

PROTECTING NEIGHBORHOOD & OTHER ROADSIDE TREES



Strategies for Community Leaders and Residents

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SUMMARY

As electric utilities have started implementing their new vegetation management/line clearance programs across Connecticut, best practices and effective strategies are emerging from towns that have taken a proactive tree management stance. In this toolkit, we have compiled a list of those practices that best protect a town's interest in the economic and environmental value of trees and their impact on quality of life, while simultaneously maintaining a safe and reliable utility infrastructure. Towns are strongly encouraged to adopt policies similar to those mentioned within this toolkit and modified to fit their particular circumstances.

Proposed best practices:

- I. Empower your tree warden to make the final decisions regarding town trees, and ensure that proper procedures are in place to protect healthy trees from indiscriminate tree removal. Decisions should not be made solely or primarily by the utilities that have *no ongoing interest* in the economic, environmental, aesthetic, and community values provided by trees.
- II. Require a written permit that evaluates the proposed tree work on a tree-by-tree basis, and post notice of prospective tree removals as in accordance with law.
- III. Ensure that each tree is being evaluated by the utility company prior to selecting it for pruning or removal.
- IV. Create a town ordinance or other written statement of policy to control the procedure by which a tree removal may be requested, including a written permit application and detailed policies regarding what factors should be considered when selecting town trees for removal.
- V. Consider creating a Tree Task Force or Tree Commission to evaluate the status of current tree policies in your town and, if necessary, create new town tree policy.
- VI. Create a long-term plan for the management of roadside trees, potentially with a tree inventory.
- VII. Communicate your town's policy to the Commissioner of the Department of Transportation to ensure that the DOT's policies are consistent.
- VIII. Hold a town meeting and use other communication tools to explain the town's policies regarding town trees and the utility plans to town citizens.
- IX. Ensure residents receive effective, timely notice of any tree work and a meaningful opportunity to object.

HOW WE GOT HERE

Trees are a crucial piece of Connecticut's charm, and are one of the principal reasons our citizens enjoy a high quality of life. Economically, trees increase property values, reduce cooling costs by shading houses, extend the life of paved roads, and reduce the strain of treating and removing rain water runoff. Environmentally, they produce oxygen, trap particulate pollution, provide habitat, and prevent runoff by absorbing rain water. Aesthetically, they beautify neighborhoods, buffer noise pollution, and have been shown to reduce stress, the likelihood of heart disease, and even neighborhood violence. For example, trees are estimated to provide a benefit of more than \$4,000,000 annually to city of New Haven in services, reduced costs, and increased property values.¹



AFTER THE STORMS

In the aftermath of Tropical Storm Irene, which knocked out power to 800,000 Connecticut residents, Governor Dannel Malloy announced the formation of “The State Team Organized for the Review of Management” (STORM) of Tropical Storm Irene on September 13, 2011. Just six weeks after Irene, a historic October snowstorm knocked out power to 880,000 residents, leading the Governor to expand the work of the rechristened “Two Storm Panel.” The Panel was charged to complete, “a broad, objective evaluation reviewing how Irene was handled in the state both in preparation and recovery, identify areas that can be improved upon and, most importantly, make recommendations for future disaster preparedness and response.”²

The Two Storm Panel's Final Report contained a two-page section on Tree Trimming and an additional two pages on Infrastructure Hardening. According to this report, the Connecticut Light and Power Company (“CL&P”) estimated that trees had knocked down 90 percent of the utility wires that fell during the storms, and United Illuminating (“UI”) estimated that more than 300,000 trees are currently planted within the utility wires' right-of-way within their 17 territories.³ The report criticized the lack of criteria required to become a tree warden, as well as the lack of specific industry standards—besides OSHA safety standards—for tree trimming in Connecticut. Finally, the panel made eight recommendations, including the following:

- Conduct a statewide tree risk assessment and prioritization schedule.
- Establish a state-wide Hazardous Tree Removal Fund that will provide matching grants to homeowners for the removal of hazardous trees on private property that endanger utility wires.
- Establish a State Vegetation Management Task Force.⁴

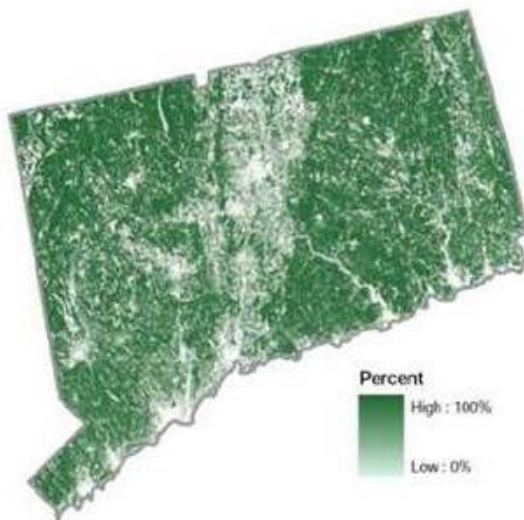
THE STATE VEGETATION MANAGEMENT TASK FORCE

DEEP Commissioner Dan Esty created the State Vegetation Management Task Force (SVMTF) in April 2012. Its mission was “to develop standards for road side tree care in Connecticut, vegetation management practices and schedules for utility rights-of-way, Right Tree/Right Place standards, standards for tree wardens, municipal tree inventories and pruning schedules.”⁵ The concept of “Right Tree/Right Place” is that tree selection should match particular conditions at a given site.⁶

The SVMTF issued its final report in August 2012. The Report recognized that the previous system of vegetation management was ineffective, due in large part to underinvestment in tree management and a lack of participation by municipalities. This has led to the current situation where utilities serve as *de facto* tree managers for most towns. However, the utilities' goal of keeping the lights on does not always sync with the goal of building a healthy, more storm-resistant roadside forest for the future.⁷ Several decades of this arrangement has contributed to a

build-up of hazardous trees along streets and power lines. Very few municipalities have a management program that evaluates all town trees and they struggle to obtain adequate funding for implementation of programs beyond removal of identified hazardous trees.⁸

The Task Force made several recommendations. It called for increased efforts to remove trees that present a significant risk due to defects or poor health,⁹ greater investment in roadside forest management,¹⁰ and that any removal of trees should be guided by the insight and knowledge of qualified professionals.¹¹ It also specifically recommended against a rigid, “one-size-fits-all” line clearance standard, and the wholesale removal of existing trees near the lines. However, this type of “one-size-fits-all” clearing standard is precisely what the utility companies proposed after the storms.



Forest Cover in Connecticut, USDA Forest Service (2012)



Forest Cover in CT Urban Areas, USDA Forest Service (2012)

CHANGING THE UTILITIES’ PLANS

A Connecticut law passed in 2013 allowed utility companies to perform vegetation management where “necessary to prevent damage to the utility infrastructure” within an 8-foot zone on either side of a power line called the Utility Protection Zone (“UPZ”).¹² CL&P significantly expanded its use of “Enhanced Tree Trimming” (“ETT”),¹³ the removal *all tall-growing tree species* within the UPZ, regardless of tree health, species, or structural integrity. UI developed plans to use ETT on *all* of the distribution lines in its territory. If the utilities proceed with these plans, it will have unprecedented, irreversible, and permanent effects on our towns, treescapes, quality of life, and the environment.

In 2013, the Public Utility Regulatory Authority (“PURA”), the state agency that regulates public utilities, approved CL&P spending \$314 million over the next 5 years and UI spending \$100 million over the next 8 years to implement these plans.¹⁴ One hundred percent of the cost of removing these trees is passed on to the customers through an increase in their electric rates. In addition, the utilities have not accounted for stump removal or replanting, leaving the burden on the tree owner or town.¹⁵

Following a draft decision approving the plans, many Connecticut citizens expressed concern about the effects that the plans would have on neighborhood character and the lack of consideration of tree health of the trees to be removed. The public outcry led PURA to

reconsider its draft decision, with over 400 concerned citizens turning out for a PURA Technical Meeting in Hamden on March 6, 2014, and many more submitting written comments.¹⁶ During this same time, the state legislature took up the issue and passed several key amendments to the law, which the Governor signed on June 6, 2014. Among other things, the law expands and clarifies the rights of private property owners, abutting property owners,¹⁷ and town tree wardens.¹⁸

PURA finalized its decision on June 25, 2014, adding some procedural restrictions on the utilities, requiring upfront tree evaluation, improving notice practices, allowing for the retention of tall growing trees, and stating explicitly that the utilities should use alternatives to tree removal whenever conditions permit.¹⁹ As of this writing, PURA had not issued a decision on whether the utilities have complied with the Final Decision's order that the utilities modify their vegetation management plans in accordance with the decision.

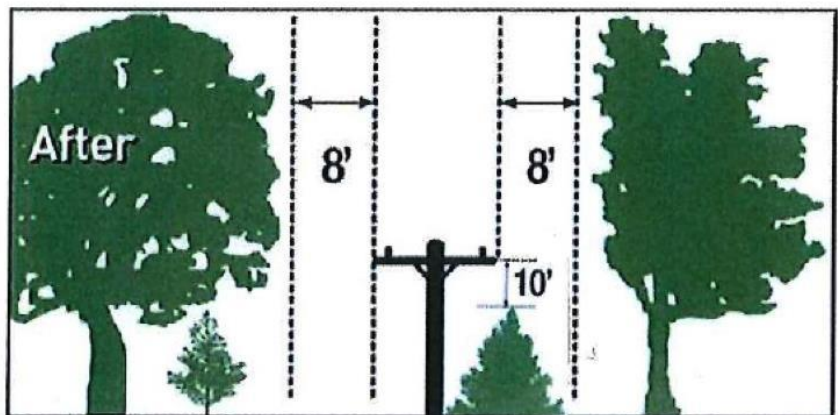
While towns and residents, like utilities, have an interest in trimming trees for continuity of power, they also have interests in maintaining healthy trees. It will be up to town leaders, tree wardens, and residents to understand these values and prevent overzealous tree cutting.

Despite the new legislation and PURA's decision, CL&P and UI have not stopped seeking to remove non-hazardous tall growing trees within the UPZ.²⁰ However, towns have substantial powers to control or stop such cutting. This municipal power stems from town ownership of and responsibility to care for the trees within town right-of-ways, and is codified by state statute.²¹ State law and the PURA decision specifically call for municipal involvement. But unless towns actively exercise these powers, a task that will take vigilance, energy, and resources, Connecticut's landscapes and environment could be irrevocably changed and damaged by the implementation of the utilities' plans.

WHAT ALTERNATIVES TO THE UTILITIES' STANDARDS AND POLICIES EXIST?

The utilities' line clearance standard and policies reflect a desire to mitigate risk on a large scale with little to no actual upfront risk evaluation. This approach does not take into account the economic and environmental benefits which these trees currently provide to towns. To utilities, trees merely present a risk, with no accompanying benefit. Thus, basic economics says that utility companies will err on the side of removing trees when they are in charge of roadside tree management.

While towns and residents, like utilities, have an interest in trimming trees for continuity of power, they also have interests in maintaining healthy trees for all of the benefits that trees bestow. Thus, it will be up to town leaders, tree wardens, and residents to understand these values and prevent overzealous cutting of trees.



Enhanced Tree Trimming, PURA Final Decision, June 25, 2014.

Given that removal of all trees within the 8-foot UPZ is overly destructive, the question becomes what standards and practices may be more appropriate to manage vegetation within the UPZ. Two recognized standards for utility tree trimming practices are ANSI A300 (Part 1), published by the American National Standards Institute, and the Utility Best Management Practices (“BMPs”) published by the International Society of Arboriculture. PURA’s decision in Docket No.12-01-10 specifically requires the utilities to incorporate these standards into their practices.²²

ANSI STANDARDS

For utility tree work, ANSI A300 (Part 1) states that trees directly under and growing into utility spaces should be removed or pruned. Such pruning should be done by removing entire branches or by removing branches that have laterals growing into (or once pruned, will grow into) the utility space.²³ Trees growing next to, and into or toward utility spaces should be pruned by reducing branches to laterals to direct growth away from the utility space or by removing entire branches.²⁴ Not more than 25 percent of the foliage should be removed within an annual growing season and the percentage and distribution of foliage to be removed shall be adjusted according to the plant’s species, age, health, and site.²⁵ No more than 25 percent of a branch or limb’s foliage should be removed when it is cut back to a lateral. That lateral should be large enough to assume apical dominance (the suppression of lateral budding).²⁶ Topping and lion’s tailing shall be considered unacceptable pruning practices for trees.²⁷

In summary, the ANSI standard calls for the pruning or removal of trees directly beneath the lines *and growing into* them. It does not call for *removal of all tall growing species* beneath the lines as the utilities’ plans do. Furthermore, it does not call for removal of trees next to power lines. Under ANSI, pruning is limited to a maximum of 25 percent of the foliage canopy on a tree in a single season, which is clearly inconsistent with the attainment of a strict line clearance standard of 8 feet, which has led to “shaving” an entire side of adjacent trees. Finally, it is never appropriate to remove the entire top (or canopy) of a tree.

INTERNATIONAL SOCIETY OF ARBORICULTURE BEST MANAGEMENT PRACTICES

The International Society of Arboriculture’s Utility BMPs specify that 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.²⁸ Decisions about which branches to prune are based on individual tree characteristics (including growth rate, mature size, shape, and other factors).²⁹ The BMPs call for “directional pruning” of trees directly below the utility lines.³⁰ Directional pruning is accomplished by pruning back to lateral branches or parent stems that are growing away from the power lines. Directional pruning attempts to grow the adult tree away from the lines in a “V” shape. Remaining lateral branches should be of sufficient size to become dominant, thus discouraging the growth of sprouts.³¹ This technique, also called “natural target pruning,” implements biologically sound cuts in such a manner that the remaining limbs are encouraged to grow in a desirable direction. It is structurally and biologically better for trees. Ideally, several cycles of NTP will result in a healthier tree, better utility service, a safer community forest, and less material being removed in future pruning.³²

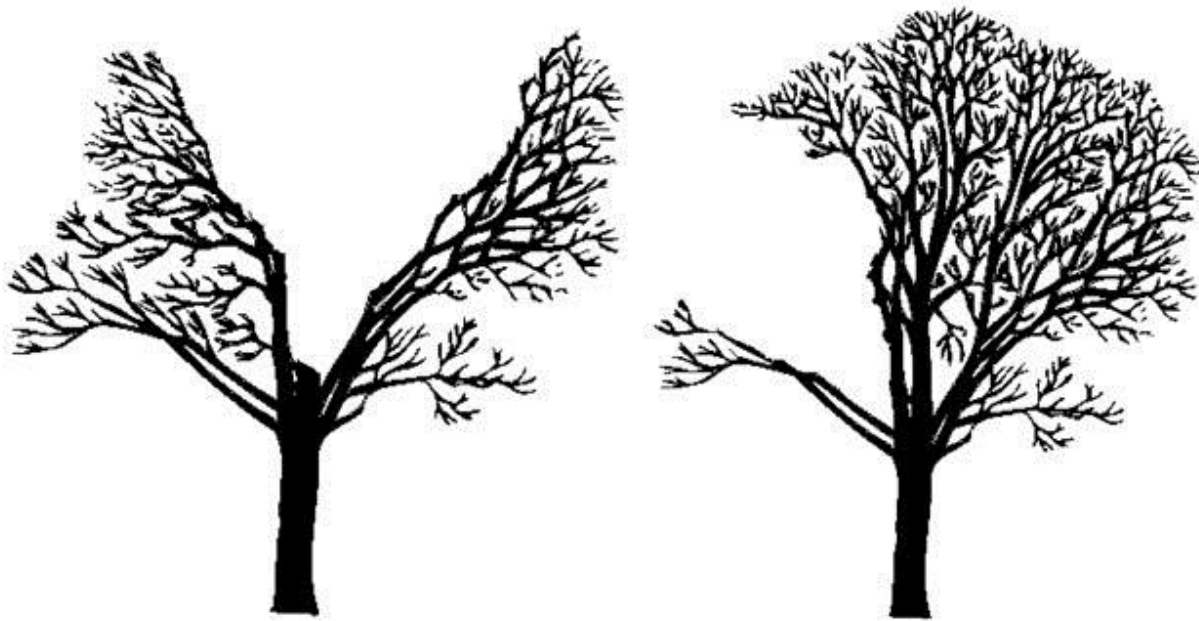


Diagram of directionally pruned trees. Penn State Extension.

There is no disagreement regarding hazardous trees; trees or parts of trees that have been identified by an arborist as dead, extensively decayed, or structurally weak ought to be removed to eliminate the hazard. The issue is what should be done with *healthy*, tall-growing trees. ANSI and ISA agree that healthy trees *next to* power lines can be pruned to limit a tree's effect on the utility infrastructure. Trees directly beneath power lines cause more of an issue. Each standard identifies directional pruning as an appropriate practice when the pruning will not lead to the tree becoming a hazard. Thus a practical alternative to the utilities' plans, which appears to be supported by the national standards and BMPs, is to directionally prune existing tall-growing, healthy trees away from power lines using the natural target pruning method to obtain minimum safe clearances. Removal should only be sought when pruning alone cannot either: (a) eliminate a hazardous condition, or (b) obtain a reasonable clearance without unreasonably increasing the likelihood of creating a hazard tree. Eventually, all trees will reach the end of their life and become hazardous. Increased attention and resources must be used to identify and remove these hazardous trees more quickly.

REVERSION TO PRE-STORM CLEARANCES

Another alternative to the new utility policies would be to revert back to pre-storm clearances but with increased attention and investment into locating and removing hazardous trees. Prior to the recent changes to utility vegetation management practices in Connecticut, UI used directional pruning successfully, with a high reliability record for average New England weather.³³ The clearance specification utilized by UI was "vegetation-to-conductor clearance 12-15 feet above, 6-10 feet to the side and 5-8 feet below the conductor at the time of trimming."³⁴ It was not rigidly applied, but called for individual evaluation of each tree, including "[g]rowth rate, species, shape, condition and location of the tree."³⁵ For trees to the side of power lines, pruning to this specification created a parabolic clearance around the utility lines, and left the tree looking like it had a "bite" taken out of it. While not as visually pleasing as a perfectly round canopy, the parabolic clearance required far less total canopy loss than the ETT standard.

Finally, it is important to reiterate the importance of municipal involvement, no matter what standard or policy is chosen. Proper planning, planting, and routine inspection of public trees will lead to a

healthier and safer roadside forest for decades to come. Right Tree/Right Place guidelines should inform new tree plantings, and undergrounding of wires should be considered wherever possible.³⁶

ECONOMIC AND ENVIRONMENTAL BENEFITS OF TALL AND HEALTHY ROADSIDE TREES

Trees are environmentally and ecologically useful, which benefits communities and their residents monetarily in several ways. Their benefits are especially prominent in urban and dense suburban settings where these benefits are greater per tree because of less dense tree cover. Trees planted near buildings lower electrical costs and increase electrical efficiency. Perhaps most importantly, trees serve as a buffer to the effects of extreme temperatures and weather conditions and therefore conserve energy by reducing indoor heating and cooling system use.³⁷

Urban tree growth is positively correlated with economic activity. Urban commercial areas lined with trees have twelve percent higher sales-volume than their tree-less counterparts.³⁸

Additionally, shoppers are willing to pay more for parking with shade and spend up to eleven percent more for goods and services.³⁹ Furthermore, workers with views of green spaces from their desks report twenty-three percent fewer instances of illness.⁴⁰

Trees also maintain high property values and reduce municipal repair costs. Real estate values of homes with trees are higher compared to homes without trees in the front of the property and residential property values can increase up to twelve percent if landscaping includes trees.⁴¹ In New Haven, the aesthetic valuation for trees alone is \$1,550,000 annually.⁴² Furthermore, studies have shown that crime rates decrease in areas with more greenery and access to green areas reduces stress and aggression for people who live in urban environments.⁴³

In warmer months, trees lower local air temperatures by intercepting sunlight for photosynthesis and growth while simultaneously producing shade, which lowers ground and ambient air temperatures.⁴⁴ Trees lower building temperatures during warmer months, reducing the demand for cooling, and, when strategically placed to shade cooling units, they can save an electric consumer up to ten percent during peak periods.⁴⁵ Again, this is especially relevant in urban areas where temperatures are generally warmer due to the heat island effect.⁴⁶ Additionally, by reducing ground temperatures, streets and sidewalks require far less maintenance. Streets with little or no shade need to be re-paved twice as often as those with 30 percent tree cover.⁴⁷

In colder months, trees help insulate buildings from cold temperatures and strong winter winds, requiring less energy to be expended on heating.⁴⁸ In New Haven, the city's street tree energy conservation was valued at approximately \$1,700,000 per year.⁴⁹

During a rain or storm event, pollutants such as oil, pesticides, fertilizers, fecal matter, and litter that have collected on the surface wash into water bodies such as lakes, streams, and rivers. Not only do trees help absorb storm runoff and therefore decrease flood effects, but they also help filter out these pollutants before they reach our water.⁵⁰ Furthermore, by absorbing water, trees reduce rainwater from flooding sewage and waste water systems during storm events. In New Haven, trees intercept about 53,000,000 gallons of water each year, a reduction valued at nearly \$425,000 annually, or more than \$16 per tree.⁵¹



New Haven Green

New Haven Case Study **Annual Benefits of Street Trees**

Aesthetic value: \$1.55 million
Energy Conservation: \$1.7 million
Stormwater absorption: \$425,000
Air quality improvements: \$356,000
Total: Greater than \$4 million

Trees provide natural air filtration and improve air quality. Their foliage reduces particulate matter from the air, including dust, soot, micro-sized metals, ozone, nitrogen oxides, ammonia, and sulfur dioxides.⁵² Particulates can damage our lungs and increase asthma rates, especially for children.⁵³ In New Haven, trees remove roughly 60,000 pounds of pollutants, such as ozone and particulates, from the atmosphere each year.⁵⁴ Therefore, the air filtration provided by trees is paramount not only for improving quality of life standards, but also reducing medical costs. In New Haven, the value of these air quality improvements was valued at \$356,000 annually.⁵⁵

BEST PRACTICES TO PROTECT TOWN TREES

Since electric utilities have begun implementing their new vegetation management/line clearance programs across Connecticut, best practices and strategies are emerging from the towns that have taken a proactive stance on tree management.

- I. Empower your tree warden to make the final decisions regarding town trees, and ensure that proper procedures are in place to protect healthy trees from indiscriminate tree removal. Decisions should not be made solely or primarily by the utilities that have no ongoing interest in the economic, environmental, aesthetic, and community values provided by trees.**

Connecticut law requires every municipality to appoint a tree warden.⁵⁶ Tree wardens or their deputies must either complete the Tree Wardens Association of Connecticut coursework within one year of appointment or be a licensed arborist under the license provisions of C.G.S. 23-61b. A tree warden can only be effective if he or she has the support of town leadership, and the resources to effectively perform the required duties.

The vast majority of towns in Connecticut do not have a dedicated, full-time tree warden. Very often, the duties of tree warden are given to a town employee who may not have experience or expertise in tree care. All too often, the tree warden is given little to no budget to address tree management issues or to hire a consultant arborist. To effectively do their jobs, tree wardens must have sufficient time and resources to appropriately manage each tree within the town's right-of-way.

The workload of a tree warden will vary greatly from town to town. Therefore, towns ought to evaluate the current burden on their tree warden to: (a) ensure that the tree warden has enough time to dedicate to their role, especially in light of the new law and utilities' plans; and (b) support their tree warden with appropriate budget and tools.

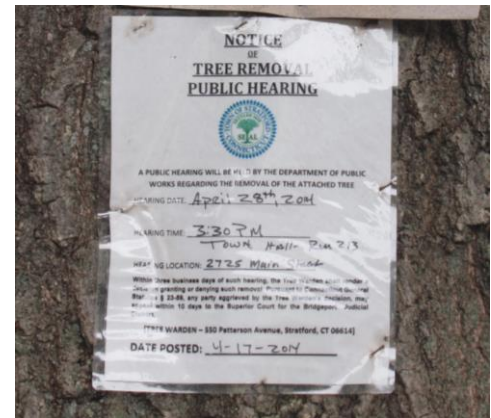
Next, towns ought to direct their tree warden to use his or her powers under the law to enforce the town's tree policies in the best interests of the town and for the preservation of tall and healthy roadside trees.

Tree wardens, by law, have primary authority to make decisions regarding a town's *public trees* – any tree on or overhanging public land or the town's right-of-way.⁵⁷ In addition to their responsibility to prune and remove trees and shrubs for public safety, state law instructs that tree wardens “shall enforce all provisions of law for the *preservation* of such trees and shrubs and of roadside beauty.”⁵⁸

In some sense, town tree wardens have a legal mandate to be actively involved in the utilities' vegetation management process, to ensure that the best interests of the town are pursued.

II. Require a written permit that evaluates the proposed tree work on a tree-by-tree basis, and post notice of prospective tree removals in accordance with law.

The key role that the tree warden plays in regards to the utilities' vegetation management programs is the issuance of permits to prune or remove a public tree. Connecticut law requires all pruning or removal of town trees be authorized by a *written permit* from the tree warden.⁵⁹ It is vital that town tree wardens actively investigate removal requests from the utilities and deny those that do not follow town policy or are not in the town's best interests. In the past, permitting has often been informal, and at times oral. Informal permitting is not adequate, especially in light of the utilities' newly aggressive approach. By only issuing *written* permits, on a *tree-by-tree basis*, towns can effectively track where permission has been given and know if an inappropriate tree removal has occurred.



The permitting power gives towns an amazing amount of power to influence the tree work that the utilities may perform. Towns can refuse to issue a permit for tree work that goes beyond their town policies. In order to overturn the decision of the tree warden, the utilities would have to escalate the denial to PURA, under the provisions in C.G.S. Section 23-65(f), where the utility has the burden of proving that “public convenience and necessity requires the proposed cutting or removal.”⁶⁰ Towns can also leverage the permit to ask for necessary services that have not been accounted for, when the request is reasonable. For example, the utilities have not budgeted for the removal of stumps or the replanting of trees;⁶¹ however, towns may ask that the utility provide for these services as a condition for the issuance of a permit to remove a tree. It is common for a tree ordinance to require removed trees to be replaced, inch-for-inch (diameter at breast height), by new trees.⁶²

In Fairfield, the tree warden switched an exclusively written permitting system after UI began requesting permission to perform Enhanced Tree Trimming. The tree warden personally inspects every tree for hazardous conditions or other potential public safety hazards, and only issues a permit where there is a clear need to prune or remove based on tree condition. He also issues an individual permit for each property affected. While tree wardens may at first be intimidated by the volume of work this might entail, in Fairfield, it was handled with existing resources and personnel. And if the tree warden cannot keep up, the utility must simply delay their tree work schedule or treat the non-issuance as a denial and begin an action with PURA to overturn the denial, as mentioned above.⁶³ The utilities cannot perform tree work before the permit has been issued, or else the town can seek up to five times the cost of restoration or statutory damages of up to five thousand dollars.⁶⁴

Finally, state law requires a town tree warden to post notice of an intended removal of a public tree at least ten days before such removal or pruning, unless the condition constitutes an “immediate public hazard.”⁶⁵ Presumably, this posting must occur prior to the issuance of a permit by the tree warden. Such posting affords an opportunity for “any person” to request a hearing.⁶⁶ This process has already been utilized in many towns around Connecticut, and in New Haven, the tree warden posts and typically holds a hearing on removals even if there is no objection or request for a hearing. However, many tree wardens still do not publically post notice of tree removals, thereby rendering ineffective the public's ability to request a hearing. In order to ensure due process is followed, ensure that notice is posted according to law.

III. Ensure that each tree is being evaluated by the utility company prior to selecting it for pruning or removal.



As discussed above, in areas selected for ETT, every tall-growing tree within 8 feet of the power lines will be selected for removal.⁶⁷ In its final decision in Docket No. 12-01-10, PURA added a requirement that each tree be evaluated by the utility at least 10 days “prior to sending a notice and by the tree crew at the time that it is pruned.”⁶⁸ The evaluators “shall consider tree species, condition, growth rate and failure characteristics, [right-of-way] limitations, tree location, the potential combined movement of vegetation and conductors during routine winds, and sagging of conductors due to elevated temperatures or icing when performing line clearance.”⁶⁹

The concept of ETT is fundamentally incompatible with the notion of selecting trees for removal based on factors such as condition and structural integrity, following an arborist’s evaluation. Simply put, ETT requires no evaluation beyond what a tape measure can provide. PURA has stated that “the Authority expects the utility companies to use alternative solutions (other than the outright removal of vegetation) within the UPZ whenever conditions permit.”⁷⁰ The fact that PURA mandated an evaluation based on each of the above

factors is strong evidence that they disapprove of the blanket selection of trees to remove based on an 8-foot distance.

As we have seen across the state, both CL&P and UI have continued to implement ETT, targeting tall-growing trees within the UPZ for removal regardless of their health and structural integrity. This practice puts the burden on the tree warden, the abutting property owner, and the populace to perform inspections and object accordingly. Individual inspection of every tree is a time and resource intensive process, and PURA has rightly recognized that the burden of performing these inspections belongs to the utility requesting removal. Towns can effectively put a stop to the blanket selection of trees for removal, and enforce PURA’s evaluation mandate, by compelling the utility to include the detailed results of its evaluation for every tree within its permit application. This information will make it easier for the tree warden to decide whether a tree truly warrants removal. It should also reduce the total number of permit requests that the tree warden receives. However, a tree warden should still make his or her own evaluation of each tree to verify the findings of the utility.

IV. Create a town ordinance or other written statement of policy to control the procedure by which a tree removal may be requested, including a written permit application and detailed policies regarding what factors should be considered when selecting town trees for removal.

As stated above, a town has the ability to directly control which of its trees may be pruned or removed through its permitting process. This permitting process should be specifically laid out in an ordinance or other written policy or regulation. Connecticut law states that “the tree warden may prescribe such regulations for the care and preservation of such trees and shrubs as the tree warden deems expedient and may provide therein for a reasonable fine for the violation of such regulations.”⁷¹ This written policy or ordinance should contain, at minimum, the town’s policies regarding tree pruning and removal, a description of the duties and powers of the tree warden, and a penalty for improper pruning

or removal. With the town's policy codified into ordinance, the tree warden can appropriately manage the town's trees.

Once an ordinance is in place, towns should investigate and vigorously prosecute any instances where public trees are removed without proper permits. In addition to any local penalty, state law provides a penalty for damage or removal of a public tree without a permit, up to five times the cost of restoring the tree or the value of the tree.⁷²

An example of a particularly effective tree protection ordinance is the ordinance of the town of Greenwich. The ordinance specifies:

Any public utility maintaining any overhead wires or underground pipes or conduits shall obtain a public utilities permit from the Tree Warden before performing any maintenance work on the wires, pipes, or conduits which would cause injury to Town-owned trees. The public utility shall not injure, deface, prune, or scar any Town-owned tree until its plans and procedures have been approved by the Tree Warden.⁷³

Not all towns are the same, and what works in one place may not be in the best interests of another. However, there is no disadvantage to arming your town with a tree protection ordinance.

The following are components of a standard municipal tree ordinance included in the publication *Municipal Tree Ordinances from "Urban Forestry"* by Robert W. Miller.⁷⁴

- **Purpose:** a brief description of the ordinance and why it is necessary
- **Definitions:** provides definitions of legal and technical terminology in ordinance
- **Establishment of a Tree Board:** creates the Board and defines membership
- **Municipal Arborist or Forester (Tree Warden):** describes qualifications needed for the position *
- **Duties:** outlines the duties of the tree warden *
- **Authority:** gives the [tree warden] the authority to supervise work done in accordance with the ordinance *
- **Permits:** prohibits all planting, maintenance and removal of public trees without a permit *
- **Maintenance:** sets standards for planting, maintenance and removal of public trees, and establishes a replacement policy
- **Obstructions:** requires owners of private trees to keep sidewalks clear to a height of 10 feet, streets to a height of 12 feet, truck routes to a height of 16 feet, and to keep street signs and lights clear
- **Abuse of public trees:** prohibits mutilation or other abuse of public trees *
- **Protection of trees:** requires protection of public trees during construction or other activities which might harm them
- **Interference:** prohibits interference with the tree warden in the performance of his or her duties
- **Penalties:** establishes penalties for failure to comply with the provisions of the ordinance *

* covered, to a greater or lesser degree, in CT State Statute

V. Consider creating a Tree Task Force or Tree Commission to evaluate the status of current tree policies in your town and, if necessary, create new town tree policy.

The State Vegetation Management Task Force stressed the importance of long-term roadside tree management and municipal planning in the care of roadside trees.⁷⁵ Some towns across Connecticut have created a town government entity to investigate and advise town leadership in tree policy matters, or to create policy themselves.

After a series of town meetings, the Town of Fairfield's Board of Selectmen created the Fairfield Vegetative Management Task Force, a subcommittee of the Forestry Committee, to investigate the current policies of the town and the condition of the roadside forest, and to inform the Board of Selectmen about the town's preparedness to handle the utilities' new vegetation management program. The task force is composed of informed volunteers that meet weekly on the topic of tree policies, have begun making a town tree survey, and regularly meet with the tree warden.

In Hamden, after UI released its vegetation management policy, citizens discovered that they did not have a full-time tree warden with the resources to ensure the proper implementation of the utility's program. Mayor Scott Jackson called for a temporary moratorium on utility tree cutting, which UI voluntarily honored, and then Hamden set up a Tree Commission. The ordinance, which created the Commission, reads:

The Tree Commission is charged with: (1) Developing and from time to time updating an Urban Forest Master Plan; (2) Developing and maintaining a Town tree inventory; (3) Developing community educational programs regarding trees and the understanding of the benefits of appropriate tree planting and care; (4) Developing policies, giving recommendations, and providing advice to all concerned Town departments and agencies as to species selection, planting, spacing, fertilization, bracing, pruning, transplanting, maintenance, preservation, protection or removal of trees on all public lands and public rights-of-way; and (5) Acting in an advisory capacity to the Planning and Zoning Commission with respect to landscape design, and principles, locally suitable botanic species and protection of natural resources.⁷⁶

A formal Commission such as this effectively moves the regulatory power to an independent entity charged with creating policy. This commission would ideally consist of appointed experts, citizens, and regulators, and should be involved in the process of selecting a qualified tree warden, and helping to ensure that there are adequate resources for performance of the tree warden's duties, possibly including volunteer assistance.

VI. Create a long-term plan for the management of roadside trees, potentially with a tree inventory.

The SVMTF Final Report stated that roadside forests must be managed correctly to become more storm resistant over several decades. It specifically recommended that municipalities develop five-year management plans that include tree pruning and removal guidelines for trees along public roads and standards for tree planting.⁷⁷ These plans will generally outline a budget for tree care; prioritize tree pruning and removals based on level of risk; specify required planting practices like "Right Tree/Right Place;" and may call for the creation of a tree inventory.

The concept of “Right Tree/Right Place” is that tree selection should be matched to the particular conditions at a given site.⁷⁸ This includes planting or favoring existing species that have short mature heights adjacent to utility infrastructure and roads, while allowing progressively taller species at increasing distances from roads and wires.⁷⁹ The State Vegetation Management Task Force recommends the use of Right Tree/Right Place considerations for new planting near power lines, but did “not advocat[e] the wholesale removal of existing trees and replanting with only species on this list.”⁸⁰

A tree inventory is a database of all of the roadside trees in a town, complete with the species, size, condition, and location of the tree. Tree inventories, usually mapped using Global Information Systems (“GIS”) software, serve many purposes, including to: understand roadside forest composition; identify opportunities for plantings; identify trees potentially requiring removal; and track the condition of the roadside forest.

Developing a tree inventory is a labor-intensive process, which may involve town workers, urban forestry professionals, and/or volunteers walking every road with a device to capture the global positioning system (“GPS”) coordinates of the location of each tree. Inventory data collectors will determine the species, measure diameter at breast height (“DBH”), and record the tree’s location. A tree care professional or certified arborist can evaluate the condition of trees, noting any health or structural concerns. An inventory and tree health assessment produces a map and accompanying database of all of the town’s roadside trees, which can make a tree warden’s job much easier by helping prioritize trees that need attention or replacing.

A tree inventory can be an extremely helpful planning tool, especially in urban areas, where each tree is critically important. However, a tree inventory is only useful if its information is kept up-to-date, which requires an ongoing investment or dedicated volunteers.

Tree Inventory Case Studies

Several years ago, New Haven hired a consultant to inventory a large number of its street trees. The Urban Resources Initiative, a not-for-profit university partnership with the Yale School of Forestry and Environmental Studies, began systematically reviewing, updating, and expanding this inventory. Each year, students re-assess the trees along a selected portion and map available planting locations.

In Fairfield, their newly-formed vegetative management task force did a less resource-intensive “tree survey” of each of the roads that UI had marked for Enhanced Tree Trimming this year. Volunteers walked the roads, documenting, photographing, and completing a condition “checklist” for each tree. They then put the data into i-Tree, an urban forestry analysis and benefits assessment tool produced by the USDA Forest Service, in order to assess the monetary value of the benefits provided by the trees.* While this was not a complete inventory because it did not record or professionally evaluate all street trees throughout the city, the survey established baseline data for the tree warden to consult, without the cost of hiring an arborist or consulting service to create a complete inventory.

*(See more at <https://www.itreetools.org/index.php>.)

VII. Communicate your town’s policy to the Commissioner of the Department of Transportation to ensure that the DOT’s policies are consistent.

Trees along state highways are under the jurisdiction of the Commissioner of the State Department of Transportation (“DOT”).⁸¹ Applications by the utilities to prune or remove these trees are sent directly to the DOT, which would then determine whether to permit the tree work. There is less that towns and tree wardens can do to protect trees controlled by the DOT. Under state law, DOT must notify a town’s chief elected official in writing if they wish to permit the removal of a tree greater than 18

inches in diameter at breast height.⁸² For any other trees, they must only notify the tree warden of a town *after* permitting, but before the pruning or removal takes place.⁸³

In many towns, the most frequently traversed roads are often state highways. For towns that wish to be involved in the DOT's decision-making process regarding trees along these roads, effective communication is likely the best course of action. Towns which have a written policy or a tree protection ordinance should share the policy with the DOT and ask the DOT to follow it. It would be wise to also ask the DOT to include the tree warden in the decision-making process, if possible, or at least to invite the tree warden to on-site evaluations. Unfortunately, however, there is no state law which requires that the DOT comply with such requests.

VIII. Hold a town meeting and use other communication tools to explain the town's policies regarding town trees and the utility plans to town citizens.

Several towns have hosted meetings so the utilities can explain and answer questions regarding their vegetation management plans. These meetings have been a good way to inform citizens of the utilities' new policies and any impending tree work. Meetings also advise people to be on the lookout for certain things while the utilities implement their plans, like utility notices, and gets them to start thinking of what trees on their property may be affected.

Town meetings should also be a venue for a town tree warden to explain the circumstances under which he or she would permit removal, which may ease the public's worry. They will also give the public an opportunity to question the reasoning for removal and present issues that the town might not have considered.

Towns should press the utility to be upfront at these meetings about what trees they intend to cut, when the cutting will start, when the evaluations of the trees by the utility will commence, and what objection procedures exist under the law. This is the best time to make sure that the utilities understand the town's procedures and fully and publicly commit to following them.

Communication vehicles such as town websites, press releases, and direct mailings to residents should also be used to inform residents about utility plans, the town's policies and procedures, and residents' rights under state law. The utilities provide towns with planned schedules for their work, and towns should consider making these easily available to residents so that they are fully informed about when pruning and removal requests will be made.

IX. Ensure residents receive effective, timely notice of any tree work and a meaningful opportunity to object.

State law mandates that the utility companies give abutting property owners written notice of tree work (except for work on hazardous trees or trees in contact with power lines) in the public right-of-way abutting their property.⁸⁴ Abutting property owner means the owner of the property abutting or adjacent to that portion of a public road, public highway, or public grounds where the tree or shrub that the utility proposes to remove or prune is located.⁸⁵ Notice must be delivered at least 15 business days before the starting date of the tree work.⁸⁶ The notice will be considered delivered to the abutting property owner when it is: (a) mailed via first class mail, electronic mail, or text message; (b) delivered in writing at the location of the property owner; or (c) simultaneously expressed verbally and provided in writing.⁸⁷



This notice begins the process for the abutting property owner to object to the tree work or propose modifications to it;⁸⁸ therefore, it is imperative that towns monitor the notice procedure that the utilities employ in their town to ensure that abutting property owners' rights are respected. Each utility has submitted versions of its notices to PURA as part of the follow-up to PURA Docket No. 12-01-10.⁸⁹ PURA had not ruled whether the utility notices are in compliance with PURA's Final Decision as of publication of this document.

Towns might consider reviewing the notice materials and procedures of their utility and requesting any modifications which they find necessary to provide adequate notice under the law. Then, as notices begin to be distributed, towns should investigate and follow up on any complaints of irregularities or failure to follow the proper procedures. In some cases, utility work contractors have not written in all of the required information, and there have been other reports of bullying or bargaining by utility work contractors after a resident declines to give consent.

It is important to note that both UI and CL&P have indicated that they are seeking consent from abutting property owners in addition to private tree owners, rather than relying on only notification as provided by state law.⁹⁰ While this is beneficial from the perspective of an abutting property owner, it is not a requirement of law, and therefore the utilities may decide to abandon the practice in the future. In addition, abutting property owners who object or seek a modification to the utility plans should follow all of the requirements for doing so that are in the statutes⁹¹ and stated in the notice. If they do not respond properly, the utility can go to the tree warden to seek a decision on the tree and the property owner may have less influence over that decision than if they objected in writing.

FURTHER RESOURCES

Connecticut Forest and Park Association, <http://www.ctwoodlands.org/>

Connecticut Fund for the Environment, <http://www.ctenvironment.org/>

Connecticut Urban Forest Council, <http://cturbanforestcouncil.org/>

Garden Club of New Haven, <http://www.gardenclubofnewhaven.org/>

Yale School of Forestry and Environmental Studies, Urban Resources Initiative,
<http://environment.yale.edu/uri/>

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- ¹ Oversvee, Suzanne, “Assessment of the Environmental Service Benefits of the City of New Haven’s Street Tree Population,” Yale School of Forestry and Environmental Studies (2007) at 18 [hereinafter “*Oversvee*”].
- ² Report of the Two Storm Panel, at 3.
- ³ Report of the Two Storm Panel, at 13.
- ⁴ Report of the Two Storm Panel, at 14.
- ⁵ SVMTF Final Report at 4.
- ⁶ SVMTF Final Report at 37.
- ⁷ SVMTF Final Report at 5.
- ⁸ SVMTF Final Report at 53.
- ⁹ SVMTF Final Report at 50.
- ¹⁰ SVMTF Final Report at 5.
- ¹¹ SVMTF Final Report at 50.
- ¹² Public Act 13-298; amending Connecticut General Statutes, Section 16-234.
- ¹³ PURA Docket No. 12-01-10: Draft Decision dated November, 19, 2013 at 9.
- ¹⁴ PURA Docket No. 12-01-10: Draft Decision dated November, 19, 2013 at 14.
- ¹⁵ See PURA Docket No. 12-01-10: Final Decision dated June 25, 2014 at 23.
- ¹⁶ PURA Docket No. 12-01-10.
- ¹⁷ “Abutting property owner” means the owner of the property abutting or adjacent to that portion of a public road, public highway or public grounds where the tree or shrub that the utility proposes to remove or prune is located.” C.G.S. 16-234 (a)(6).
- ¹⁸ See Public Act 14-151: An Act Concerning Tree Trimming.
- ¹⁹ PURA Docket No. 12-01-10: Final Decision dated June 25, 2014 at 16-18.
- ²⁰ Docket No. 12-01-10: Compliance Filing -
CL&P:<http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/d07ddf1e17591f8085257d1500697ad8?OpenDocument>;
UI:<http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/bb4fd36c7239b46085257d120068e709?OpenDocument>.
- ²¹ C.G.S. Sec. 23-59.
- ²² PURA Docket No. 12-01-10: Final Decision dated June 25, 2014 at 18.
- ²³ ANSI A300 (Part 1), Section 5.9.2.1.3.
- ²⁴ ANSI A300 (Part 1), Section 5.9.2.1.4.
- ²⁵ ANSI A300 (Part 1), Section 5.5.3.
- ²⁶ ANSI A300 (Part 1), Section 5.5.4.
- ²⁷ ANSI A300 (Part 1), Section 5.5.7.
- ²⁸ International Society of Arboriculture, “Best Management Practices: Utility Pruning of Trees,” at 2.
- ²⁹ International Society of Arboriculture, “Best Management Practices: Utility Pruning of Trees,” at 8.
- ³⁰ International Society of Arboriculture, “Best Management Practices: Utility Pruning of Trees,” at 9.
- ³¹ International Society of Arboriculture, “Best Management Practices: Utility Pruning of Trees,” at 9.
- ³² Tree Conservation Notes, *Utility Line Clearance Pruning*,
<https://www.athensclarkecounty.com/DocumentCenter/Home/View/3976>.
- ³³ The United Illuminating Company, Vegetation Management Plan, Distribution Planned Cycle 11/01/2013 at 7.
- ³⁴ The United Illuminating Company, Vegetation Management Plan, Distribution Planned Cycle 11/01/2013 at 7.
- ³⁵ *United Illuminating's Line Clearance and Vegetation Management Specification*, at p. 33, revised 2008 and used by UI until implementation of its November 1, 2013 Vegetation Management Plan
- ³⁶ See SVMTF Final Report at 6, 37-38; Report of the Two Storm Panel at 15-16.
- ³⁷ *Oversvee* supra note 1, at 4.
- ³⁸ The Home Depot Foundation, “Stronger, Healthier Cities Through Trees: A Resource Guide (2007) at 7 [hereinafter “*Home Depot*”].
- ³⁹ *Home Depot*, at 7.
- ⁴⁰ *Home Depot*, at 7.
- ⁴¹ *Oversvee*, see aesthetics quantifications throughout; also *Home Depot*, at 7.
- ⁴² *Oversvee*, at 18.
- ⁴³ *Home Depot*, at 7.
- ⁴⁴ *Oversvee*, at 4; see also EPA Website, “Trees and Vegetation,” <http://www.epa.gov/heatiland/mitigation/trees.htm>.
- ⁴⁵ *Home Depot*, at 6.
- ⁴⁶ EPA Website, “Trees and Vegetation,” <http://www.epa.gov/heatiland/mitigation/trees.htm>.
- ⁴⁷ *Home Depot*, at 6.
- ⁴⁸ *Oversvee*, at 4.

⁴⁹ *Oversvee*, at 18.

⁵⁰ Bradford, Mark, Yale University School of Forestry, “Recommendation for an Economic and Environmental Impact Assessment of Street Tree Removal/Enhanced Trimming” Comment to PURA Docket 12-01-10, March 4, 2014, at 2.

⁵¹ *Oversvee*, at 25.

⁵² Alliance for Community Trees, Handout: “The Value of Trees!,” available at www.actrees.org.

⁵³ *Home Depot*, at 7.

⁵⁴ *Oversvee*, at 22.

⁵⁵ *Oversvee*, at 22-23.

⁵⁶ C.G.S. Section 23-58.

⁵⁷ C.G.S. Section 23-59.

⁵⁸ C.G.S. Section 23-59.

⁵⁹ C.G.S. Section 23-65 (d), and PURA Docket No. 12-01-10: Final Decision dated June 25, 2014 at 18, “6. No tree shall be pruned in the PROW without a permit from the tree warden. 7. A written permit must be obtained from the local tree warden to remove a tree in the PROW.”

⁶⁰ C.G.S. Section 23-65 (f).

⁶¹ PURA Docket No. 12-01-10: Final Decision dated June 25, 2014 at 23.

⁶² See for example: Rules & Regulations of the NYC Department of Parks & Recreation, Section 5-02, <http://www.nycgovparks.org/rules/section-5>.

⁶³ C.G.S. Section 23-65 (f).

⁶⁴ C.G.C. Section 23-65 (b).

⁶⁵ C.G.S. Section 23-59.

⁶⁶ C.G.S. Section 23-59 and 23-65(f).

⁶⁷ PURA Docket No. 12-01-10: Final Decision dated June 25, 2014 at 17.

⁶⁸ PURA Docket No. 12-01-10: Final Decision dated June 25, 2014 at 17.

⁶⁹ PURA Docket No. 12-01-10: Final Decision dated June 25, 2014 at 17.

⁷⁰ PURA Docket No. 12-01-10: Final Decision dated June 25, 2014 at 16.

⁷¹ C.G.S. Section 23-59.

⁷² C.G.S. Section 23-65 (b).

⁷³ Greenwich Town Ordinance, Chapter 13-5.

⁷⁴ Miller, Robert W., *Municipal Tree Ordinances from “Urban Forestry,”* Prentice Hall, 1988.

⁷⁵ SVMTF Final Report at 6.

⁷⁶ Hamden Code of Ordinances, Section 33.140. Establishment of Tree Commission.

⁷⁷ SVMTF Final Report at 6.

⁷⁸ SVMTF Final Report at 37.

⁷⁹ SVMTF Final Report at 37.

⁸⁰ SVMTF Final Report at 37-39.

⁸¹ C.G.S. Section 23-65 (f).

⁸² C.G.S. Section 13a-140.

⁸³ C.G.S. Section 23-65 (f).

⁸⁴ C.G.S. Section 16-234 (c)(1).

⁸⁵ C.G.S. Section 16-234 (a)(6).

⁸⁶ C.G.S. Section 16-234 (c)(2), see also PURA Docket No. 12-01-10: Final Decision dated June 25, 2014 at 19.

⁸⁷ C.G.S. Section 16-234 (c)(2), see also PURA Docket No. 12-01-10: Final Decision dated June 25, 2014 at 19.

⁸⁸ See C.G.S. Section 16-234 (c)(1)-(7).

⁸⁹ See PURA Docket 12-01-10, [Compliance Filings, 08/04/2014 12:00:00 AM \[12-01-10\] Order No. 5 / CL&P / and Compliance Filings, 08/04/2014 12:00:00 AM \[12-01-10\] Order No. 5 / UI / Order No. 5 / UI / Notice RE: Vegetation Management Activity](http://www.pura.org/Compliance%20Filings/08/04/2014%2012:00:00%20AM%20%5B12-01-10%5D%20Order%20No.%205%20%2F%20CL%26P%2F%20and%20Compliance%20Filings/08/04/2014%2012:00:00%20AM%20%5B12-01-10%5D%20Order%20No.%205%20%2F%20UI%2F%20Order%20No.%205%20%2F%20UI%2F%20Notice%20RE%3A%20Vegetation%20Management%20Activity).

⁹⁰ C.G.S. Section 16-234 (c)(4): “The utility shall not prune or remove any tree or shrub that is outside of the public right-of-way unless it receives written affirmative consent from the private property owner to whom notice is required in accordance with subdivision (2) of this subsection.”

⁹¹ See C.G.S. Section 16-234 (c)(1)-(7).