



DISTRICT 1

VEGETATION MANAGEMENT PLAN

January, 2012

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December, 2016

MASSDOT HIGHWAY DIVISION

DISTRICT 1

VEGETATION MANAGEMENT PLAN

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INTRODUCTION

In November 2010, Massachusetts Turnpike Authority and Massachusetts Highway Department merged, forming the Massachusetts Department of Transportation (MassDOT) Highway Division. In result of this merger the portion of Turnpike (Interstate 90) between the towns of W. Stockbridge and Russell falls under the jurisdiction of District 1. In order to ensure uninterrupted maintenance of this segment of the Turnpike, MassDOT is submitting this VMP for the following towns: Becket, Blandford, Lee, Otis, Russell, Stockbridge, and West Stockbridge

The undersigned hereby acknowledges that the conditions of the Roadway Vegetation Management Plan (VMP) will be adopted and complied with. The VMP will be effective for 5 (five) years unless sooner modified or revoked by the Department.

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STATEMENT OF OBJECTIVES

This Vegetation Management Plan (VMP) is intended to establish the criteria whereby the Massachusetts Department of Transportation (MassDOT) District 1 controls vegetation along state roads and highways in compliance with the Rights of Way Management Regulations (333 CMR 11.00) as promulgated by the Massachusetts Department of Agricultural Resources. For this VMP, the *right-of-way* (ROW) shall correspond to that portion of the roadside that is maintained for highway traffic operations.

The primary objective of the MassDOT VMP is to provide a safe, unobstructed roadway corridor and preserve the integrity of the highway infrastructure. Management of vegetation maintenance for safety and aesthetic purposes is an important element of roadside safety. Left uncontrolled, roadside vegetation can impede normal maintenance operations, obstruct motorists' line of vision, threaten pedestrian safety and cause damage to structures such as median barrier, pavements, shoulders, guard posts, drainage lines and waterways. Other objectives include development of an aesthetically pleasing roadside, pest control, provisions of habitat, and stabilization of embankments and other areas prone to erosion.

MassDOT is charged with the responsibility of initiating vegetation management procedures. To achieve this, MassDOT will implement an Integrated Pest Management Program (IPM). The primary goals of this strategy will be to identify priorities for vegetation control, to implement controls in an environmentally sensitive manner. Controls shall include not only mechanical and herbicide controls, but also the inclusion of roadside design measures to suppress weed growth.

Chemical herbicides shall be limited to selected high traffic volume, high-speed roadways where the placement of personnel and equipment in or around the roadway would jeopardize the safety of the motoring public, MassDOT employees and/or contractors.

Subject to approval of this VMP by the Massachusetts Department of Agricultural Resources (DAR), MassDOT will prepare on an annual basis a Yearly Operation Plan (YOP) which will provide specific information about the vegetation management program to be carried out for the specified year. This YOP shall contain all information required by the DAR and will be submitted to the DAR for its review, comment and subsequent approval. Copies of the YOP or a web site where the VMP can be viewed will be submitted to the senior administrative official, Conservation Commission and Board of Health for each affected community listed in the YOP. The municipal officials and general public shall have 45 days, upon receipt, to review the YOP and submit comments to the DAR. Following the review and comment period, the DAR will provide the MassDOT with formal notice of approval or denial of the YOP, or request modification as necessary.

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Over the 5-year period of this VMP, MassDOT will evaluate the success of the program and integrate appropriate new methods into the Yearly Operational Plans (YOP).

DESCRIPTION OF TARGET VEGETATION

MassDOT will inventory roadways and develop priorities for control of target vegetation. These areas will be mapped and prioritized on the basis of roadway volumes, speeds, and significance of vegetation condition.

Target vegetation is unwanted vegetation falling into one or more of the following categories – *Hazard Vegetation*, *Detrimental Vegetation*, *Nuisance Vegetation*, and *Invasive Species* – discussed as follows.

Hazard Vegetation. This category includes: windfall hazards; vegetation that obscures sightlines to traffic movements, signs or signals; or vegetation encroaching on pavement, including conditions where pedestrians are forced to step off the sidewalk into the road to avoid vegetation. In addition, under certain conditions, hazard vegetation may include evergreens that shadow roadways, delaying snow and ice melting (especially in “low salt” areas), potentially resulting in hazardous road conditions.



Hazard vegetation obstructing visibility of guardrail, including reflectors, along shoulder.

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Hazard vegetation obstructing sight distance at intersection.



Hazard vegetation obstructing drainage and impeding pedestrian movement.

DESCRIPTION OF TARGET VEGETATION (CONT'D)

Detrimental Vegetation. This category includes grasses and woody plants that are destructive to or compromise the function of highway structures. Examples include grasses in pavement and bridge joints, barriers (including guardrail), medians, and traffic islands, as well as vegetation in drainage structures that may cause flooding and/or icing conditions.



Detrimental vegetation damages state infrastructure and is unsightly.

DESCRIPTION OF TARGET VEGETATION (Cont'd)

Nuisance Vegetation. This category includes any vegetation growing along state roadways that could potentially cause problems to the general public and/or MassDOT employees or contractors maintaining the ROW. Poison Ivy and other nuisance vegetation growing near the edge of pavement, bridge abutments, drainage ways, or other structures and appurtenances requiring maintenance will be considered target vegetation.



Nuisance vegetation such as Poison Ivy creates a public safety hazard to workers and pedestrians. The traveling public can not step behind guardrail, where it is safest, in the event of an emergency.

DESCRIPTION OF TARGET VEGETATION (Cont'd)

Invasive Vegetation. Some areas of MassDOT ROW have become heavily infested with invasive plant species. In some instances, invasive species on the ROW may encroach on adjacent significant habitats. Specific target invasive plants include but are not limited to Tree of Heaven (*Ailanthus altissima*), Japanese Knotweed (*Polygonum cuspidatum*), Multiflora Rose (*Rosa multiflora*), Oriental Bittersweet (*Celastrus orbiculatus*), and Autumn Olive (*Elaeagnus umbellata*) .



VEGETATION CONTROL METHODS

The decision as to which vegetation control techniques to use will depend on evaluating the type of vegetation to be controlled and specific site conditions. Controls include both mechanical methods and herbicide application methods. (See also Table 1 SUMMARY OF VEGETATION CONTROL METHODS)

Mechanical methods include *Mowing*, *Hand Cutting*, and *Selective Trimming*.

- *Mowing* is the principal vegetation control method employed by MassDOT. Mowing consists of the seasonal, mechanical cutting of target vegetation using machines. MassDOT utilizes several types and sizes of mowers including large gang tow tractor mowers, six-foot rear deck tractor mowers, ten-foot flex wing rotary tractor mowers, articulated boom tractor mowers, small ride-on lawn mowers, push mowers, and line trimmers (“weed whackers”). Selection of specific equipment is based on terrain and target vegetation size.
- *Hand cutting* consists of cutting using chain saws and brush saws. Target species are cut as close to the ground as practical with stump heights usually not exceeding three inches. It is also used on target vegetation greater than twelve feet tall where herbicide use is prohibited. Hand cutting may be used on sites where terrain, site size or sensitivity make mowing impossible or impractical. In addition, hand cutting is occasionally used in order to protect environmentally sensitive sites. Hand cutting may occur at any time of the year.
- *Selective trimming* consists of mechanical pruning of the tops of encroaching limbs of tall trees which may hamper access to the roadway. This trimming will be accomplished using aerial lifts mounted on trucks or tractors or, if terrain or obstructions prevent equipment access, by climbing crews.

Herbicide applications shall be per the herbicide label, and may include the following methods: *Foliar Treatment*, *Cut Surface Treatment*, *Frill/Girdling*, *Basal Treatment*, and *Stem Injection Treatment*, described as follows:

- *Foliar Treatment* is the application of herbicides to fully developed leaves, blades, or stems of a plant. The herbicide is mixed or diluted with water and applied as a uniform spray, or hand-wiped with gloves, over the entire foliage of the plant. Spray foliar treatment is generally the most effective and economical method, particularly, in areas where conditions jeopardize the safety of personnel and equipment for mechanical methods. It is also the best technique to control nuisance vegetation that presents a hazard to pedestrians, inspectors and maintenance crews.

VEGETATION CONTROL METHODS (CONT'D)

- *Cut Surface Treatment* is the application of an herbicide to the cut surface of a stump immediately following or during a cutting operation. To prevent re-sprouting, it should only be necessary to treat the phloem and cambium tissue, regardless of the stump diameter. Treatment should be made to freshly cut stumps and avoided during the season of high sap flow. Application equipment includes hand held squirt bottles, paint brushes or sponge applicators. This method is not practical in moderate or heavy stem densities but offers the opportunity to chemically treat undesirable vegetation in sensitive or difficult to access sites where other methods are not possible.
- *Frill/Girdling*, which is used for standing trees, is the application of herbicide directly to freshly cut incisions into the cambium of the tree, using specially designed application tools or hand-held squirt bottles.
- *Basal Treatment* is the application of herbicide directly to the lower 12-18 inches of the trunk of the tree, using an oil mixture per label, for the purpose of saturating the bark.
- *Stem Injection Treatment*, chiefly used for Japanese Knotweed, is the application of herbicide using a specially designed syringe to inject herbicide into the hollow stem.

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VEGETATION CONTROL METHODS (CONT'D)

Table 1. Summary of Vegetation Control Methods

TARGET	CONDITIONS	CONTROL METHODS
Grasses and Herbaceous Vegetation	- Where terrain and traffic conditions allow	Mechanical (mowing)
	- Shoulders - Medians - Under and along all guardrail - Pavement cracks and curb - Joints where traffic volumes and speeds pose a hazard to motorists and MassDOT employees or contractors	Herbicide application (foliar)
Low Growth Vegetation (shrubs and larger herbaceous vegetation)	- Terrain allows, and - Species are not persistent or invasive	Mechanical (mowing)
	- Terrain prevents mowing, and - Species are not persistent or invasive	Mechanical (hand cutting)
	- Locations where terrain prevents mowing - Invasive or persistent species	Herbicide application (foliar and stem injection)
	- Nuisance vegetation (e.g. poison ivy) that is within ROW	Herbicide application (foliar)
Tall Growth Vegetation (Tall shrubs and trees)	- Individual trees or branches	Mechanical (selective trimming)
	- Vegetation >12 feet high ; or - Terrain too steep; and - Species are not persistent or invasive	Mechanical (hand cutting)
	- Vegetation >12 feet high; and - Species are persistent and invasive	Herbicide application (cut surface, frill/girdling, basal treatment, stem injection)

JUSTIFICATION OF HERBICIDE USE

The goal of roadside ROW vegetation management is the management of hazard, detrimental, nuisance, and invasive vegetation that interfere with pedestrian and traffic safety. Herbicide use for the control of target vegetation will be minimized. Mechanical cutting and mowing in many instances will achieve the desired goals of this VMP.

However, guardrail, medians, shoulders and traffic islands on high-speed high-volume roads present conditions unsafe for routine mechanical operations. At these locations, herbicides provide the safest and most effective and environmentally sound means for preventing the re-growth of target vegetation. Many of the species growing in these conditions are invasive and persistent, and cannot be adequately controlled without chemical treatment. Target vegetation requiring the use of herbicide includes the following:

- *Hazard Vegetation.* Grass and weeds growing underneath guardrail, in barrier joints, shoulders and medians may not be safely accessible by mowing methods on high volume, high-speed roads.
- *Detrimental Vegetation.* Weeds that may grow in barrier and curb joints, as well as cracks in pavement, may best be controlled by spot treatment of herbicides if mechanical control is not feasible.
- *Nuisance Vegetation.* In the instance of poison ivy, the growth habit of this plant, as well as its potential health impacts, make it nearly impossible to control using mechanical measures.
- *Invasive Species.* For many of the invasive species occurring on the roadside, such as Japanese Knotweed, herbicide is the only method proven to be effective. In the case of Knotweed, mechanical methods may exacerbate and spread the plant.

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IDENTIFYING SENSITIVE AREAS AND CONTROL STRATEGIES PROPOSED FOR SENSITIVE AREAS

Sensitive Areas defined at 333 CMR 11.04 are identified as public groundwater supplies, public surface water supplies, private drinking water supplies, surface waters, wetlands, vernal pools, habitated areas and agricultural areas. For the purpose of identification, sensitive areas can be separated into two categories: areas not readily identifiable in the field; and areas that are readily identifiable in the field. (See Table 2. Sensitive Area Restriction Guide)

Sensitive Areas not readily identifiable in the field include public groundwater supplies, private water supplies, public surface water supplies, and some wetlands.

Sensitive Areas readily identifiable in the field include surface waters, residential areas, agricultural areas, and certain wetlands not identified on source materials (e.g. bordering vegetated wetlands).

All Sensitive Areas that can be mapped using reference sources shall be mapped, either by hand or computer, to show locations.

Sources. Map sources for identifying sensitive areas not readily identifiable in the field include USGS maps, municipal maps and records, boards of health, conservation commissions, and MassGIS data layers, which include the following:

- Massachusetts Department of Environmental Protection (DEP) Watershed Maps (1:25,000: delineates the perimeter of public watersheds and the locations of public wells.
- Massachusetts DEP Wetland Conservancy Maps (scale usually 1:1,000).

In addition, for endangered species and habitat protection, MassDOT funds a position at the EEA Natural Heritage and Endangered Species Program specifically for the review of MassDOT projects, including its Vegetation Management Program.

Mapping Procedures. The following is a description of how the sensitive areas will be identified for required protection:

- Consult the appropriate reference materials and sources to determine the precise location of these areas.
- Demarcate the boundaries of these sensitive areas on topographical maps, MassGIS plots, and/or scale-sketches of roadway layout
- Field check map-sourced boundaries
- Map determined boundaries, such as wetlands, in field and note on plans
- Field mark spray limits using markers as required

IDENTIFYING SENSITIVE AREAS AND CONTROL STRATEGIES PROPOSED
FOR SENSITIVE AREAS (CONT'D)

Field Confirmation for Application Operations

- Prior to commencement of herbicide application operation, the treatment crew will be provided the marked-up topographical map with which to confirm boundaries or the boundaries of the appropriate buffer zone.
- The treatment crew will visually survey the area to be treated for any additional sensitive areas.

Control Strategies for Sensitive Areas

For certain sensitive areas, there exists a no-spray zone where herbicide use is prohibited; for others there is a limited spray area where herbicides use is allowed under certain conditions. In sensitive areas where herbicide use is allowed, application shall be per the requirements of the MDAR Sensitive Areas Materials List.

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Table 2. Sensitive Area Restriction Guide (333 CMR 11.04)

Sensitive Area	No Spray Area	Limited Spray Area	Where Identified
Wetlands and Water Over Wetlands	Within 10 feet (unless provisions of 333 CMR 11.04(4)(c) are followed)	10 – 100 feet; 12 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications	YOP Maps and identify on site
Certified Vernal Pool	Within 10 feet	10 feet to the outer boundary of any Certified Vernal Pool Habitat; 12 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications	YOP Maps and identify on site
Public Ground Water Supply	Within 400 feet (Zone I)	Zone II or IWPA (Primary Recharge Area); 24 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications	YOP Maps
Public Surface Water Supply	Within 100 feet of any Class A public surface water source	100 feet to the outer boundary of 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		

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Sensitive Area	No Spray Area	Limited Spray Area	Where Identified
	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	In YOP 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 habitat area except in accordance with a Yearly Operational Plan approved in writing by the Division of Fisheries and Wildlife		YOP Maps

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QUALIFICATIONS OF PERSONNEL

The individual submitting this plan is George Batchelor, Supervisor of Landscape Design At MassDOT Highway Division. In his capacity as Statewide Program coordinator for the former Massachusetts Highway Department's Vegetation Management Program, Mr. Batchelor has been responsible for contract and plan design, implementation, interagency issues, and correspondence associated with the State's Vegetation Management program. Mr. Batchelor is a landscape architect whose 17-year career with MassDOT has been dedicated to the enhancement and care of the roadside environment. Mr. Batchelor has been supervisor of the MassDOT Landscape Design Section for 13 years.

As required by CMR 333, all applicators on roadside rights of way must hold a valid MDAR pesticide applicators license and all work shall be directly supervised, as required by regulations, by an individual with Right-of-Way Certification. In addition to the applicable rules and regulations, applicators will adhere to the following operations guidelines.

OPERATIONAL GUIDELINES FOR HERBICIDE APPLICATORS

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

- Herbicide applications will not occur during periods of moderate or heavy rainfall.
- Foliar applications may be allowed in light mist situations. However, any measurable rainfall that creates leaf runoff will require application to stop until the rain ends and active leaf runoff has ceased.
- Cut surface treatments, frill/girdling, basal treatment, and stem injection will cease during measurable precipitation and will not resume until precipitation has ceased.
- For foliar applications, when wind speeds are sufficient to bend the tops of the main stems of roadside trees, the applicator will monitor foliar application to insure that there is no drift of the herbicide off target. If the applicator can see the herbicide moving off target, the application will immediately stop until the wind has subsided enough to permit further application.
- All herbicide solutions to be used for a foliar application will contain low drift agents. Low-drift agents will be added to the foliar herbicide solution as per the low-drift agent label. In moderate wind conditions, as per label recommendations, more low-drift may be added, at discretion of applicator to control increased drift.
- Cut surface treatments, frill/girdling, and stem injection treatments may occur in wind conditions as they are much less affected by wind because they are not applied by spray, and often are close to the ground.

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OPERATIONAL GUIDELINES FOR HERBICIDE APPLICATORS (CONT'D)

Equipment - Foliar Application

- Foliar application equipment will be calibrated at the beginning, and during the season as well as prior to touch-up application treatment, and in accordance with manufactures recommendations. Foliar application equipment will be calibrated to maintain pressure specified below.
- The foliar treatment used shall be low pressure, below 60 psi at the nozzle, with a normal working pressure of 40 psi for application at volumes of less than 50 gallons/acre.
- Low pressure nozzles will be used to produce the largest possible droplet size and a drift control agent shall be added at the rate recommended on the label to keep spray drift to an absolute minimum. Previous studies and experience indicate minimal drift occurs when using low – pressure applications and adjuvants.
- Mechanical throttles will be kept to the minimum setting required to transport the herbicide solution to the tops of each target and penetrate the foliage to the main stem of each target.
- For vegetation beneath and immediately adjacent to roadway, a low-pressure foliar treatment typically shall be applied using a truck-mounted spray boom, attached to either side of the front of the unit. In addition, a separate handgun equipped with a low pressure nozzle and adequate length of hose will be used for low-pressure spot treatments of target vegetation growing in pavement, median and traffic island cracks, around bridge structures, drainage structures, sign posts and other structures and appurtenances. For targeted vegetation not accessible by boom or hose, a backpack sprayer shall be used for foliar application.

Equipment – Cut Surface

- Cut surface treatment squirt bottle applicators will be adjusted to deliver the herbicide solution in a thin stream to the target zone.
- Injection treatment will be used selectively to apply herbicide into hollow stems of plants such as Japanese Knotweed.

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APPLICATION MINIMIZATION - INTEGRATED PEST MANAGEMENT AND OTHER MEASURES

The MassDOT VMP will implement an Integrated Pest Management Plan (IPM). This IPM will be a comprehensive approach that includes not only a strategic selection of appropriate control methods, but also the incorporation of roadside improvements and construction practices in MassDOT highway infrastructure improvements. The goal of the IPM approach is to establish sustainable and beneficial vegetation, reducing the demand for vegetation management overall, and the use of herbicides in particular.

Specific control methods will be chosen by MassDOT personnel familiar with the ROW. Factors governing the choice of method include, but are not limited to: target vegetation characteristics, ROW constraints, environmental conditions, ecological priorities, traffic conditions, and terrain. Mechanical methods will be the typical strategy for vegetation control; herbicides will be limited to specific conditions discussed in this VMP. Selected herbicides and timing of their application will be chosen to optimize their effectiveness, minimize their use, and to protect non-targeting organisms and environmentally sensitive sites.

The specific components of the roadside IPM program include:

- *Roadside Assessment* – Roadsides will be surveyed by a professional with knowledge and experience in vegetation control, including integrated pest management strategies. The field survey will identify vegetation conditions, terrain and traffic, as well as sensitive areas, making recommendations as necessary for control strategy. Recommendations will also include, where applicable, possible future constructed improvements to reduce vegetation control, and thereby reduce the need for herbicides.
- *Control Monitoring* – Managed roadsides will be monitored for success of control strategy, and recommendations will be made, as necessary, for altering control strategy. Evaluation will include assessment of limited or otherwise adjusted mowing strategies to promote sustainable roadside ecosystems. Assessment and monitoring will be made by foot and/or by vehicle.
- *Record Keeping* – In addition to the record keeping requirements of the Pesticide Board regulations, a daily log of areas treated will be kept for future planning and reference.

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APPLICATION MINIMIZATION - INTEGRATED PEST MANAGEMENT AND OTHER MEASURES (CONT'D)

Roadside Improvements for Vegetation Suppression

As part of its overall integrated management strategy, MassDOT Highway will incorporate roadside design components, where appropriate, that will reduce the demand for vegetation control, including herbicides. Although not technically “control” strategies, these design measures can provide an efficient, cost effective method of achieving the desired goals of this VMP. Measures to be implemented include:

- Crushed pavement and stone mulches and other weed barriers for barriers and shoulders
- Sealants for pavement and joints
- Soil, mulch, seeding and planting specifications that will establishing self-sustaining/low maintenance plantings
- Construction procedures to prevent introduction or spread of invasive species

ALTERNATIVE LAND USE PROVISIONS OR AGREEMENTS THAT WOULD MINIMIZE THE NEED FOR HERBICIDE

MassDOT is amenable to exploring alternative land uses or management agreements that would minimize the need for herbicides. As part of this, MassDOT may allow private abutters to maintain roadside vegetation. However, any alternative use or management program must be consistent with federal guidance, as well as MassDOT policies and operational needs. Any options must control the undesirable vegetation in a manner that is environmentally sound and consistent with the requirements of this VMP.

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REMEDIAL PLAN TO ADDRESS SPILL AND RELATED ACCIDENTS

All mixing and loading of herbicides will be conducted at the central facility where the herbicides are stored. Only the amount of herbicides necessary to carry out the vegetation control, based on the monitoring results, will ensure that there will be no waste and minimize potential problems. The vehicle carrying out the spray operation will be equipped with a bag of absorbent, activated charcoal leak-proof containers, a broom and a shovel in case of minor spills. A clipboard log of the herbicides on the vehicle will be kept on the vehicle. Herbicide labels, YOP, and fact sheets should be carried on site by the applicator.

Spill Response

As soon as any spill is observed, immediate action will be taken to contain the spill and protect the spill area. The source of the spill must be identified and secured. Spill containment will be accomplished by covering the spill with absorptive clay or other absorptive material or, for large spills, building clay or soil dikes to impede spill progress. Protection of the spill area will be accomplished by placing barriers, flagging or crewmembers at strategic locations. If a fire is involved, care will be taken to avoid breathing fumes from any burning chemicals.

In the event of a spill information on safety precautions and clean up procedure may be gathered from the following sources:

- Herbicide label
- Herbicide MSDS sheet
- Herbicide Manufacturers
 - Dow (517) 636-4400
 - Dupont (800) 441-3637
 - Monsanto (314) 694-4000
 - BASF (800) 832-4357
- Massachusetts DAR - Pesticide Bureau (617) 626-1700
- Massachusetts DEP Emergency Response Unit (888) 304-1133
- ChemTrec (800) 424-9300
- Massachusetts Poison Control Center (800) 682-9211
- Massachusetts Department of Public Health
Bureau of Environmental Health
Environmental Toxicology Program (617) 624-5757
- MassDOT
 - Boston Headquarters (617) 973-7500
 - District 6 Headquarters (Boston) (617) 951-2000

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REMEDIAL PLAN TO ADDRESS SPILL AND RELATED ACCIDENTS (CONT'D)

Minor spills will be remedied by soaking up the spill with absorptive clay or other adsorptive material and placing it in leak proof containers for proper disposal. Dry herbicides, such as granular, will be swept up or shoveled up directly in leak proof containers for proper disposal. All contaminated soil will be placed in leak proof containers, removed from the site and disposed of properly. Activated charcoal will be incorporated into the soil at the spill location at a rate of seven pounds per thousand square feet to inactive herbicide residue. Any minor spill will be reported to the DAR.

Major spills will be handled in a similar manner as minor spills, except in cases where the spill cannot be contained and/or removed by the crew. In this case the DEP Incident Report Unit and the DAR must be contacted.

All spills of a regulatable quantity of material shall be reported to MassDEP Emergency Response Unit.

GENERAL HERBICIDE APPLICATION POLICY

To date, there is no environmentally, economically feasible and safe ROW management program that eliminates the use of herbicides altogether. In particular, guardrails, medians and traffic islands on high-speed high-volume roads present conditions unsafe for personnel hand-cutting operations. Many of the species growing in these conditions are invasive and persistent, and cannot be adequately controlled without chemical treatment. Consequently, public and occupational safety considerations require judicious use of chemical controls.

Mass DOT has made a concerted effort to identify effective alternatives to conventional herbicides. With funding from the Federal Highway Administration, the agency oversaw an intensive three-year field and greenhouse study of alternative herbicide materials and control methods, conducted by the University of Massachusetts Plant and Soil Sciences Department. The published report of this study is available on-line at:

(<http://www.mhd.state.ma.us/default.asp?pgid=content/publicationother&sid=about>)

While MassDOT remains committed to finding effective alternatives, to date no effective alternative to conventional herbicides has been developed or proven to provide superior control in right of way applications. However, MassDOT will continue to research methods and technologies for minimizing herbicide use and will consider incorporating any effective new technologies or practices into our right of way program and YOP during the course of this Vegetation Management Plan.