

VEGETATION MANAGEMENT PLAN

Vegetation Management Plan: #VMP 2021-2025



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Vegetation Management Plan 2021-2025

Table of Contents

- 1. INTRODUCTION.....3
- 2. GOALS AND OBJECTIVES3
- 3. IDENTIFICATION OF TARGET VEGETATION4
- 4. VEGETATION MANAGEMENT AND OPERATIONAL GUIDELINES.....5
- 5. VEGETATION MANAGEMENT CONTROL METHODS.....6
- 6. JUSTIFICATION OF HERBICIDE APPLICATIONS12
- 7. IDENTIFICATION OF SENSITIVE AREAS AND CONTROL STRATEGIES PROPOSED ..14
- 8. REMEDIAL SPILL AND EMERGENCY PLAN20
- 9. IDENTIFICATION AND QUALIFICATIONS OF APPLICANT.....22
- APPENDIX A - 333 CMR 11.00: RIGHTS-OF-WAY MANAGEMENT23

1. INTRODUCTION

The purpose of this Vegetation Management Plan (VMP) is to outline the Danvers Electric five-year plan for managing vegetation in compliance with the Commonwealth of Massachusetts 333 CMR 11.00, Rights-of-Way Management regulations.

Danvers Electric is one of the 41 Massachusetts Municipal Light Plants, a Public Power Utility serving the electrical needs to the Town of Danvers, Massachusetts. It is governed by the Town Manager with an appointed Municipal Light Board made up of three members.

Danvers Electric serves approximately 13,000 customers within the Town of Danvers' 13.6 square mile service territory.

Vegetation management is necessary to ensure safe, reliable electric service delivery through the distribution lines located on our rights-of-way. Tall growing tree species must be prevented from growing into or falling onto the lines. In compliance with rules and regulations, all vegetation that interferes with access must be removed from around structures, access roads, and anywhere in which they prevent access to the rights-of-way for inspections, maintenance, repairs, and emergency access to the lines.

Herbicide application in the Danvers Electric service territory is minimal. When a VMP was first submitted in 2016, one objective was to aid in the maintenance of the 3.5-mile joint use electric Right-of-Way/Rail-trail. Herbicide was applied for a few years until the Right-of-Way was established. At this time, minimal if any herbicide will be applied to treat problem areas.

There may be approximately twelve additional locations where equipment is already installed in heavy vegetation. These locations may require treatment in accordance with the VMP, and it will be determined on a case-by-case basis.

2. GOALS AND OBJECTIVES

The primary goal of this VMP is to outline the standard operating procedures for all vegetation management operations on Danvers Electric's rights-of-way. Its purpose is to document Danvers Electric's integrated vegetation management (IVM) standards, practices, and procedures. IVM standards are designed to control undesirable vegetation on rights-of-way while minimizing the risk of unreasonable adverse effects on human health and the environment. The American National Standards Institute (ANSI), A3000 standard, defines IVM as a system of managing plant communities in which managers set objectives, identify compatible and incompatible vegetation, and evaluate, select and implement the most appropriate control methods to achieve their goals.

The VMP is intended to provide a primary source of information for state and municipal officials and any interested parties regarding Danvers Electric's vegetation management program.

Vegetation Management Plan 2021-2025

Danvers Electric's vegetation management objectives are as follows:

- To ensure the reliable delivery of electric service to our customers
- To ensure that all vegetation management operations are conducted safely and in compliance with applicable federal and state laws, regulations and permits
- To ensure that all vegetation management operations are conducted in a safe, effective manner and conformity with federal and state laws, regulations, and permit conditions
- To treat all sensitive areas listed in 333 CMR 11.04 according to a regulatory policy as areas that require special consideration during vegetation management operations
- To remove or control non-compatible vegetation within the cleared width of the ROW, along access roads, around structures, gates, and the perimeter of electric substations
- To vegetation that impedes aerial and ground inspections
- To vegetation that interferes with access to the ROWs and structures for maintenance or emergencies
- To allow for unplanned tasks (construction, restorations, hazard tree removal, etc.).
- for which all precautions are taken to utilize the correct treatment methods and to protect sensitive areas
- To manage and contain the spread of invasive, noxious, and poisonous plant species
- To promote positive public relations with landowners, state and municipal officials, contractors, and the public
- To maintain the flexibility to accommodate unique situations and the need for more appropriate techniques as they arise (in accordance with new regulations and/or scientific advances).

3. IDENTIFICATION OF TARGET VEGETATION

The primary objective of electric utility vegetation management is to control those plants capable of growing tall enough to interfere with the utility lines and/or access to maintain these lines. Vegetation that obscures the right-of-way corridors and/or grows tall enough to interfere with the lines must be removed. Targets include trees, tall-growing shrubs, vegetation growing around substations, structures, access roads, gates, and anywhere vegetation impedes access to the rights-of-way and equipment. The primary target plants are woody plants that mature at heights exceeding fifteen feet. Trees must be removed or controlled within the cleared width and along the edges of Danvers Electric's rights-of-way because they can grow into or fall onto the lines causing electric service outages. Examples include, but are not limited to, maples, oaks, ashes, cherries, birches, beeches, spruces, hemlocks, and pines. In instances, trees may be left where the electric lines are high enough off the ground so that mature trees will not interfere with the operation of the line. Also, those species under the purview of the Natural Heritage and Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife (NHESP) (M.G.L.c.131A) will be treated on a case basis.

Woody vegetation (trees, shrubs, and vines) encroaching upon existing roads, on and encroaching pathways, or immediately adjacent to line structures or equipment will be controlled to provide adequate access to structures and equipment along the rights-of-way. If no permanent access route exists along a right-of-way, a pathway of minimal disturbance, but allows Danvers Electric the access to perform duties

Vegetation Management Plan 2021-2025

may be created during the treatment cycle and maintained in a suitable location by managing all woody vegetation within the selected route.

Plant species that pose a safety problem will be removed whenever practical. For instance, plant species that cause safety problems, such as vegetation with heavy thorn growth or dermal toxicity, may create hazards for people working on, or traversing the right-of-way will be removed. Vegetation such as poisonous plants poses a health hazard to Danvers Electric personnel, contractors, and the public, leading to increased incidences of first aid and OSHA recordable incidents. Mechanical methods do not reduce the spread of these populations—particularly poison ivy—therefore, Danvers Electric plans to use herbicides to spot treat poisonous plants to keep these hazards to a minimum.

4. VEGETATION MANAGEMENT AND OPERATIONAL GUIDELINES

Danvers Electric retains independent contractors for all vegetation management applications and requires that these contractors comply with all applicable state and federal laws and regulations and Danvers Electric vegetation management specifications. Contractor performance will be evaluated by the Massachusetts Department of Agricultural Resources and this VMP of Danvers Electric.

A. VEGETATION MANAGEMENT GUIDELINES

Danvers Electric's program will be applied to remove or control all undesirable target vegetation within the entire width of the rights-of-way. The vegetation management program applied to each right-of-way must result in 100% control or removal of all target species greater than or equal to six feet in height but no more than 12' in height, and a minimum of 90% control or removal of all target species less than six feet in height. Herbicides will not be applied to vegetation 12' or higher.

All target trees within the right-of-way will be removed or controlled during a treatment operation. This includes all woody vegetation and vines growing on or encroaching upon roadways, trails, or on or within ten feet of structures within the cleared width of the right-of-way. Following sensitive area restrictions, treatment will also extend to the perimeter around substations.

Environmentally *sensitive areas* will be treated per 333 CMR 11.04. Vegetation management operations on such sites are designed to prevent any unreasonable adverse environmental effects. These no-spray and limited spray areas will be maintained using mechanical control methods.

In cases where large areas of high-density target species have exceeded 12 feet, such as,

Alder	Aspen	Beech	Birch
Cherry	Hemlock	Hickory	Locust
Pine	Maple	Oak	Sassafras

Mechanical management may be required, followed in one or two growing seasons by an herbicide treatment to obtain adequate control.

Vegetation Management Plan 2021-2025

Right-of-way access will be through the use of established roadways whenever possible. The contractor will obtain permission to enter a right-of-way by any other means in advance.

B. OPERATIONAL GUIDELINES

The contractor is responsible for providing or adhering to the following:

- Appropriately licensed (40 License) or certified supervisors who understand all aspects of the contracted treatment and who are responsive to the guidance of Danvers Electric
- Supervisors who effectively manage treatment crews to ensure the satisfactory completion of the contract
- Supervisors who effectively communicate with the public
- Experienced and/or trained workers who are appropriately licensed or certified
- Workers who conduct themselves professionally at all times
- All contractors must have a copy of this VMP
- All treatment crews must carry copies of the Yearly Operational Plan (YOP)
- All treatment crews must carry Danvers Electric right-of-way maps
- Compliance with all applicable Federal and State laws and regulations
- Appropriate equipment to maintain the highest practical level of efficiency and effectiveness
- Herbicide application equipment will be appropriately calibrated
- Equipment maintained in good visual and working condition.

In conclusion, vegetation management operations must be conducted according to this VMP and the instructions of Danvers Electric. Failure to do so is grounds for removing the crew from the treatment site and termination of the vegetation management contract.

5. VEGETATION MANAGEMENT CONTROL METHODS

Danvers Electric utilizes a combination of hand cutting, mowing, selective pruning, selective foliar treatments, low volume basal treatments, and cut stump treatments. The treatment methods used on any given right-of-way are based on effective timing, target species and density, site access, and topography. Timing all applications and having a general schedule for the treatment of certain plants is more effective due to plants maturing at different times of the seasons. This is important to maximize control while minimizing herbicide use. Danvers Electric inspects rights-of-way for target vegetation density, height, and composition. Because all rights-of-way are scheduled for treatment every other year, the target vegetation height and densities remain at low to moderate levels. These inspections are necessary because although treatment cycles should remain relatively consistent with the use of our IVM program, the practice of promoting desirable, stable, low-growing plant communities that will resist invasion by tall growing tree species through the use of appropriate,

Vegetation Management Plan 2021-2025

environmentally sound, and cost-effective control methods, short term changes in growth conditions, the timing for herbicide effectiveness, or the effectiveness of past treatments may affect the schedule on separate rights-of-way.

A. MECHANICAL CONTROL METHODS

As the sole means to control vegetation, mechanical controls are a short-term solution. In some areas, however, mechanical controls are the preferred method, sometimes in combination with the appropriate herbicide treatment method: on vegetation over 12 feet in height; on non-sprouting conifers (with exceptions); in no-spray *sensitive areas*; in visual screens; in particular areas deemed as sensitive; around structures; on access roads; in areas of thick, impenetrable vegetation, and where large areas of high-density target species exceed maximum herbicide treatment heights. Except for most conifer species, cut vegetation resprouts, resulting in significantly thicker stem densities. Selective herbicide application treatment methods effectively remove this vegetation that would otherwise compete with and dominate the early successional ecological communities that are the backbone of natural controls

Hand Cutting

Hand cutting is the mechanical cutting of target species using chain saws or brush saws, loppers, or hand pruners:

- Hand cutting may be conducted at any time of the year
- Target species are cut as close to the ground as practical
- Slash from the operation is cut and scattered to lay as close to the ground as practical but not exceeding two feet in height.

Hand cutting is used in environmentally *sensitive areas*, around structures, gates, and access roads; to manage target vegetation greater than 12 feet in height, where herbicide use is prohibited. By regulation or easement restriction; on non-sprouting conifer species greater than two feet in height; and on sites where terrain, site size, or sensitivity renders mowing impossible or impractical.

Mowing

Mowing is the mechanical cutting of vegetation using large trees/brush mowers mounted on rubber-tired tractors or tracked vehicles:

- Mowing may be used at any time of the year except when deep snow precludes operations
- Selection of specific equipment is based on terrain, target vegetation size, and equipment availability

Vegetation Management Plan 2021-2025

- Mowing is restricted by steep slopes, rocky terrain, obstructions, wet sites with deep, soft soils, and debris on the right-of-way.

Mowing is used on sites where herbicide use is prohibited by regulatory or easement restrictions. Where a large number of target species stems have exceeded maximum control heights. Where access is impeded by high woody vegetation density and access is required in the short term, terrain, site size, and sensitivity permit the efficient use of the equipment.

Selective Pruning

Selective pruning is performed by a Massachusetts certified arborist for the mechanical removal of the encroaching limbs of tall-growing tree species to prevent them from growing into, or falling onto, the lines:

- Selective pruning may be done at any time of the year
- Pruning will be accomplished using aerial lifts mounted on trucks, skidders, or tracked vehicles or, if terrain or obstructions prevent equipment access, by climbing crews.

This method is used in maintaining visual screens on the limited areas where tree screens are desired, and selective removals are not practical; on individual state or town-regulated road crossings. It is required or practical; along the edge zones of rights-of-way, pruning will reduce or eliminate the threat of outages and provide landowners with a viable alternative to the otherwise mandatory removal of trees for electric line maintenance and integrity aesthetically desirable to the property owner.

Slash

Slash—the woody debris generated in cutting operations—will be disposed of by dicing, chipping, or piling, at the discretion of Danvers Electric or its contractor:

- Slash will not be left in waterways, trails, or roads or in such a manner that would permit it to wash into these areas
- The placement of cut woody vegetation must comply with applicable State Fire Marshall's regulations
- Slash from yards or recreational sites will be chipped or removed to an adjacent area or removed
- Slash will be piled in isolated areas or windrowed in parallel lines along the right-of-way in piles that should not exceed two feet in height and that do not obstruct access along or to the right-of-way
- Dicing will be accomplished by cutting the slash in pieces so that it lies as close to the ground as practical
- Chipping is used when dicing and/or piling are prohibited or impractical
 - In highly sensitive sites, wood chips will be removed

Vegetation Management Plan 2021-2025

- When left on site, wood chips will be scattered uniformly over the site at depths not exceeding four inches or piled in isolated areas
- No chips will be left in wetlands
- All slash and debris of cherry species will be removed immediately after treatment in active pastures to prevent any harm to livestock.

B. CHEMICAL CONTROLS

Herbicide applications include foliar, basal, and cut stump surface treatments. Herbicides are applied as mixtures consisting of herbicide formulation(s), adjuvants, carriers, and additives. The timing of herbicide applications, materials, and mixture rates will be listed in Danvers Electric's YOP, twenty-one-day notice letter, and forty-eight hour newspaper notice as required under 333 CMR 11.06 and 11.07 and Chapter 85 of the Acts of 2000. Danvers Electric will only use herbicides on the *Sensitive Area Materials List* administered by the Massachusetts Department of Agricultural Resources (MDAR). Individual herbicides have different levels of effectiveness on target vegetation species and under different conditions. No herbicide is equally effective on all target species, and certain herbicides are more effective on certain target species than others. The licensed contractor selects the herbicide or combination of herbicides in conjunction with the appropriate treatment method to obtain the most effective control of the target species composition and density on each right-of-way.

Individual herbicides and treatment methods also have distinctive physical effects and environmental behaviors. For example, certain herbicides or treatment methods cause foliar brownout while others do not, and certain herbicides have been formulated for use in wet environments while others have not. The selection of specific herbicides or herbicide mixtures coupled with the appropriate treatment methods is made with equal consideration given to the visual and environmental sensitivity of a right-of-way or site within a right-of-way. As a result, herbicides will not be used in specific areas if site sensitivity, regulations, new restrictions, target species composition, or height otherwise.

Foliar Treatments

Foliar treatments are the application of materials to fully developed leaves, needles, or blades of target vegetation. Foliar treatments are limited to the season when leaves are fully developed in the spring until early fall and the beginning of leaf abscission when leaves begin dropping off the trees.

The equipment for foliar treatments includes hand-pump backpack sprayers, motorized backpack sprayers, and off-road vehicle-mounted hydraulic sprayers. In each case, mixtures are applied as a uniform spray over the plant's full foliage only to dampen or lightly wet the target vegetation instead of being applied to the point of run-off. This minimizes the amount of excess herbicide drip from target species onto the desirable ground cover.

Foliar treatments are used on hardwood trees and target shrub species below 12 feet in height. In general, foliar treatments are not applied to conifer species. However, exceptions to this general guideline will be identified in Danvers Electric's YOPs. Foliar treatments are also not used where landowner agreements preclude their use, within visual screens on targets greater than six feet in

Vegetation Management Plan 2021-2025

height and within mechanical only *sensitive areas* per 333 CMR 11.04. Application equipment must not deliver herbicide above 60 psi.

Foliar treatments are allowed in wetland areas where no standing water is present, per the Department of Food and Agriculture Decision, dated October 1995, concerning the wetland impact study conducted according to 333 CMR 11.04 (4)(C)(2).

Basal Treatment

Basal treatments are the selective application of an herbicide, diluted in specially formulated oil, to wet the entire lower 12 to 18 inches of the main stem of target plants. Using a hand pump backpack unit, the oil enables the herbicide solution to penetrate the bark tissue and translocate within the plant. Basal treatments result in very low per acre rates of herbicide is applied only to the stem or trunk of the plant.

Target vegetation is woody plants with an average height taller than four feet within visual screens and areas where selectivity is necessary. This treatment method can be used any time of year except in conditions that prevent adequate access to the target stems, such as snow or extremely wet weather. The optimum treatment time frame is in the dormant season when applications are more manageable due to the lack of foliage and the obstruction caused by grasses and herbaceous growth. Basal treatments are not ideal in high stem densities because of high labor costs.

Basal treatments have the advantage of extending the treatment into the dormant season, thus facilitating the retention of experienced applicators and spreading out the workload. They also have the advantage of being low profile with no noisy motorized equipment, and target vegetation is generally controlled without creating brownout when the treatments are completed during the dormant season.

Cut Stump Treatment

Cut stump treatments are the mechanical cutting of target plants followed by an herbicide treatment to the phloem and cambium tissue of the stumps. The cut stump mixture is diluted in water or a non-freezing agent and is ideally applied to freshly cut stumps. Application equipment includes a low-volume backpack, hand-pump sprayers; hand-held squirt bottles; paintbrushes; and sponge applicators.

This method is used where maximum control is desirable and/or reduces the visual impact of vegetation management treatments. It is commonly used:

- To prevent resprouts when hand cutting vegetation in preparation for a foliage application
- To selectively eradicate target vegetation in sensitive sites per CMR 333 where other methods that were previously introduced in this plan are not possible
- All woody vegetation (except non-sprouting conifers) is removed from the visual screen except within an environmentally *sensitive area* per CMR 333, where restrictions take precedence.

Vegetation Management Plan 2021-2025

Like basal treatments, cut stump treatments may be used at any time of the year, provided snow depth will not prevent cutting the stumps to a height of three inches or less. It is best to cut stump treatments during the season of high sap flow (spring) in moderate to heavy rains. Cut stump is not cost-effective or practical in locations with moderate to heavy stem densities.

C. HERBICIDE APPLICATION RESTRICTIONS AND GUIDELINES

Herbicide application will be restricted during certain adverse weather conditions, such as rain, wind, or deep snow.

Rain

Herbicide applications will be applied per the label.:

- Foliar applications are effective in a light mist
- Foliar applications will cease during measurable rainfall that creates leaf run-off that will wash the herbicide off the target
- Foliar applications interrupted by unexpected rainfall will not resume until the rain ends and active leaf run-off has ceased
- Basal and cut stump treatment applications are ineffective during measurable rainfall
- Basal applications interrupted by rainfall will not be resumed until at least fifty percent of the application zone of the target species is dry.

Wind

Wind affects the individual herbicide treatment methods on different levels:

- Basal or cut stump treatments are not affected by all but the most extreme wind conditions because they are applied in close proximity to the ground.
- During foliar applications, excessive winds can cause damage to desirable vegetation on or off the right-of-way; therefore, to prevent any significant off-target drift of herbicides, treatment crews will comply with the following restrictions:
 - If the supervisor can see the mixture moving off the targets, applications will immediately stop until the wind has subsided enough to permit further applications
 - All foliar application mixtures will contain anti-drift agents to reduce the potential of herbicide drift beyond target vegetation:
 - Added to the foliar herbicide mixture per the anti-drift agent label
 - In moderate wind conditions, as per label recommendations, more anti-drift agents may be added to control significant drift at the discretion of the contractor supervisor.

Vegetation Management Plan 2021-2025

D. GENERAL OPERATIONAL GUIDELINE RESTRICTIONS

Disposal: The contractor is responsible for the proper disposal of all excess materials and mixtures in accordance with all applicable Federal and State laws, regulations, and guidelines.

Mixing: Mixing will take place according to all restrictions in 333 CMR 11.00 and according to the herbicide manufacturer labels.

6. JUSTIFICATION OF HERBICIDE APPLICATIONS

Danvers Electric's vegetation management plan accomplishes the overall goal of continuous and reliable electrical service while placing primary importance on health, safety, and environmental protection. These herbicides are regulated by the US Environmental Protection Agency and approved for use in Massachusetts by the State Department of Agricultural Resources (MDAR). Approved herbicides are applied by contractors that are licensed/certified by the State and in accordance with herbicide label directions and precautions. In addition, Danvers Electric policy requires compliance with all applicable federal and state laws and regulations.

This section compares the relative benefits of herbicide control with other methods and describes why herbicides are an essential part of an effective vegetation management program.

Regulation of Stem Density and Plant Composition

When herbicide is selectively applied to the target vegetation (trees and tall shrubs), the density of trees can be decreased over time. With reduced competition for sunlight, desirable, lower-growing plant communities may develop. Over time, this low-growing plant community will help shade out the future growth of trees. This method of management, which encourages dense under-story species, helps reduce the dependence on herbicides to control the undesirable, tall-growing vegetation that conflicts with the overhead electric distribution.

Herbicides are typically used for both the above-ground portion of the target vegetation and the root system to prevent resprouting.

Reducing undesirable plant competition for space allows low maturing shrubs, grasses, ferns, and wildflowers to spread into those areas previously occupied by target vegetation. The resulting dense, low-growing plant cover helps inhibit the germination and development of tall-growing tree seedlings back onto the right-of-way. In this manner, selective herbicide treatments tend to minimize herbicide use by generally reducing the number of target stems requiring control and potentially extending the time interval between treatments since the fastest-growing, tallest maturing target species are controlled or eliminated.

Vegetation Management Plan 2021-2025

Wildlife Habitat

Selective herbicide applications can enhance wildlife habitat through the development of complex, relatively stable plant communities. The appropriate use of herbicide develops an environment and edge habitat beneficial to various wildlife species. Large and small mammals, songbirds, raptors, and many other animals use these rights-of-way for food, cover, and natural travel corridors.

Economics

A vegetation management plan based solely on cutting is cost-prohibitive. Hand cutting or mowing does not kill the root system, and species that resprout will regrow. Dormant or adventitious buds located on the root or stumps quickly develop into sprouts, often during the same year of cutting. Instead of a single stem that existed before cutting, a cluster of sprouts soon becomes established. Since a developed root system is already present, the growth rate of the newly formed sprouts is much faster than the expected growth rate of the tree. Dense sprouts such as Bamboo have been found to grow approximately 7-10 feet tall in the first entire growing season immediately following cutting.

Hand cutting or mowing programs require repeated brush clearing due to resprouts with a one-time cost of approximately 1 to 5 times that for one herbicide application. This cost multiple is compounded further because cutting must be performed 2 to 3 times more often than selective herbicide treatments. The fuel consumption for the equipment is increased due to the multiple times the cutting and mowing must be performed. While warranted under certain conditions (e.g., in restricted, sensitive areas, when weather is not appropriate, and when woody vegetation is too tall to treat with herbicides effectively), the high per acre cost of cutting, lack of sprout control, and the necessity for more frequent maintenance reduce the long term cost-effectiveness of cutting without herbicide treatment.

Noise and Air Pollution

Reliance on cutting methods would result in increased noise and air pollution as compared to herbicide control. Since crews have to return more frequently for cutting, noise pollution and exhaust from vehicles and brush-cutting equipment are expected.

Safety of Workers and the Public

Selective herbicide application may be used where mechanical methods such as mowing may pose a safety hazard to workers or the public.

Vegetation Management Plan 2021-2025

7. IDENTIFICATION OF SENSITIVE AREAS AND CONTROL STRATEGIES PROPOSED

This section defines sensitive areas encountered along rights-of-way, provides references and sources for identifying sensitive areas, outlines the method used to identify sensitive areas, and lists the control strategies proposed for sensitive areas.

The Massachusetts Department of Environmental Protection (DEP) and MDAR has developed a list of recommended herbicides (See Appendix B) for use in sensitive areas within rights-of-way. These herbicides are characterized by their low toxicity, mobility, and persistence. Danvers Electric will use only chemicals from this list when treating sensitive areas.

Sensitive areas are defined in 333 CMR 11.04, “any areas, within rights-of-way, including but not limited to the following, in which public health, environmental or agricultural concerns warrant special protection to minimize risks of unreasonable adverse effects further.” See table below.

Sensitive Area Restriction Guide (333 CMR 11.04)

Sensitive Area	No Spray Area	Limited Spray Area	Where Identified
Wetlands and Water Over Wetlands	Within 10 feet (unless provisions of 333 CMR 11.04(4)(c) are followed)	10 – 100 feet. 12 months must elapse between applications. Selective low pressure, using foliar techniques or basal or cut-stump applications	YOP Maps and identify on-site
Certified Vernal Pool	Within 10 feet	10 feet to the outer boundary of any Certified Vernal Pool Habitat. 12 months must elapse between applications. Selective low pressure, using foliar techniques or basal or cut-stump applications	YOP Maps and identify on-site

Vegetation Management Plan 2021-2025

Sensitive Area	No Spray Area	Limited Spray Area	Where Identified
Public Ground Water Supply	Within 400 feet (Zone I)	Zone II or IWPA (Primary Recharge Area). 24 months must elapse between applications. Selective low pressure, using foliar techniques or basal or cut-stump applications	YOP Maps
Public Surface Water Supply	Within 100 feet of any Class A public surface water source	100 feet to the outer boundary of Zone A. 24 months must elapse between applications. Selective low pressure, using foliar techniques or basal or cut-stump applications	YOP Maps
	Within 10 feet of any tributary or associated surface water body located outside of the Zone A	10 feet to the outer boundary of Zone A. 24 months must elapse between applications. Selective low pressure, using foliar techniques or basal or cut-stump applications	
	Within 100 feet of any tributary or associated surface water body located within the Zone A of a Class A public surface water source		

Vegetation Management Plan 2021-2025

Sensitive Area	No Spray Area	Limited Spray Area	Where Identified
	<p>Within a lateral distance of 100 feet for 400 feet upstream of any Class B Drinking Water Intake</p>	<p>Within a lateral distance of between 100 - 200 feet for 400 feet upstream of intake.</p> <p>24 months must elapse between applications.</p> <p>Selective low pressure, using foliar techniques or basal or cut-stump applications</p>	
<p>Private Water Supply</p>	<p>Within 50 feet</p>	<p>50 – 100 feet.</p> <p>24 months must elapse between applications.</p> <p>Selective low pressure, using foliar techniques or basal or cut-stump applications</p>	<p>In YOP well list and identify on-site</p>
<p>Surface Waters</p>	<p>Within 10 feet from the mean annual high-water line</p>	<p>10 feet from the mean annual high-water line and the outer boundary of the Riverfront Area.</p> <p>12 months must elapse between applications.</p> <p>Selective low pressure, using foliar techniques or basal or cut-stump applications</p>	<p>YOP Maps and identify on-site</p>
<p>Agricultural and Inhabited Areas</p>	<p>N/A</p>	<p>0 – 100 feet</p> <p>Twelve months must elapse between application; Selective low pressure, using foliar techniques, or basal or cut-stump applications.</p>	<p>Identify on-site</p>

Vegetation Management Plan 2021-2025

Sensitive Area	No Spray Area	Limited Spray Area	Where Identified
State-listed Species Habitat	No application within habitat area except in accordance with a Yearly Operational Plan approved in writing by the Division of Fisheries and Wildlife		YOP Maps

A. REFERENCE AND SOURCES FOR IDENTIFYING SENSITIVE AREAS

Two descriptions guide the identification of the *public groundwater supply, public surface water supply, private drinking water supply, and general location of wetlands* defined in 333 CMR 11.04: *Readily identifiable in the field* and *Not readily identifiable in the field*. Readily identifiable in the field areas will be identified and when appropriate, marked and treated according to all applicable restrictions listed in 333 CMR 11.00. Not readily identifiable in the field areas will likewise be treated and marked in the field or on maps when appropriate, but they are identified by using data marked on maps and collected in the YOP and notification processes before the time of treatment.

Standing and flowing water, agricultural, and habitat areas are readily identified in the field. The following references and sources may identify the location of public groundwater supplies, public surface water supplies, private drinking water supplies, and the general location of wetlands.

- Massachusetts Department of Environmental Protection (DEP) Watershed Maps (scale 1:25,000) and digital data layers; delineates the perimeter of public watersheds and the location of public wells.
- Massachusetts DEP Wetland Restriction Maps (scales usually 1:1,000); approximately 15% of the State has been mapped, available from DEP, Division of Wetlands and Waterways.
- Municipal Maps and Records (scales vary).
- Regional Planning Agencies' 208 Water Quality Survey Wetland Maps (scales vary); not all planning agencies have copies.
- US Army Corps of Engineers (COE) Wetland Maps (scales vary); prepared for specific COE projects.
- US Fish and Wildlife Service National Wetlands Inventory Maps (scales 1:24,000 and 1:25,000); available from University of Massachusetts at Amherst, Cartographic Information Research Services.
- US Geological Survey Topographic Maps (scale 1:24,000); identifies significant wetland areas.
- Natural Resource Conservation Service Maps (scales vary), available for most communities.
- William McConnell Land Use Maps (scale 1:25,000); delineates wetlands using aerial photos; available from the University of Massachusetts at Amherst, Dept. of Forestry and Wildlife Management (caution: some forested swamps not included in wetland classification).
- Wetlands Conservancy Program or UMass color infrared (1:22,000 scale) and black and white (1:5,000 scale) orthophotographs.
- Maps of Estimated Habitat of State Listed Species published by the Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program (NHESP).

Vegetation Management Plan 2021-2025

- Massachusetts Department of Environmental Protection water supply maps and/or GIS mapping layers available through MassGIS
- MDAR and Municipal Board of Health maps and lists of identified private wells along the right-of-way
- Correspondence, meetings, and input from municipalities within the forty-five-day YOP and twenty-one day municipal right-of-way notification letter review and comment periods and the 48-hour newspaper notification (under 333 CMR 11.06 & 11.07 and Chapter 85 of the Acts of 2000)
- Correspondence and meetings resulting from Danvers Electric's abutter notification procedure
- A point person who verifies identified *sensitive areas* and any additional areas that may require special precautions
- USGS topographical maps
- Information from contractor's knowledge and records
- Information from MassGIS
- Confidential information from NHESP
- A copy of the YOP and VMP.

B. METHOD FOR IDENTIFYING SENSITIVE AREAS AND WETLANDS

The following procedure will be used to identify right-of-way sensitive areas:

- The appropriate references and sources will be consulted to determine the location of public and private water supplies.
- Public water supplies will be designated on YOP maps.
- Appropriate distances will be measured from sensitive areas to identify no-spray areas and limited spray areas.
- Public and private water supplies will be marked as specified in the YOP according to 333 CMR 11.04.

C. CONTROL STRATEGIES FOR SENSITIVE AREAS

The following vegetation control strategies shall be used for sensitive areas:

- General Provisions for Sensitive Areas and Non-Sensitive Areas
 - Herbicides will be used in accordance with this Vegetation Management Plan and the YOP. These documents will be carried at all times with the applicator.
 - Herbicide treatment is made only by applicators that are appropriately certified or licensed by MDAR.
 - No foliar applications of herbicides will be used to control vegetation greater than 12 feet in height.
- No touch-up applications are carried out except under the following conditions:
 - Touch-up applications occur within twelve months of the date of approval of the YOP.

Vegetation Management Plan 2021-2025

- MDAR, Conservation Commission, Board of Health, public water suppliers, and chief elected official of the municipality are notified by registered mail at least twenty-one days before any application.
- No more than 10% of the initially identified target vegetation on Danvers Electric's right-of-way in any municipality is treated, and the total amount of herbicide applied in any one year does not exceed the limits specified by the label or YOP.
- Sensitive Area Restrictions
 - A minimum of 24 months will elapse between herbicide applications in limited spray areas of public groundwater supplies, public surface water supplies, and private drinking water supplies.
 - A minimum of 12 months will elapse between herbicide applications in limited spray areas of surface waters, wetlands, habitat, and agricultural areas.
 - No more than the minimum labeled herbicide rate appropriate to the site, pest, and application method will be applied in sensitive areas.
 - Herbicides are recommended for sensitive areas, and guidelines for their use will be followed in accordance with MDAR's list of "Approved" herbicides for sensitive areas on rights-of-way.
 - All other limitations placed on sensitive areas will be followed as provided by 333 CMR 11.04.

D. MASSACHUSETTS ENDANGERED SPECIES ACT

The Massachusetts Endangered Species Act, MGL c. 131A, and regulations promulgated thereunder, 321 CMR 10.00, sets forth procedures for the listing of Endangered, Threatened, and Special Concern species native to Massachusetts, the designation of Significant Habitats for such species, and establishes rules and prohibitions regarding the activities which take species or alter their Significant Habitats.

To comply with the General Provisions, 321 CMR 10.00 Part 1, Danvers Electric will submit this VMP for review by the Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program (NHESP). Danvers Electric YOP will be submitted to the NHESP for review upon request of the NHESP. Danvers Electric shall take all practicable means and measures to modify right-of-way vegetation management procedures to avoid damage to state-listed species and their habitats as per guidance and information provided by the NHESP.

Provisions of 321 CMR 10.00, Part II, allow NHESP to designate Significant Habitat on any land in the Commonwealth. Danvers Electric would be notified as an owner of interest in any Significant Habitat that incorporates right-of-way. No known designations have been made to date. Vegetation management activities within Significant Habitats require an Alteration Permit from the Director of the Division of Fisheries and Wildlife, 321 CMR 10.00, Part 111. When it becomes necessary, Danvers Electric will seek such a permit under the Coordinated Permit Review process of the Regulations, Section 10.3 8.

Vegetation Management Plan 2021-2025

8. REMEDIAL SPILL AND EMERGENCY PLAN

This section is offered as a general procedural guide for responding to chemical spills or related accidents (related accidents include but are not limited to fire poisoning and vehicle accidents). Danvers Electric contracts with independent, professional, certified herbicide applicators responsible for containment, cleaning up and reporting chemical spills or accidents. The following is, therefore, only a guide to the items that shall be available to the treatment crew in the event of a chemical spill or emergency:

Types of Chemical Spills that Require Action

Chemicals include, but are not limited to, the following:

- Herbicides
- Bar and Chain Oil
- Motor and Hydraulic Oil/Fluids
- Diesel Fuel
- Gasoline
- Title 3 Hazmat Materials.

Required Spill Response Equipment

As a minimum, the treatment crew should have available on the job site:

- YOP with Emergency Contact List
- Safety Data Sheets (SDS)
- Product Label
- Product Fact Sheets (when applicable)
- Appropriate absorbent material
- Shovel
- Broom
- Flagging
- Leak Proof Container
- Heavy-duty Plastic Bags.

Personal Contact

In the event of Personal Contact with hazardous chemicals:

- Wash affected area with plenty of soap and water
- Change clothing that has absorbed hazardous chemicals
- If necessary, contact a physician
- If necessary, contact the proper emergency services
- If necessary, follow the procedures for a Major or Minor Spill as outlined below
- Avoid breathing the fumes of hazardous chemicals.

Clean-up Procedures

Education and attention will constantly be directed at accident and spill prevention; however, in the event of an unfortunate incident, a spill response checklist, included on the following page, will be used as a guide for the YOPs.

Vegetation Management Plan 2021-2025

MAJOR SPILL - REPORTABLE SPILLS (Spills of a reportable quantity of material under the Massachusetts Contingency Plan, 310 CMR 40.0000):

FOLLOW STEPS 1-10

MINOR SPILL - NON-REPORTABLE SPILLS:

FOLLOW STEPS 1-4, 7-9 and contact the Danvers Electric Spill Coordinator

HERBICIDE SPILL CHECKLIST

Order	Action	Done [√]
1	Use all PPE as directed by product label or SDS	
2	Cordon-off spill area to unauthorized people and traffic to reduce the spread and exposure of the spill	
3	Identify the source of the spill and apply corrective action, if possible, stop or limit any additional amounts of spilled product	
4	Contain spill and confine the spread by damming or diking with soil, clay, or other absorbent materials.	
5	Report spills of "reportable quantity" to the Mass. DEP and DAR:	
	MDAR, Pesticide Bureau	(617) 626-1700
	Massachusetts Department of Environmental Protection, Incident Response	(888) 304-1133
6	If the spill cannot be contained or cleaned up properly, or if there is a threat of contamination to any bodies of water, immediately contact any of the following applicable emergency response personnel:	
	Local fire, police, rescue	911
	Danvers Fire Non-Emergency	(978) 774-2425
	Danvers Police Non-Emergency	(978) 774-1213
	Danvers Electric	(978) 774-0005
	Cushing Jammallo Wheeler (environmental consulting)	(978) 368-6320
	Product Manufacturer (s)	
	1	
	2	
	Chemtrac	(800) 424-9300
7	Remain at the scene to provide information relative to handling and clean-up of spilled product	
8	If possible, complete the process of "soaking up" with absorbent materials	
9	Sweep or shovel contaminate products and soil into leak-proof containers for proper disposal at an approved location	

Vegetation Management Plan 2021-2025

10

Spread activated charcoal overspill area to inactivate any residual herbicide

9. IDENTIFICATION AND QUALIFICATIONS OF APPLICANT

Danvers Electric Division has developed this Vegetation Management Plan (VMP) with support from Mayer Tree Service Inc. to ensure compliance with Rights-of-Way Management Regulations (333 CMR 11.00) to control nuisance and invasive vegetation within the Danvers Electric service territory.

This plan has been developed and submitted by the following individuals:

- Anthony Calascibetta, Safety & Risk Manager at Danvers Electric with over 23 years of experience, working as a 1st Class Lineworker, a Lead Substation Technician, HSE Program Manager, and Safety & Risk Manager. With Mayer Tree's guidance, the Electric Division has developed this VMP in compliance with all State and Federal Regulations.
- Kelly Kobrenski, Systems Engineer at Danvers Electric. Kelly is an Electrical Engineer with over 20 years of experience and has received an Associate's of Science Degree in Electrical Engineering and a Bachelor of Science Degree in Geographic Information Systems (GIS). With help from Dan, Kelly has developed this VMP in compliance with all State and Federal Regulations.
- Dan Mayer, President of Mayer Tree Service Inc. Dan, is a Massachusetts Certified Arborist, and he received an Associates of Science in Arboriculture and a Bachelor of Science in Urban Forestry from the University of Massachusetts.

Mayer Tree Service Inc.(MTS) is a vegetation management and tree care service provider for many state and municipal Department of Public Works and Municipal Gas & Light Departments. MTS has helped create greater standards of national safety compliance through their affiliation with ANSI Z133.

MTS is locally staffed with arborist's who have received college, vocational, or an accreditation education. Arborists and project managers at MTS receive daily training, which has assisted them in receiving and maintaining their Massachusetts Pesticides Applicators license and certification for Massachusetts Certified Arborist, International Society of Arboriculture, OSHA 10, Electrical Hazards Awareness & Aerial Rescue, and First Aid & CPR.

Vegetation Management Plan 2021-2025

APPENDIX A - 333 CMR 11.00: RIGHTS-OF-WAY MANAGEMENT

333 CMR: PESTICIDE BOARD

333 CMR 11.00: RIGHTS OF WAY MANAGEMENT

Section 11.01: Purpose 11.02:

Definitions 11.03: General Provisions 11.04:

Sensitive Area Restrictions 11.05:

Vegetation Management Plan (VMP) 11.06:

Yearly Operational Plan (YOP) 11.07:

Public Notification 11.08: Notice of Modification and Revocation 11.09:

Right-of-appeal 11.10:

Penalties 11.11: Rights-of-way Advisory Panel

<https://www.mass.gov/doc/333-cmr-11-rights-of-way-management/download>