VEGETATION MANAGEMENT PLAN

FOR:

Amtrak (National Railroad Passenger Corporation)

Grafton and Upton Railroad Company

Housatonic Railroad Company

Massachusetts Central Railroad Corporation

Massachusetts Coastal Railroad

New England Central Railroad

Pioneer Valley Railroad

Providence and Worcester Railroad Company

For railroad rights-of-way in the Commonwealth of Massachusetts

1 JANUARY 2026 – 31 DECEMBER 2030

PREPARED BY:

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APPENDICES

I. SUMMARY OF RAILROADS COVERED BY THIS PLAN

A. Railroads Operating Under this Plan

The railroad companies listed below have agreed to utilize this Vegetation Management Plan (VMP) for the next 5 years. Municipalities affected by this VMP, listed by railroad, may be found in Appendix A.

Amtrak, National Railroad Passenger Corporation
Grafton and Upton Railroad Company
Housatonic Railroad Company
Massachusetts Central Railroad Corporation
Massachusetts Coastal Railroad
New England Central Railroad
Pioneer Valley Railroad
Providence and Worcester Railroad Company

B. Variations from Basic Plan

Differences in company size and work procedures require minor variations in the basic plan. These variations are due to differences in personnel, train operations, traffic density, train speed and different types of sensitive area markers. Appendix B provides details of personnel contacts, sensitive area marking systems and system maps for each railroad company.

II. INTRODUCTION

This VMP has been prepared for the participating railroads by TEC Associates and shall apply to their rights-of-way (ROWs) within the Commonwealth of Massachusetts. It describes a variety of operational practices which include physical (mechanical cutting), chemical (herbicide application), and indirect methods used to manage, control, and eradicate vegetation on railroad ROWs. This VMP outlines the 5-year program for managing vegetation as per 333 CMR 11.00 Rights-of-Way Management, latest revision (Appendix C). The topics addressed in this VMP are:

- General goals and objectives of the VMP;
- Integrated Vegetation Management (IVM) practices including justification for proposed herbicide applications and alternative management methods considered;
- Management requirements for maintenance of railroad rights-of-way including target vegetation;
- Vegetation management techniques;
- Methods for identifying sensitive areas;
- Operational guidelines for applicators relative to herbicide use;
- Alternative land use considerations;
- Remedial plan to address spills and related accidents; and
- Identification and qualifications of individuals developing this VMP.

Appendices include a listing of municipalities affected by the VMP, variations from the basic plan for each railroad, the Rights-of-Way Management Regulations 333 CMR 11.00, the Preface to the Wetlands Protection Regulations 310 CMR 10.00 relative to rights-of-way management, and the most recent list of herbicides approved for use on sensitive areas of railroad ROWs, subject to revision.

To understand the complexities of the railroad ROW and the related problems, which arise when vegetation interferes with the operating railroad system, detailed descriptions and illustrations of the specific areas along the railroad ROW are provided in Section V. Knowledge of the role and function of each area along the ROW is necessary to assess and understand the particular types of vegetation management practices used in those areas.

The railroad ROWs are unique in that they are owned by the various railroad corporations and are constructed and operated in accordance with federal and state laws, regulations, and standards for a specific purpose, which benefits the public welfare. Railroad ROWs are similar to other ROWs in that they pass through a wide variety of both privately and publicly owned land. Railroad companies own their ROWs in fee, whereas electric and pipeline companies usually obtain easements which convey only specific use rights to the easement holder. The railroad ROW connects various railroad facilities each of which have different uses and characteristics requiring different forms of vegetation management.

A brief historical overview will demonstrate that today's railroad vegetation management program represents great changes in the approach, techniques, and methods versus vegetation eradication of years past. These advances are the results of research and the progressive attitudes of the railroad companies to adopt an integrated approach to vegetation management.

Herbicides have been used to manage undesirable vegetation on railroad roadbeds and in railroad yards since the 1950's. These herbicides were often applied several times during the year. The rates for these pre and postemergence herbicides were listed as great as 100 lbs active ingredient (A.I.) per acre. The use of herbicides, however, has steadily declined. For example, in the early 1970's herbicides were applied to the areas adjacent to the roadbeds to control brush and related vegetation at rates of 25-77 lbs A.I. as per label instruction. By 1980, the average rate of herbicides applied to railroad ROWs had decreased to 8-10 lbs A.I. per acre. Harrison (1985) reports in the Generic Environmental Impact Report on Control of Vegetation on Utility and Railroad Rights-of-Way that in 1981, the average rate of herbicide application was 8.15 lbs A.I. per acre for the railroad ROW. The application rate of herbicides is now typically measured in ounces instead of pounds per acre due in large part to targeted application methods as well as the development of new products designed for ROW use. Today, a mixture of preemergent herbicides, used commonly for weed and grass control, has been reduced to between 3.3 and 7 ounces per acre and is typically applied only once per year.

It is important to understand that this significant decrease in herbicide use between 1950 and today was not driven by regulation or economics, but was the combined

result of new herbicides, new application techniques, the effectiveness of annual control, and concern over possible adverse effects of chemicals used in our environment. The evolution of this VMP is the direct result of an awareness of our impacts on environment, the work of trained professionals, research, development, and implementation of scientifically sound programs based on an integrated approach to vegetation management.

This VMP outlines the 5-year plan to manage vegetation within the various parts of the ROWs for the railroads listed in section I.A. The VMP will explain in detail the goals and objectives associated with vegetation management on the railroad ROW along with the justifications for the judicious use of herbicides. The methods described in this VMP represent careful planning, programming, and decision making by a team of qualified professionals so that the welfare and safety of railroad employees and the general public is ensured while minimizing undesirable consequences to our environment.

III. GENERAL STATEMENT OF GOALS AND OBJECTIVES

The overall purpose of this VMP is to:

- Explain the ways that vegetation on the ROW impacts railroad operations;
- Establish the operational procedures and professional guidelines involved in the railroads' program to manage vegetation that interferes with the operations of the railroad and which may jeopardize the safety of employees, passengers, the public, and the environment;
- Provide the necessary information and basic procedures required to inform municipalities, interested citizens, railroad employees, and contractors about the railroads' vegetation management program;
- To minimize the risk of unreasonable adverse effects on human health and the environment and to protect the safety of people making public passage, performing work on, or living adjacent to the ROW.

Vegetation management is one component of a good railroad track maintenance program required to create a well-drained, stable track bed. There are many ways that vegetation on the railroad ROW adversely affects railroad safety and, consequently, public safety. The targeted use of herbicides for certain aspects of vegetation management is one of many tools that railroads use to maintain tracks in a safe condition.

The typical railroad roadbed consists of crushed stone ballast on a graded and compacted subgrade section of earthwork. The ballast and subgrade comprise the foundation that supports the track. Since saturated soils are weaker than dry soils it is necessary to maintain this foundation free of excess water. The ballast is the coarse material between and under the ties that provides vertical and lateral support. Pore space in the ballast allows water to freely drain away from the ties and into drainage ditches, which carry it away from the track. Soil that is washed and/or blown in can provide adequate seedbed areas for germination and plant growth. During plant development, fibrous root systems appear which expand through the ballast and accumulate additional soil. The fibrous roots of most plants are continuously dying and renewing themselves adding decaying plant material to

the accumulating soil. This mixture of soil and composted plant material holds moisture and provides a seedbed for new plants. The drainage capacity of the ballast becomes greatly reduced and moisture is retained around the ties for an extended period of time which contributes to their accelerated decay. During rain and in poorly drained areas, the fouled ballast can retain enough moisture to become saturated. Under these saturated and weakened soil conditions the loadings imposed by the wheels of a train can cause the weakened ballast and subgrade to "pump". The repeated pumping cycles eventually will cause the track to settle and create defects in the track geometry that can lead to a derailment. The track deflection can also cause fatigue of the steel rails and joint bars causing them to crack and fail.

In dry weather, vegetation within the roadbed is easily set on fire by sparks from steel brake shoes on steel wheels. The exhaust from diesel locomotives is another source of sparks, particularly as the throttle position is being increased or decreased. Track maintenance activities such as cutting, grinding, or welding rail are another ignition source. In order to minimize the potential for fires, the Commonwealth of Massachusetts requires by statute (MGL Chapter 160, Section 235A) that railroads keep the full width of their rights-of-way clear of flammable material including vegetation.

When vegetation grows above the top of the rails there are other problems that often occur. Trains depend on friction between the steel rails and steel wheels for traction and braking. Anything that reduces friction between the wheels and rails can create dangerous problems. A frost or light rain, which wets the track, can double or triple minimum stopping distances required, depending on the train's weight, speed, and the slope involved. Even in dry conditions plants that are adjacent to the rails can often be crushed between the wheel and rail. The plant tissues release water and plant sap which acts as a lubricant, similar to frost or rain, and will increase required stopping distance by the same proportions. Furthermore, an excessive quantity of vegetative matter crushed between the train wheels and rails has been known to create an insulating effect and prevent the shunting of the electrical systems which control the activation of crossing gates and lights at roadway crossings. This is not only a violation of federal regulation but a serious threat to the safety of the motoring public.

Vegetation also creates unsafe footing for railroad employees, particularly train crews that may be at work at any hour and in any weather. The vegetation itself may be the hazard or it may conceal objects or areas of unsafe footing.

Visibility is important both for railroad personnel working on or near trains and for motorists crossing railroad tracks. Train engineers and other operating personnel must be able to see all types of railroad signals. These signals indicate the status of the traffic on the track ahead and indicate when whistles must be sounded as the train approaches a road crossing. Signs provide other types of safety information as well. Motorists must be able to see trains as they approach railroad crossings and employees must be able to visually inspect moving rail equipment. Locomotive engineers must be able to see around curves and see that switches and derails are in the correct position.

Federal laws require railroads to manage vegetation to ensure proper functioning of signals and communication lines. Trees and plants can short out electrical equipment and cause failure of communication systems and signals.

Vegetation on railroad rights-of-way indirectly affects railroad safety in a significant way. Vegetation itself is rarely the cause of a railroad accident or incident but can conceal track and roadbed defects which might otherwise be identified during the course of a track inspection. In 2024 there were 419 reportable accidents nationwide caused by track, roadbed and structure defects according to Federal Railroad Administration (FRA) statistics.[1] This resulted in 2 injuries and $122,550,271 in property damage. 46 of the 419 accidents caused by track and roadbed defects involved trains carrying hazardous material in which some of the hazmat cars were damaged. None of these accidents resulted in situations where people needed to be evacuated.

For the five-year period of 2020 - 2024 there were 17 reportable accidents caused by track and roadbed defects in the Commonwealth of Massachusetts. 3 of these 17 accidents involved trains that were carrying hazardous material cars. For the railroads covered under this VMP there were 4 track-caused accidents, 1 of which included trains carrying hazardous materials.

Of primary importance to the railroad industry is minimizing the frequency and severity of accidents and incidents. The primary method for controlling those caused by track and roadbed defects is the federally mandated weekly or twice-weekly visual inspections by a qualified track inspector. These inspections are normally done from a hi-rail vehicle supplemented, when necessary, by walking inspections of switches and other specialized track work. It is essential that the railroad roadbed be kept weed free to provide the track inspector with unobstructed views of the track structure including rails, ties, and fasteners. Vegetation within the railroad roadbed increases the probability that a track or roadbed defect will go undetected resulting in greater potential for an accident or incident. For this reason, FRA regulations (CFR 49 Part 213.37) require that vegetation be managed so as not to interfere with the track inspector's duties.

Vegetation in the roadbed hinders other methods of track inspection as well. Railroads employ electronic rail testing equipment to periodically test rails for internal defects. This testing is done by special rail cars that establish a magnetic field around the rail. Vegetation adjacent to and above the rails hinders this process and can result in an invalid test or cause the operator to allow a defect to go undetected. Other special rail cars measure track geometry parameters such as surface, line, and gage. These geometry measurements are often done optically using non-contact equipment which can be disrupted by vegetation between the rails causing errors in the measurements.

The Federal Government and Commonwealth of Massachusetts Government have recognized the importance of safety and have a variety of laws and regulations

1) Reportable accidents do not include accidents with property damage less than the reporting threshold. In 2020 the reporting threshold was $10,700 and has increased annually to the current level of $12,400 in 2025.

governing the condition of railroad ROW's. Federal law requires railroads to control vegetation and 49 C.F.R. Subsection 213.37 specifically states:

Vegetation on railroad property which is on or immediately adjacent to roadbed shall be controlled so that it does not -

(a) Become a fire hazard to track carrying structures;
(b) Obstruct visibility of railroad signs and signals:
(1) Along the right-of-way, and
(2) At highway-rail crossings;
(c) Interfere with railroad employees performing normal trackside duties;
(d) Prevent proper functioning of signal and communication lines; or
(e) Prevent railroad employees from visually inspecting moving equipment from their normal duty stations.

The regulatory intent is specific: the safety of the railroad must be guaranteed through inspection, maintenance, and repair of the ROW. Maintenance and inspection require proper vegetation managed. Clearly, each railroad is obligated to maintain their ROWs, which includes but is not limited to vegetation management, or be in violation of law and regulations, and subject to liability and fines.

IV. INTEGRATED VEGETATION MANAGEMENT

Integrated Vegetation Management (IVM), as performed by the railroads, involves careful planning, organizing and implementing an overall program involving all operational departments and personnel, so that all possible techniques of vegetation management will be utilized. By identifying and coordinating routine or operational activities of other divisional units such as repair, tie installation, ballast replacement, construction, communication, and other ROW responsibilities, the railroad can manage vegetation on portions of the ROW as an indirect benefit of their prime goal and function. All non-chemical techniques and methods that remove or disturb vegetation growth will be identified and integrated into the overall VMP process and the scheduling for all Yearly Operational Plan (YOP) activities. Thus, sectors or areas of the ROW that have vegetation removed during routine or operational activities can have herbicide treatments reduced or eliminated altogether in those locations. This operational procedure will help to reduce the overall amount of herbicide applied each year.

Whenever possible and wherever consistent with the ROW system, the railroad industry will implement an integrated approach to vegetation management by encouraging plant communities that hinder the development of target vegetation. This integrated vegetation management program utilizes physical, chemical, and indirect methods to manage vegetation. It addresses public, environmental, and economic concerns by minimizing the applications of herbicides. Due to the unique structure of the railroad ROW different environmental areas, such as road crossings and yards, require different levels of vegetation management based on the site and target species. A team of professionals comprised of roadmasters, engineers of track, and herbicide application specialists will develop annual Yearly Operational Plans that select those vegetation management methods that will minimize risk for

the general public and the environment while still being able to effectively achieve the desired outcomes. Over the 5-year period, the railroad industry will monitor and evaluate the success of their program and integrate appropriate new methods in their YOPs consistent with the VMP. Procedures to monitor and evaluate the IVM program are described in detail in Section VIII. Operational Guidelines for Applicators Relative to Herbicide Use.

Federal laws require the maintenance of vegetation located on the roadbed and certain other areas. All vegetation will be eliminated from the following areas:

1. Ballast section
2. Ballast shoulder
3. Yards
4. Switches, signals, and signs
5. Highway grade crossings
6. Bridges, bridge abutments, and buildings
7. Off-track areas
8. Inside of curves

To date, there have been no environmentally and economically feasible and safe alternatives to herbicides developed for use in areas of the right-of-way requiring total vegetation control. The Massachusetts Railroad Association has tested the following alternatives to chemical herbicides with little success:

- Steam application, which required 7,000 gallons of potable water and several hundred gallons of diesel fuel for heating the water per mile. This resulted in partial control lasting about one week.
- Application of a fish by-product resulted in approximately ten percent effectiveness of target vegetation.
- In 1996, Consolidated Rail Corporation built and tested a mowing machine for target vegetation growing in the roadbed and ballast. This machine was completely ineffective at removing vegetation below the top-of-rail height and fouled the ballast with clippings creating both drainage problems and a fire hazard.
- Manual weed control around the ties and rails has provided some short-term effectiveness but is extremely labor intensive and requires extended amounts of track time which is often not available and can also be dangerous in areas of high-speed train movements.

As a result, the integrated approach to vegetation management in these areas is limited to the selective application of herbicides to target vegetation along with management obtained through track maintenance activities.

The use of herbicides, however, continues to drop as the result of new technologies in application equipment. Spray booms are independently controlled according to left side, center, and right side allowing the operator to shut off the application to areas lacking target vegetation. These independent spray booms also allow the operator to precisely apply the herbicides in buffer zones of wetland resource areas by reducing the width of the spray pattern and applying herbicides only to areas that are outside of the required setback distances. In addition, the operator has the ability to adjust the pressure settings to compensate for the speed of travel which

prevents over-application of herbicides. When herbicide use is needed, the type and density of vegetation, site conditions, and the time of year will be factors in determining the herbicide type, application rate, adjuvants, and application equipment. In railroad yards and on certain heavily vegetated areas of the ROW preemergence herbicides can be applied which often eliminates a postemergence treatment that same year. Each herbicide treatment will be tailored to the specifics of the site, proximity to sensitive areas, type of vegetation, and local environmental factors. The specific details will be included in each YOP.

In areas, such as those adjacent to the ROW roadbed, where total elimination of vegetation is not required, various selective vegetation control techniques are practiced in order to increase competition for light and growing space with desirable species by selectively eliminating woody species. Shrubs, grasses, and sedges are desirable species (non-target) which can be tolerated on the adjacent area and will be selectively managed. By selectively removing these target species by cutting or herbicide treatments, the non-target species will be allowed to remain. If a target species capable of re-sprouting, is cut or mowed, a cut stump treatment can be applied to prevent sprouting and reduce the need for further herbicide applications. The selective elimination of woody and brush species is site, species, and density dependent. The selection of technique will also take into consideration the preservation and enhancing of non-target desirable species. A preemergence herbicide would typically not be used in these areas.

In certain adjacent areas of the ROW, branches and limbs of trees grow into or have the potential to fall into the roadbed area striking trains or fouling overhead communication lines. In these cases, the tree will not be eliminated if a selective side trimming of the encroaching limbs can be made from an aerial cutting mechanism. Selective side trimming will be done on a site by site basis according to the type and density of target vegetation present and its propensity to invade the roadbed area or foul communication or electrical lines. Trees and brush on the ROW, which act as a buffer between the adjacent property and ROW, will only be managed if they will interfere with the function and safety of the ROW. Selective vegetation management increases desirable vegetation, helps prevent erosion, and is aesthetically pleasing to adjacent property owners.

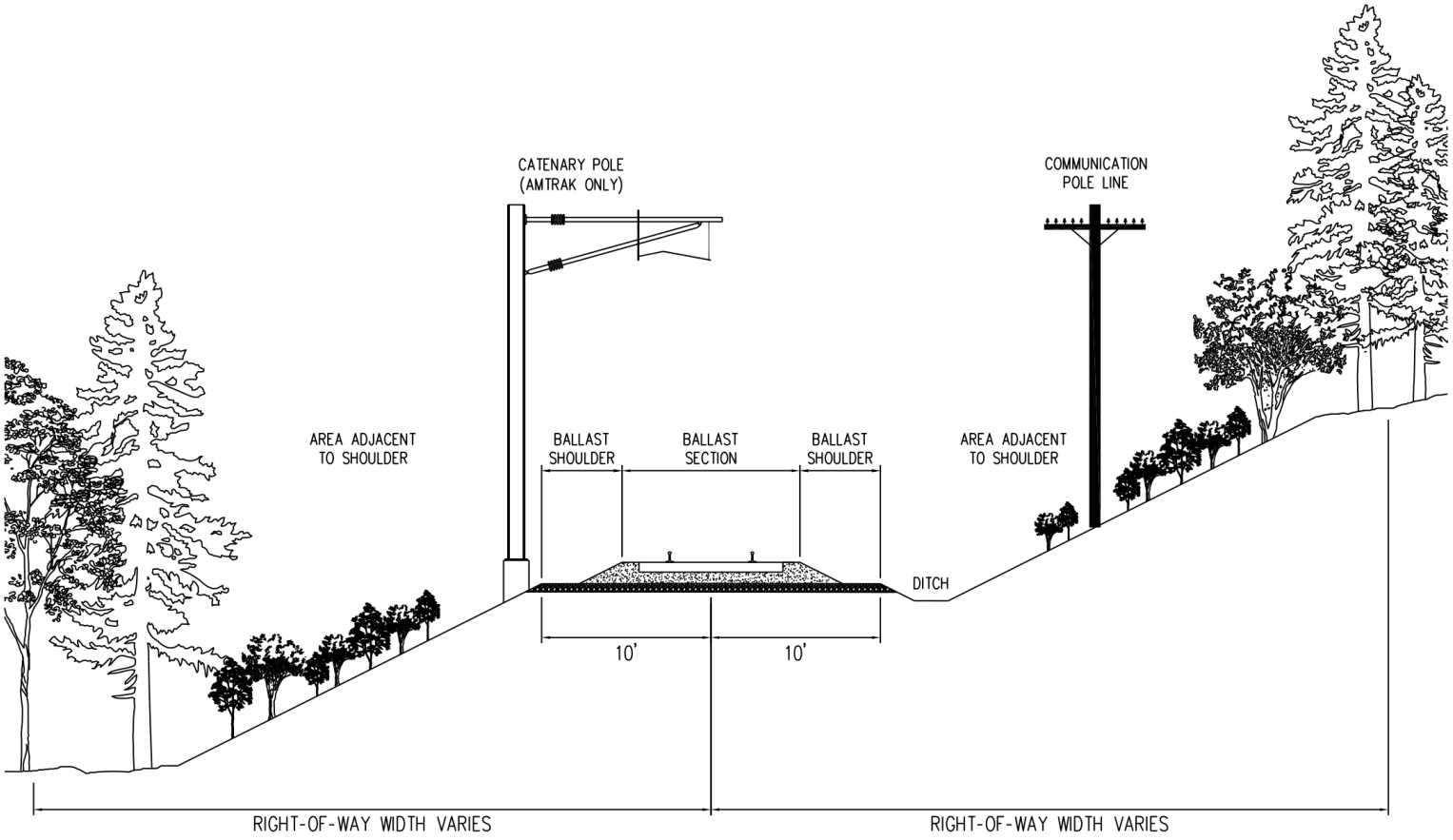
The railroad's VMP is an integrated program which does not rely on a fixed application schedule or eliminate all vegetation with herbicides in all areas. The ROW will receive a vegetation site inspection monitoring the vegetation on the roadbed and adjacent areas. All operational and maintenance activities scheduled for that year will be identified for those sites and if those activities will effectively manage the vegetation then herbicide applications can be reduced or eliminated. In those areas where the vegetation will not be managed by non-VMP activities an assessment will be performed to determine the most effective use of herbicides for selective vegetation management. (see Operational Guidelines, Section VIII).

V. MANAGEMENT REQUIREMENTS OF RAILROAD RIGHTS-OF-WAY

Concern for public and employee welfare, environmental protection and safety are the primary reasons for vegetation maintenance on the railroad ROW. Railroads

are unique, among the various type of ROWs in their relationship to interstate commerce. Railroads carry a constant flow of raw material and finished products such as construction aggregates, automobiles, wood pulp, foodstuffs, chemicals, plastics, lumber, metals, fuel, compressed gases, minerals, municipal solid waste and consumer goods into, out of and through the Commonwealth of Massachusetts. Railroads also provide commuter rail service and high-speed intercity passenger service on some routes. Most track segments have few alternate or duplicate routes and cannot be closed easily or for long periods of time for vegetation maintenance without major service disruptions. Vegetation maintenance activities must be scheduled around the normal movement of rail traffic and detailed planning is required to accomplish the work in a narrow time window. Different areas of the ROW require different levels of vegetation management. Figure 1 depicts these various areas and the descriptions that follow will identify the requirements for vegetation management including those locations that can tolerate or encourage low-growing vegetation.

FIGURE 1
RAILROAD AREAS REQUIRING VEGETATION MANAGEMENT



A. Roadbed

Figure 1 depicts a typical single-track railroad ROW. The roadbed is a man-made structure which consists of the rail and ties, ballast section, ballast shoulder, and its drainage system. The ballast and ballast shoulder are constructed of stone ballast that supports the track. It distributes the load of the track evenly and drains water away from the roadbed. The roadbed drainage system is constructed to carry water draining out of the ballast away from the

track. The roadbed portion of the ROW requires total elimination of vegetation.

B. Bridges

Open deck bridges, such as some over water, will not be treated. Roadbed approaches to bridges will be treated up to the abutment backwall, reduced as necessary to maintain required setbacks to sensitive areas. Stonework in bridge abutments and similar structures must be treated because plant roots can loosen and destroy mortar in cracks. The area under bridges will be maintained in low growing vegetation.

C. Culverts

Culverts are generally constructed with steel pipe, concrete pipe, or stone and are normally placed at right angles to the track. Culverts which are not of sufficient length to extend beyond the roadbed spray pattern plus required buffer, or which are shallow to the roadbed and constructed of stone and could allow herbicide to enter a watercourse, will not be treated.

D. Ditches

Drainage ditches must be maintained free of vegetation and other obstructions to permit the flow of water away from the ballast and track structure and maintain a stable roadbed. Ditches will be maintained by mechanical means and/or by herbicide applications when no water is present.

E. ROW Area Adjacent to the Shoulder

Woody vegetation growing in areas adjacent to the shoulder may be managed to promote the development of beneficial growth. The decision as to which vegetation is considered beneficial and allowed to remain is less about the particular species of plant and more about the characteristics and locations of the vegetation. Tall woody vegetation which has the potential to block visibility, creep or fall into the roadbed or obstruct overhead catenary, communication lines and signals must be managed to prevent interference to these railroad facilities. On the other hand, low growing brush can be beneficial and help to stabilize slopes of cut and filled embankments. Vegetation that is further away from critical railroad facilities and closer to the edge of the ROW can sometimes be allowed to grow taller and provide a natural visual screen blocking the view from abutting properties and serve to reduce the noise from rail traffic. These areas may be maintained to include a wide variety of shrubs and herbaceous plants if they will not adversely affect railroad operations. Vegetation in the areas adjacent to the shoulder must be eliminated at the following locations:

1. <u>At-grade (Level) Road Crossings</u>
   Vegetation in the vicinity of at-grade road crossings must not be allowed to interfere with safe lines of sight between motorists, rail traffic and warning lights and gates.

2. <u>Railroad Signals, Signal Cases, and Signs</u>
   The area around railroad signals, cases, and signs will be maintained weed free in order to provide railroad workers with unobstructed views and to permit maintenance of this equipment.

3. Insides of Curves
   Vegetation on insides of curves must be maintained low enough to provide adequate line of sight for minimum stopping distances and to allow employees to visually verify positions of switches and derails. Also, railroad workers on the ground must have the ability to verify locomotive numbers of passing trains and to inspect the trains for defects as they go by.

Target vegetation within the area adjacent to the shoulder is any and all vegetation that poses a risk to safe railroad operations including, but not limited to the following:

Ailanthus (Tree of Heaven)	Buckthorn	Maple
American Basswood	Butternut	Northern Catalpa
American Beech	Cherry	Oak
American Hornbeam	Eastern Hophornbeam	Pine
Apple	Eastern Red Cedar	Poplar
Ash	Elm	Sassafras
Birch	Flowering Dogwood	Shadbush
Black Locust	Hawthorn	Spruce
Black Tupelo	Hickory	Sumac
Black Walnut	Honey Locust	Vines

In addition to the species listed above every effort will be made to identify and target vegetation listed as invasive by the Massachusetts Invasive Plants Advisory Group (MIPAG) which can be found at the following web link: https://www.massnrc.org/mipag/invasive.htm. MIPAG has also developed strategic recommendations for managing invasive plants which can be found here: https://www.massnrc.org/mipag/docs/STRATEGIC_PLAN_FINAL_042005.pdf

F. Railroad Yards and Facilities

Railroad yards and facilities are considered by the Department of Agricultural Resources not to be part of the ROW. Yards are areas with multiple tracks and switches where trains are assembled, disassembled, and equipment is stored. Railroad facilities include offices, maintenance buildings and signal towers, usually within yards. It also includes storage and fueling areas for vehicles and maintenance-of-way equipment as well as off-track areas that are not accessible from rail, such as material storage yards and electrical substations. Railroad yards and facilities must be maintained free of vegetation to allow safe and efficient operation, reduce fire hazards, and permit proper inspection of railroad tracks and equipment. Whenever possible these yards and facilities are treated as if they were part of the ROW.

VI. VEGETATION MANAGEMENT TECHNIQUES

The railroads' Vegetation Management Program is defined and limited by the construction of the privately owned ROW. The individual components of the railroad ROW as described in Section V, have two distinctly different vegetation management requirements. On the ROW roadbed and other specialized areas, no

vegetation is permitted as per Federal and Massachusetts laws and regulations. On the adjacent areas of the ROW, certain woody, vine, and brush species must be selectively managed. Therefore, unlike other ROWs, the methods of railroad ROW management is limited to two direct techniques, mechanical and chemical (herbicide applications), as well as a number of indirect methods.

A. Mechanical Techniques

Mechanical cutting techniques are limited to woody and brush vegetation and will include only those target trees that interfere with safe railroad operations. Mechanical techniques are used in the areas adjacent to the roadbed. Mechanical control will remove unwanted woody vegetation in areas restricted for herbicide application. Tall trees and brush growing adjacent to the roadbed interfere with catenary and communication lines, reduce visibility, and intrude into the track zone.

Mowing is the mechanical process of cutting a woody target species with cutting heads mounted on equipment with hydraulic arms. These various machines can be off-track or on-track equipment. On-track equipment is often used for routine brush cutting since it can be quickly mobilized into a work area without the need for a dedicated access road and because these machines operate on the rails there is little disturbance to sensitive areas, desirable vegetation or the surrounding soil. Off-track equipment is often used for larger tree clearing projects or capital improvements but has the disadvantage of being more intrusive on the surrounding landscape. Mechanical cutting of brush with on-track machinery as part of routine maintenance practices ensures that trees rarely grow large enough to require off-track equipment. The disadvantages of on-track equipment is that they sometimes cannot maneuver well around pole lines, signal cases and other facilities. In addition, they are limited in their reach and must occupy the tracks upon which they are working which provides limited time for work on busy rail lines such as those with frequent passenger service.

Some mechanical cutting equipment also has a distinct disadvantage when working in heavily developed or recreational areas due to the flying sticks and debris that often results from the work. These types of machines are not suitable for cutting in close proximity to most inhabited areas.

Occasionally taller tree canopy can interfere with sight lines and have adverse effects on signal systems. These taller tree limbs can be effectively managed by cutting heads suspended from helicopters. These units do not cause any ground disturbance however the falling trimmings require the tracks to be free of train traffic during cutting and clearing operations.

B. Herbicide Application

Herbicides have been successfully applied on ROWs to manage vegetation because of their specificity, range of target species, high degree of effectiveness, economics, and application methods. Herbicides are essential to eliminate vegetation on the roadbed (the ballast/shoulder area) and there is no other known method for adequate vegetation management of this part of the

ROW as required by Federal and Massachusetts laws and regulations. The ballast and shoulder must be free and clear of all vegetation. This requirement necessitates that vegetation be removed down to and including the root system.

An herbicide control program can be modified into an integrated vegetation management approach depending on the area to be treated, target species, time of application, and category of herbicide. The two herbicide categories are preemergence herbicides, which the plant absorbs through developing roots and/or shoots before emerging from the ground and postemergence herbicides, which the plant absorbs through foliage and other green portions, or through woody portions of the plant (i.e. bark, stem, roots).

For more than two decades the herbicide products primarily used on the ROWs have been glyphosate (Roundup, Razor-Pro & AquaNeat), metsulfuron-methyl (Escort XP & Patriot) and sulfometuron-methyl (Oust XP & Spyder). Around 2017 aminopyralid (Milestone) was added to the list of Sensitive Area Materials (the List) that could be used by licensed applicators. Some other products on the List are combinations of materials listed above and provide different characteristics of timing and effectiveness on various plant species. Indaziflam (Esplanade 200 SC) was also added to the List in recent years and is an effective preemergent product.

Although railroads have the option to use other products outside of sensitive areas, for logistical reasons as well as cost, the railroads generally spray all of their ROWs with labeled rates of materials from the List. Using only products on the List allows the railroads to spray their entire ROW in a continuous trip with one application which minimizes the need to interfere with train traffic while maintaining compliance with the regulations and still provide for effective management of vegetation.

Imazapyr (Arsenal & Polaris) is another product on the List which is sometimes used. It is able to control multiple types of vegetation due to its ability to be absorbed through both the foliage and the roots of plants but it is limited in use because it cannot be applied in consecutive years within Massachusetts.

During those years in which Imazapyr is not used glyphosate, metsulfuron-methyl, sulfometuron-methyl and now Indaziflam are typically the products applied. Glyphosate has shown to be an effective postemergence product but it will only control actively growing vegetation since it must be absorbed through the foliage of a plant in order to provide any benefit. Metsulfuron-methyl is effective at controlling broadleaf weeds and brush but has very little, if any, effect on grasses. Sulfometuron-methyl is designed to be effective at controlling grasses but has been found to be less effective over time due to population shift of the vegetation.

Target species will be divided into two categories: weeds and brush.

1. Weed Control (Roadbed)

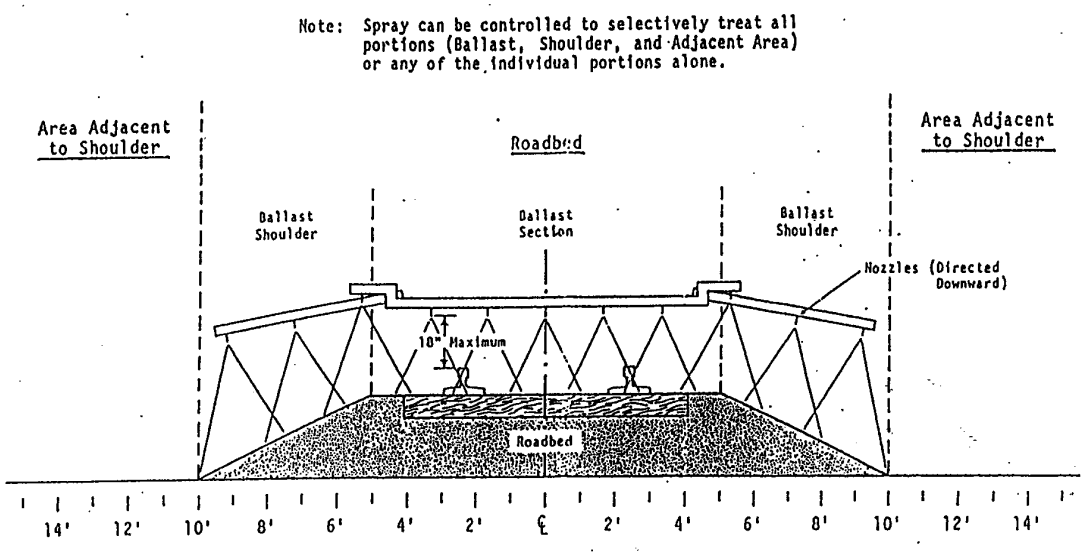
   The weed control program is designed to eliminate all vegetation located on

the roadbed, around signs and signals, and in yards and other railroad facilities. Herbaceous vegetation is the primary cover type with a lesser number of shrubs and tree seedlings also present. A combination of preemergence and postemergence herbicides accomplishes the goal of complete vegetation eradication.

Weed control on the roadbed is accomplished using an on-track vehicle which has the advantage of not having to operate over rough terrain and can easily access areas between multiple tracks that would be otherwise difficult to reach with off-track equipment. These hi-rail trucks have a rear-mounted boom located approximately 18 inches above the ground with multiple spray nozzles fixed along the length of the boom (see Figure 2). The boom is divided into three sections which can be independently controlled, allowing the truck operator to apply the herbicide in a precise spray pattern even in close proximity to sensitive areas. Spray nozzles are equipped with spring-loaded shut-off valves to prevent dripping when the pressure is turned off.

Herbicide sprayed from hi-rail trucks is applied at low pressure, typically between 30 and 40 pounds per square inch (PSI) depending upon the anticipated speed of travel. Low pressure as defined by CMR 333 11.02 shall be under 60 PSI.

FIGURE 2
TYPICAL ON-TRACK HERBICIDE SPRAY BOOM



a. Preemergence Herbicide Program

The pre-emergent herbicide program is directed primarily to the yard areas and incorporates IVM to minimize the amount of herbicide used. This program is especially important with regards to employee safety because most employee activities take place within the yards. The scheduling of a main line or yard track section for a preemergence herbicide application will depend on a review of the previous year's vegetation density and management efforts and an estimate of vegetation density for the upcoming

season.

Preemergence herbicide applications within the yards may be accomplished from either a hi-rail spray truck or an off-track vehicle but in either case favorable weather conditions are required. In Massachusetts this work may begin as early as March. If the weather conditions change, such as high wind, rain, temperature, inversion, etc., the applicator will stop immediately.

b. Postemergence Herbicide Program

The postemergence program is directed primarily toward vegetation eradication on the railroad ROW main lines and branch lines. These areas comprise the bulk of railroad's rights-of-way and account for the greatest proportion of herbicide use.

Postemergence herbicide application may begin in mid-May but is weather and target species dependent. All treated areas are later inspected and the effectiveness of the treatment is evaluated. If necessary, a second touch-up treatment is selectively applied to vegetated areas in accordance with CMR 333 11.03(8).

2. Brush Control (Areas Adjacent to the Roadbed)

The brush control program is designed to manage vegetation in areas adjacent to the ballast shoulder through the selective use of postemergence herbicides. The type of herbicide selected will depend on the species of target vegetation present. The application method will depend on the density of target vegetation and previous mechanical methods used. Shrubs and herbaceous vegetation in these areas will be maintained where possible and when consistent with program goals. As in weed control, all treated areas are later inspected and evaluated. If further treatment is needed, a post-emergent herbicide is selectively applied to unwanted vegetation.

There are several methods for the application of postemergence herbicides to the target vegetation. The variety of methods allows the applicator to selectively apply the herbicide directly onto the target vegetation. These applications are described below:

a. Foliar

Selective application of the herbicide to the foliage and or stem by a variety of low-pressure mechanical spray devices. This type of application is useful on busy, high speed rail lines where the work intervals between trains are too short for slower mechanical methods. The herbicides are applied under low pressure (less than 60 PSI). Selective foliar application will not be used on vegetation over 12 feet in height, except for side trimming (333 CMR 11.03 (5)). Side trimming, when done with herbicides, is the selective application of the herbicide to target portions of a tree and avoids removal of the entire tree. During side trimming operations in residential areas, the railroads will utilize low pressure herbicide application techniques and

appropriate adjuvant or agents to prevent the drift of herbicides. Experience indicates minimal drift occurs, usually within 5 feet of side trimming operations, when using low pressure applications and adjuvants.

b. Stem

Selective application of the herbicide in a petroleum or crop oil base carrier to the lower portion of the main stem (trunk of a tree). The equipment for basal spraying is often a manual-pump apparatus.

c. Cut Surface

Application of an herbicide to the stump immediately after a cutting procedure which may include mowing. Traditionally, the herbicide is manually painted or sprayed directly onto the cut stump surface. Both stem and cut surface applications are found to be effective year-round.

3. Summation

In order to provide for safe railroad operations and comply with federally mandated maintenance practices the roadbed portion of the ROW requires complete elimination of vegetation around the rail, ties, ballast and ditches. The only suitable method found to be effective in the roadbed is the selective use of herbicides. In sensitive areas such as buffer zones to wetland resources, drinking water supplies and inhabited or agricultural areas, the use of sensitive area materials, as found on the Massachusetts Sensitive Area Materials List, has been found to be effective at achieving these goals. Herbicide applications in these areas, when undertaken in strict accordance with the Rights of Way Management regulations (333 CMR 11.00) and under an approved VMP are considered not to alter the sensitive resource areas. Since herbicides are available in a wide variety of dry and liquid forms, the railroad may select the most efficacious herbicide for that particular site and target vegetation. Thus, the target plant may be selectively managed while minimizing impacts on non-target, desirable species. Limited, selective application of herbicides minimizes the chance of unreasonable adverse effects to the public and the environment. Herbicides provide the most reliable and generally safe method to prevent and remove weeds that interfere with safe railroad operations.

C. Indirect Methods

Indirect methods of vegetation management include any ROW operational or maintenance activity that eliminates vegetation as a secondary benefit. As described in more detail in Section IV. Integrated Vegetation Management, these routine maintenance activities include:

- replacement of ties;
- changing of rails;
- track surfacing (including ballast placement);
- maintenance of ditches and drainage facilities;

- signal & communication system repairs; and
- catenary system repairs and maintenance.

By themselves these activities can reduce vegetation on the ROW to acceptable levels which may preclude the need for mechanical cutting or herbicide applications in those specific areas where the work took place.

VII. SENSITIVE AREAS

Sensitive Areas have been defined in the Commonwealth of Massachusetts Regulation 333 CMR 11.00. A copy of the regulations is included in Appendix "C" of the VMP and a Sensitive Area Restriction Guide (Table 1) is included at the end of this section. Sensitive areas include any areas within the ROW including No Spray Area, and Limited Spray Area as defined below.

No Spray Area, any area that is both within a Right-of-Way and within:

(a) any Zone I;
(b) 100 feet of any Class A Surface Water Source;
(c) 100 feet of any tributary or associated surface water body where the tributary or associated surface water body runs within 400 feet of a Class A surface water source;
(d) 10 feet of any tributary or associated surface water body where the tributary or associated surface water body is at a distance greater than 400 feet from a Class A surface water source;
(e) a lateral distance of 100 feet for 400 feet upstream, on both sides of the river, of a Class B Drinking Water Intake;
(f) 50 feet of any identified Private Well;
(g) 10 feet of any Wetlands or Water Over Wetlands;
(h) 10 feet of the mean annual high-water line of any river; and
(i) 10 feet of any Certified Vernal Pool.

Limited Spray Area, any area that is both within a Right-of-Way and within:

(a) any Zone II or IWPA;
(b) a distance of between 100 feet and 400 feet of any Class A Surface Water Source;
(c) a distance of between 10 and 200 feet of any tributary or associated surface water body where the tributary or associated surface water body runs outside the Zone A for the Class A surface water source;
(d) a lateral distance of between 100 and 200 feet for 400 feet upstream, on both sides of the river, of a Class B Drinking Water Intake;
(e) a distance of between 50 and 100 feet of any identified Private Well;
(f) a distance of between 10 and 100 feet of any Wetlands or Water Over Wetlands;
(g) a distance of between 10 feet from the mean annual high water line of any river and the outer boundary of the Riverfront Area;
(h) a distance of between 10 feet from any Certified Vernal Pool and the outer boundary of any Certified Vernal Pool Habitat; and

(i) a distance of 100 feet of any Agricultural or Inhabited Area.

The most common types of sensitive areas encountered are areas within 100 feet of standing or flowing water or wetlands.

Those sensitive areas that have been delineated with permanent markers in the field include all areas listed above under No Spray Areas and Limited Spray Areas with the following exceptions: agricultural areas, inhabited areas, and areas of intermittent standing or flowing water such as in drainage ditches. These areas are considered readily identifiable in the field and are not delineated with permanent markers.

Within sensitive areas only a limited number of herbicides that have been approved for these areas by MDAR and MassDEP can be applied. The current list of sensitive area approved herbicides can be found on the Mass.gov website under the Department of Agricultural Resources. Additionally, no herbicides, including those of which are approved for sensitive areas, can be applied within 10 feet of standing or flowing water.

A. Identification and Location of Wells and Surface Water Supplies

The Commonwealth of Massachusetts, Department of Environmental Protection, Drinking Water Program has developed data and overlay maps highlighting public water supplies, aquifers, tributaries, and drainage basins for most of the State. Most of this information is readily available through the MassGIS OLIVER online mapping tool. Areas not covered are clearly identified in the field and mapped accordingly.

Local sources of specific information included the Conservation Commissions, Water Departments, and Boards of Health. Private wells on record in the DAR's Private Well Registry will be delineated. The identification and delineation of private wells in the Commonwealth of Massachusetts is an ongoing process. In addition to the registry a yearly written inquiry to the Board of Health in each municipality, regarding the existence of any new and/or omitted private wells, is included in the Yearly Operational Plan mailing.

Prior to field delineations topographic maps are marked identifying the locations of public wells and water supplies. The specific locations are obtained from MassGIS overlay maps provided by the DEP and the Drinking Water Program.

B. Identification and Delineation of Wetlands

The following definition and description is taken from the Wetlands Protection Act Regulations 310 CMR 10.55 (2):

(2) Definition, Critical Characteristics and Boundary
(a) Bordering Vegetated Wetlands are freshwater wetlands which border on creeks, rivers, streams, ponds and lakes. The types of freshwater wetlands are wet meadows, marshes, swamps and bogs. Bordering Vegetated Wetlands are areas where the soils are saturated and/or inundated such that

they support a predominance of wetland indicator plants. The ground and surface water regime and the vegetational community which occur in each type of freshwater wetland are specified in M.G.L. c. 131, § 40.

(b) The physical characteristics of Bordering Vegetated Wetlands, as described in 310 CMR 10.55(2)(a), are critical to the protection of the interests specified in 310 CMR 10.55(1).

(c) The boundary of Bordering Vegetated Wetlands is the line within which 50% or more of the vegetational community consists of wetland indicator plants and saturated or inundated conditions exist. Wetland indicator plants shall include but not necessarily be limited to those plant species identified in the Act. Wetland indicator plants are also those classified in the indicator categories of Facultative, Facultative+, Facultative Wetland-, Facultative Wetland, Facultative Wetland+, or Obligate Wetland in the *National List of Plant Species That Occur in Wetlands: Massachusetts (Fish & Wildlife Service, U.S. Department of the Interior*, 1988) or plants exhibiting physiological or morphological adaptations to life in saturated or inundated conditions.

1. Areas containing a predominance of wetland indicator plants are presumed to indicate the presence of saturated or inundated conditions. Therefore, the boundary as determined by 50% or more wetland indicator plants shall be presumed accurate when:
   a. all dominant species have an indicator status of obligate, facultative wetland+, facultative wetland, or facultative wetland- and the slope is distinct or abrupt between the upland plant community and the wetland plant community;
   b. the area where the work will occur is clearly limited to the buffer zone; or
   c. the issuing authority determines that sole reliance on wetland indicator plants will yield an accurate delineation.
2. When the boundary is not presumed accurate as described in 310 CMR 10.55(2)(c)1.a. through c. or to overcome the presumption, credible evidence shall be submitted by a competent source demonstrating that the boundary of Bordering Vegetated Wetlands is the line within which 50% or more of the vegetational community consists of wetland indicator plants and saturated or inundated conditions exist. The issuing authority must evaluate vegetation and indicators of saturated or inundated conditions if submitted by a credible source, or may require credible evidence of saturated or inundated conditions when determining the boundary. Indicators of saturated or inundated conditions sufficient to support wetland indicator plants shall include one or more of the following:
   a. groundwater, including the capillary fringe, within a major portion of the root zone;
   b. observation of prolonged or frequent flowing or standing surface water;
   c. characteristics of hydric soils.
3. Where an area has been disturbed (*e.g*. by cutting, filling, or cultivation), the boundary is the line within which there are indicators of saturated or inundated conditions sufficient to support a predominance of wetland indicator plants, a predominance of wetland indicator plants, or credible evidence from a competent source that the area supported or

would support under undisturbed conditions a predominance of wetland indicator plants prior to the disturbance.

Small wetlands, variable wetland situations, and the specific boundary to any wetland must be determined in the field.

C. Field Procedure

1. Preparation

   Prior to doing the field work, appropriate field maps, including MassGIS, will be reviewed to determine the general location of sensitive areas on the railroad ROW.

2. Boundary Establishment

   The sensitive area boundaries, which are not readily identifiable in the field, will be established for these areas. All boundaries use minimum setback distances specified in the regulations. Boundaries are marked on the tracks using the marking system described in Appendix B for each railroad. Boundary markers are placed on the track at a point where the sensitive area intersects with the track plus the required setback distance. In most locations, the boundary marker is placed as much as 15 feet beyond the minimum setback in order to find the best, strongest, and most visible location for the marker.

   The occurrence of standing water in man-made drainage ditches will not be used as a principal indication of wetlands. The four major indications are vegetation, topography, soils, and hydrology. (Hydrology of a site relates to the distribution and circulation of water on the surface and in the soil).

   Vegetation and signs of obvious hydrology will be used to determine wetland boundaries according to the DEP Wetland Protection Act Regulations. Soils are helpful in verifying wetland boundaries, but will not be used as a determining factor in typical situations. Vegetation responds quickly to changes in soil moisture and drainage. Plants are more likely to indicate newly forming wetlands, or wetlands that are in the process of enlarging. Soils are useful as indications of long-term hydrologic conditions. They are especially useful for disturbed sites and drier wetlands lacking typical wetland plants.

   Topographic depressions where water collects, or where the water table is close to the surface, usually allow the development of wetlands. The boundary of a wetland in a low, flat area surrounded by hilly terrain often corresponds to the "break" in the slope, or the point at which the land begins to flatten.

   Once the boundary of a wetland has been established distances will be

measured to establish appropriate no-spray and buffer zones. Permanent boundary markers will be installed along the ROW and color-coded in order to indicate the proper spray status of the area to the herbicide applicator.

3. Approval of Findings

The Conservation Commission of each municipality is given the opportunity to observe and inspect the resource boundary markers. A request for a determination of applicability is filed with each Conservation Commission pursuant to the Wetland Protection Act regulations, 310 CMR 10.05 (3)a.2. Form 1 is accompanied by a map of the ROW indicating the location of the boundary markers on the track and type of delineation that was made. These determinations are effective for the duration of the VMP as specified in 310 CMR 10.05 (3)(b)(1).

Data relating to the following is submitted to the Conservation Commission in each town as part of the Yearly Operational Plan:

a. maps, or updates thereof, locating the ROW and sensitive areas not readily identifiable in the field;
b. herbicides proposed including application rates, carriers, adjuvants;
c. herbicide application techniques and alternative control procedures proposed;
d. the company which will perform any herbicide treatment;
e. identification of target vegetation;
f. individual representing applicant supervising YOP;
g. flagging methods to designate sensitive areas on the ROW;
h. herbicide Fact Sheets as approved by the Department; and
i. procedures and locations for handling, mixing, and loading of herbicide concentrates.

D. Operational Strategies and Procedures

Vegetation control procedures within the railroad ROW will be made consistent with all state and Federal regulations. The general vegetation control strategies will exclude the use of herbicides in any application that would result in drift to:

(a) any Zone I;
(b) 100 feet of any Class A Surface Water Source;
(c) 100 feet of any tributary or associated surface water body where the tributary or associated surface water body runs within 400 feet of a Class A surface water source;
(d) 10 feet of any tributary or associated surface water body where the tributary or associated surface water body is at a distance greater than 400 feet from a Class A surface water source;
(e) a lateral distance of 100 feet for 400 feet upstream, on both sides of the river, of a Class B Drinking Water Intake;
(f) 50 feet of any identified Private Well;
(g) 10 feet of any Wetlands or Water Over Wetlands;
(h) 10 feet of the mean annual high-water line of any river; and
(i) 10 feet of any Certified Vernal Pool.

On the railroad roadbed, no suitable alternative to herbicide vegetation control is currently available. On areas adjacent to the roadbed mechanical methods can be a suitable method of vegetation control. In the years following mechanical cutting, herbicide treatments may be used to control target vegetation re-growth. The selection of the herbicide and method of application will depend on the type, location and density of target vegetation present. In the area adjacent to the shoulder where herbaceous and some low-growing, woody plants can be encouraged, selective cutting (including stump treating) of tall-growing trees will be used as needed.

All notification procedures required by State regulations will be followed. Several days prior to scheduled maintenance activities, a railroad track inspector or other person familiar with the boundary marking system, and equipped with boundary maps and/or log sheets, will review the area scheduled for treatment to ensure all boundary markers are in place and visible.

All herbicide applicators working on the ROW will be accompanied by a railroad representative, equipped with the maps of the ROW and other required documents, and trained to observe the boundary markers and areas not readily identifiable in the field. The railroad company pilot will assist the operator of the spray vehicle and alert him to the presence of persons on or adjacent to the ROW or any other pertinent conditions. The railroad representative may ride in a pilot vehicle or the spray vehicle in order to best suit operating conditions. When moving into or out of no-spray areas, the worker in control of the spray vehicle, will be signaled by the railroad representative or by the pilot vehicle, to cease or commence spraying.

Sensitive Area Restriction Guide (333 CMR 11.04) – Table 1

Sensitive Area	No Spray Area	Limited Spray Area	Where Identified
Wetlands and Water Over Wetlands	Within 10 feet	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
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

Sensitive Area	No Spray Area	Limited Spray Area	Where Identified
Public Surface Water Supply	Within 100 feet of any Class A public surface water source	100 feet to the outer boundary of the 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 the 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		
	Within a lateral distance of 100 feet for 400 feet upstream of any Class B Drinking Water Intake	Within a lateral distance of between 100 - 200 feet for 400 feet upstream of intake; 24 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications	
Private Water Supply	Within 50 feet	50 – 100 feet; 24 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications	YOP maps, well list and identify on site
Surface Waters	Within 10 feet from mean annual high-water line	10 feet from the mean annual high water line and the outer boundary of the Riverfront Area; 12 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications	YOP Maps and identify on site
Agricultural and Inhabited Areas	N/A	0 – 100 feet 12 months must elapse between application; Selective low pressure, using foliar techniques or basal or cut-stump applications.	Identify on site
State-listed Species Habitat	No application within priority habitat area except in accordance with a Yearly Operational Plan approved in writing by the Division of Fisheries and Wildlife		YOP Maps

VIII. OPERATIONAL GUIDELINES FOR APPLICATORS RELATIVE TO HERBICIDE USE

A. Guidelines for Sensitive Areas

1. Site Review

   On sites believed to need vegetation control a review of the vegetation conditions will be made. The review will be made by the track inspector or other person experienced in vegetation management. On the areas adjacent to the shoulder, the need for and type of control will be identified and the treatment required will be determined. The density and type of target species present will be noted in each area for use in developing a control strategy.

2. Office Procedures

   All available information for ROW maintenance activities will be analyzed using available plans, track charts, maintenance programs, track inspection records, MassGIS or other available information. Areas scheduled for construction or other activities that will reduce or eliminate the need for vegetation maintenance, at that time, will be identified. If the vegetation on these areas will be completely controlled or eliminated, they will be removed from further consideration in the program now being developed. Next, the sensitive areas delineated will be reviewed to ensure that appropriate measures have been taken to protect these areas. The treatment methods prescribed in each sensitive area buffer zone will be reviewed and, whenever possible, a mechanical or more selective herbicide application prescribed. No-spray areas will be reviewed as to the overall vegetation conditions occurring, and mechanical methods will be used to selectively remove or side trim trees leaning into the roadbed area. New and developing vegetation control techniques will be reviewed to determine whether or not a suitable alternative to herbicide applications has been developed for use on the roadbed in sensitive areas.

   This analysis will provide the site-specific information required in the YOP. The YOP will be developed and submitted to DAR for approval as per 333 CMR 11.06(1).

B. Preparation for Herbicide Application

At least a 21-day notice prior to the scheduled application date, will be given to the Department of Agricultural Resources, Conservation Commission, Board of Health, Mayor, and local public water suppliers in each community following Massachusetts State regulations.

Prior to the scheduled application date, a railroad employee or designated representative experienced in vegetation management and related regulations will traverse the treatment area with the sensitive area maps and records to

ensure that all boundary markers are in place, accurate and visible.

1. Basic Requirements

To protect the public welfare and eliminate adverse impacts on the environment, railroad herbicide application crews must have an applicator who is licensed and certified in the Commonwealth of Massachusetts under category 40 for rights of way. Applicators must also have a Field Supervisor who reports daily to the railroad representative or other qualified railroad employee who is assigned to this task. The railroad is responsible for adherence to this VMP by railroad employees or their contractor. Applicators must follow all railroad safety regulations and all herbicide label directions.

a. Daily Field Report of Vegetation Control Activities

The daily field report of Vegetation control activities will be filled out each day by operators doing the work. The daily field report will include, but not be limited to:

- Date
- Vehicle and Equipment Numbers
- Track Name, Number, and Designation

Herbicide(s) Applied
- Chemical Name
- Number of Containers
- Quantity lbs./gals.
- Chemical Left or Forwarded
- Vehicle Number
- Number of Containers
- Quantity lbs./gals.

Weather

- Wind Velocity at time	6am	9am	12pm	3pm	6pm
- Wind direction at time	6am	9am	12pm	3pm	6pm
- Temperature at time	6am	9am	12pm	3pm	6pm
- Rain (in inches) at time	6am	9am	12pm	3pm	6pm

Acres Treated
- Roadbed Area
- Area Adjacent to the Shoulder
- Mainline
- Sidings
- Branch
- Industrial Track
- Bridges
- Road Crossings

Daily Summary
- Beginning Time
- Ending Time
- Hours Treating
- Total Hours Reported
- Daily Beginning Odometer Reading
- Daily Ending Odometer Reading
- Contractor Person on Job (list each individual)
- Railroad Person on Job (list each individual)

Daily Summary of Herbicides Applied
- Name

- EPA Establishment No.
- EPA Registration No.
- Concentrate: gals/lbs.
- Mix Rate
- Application Rate per Acre

Tank or Mix Number
- Chemical Name and Amount Added to Tank
- Water in Gallons or Inches of Depth
- Adjustments Names and Amount
- Location Where Water Taken

b. Herbicide Application Log

In addition to a daily Field Report, an Herbicide Application Log will be filled out. The herbicide log will include, but not be limited to:

- Time
- Mile Post and Location
- Spray Type and Meter Reading
- Gallons Per Mile
- Remarks: Spray Plan, City, Vegetation, Weather, etc.

2. Equipment Calibration

Calibration of herbicide application equipment is monitored on a daily basis by the applicator. While in the field, equipment is calibrated at the end of each day. The applicator cross references the total product applied, spray pattern, and distance traveled with meter readings. This allows the applicator to continuously monitor the amount of product applied per acre and adjust to insure the correct application rate.

3. Herbicide Application

The applicator will not handle, mix or load herbicide concentrate on a ROW within 100 feet of a sensitive area. Whenever possible, the applicator will handle, mix, or load herbicide while parked on a non-porous surface such as concrete or asphalt, but not within 100 feet of a sensitive area.

At the time of treatment, before the application begins, the herbicide applicator will review the sensitive areas, maps, and records with a qualified railroad employee. A pilot vehicle, if used, will proceed through the area approximately ¼ mile ahead of the spray vehicle to alert the spray vehicle of the presence of persons on or adjacent to the ROW or any other pertinent conditions. The railroad representative will alert the operator of the spray vehicle about the location of boundary markers or sensitive areas readily identifiable in the field so that the application can be regulated accordingly. In no-spray areas, as the applicator passes the boundary, he will visually verify that no herbicide is deposited in the area with the assistance of another employee.

When drawing water for mixing of herbicides an approved anti-siphon device shall be used when attached to municipal potable water systems or from surface waters of the Commonwealth in accordance with 333 CMR 13.02(1) (a) and (b).

IX. ALTERNATIVE LAND USE

The railroad will review and evaluate new and innovative alternative land uses on the ROW. Safety considerations preclude most alternative land uses on the railroad ROW. The size, weight, and speed of trains and their cargoes being transported are hazardous to any activity inside the ROW boundary. Even agricultural activities might interfere with the operation of the railroad by reducing visibility to inspect trains and impeding drainage away from the ballast area.

Some uses of the ROW that are compatible with railroad uses include construction and maintenance of electric distribution and transmission lines, telephone lines, and cable TV lines. Other uses that may be used on wider railroad ROW's are sewer and water lines and major pipelines.

Parties interested may submit alternative land use proposals for the railroad's consideration. A list of addresses for railroads participating in this plan may be found in Appendix B.

X. REMEDIAL PLAN TO ADDRESS SPILLS AND RELATED ACCIDENTS

This remedial plan is offered as a guide to proper procedures for addressing pesticide accidents. The railroads contract with independent, licensed, herbicide applicators that are solely responsible for the containment, clean up, and reporting of all accidents and/or spills. Since every incident is different, applicators must weigh factors specific to the situation and use their own judgment to decide the appropriate course of action. The railroad employee escorting the applicator will be responsible for reporting all spills, to their supervisor, immediately.

Federal and state statutes establish emergency response procedures that must be followed by the companies and their contractors in the event of a spill or related accident. Under the Federal Environmental Pesticide Control Act, it is the applicator’s legal responsibility to clean up pesticide spills resulting from their use and handling of the product. Applicators are liable for damages, subject to penalties, and obligated to clean up and decontaminate areas resulting from pesticide spills.

Because applicators normally carry only small amounts of herbicides, the potential for serious accidents is relatively small. The hi-rail vehicle also carries diesel fuel, motor oil, engine coolant, other fluids (e.g. brake), and hydraulic oil. The applicator will be prepared to take remedial measures in the event of a spill.

Applicators will carry the herbicide labels, Safety Data Sheets (SDS) for the

chemicals being used, as well as equipment for emergency action including gloves, sand or other absorptive material, broom, shovel, and heavy duty plastic bags or other leak-proof sealable containers.

A copy of the YOP shall be carried with the herbicide applicator. The YOP contains telephone numbers for the state police, local fire department, poison control center, herbicide manufacturer(s), and DEP, as well as a spill response checklist and SDS.

In the event of a spill or related accident, the following actions at a minimum shall be taken:

- Administer first aid if required (if necessary, call ambulance, Massachusetts poison information center);
- In case of contact with herbicides, decontaminate as directed by SDS, change clothing as appropriate, and seek medical attention if appropriate;
- Call police in event of damage to property, or fire / explosion;
- If possible and safe to do so, control the spill and confine the spread of liquids with dikes, sand, and/or absorbent materials;
- Clean up spilled material as necessary and label any containers of contaminated materials for proper disposal;
- If unable to clean up entire spill with materials available, contact local police and fire department;
- Notify Massachusetts Department of Environmental Protection (MassDEP) immediately if a wetland, water body, or other sensitive area is threatened or contaminated by release of hazardous materials. DEP will be contacted when there is a spill of a reportable quantity, regardless of major or minor spill status and in accordance with 310 CMR 40.0000, Massachusetts Contingency Plan.

The Comprehensive Environmental Response, Compensation, and Liability Act 1980 (CERCLA) 42 U.S.C. §9601 et. seq., and the Federal Water Pollution Control Act (CWA) 33 U.S.C. §125 et. seq. are aimed at eliminating the accidental discharge of oil and hazardous substances into the environment, providing for the cleanup of such substances, and establishing responsibility for costs of cleanup. CERCLA and CWA are implemented by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) 40 CFR §300 et. seq.

Massachusetts General Laws Chapter 21E, the Massachusetts Oil and Hazardous Material Release Prevention and Response Act, Section 3 authorizes the MassDEP to act to secure the benefits of the CWA and CERCLA to the Commonwealth by promulgating and enforcing a Massachusetts Contingency Plan, 310 CMR 40.0000, establishes standards and procedures for the discovery of discharges, notification of MassDEP, assessment of the problem, and implementation of appropriate remedial response actions, as set forth in 310 CMR 40.0500.

The Farm Chemical Handbook (published by Meister Publishing Co., Willoughby, Ohio), U.S. Department of Transportation "1987 Emergency Response Guidebook" (available from UNZ and Company, Jersey City, New Jersey), herbicide labels, and SDS provide reference information for the chemicals being used.

In the event of a spill or emergency, information on safety precautions and cleanup procedures may be gathered from herbicide labels, herbicide fact sheets, and SDS. The following contact numbers are provided in case of a spill or emergency:

Herbicide Manufacturer	
Bayer Crop Science	(888) 842-2937
Corteva Agriscience	(800) 992-5994
Envu, Environmental Sciences	(703) 741-5970
Nufarm Americas	(877) 325-1840
Massachusetts Pesticide Bureau	(617) 626-1700
Massachusetts DEP Emergency Response	(888) 304-1133
ChemTrec	(800) 424-9300
EPA National Pesticide Information Center	(800) 858-7378
Massachusetts Poison Control Center	(800) 222-1222

XI. IDENTIFICATION AND QUALIFICATIONS OF INDIVIDUALS DEVELOPING THE PLAN

This 2026-2030 edition of the Vegetation Management Plan was edited and updated by Mr. Thomas Lewis and Mr. Wayne Duffett of TEC Associates, a civil engineering firm located in South Portland, Maine. Mr. Lewis has a B.S. in civil engineering and is the former Chief Engineer of Track for the Providence and Worcester Railroad Company. Mr. Lewis has twenty-eight years of experience in railroad track & structures maintenance including the Massachusetts Rights-of-Way Management regulations. Mr. Duffett has a B.S. in civil engineering and is a licensed professional engineer in Maine, Connecticut, New York, Virginia, Pennsylvania and the Province of New Brunswick. He has thirty-seven years of experience with the Massachusetts Rights-of-Way Management regulations. TEC Associates assists eight railroads in Massachusetts with their implementation and adherence with the regulations.

APPENDIX “A”

MUNICIPALITES AFFECTED BY THIS PLAN

LISTED BY RAILROAD

AMTRAK

Attleborough	Dedham	Mansfield	Westwood
Boston	Foxborough	Sharon	
Canton	Longmeadow	Springfield	

GRAFTON & UPTON RAILROAD

Grafton	Hopedale	Milford	Upton

HOUSATONIC RAILROAD COMPANY

Great Barrington	Lenox	Sheffield
Lee	Pittsfield	Stockbridge

MASSACHUSETTS CENTRAL RAILROAD

Barre	Hardwick	New Braintree	Palmer	Ware

MASSACHUSETTS COASTAL RAILROAD

Attleborough	Falmouth	Middleborough	Sandwich	Wareham
Barnstable	Foxborough	Millis	Seekonk	Westport
Bourne	Framingham	New Bedford	Sherborn	Westwood
Dartmouth	Mansfield	Norton	Taunton	Yarmouth
Fall River	Medfield	Rochester	Walpole	

NEW ENGLAND CENTRAL RAILROAD

Amherst	Erving	Monson	Northfield	Sunderland
Belchertown	Leverett	Montague	Palmer	

PIONEER VALLEY RAILROAD

Holyoke	West Springfield	Westfield

PROVIDENCE AND WORCESTER RAILROAD

Auburn	Grafton	Millville	Seekonk	Worcester
Blackstone	Holden	Northbridge	Sutton	
Dudley	Hubbardston	Oxford	Uxbridge	
Gardner	Millbury	Princeton	Webster	

APPENDIX “B”

VARIATIONS FROM BASIC PLAN

1. **CONTACT PERSONNEL**
2. **SENSITIVE AREA MARKERS**
3. **SYSTEM MAPS BY RAILROAD**

1. CONTACT PERSONNEL FOR PARTICIPATING RAILROADS

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dfontaine@graftonuptonrr.com

C. MR. MATT BOARDMAN

HOUSATONIC RAILROAD COMPANY
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m.boardman@hrrc.com

D. MR. DAVID ROY, OPERATIONS MANAGER

MASSACHUSETTS CENTRAL RAILROAD
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droy@masscentralrr.com

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MASSACHUSETTS COASTAL RAILROAD
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G. MR. MATTHEW LANE, GENERAL MANAGER
PIONEER VALLEY RAILROAD
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PROVIDENCE & WORCESTER RAILROAD COMPANY
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WORCESTER, MA 01608
(508) 755-4000
william.reposa@gwrr.com

2. SENSITIVE AREA MARKERS

Sensitive area markers presently in use may be one or any combination of the following:

a. Plates: Color coded metal plates nailed to the railroad ties

b. Paint: Paint applied to the web or base of the rails and ties

c. Posts: Color coded posts adjacent to the track

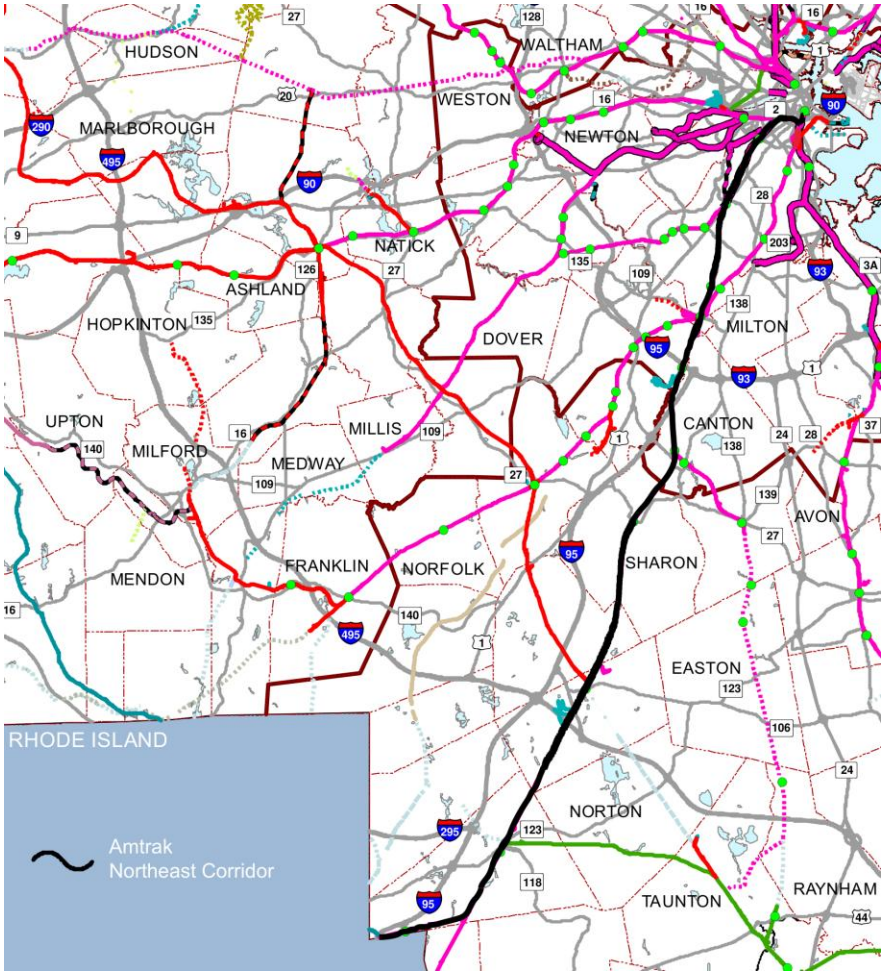
Sensitive area markers presently employed by participating railroads are as follows:

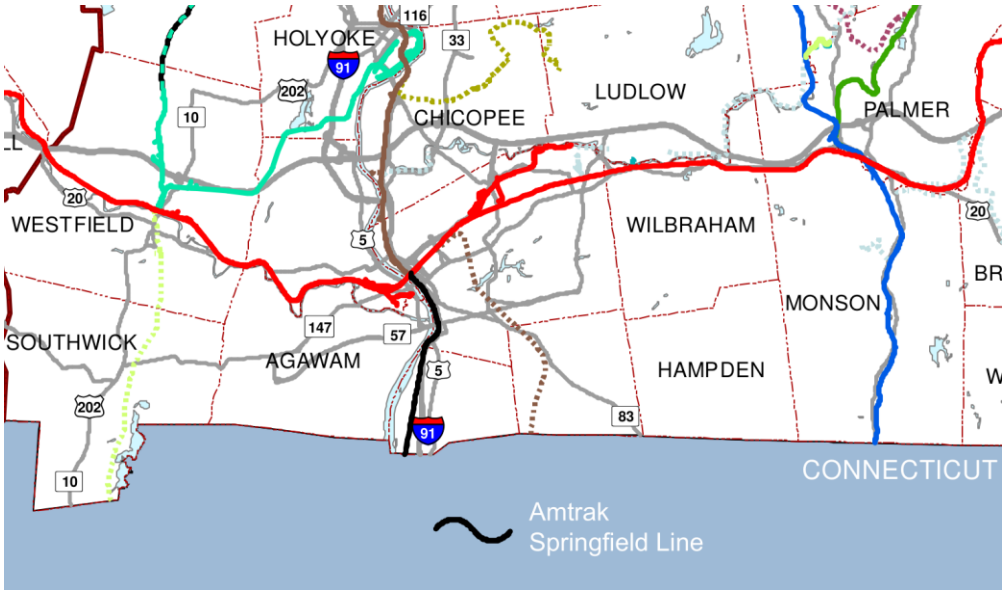
Amtrak: paint on Northeast Corridor and plates on Springfield Line
Grafton & Upton: plates
Housatonic: plates
Massachusetts Central Railroad: plates
Massachusetts Coastal Railroad: plates
New England Central Railroad: plates and/or paint
Pioneer Valley Railroad: plates and/or paint
Providence & Worcester Railroad: plates

Additional details concerning sensitive area markers can be found in the Yearly Operational Plans issued by participating railroads.

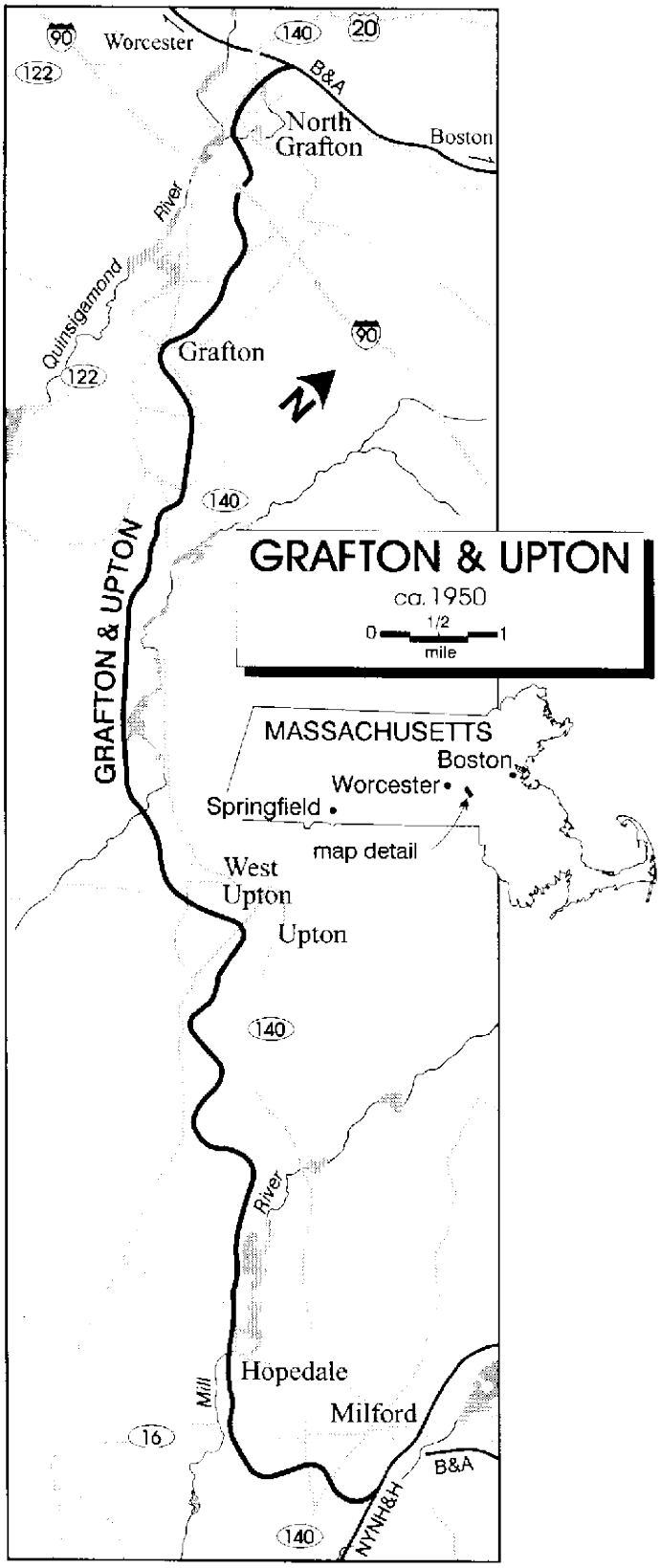
3. SYSTEM MAPS BY RAILROAD

A. AMTRAK



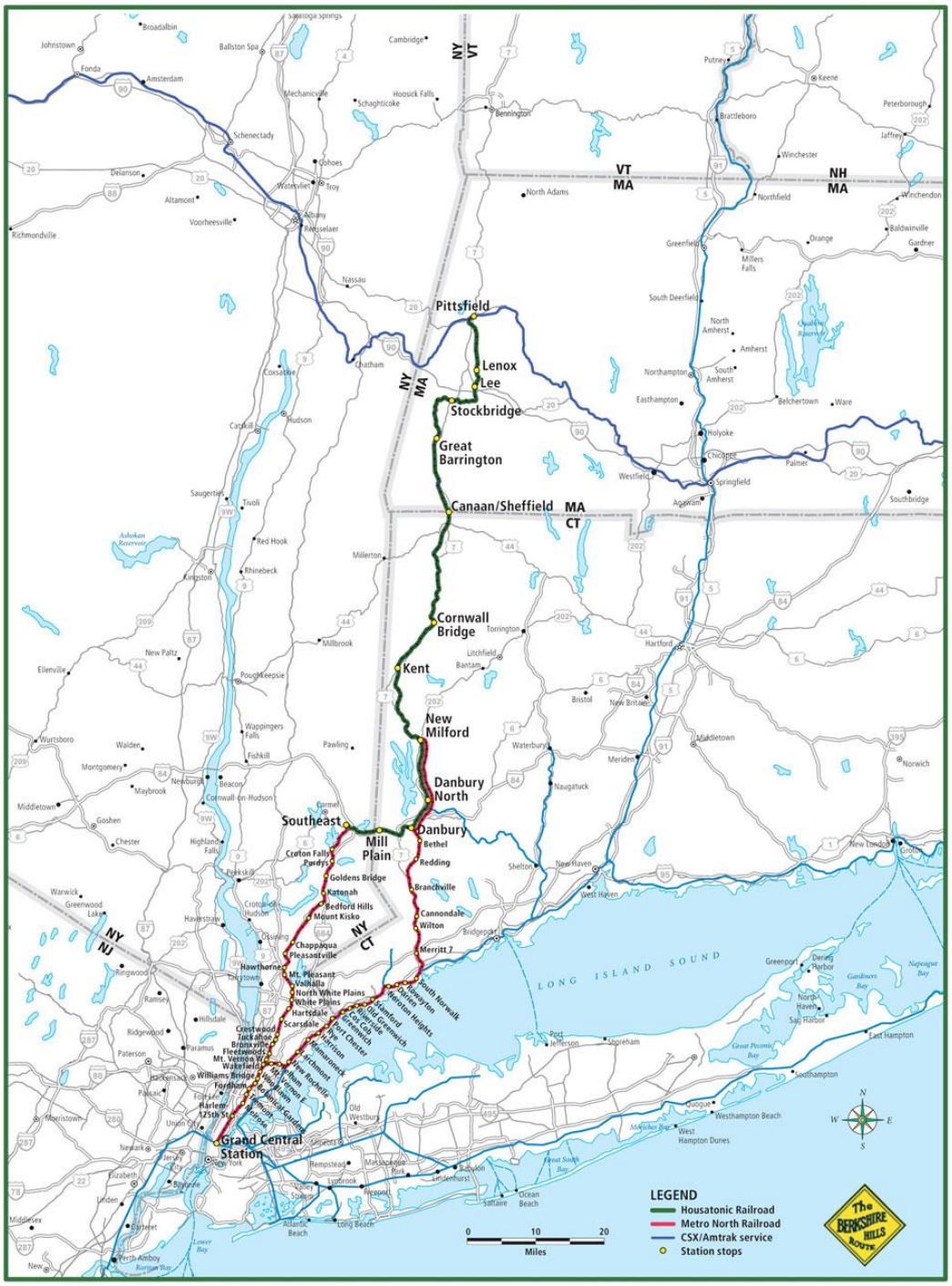


B. GRAFTON & UPTON RAILROAD

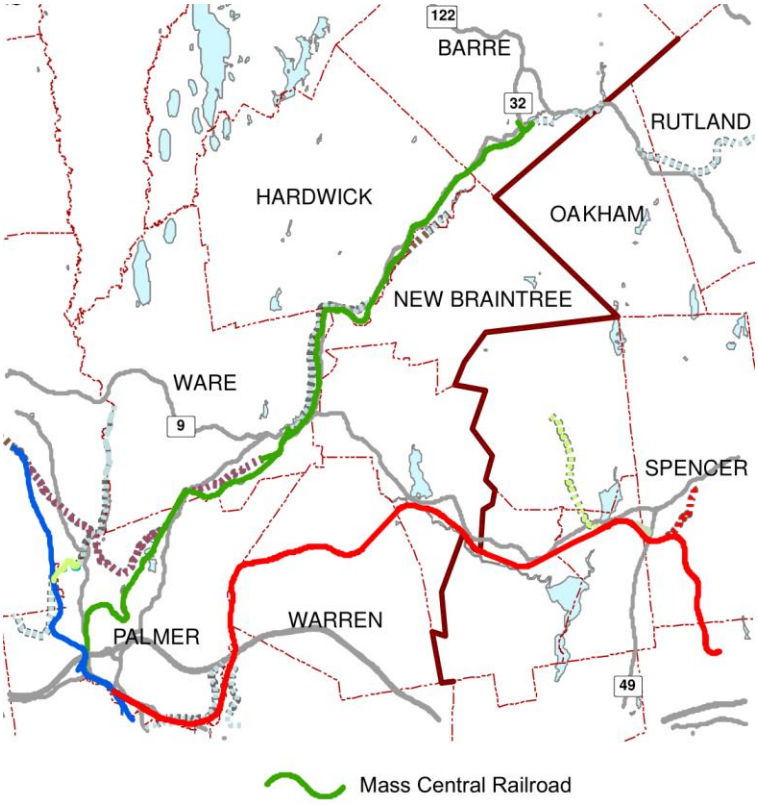


C. HOUSATONIC RAILROAD COMPANY

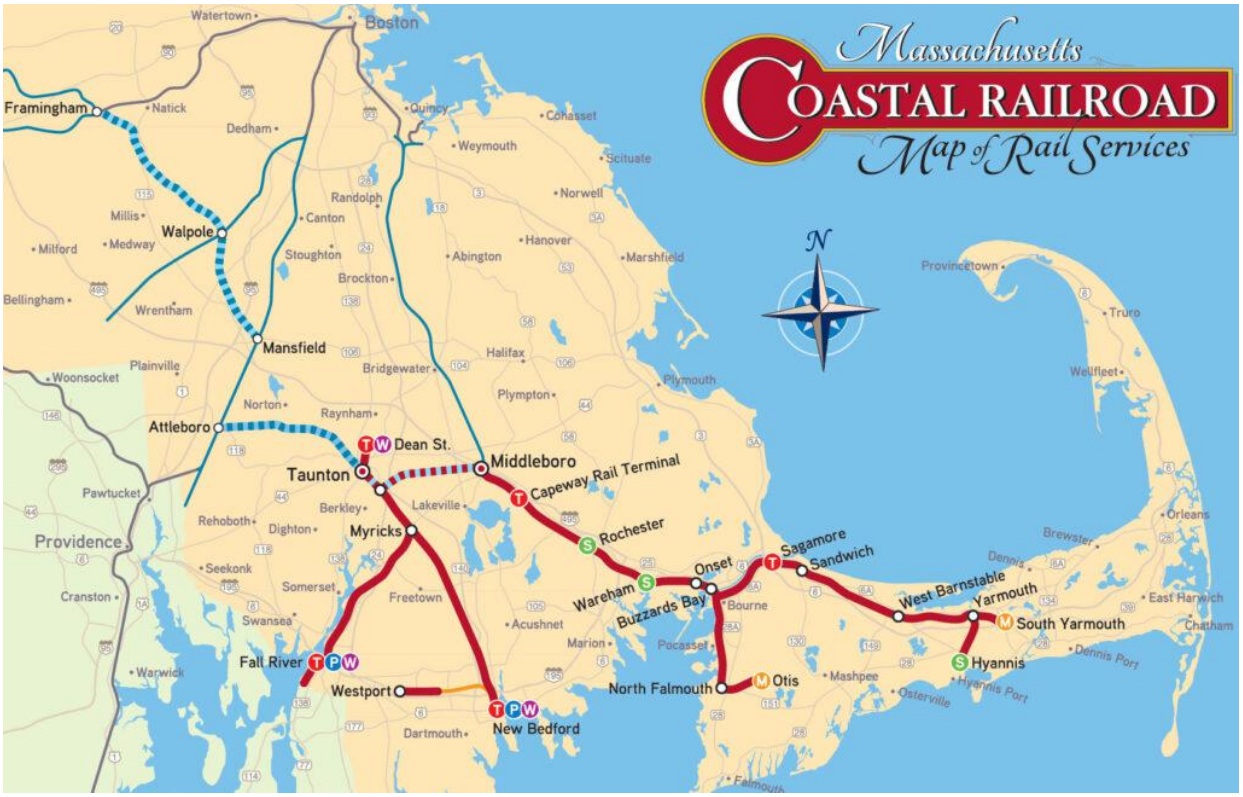
Housatonic Rail Road Company



D. MASSACHUSETTS CENTRAL RAILROAD

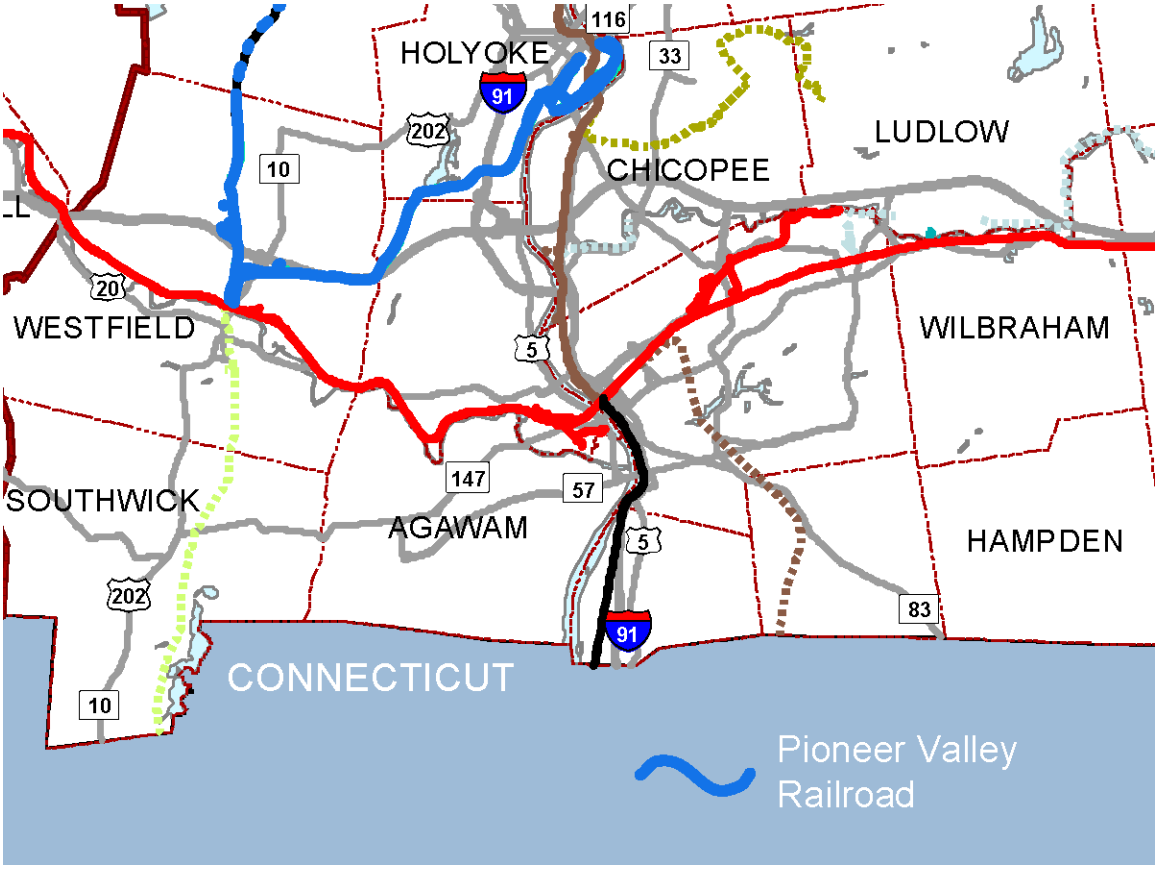


E. MASSACHUSETTS COASTAL RAILROAD



F. NEW ENGLAND CENTRAL RAILROAD

G. PIONEER VALLEY RAILROAD



H. PROVIDENCE AND WORCESTER RAILROAD

APPENDIX “C”

333 CMR 11.00 RIGHTS-OF-WAY MANAGEMENT

333 CMR 11.00: RIGHTS OF WAY MANAGEMENT

Section

11.01: Purpose

The purpose of 333 CMR 11.00 is to establish a statewide and uniform regulatory process which will minimize the uses of, and potential impacts from herbicides in rights-of-way on human health and the environment while allowing for the benefits to public safety provided by the selective use of herbicides. Specific goals of 333 CMR 11.00 are to:

(1) Ensure that an Integrated Pest Management (IPM) approach to vegetation management is utilized on all rights-of-way covered by 333 CMR 11.00.

(2) Establish standards, requirements and procedures necessary to prevent unreasonable risks to humans or the environment, taking into account the economic, social and environmental costs and benefits of the use of any pesticide.

(3) Ensure ample opportunity for public and municipal agency input on potential impacts of herbicide application to rights-of-way in environmentally sensitive areas.

(4) Establish a mechanism for public and municipal review of rights-of-way maintenance plans.

11.02: Definitions

For the purposes of 333 CMR 11.00, unless the context clearly requires otherwise, the following definitions shall apply:

Agricultural Area includes, but is not limited to, actively cultivated gardens, greenhouses, orchards, fields, pastures, and other areas under cultivation or agricultural management.

Applicant, any person representing any federal, state or local government or agency, utility, railroad or pipeline, that intends to maintain a right-of-way in the Commonwealth by application of herbicides.

Associated Surface Water Body, as identified on the most current available maps prepared by the Department of Environmental Protection, any body of water that is hydrologically connected to a Class A surface water source.

Ballast, the coarse gravel or crushed rock on which the ties, tracks and switching, signaling and communication devices of a railroad are laid.

Broadcast, any non-selective herbicide application technique which results in application to all vegetation within a target area.

Certified Vernal Pool, a confined basin depression, certified and mapped by NHESP pursuant to the provisions of 310 CMR 10.57(2)(a)5. and 6., which, at least in most years, holds water for a minimum of two continuous months during the spring and/or summer, and which is free of adult fish populations.

11.02: continued

Certified Vernal Pool Habitat, that vernal pool habitat which has been certified and mapped by NHESP pursuant to the provisions of 310 CMR 10.57(2)(a)5. and 6. or, in the event that such habitat has not been mapped, the area extending 100 feet horizontally outward from the boundary of any Certified Vernal Pool.

Class A Waters, waters which are designated as a source of public water supply, as defined in 314 CMR 4.05(3)(a).

Class B Drinking Water Intakes, intakes to Class B waters suitable as sources of public water supply with appropriate treatment, as defined at 314 CMR 4.05(3)(b) and as identified on the most current available maps prepared by the Department of Environmental Protection.

Department, the Department of Agricultural Resources.

FIFRA, the Federal Insecticide, Fungicide and Rodenticide Act, Public Law 92-516.

Foliar Treatment, any technique which applies herbicide to leaves of target vegetation.

Inhabited Area, any area where people generally live, work or gather, including, but not limited to, any residence, school, hospital, park or recreational facility.

Interim Wellhead Protection Area (IWPA), for public water systems using wells or well fields that lack a Department of Environmental Protection-approved Zone II, an interim wellhead protection area, as that term is defined in the Massachusetts drinking water regulations, 310 CMR 22.02, and as identified on the most current available maps prepared by the Department of Environmental Protection, shall apply. Generally, this is a ½- mile radius for sources whose approved pumping rate is 100,000 gallons per day or greater. For smaller sources, the radius in feet is determined by multiplying the approved pumping rate in gallons per minute by 32 and adding 400.

Limited Application Waiver, a waiver from the requirements of 333 CMR 11.05 and 11.06, granted at the Department's sole discretion pursuant to 333 CMR 11.03(14), when the reason for the application is emergency public health or safety or when the application is for one time only.

Limited Spray Area, any area that is both within a Right-of-Way and within:

(a) any Zone II or IWPA;
(b) a distance of between 100 feet and 400 feet of any Class A Surface Water Source;
(c) a distance of between ten and 200 feet of any tributary or associated surface water body where the tributary or associated surface water body runs outside the Zone A for the Class A surface water source;
(d) a lateral distance of between 100 and 200 feet for 400 feet upstream, on both sides of the river, of a Class B Drinking Water Intake;
(e) a distance of between 50 and 100 feet of any identified Private Well;
(f) a distance of between 10 and 100 feet of any Wetlands or Water Over Wetlands;
(g) a distance of between ten feet from the mean annual high water line of any river and the outer boundary of the Riverfront Area;
(h) a distance of between ten feet from any Certified Vernal Pool and the outer boundary of any Certified Vernal Pool Habitat; and
(i) a distance of 100 feet of any Agricultural or Inhabited Area.

Low Pressure, pressure under 60 pounds per square inch (psi).

Maps, United States Geological Survey maps of scale 1:25,000 or other maps, as determined by the Department, which are of such accuracy and scale to provide sufficient detail so that sensitive areas can be delineated.

NHESP, the Natural Heritage and Endangered Species Program within the Massachusetts Division of Fisheries and Wildlife.

11.02: continued

No-spray Area, any area that is both within a Right-of-Way and within:

(a) any Zone I;

(b) 100 feet of any Class A Surface Water Source;

(c) 100 feet of any tributary or associated surface water body where the tributary or associated surface water body runs within 400 feet of a Class A surface water source;

(d) ten feet of any tributary or associated surface water body where the tributary or associated surface water body is at a distance greater than 400 feet from a Class A surface water source;

(e) a lateral distance of 100 feet for 400 feet upstream, on both sides of the river, of a Class B Drinking Water Intake;

(f) 50 feet of any identified Private Well;

(g) ten feet of any Wetlands or Water Over Wetlands;

(h) ten feet of the mean annual high-water line of any river; and

(i) ten feet of any Certified Vernal Pool.

Person, an individual, association, partnership, corporation, company, business organization, trust, estate, the Commonwealth or its political subdivisions, administrative agencies, public or quasi-public corporation or body, or any other legal entity or its legal representatives, agent or assignee, or a group of persons.

Person Aggrieved, any person who, because of an act or failure to act by the Department may suffer an injury in fact which is different either in kind or magnitude from that suffered by the general public and which is within the scope of the interests identified in 333 CMR 11.00. Such person must specify in writing sufficient facts to allow the Department to determine whether or not the person is in fact aggrieved.

Private Well, any private drinking water supply identified by the local Board of Health, the well owner or the Department of Agricultural Resources.

Private Well Registry, a registry of private wells located within 100 feet of a right-of-way which is maintained by the Department of Agricultural Resources. Homeowners must notify the Department by completing a registration form which is available directly from the Department or online at the Department website.

Public Water Supplier, as defined at 310 CMR 22.02(1), any person who owns or operates a public water supply system.

Public Ground Water Source, a source of water for a Public Water Supply System, as that term is defined in the Massachusetts drinking water regulations at 310 CMR 22.02.

Right(s)-of-way (ROW), any roadway, or thoroughfare on which public passage is made and any corridor of land over which facilities such as railroads, powerlines, pipelines, conduits, channels or communication lines or bicycle paths are located.

Rights-of-way Advisory Panel, a panel established to advise the Department on issues relating to 333 CMR 11.00 and to fulfill specific functions as detailed within 333 CMR 11.05 and 11.11.

River, a river as defined at 310 CMR 10.04 and as identified on the most current available maps prepared by the Department of Environmental Protection.

Riverfront Area, a riverfront area as defined at 310 CMR 10.58(2) and as identified on the most current available maps prepared by the Department of Environmental Protection. In general, this term shall mean the area between the mean annual high-water line of a perennially flowing river and a parallel line 200 feet away.

Selective Application, any application of herbicides, in such a manner that the delivery to the target vegetation is optimized and delivery to non-target vegetation and the environment is minimized.

11.02: continued

Sensitive Areas, as defined in 333 CMR 11.04, any areas within Rights-of-Way, including No-Spray and Limited-Spray Areas, in which public health, environmental or agricultural concerns warrant special protection to further minimize risks of unreasonable adverse effects.

State-listed Species, any species on the Massachusetts list of Endangered, Threatened, and Special Concern Species as described in the Massachusetts Endangered Species Act (M.G.L c. 131A; 321 CMR 10.02).

State-listed Species Habitat, the Estimated Habitats of Rare Wildlife (310 CMR 10.59 and 10.37) and the Priority Habitats for State-listed Species (321 CMR 10.02) as shown on the most recent edition of the Massachusetts Natural Heritage Atlas prepared by NHESP.

Stem Treatment, any technique including, but not limited to, stump, basal, stem, injection, banding, frill, or girdle and any other technique which delivers herbicide at low pressure to the stump, base or stem of the target vegetation.

Surface Water Source, any lake, pond, reservoir, river, stream or impoundment designated as a public water supply in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00, as identified on the most current available maps prepared by the Department of Environmental Protection.

Target Vegetation, any plant species which has the potential to interfere with the operation and safety of the right-of-way.

Touch-up Application, any limited application of herbicides following an initial treatment, which is necessary to achieve the desired vegetation control.

Tributary, as identified on the most current available maps prepared by the Department of Environmental Protection, any body of running, or intermittently running, water which moves in a definite channel, naturally or artificially created, in the ground due to a hydraulic gradient, and which ultimately flows into a Class A surface water source, as defined in 314 CMR 4.05(3)(a).

Vegetation Management Plan (VMP), a long term management plan for the applicant's right-of-way system which describes the intended program for vegetation control over a five year period.

Vernal Pool, *see* Certified Vernal Pool.

Water Over Wetlands, the ocean or any estuary, lake or pond as defined at 310 CMR 10.04.

Wetlands, any of the following areas as defined in 310 CMR 10.02(1)(a), (b), (c) and (f):

(a)

Any bank,		the ocean
any freshwater wetland,		any estuary
any coastal wetland,		any creek
any beach,	bordering	any river
any dune,	on	any stream
any flat		any pond
any marsh,		or any lake
or any swamp;		

(b) Land under any of the water bodies listed in 333 CMR 11.02: Wetlands(a); and

(c) Land subject to tidal action.

11.02: continued

Wetlands Determination, a written determination of the boundaries of Wetlands and boundaries of areas within 100 feet of Wetlands in accordance with the regulations of the Department of Environmental Protection (DEP) at 310 CMR 10.05(3)(a)1. and 2. 310 CMR 10.03(6)(b) requires applicants not eligible for a public utility exemption to submit these determinations with their VMPs if they will apply herbicides within 100 feet of wetlands and will not submit a Notice of Intent under M.G.L. c. 131, § 40, the Wetlands Protection Act. In order to obtain a Wetlands Determination, the applicant should submit a request to the conservation commission on maps of a scale that will enable the conservation commission or Department of Environmental Protection to find and delineate the boundaries of Wetlands and buffer zones within the vicinity of the right-of-way herbicide management area. To be considered "valid", the Wetlands Determination should be made no sooner than six months immediately prior to the submission of the Vegetation Management Plan. The Wetlands Determination shall cover the period of the Vegetation Management Plan only and shall expire at the end of the five year period of that Vegetation Management Plan.

Yearly Operational Plan (YOP), the yearly operational plan which describes the detailed vegetation management operation for the calendar year consistent with the terms of the long term Vegetation Management Plan.

Zone A, as identified on the most current available maps prepared by the Department of Environmental Protection, the protective land area for a Surface Water Source, Class A water source, Tributary, or Associated Surface Water Body defined in 310 CMR 22.02 as:

(a) the land area between the Class A surface water source and the upper boundary of the bank;

(b) the land area within a 400 foot lateral distance from the upper boundary of the bank of a Class A surface water source, as defined in 314 CMR 4.05(3)(a); and

(c) the land area within a 200 foot lateral distance from the upper boundary of the bank of a Tributary or Associated Surface Water Body.

Zone I, as identified on the most current available maps prepared by the Department of Environmental Protection and as defined at 310 CMR 22.02, the protective radius required around a public water supply well or wellfield. For public water system wells with approved yields of 100,000 gallons per day (gpd) or greater, the protective radius is 400 feet. Tubular wellfields require a 250 foot protective radius. Protective radii for all other public water system wells are determined by the following equation: Zone I radius in feet = (150 x log of pumping rate in gpd) –350.

Zone II, as identified on the most current available maps prepared by the Department of Environmental Protection and as defined at 310 CMR 22.02, the aquifer recharge area for a public water supply well or wellfield.

11.03: General Provisions

(1) No person shall use an herbicide for the purpose of clearing or maintaining a right-of-way unless appropriately certified by the Department, or licensed by the Department and working under the on-site supervision of an appropriately certified applicator.

(2) No person shall use an herbicide for the purpose of clearing or maintaining a right-of-way except in accordance with a Vegetation Management Plan (VMP) and a Yearly Operational Plan (YOP) as approved by the Department. The YOP shall be available at the work site at all times during herbicide applications and be made available to the Department and municipal officials including the Conservation Commission and Board of Health upon reasonable request.

(3) No person shall handle, mix or load an herbicide concentrate on a right-of- way within 100 feet of a sensitive area.

(4) The perimeter of any sensitive areas which are not readily identifiable on the ROW shall be identified with a clearly visible marker system, consistent with the VMP, prior to any herbicide application.

11.03: continued

(5) No foliar application of herbicides shall be used to control vegetation greater than 12 feet in height except for side trimming.

(6) No herbicide shall be applied when the wind velocity is such that there is a high propensity to drift off target and/or during measurable precipitation, and no person shall apply herbicides in such a manner that results in drift into any No-spray Area.

(7) No person shall apply herbicides by aircraft for the purpose of clearing or maintaining a right-of-way.

(8) No touch-up applications shall be carried out except under the following conditions:

(a) Touch-up applications must occur within 12 months of the initial application.

(b) All applicable public notification procedures of M.G.L. c. 132B, § 6B, as outlined in 333 CMR 11.07(1) and (3), are followed.

(c) No more than 10% of the initially identified target vegetation on the applicant's right-of-way in any municipality may be treated and the total amount of herbicide applied in any one year shall not exceed the limits specified by the label or Yearly Operational Plan.

(d) The Department may impose such additional restrictions or conditions on the use of herbicides as it deems necessary to protect public health and the environment.

(9) The Department will maintain mailing lists of individuals and groups desiring to obtain notices on various aspects of the Program.

(10) No person shall apply any herbicide identified as a Potential Ground Water Contaminant pursuant to 333 CMR 12.00 to a right-of-way.

(11) No person shall use an herbicide for the purpose of clearing or maintaining a right-of-way unless that person has obtained the most current available map of public ground water sources from the Department of Environmental Protection.

(12) No person shall use an herbicide for the purpose of clearing or maintaining a right-of-way unless that person has done one or more of the following:

(a) obtained a current list of identified Private Wells within 100 feet of the right-of-way from the Board of Health, or

(b) obtained a current list of all private wells, within 100 feet of the right of way from the Department of Agricultural Resources private well registry; or

(c) followed an alternative Private Well identification method outlined in an approved YOP.

(13) The applicator shall provide any employee of any state agency, or authority as defined in M.G.L. c. 3, § 39, when such employee is, within a right-of-way, using pesticides, supervising the use of pesticides, or present during the use of pesticides, with personal protective equipment and clothing. Applicators should note that other federal or state laws or regulations pertaining to pesticide applications may require this personal protective equipment to include protections according to Material Safety Data Sheets (MSDS's), the product label, and any other supporting technical data supplied by the manufacturer.

(14) Notwithstanding the provisions of 333 CMR 11.03(2) or other provisions of 333 CMR 11.00, the Department may, at its sole discretion, issue Limited Application Waivers to applicants wishing to apply herbicides to clear or maintain rights-of-way without VMPs or YOPs, but only under the following conditions:

(a) The applicant must demonstrate either:

1. that the application will not occur more than once in a five-year period unless a VMP and a YOP are prepared and all other requirements of 333 CMR 11.00 are met; or
2. that the application is necessary to protect public health or safety.

(b) The applicant must still adhere to all public notification requirements established at 333 CMR 11.07(1) and (3).

(c) The applicant must provide the Department with a letter establishing the concurrence of the chief elected official or board of selectmen of the municipality where the application is to be made.

11.03: continued

(d) The applicant may only use herbicides on the Department's "Herbicides Recommended for Use in Sensitive Areas List."
(e) If the application could impact Wetlands, the Department recommends that the applicant send a copy of its application for a Limited Application Waiver to the Department of Environmental Protection's Division of Wetlands and Waterways no less than 21 days before the proposed application.
(f) It should be noted that, with certain exceptions for public utilities, wetlands regulations at 310 CMR 10.03(6)(b) currently require Wetlands Determinations prior to any application within 100 feet of a Wetland.

Limited Application Waivers shall be issued solely at the Department's discretion, and the Department may impose such additional restrictions or conditions on the use of herbicides as it deems necessary to protect public health and the environment.

11.04: Sensitive Area Restrictions

(1) General. In any sensitive area:
(a) No more than the minimum labeled rate of herbicide for the appropriate site, pest, and application method shall be applied.
(b) Herbicides shall only be applied selectively by low pressure, using foliar techniques or basal or cut-stump applications, or other method approved for use by the Department.
(c) No person shall apply herbicides for the purpose of clearing or maintaining a right-of-way in such a manner that results in drift to any area within ten feet of standing or flowing water in a wetland; or area within 400 feet of a public drinking water supply well; or area within 100 feet of any Class A surface water used as a public water supply; or area within 50 feet of a Private Well.
(d) Only herbicides specified by the Department as acceptable for use in sensitive areas pursuant to the Cooperative Agreement executed between the Department of Agricultural Resources and the Department of Environmental Protection on July 1 and 2, 1987, or future amendments thereto, shall be used in sensitive areas. Applicants proposing to use an herbicide which has been registered for use on rights-of-way but has not yet been evaluated pursuant to the provisions of the Cooperative Agreement may request that such herbicides be evaluated pursuant to said provisions. For an herbicide that has been evaluated pursuant to the provisions of the Cooperative Agreement, applicants proposing to use such herbicide in a manner inconsistent with the terms and conditions of use imposed in the guidelines may request a modification or waiver of such terms or conditions. A request for such modification or waiver shall provide a detailed rationale for use, with all relevant data including but not limited to environmental fate, efficacy and human health effects of the proposed herbicide. Such herbicides and/or uses shall be subject to the evaluation standards adopted by the Departments of Agricultural Resources and Environmental Protection in the Cooperative Agreement.
Commentary. Applicants not eligible for the public utilities exemption from the Wetlands Protection Act outlined at 310 CMR 10.03(6)(a), who wish to apply pesticides registered for use in Massachusetts to rights-of-way, may choose to apply herbicides determined to be suitable for use in sensitive areas in accordance with the provisions of the Cooperative Agreement mentioned above or, alternatively, such applicants may proceed pursuant to the provisions of 310 CMR 10.00 as authorized by M.G.L. c. 131, § 40.
(e) The Department may impose such additional restrictions or conditions on the use of herbicides within or adjacent to sensitive areas as it determines necessary to protect human health or the environment. Such changes may be proposed by a municipal agency or individual during the public comment period.
(f) In the event of a question or dispute as to which setback applies to a sensitive area, the most restrictive setback shall apply.

(2) Water Supplies.
(a) Public Ground Water Sources.
1. No herbicides shall be applied within a Zone I.
2. No herbicides shall be applied within a Zone II or IWPA unless:

11.04: continued

a. A minimum of 24 months has elapsed since the last application to the site; and

b. Herbicides are applied selectively by low pressure, using foliar techniques or basal or cut-stump applications.

(b) Class A Public Surface Water Sources, Associated Surface Water Bodies, Tributaries and Class B Drinking Water Intakes.

1. No herbicides shall be applied within 100 feet of any Class A public surface water source.

2. No herbicides shall be applied within 100 feet of any tributary or associated surface water body located within the Zone A of a Class A public surface water source, or within ten feet of any tributary or associated surface water body located outside of the Zone A of the Class A public surface water source.

3. No herbicides shall be applied within a lateral distance of 100 feet for 400 feet upstream of any Class B Drinking Water Intake.

4. No herbicides shall be applied within a distance of between 100 feet from any Class A surface water source and the outer boundary of any Zone A, or within a distance of between ten feet and the outer boundary of the Zone A for any tributary or associated surface water body located outside of the Zone A of a Class A surface water source, or within a lateral distance of between 100 and 200 feet for 400 feet upstream of a Class B Drinking Water Intake, unless:

a. A minimum of 24 months has elapsed since the last application to the site; and

b. Herbicides are applied selectively by low pressure, using foliar techniques or basal or cut-stump applications.

(c) Private Wells.

1. No herbicides shall be applied within 50 feet of an identified Private Well.

2. No herbicides shall be applied within a distance of between 50 feet and 100 feet of an identified Private Well, unless:

a. A minimum of 24 months has elapsed since the last application to the site; and

b. Herbicides are applied selectively by low pressure, using foliar techniques or basal or cut-stump applications.

(3) State-listed Species Habitat.

(a) Any person proposing to apply an herbicide within any State-listed Species Habitat who does not have a current Yearly Operational Plan approved in writing by the Division of Fisheries and Wildlife pursuant to 321 CMR 10.14(12), shall submit all necessary materials required for review pursuant to 321 CMR 10.18.

(b) The management of vegetation within existing utility rights-of-way shall be exempt from the requirements of 321 CMR 10.18 through 10.23, provided that the management is carried out in accordance with a Yearly Operational Plan approved in writing by the Division of Fisheries and Wildlife, pursuant to 321 CMR 10.14(12).

(c) No person shall apply an herbicide within State-listed Species Habitat unless the application is approved by the Division of Fisheries and Wildlife pursuant to 333 CMR 11.04(3)(a) and (3)(b), and such approval is submitted to the Department.

(4) Wetlands, Waters Over Wetlands, Riverfront Areas, and Certified Vernal Pools.

(a) No herbicide shall be applied on or within ten feet of a Wetland or Water Over a Wetland, within ten feet of the mean annual high-water line of any River, or within ten feet of any Certified Vernal Pool.

(b) No herbicide shall be applied on or within a distance of between ten feet and 100 feet of any Wetland or Water Over a Wetland, within a distance of ten feet from the mean annual high-water line of any River and the outer boundary of any Riverfront Area, or within a distance of ten feet from any Certified Vernal Pool and the outer boundary of any Certified Vernal Pool Habitat unless:

1. A minimum of 12 months has elapsed since the last application to the site; and

2. Herbicides are applied selectively by low pressure, using foliar techniques or basal or cut-stump applications.

(c) Notwithstanding 333 CMR 11.04(4)(a) and (b), public utilities providing electric, gas, water, telephone, telegraph and other telecommunication services (and other applicants, if consistent with all relevant provisions of the Massachusetts Wetlands Protection Act and its regulations in effect at the time of application) may apply herbicides on or within ten feet of a Wetland in accordance with the following conditions:

11.04: continued

1. Submission of a study, the design of which is subject to prior approval by the Departments of Agricultural Resources and Environmental Protection, evaluating impacts of the proposed vegetation management program utilizing herbicides on or within ten feet of Wetlands, and comparing those impacts to those which would result if only non-chemical control methods were used in these areas. The study must detail vegetation management practices and use patterns specific to those used by the type of entity submitting the study; and

2. A finding by the Department, after consultation with the Rights-of-way Advisory Panel, that the proposed vegetation management program utilizing herbicides on or within ten feet of Wetlands will result in less impacts to the Wetlands than mechanical control.

3. Notwithstanding the above, no herbicides shall be applied on or within ten feet of any standing or flowing water in a Wetland.

(5) Inhabited and Agricultural Areas. No foliar herbicide shall be applied within 100 feet of any Inhabited Area or any Agricultural Area unless:

(a) A minimum of 12 months has elapsed since the last application to the site; and

(b) Herbicides are applied selectively by low pressure, using foliar techniques or basal or cut-stump applications.

11.05: Vegetation Management Plan (VMP)

(1) General.

(a) Unless otherwise specified by the Department, all VMPs should be submitted by the applicant no later than September 1st prior to the calendar year of the proposed first year of maintenance. All approved VMPs shall be effective for a five year period unless otherwise modified, or revoked by the Department.

(b) The VMP shall be presented on forms and/or format approved by the Department.

(2) Requirements. The VMP shall include, but not be limited to, the following:

(a) General statement of goals and objectives of the VMP.

(b) Identification of target vegetation.

(c) Intended methods of vegetation management and rationale for use, including vegetation control techniques, equipment proposed for use, timing of applications and alternative control procedures.

(d) Discussion of justification for proposed herbicide applications, including a description of the alternative control methods considered and the reasons that they were rejected.

(e) Methods, references and sources for identifying sensitive areas and control strategies proposed for sensitive areas. Applicants should note that the Department of Environmental Protection regulations at 310 CMR 10.03(6)(b) require Wetlands Determinations for applicants that are not eligible for a public utility exemption.

(f) Operational guidelines for applicators relative to herbicide use.

(g) Identification and qualifications of individuals developing and submitting a plan.

(h) A detailed description of the IPM Program, showing how it will minimize the amount and frequency of herbicide application.

(i) Description of alternative land use provisions or agreements that may be established with individuals, state, federal or municipal agencies that would minimize the need for herbicides, including the rationale for accepting or denying any reasonable request made by any individual.

(j) Description of a remedial plan to address spills and related accidents.

(k) For state agencies and authorities as defined in M.G.L. c. 3, § 39, a description of the applicant's policy to eliminate or, if necessary, reduce the use of pesticides for any vegetation management purpose along roadways, and a demonstration that, for the proposed application, the costs of non-chemical vegetation control significantly outweigh the benefits.

(3) Public Notice, Review and Comment.

(a) Upon receipt of the proposed VMP, the Department shall schedule and hold appropriate regional public hearings affording all interested parties the opportunity to comment, both at the hearings and in writing to the Department, on the proposed plan.

11.05: continued

(b) At least 21 days prior to the public hearings, the Department shall publish notice of the hearings in the Environmental Monitor and regionally located newspapers, and send notice to municipalities covered by the plan and to the appropriate mailing list. The notice will include locations where copies of the VMP can be reviewed.

(c) The public shall have no less than 45 days, starting from publication of the *Environmental Monitor* notice, to comment upon proposed VMPs, unless the Department extends the comment period for good cause.

(d) Wherever a chief elected official, Board of Health or Conservation Commission in a municipality covered by the proposed VMP requests a copy of the proposed plan, the applicant shall, at least 21 days prior to the end of the public comment period, respond to this request. The response must either include a copy of the proposed VMP, or an Internet address where the VMP may be viewed and a note that a hard copy will be provided promptly upon further request.

(4) Disposition of VMP.

(a) 25 copies of the proposed VMP shall be submitted to the Department. The Department shall distribute copies of the proposed VMP to each member of the Rights-of-way Advisory Panel. The Department may, at its sole discretion, allow electronic presentation of the VMP in *lieu* of some or all of the 25 copies that would otherwise be submitted pursuant to 333 CMR 11.05(4).

(b) Within 30 days of the end of the public comment period unless extended for good cause, the Rights-of-way Advisory Panel shall review the VMPs and recommend in writing to the Department approval, denial or modification of each VMP; if necessary, the Advisory Panel may request additional information from the applicant.

(c) Within 21 days of the end of the Rights-of-way Advisory Panel review period, unless extended by the Department for good cause, the Department will notify the applicant and the Advisory Panel in writing one of the following:

1. request for additional information or modification;
2. denial of VMP; or
3. approval of VMP.

(d) The VMP may be modified, withdrawn or amended by the applicant through a written request sent by certified mail to the Department.

(e) Resubmission of a denied VMP, updating of a VMP, or a significant amendment to an approved VMP shall be processed according to 333 CMR 11.05.

(f) The applicant must send a copy of the approved VMP, or an Internet address where the VMP may be viewed and a note that a hard copy will be provided promptly upon further request, to the chief elected official, Board of Health, and Conservation Commission in each municipality covered by the plan.

(5) Time for Action. Non-action by the Department on a VMP within the time specified in 333 CMR 11.05 does not constitute approval of the submitted plan. In the event that the Department fails to notify the applicant of a decision within the time specified in 333 CMR 11.05(4)and upon written request from the applicant, the Commissioner must issue a finding within ten days of receipt stating the reason for the delay and providing an estimated completion date.

11.06: Yearly Operational Plan (YOP)

(1) General.

(a) The applicant is responsible for the accuracy and completeness of all information submitted with the YOP. The YOP shall be consistent with the objectives of the VMP and shall describe the intended operational program for that calendar year.

(b) The YOP shall be presented on forms and in a format approved by the Department.

(2) Requirements. The YOP shall include but not be limited to the following:

(a) Maps locating the rights-of-way and sensitive areas not readily identifiable in the field;

(b) Herbicides proposed including Environmental Protection Agency (EPA) Registration numbers, application rates, carriers and adjuvants;

(c) Herbicide application techniques and alternative control procedures proposed.

(d) The name, address and phone number of the company which will perform any herbicide treatment;

11.06: continued

(e) Identification of target vegetation;
(f) The name, address and phone number of the individual representing the YOP applicant;
(g) Description of methods used to flag or otherwise designate sensitive areas on the right-of-way;
(h) Herbicide Fact Sheets as approved by the Department; and
(i) Procedures and locations for handling, mixing and loading of herbicide concentrates.

(3) Public Notice, Review and Comment.

(a) Upon submittal of the YOP for approval, the Department will publish a notice in the *Environmental Monitor*. Said notice shall be provided by the applicant and shall include the information on the municipalities through which the rights-of-way pass, a brief description of the intended program, and the procedure for public review and comment. The Department shall send notification of the publication to the applicant and the appropriate mailing list.

(b) Upon submittal of the YOP to the Department, the applicant shall provide by certified mail under separate cover to the Board of Health, Conservation Commission, chief elected municipal official, and where applicable, the Massachusetts Water Resources Authority and Massachusetts Department of Conservation and Recreation, a copy of the proposed YOP (or an Internet address where the proposed YOP may be viewed and a note that a hard copy will be provided promptly upon request) and the *Environmental Monitor* notice for the municipality or municipalities in which the herbicide treatment is proposed. Community water suppliers shall receive electronic information or a one page notification by mail which provides details about where to receive more information. The applicant shall maintain copies of the packet sent to municipalities and certified mail receipts. The applicant shall make copies of the packet, certified mail receipts, and any further correspondence regarding hard copies of YOPs in *lieu* of Internet viewing, available to the Department upon request.

(c) The Department shall allow a 45-day comment period on proposed YOPs, unless extended for good cause, commencing with the publication of the notice in the *Environmental Monitor* and receipt of the proposed YOP and *Environmental Monitor* notice by each municipality.

(d) The Department may approve, deny or modify YOPs after the 45-day comment period has expired.

(4) Disposition of YOP.

(a) The applicant shall submit the YOP to the Department at least 90 days prior to the proposed commencement of application to allow completion of the comment and review period.

(b) The Department shall review the YOP to ensure that the YOP is consistent with the approved VMP. Any inconsistencies or deficiencies will be noted by the Department and returned with the YOP to the applicant.

(c) Where practical, the Department shall approve or deny the YOP within 90 days of receipt. The Department will provide notice of the decision to the applicant, municipal agencies and commentators in writing.

(d) The approved YOP in conjunction with the VMP shall govern the application of herbicide for a period not to exceed 12 months in accordance with other laws and regulations of the State and Federal governments and impose such conditions as necessary to minimize the risk of adverse effects on human health and the environment.

(5) Time for Action. Non-action by the Department on a YOP within the time specified in 333 CMR 11.06(4) does not constitute approval of the submitted plan. In the event that the Department fails to notify the applicant of a decision within the time specified and upon a written request from the applicant, the Commissioner must issue a finding within ten days of receipt stating the reason for the delay and providing an estimated completion date.

11.07: Public Notification

(1) At least 21 days in advance of application of herbicide to a right-of-way in any city or town, the applicant shall notify the Department, the board of health, and the local public water supplier and, by registered mail, the Mayor, City Manager or Chairman of the Board of Selectman, and the conservation commission in the municipality where the right-of-way lies. The notice shall include the following information: the approximate dates on which such herbicide application shall commence and conclude, provided however, that said application shall not commence more than ten days before nor conclude more than ten days after said approximate dates; the method and locations of application; a Department-approved Herbicide Fact Sheet on the active ingredient(s) of the herbicide(s) used; the EPA registration number(s) for the herbicide(s) used; the name, title, business address and phone number of the certified commercial applicator or licensed applicator, or the contractor, employer or employees responsible for carrying out the application. Where specific information required for this notice is already contained in the current YOP that is on file with the local official, the applicant may incorporate the appropriate pages of the YOP by reference in its notice to that official, indicating that these pages are also directly available from the applicant upon request.

(2) This public notice may run concurrently with the public notice and comment period in 333 CMR 11.06(3), provided that the notice is distributed at least 21 days prior to the herbicide application, and that, prior to the herbicide application, the public notice and comment period has closed and the Department has granted YOP approval without modifications. When the Department's final approval requires modifications or application dates are selected after YOP approval, separate notice under 333 CMR 11.07(1) is required.

(3) At least 48 hours prior to the application referred to in 333 CMR 11.07(1), the applicant must publish a conspicuous notice in at least one newspaper of general circulation in the city or town where the right-of-way lies. The notice must appear in the local section of the newspaper and measure at least four by five inches in size. The notice shall contain the following information: the method and locations of pesticide application; the approximate dates on which the pesticide application shall commence and conclude, provided that the applications shall not commence more than ten days before nor conclude ten days after said approximate dates; a list of potential pesticides to be used; a description of the purpose of the application; and the name, title, business address and phone number of a designated contact person representing the applicant from whom any citizen may request further information. The notice should apply only to the calendar year in which the notice is published. Upon request the notice must be made available to the Department.

11.08: Notice of Modification and Revocation

(1) The Department may suspend approval of any VMP or YOP, by written notice to the applicant and applicator, halting the application of herbicide to that right-of-way of the YOP. After 21 days if the applicant does not request a hearing, the Department may revoke or modify the VMP and YOP, if it finds:

(a) that the terms, conditions of restrictions thereof, are being violated or are inadequate to avoid unreasonable adverse effects on the environment or on human health; or

(b) that the applicant has made a false or misleading statement or has not provided information requested by the Department or Rights-of-way Advisory Panel; or

(c) that the applicant has violated any provision of the Massachusetts Pesticide Control Act or FIFRA, or any regulations, standards, orders or license issued under either.

(2) Upon notice of revocation or modification, the applicant may modify the YOP by written request to the Department. Applications to modify the YOP shall be submitted in the manner set forth in 333 CMR 11.06 and disposed of in the manner set forth in 333 CMR 11.06. The Department may waive all or part of the requirement if it determines that the proposed changes do not significantly change the terms of the approved YOP.

11.09: Right-of-appeal

Any person aggrieved by the decision of the Department to approve, deny, modify or revoke a VMP or YOP may request an adjudicatory hearing. The request for a hearing must be received by the Department within 21 calendar days after receipt of the decision. The request should state clearly and concisely the facts of the proceeding, the reasons the decision is alleged to be inconsistent with 333 CMR 11.00 and the relief sought by the adjudicatory hearing. The adjudicatory hearing before the Pesticide Board shall be conducted in accordance with the informal rules of adjudicatory proceeding as set forth in M.G.L. c. 30A.

11.10: Penalties

Any person who violates any provision of 333 CMR 11.00 shall be subject to the criminal and civil penalties set forth in M.G.L. c. 132B, § 14.

11.11: Rights-of-way Advisory Panel

(1) A Rights-of-way Advisory Panel shall be established to advise the Department on issues relating to 333 CMR 11.00 and to fulfill specific functions as detailed within 333 CMR 11.00.

(2) The Department shall request that the following members participate on the Rights-of-way Advisory Panel: the Commissioners/Secretaries or his/her designee of the Department of Environmental Protection, the Department of Public Health, and the Executive Office of Transportation; and a representative, respectively, from each of the following, all to be appointed by the Department Commissioner: the Massachusetts Association of Conservation Commissions, the Massachusetts Association of Health Boards, the Massachusetts Department of Conservation and Recreation, and an Environmental Advocacy Organization Representative, a member of the University of Massachusetts Extension who is well versed in weed science and Integrated Pest Management of weeds, a representative of the Massachusetts Railroad Association, a representative of a utility company and a commercial pesticide applicator.

(3) Non-agency representatives shall remain on the panel for a term of five years. Any member absent from two or more consecutive meetings may be removed from the Advisory Panel at the discretion of the Commissioner of the Department, and a replacement requested from the representative agency, industry group, or association.

(4) The Advisory Panel shall meet at least once each year, and shall hold further meetings upon the request of the Department of Agricultural Resources or at the request of any two members of the Advisory Panel.

(5) All Advisory Panel members shall serve without compensation.

REGULATORY AUTHORITY

333 CMR 11.00: M.G.L. c. 132B.

NON-TEXT PAGE

APPENDIX “D”

310 CMR 10.00

PREFACE TO WETLANDS REGULATIONS

RELATIVE TO RIGHTS-OF-WAY MANAGEMENT

PREFACE TO WETLANDS REGULATIONS RELATIVE TO RIGHTS OF WAY MANAGEMENT

1987 REGULATORY REVISION

In 1983, the Massachusetts Pesticide Control Act, M.G.L. c. 132B, was amended to require notification of conservation commissions prior to application of herbicides on rights of way. Many commissions became aware for the first time that application of herbicides on rights of way may result in alteration of wetlands and, with the exception of exempt utilities, may require action under the M.G.L. c. 131, § 40. On July 18, 1986, the Department issued a final decision after adjudicatory hearing in DEP Hearing Docket Nos. 83-28 and 83-35 (Clinton and Leverett) finding that the application of specific herbicides by the railroads to track and ballast within 100 feet of wetland areas would alter those wetlands and was therefore subject to jurisdiction under M.G.L. c. 131, § 40, requiring the filing of Notices of Intent with the local conservation commissions.

The Department of Food and Agriculture (DFA) initiated a Generic Environmental Impact Report (GEIR) evaluating alternatives for rights of way management. A technical advisory task force of environmentalists, agencies and rights of way managers assisted in the GEIR preparation and, based on results of the study, recommended to the Secretary of Environmental Affairs a framework for a coherent state-wide rights of way regulatory program. DFA published draft regulations to implement this program in 1986 and received extensive public commentary. Final regulations, 333 CMR 11.00, became effective on July 10, 1987.

The DFA regulations require persons proposing to apply herbicides to rights of way to first receive approval of a five year Vegetation Management Plan (VMP) and Yearly Operating Plan (YOP). These regulations identify certain "sensitive areas", including wetlands and public and private surface and groundwater supplies, where the application of herbicides is, in most instances, prohibited, and areas adjacent to the sensitive areas where use of herbicides is curtailed.

DEP worked closely with DFA to include provisions which give maximum protection for water supplies and provide protection for wetlands at least equal to that provided under the M.G.L. c. 131, § 40 and 310 CMR 10.00. To eliminate duplicate review under M.G.L. c. 131, § 40, DEP has adopted changes to the wetlands regulations which allow herbicide applications on rights of way in accordance with the DFA regulations without filing a Notice of Intent under the M.G.L. c. 131, § 40. However, non-exempt applicants will still be required to file a Request for Determination of Applicability to the appropriate conservation commission to establish boundaries of wetlands on or near the right of way. Specifically, these regulations presume that work performed in accordance with a VMP and YOP, as may be required under DFA regulations, will not alter an area subject to protection under M.G.L. c. 131, § 40.

During the public comment period on its proposed regulations, the Department identified several issues of major concern. After consideration of all comments, the Department has determined that, except for minor points of clarification and the addition of an automatic expiration date, no further changes in the regulations are warranted at this time. A discussion of these issues follows.

A. Presumption vs. Limited Project. Several commentators suggested that conservation commissions should retain the authority to review each herbicide application on rights of way through the usual Notice of Intent process. These regulations create a presumption that herbicide application carried out in accordance with an approved VMP and YOP under the DFA regulations will not alter wetlands and that the filing of a Notice of Intent is therefore not required. This procedure was established pursuant to the recommendation of the GEIR task force which states:

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The regulations which provide for approval of Vegetation Management Plans by the Department of Food and Agriculture should be conditioned on review and approval by the Department of Environmental Protection (DEP) of those portions of the Plans that deal with wetlands. The DEP should be required to certify to the DFA that these portions of the Plans will result in compliance with the substantive and procedural provisions which protect the interests of the M.G.L. c. 131, § 40. If the regulations are so drawn, activities under a Plan approved by DEP would not constitute an alteration of wetlands as defined under 310 CMR 10.00.

Since the DFA regulations provide that DEP is a member of the VMP advisory panel which reviews and makes recommendations on the approval of VMPs, the GEIR task force recommendations have been fully implemented. Therefore, the Department has determined that it would be duplicative to require the filing of individual Notices of Intent in each municipality for each application of herbicides to rights of way.

B. Adequacy of Setback from Wetlands. The DFA rights of way regulations prohibit application of herbicides on or within ten feet of wetlands and strictly limit herbicide application from ten feet to 100 feet of wetlands. Many commentators questioned the adequacy of these setback requirements and suggested that a 50 or 100 foot no spray zone would be more appropriate. Several commentators suggested that the proposed setback requirements were inconsistent with the Department's adjudicatory hearing decision in the Clinton and Leverett cases.

The no spray zone surrounding wetlands is necessary for three reasons: to compensate for mapping errors, to compensate for applicator errors and to assure that herbicides will not migrate into wetlands after application on the adjacent uplands. During the public comment period, the Department received no evidence demonstrating that the ten-foot setback established in the DFA regulations will not be adequate. The DFA regulations establish a procedure for selecting a limited number of herbicides that may be applied in the limited spray zone (from 10 to 100 feet from wetlands) which is adjacent to the no spray zone. Herbicides that will be selected for use in these limited spray zones under the DFA regulations are those which available data demonstrate will not migrate further than ten feet.

The applicators have argued that they can maintain a level of accuracy in mapping of wetlands and in application of herbicides to assure that herbicides will not be inadvertently applied within ten feet of wetland areas. The Department is not convinced that these claims are unreasonable; however, in order to confirm their accuracy, the Department has included in the final regulations an automatic expiration date two years from the effective date, which is coterminous with the expiration date of the DFA regulations. During the two-year effective period of these regulations, the Department expects applicators to conduct studies monitoring herbicide application operations and to submit a report concerning impacts of herbicide application on wetlands under these new regulations detailing the accuracy of wetlands mapping, the accuracy of herbicide application, and the extent of herbicide migration. The results of this study will provide a basis for recommendations by the Department for amendments to the DFA regulations and a decision on reauthorization of these amendments to the Department's wetland regulations.

Finally, the Department does not find the setbacks requirements established in the DFA regulations to be inconsistent with its decision in the Clinton and Leverett cases. In that decision, the Department assumed a worst-case analysis in terms of an herbicide known to be highly mobile which was applied to the track and ballast areas adjacent to wetlands. The Department found, based on the particular facts of these cases and the particular herbicide proposed for application that there would be a migration of that herbicide into the wetlands from application within the 100-foot buffer zone that would be sufficiently concentrated to cause alterations of the wetlands plants. However, the DFA rights of way management regulations set up a procedure for identification of herbicides which are relatively immobile and which are preapproved for application on the buffer zone in order to avoid alteration of wetlands plants. Furthermore, guidelines for application of the selected herbicides will also be established. Finally, no herbicides may be applied within ten feet of

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wetland areas. In light of the strict controls placed on application of herbicides within the 100-foot buffer zone under the DFA regulations, the Department finds that adoptions of the proposed regulatory scheme is fully consistent with its previous adjudicatory hearing decision in the Clinton and Leverett cases.

C. Impacts of Herbicides Application on Wildlife Habitat. The Department is currently developing regulations under M.G.L. c. 131, § 40 to protect wildlife habitat. The effective date of these regulations is November 1, 1987. One commentator expressed concern regarding the impact of herbicide application on wildlife habitat in wetlands, and particularly on the habitat of rare, "state-listed" wildlife species. As discussed above, the Department has determined that the DFA regulations provide for protection of wetlands from alterations due to herbicide application. However, the DFA regulations do not include floodplains in their definition of wetlands, although those regulations do prohibit herbicide application within 10 feet of any standing or flowing surface water. Beyond that, there is no specific protection of wildlife habitat, including rare species, in floodplain areas.

The Department is concerned that the DFA regulations do not specifically address protection of wildlife habitat in floodplains, in particular those rare, "state-listed" wildlife species. Therefore, as a member of the VMP advisory panel, the Department will review VMPs for potential effect on wildlife habitat and specifically will recommend disapproval of any VMP that will have an adverse effect in areas mapped by the Natural Heritage and Endangered Species Program as habitat of any rare, "state-listed" wildlife species. Furthermore, the Department expects applicators to incorporate into the previously discussed two-year monitoring study a section detailing the effects of herbicide application on wildlife habitat in floodplains and on the habitat of rare, "state-listed" wildlife species. The Department will use the results of this study as the basis for recommending any amendments to the DFA regulations and a decision on reauthorization of these amendments to the Department's wetlands regulations.