructure and  
21 safety hazard. You don't disagree with that,  
22 right?  
23 A. No.  
24 Q. Now, under Utility Pruning, which I  
25 believe is the next page, Utility Pruning, it

Page 106

1 says, "Utility pruning is often perceived  
2 differently from other types of pruning."  
3 And then it looks like some words  
4 are missing. Something, something, "the  
5 objectives are different." Do you agree with  
6 that?  
7 A. Yes.  
8 Q. And then finally, under Pruning  
9 Method, which is just a couple of pages back,  
10 Pruning Method, according to this, this  
11 publication, the best management practices  
12 here, it states in that first paragraph, "There  
13 could be many acceptable approaches. While  
14 every effort should be made to minimize injury  
15 to trees, however, utility pruning operations  
16 must achieve required clearance objectives."  
17 It says that, right?  
18 A. Yes.  
19 Q. You don't disagree with that  
20 either?  
21 A. No.  
22 Q. One more sentence. "Achieving the  
23 required objectives may require considerable  
24 change in the appearance of the tree; however,  
25 the visual impact of utility pruning will be

Page 107

1 softened as the tree responds to new growth."  
2 Now, here you will agree with me  
3 there was considerable change to the tree.  
4 A. Right.  
5 Q. That's really why we are here.  
6 A. Okay.  
7 Q. Okay. Did you include this in your  
8 file because you agree with this publication?  
9 A. Yes.  
10 Q. All right. So this is kind of  
11 leaving me then with the question of what is  
12 your opinion, your opinion, not an opinion that  
13 others gave you, what is your opinion as to  
14 what Ohio Edison did wrong here?  
15 A. What they did wrong was make the  
16 cuts wrong on the tree, improper cuts.  
17 Q. Improper in that they cut the side  
18 branches too far?  
19 A. The side branches and the top are  
20 way too big for the branches that are left.  
21 Q. I got it. But you don't know if  
22 they could have done it any other way and  
23 achieved the required clearances?  
24 A. No.  
25 Q. Do you hold any other opinions so

Page 108

1 we can talk more? That's it?  
2 A. That's it.  
3 Q. That's all I have. Now, we have  
4 the opportunity to discuss signature and I know  
5 you are aware of that, but again, I will put it  
6 on the record. You have a chance to read this  
7 over. We are going to request the transcript  
8 to be done by Monday, so you would have to kind  
9 of hurry it up before Thursday. Or you can  
10 waive that right. It doesn't matter to me.  
11 You need to tell us what you want to do.  
12 A. I need to see it.  
13 (The deposition concluded at 12:10 p.m.)  
14 -----  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

Page 109

1 Whereupon, counsel was requested to give  
2 instruction regarding the witness's review of  
3 the transcript pursuant to the Civil Rules.  
4  
5 SIGNATURE:  
6 Transcript review was requested pursuant to the  
7 applicable Rules of Civil Procedure.  
8  
9 TRANSCRIPT DELIVERY:  
10 Counsel was requested to give instruction  
11 regarding delivery date of transcript.  
12 MS. HASBROOK: Original.  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

Page 110

1           **REPORTER'S CERTIFICATE**

2   The State of Ohio, )

3                   SS:

4   County of Cuyahoga. )

5

6           I, Eva Petrone, a Notary Public

7   within and for the State of Ohio, duly

8   commissioned and qualified, do hereby certify

9   that the within named witness, DOUGLAS YATES,

10   was by me first duly sworn to testify the

11   truth, the whole truth and nothing but the

12   truth in the cause aforesaid; that the

13   testimony then given by the above-referenced

14   witness was by me reduced to stenotypy in the

15   presence of said witness; afterwards

16   transcribed, and that the foregoing is a true

17   and correct transcription of the testimony so

18   given by the above-referenced witness.

19           I do further certify that this

20   deposition was taken at the time and place in

21   the foregoing caption specified and was

22   completed without adjournment.

23

24

25

Page 111

1           I do further certify that I am not

2   a relative, counsel or attorney for either

3   party, or otherwise interested in the event of

4   this action.

5           IN WITNESS WHEREOF, I have hereunto

6   set my hand and affixed my seal of office at

7   Cleveland, Ohio, on this \_\_\_\_\_ day of

8   \_\_\_\_\_, 2012.

9

10

11

12

13

14           \_\_\_\_\_  
Eva Petrone, Notary Public

15           within and for the State of Ohio

16

17   My commission expires February 1, 2013.

18

19

20

21

22

23

24

25

Page 112

1           **DEPOSITION REVIEW**

2           **CERTIFICATION OF WITNESS**

3           ASSIGNMENT NO. 1502795

4           CASE NAME: Paquelet, Charles v. Ohio Edison Company

5           DATE OF DEPOSITION: 6/4/2012

6           WITNESS' NAME: Douglas Yates

7   In accordance with the Rules of Civil Procedure,

8   I have read the entire transcript of my testimony or it

9   has been read to me.

10   I have made no changes to the testimony as

11   transcribed by the court reporter.

12

13

14           \_\_\_\_\_  
Date                   Douglas Yates

15

16   Sworn to and subscribed before me, a Notary Public in

17   and for the State and County, the referenced witness did

18   personally appear and acknowledge that:

19

20           They have read the transcript;

21           They signed the foregoing sworn Statement; and

22           Their execution of this Statement is of their free

23           act and deed.

24

25   I have affixed my name and official seal this \_\_\_\_\_

          day of \_\_\_\_\_, 20\_\_\_\_.

          \_\_\_\_\_  
Notary Public

          \_\_\_\_\_  
Commission Expiration Date

Page 113

1           **DEPOSITION REVIEW**

2           **CERTIFICATION OF WITNESS**

3           ASSIGNMENT NO. 1502795

4           CASE NAME: Paquelet, Charles v. Ohio Edison Company

5           DATE OF DEPOSITION: 6/4/2012

6           WITNESS' NAME: Douglas Yates

7   In accordance with the Rules of Civil Procedure,

8   I have read the entire transcript of my testimony or it

9   has been read to me.

10   I have listed my changes on the attached Errata

11   Sheet, listing page and line numbers as well as the reason(s)

12   for the change(s).

13   I request that these changes be entered as part of the

14   record of my testimony.

15   I have executed the Errata Sheet, as well as this

16   Certificate, and request and authorize that both be appended

17   to the transcript of my testimony and be incorporated therein.

18

19

20           \_\_\_\_\_  
Date                   Douglas Yates

21

22   Sworn to and subscribed before me, a Notary Public in

23   and for the State and County, the referenced witness did

24   personally appear and acknowledge that:

25           They have read the transcript;

          They have listed all of their corrections in the

          appended Errata Sheet

          They signed the foregoing sworn Statement; and

          Their execution of this Statement is of their free

          act and deed.

          I have affixed my name and official seal this \_\_\_\_\_

          day of \_\_\_\_\_, 20\_\_\_\_.

          \_\_\_\_\_  
Notary Public

          \_\_\_\_\_  
Commission Expiration Date

1           ERRATA SHEET  
 2       RENNILLO DEPOSITION & DISCOVERY - A VERITEXT COMPANY  
 3           ASSIGNMENT NO. 1502795  
 4       PAGE/LINE(S) /       CHANGE       / REASON  
 5       \_\_\_\_\_  
 6       \_\_\_\_\_  
 7       \_\_\_\_\_  
 8       \_\_\_\_\_  
 9       \_\_\_\_\_  
 10       \_\_\_\_\_  
 11       \_\_\_\_\_  
 12       \_\_\_\_\_  
 13       \_\_\_\_\_  
 14       \_\_\_\_\_  
 15       \_\_\_\_\_  
 16       \_\_\_\_\_  
 17       \_\_\_\_\_  
 18       \_\_\_\_\_  
 19       \_\_\_\_\_  
 20       Date               Douglas Yates  
 21       SUBSCRIBED AND SWORN TO BEFORE ME THIS \_\_\_\_ DAY OF  
 22       \_\_\_\_\_, 20 \_\_\_\_  
 23       \_\_\_\_\_  
 24               NOTARY PUBLIC  
 25       \_\_\_\_\_  
      Commission Expiration Date



<b>&amp;</b>	<b>1st 9:10</b>	<b>300 36:15 41:7 55:7</b>	<b>72 38:2 41:24</b>
<b>&amp; 2:4 114:1</b>	<b>2</b>	55:10 64:14,24 65:2	<b>8</b>
<b>0</b>	<b>2 3:3 52:14 63:6</b>	65:6,10,16,18 70:3	<b>8 4:2 25:3,7,16,23</b>
<b>0006 62:9</b>	77:22	75:2,9 88:2	51:14 74:20 99:9,9
<b>0007 62:9 79:22</b>	<b>2,000 18:8</b>	<b>3009 55:18</b>	<b>80 66:2,10</b>
<b>0008 77:12</b>	<b>2,168 81:9 82:12</b>	<b>31 4:6</b>	<b>800 21:11</b>
<b>1</b>	<b>2,200 81:11,19</b>	<b>32 4:7</b>	<b>9</b>
<b>1 43:11 44:22 50:9</b>	82:10	<b>33 64:4,9,25 66:1,4</b>	<b>9 42:3 43:24 52:21</b>
52:16 57:4 61:21	<b>2/4/12 4:19 97:2</b>	66:14,17 67:1	53:6 54:8 55:6
86:13 111:17	<b>2/7/12 4:14 56:16</b>	<b>3322 1:21</b>	64:16,17,21,23
<b>1,500 18:8</b>	<b>20 4:3 33:20 40:3</b>	<b>34 35:16 36:9</b>	65:16 85:13 99:9
<b>1/3 53:24</b>	94:7 103:10 112:17	<b>35 4:8</b>	<b>9.1 44:19 47:25</b>
<b>100 4:23 21:10</b>	113:21 114:21	<b>4</b>	<b>9.3 44:3 76:3,21</b>
23:13	<b>2000 10:1 82:18</b>	<b>4 1:16 3:5 41:14</b>	<b>9.3.1 76:5</b>
<b>1006 84:15</b>	<b>2002 7:10,24 8:6</b>	73:23 74:23 89:8	<b>9.3.1.1 44:8 49:25</b>
<b>103 4:24</b>	61:9	97:7	<b>9.3.1.1. 50:22</b>
<b>11 9:4 25:3,8,17,22</b>	<b>2003 68:22 69:2</b>	<b>4.57 41:16</b>	<b>9.3.1.1.5 77:3</b>
51:14 69:8 70:18	<b>2005 9:25 10:1 15:8</b>	<b>40 4:10</b>	<b>9.3.1.3 46:20 47:2</b>
71:5 72:14 74:18,21	99:9	<b>419 2:9</b>	<b>9.3.1.5 49:5 76:20</b>
87:16	<b>2006 35:11 84:14</b>	<b>42 4:13</b>	<b>90 34:14 40:17</b>
<b>11-4177 1:8</b>	<b>2007 34:10 68:23</b>	<b>43604 2:8</b>	<b>95 11:3 40:12</b>
<b>110 3:10</b>	72:16,19	<b>450 83:20</b>	<b>96 4:18</b>
<b>12 38:1 54:11 70:9</b>	<b>2008 41:11</b>	<b>46,000 37:14</b>	<b>97 4:19</b>
73:8 74:11 85:13	<b>2010 61:11,12 92:14</b>	<b>5</b>	<b>98 4:20,21</b>
101:24	<b>2011 4:23 9:10</b>	<b>5 3:8 59:13 99:9</b>	<b>9:57 1:17</b>
<b>12:10 108:13</b>	92:15 93:11 100:5	<b>5,000 99:12,17</b>	<b>a</b>
<b>13 50:8</b>	101:2,16	101:5	<b>a.m. 1:17</b>
<b>133.1 31:3 35:11</b>	<b>2012 1:16 4:3 20:22</b>	<b>5.3 44:10 50:1 51:1</b>	<b>a300 42:4,10 43:11</b>
<b>14 23:22</b>	21:6,19 22:3 42:23	<b>5.3. 76:7</b>	44:13,21 46:18 49:3
<b>15 69:16 71:1 72:23</b>	57:1 97:7,10 101:17	<b>50 66:2</b>	50:9,10 52:16,25
73:5 87:17 95:12,13	111:8	<b>56 4:14</b>	53:2,3,13,18 54:5
95:15	<b>2013 111:17</b>	<b>5k 100:22</b>	104:16
<b>150 23:15</b>	<b>232 28:3</b>	<b>6</b>	<b>abandon 81:20</b>
<b>1502795 112:2</b>	<b>234 28:3</b>	<b>6 59:13</b>	<b>able 41:21 64:20</b>
113:2 114:2	<b>24 4:4</b>	<b>6/4/2012 112:3</b>	94:5
<b>16 4:23 77:19,21</b>	<b>242-5243 2:9</b>	113:3	<b>acceptable 88:24</b>
78:1,2,14,23 87:22	<b>25 63:16 64:6 83:22</b>	<b>60 4:15 37:25</b>	106:13
88:20 100:5 101:2	<b>3</b>	<b>68 4:17</b>	<b>accepted 46:4,12</b>
<b>1700 2:7</b>	<b>3 67:13 71:12,22</b>	<b>7</b>	48:21
<b>19 73:9</b>	85:12 99:12,17	<b>7 4:3 9:5 20:22 21:6</b>	<b>access 45:15 48:19</b>
<b>1974 37:8</b>	100:22 101:5	22:3 42:23 57:1,3	<b>accomplished 86:10</b>
<b>1975 40:12</b>	<b>3.3.1.1.5. 75:16</b>	79:21 99:24	<b>account 45:1 76:22</b>
	<b>30 16:10 34:15</b>		
	37:20 79:12		

<b>accurate</b> 9:15 <b>achieve</b> 70:5 75:12 106:16 <b>achieved</b> 70:10 101:24 107:23 <b>achieving</b> 106:22 <b>acknowledge</b> 112:12 113:15 <b>act</b> 112:15 113:19 <b>action</b> 111:4 <b>actual</b> 34:3 52:4 92:23 95:6 <b>ad</b> 33:11,22 <b>add</b> 9:13 <b>additional</b> 21:15 22:22,24 28:18 <b>adds</b> 38:1 <b>adequate</b> 40:19 105:18 <b>adhere</b> 46:11 <b>adhering</b> 46:4 48:20 <b>adjournment</b> 110:22 <b>adopted</b> 105:2 <b>ads</b> 33:14 <b>advertisement</b> 4:7 32:10 <b>advisory</b> 47:8 50:10 51:6 <b>affect</b> 83:14,15 <b>affiliated</b> 9:17 40:10 <b>affixed</b> 111:6 112:16 113:20 <b>aforsaid</b> 110:12 <b>age</b> 5:1 <b>agencies</b> 28:22 <b>agency</b> 36:25 <b>ago</b> 18:7 19:7 20:3 29:6 30:13,13 33:20 35:10,18 36:23 38:6 40:14 43:1 64:6 72:2 90:7,20,22,23 <b>agree</b> 54:7 83:11 85:15 106:5 107:2,8	<b>agreed</b> 47:7 <b>agreement</b> 5:12 <b>ahead</b> 5:8 56:2 68:8 86:17 <b>allow</b> 89:2 <b>allows</b> 36:15 <b>alluded</b> 104:6 <b>amendments</b> 53:18 88:2 <b>amount</b> 18:3 85:21 <b>andress</b> 2:4 <b>ansi</b> 4:8,10 31:3 35:3,11 36:14 40:24 41:7 42:4,10 43:11 44:13,21 45:19 46:18 47:12 49:2 50:9,10,14 52:16 53:2,3,13,17 54:5,7 55:7,9,18 64:12,13 64:14,19,23 65:2,6 65:10,16,18 70:3 75:2,9 88:2 104:16 <b>answer</b> 6:15 26:23 74:16 81:24 <b>answered</b> 71:17 88:13 96:23 <b>answering</b> 6:3 72:2 <b>answers</b> 26:4 96:16 <b>anybody</b> 14:2 <b>anymore</b> 27:3 28:9 <b>apologize</b> 6:19 95:21 <b>appear</b> 112:12 113:15 <b>appearance</b> 106:24 <b>appearances</b> 2:1 3:3 <b>appended</b> 113:11,17 <b>applicable</b> 109:7 <b>applies</b> 49:3 87:20 <b>apply</b> 12:17 13:19 47:8 <b>appraisal</b> 7:4,13 82:15,25 83:7 <b>appraisals</b> 19:15 99:14,21	<b>approaches</b> 106:13 <b>approximately</b> 21:19 22:22 64:3 <b>arboricultural</b> 4:9 35:4 53:17 88:1 <b>arboriculture</b> 28:20 36:24 43:9 <b>arborist</b> 19:17 30:19 30:25 32:24 35:17 35:20 36:12,16,25 37:4,25 56:4 85:19 100:20 <b>arborists</b> 36:11 <b>arc</b> 94:23 95:1 <b>area</b> 28:20 38:13 41:22 <b>areas</b> 52:24 69:25 92:19 105:1 <b>arrive</b> 83:21 <b>article</b> 33:2,2,3 <b>articles</b> 39:4,5 <b>asked</b> 50:21 57:5,6 57:10,15,16 60:21 74:25 75:2 77:12 90:13 95:20 <b>asking</b> 48:15 62:1 78:1 82:3 100:11 <b>aspects</b> 45:1 <b>assignment</b> 100:17 112:2 113:2 114:2 <b>assume</b> 5:18 15:20 25:22 29:3 38:13 41:6 83:8 <b>assumed</b> 83:25 <b>assuming</b> 84:24 99:16 <b>assumption</b> 85:2 <b>attached</b> 7:18,20 59:7 113:7 <b>attain</b> 74:10 <b>attended</b> 38:14,24 <b>attorney</b> 111:2 <b>attorneys</b> 5:10 7:3 <b>authored</b> 39:6 42:22 99:23	<b>authoritative</b> 36:25 43:20 44:21 45:5 <b>authorities</b> 105:2 <b>authorize</b> 113:11 <b>avoid</b> 49:10 75:22 <b>aware</b> 36:14 43:23 47:11,23 108:5  <b>b</b>  <b>b</b> 4:3 20:21 21:1 22:10 <b>back</b> 27:3,21 50:20 53:22 60:17 69:23 86:20,21 92:15 93:23 106:9 <b>background</b> 28:13 56:25 <b>backwards</b> 66:7 <b>backyard</b> 16:19 <b>bad</b> 20:18 33:17 <b>ballpark</b> 18:7 <b>bankruptcy</b> 15:11 15:13,17 <b>bark</b> 49:10 75:22 <b>base</b> 48:3 68:1,25 70:22 72:6 74:7,24 79:9 85:1 86:8 87:10 89:12 90:8 94:9 99:18 <b>based</b> 14:21 19:20 20:8 31:18 48:5 55:24 56:6 57:17 63:17 68:5 70:7 74:12,14 78:12 94:13 <b>basic</b> 81:9 82:12 <b>basically</b> 91:17 100:12 <b>basing</b> 79:16 <b>basis</b> 82:21 <b>bates</b> 77:11 <b>bean</b> 40:8 <b>beech</b> 24:25 25:25 26:1,2 51:23 52:4,6 54:22 57:7 59:5
---	--	--	---

77:19,20 89:14 <b>beeches</b> 85:22 <b>beginning</b> 97:17 <b>behalf</b> 2:3 <b>belabor</b> 28:8 <b>believe</b> 8:8 26:15 39:22 43:7 72:1,15 87:14,19 88:13 90:12 91:14 98:4 103:1 105:25 <b>best</b> 4:24 15:23 43:9 65:11 85:19 90:21 103:25 104:10 106:11 <b>better</b> 24:15 27:2 60:7 81:3 <b>bids</b> 14:14 <b>big</b> 27:15 91:2 107:20 <b>bigger</b> 66:23 <b>bill</b> 58:7 100:10,14 100:16,18 103:13 <b>bill's</b> 103:11 <b>bit</b> 19:16 27:22 34:12 40:13 56:25 80:21 93:21 97:22 <b>black</b> 31:22 61:3 <b>blocked</b> 12:5 <b>board</b> 32:24 37:24 <b>book</b> 6:24 7:1,9 82:14,16,25 <b>books</b> 7:6,8 8:9 <b>boss</b> 33:15 100:10 <b>bottom</b> 64:1 67:14 71:12,21 84:14 88:19 <b>branch</b> 63:16 64:3 64:24 65:25 66:3,9 66:10,14,21 86:21 90:9,10,13,19 91:2 91:5,12,20,23,25 92:23 94:4 <b>branches</b> 49:5,8,12 49:13,15,16 50:18 52:7,7 54:25 63:19	66:10,13 75:16,17 75:20,24,25 84:4,11 84:18,22 87:13 105:10 107:18,19 107:20 <b>branching</b> 69:14 <b>bratenahl</b> 11:10,12 <b>break</b> 6:8 8:14 60:5 60:8,18 61:1 <b>briefly</b> 104:6 <b>bring</b> 6:22 8:10 60:21,23 <b>broom</b> 80:1,3,18,19 80:22 <b>brought</b> 60:19 90:10 91:8 92:24 <b>build</b> 40:1 <b>buildings</b> 40:1 <b>bundle</b> 91:25 92:1 <b>bundles</b> 92:3 <b>business</b> 10:6,11 15:7,10,18 39:13 40:16 79:12	<b>cases</b> 14:14 16:4,5,6 17:11,13,23 69:24 70:8 <b>cause</b> 48:25 49:7 75:19 110:12 <b>cavernous</b> 5:25 <b>cei</b> 16:17,18 18:1,13 29:10,11,14 36:1 38:22 <b>cei's</b> 16:20 <b>central</b> 79:1 <b>certain</b> 14:6,18 15:2 15:4 19:18 <b>certainly</b> 5:25 64:20 <b>certificate</b> 3:10 37:4 110:1 113:11 <b>certification</b> 28:25 30:11 37:20 38:4 85:20 112:1 113:1 <b>certifications</b> 37:1 <b>certified</b> 5:3 12:25 32:24 37:4,25 38:7 38:12 <b>certify</b> 110:8,19 111:1 <b>chance</b> 27:12 97:18 108:6 <b>change</b> 25:13 82:19 106:24 107:3 113:8 114:3 <b>changes</b> 112:7 113:7 113:9 <b>chapter</b> 83:15 <b>characteristics</b> 94:14 <b>charles</b> 1:4 2:14 112:3 113:3 <b>chart</b> 82:13 <b>cherry</b> 16:19 <b>chip</b> 79:13 <b>chipped</b> 79:9 80:10 80:13 <b>cited</b> 54:11 <b>cities</b> 11:9 14:19,20	<b>city</b> 11:10 19:17,23 29:9,11 <b>civil</b> 109:3,7 112:5 113:5 <b>claims</b> 52:18 <b>classes</b> 36:1 38:25 <b>clean</b> 42:14 84:4,23 <b>cleaned</b> 84:7 <b>cleaning</b> 84:3 <b>cleanup</b> 81:3 83:18 83:20 <b>clear</b> 13:15,18 22:16 65:4 71:18 102:9 103:16 <b>clearance</b> 12:25 14:6 27:20 28:1,3 29:2 30:1,19,25 35:17,20,23 36:16 38:25 40:20 45:7,9 47:15 48:18 53:19 53:21 55:4 63:11 67:16 68:3 69:11 70:6,8,9,24 71:24 72:5 73:8 74:11 86:1,23 87:17 88:6 88:10 95:8,9 101:24 105:19 106:16 <b>clearances</b> 27:4 39:6 88:16 89:4 95:24 105:3 107:23 <b>cleared</b> 70:13 <b>clearing</b> 11:19,22 12:10 54:1 69:7,15 69:21,22 70:17 72:22 87:16 <b>clearly</b> 16:20 <b>cleveland</b> 10:16 111:7 <b>clients</b> 11:5 12:13 16:18 <b>climate</b> 85:16 <b>close</b> 10:11 94:20 <b>coach</b> 27:8 <b>code</b> 12:18,21 13:20
<b>c</b>			
<b>c</b> 4:4 23:25 24:6 50:9 51:17 58:1,13 58:15 78:20 103:12 <b>calculating</b> 26:16 <b>calculation</b> 82:11 <b>calculations</b> 81:10 <b>call</b> 5:14 63:5 98:18 <b>called</b> 5:1 43:9 76:22 91:25 <b>caption</b> 110:21 <b>care</b> 4:12 41:1 46:4 46:12 48:21 <b>carries</b> 34:16 <b>case</b> 1:8 7:7 18:1,12 18:14 21:3 24:12 34:1 42:22 44:25 57:2 59:24 73:8 85:25 89:19 100:12 105:5 112:3 113:3			

<b>color</b> 31:21 61:4 <b>column</b> 94:15 <b>come</b> 11:16,17 81:11 89:8 <b>comes</b> 52:8 <b>coming</b> 72:8 <b>comission</b> 62:3 <b>comment</b> 72:9 74:12 <b>commercial</b> 30:6 32:19 <b>commission</b> 1:2 111:17 112:22 113:25 114:25 <b>commissioned</b> 110:8 <b>common</b> 50:11,13 <b>community</b> 20:15 50:13 <b>companion</b> 65:10 104:15 <b>company</b> 1:10 10:7 11:1 14:10 17:9 18:17 38:19 39:25 46:4 48:23 55:8 74:25 76:16 86:22 89:17 92:18 93:2 95:16 112:3 113:3 114:1 <b>company's</b> 45:14 95:22 <b>compare</b> 56:12 67:8 72:20 <b>competency</b> 28:19 <b>competing</b> 46:9 <b>complete</b> 6:22 40:6 <b>completed</b> 110:22 <b>completely</b> 89:18 <b>comply</b> 45:6 48:17 74:25 <b>concluded</b> 108:13 <b>conclusion</b> 74:8,24 86:9 <b>conditions</b> 70:7 <b>conduct</b> 5:14 83:1 <b>conductor</b> 12:22 13:1 27:20 68:4	69:13 <b>conductors</b> 36:2 67:17 70:6,25 71:25 72:6 105:4 <b>confused</b> 77:8 <b>connected</b> 96:11 <b>connection</b> 7:7,18 15:7 18:14 21:3,25 24:11 32:17 34:1 42:22 44:25 60:20 85:25 90:14 97:10 99:23 <b>considerable</b> 106:23 107:3 <b>consideration</b> 45:13 <b>construction</b> 39:25 <b>consult</b> 20:1 103:14 <b>consultant</b> 38:21 <b>consulted</b> 39:12,15 39:17 <b>consulting</b> 19:9,11 19:12,17,22 33:18 34:23 39:14 <b>contact</b> 95:6 <b>contacted</b> 57:2 97:19 <b>context</b> 13:24 29:15 95:5 <b>continue</b> 15:10 <b>continuing</b> 37:21 38:14 <b>contract</b> 19:22 <b>contractor</b> 26:21 34:5 53:20 88:10 <b>controlled</b> 69:25 <b>controlling</b> 69:20 <b>controversies</b> 16:15 <b>controversy</b> 18:3 <b>convenient</b> 5:13 <b>conversation</b> 79:6 <b>conversations</b> 85:3 <b>coordinate</b> 29:10 <b>copied</b> 31:18 96:3 <b>copy</b> 4:6,15 9:1 31:7 35:10 42:14 60:5,13	61:3 <b>copyright</b> 82:18 <b>corner</b> 100:23 <b>correct</b> 5:15 7:25 9:1,10 13:7 14:3,8 15:1,14,22,24 17:7 21:7,8,11,12 24:21 24:23 26:11 27:13 27:17 28:7 29:24 34:2 35:20,21 36:12 36:13 37:1,5,6,17 38:17,22 41:8,25 42:23,24 43:3,4,11 43:12,15,16,21,22 44:14 45:11,15,16 46:1 47:4,9,10 50:6 51:7,24 52:5,19 56:9 59:19 62:16,17 63:3 65:12,13 68:19 69:4 73:18 74:6,22 79:7 81:12 86:7 88:7,11,12,18 89:5 89:11 95:23 96:13 96:14 99:3,4 102:8 102:13 104:16,17 105:11,12,15,16 110:17 <b>corrected</b> 74:21 <b>corrections</b> 113:17 <b>corridor</b> 69:15,23 72:23 <b>corroborate</b> 74:4 <b>cost</b> 57:11 83:18,20 <b>costs</b> 83:23 <b>counsel</b> 28:23 109:1 109:10 111:2 <b>counters</b> 40:8 <b>counties</b> 16:4,11 <b>country</b> 37:15 <b>county</b> 16:13 110:4 112:12 113:15 <b>couple</b> 16:17 28:11 36:11 104:7 106:9 <b>course</b> 6:9 40:15	<b>court</b> 3:13 5:18 17:24 112:7 <b>courts</b> 16:3 <b>cover</b> 60:22 <b>cp</b> 62:9,9 77:11 79:22 <b>crew</b> 74:8 101:22 <b>crews</b> 12:24 13:25 54:17 79:13 <b>crossbar</b> 73:22 <b>crotch</b> 53:21 61:22 75:6,10 76:14,17,19 76:23 77:2 86:9 87:1 88:22 <b>crown</b> 44:4 47:13 49:20 76:4 87:4 <b>css</b> 1:8 <b>current</b> 19:1 70:3 <b>currently</b> 19:2 <b>curriculum</b> 4:2 <b>custody</b> 3:12 <b>customer</b> 103:2,9 <b>customers</b> 11:7,9 12:12 30:6 <b>cut</b> 16:18 29:17,19 54:24 63:9,10 64:4 64:4,25,25 65:25 66:1,4,11,13,14 73:21 86:20 87:12 91:9 92:18 107:17 <b>cuts</b> 44:9 49:25 50:3 50:25 51:2,6 53:22 62:24 76:6,21,23,24 86:20 107:16,16 <b>cutting</b> 29:17 <b>cuyahoga</b> 16:4 110:4 <b>cv</b> 8:18,21 9:1,9,14 28:12 39:22
<b>d</b>			
<b>d</b> 4:6 31:6,11 58:1 58:13,15 73:17 78:21 103:12			

<b>damage</b> 45:14 48:18 49:1,7 75:19 105:20	23:17,25 31:6 32:9 35:2 40:23 42:16 56:15 60:12 68:12 96:5 97:1,25 98:21 100:4 103:24 108:13 110:20 112:1,3 113:1,3 114:1	<b>disputes</b> 16:16,17 17:4 <b>distance</b> 12:23 69:16 72:23 78:2 105:15 <b>distances</b> 86:2 <b>distribution</b> 69:7,14 70:17 72:22 87:16 <b>division</b> 40:2,7 <b>document</b> 20:6 24:14 32:2,15,17 48:5,13 58:4,6 65:5 69:8 <b>documents</b> 6:4 27:10 60:20 78:7 96:2 <b>doing</b> 9:13 10:6 12:8 12:16 14:7,11 29:25 33:18 34:1 39:14 48:22 57:10 60:21 66:6 83:22 86:23 95:18 98:16 99:20 102:5,25 <b>dollar</b> 81:4 <b>douglas</b> 1:15 3:7 4:13,14,21 5:1,5 42:17 56:16 98:22 110:9 112:4,10 113:4,13 114:19 <b>dr</b> 4:4 6:21 21:3,16 22:13 23:9 24:1,10 24:19 25:2 27:9 31:17 43:1 48:8,11 51:13 55:2,3,16 57:23 61:5,11 73:14 74:1 78:3,4,13 82:6 85:4 90:9 92:24 96:20 97:20 98:10 100:11,14 101:21 102:1,6,18 103:2 <b>draft</b> 4:21 98:22 99:6 <b>drafted</b> 22:17 <b>drafting</b> 22:10 33:2	<b>drawn</b> 24:22 <b>drew</b> 51:17 <b>drivers</b> 12:5,7 <b>drop</b> 53:21 61:22 75:5,10 76:14,17,19 76:23 77:2 86:9 87:1 88:22 <b>dry</b> 94:2,3 <b>duly</b> 5:2 110:7,10 <b>duty</b> 34:17 <b>dy</b> 98:10 <b>dying</b> 94:8
<b>damages</b> 57:7 101:4 <b>date</b> 21:5 109:11 112:3,10,22 113:3 113:13,25 114:19 114:25 <b>dated</b> 4:14,19,23 56:16 97:2,6 100:5 <b>day</b> 78:15 91:10 111:7 112:17 113:21 114:20 <b>dead</b> 90:1,3,4 94:5 <b>deal</b> 27:15 56:22,23 <b>dealing</b> 7:3 45:18 <b>deals</b> 43:18 44:4 46:20 50:2 76:3 <b>dealt</b> 41:17 <b>death</b> 89:10 <b>debris</b> 84:24 85:6 <b>decided</b> 15:9 100:16 <b>decision</b> 89:3 <b>declines</b> 93:20 <b>deed</b> 112:15 113:19 <b>defendant</b> 1:12 2:3 <b>defendant's</b> 8:25 21:1 24:6 35:9 36:10 43:3,15 52:14 61:2,18 73:16 99:2 <b>defended</b> 29:18 <b>defined</b> 41:23 69:15 70:3 72:22 <b>definitely</b> 80:7 94:6 <b>definition</b> 50:11,13 94:19 <b>definitions</b> 36:11 <b>degree</b> 69:10 <b>degrees</b> 15:24 <b>delivery</b> 109:9,11 <b>denise</b> 2:5 5:9 <b>dependent</b> 69:12 85:16 <b>deposed</b> 5:3 <b>deposition</b> 1:14 5:15 5:19 8:20 20:21	<b>describes</b> 76:21 <b>description</b> 4:2 <b>designation</b> 38:8 <b>determine</b> 17:1,5 27:4 63:23 <b>development</b> 50:12 <b>dhasbrook</b> 2:10 <b>diagram</b> 4:4 24:1,19 <b>diagrams</b> 57:25 78:19 <b>diameter</b> 53:24 66:15 79:12 101:9 101:11 <b>die</b> 89:14 <b>difference</b> 14:23 <b>different</b> 30:5 65:5 69:2 106:5 <b>differently</b> 106:2 <b>directional</b> 49:21 53:18 63:15 70:2 87:1 88:5,22 <b>directives</b> 75:13 <b>directly</b> 46:21 51:9 52:8 <b>disagree</b> 105:21 106:19 <b>disagreement</b> 86:1 <b>disconnect</b> 70:14 <b>disconnects</b> 70:12 <b>discovery</b> 5:14 114:1 <b>discredited</b> 76:25 <b>discuss</b> 108:4 <b>discussed</b> 87:17 <b>disease</b> 20:12 <b>diseased</b> 11:23 14:12	<b>disputes</b> 16:16,17 17:4 <b>distance</b> 12:23 69:16 72:23 78:2 105:15 <b>distances</b> 86:2 <b>distribution</b> 69:7,14 70:17 72:22 87:16 <b>division</b> 40:2,7 <b>document</b> 20:6 24:14 32:2,15,17 48:5,13 58:4,6 65:5 69:8 <b>documents</b> 6:4 27:10 60:20 78:7 96:2 <b>doing</b> 9:13 10:6 12:8 12:16 14:7,11 29:25 33:18 34:1 39:14 48:22 57:10 60:21 66:6 83:22 86:23 95:18 98:16 99:20 102:5,25 <b>dollar</b> 81:4 <b>douglas</b> 1:15 3:7 4:13,14,21 5:1,5 42:17 56:16 98:22 110:9 112:4,10 113:4,13 114:19 <b>dr</b> 4:4 6:21 21:3,16 22:13 23:9 24:1,10 24:19 25:2 27:9 31:17 43:1 48:8,11 51:13 55:2,3,16 57:23 61:5,11 73:14 74:1 78:3,4,13 82:6 85:4 90:9 92:24 96:20 97:20 98:10 100:11,14 101:21 102:1,6,18 103:2 <b>draft</b> 4:21 98:22 99:6 <b>drafted</b> 22:17 <b>drafting</b> 22:10 33:2	<b>drawn</b> 24:22 <b>drew</b> 51:17 <b>drivers</b> 12:5,7 <b>drop</b> 53:21 61:22 75:5,10 76:14,17,19 76:23 77:2 86:9 87:1 88:22 <b>dry</b> 94:2,3 <b>duly</b> 5:2 110:7,10 <b>duty</b> 34:17 <b>dy</b> 98:10 <b>dying</b> 94:8
			<b>e</b> <b>e</b> 4:7 32:9,15 103:12 <b>earlier</b> 100:1 <b>early</b> 101:16 <b>easement</b> 16:22,23 <b>easements</b> 83:8,12 <b>east</b> 10:15 <b>easy</b> 62:8 <b>economic</b> 10:10 <b>economically</b> 15:9 <b>economy</b> 33:17 <b>edge</b> 54:1 69:18 72:25 <b>edison</b> 1:10 5:11 52:18,20 53:1,5 54:16 73:21 74:25 77:15 81:1 86:2 107:14 112:3 113:3 <b>edition</b> 7:22,23 8:1,3 8:4,7 35:16 41:11 41:12 <b>education</b> 37:21 38:1,14 <b>effect</b> 20:6 <b>effective</b> 105:10 <b>effectively</b> 69:12 <b>effectuating</b> 47:24 <b>effort</b> 101:19 106:14 <b>eight</b> 21:10 24:24 38:6 51:22 66:19 70:13 79:2 80:15,22 91:3,16 93:7 101:7

101:9,10,11 <b>eighth</b> 8:7 <b>either</b> 10:6 11:23,25 25:11 39:12 51:14 69:16 71:1 72:24 106:20 111:2 <b>el</b> 1:8 <b>electric</b> 12:18 17:9 26:9,17 40:20 51:20 69:11 <b>electrical</b> 12:10,14 13:20 14:6,25 24:16 36:16 39:18 <b>emergency</b> 73:21 <b>emphasis</b> 69:19 <b>employed</b> 10:3 19:2 34:6 <b>employee</b> 34:3,7,18 34:24 <b>employees</b> 34:13,14 <b>ends</b> 17:20 91:6 <b>engaged</b> 39:18 <b>ensure</b> 105:10 <b>entered</b> 113:9 <b>entire</b> 63:10 112:5 113:5 <b>entity</b> 30:8 <b>equipment</b> 35:23 45:14 48:18 49:11 52:3 75:23 83:24 <b>errata</b> 113:7,10,17 114:1 <b>esq</b> 2:5 <b>established</b> 41:7 45:8,23 47:6 49:25 69:17 72:24 <b>esthetics</b> 20:14 <b>estimate</b> 93:4 <b>estimated</b> 25:15 <b>euclid</b> 11:10 <b>european</b> 54:21 <b>eva</b> 1:25 6:10 110:6 111:14 <b>evaluation</b> 57:8,9	<b>event</b> 92:4 111:3 <b>exactly</b> 6:2 <b>examination</b> 3:7 5:2 5:5 37:7 <b>example</b> 33:22 41:24 94:24 <b>exception</b> 88:22 <b>excerpt</b> 35:15 41:15 72:3 <b>excerpts</b> 41:10 <b>executed</b> 113:10 <b>execution</b> 112:14 113:18 <b>exhibit</b> 3:12 4:2,3,4 4:6,7,8,10,13,14,15 4:17,18,19,20,21,23 4:24 8:20,25 15:22 20:21 21:1 22:9 23:25 24:6 31:6,11 32:9,15 35:2,9 36:10 40:23 41:6 42:6,16,21 43:3,15 51:17 52:14 56:15 56:20 60:3,12 61:2 61:16,18 62:1,3,11 62:21 63:25 64:1 65:24 67:22 68:12 68:19 73:17 78:20 81:8 87:15 96:5,10 97:1,5,25 98:5,7,21 99:2 100:4,9 103:24 104:4,9 <b>exhibits</b> 3:5,13 4:1 58:1 <b>existed</b> 44:1 <b>exists</b> 36:17 <b>expect</b> 33:9 89:21 <b>expected</b> 85:12 89:9 <b>experience</b> 41:18 46:8 93:16 <b>expert</b> 16:3,9,25 28:5 30:2 39:10 83:2 100:12 <b>expertise</b> 16:15 29:2 29:7 33:14 86:5	<b>expiration</b> 112:22 113:25 114:25 <b>expires</b> 111:17 <b>explanation</b> 104:15 <b>express</b> 83:13 <b>extension</b> 90:11 <b>extra</b> 19:19  <b>f</b> <b>f</b> 4:8 35:2,9 36:10 <b>facility</b> 45:20 46:22 48:20 104:20 <b>fact</b> 49:24 72:4 80:11,20 87:11 89:13 91:14 94:16 <b>factors</b> 85:16 <b>failure</b> 15:8,17 <b>fair</b> 10:2 46:14 102:17 <b>fairly</b> 82:16 <b>fall</b> 12:6 47:1 <b>familiar</b> 10:15 28:21 31:2 35:12,18 41:7 42:4,10 45:10 <b>far</b> 12:22 13:25 14:24 15:23 17:9 24:15 26:17 97:16 107:18 <b>fastigate</b> 54:21 94:14 <b>feasible</b> 15:9 <b>february</b> 4:3 20:22 21:6,19 22:3 42:23 57:1,3 61:9 97:7 99:24 111:17 <b>feet</b> 13:1 25:3,4,7,8 25:16 51:14,22 67:16 68:3 69:16 70:9,24 71:1,24 72:5,23 73:3,5,8 74:11 77:19,21 78:1 78:2,15,23 79:2 80:16,22 87:17 91:3 95:9,12,13,15 101:7 101:24	<b>figure</b> 83:21 <b>file</b> 6:6,22 15:10 24:7 31:13,21 58:20 58:21 60:19,24 78:24 96:3 97:6 99:3 104:5 107:8 <b>filed</b> 62:3 <b>files</b> 8:15 58:23 <b>final</b> 63:9 <b>finally</b> 6:10 106:8 <b>find</b> 65:19 71:9 72:4 75:9 <b>finding</b> 58:18 <b>finish</b> 56:1 <b>first</b> 5:2 8:17 16:7 24:13 27:16,22 30:12 37:10 38:5 41:15 43:7,7 57:1 58:9 59:20 61:23 64:2 69:2 74:19 96:12 97:21 106:12 110:10 <b>firstenergy</b> 4:17 24:8 53:6 68:13 72:13 88:25 89:2 <b>firstenergy's</b> 68:5 70:6 <b>fit</b> 77:7 <b>five</b> 10:3 11:4 18:7 19:7 30:13 34:9 80:4,22 86:20 90:1 93:13 <b>flip</b> 79:19 <b>focus</b> 16:1 62:2 <b>focusing</b> 11:18 35:14 104:18 <b>foliage</b> 74:10 <b>follow</b> 52:18 <b>following</b> 52:25 53:2 53:6,10,14 70:1 <b>follows</b> 5:4 52:21 88:9 <b>foot</b> 13:2,5,10 24:24 36:4 70:13 74:18 80:4,22
---	--	---	---

<b>force</b> 19:23 <b>foregoing</b> 110:16,21 112:14 113:18 <b>forestry</b> 39:19 <b>forgot</b> 90:17 <b>former</b> 39:13 40:16 <b>forming</b> 32:3 104:22 <b>formula</b> 99:15 <b>found</b> 57:17,20 <b>four</b> 27:19 30:13 67:16 68:3 70:5,8 70:24 71:24 72:5 73:3 91:15,17 <b>free</b> 112:14 113:18 <b>front</b> 6:5 41:5 42:13 52:13 56:13,20,24 61:17 65:18 67:6,7 67:12 68:8 92:23 <b>full</b> 33:2 43:7 <b>fully</b> 6:15 <b>function</b> 69:12 <b>further</b> 70:2 80:14 110:19 111:1 <b>fuse</b> 70:14 <b>fuses</b> 70:12	<b>go</b> 5:8 15:21 17:23 19:8 23:2 27:2 36:3 50:20 52:17 56:1 62:7 68:8 71:5,6,18 79:17 86:17 91:22 92:15 93:22 96:2 98:13 99:15 102:24 103:20 <b>goal</b> 66:5 <b>goals</b> 11:21 <b>goes</b> 20:11 94:15 <b>going</b> 8:13,24 10:21 24:5 28:8 29:20 32:14 46:13 47:5 50:20 56:11,20,21 56:23 60:2 61:3 63:5 67:8 73:11,13 74:23 77:10 80:20 90:1 92:15 94:6 97:15 98:12 99:15 99:16 104:4 105:8 108:7 <b>gong</b> 44:16 <b>good</b> 93:1 95:19 100:19 102:25 <b>gotten</b> 22:25 54:25 55:15 86:23 <b>government</b> 30:8 105:1 <b>governments</b> 28:21 <b>greater</b> 69:18 72:25 <b>green</b> 82:14 <b>grew</b> 91:15,16 <b>ground</b> 49:13 73:9 74:9 75:25 84:5 <b>grow</b> 51:9 85:22 <b>growing</b> 46:21,21 70:7 91:7 94:17 <b>grown</b> 91:13 <b>growth</b> 54:2 59:4 69:14 85:12,21 91:7 92:5,19 93:6 107:1 <b>guess</b> 25:15 32:22 48:15 63:5 80:4 99:14	<b>guide</b> 7:4,13 43:9,19 44:21 45:5 54:12 68:6 82:15,25 101:23 <b>guideline</b> 56:7 104:18 <b>guidelines</b> 14:22,24 68:18 <b>guys</b> 6:25	<b>helping</b> 40:5 96:16 <b>hendricks</b> 100:11 103:12,14 <b>hereinafter</b> 5:3 <b>hereunto</b> 111:5 <b>highlighted</b> 52:23 <b>hill</b> 11:14 <b>hills</b> 11:14 30:15 <b>hired</b> 58:9 <b>hold</b> 107:25 <b>homeowner</b> 54:23 <b>homeowners</b> 28:23 <b>horizontal</b> 28:2 <b>hotline</b> 73:10 <b>hour</b> 21:10 23:14,15 <b>hours</b> 21:10,18,21 21:24 22:23 37:20 38:1 83:24 84:1,22 <b>houses</b> 10:22 <b>huge</b> 62:24 87:12 92:4 <b>hub</b> 10:4 57:12 62:10 67:19 100:24 104:8,21 <b>hundreds</b> 99:20,20 <b>hurry</b> 108:9 <b>hurt</b> 14:2
<b>g</b>	<b>g</b>	<b>h</b>	<b>i</b>
<b>g</b> 4:10 40:23 41:6 43:15 67:9 <b>gain</b> 53:20 <b>gauga</b> 16:3 <b>general</b> 28:12 87:24 <b>generally</b> 14:13 <b>generate</b> 19:19 22:24 <b>getting</b> 33:19,19 40:13 65:23 97:11 <b>give</b> 23:8,9 26:4 31:18 57:23 58:1,10 81:8,17 103:19 109:1,10 <b>given</b> 24:7,11 82:5 89:22 110:13,18 <b>giving</b> 48:10 90:14	<b>g</b>	<b>h</b> 4:13 42:16,21 43:3 52:14 62:1 64:1,1 65:24 67:10,22 81:8 103:12 <b>habit</b> 69:14 <b>half</b> 11:2,2 66:20,24 93:18 <b>hand</b> 49:9 75:21 111:6 <b>handed</b> 103:15 <b>handshake</b> 97:16 <b>handwriting</b> 9:4 96:12 <b>handwritten</b> 4:18 96:6 <b>handy</b> 56:10 <b>happen</b> 98:19 <b>hard</b> 14:15 26:6 <b>hasbrook</b> 2:5 3:8 5:6,9 27:5 48:8,12 60:17 61:12 109:12 <b>hazard</b> 12:7 20:12 36:17 105:21 <b>hazardous</b> 11:25 <b>hazards</b> 12:1,3 35:23 <b>head</b> 99:14 <b>health</b> 89:7 <b>hear</b> 6:12 <b>heard</b> 55:13 <b>hearing</b> 23:21 <b>held</b> 31:20 <b>help</b> 71:9 93:4	<b>idea</b> 66:9 72:11 89:20 95:17 99:11 <b>identical</b> 72:15 <b>identification</b> 8:22 20:23 24:3 31:9 32:12 35:6 41:3 42:18 56:18 60:15 68:15 96:7 97:3 98:2,24 100:7 104:2 <b>impact</b> 106:25 <b>implication</b> 36:19 <b>important</b> 27:6 <b>improper</b> 107:16,17 <b>improperly</b> 62:24 63:1

<b>inch</b> 63:18 101:9,10 101:11	<b>interrupted</b> 86:17	<b>klyn</b> 1:20 4:7 19:3	<b>laws</b> 45:7 47:15
<b>inches</b> 63:19,21	<b>interruptions</b>	31:16 32:10,18 34:3	48:18
66:19,20,24 85:13	105:20	34:6,13,24	<b>lay</b> 80:15
91:15,16,17 93:5,7	<b>intersection</b> 11:25	<b>knew</b> 70:20 71:15	<b>lead</b> 89:10
93:13,24	<b>introduced</b> 5:7	<b>know</b> 5:17,21,21,24	<b>leader</b> 79:1
<b>include</b> 33:25 61:4	<b>introduction</b> 104:19	6:1,9,11 7:2 12:20	<b>leaf</b> 92:1
81:25 107:7	<b>invoice</b> 4:3 20:22	14:10 24:8 26:12,23	<b>leave</b> 66:9
<b>included</b> 59:17,18	21:2,5,13 22:25	28:14 29:25 31:13	<b>leaving</b> 107:11
61:20 62:18 79:17	23:4	32:16,18 37:12	<b>led</b> 32:22
<b>includes</b> 22:15	<b>invoices</b> 21:16	45:24 47:20 48:9	<b>left</b> 10:7 19:10 59:18
<b>including</b> 53:17	<b>involved</b> 40:17,18	51:12 52:7,20 53:5	61:16,19 62:11,21
<b>income</b> 19:20	<b>irregardless</b> 67:14	53:11 58:13 61:5,10	62:25 63:16,19
<b>incompatible</b> 69:20	70:22 71:22	61:13,25 63:12	80:11 84:5,25 87:12
69:21,24	<b>irresponsible</b> 89:16	77:15 78:2,11 79:8	94:10 100:22,22
<b>incorporated</b> 62:6	<b>isa</b> 28:18 36:24 38:7	79:12 80:5,9 83:23	107:20
113:11	65:12,15 104:13	84:8,11,21 85:8	<b>legalese</b> 77:6
<b>index</b> 3:1,5 4:1	<b>issue</b> 56:6 82:10	86:22 88:15 89:17	<b>letter</b> 4:23 100:5,10
<b>indicated</b> 88:24	<b>issued</b> 21:15	91:4 94:19,23 95:1	<b>level</b> 29:13
<b>indication</b> 80:12	<b>item</b> 80:6	95:14 96:11 99:9,24	<b>liaison</b> 29:22 38:22
<b>industries</b> 32:19	<b>items</b> 20:7	103:5,8 104:5 105:5	<b>licensure</b> 37:13,17
95:23	<b>j</b>	105:6,14 107:21	<b>limbs</b> 53:25
<b>industry</b> 38:15 56:7	<b>j</b> 4:15 60:12 61:2,16	108:4	<b>limits</b> 54:1
76:25	62:12,21	<b>knowing</b> 30:9 53:9	<b>line</b> 12:25 16:16
<b>information</b> 32:3	<b>january</b> 57:4 101:17	93:15 99:19	17:13 24:17 26:18
68:22 73:20 80:9	<b>job</b> 81:3 103:17	<b>knowledge</b> 13:21	29:2 30:18,24 35:17
<b>infrastructure</b>	<b>jto</b> 39:22 40:11	15:23 25:10	35:19,23 36:15
105:20	<b>jto's</b> 40:9	<b>l</b>	38:25 39:5 40:20
<b>initial</b> 87:25	<b>june</b> 1:16 23:22	<b>l</b> 4:18 19:5 96:5,10	41:24 45:25 51:10
<b>injury</b> 106:14	<b>k</b>	98:5	51:14,17,20,23 52:8
<b>input</b> 33:1	<b>k</b> 4:17 19:5 68:12,19	<b>labeled</b> 63:6	69:17 71:2 72:24
<b>insect</b> 20:12	87:15 103:12	<b>labels</b> 4:6,16 31:7	73:9 85:8 88:6
<b>instruction</b> 109:2,10	<b>keep</b> 29:16 56:10	60:13	89:19 94:19 95:2,5
<b>intended</b> 45:20	65:22 103:17	<b>lack</b> 61:22	95:15 113:7 114:3
48:19 105:11	<b>kind</b> 5:24 8:13	<b>lake</b> 16:3,13	<b>lines</b> 12:10 13:6
<b>intention</b> 45:18	11:21 13:18 14:7	<b>landscape</b> 9:17 11:6	14:1,6,25 39:1 54:3
<b>interested</b> 111:3	27:1,21,23 56:11	19:1 34:22 40:2,5	69:11 94:12
<b>interfere</b> 29:20	74:16 82:13,17,18	<b>landscaping</b> 12:9	<b>list</b> 60:20
<b>international</b> 36:23	83:14 87:23 89:4	<b>large</b> 49:8 69:17	<b>listed</b> 22:9 113:7,17
43:8	92:25 97:16 99:19	72:25 75:20 79:9	<b>listing</b> 113:7
<b>interpretation</b> 50:9	107:10 108:8	<b>lateral</b> 53:23	<b>little</b> 8:14 19:16 27:2
<b>interpretations</b> 47:7	<b>kinds</b> 15:4 16:4,14	<b>law</b> 45:9	27:22 33:10 34:12
<b>interrogatory</b> 4:20	19:25	<b>lawful</b> 5:1	40:13 56:25 80:21
96:17,21 98:1,6	<b>kirtland</b> 10:14	<b>lawn</b> 20:8 69:25	91:13 93:20 94:11
	11:14	84:6,9	97:22



<b>live</b> 89:25 <b>located</b> 10:13 <b>location</b> 67:15 70:23 71:23 <b>logs</b> 79:8,15 84:5 <b>long</b> 40:14 47:14 72:3 80:3,5 89:21 89:24 91:6,8 103:8 <b>longer</b> 80:21 <b>look</b> 8:14 43:5 44:3 50:8 56:11 57:11 61:23 63:25 64:20 65:22 68:7 69:1 79:18 84:17 86:19 92:3 <b>looked</b> 39:3 47:25 51:16 64:18 91:12 <b>looking</b> 36:10 41:14 42:1 51:16 52:11 61:2,15 63:21,22 65:3,5 71:7,9 72:12 76:2 79:20 86:11 92:24 94:4 <b>looks</b> 9:4 51:22 92:21 93:24 101:13 106:3 <b>loss</b> 44:20 45:1 48:17 <b>lost</b> 55:9 <b>lot</b> 6:5 11:8 30:7 32:6 65:1 72:17 92:5 <b>lower</b> 49:12 74:9 75:24 101:23	<b>maintaining</b> 40:19 45:15 <b>man</b> 100:19 <b>managed</b> 14:17 40:2 <b>management</b> 4:17 4:24 18:16 20:2,5 29:13 43:9 52:23 65:11 68:6,13 71:7 72:13 87:19 88:21 103:25 104:10 106:11 <b>manager</b> 14:13 <b>mandated</b> 45:7 48:17 <b>mandatory</b> 44:12 45:8 50:6,16 105:3 <b>manner</b> 49:6 53:21 54:2 70:5 75:18 88:11 <b>map</b> 74:20 <b>mark</b> 60:3 68:9 <b>marked</b> 4:2 7:23 8:21,25 20:22 21:1 24:2,6 31:8 32:11 35:5,8 41:2 42:17 42:20 52:12 56:17 59:1 60:14 61:18 67:21 68:14,17 72:16 81:8 87:15 96:6,9 97:2 98:1,23 99:1 100:6 104:1 <b>master</b> 32:24 37:25 38:3 <b>master's</b> 85:20 <b>math</b> 9:24 66:6 <b>matter</b> 6:23 108:10 <b>matters</b> 26:16,20 29:8 <b>maturity</b> 94:10 <b>mean</b> 14:16 20:4 29:8 40:4 46:8 47:18 59:20 66:5 82:2 98:11 <b>meaning</b> 31:16	<b>means</b> 99:10 <b>measure</b> 25:3 80:15 <b>measured</b> 25:16 69:15 72:23 78:3 <b>measurement</b> 74:14 78:8,13 <b>measurements</b> 31:25 73:11 <b>meeting</b> 24:13 <b>meetings</b> 102:18,22 <b>memorialized</b> 78:20 78:24 79:2 <b>memory</b> 64:9 <b>men</b> 83:23 <b>mentioned</b> 36:22 90:12 <b>mentor</b> 11:15 <b>method</b> 47:14 48:1,6 48:24 49:15 53:19 75:6,10 76:14,18 87:5 88:6,16 89:5 106:9,10 <b>methods</b> 38:15 70:2 87:23 <b>middle</b> 74:16 <b>miles</b> 10:18 <b>million</b> 33:3 <b>mind</b> 11:16,17 67:25 87:2 <b>minimal</b> 10:24 87:12 <b>minimize</b> 106:14 <b>minimum</b> 70:5 105:3 <b>minute</b> 29:6 58:5,8 64:6 72:2 <b>missed</b> 62:19 <b>missing</b> 106:4 <b>mistake</b> 65:8,9 <b>mixed</b> 40:13 65:23 <b>modern</b> 53:16 88:1 <b>moment</b> 6:21 35:10 35:18 36:23 103:19 <b>moments</b> 43:1	<b>monday</b> 108:8 <b>money</b> 103:5 <b>month</b> 19:19 77:15 <b>months</b> 90:20,22,23 <b>mouth</b> 6:15 <b>move</b> 44:18 <b>multiple</b> 43:25 <b>municipal</b> 28:13,17 28:19 29:7 30:17 32:25 38:1 <b>municipalities</b> 14:11 <b>municipality</b> 11:18 12:17 29:23 30:4 <b>mutual</b> 5:12
<b>n</b>			
<b>n</b> 4:20 19:5 97:25 98:7 103:12 <b>name</b> 10:6 32:23 103:11 112:3,4,16 113:3,4,20 <b>named</b> 110:9 <b>national</b> 12:17 13:20 52:16,17 <b>nature</b> 17:15 <b>navigate</b> 30:9 <b>near</b> 40:20 98:4 <b>necessary</b> 49:11 59:24 75:23 105:10 <b>need</b> 6:14 20:17 27:6,22 58:22 90:21 108:11,12 <b>needed</b> 54:24 <b>needs</b> 26:17 55:4 84:6 95:10 <b>neither</b> 16:21 <b>nesc</b> 12:18 13:10,16 13:19 27:4 28:1 45:8 <b>never</b> 17:12 22:20 22:21 24:25 28:4 38:18 39:6 43:21 47:2 54:9 89:23 98:13			

<b>new</b> 38:14 107:1 <b>newer</b> 8:3 <b>nice</b> 42:14 <b>nonattorneys</b> 27:7 <b>nope</b> 77:17 <b>normal</b> 57:19 59:4 77:7 94:13 95:13 <b>normally</b> 79:13,13 <b>notary</b> 110:6 111:14 112:11,20 113:14 113:23 114:23 <b>note</b> 98:17 99:13 <b>notes</b> 4:18 96:6,19 99:2 101:13 <b>notice</b> 68:21 <b>noticed</b> 81:7 <b>noting</b> 61:19 <b>november</b> 9:10 <b>number</b> 4:2 61:21 63:6 77:22 84:14 <b>numbered</b> 59:12 62:8 <b>numbers</b> 40:12 96:15 99:9 113:7 <b>nurseries</b> 1:20 4:7 19:3,5 32:10 34:6 <b>nursery</b> 11:2,4 31:16 102:20 103:3	<b>offer</b> 67:20 <b>offered</b> 30:12 37:10 38:6 <b>offering</b> 26:24 45:12 45:17 46:25 85:25 88:14 95:21 <b>offers</b> 28:18 <b>office</b> 91:9 111:6 <b>official</b> 112:16 113:20 <b>oh</b> 12:19 83:6 94:25 101:10 <b>ohio</b> 1:2,10,22 2:8 5:10 7:9,14 10:14 52:18,20 53:1,5 54:16 73:21 74:25 77:14 81:1 86:2 105:5 107:14 110:2 110:7 111:7,15 112:3 113:3 <b>okay</b> 6:18 8:4,16 9:16 10:5,10 13:14 13:17,22 14:23 17:3 23:6,11 25:21 26:7 28:10 33:7 36:8 42:8 48:3 49:5,14 50:24 53:12 54:4,15 55:12 56:1 57:18,20 58:12,16 59:3 60:6 62:4 65:21 66:8,22 67:3,11 68:24 70:16 71:14,20 72:10 73:19 74:13 75:15 76:1 81:4 87:14 90:5,17,21 91:24 92:9 93:19 97:9 98:9 102:12,17 103:17 107:6,7 <b>old</b> 7:23 82:16 <b>once</b> 19:20 37:19 71:17 103:15 <b>ones</b> 20:18 <b>operations</b> 4:9 35:4 105:9 106:15	<b>operators</b> 4:12 41:1 <b>opinion</b> 26:20,20 55:22,23 56:6 63:2 67:20 81:8,18,21 82:4 87:7 88:14 94:9 95:21 101:4 102:1,6,11,16 107:12,12,12,13 <b>opinions</b> 26:24 32:4 44:24 45:13,17 46:25 54:15 103:14 104:23 107:25 <b>opportunity</b> 60:18 108:4 <b>option</b> 89:18 <b>order</b> 63:23 74:4 75:12 101:20 <b>organization</b> 104:12 <b>original</b> 109:12 <b>originals</b> 7:16,17 <b>ornamental</b> 10:19 <b>osha</b> 13:2,11,12,24 36:4 <b>outline</b> 103:20 <b>overall</b> 54:16 76:3 <b>overhanging</b> 69:22 <b>owned</b> 9:16,19,22 <b>owner</b> 14:10	<b>pages</b> 59:12,13 62:7 106:9 <b>paid</b> 18:13 21:13 23:4 33:11,14,19,20 <b>papers</b> 39:6 <b>paquetet</b> 1:4 2:14 6:21 21:3,16 23:9 25:2 27:9 31:17 43:1 48:8,11 51:13 55:2,3,16 57:23 61:5,11 73:14 74:1 78:3,4 82:6 85:4 90:9 92:24 96:20 97:20 98:10 100:11 100:14 101:21 102:1,18 103:2 112:3 113:3 <b>paquetet's</b> 4:4 22:13 24:1,10,19 78:13 102:6 <b>paragraph</b> 16:2 71:3 80:25 101:22 105:1,8 106:12 <b>part</b> 40:1 43:11 44:21 52:16 58:20 58:20 60:23 72:13 113:9 <b>particular</b> 7:22 14:9 43:18 48:1,6,24 49:19 53:13 54:5 <b>parts</b> 49:7 75:19 <b>party</b> 111:3 <b>pass</b> 37:7 <b>passed</b> 37:9 <b>pattern</b> 59:5 <b>pay</b> 33:16 <b>paying</b> 15:4 <b>pen</b> 48:9,13 <b>people</b> 10:3 28:23 34:15 37:12 77:8 <b>people's</b> 10:22 <b>perceived</b> 106:1 <b>percent</b> 11:3,4 40:18 63:16 64:4,7,9,10 64:25 66:1,2,4,10
<b>o</b>	<b>p</b>		
<b>o</b> 4:21 98:21 99:2 <b>objective</b> 54:16 <b>objectives</b> 106:5,16 106:23 <b>observation</b> 79:16 <b>observe</b> 91:11 <b>obstructions</b> 11:22 <b>obtain</b> 30:10 38:3 88:10 <b>obtained</b> 89:4 <b>obviously</b> 35:15 41:10 52:6 <b>october</b> 4:23 100:5 101:2,16	<b>p</b> 4:23 100:4,9 <b>p.m.</b> 108:13 <b>page</b> 27:16 32:18,20 35:15 36:9 41:15 42:1,7 43:2,2,6 46:17,17 47:5 50:8 50:9 52:14 54:11 64:2 67:13 69:8 70:18 71:4,5,12,22 72:14 73:19,23 74:17,23 77:11 79:19 85:12 86:19 87:16,22 88:20 89:8 96:10 104:19 105:25 113:7 114:3		

<p>66:14,17 67:1  <b>percentage</b> 67:1  <b>perennials</b> 34:21  <b>performance</b> 46:5  46:12 48:21 105:2  <b>permission</b> 54:25  55:16  <b>perry</b> 1:22 16:18  17:25  <b>person</b> 56:3  <b>personal</b> 15:13  25:10 55:21,23 56:6  63:2  <b>personally</b> 112:12  113:15  <b>perspective</b> 57:3  79:24  <b>petrone</b> 1:25 110:6  111:14  <b>photo</b> 31:21 59:18  59:25 60:4 61:15,19  61:21 62:11,12,18  62:20,22 63:6 77:19  77:22 86:13  <b>photograph</b> 4:6,15  31:7 58:24,24 59:2  60:13 79:22,24  <b>photographs</b> 31:18  58:3,17,19 59:6  86:11 89:23  <b>photos</b> 59:13,17  61:4,6 62:6,9 77:13  77:18  <b>physical</b> 41:22  <b>picture</b> 59:21 63:22  79:15 84:12  <b>pictures</b> 61:10 77:11  <b>pieces</b> 80:15,16,18  80:19  <b>place</b> 5:9,13 61:9  81:23 82:1,2,3  110:20  <b>placed</b> 69:19 79:9  <b>plaintiff</b> 1:6</p>	<p><b>plan</b> 20:2,5 23:20  71:7 72:14 87:19  <b>plant</b> 4:11 7:4 40:25  82:25 83:7  <b>planting</b> 10:23  20:10  <b>plants</b> 7:13 34:22  49:8 75:20 100:19  <b>plus</b> 19:19  <b>point</b> 27:10 28:9  50:17 67:3 80:24  105:7  <b>pointing</b> 48:9  <b>pole</b> 24:16,25 51:23  52:4,9 69:17 71:2  72:24 74:18  <b>policies</b> 18:16  <b>policy</b> 52:23 53:11  53:12 88:20,21  <b>pollarding</b> 76:24  <b>portion</b> 53:24  <b>portions</b> 49:12  55:14 75:24  <b>posing</b> 94:11  <b>possible</b> 53:20 88:10  88:15  <b>potential</b> 95:2  <b>power</b> 54:3 94:12  95:5,15  <b>practice</b> 76:24 89:16  <b>practices</b> 4:11,24  38:15 40:25 43:10  43:20 53:8 65:11  103:25 104:10  106:11  <b>precisely</b> 85:20  <b>precut</b> 49:9 75:21  <b>predict</b> 85:20  <b>preferred</b> 53:19  88:6  <b>preparation</b> 22:5  <b>prepare</b> 57:16  <b>prepared</b> 14:14 21:6  24:14 96:22 97:22</p>	<p><b>prescriptive</b> 83:13  <b>presence</b> 110:15  <b>present</b> 2:13  <b>pretty</b> 95:18  <b>prevent</b> 44:20 48:16  48:18  <b>preventing</b> 45:13  <b>previously</b> 5:7 9:16  <b>primarily</b> 24:16  <b>primary</b> 29:21  34:17 67:17 68:4  70:6,25 71:25 72:6  <b>principles</b> 46:9  <b>printed</b> 104:12,13  104:14  <b>probably</b> 6:20 13:22  16:10 18:8 23:23  54:23 57:4 63:18,20  90:17,20 93:7,18  94:7 99:25  <b>problems</b> 20:12,12  20:13  <b>procedure</b> 109:7  112:5 113:5  <b>profitable</b> 10:9  <b>program</b> 39:19  <b>prohibit</b> 47:13  <b>projects</b> 19:25 40:5  <b>promote</b> 33:13 54:2  <b>promoting</b> 32:23  <b>proper</b> 38:25 76:21  <b>property</b> 4:5 16:16  16:25 17:13,20  22:13 24:1,20 49:8  75:20  <b>proposal</b> 4:19 97:2  97:6  <b>propriatorship</b> 9:20  <b>prove</b> 28:19  <b>provide</b> 17:8 18:19  <b>provided</b> 16:15  <b>providers</b> 12:13  <b>providing</b> 85:24  <b>provision</b> 46:18</p>	<p><b>prune</b> 29:10,12  <b>pruned</b> 46:23 69:23  70:1 101:22  <b>pruning</b> 4:11,25  11:24 20:9 41:1  42:2,7 43:10,20,25  44:5,9,19 47:13,14  47:14 48:1,7,16,24  49:1,4,19,21,21,25  50:2,25 51:2,6  53:15,19,21,22 54:1  61:22 62:23 63:15  64:22 65:7 70:2,4  74:8,10 76:4,6,21  76:23 77:14 86:9  87:2,23,24 88:5,7  88:17,23 89:9 94:11  104:1,11,20 105:9  105:24,25 106:1,2,8  106:10,15,25  <b>public</b> 1:2 39:15  110:6 111:14  112:11,20 113:14  113:23 114:23  <b>publication</b> 65:10  65:15 106:11 107:8  <b>publications</b> 33:14  <b>published</b> 65:12  <b>puco</b> 7:15,16 8:2  59:7 62:15 81:14  102:3,10,10  <b>pull</b> 36:9 51:15  64:17  <b>pulled</b> 32:16  <b>purpose</b> 40:19 44:19  45:4,19 46:3 48:16  104:20  <b>purposes</b> 8:21 20:23  24:2 25:21 31:8  32:11 35:5 41:2  42:18 46:9 47:24  56:17 60:14 68:15  75:12 96:7 97:3  98:2,23 100:6 104:2  105:7</p>
---	--	---	--

<p>66:14,17 67:1  <b>percentage</b> 67:1  <b>perennials</b> 34:21  <b>performance</b> 46:5  46:12 48:21 105:2  <b>permission</b> 54:25  55:16  <b>perry</b> 1:22 16:18  17:25  <b>person</b> 56:3  <b>personal</b> 15:13  25:10 55:21,23 56:6  63:2  <b>personally</b> 112:12  113:15  <b>perspective</b> 57:3  79:24  <b>petrone</b> 1:25 110:6  111:14  <b>photo</b> 31:21 59:18  59:25 60:4 61:15,19  61:21 62:11,12,18  62:20,22 63:6 77:19  77:22 86:13  <b>photograph</b> 4:6,15  31:7 58:24,24 59:2  60:13 79:22,24  <b>photographs</b> 31:18  58:3,17,19 59:6  86:11 89:23  <b>photos</b> 59:13,17  61:4,6 62:6,9 77:13  77:18  <b>physical</b> 41:22  <b>picture</b> 59:21 63:22  79:15 84:12  <b>pictures</b> 61:10 77:11  <b>pieces</b> 80:15,16,18  80:19  <b>place</b> 5:9,13 61:9  81:23 82:1,2,3  110:20  <b>placed</b> 69:19 79:9  <b>plaintiff</b> 1:6</p>	<p><b>plan</b> 20:2,5 23:20  71:7 72:14 87:19  <b>plant</b> 4:11 7:4 40:25  82:25 83:7  <b>planting</b> 10:23  20:10  <b>plants</b> 7:13 34:22  49:8 75:20 100:19  <b>plus</b> 19:19  <b>point</b> 27:10 28:9  50:17 67:3 80:24  105:7  <b>pointing</b> 48:9  <b>pole</b> 24:16,25 51:23  52:4,9 69:17 71:2  72:24 74:18  <b>policies</b> 18:16  <b>policy</b> 52:23 53:11  53:12 88:20,21  <b>pollarding</b> 76:24  <b>portion</b> 53:24  <b>portions</b> 49:12  55:14 75:24  <b>posing</b> 94:11  <b>possible</b> 53:20 88:10  88:15  <b>potential</b> 95:2  <b>power</b> 54:3 94:12  95:5,15  <b>practice</b> 76:24 89:16  <b>practices</b> 4:11,24  38:15 40:25 43:10  43:20 53:8 65:11  103:25 104:10  106:11  <b>precisely</b> 85:20  <b>precut</b> 49:9 75:21  <b>predict</b> 85:20  <b>preferred</b> 53:19  88:6  <b>preparation</b> 22:5  <b>prepare</b> 57:16  <b>prepared</b> 14:14 21:6  24:14 96:22 97:22</p>	<p><b>prescriptive</b> 83:13  <b>presence</b> 110:15  <b>present</b> 2:13  <b>pretty</b> 95:18  <b>prevent</b> 44:20 48:16  48:18  <b>preventing</b> 45:13  <b>previously</b> 5:7 9:16  <b>primarily</b> 24:16  <b>primary</b> 29:21  34:17 67:17 68:4  70:6,25 71:25 72:6  <b>principles</b> 46:9  <b>printed</b> 104:12,13  104:14  <b>probably</b> 6:20 13:22  16:10 18:8 23:23  54:23 57:4 63:18,20  90:17,20 93:7,18  94:7 99:25  <b>problems</b> 20:12,12  20:13  <b>procedure</b> 109:7  112:5 113:5  <b>profitable</b> 10:9  <b>program</b> 39:19  <b>prohibit</b> 47:13  <b>projects</b> 19:25 40:5  <b>promote</b> 33:13 54:2  <b>promoting</b> 32:23  <b>proper</b> 38:25 76:21  <b>property</b> 4:5 16:16  16:25 17:13,20  22:13 24:1,20 49:8  75:20  <b>proposal</b> 4:19 97:2  97:6  <b>propriatorship</b> 9:20  <b>prove</b> 28:19  <b>provide</b> 17:8 18:19  <b>provided</b> 16:15  <b>providers</b> 12:13  <b>providing</b> 85:24  <b>provision</b> 46:18</p>	<p><b>prune</b> 29:10,12  <b>pruned</b> 46:23 69:23  70:1 101:22  <b>pruning</b> 4:11,25  11:24 20:9 41:1  42:2,7 43:10,20,25  44:5,9,19 47:13,14  47:14 48:1,7,16,24  49:1,4,19,21,21,25  50:2,25 51:2,6  53:15,19,21,22 54:1  61:22 62:23 63:15  64:22 65:7 70:2,4  74:8,10 76:4,6,21  76:23 77:14 86:9  87:2,23,24 88:5,7  88:17,23 89:9 94:11  104:1,11,20 105:9  105:24,25 106:1,2,8  106:10,15,25  <b>public</b> 1:2 39:15  110:6 111:14  112:11,20 113:14  113:23 114:23  <b>publication</b> 65:10  65:15 106:11 107:8  <b>publications</b> 33:14  <b>published</b> 65:12  <b>puco</b> 7:15,16 8:2  59:7 62:15 81:14  102:3,10,10  <b>pull</b> 36:9 51:15  64:17  <b>pulled</b> 32:16  <b>purpose</b> 40:19 44:19  45:4,19 46:3 48:16  104:20  <b>purposes</b> 8:21 20:23  24:2 25:21 31:8  32:11 35:5 41:2  42:18 46:9 47:24  56:17 60:14 68:15  75:12 96:7 97:3  98:2,23 100:6 104:2  105:7</p>
---	--	---	--

<p><b>pursuant</b> 63:2 109:3 109:6</p> <p><b>purview</b> 26:19</p> <p><b>pushing</b> 58:21</p> <p><b>put</b> 6:5 21:18 27:6 36:1 56:20 60:5 77:6 81:4 108:5</p> <p><b>puts</b> 20:6</p> <p><b>putting</b> 41:5 57:2</p>	<p>72:21 83:4,9 95:12 108:6 112:5,6,13 113:5,6,16</p> <p><b>reading</b> 53:3 54:13 61:24 65:25 71:6 72:21</p> <p><b>ready</b> 97:11</p> <p><b>real</b> 16:25</p> <p><b>realize</b> 70:16</p> <p><b>realized</b> 54:20,23 55:14</p> <p><b>realizes</b> 33:15</p> <p><b>really</b> 26:6 40:16 55:21 72:18 77:15 80:5 85:7 93:1 102:5,15,25 107:5</p> <p><b>realm</b> 40:9</p> <p><b>reason</b> 6:9 10:5 15:16 18:15 113:7 114:3</p> <p><b>reasons</b> 10:10</p> <p><b>recall</b> 18:6 64:8 78:10 82:17</p> <p><b>received</b> 37:19</p> <p><b>recess</b> 60:10</p> <p><b>recognize</b> 21:2 31:14 33:9</p> <p><b>recognized</b> 36:24</p> <p><b>recollection</b> 50:15 97:14,19 101:15 102:25</p> <p><b>recommendation</b> 47:9 50:11</p> <p><b>record</b> 5:8,23 19:4 23:3 27:7,16 47:22 57:25 58:5 60:17 61:25 92:22 103:19 103:22 108:6 113:9</p> <p><b>red</b> 30:6,7,8</p> <p><b>redoing</b> 9:14</p> <p><b>reduced</b> 110:14</p> <p><b>reduction</b> 44:4 47:13 49:21 76:4 87:4</p>	<p><b>refer</b> 43:17 69:5</p> <p><b>reference</b> 74:9</p> <p><b>referenced</b> 110:13 110:18 112:12 113:15</p> <p><b>referred</b> 35:10 62:13,14 69:7</p> <p><b>referring</b> 12:4 62:20 68:18</p> <p><b>refresh</b> 50:15 97:13 97:18 101:14</p> <p><b>regarding</b> 19:13 109:2,11</p> <p><b>regardless</b> 70:11</p> <p><b>reinforces</b> 50:17</p> <p><b>related</b> 16:6</p> <p><b>relates</b> 35:24</p> <p><b>relation</b> 17:10</p> <p><b>relative</b> 111:2</p> <p><b>rely</b> 104:22</p> <p><b>relying</b> 78:4</p> <p><b>remember</b> 52:12 90:22</p> <p><b>remind</b> 6:14</p> <p><b>removal</b> 11:1,24 20:10 48:24</p> <p><b>removals</b> 19:14</p> <p><b>remove</b> 74:10 89:18 105:9</p> <p><b>removed</b> 12:2 15:5 17:6,16 19:14 46:22 49:6 50:18 53:25 55:13 75:17,18</p> <p><b>removing</b> 49:15,16</p> <p><b>rendering</b> 44:24</p> <p><b>rennillo</b> 114:1</p> <p><b>repair</b> 73:21</p> <p><b>replacing</b> 57:11</p> <p><b>report</b> 4:13,14,22 22:2,5,17 25:6,14 27:17 42:12,13,17 42:21,25 43:2,6,18 45:6 46:19 52:1,11 55:11 56:10,16,23 57:1,3,6,16 58:10</p>	<p>59:8,12,17,19 61:25 62:1,14 63:25 65:17 65:23 67:9,21 77:10 81:7,18 83:19 86:14 90:14,24 97:11 98:23 99:7,23,24</p> <p><b>reporter</b> 3:13 112:7</p> <p><b>reporter's</b> 3:10 110:1</p> <p><b>represent</b> 5:10</p> <p><b>representative</b> 89:3</p> <p><b>representatives</b> 88:25</p> <p><b>represented</b> 20:7</p> <p><b>repruning</b> 87:25</p> <p><b>request</b> 108:7 113:9 113:11</p> <p><b>requested</b> 109:1,6 109:10</p> <p><b>require</b> 106:23</p> <p><b>required</b> 30:15 48:23,25 69:11 86:23 88:16 106:16 106:23 107:23</p> <p><b>requirement</b> 30:16 55:17 87:18</p> <p><b>requirements</b> 4:9 30:1 35:3</p> <p><b>requires</b> 55:8</p> <p><b>residential</b> 11:8</p> <p><b>respect</b> 6:22 57:21</p> <p><b>responded</b> 90:25</p> <p><b>responds</b> 107:1</p> <p><b>response</b> 57:19</p> <p><b>responses</b> 4:20 96:17 98:1,6</p> <p><b>responsible</b> 55:4</p> <p><b>restating</b> 102:6</p> <p><b>result</b> 33:22 105:19</p> <p><b>resume</b> 39:21</p> <p><b>retailer</b> 10:20</p> <p><b>retained</b> 3:13</p> <p><b>review</b> 18:15,18 59:25 60:19 109:2,6 112:1 113:1</p>
<p><b>q</b></p> <p><b>qualified</b> 30:18,21 30:24 35:17 36:11 36:12,15,20 86:21 100:18 110:8</p> <p><b>qualify</b> 35:19</p> <p><b>quantify</b> 92:25</p> <p><b>question</b> 6:14 13:16 26:2 27:22,25 30:23 32:22 42:9 47:20 50:21 53:1 59:5 64:22 65:15 70:21 70:21 71:17,18,21 72:1,3 74:15 77:1 77:14 81:25 82:7 105:4 107:11</p> <p><b>questions</b> 5:24 6:3 25:6 26:3 28:12 32:7 56:21,22 60:8 82:5 104:7</p> <p><b>quoted</b> 46:18</p>	<p><b>r</b></p> <p><b>r</b> 103:12</p> <p><b>radius</b> 70:14</p> <p><b>rain</b> 92:4 93:1</p> <p><b>rainfall</b> 85:16</p> <p><b>ralaw.com</b> 2:10</p> <p><b>rare</b> 54:22</p> <p><b>rate</b> 23:13,15 69:14 85:12</p> <p><b>rates</b> 97:8</p> <p><b>read</b> 9:9 33:6 45:10 46:7 47:20,22 52:15 53:6 54:9 62:13 70:16 71:1 72:2,12</p>		

<b>reviewed</b> 77:13 90:13 101:3 <b>revision</b> 68:23,23 69:1,3 <b>revisions</b> 7:10 <b>rewrote</b> 20:2 <b>rid</b> 20:18 36:6 <b>ridge</b> 1:21 <b>right</b> 6:17 11:19 13:3,14 15:6 16:20 16:21 17:18 18:24 19:8 20:19 23:19 24:13 26:25 28:6 31:23 33:12,17,24 36:5 37:11,14,22,24 38:9,19,23,23 39:10 39:11 40:15 41:21 44:13,22 45:10,21 45:25 46:5 47:3 48:22 49:15,24 50:3 51:15,18 52:4,14 53:3 54:5 55:11,20 57:9,22 58:8,13 59:8,22 60:1 61:24 62:9 63:5,23 65:3 66:19 67:4,9 69:3,9 71:5,8,15 72:21 73:1,2,6,7,17 74:1 74:21 75:4 76:8,10 76:12 77:23 78:22 79:6 82:8,20 83:8 83:10,16 84:2,15,16 85:13,22 86:6 87:15 88:3 89:6,18 91:1 92:16,20 93:3,9,12 93:25 94:21,22 95:13 97:20 100:13 100:15,18 102:11 104:14 105:22 106:17 107:4,10 108:10 <b>rights</b> 83:12 <b>riverwood</b> 9:17 11:6 12:9 19:1,10	<b>road</b> 1:21 11:19 <b>roetzel</b> 2:4 <b>role</b> 14:9,12 16:24 17:1,4 29:15,16 <b>room</b> 5:25 <b>ropes</b> 49:11 75:23 <b>rough</b> 4:21 98:22 99:6 <b>rounding</b> 77:3 <b>rounds</b> 25:5 <b>rpr</b> 1:25 <b>rule</b> 6:10 13:2,3,5,6 13:6,10 36:4 56:7 <b>rules</b> 109:3,7 112:5 113:5 <b>ruts</b> 84:5,9 85:6  <b>s</b> <b>s</b> 103:12 113:7,8 114:3 <b>safety</b> 4:8 12:18 13:5,20,22 20:17 35:3 105:21 <b>sales</b> 34:19,20,21 <b>save</b> 29:23 <b>saves</b> 32:6 <b>saw</b> 37:9 39:21 <b>saying</b> 13:24 26:22 27:25 47:21 66:12 66:13 76:16 81:1,16 84:20 87:24 89:8 98:14 <b>says</b> 7:23 16:2 25:2 41:16 42:7 44:9 45:4,6 47:8 50:18 50:24 53:2,11,15 64:19,24 65:16 71:1 72:20 73:5 75:10 76:9,11,12 88:5,20 88:21 99:5 104:25 106:1,17 <b>scale</b> 79:25 80:2,6 <b>scars</b> 92:1,1,2 <b>scheduled</b> 23:22	<b>scope</b> 40:9 <b>seagate</b> 2:6 <b>seal</b> 111:6 112:16 113:20 <b>season</b> 93:1 <b>seasonal</b> 34:15 <b>second</b> 42:1,7 43:2,6 46:17 101:21 104:25 <b>section</b> 41:14,16 42:2,3 43:18 49:18 50:25 51:5 52:21,21 53:6,7,13 54:5,8 55:6,7 64:15,16,17 64:21,23,23 65:16 65:20 69:5 70:17 76:3,7 77:4 87:18 <b>sections</b> 42:3 43:25 44:7 83:1,4,9 <b>see</b> 9:3 22:9 25:25 27:17 32:20,21 39:4 44:5 46:23 50:22 51:3,4,17 55:6,17 59:14,16 63:13 65:8 66:25 67:9,18 69:1 71:2,12,15 74:20 76:13,19 77:2,25 81:13 84:13 88:25 89:1 90:18 92:1 98:13 100:21 101:10 108:12 <b>seeing</b> 63:4 <b>seen</b> 6:7 25:12 28:4 28:15 43:21 47:2 89:22,24 <b>semantics</b> 77:2 <b>seminars</b> 35:25 38:24 <b>send</b> 7:17 <b>sense</b> 24:15 39:9 <b>sent</b> 7:15,15 8:1 59:7 100:11,14 <b>sentence</b> 43:8 52:15 64:3 65:24 71:3 105:17 106:22	<b>separate</b> 23:7,10 28:24 33:23,24 40:7 <b>series</b> 92:2 96:15 99:8 <b>service</b> 9:18 11:3 12:14 44:20 45:2 48:17 105:19 <b>services</b> 12:9 <b>set</b> 98:18 111:6 <b>severely</b> 75:7,11 76:15 <b>sheet</b> 113:7,10,17 114:1 <b>shortly</b> 77:14 <b>show</b> 8:24 20:25 24:5 27:10 32:14 49:2 62:22 64:18,23 77:18 79:15 91:23 104:4 <b>showed</b> 43:1,24 90:10 <b>showing</b> 35:8 42:20 63:8 79:24 96:9 97:5 98:7 99:1 <b>shown</b> 27:16,24 <b>shows</b> 61:21 62:23 77:19 92:22 <b>shrub</b> 4:11 10:23 40:24 <b>shrubbery</b> 10:19 <b>shrubs</b> 34:21 <b>side</b> 33:19 39:14 64:3,24 65:25 66:3 66:13,21 69:16 70:14 71:1 72:24 87:12 107:17,19 <b>signature</b> 108:4 109:5 <b>signed</b> 112:14 113:18 <b>significant</b> 26:16 <b>similar</b> 72:18 <b>simply</b> 33:11 <b>single</b> 96:10
---	---	--	--

<b>sit</b> 47:11,23 78:11 <b>situation</b> 87:20 <b>six</b> 63:18 91:3 <b>sixth</b> 7:23 <b>size</b> 63:17 67:14 70:23 71:23 <b>slipped</b> 67:25 <b>slow</b> 94:17 <b>slower</b> 85:22 <b>smaller</b> 79:14 <b>society</b> 36:23 43:8 <b>softened</b> 107:1 <b>sole</b> 9:20 <b>sorry</b> 26:5 42:5 58:12 61:12 65:8 75:17 89:9 90:16 <b>south</b> 1:21 <b>space</b> 41:16,23 45:21,24 48:20 105:11,15 <b>spaces</b> 46:22 <b>speak</b> 5:25 103:13 <b>speaking</b> 55:2 56:5 <b>speaks</b> 56:3 <b>special</b> 65:10 <b>specialist</b> 28:14 30:17 38:8 <b>specialists</b> 38:16 <b>specialty</b> 32:25 <b>species</b> 70:7,11 85:21 <b>specific</b> 16:7 48:13 <b>specifically</b> 49:3 75:1 77:4,12,20 78:1 84:3,8 85:5 86:12 <b>specifications</b> 4:17 14:19,21 15:3 18:16 68:6,14,17 86:3 87:14 95:22 <b>specified</b> 110:21 <b>specifies</b> 12:23 <b>specimen</b> 54:21 55:15	<b>spell</b> 19:4 <b>spend</b> 72:17 <b>spends</b> 103:6 <b>splitting</b> 49:10 75:22 <b>ss</b> 110:3 <b>standard</b> 4:8,10,11 20:9,10,10,11 35:3 36:15 40:24,25 46:12,19 52:16,18 53:2,10 54:8 56:7 64:19,24 65:6 75:1 75:2,9,13 87:4 105:2 <b>standards</b> 13:11,13 46:5 47:12 48:21 50:10,12,14 52:25 53:17,18 64:12,13 64:14 70:3 88:1,2 <b>start</b> 8:17 19:6 <b>started</b> 6:19 101:15 <b>starts</b> 17:21 <b>state</b> 49:18,20 53:12 54:4 110:2,7 111:15 112:12 113:15 <b>stated</b> 44:13,20 45:5 45:18 46:3 53:7 <b>statement</b> 68:2 70:22 71:22 78:23 112:14,14 113:18 113:18 <b>statements</b> 87:24 <b>states</b> 49:4 105:17 106:12 <b>staying</b> 36:2 <b>stem</b> 53:23 69:23 <b>stenotypy</b> 110:14 <b>steps</b> 74:3 <b>stipend</b> 19:18 <b>stopped</b> 10:6 <b>street</b> 12:1 <b>strictly</b> 18:21,23 <b>structure</b> 70:15 <b>structures</b> 70:12	<b>stub</b> 87:12 <b>stubbed</b> 53:25 <b>stubs</b> 62:24 86:21 <b>stuff</b> 19:20,21 20:11 <b>subclause</b> 44:10 50:1 51:1 76:7 <b>subject</b> 39:7 <b>submitted</b> 81:14 <b>subpart</b> 49:2 <b>subscribed</b> 112:11 113:14 114:20 <b>subsection</b> 42:4,10 43:14,24 46:20 <b>sucker</b> 91:7 94:6 <b>suite</b> 2:7 <b>supplement</b> 9:13 <b>support</b> 49:9 75:21 <b>supposed</b> 63:15 <b>sure</b> 6:12 13:23,25 26:3 31:20 48:14,14 50:7 55:2,3 59:10 60:22 65:4 70:20 72:8,15 78:9 80:6 81:16 84:12 95:11 <b>suspecting</b> 101:21 <b>suspicion</b> 101:20 <b>sworn</b> 5:2 110:10 112:11,14 113:14 113:18 114:20	<b>talked</b> 32:25 36:4 38:22 54:24 55:16 57:24 63:14 74:19 76:5 87:15 105:13 <b>talking</b> 6:2 11:6 14:22 17:17 26:10 50:21,25 58:9 65:2 65:14 66:15 71:16 75:3 77:9 80:16 82:9,24 95:6,7 <b>talks</b> 35:16 <b>tape</b> 30:6,7,8 <b>tapping</b> 48:12 <b>tearing</b> 49:10 75:22 <b>techniques</b> 88:23 <b>telephone</b> 79:6 <b>tell</b> 17:14 19:25 20:4 28:15 29:15 34:12 41:22 79:23 85:5 90:18 91:19,22 94:5 99:5 103:11 108:11 <b>telling</b> 28:4 79:23 102:10 <b>tells</b> 12:21 <b>temperature</b> 85:17 <b>ten</b> 10:3,17 13:1,2,5 13:10 36:4 91:16,17 <b>term</b> 31:2 <b>terms</b> 77:4 <b>test</b> 28:17,18,24 <b>tested</b> 29:4 41:18 <b>testified</b> 16:2,8,12 17:14 71:8 <b>testify</b> 27:12 110:10 <b>testifying</b> 27:9 <b>testimony</b> 5:18 7:18 7:19,21 17:8,15 18:19,20,21 21:25 22:10,18 23:12,16 25:8,14,22 27:11 56:12 59:8,13 61:17 61:20,23 62:2,2,5,7 62:15 65:22 67:5,8 67:9,13 73:20,23 79:17,18,18,19
		<b>t</b>	
		<b>table</b> 64:22 <b>tables</b> 27:3 28:1,5 <b>take</b> 6:8 8:14,14 54:25 55:1 60:4,7 84:1,21,22 101:19 <b>taken</b> 1:19 5:19 12:1 28:17 60:10 61:6,10 61:13 74:3 77:14,16 110:20 <b>takes</b> 76:22 <b>talk</b> 6:12 27:23 68:25 81:10 85:11 95:4 108:1	

80:25 81:14,20 83:20 84:13 85:11 85:24 89:8 90:15,25 102:2 110:13,17 112:5,7 113:5,9,11 <b>thank</b> 60:21 <b>thing</b> 6:16 30:18 64:20 82:17,18 87:2 91:25 97:16 <b>things</b> 6:6 28:22 46:13 55:12 73:25 78:20 85:17 <b>think</b> 13:4,14 26:19 26:20 27:5 28:3 29:20 30:13 36:22 37:14 47:6 55:10 59:23 67:6 78:17 81:22,22 82:10 84:13 87:17 89:24 93:15,16 96:1 97:15 97:20 99:24 103:20 <b>third</b> 64:2 <b>thirty</b> 64:10 <b>thought</b> 13:12 71:15 <b>thousands</b> 89:14 <b>threat</b> 94:11,20 95:4 <b>three</b> 21:20,21,24 22:23 37:21 55:12 64:10 83:24 84:1,18 84:22,22 91:14 102:23 103:1 <b>thursday</b> 108:9 <b>tie</b> 27:1 <b>tied</b> 59:11 <b>tight</b> 94:15 <b>time</b> 5:13 11:9 12:8 18:18 19:10 21:9 22:3 23:4,12 37:10 38:5 40:14 65:2 72:17 98:13 105:18 110:20 <b>times</b> 16:8,10 29:12 <b>today</b> 6:5 9:14 23:18 39:13 47:11,23 54:9 75:3 78:12	<b>told</b> 15:8 25:18,22 29:1 73:14 74:1,19 78:14 79:5 102:10 <b>toledo</b> 2:8 <b>top</b> 9:3 21:6 43:6 63:10 71:2 73:22 77:22,24 98:9 99:8 107:19 <b>topped</b> 75:7,12 76:15 77:19,20 89:15 <b>topping</b> 63:9 76:23 77:3 <b>total</b> 21:10 61:22 81:11,19 <b>totally</b> 33:24 76:25 89:15,15,15 <b>training</b> 35:22 41:19 <b>transcribed</b> 110:16 112:7 <b>transcript</b> 3:1 61:4 62:15 108:7 109:3,6 109:9,11 112:5,13 113:5,11,16 <b>transcription</b> 110:17 <b>tree</b> 4:10,12 9:18 10:20,21 11:1,3 12:25 16:6,19 17:2 17:5,16,18 18:4,9 18:10,11 19:12,13 19:21 20:2,4,8 24:15 26:1,17 40:2 40:17,19,24 41:1 46:4,12 47:1 48:21 49:1,5,7,15,16 50:18 51:9,23 52:4 52:6 54:17,21 55:15 57:7,11,21 59:5 61:8 62:25 63:10,11 67:15,16 68:3 69:10 69:13,17 70:7,11,23 70:25 71:23,25 72:5 72:25 73:9,10 74:8 74:17 75:6,11,16,17	75:19 76:15 77:13 77:23,25 79:10,11 81:9,19 82:4 83:15 83:22 85:13 87:5,22 89:7,10,18,22,24 91:4 94:5,10,14,18 94:20 95:14 99:19 106:24 107:1,3,16 <b>trees</b> 4:25 7:13 10:22,23 11:24,24 14:12 15:5 19:14,15 20:8 29:11,12,17,18 29:23 33:4 34:21 35:24 43:10 46:20 56:4,5 65:7 85:23 101:23 104:1,11 106:15 <b>trial</b> 27:12 <b>trim</b> 17:9,10 <b>trimmer</b> 12:25 <b>trimming</b> 10:22 11:1 14:4 40:17,18 45:19 54:17 61:8 87:5 93:2,8 <b>true</b> 17:3 110:16 <b>trunk</b> 63:17,18 74:17 79:1 94:7 <b>truth</b> 110:11,11,12 <b>try</b> 6:13,16 29:22 74:4 <b>trying</b> 14:5,5 64:8 77:6 <b>turn</b> 46:16 73:19 <b>two</b> 7:10 20:3 27:3 28:1 44:8 57:24 63:19,21 66:20,24 67:12 83:23 90:20 90:22,23 93:24 99:25 100:1 102:23 <b>type</b> 19:11 49:19 69:10,13 <b>types</b> 106:2	<b>u</b> <b>uh</b> 10:4 57:12 62:10 67:19 100:24 104:8 104:21 <b>unable</b> 10:8 <b>unattainable</b> 70:9 <b>unclear</b> 33:10 <b>underneath</b> 44:9 55:11 <b>understand</b> 5:23 27:7 41:11 46:8 47:19 50:2 80:25 82:10 <b>understanding</b> 13:9 24:18 26:9 <b>updating</b> 9:7 <b>upfront</b> 33:18 <b>upheld</b> 47:15 <b>uphold</b> 45:19 48:19 <b>upper</b> 84:12 100:21 100:22 <b>usage</b> 45:20 48:19 <b>use</b> 13:19 47:25 76:17 105:11 <b>usually</b> 36:1 <b>utilities</b> 1:2 12:13 28:21 38:8 <b>utility</b> 4:25 16:17 17:4,10 26:21 29:2 29:8 38:15,18,25 39:5,15,18 41:16,23 42:2,7 43:10,20,25 44:4,19 45:1,20,24 46:22 47:12,13,25 48:16,20,23 49:3,20 52:8 53:7 55:7 64:22 65:7 76:4 95:10,23 104:1,11 104:20 105:8,11,15 105:24,25 106:1,15 106:25 <b>utilize</b> 32:2 <b>uvm</b> 88:20
--	---	---	--



<p><b>v</b></p> <p><b>v</b> 112:3 113:3</p> <p><b>valuation</b> 57:21</p> <p><b>value</b> 17:2,5,17,18 18:4,22,23 81:4,9 81:11,18 82:4,12 83:15</p> <p><b>various</b> 39:1</p> <p><b>vegetation</b> 4:17 18:15 52:22 68:6,13 69:20,22,24 70:1,13 71:6,7 72:13 87:19 88:21 105:4</p> <p><b>verified</b> 25:1</p> <p><b>verify</b> 31:24 74:4 101:20</p> <p><b>veritext</b> 114:1</p> <p><b>vernacular</b> 77:7</p> <p><b>version</b> 31:22 35:11 72:16,19</p> <p><b>vertical</b> 28:2</p> <p><b>village</b> 11:10,11 30:15</p> <p><b>violate</b> 6:11</p> <p><b>visibility</b> 12:5</p> <p><b>visit</b> 98:10,12,15,18</p> <p><b>visual</b> 106:25</p> <p><b>vitae</b> 4:2</p> <p><b>volt</b> 41:24</p> <p><b>voltage</b> 26:12,15 69:13 85:8 94:23</p> <p><b>voltages</b> 39:1</p> <p><b>vs</b> 1:8</p>	<p>66:3,25 70:20 71:9 93:4 96:1,2 103:17 104:6 108:11</p> <p><b>wanted</b> 15:4 48:13 55:1</p> <p><b>waste</b> 65:1</p> <p><b>watched</b> 89:13</p> <p><b>way</b> 9:7 11:19 16:20 16:21 25:11 53:9 83:8,12 86:24 100:13 107:20,22</p> <p><b>weaker</b> 90:6</p> <p><b>websites</b> 28:15</p> <p><b>week</b> 23:22</p> <p><b>weeks</b> 99:25 100:1</p> <p><b>west</b> 10:17</p> <p><b>whereof</b> 111:5</p> <p><b>whichever</b> 69:18 72:25</p> <p><b>white</b> 31:22 61:3</p> <p><b>wide</b> 94:16</p> <p><b>width</b> 69:18 73:1</p> <p><b>willoughby</b> 19:17,23 20:8 30:15</p> <p><b>winter</b> 34:16 61:10 61:14</p> <p><b>wire</b> 26:8,9,12,16 101:23</p> <p><b>wires</b> 17:10 55:5</p> <p><b>witness</b> 16:3,9 27:8 83:2 100:12 110:9 110:14,15,18 111:5 112:1,4,12 113:1,4 113:15</p>	<p>29:9,14 33:18,21,25 34:23 36:16,20 42:14 58:2 83:22,24 84:1</p> <p><b>worked</b> 29:11 38:18 38:21</p> <p><b>workers</b> 13:7</p> <p><b>working</b> 19:6 28:21 30:5 101:15</p> <p><b>works</b> 5:22 82:11</p> <p><b>worth</b> 83:24 84:1</p> <p><b>write</b> 14:20 97:9 99:22</p> <p><b>writing</b> 9:5,6 21:25 24:9 100:25 101:1</p> <p><b>written</b> 9:4 15:22 22:2 54:25 55:16 65:17 78:16,18</p> <p><b>wrong</b> 76:16 98:5 107:14,15,16</p> <p><b>wrongfully</b> 17:6</p> <p><b>wrote</b> 22:16 51:25 57:3 58:10 90:24 99:13</p>	<p>79:12 83:23 89:14 90:2 91:18 93:23,23 94:7 103:10</p>
<p><b>w</b></p> <p><b>wade</b> 11:14</p> <p><b>wait</b> 6:14 56:1 58:5 58:8</p> <p><b>waiting</b> 6:21</p> <p><b>waive</b> 108:10</p> <p><b>walk</b> 93:22</p> <p><b>want</b> 6:8 13:15 16:1 20:7 23:7,8 27:13 29:17,19 60:2,3,8 60:22 64:21 65:4,18</p>	<p><b>witness's</b> 109:2</p> <p><b>wood</b> 49:10 75:22 79:13</p> <p><b>woody</b> 4:11 40:25</p> <p><b>word</b> 13:22 76:19 77:2</p> <p><b>words</b> 106:3</p> <p><b>work</b> 10:21,23 11:18 12:8,16,22 14:7,11,16,17 21:10 22:23 23:20 24:12</p>	<p><b>y</b></p> <p><b>y</b> 19:5</p> <p><b>yates</b> 1:15 3:7 4:13 4:14,22 5:1,5 8:24 20:25 24:5 42:17 56:16 98:22 110:9 112:4,10 113:4,13 114:19</p> <p><b>yeah</b> 25:9 83:6 94:3 94:25 100:2</p> <p><b>year</b> 19:9 30:12 85:13,21 90:7,10 91:14,15,17 92:2,4 92:5,10,11,12,12,13 93:10,17,20 97:21 103:6</p> <p><b>years</b> 9:22 18:7 19:7 20:3 27:20 30:13,13 33:20 34:9 37:21 38:6 40:3,10 70:5,8</p>	<p><b>z</b></p> <p><b>zone</b> 69:8,15,21,22 70:17 72:22 74:11 86:1 87:16</p>

bing

11849 NORTHCREST ST NW, 44647

Maps

Web

Maps

Directions

★ My places

Map apps

Road

Bird's eye

Traffic

Print

+

-

11849 Northcrest St NW,  
Massillon, OH 44647-5257  
40.799278 -81.576759

Directions · Save · Send

Not what you wanted?

NEARBY

Restaurants

Bars, Grills & Pubs

Malls & Shopping Centers

More



EXHIBIT  
JL-1  
ALL-STATE LEGAL®

bing

11849 Northcrest St NW, 44647

11849 Northcrest St NW,  
Massillon, OH 44647-5257  
40.799278 -81.576759

Directions • Save • Send  
Not what you wanted?

NEARBY

Restaurants  
Bars, Grills & Pubs  
Malls & Shopping Centers  
More

Maps

Web

Maps

My places

Map apps

Road

Bird's eye

Traffic

Print

11849 Northcrest St NW, 44647

Massillon

Northcrest St NW

AN

EXHIBIT  
JL-1  
ALL-STATE LEGAL