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SIDEWALK AND ROADWAY VEGETATION MANAGEMENT PLAN

INTRODUCTION

The Town of Millbury plans to follow an Integrated Vegetation Management (IVM) program to reduce reliance on herbicides, which the Town considers a last resort. The Town has not had a Vegetation Management Plan (VMP) since 2010 due to staff turnover and changes in management. The Town plans to submit this VMP and subsequently a Yearly Operational Plan (YOP) and remain compliant with Rights of Way regulations and other applicable laws.

GOALS AND OBJECTIVES

The sidewalk and roadway Vegetation Management Plan (VMP) is intended to establish a five year plan to control vegetation along sidewalks and roads in the Town of Millbury in compliance with the Rights of Way Management regulations (333 CMR 11.00).

The goal of the sidewalk and roadway VMP is to assure that the vegetation management practices along public sidewalks and roads are conducted in the most environmentally sound manner through an Integrated Vegetation Management (IVM) program which will minimize the reliance upon herbicides. Vegetation management along sidewalks and roads is necessary to control unwanted vegetation that deteriorates public ways, create a public nuisance and/or creates a hazard that obstructs pedestrian and vehicular travel. The operational goal of this VMP is to utilize an IVM program designed to maximize control of undesirable vegetation while minimizing the use of herbicides. In order of preference by the Millbury Department of Public Works, the IVM program will involve the use of cultural, mechanical and chemical control techniques to control undesirable vegetation in an ecologically sound manner. The choices of the target vegetation and appropriate control techniques will be at the heart of the program. Achievement of this goal will be made through annual inspection and maintenance programs of all public ways, and control of the areas as needed by the most environmentally sensitive means possible.

IVM PROTOCOL:

Taking into consideration all four components of Public Way IVM, the protocol for implementing the IVM program is as follows:

1. **Monitoring:** All public ways will be surveyed prior to any scheduled treatment program. Monitoring will be conducted by foot or by vehicle. Monitoring of areas may also result from public requests.
2. **Maintenance:** All roads will be cleaned using a street sweeper. Cracking asphalt and sidewalks and other right-of-way defects will be repaired. The use of ground cover will be encouraged where appropriate to assist in the prevention of undesirable target vegetation growth.
3. **Record Keeping:** A log of surveyed areas will be kept for future planning and reference purposes. Areas maintained either through physical repair, mechanical or chemical control will be recorded by the DPW.
4. **Control Methods:** The decision to use one or a combination of vegetation control techniques will depend upon the site-specific situation. The management tactics selected will control nuisance vegetation in the most environmentally and efficient manner:

IDENTIFICATION OF TARGET VEGETATION

Target vegetation along sidewalks and roadways is vegetation that includes public health nuisance vegetation, nuisance grass and weeds and vegetation posing a risk to safety.

Public Health Nuisance Vegetation

Public health nuisance vegetation includes vegetation that grows along public roads and paths, which could cause allergic or other problems. The overwhelming majority of plant material to be controlled is poison ivy “*Rhus radicans*”. Under this VMP, poison ivy and other “poisonous” vegetation growing within 10 feet of the R.O.W. will be considered target vegetation.

Nuisance Grass & Weeds

Along the shoulders of roads, grass growth will be encouraged and maintained through mechanical mowing. However in some instances, grasses and weeds may grow in areas where control is limited to the use of herbicides. These areas include cracks in asphalt, brick, concrete, planting beds and along guardrails. In these instances, grass will become target vegetation if the stem density and height impacts established plantings, impedes movement, hampers visibility and/or if the roots undermine asphalt, brick, concrete or other surface material used for pedestrian and vehicle travel.

Vegetation Posing a Risk to Safety

The vegetation that hampers visibility or impedes movement along sidewalks, roads and trails is considered posing a risk to public safety. M.G.L. Chapter 87, section 5 authorizes the tree wardens to have control of all “public shade trees, shrubs and growths” along public ways. Plants, interfering with traffic and visibility, will be controlled by removing and/or hand cutting. However, due to topography, rate of growth, or physical characteristics, certain plant species may require control by herbicides as a last resort.

Targeted vegetation falls into two categories: low growing species and tall growing species. Tall growing species include trees. Hardwood and softwood species that are capable of interfering with pedestrians and traffic safety are either selectively pruned or ground cut. Occasionally, conditions will not allow the use of a stump grinder and require treatment of these cut stumps with an herbicide as a last resort if re-cutting is not practical to control resprouting.

METHODS OF VEGETATION MANAGEMENT

Sidewalk and Roadway vegetation management will involve first mechanical methods (hand cutting, mowing, selective trimming) and as a last resort, chemical treatments (foliar herbicide treatments and cut stump treatments). The methods listed above will be chosen based on a variety of factors. The method chosen for a given vegetation problem will attempt to achieve vegetation suppression while reducing the reliance on herbicides.

1. Mulching

Proper mulching techniques will be applied to planting beds and roadside areas to prevent undesirable weeds.

2. Selective Trimming

Selective trimming consists of the mechanical pruning of the tops of encroaching limbs of tall trees that 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.

3. Hand Cutting

Hand cutting consists of the mechanical cutting of targeted woody species using chain saws, brush saws. Targeted species are cut as close to the ground as practical. Hand cutting is used to protect environmentally sensitive sites or on target woody vegetation greater than 12 feet tall. Hand cutting is used on those restricted sites where terrain, site size or sensitivity renders mowing impossible or impractical. Hand cutting may be used at any time of the year.

4. Hand Pulling

Hand pulling will consist of pulling targeted grass and weeds by hand, when economically feasible in planting beds on town traffic islands.

5. Mowing

Mowing involves the use of mechanical cutting of target vegetation using machines. Depending upon the resources available, mechanical cutting may be made using a power trimmer, push mower, riding mower, or a tractor driven brush hog or flail mower. Selection of specific equipment is based on terrain, target vegetation size and equipment availability. Mowing will be used in most areas where herbicide use is prohibited by regulation. Mowing will be the principal vegetation control measure and may be used at any time of the year, except when deep snow precludes operations.

5. Foliar Treatments

Foliar treatments involve the selective application of herbicide diluted in water, to the foliage and stems of the target vegetation. The foliar treatments will be made using ready to use procedures, squirt bottles or manual pump application equipment. This treatment will use low pressure, below 60 psi at the nozzle, for application. The herbicide solution is applied to lightly wet the target plant.

Foliar applications will take place when plants are in full leaf and actively growing, or in accordance with the manufacturer's recommendations. Treatment uses low pressure, below 60psi at the nozzle, for applications.

6. Cut Stump Treatment

Cut stump treatments consist of mechanical cutting of target species using chain saws immediately followed by a herbicide treatment applied with a squirt bottle or painted on the freshly cut surface of the stump. The fungicide or herbicide is limited to freshly cut surface of the remaining stump. Herbicide application would be used as the last resort choice. Cut stump application is preferred during the dormant period. This type of treatment would only be done if stump grinding is not practical and for concern that stump sprouts would out compete more desirable vegetation.

7. Street Sweeping

The Town will regularly sweep streets with a mechanical street sweeper to remove soils built up at the edges of the berm thereby removing a place for weeds to germinate.

8. Crack Sealing

Crack sealing will be done whenever possible to limit weed growth by filling in the cracks with a suitable sealer.

SUMMARY / PLAN OF ATTACK

TARGET	TECHNIQUES	COMMENTS
Poison Ivy	foliar	May be growing within 10 feet of the public way. Spot treatment will be made using foliar method, in most cases, except no spray zones around sensitive areas.
Grass & Weeds	mulching	Preventive measure for planting beds.
	mowing	In most cases.
	hand pulling	When economically feasible in planting beds along traffic islands.
	foliar	Spot treatment of grass growing along guardrails or in cracks where mowing or cutting is not practical or safe.
Low growth	mulching	Woodchips as a preventive measure along roadsides.
	mowing	In most cases, option for sensitive areas.
	foliar	Terrain prevents mowing or hand-cutting rapid resprouting species.
	hand cutting	Terrain prevents mowing and resprouting is not a concern; option for sensitive areas.
Tall growth	selective trimming	in cases where the visibility or interferences does not warrant removal or entire vegetation; option for sensitive areas.
	hand cutting	Terrain prevents mowing; mowing not effective due to stump size; species greater than 12 feet in height that will not resprout; option for sensitive areas.
	cut stump	For species less than 12 feet in height that are capable of resprouting.

Justification of Herbicide Use

The goal of vegetation management on the public rights of way is the management of nuisance vegetation and other woody plants that interfere with pedestrian and traffic safety. Mechanical cutting and mowing in most instances will achieve the desired goals of controlling nuisance vegetation and vegetation that poses a safety risk.

Public Health Nuisance Vegetation

As previously noted, the control of public health nuisance vegetation (poison ivy) along the right of way is a major objective of this IVM plan. Due to the low growing nature of poison ivy, and the fact that it grows along stolons, it is nearly impossible to control poison ivy through cultivation, hand pulling or mowing at the height generally used in roadside mowing operations. Moreover, the climbing characteristics of this plant: over stone walls, tree trunks and guard rails, make mechanical control out of the question for safety and economic reasons. Through the judicious use of herbicides that are specific to woody plants, the development of herbaceous communities that crowd out poison ivy can be achieved. The resulting herbaceous community that crowds out poison ivy can be maintained through roadside mowing.

Other Species

Woody vegetation (low and high growth species) growing along the rights-of-way that interfere with pedestrian or vehicles is controlled by pruning or ground cutting using hand tools or chain saws. Depending upon the species of plant removed and its proximity to other vegetation, these stumps along the road shoulder in an accessible location will be mowed along with the roadside grass on an annual basis. Woody plants that are growing over obstacles that would impede the mower, or have a viney growth habit so that they cannot be hand cut and chipped, or that grow very rapidly will be eliminated through the use of a foliar applied herbicides. Grass and weeds will be controlled primarily by mowing whenever possible. However, nuisance grass that may grow in between guard rails, in planting beds or cracks in asphalt may best be controlled by spot treatment of herbicides if hand pulling or mechanical control is not feasible and the stem density and height warrant control.

PROCESS, REFERENCES AND SOURCES FOR IDENTIFYING SENSITIVE AREAS AND CONTROL STRATEGIES PROPOSED FOR SENSITIVE AREAS

Identifying Sensitive Areas

The general definition of *sensitive areas* regulated by 333 CMR 11.04 is as follows:

...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

Sensitive Areas regulated by 333 CMR 11.00 include the following:

Water Supplies:

- Zone I's
- Zone II's
- IWPA's (Interim Wellhead Protection Areas)
- Class A Surface Water Sources
- Tributaries to a Class A Surface Water Source
- Class B Drinking Water Intakes
- Private Wells

Surface Waters:

- Wetlands
- Water Over Wetlands
- The Mean Annual High Water Line of a River
- The Outer Boundary of a Riverfront Area
- Certified Vernal Pools

Cultural Sites:

- Agricultural Areas
- Inhabited Areas

Wildlife Areas:

- Certified Vernal Pool Habitat
- Priority Habitat.

Identification Methods

Two simple descriptions guide the complex identification of the *sensitive areas* defined in 333 CMR 11.04:

Readily identifiable in the field and *Not readily identifiable in the field*.

Readily identifiable in the field areas will be treated, identified and when appropriate, marked according to all applicable restrictions listed in 333 CMR 11.00. Not readily identifiable in the field areas will likewise be treated and marked when appropriate, but they are identified by the use of data marked on maps and collected in the YOP and notification processes before the time of treatment.

The individuals assigned the task of identifying and treating *sensitive areas* in the field will use the appropriate sources and methods from the following list:

- Massachusetts Department of Environmental Protection (DEP) Watershed Maps
Delineates the perimeter of public watersheds and the location of public wells;
- Massachusetts DEP Wetland Conservancy Maps
- Municipal maps and records, Board of Health, Conservation Commission, and water supplier (Aquarion Water)
- Regional Planning Agencies maps and records
- Millbury GIS
- A copy of the YOP and VMP
- Correspondence, meetings and input within the forty-five day YOP and twenty-one day municipal right-of-way notification letter review and comment periods and the 48 hour newspaper notification (under 333 CMR 11.06 & 11.07 and Chapter 85 of the Acts of 2000)
- U.S. Fish and Wildlife Service National Wetlands Inventory Maps, available from the University of Massachusetts, Cartographic Information Research Services, Amherst;

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.
- Place the boundaries of these sensitive areas on U.S. Geological Survey (USGS) topographical maps.
- Prior to commencement of herbicide application operations, the treatment crew will be provided the marked-up topographic map with which to flag boundaries of these sensitive areas.
- The treatment crew will deploy a cutting crew or point person in advance of the main herbicide application operation to locate and flag these boundaries or the boundaries of the appropriate buffer zone.

Sensitive areas readily identifiable in the field include surface waters, habitated areas, and agricultural. The method utilized to identify these sensitive areas will be as follows:

- Consult USGS topographic maps to locate any of these sensitive areas that may already be identified on these maps.
- Prior to commencement of herbicide application operations, the treatment crew will be provided the marked topographic map.
- The treatment crew will visually survey the area to be treated for any sensitive areas.
- The treatment crew will locate these sensitive areas prior to any herbicide application and flag the appropriate buffer zone.
- Municipal maps and records, Boards of Health, Conservation Commissions, and water suppliers.

SENSITIVE AREA RESTRICTIONS (333 CMR 11.04)

General

In any sensitive area:

- The minimum labeled rate of herbicide for the appropriate site, targeted pest, and application method shall be applied;
- Herbicides shall be applied selectively by low pressure foliar techniques or stem application only or other method approved for use by the Department
- Treatment in the limited spray areas require the use of herbicides from the Sensitive Area Materials list available at www.mass.gov/agr/pesticides/rightofway/index.htm

Sensitive Area Restriction Guide (333 CMR 11.04)

Sensitive Area	No Spray Zone	Limited Use Zone	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
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	

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

**APPROVED, REGISTERED HERBICIDES FOR USE
WITHIN SENSITIVE AREAS on RIGHTS of WAYS**

Due to the ongoing changes in the chemical industry it is inappropriate to list herbicides based on today's standards. DEP and Massachusetts Department of Agricultural Resources (DAR) are continually upgrading their standards, eliminating some chemicals and adding others. Therefore, the Town's herbicide recommendations will appear in our Yearly Operational Plan, based on the Environmental Protection Agency (EPA) and DAR recommendations in place at the time of our YOP application.

OPERATIONAL GUIDELINES FOR APPLICATORS RELATIVE TO HERBICIDE USE

As required by regulation, applicators to roadside rights of way must hold a valid pesticide certification from the Department of Agriculture Resources. In addition to the applicable rules and regulations, applicators will adhere to the following operational guidelines:

Weather-

Herbicide applications will be restricted during certain adverse weather conditions, such as rain or wind. Herbicide applications will not be made during periods of moderate or heavy rainfall. Foliar applications are effective in light mist situations, however, any measurable rainfall that creates leaf runoff will wash the herbicide off target. If foliar applications are interrupted by unexpected rainfall, the treatment will not resume until the rain ends and active leaf runoff has ceased. Cut stump treatments will not be made during measurable precipitation. Cut stump treatments will cease during measurable precipitation and will not resume until precipitation has ceased.

Excessive wind can create drift during foliar applications. Significant herbicide drift can cause damage to desirable vegetation on or off the roadside. Cut stump treatments are much less affected by the wind, as they are applied in close proximity to the ground level.

To minimize off-target drift, the applicator will comply with the following restrictions:

- During periods of wind, which are strong enough to bend the tops of the main stems of tree species on the roadside, the applicator will periodically observe the application of the foliar treatment to insure that there is no significant movement of the herbicide. If the applicator can see the herbicide moving off target, the application will immediately stop until the wind has subsided enough to permit further applications.
- 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 the discretion of the applicator to control increase drift.
- Foliar treatments will not be made to target vegetation that exceeds approximately twelve feet in height.

Calibration- Foliar application equipment will be calibrated at the beginning of the season, in accordance with the manufacturer's recommendations.

Foliar application equipment will be calibrated to maintain pressures not exceeding sixty pounds per square inch at the nozzle and applicator nozzles will be adjusted to apply a coarse spray to minimize drift and run off.

Cut stump treatment squirt bottle applicators will be adjusted to deliver the herbicide solution in a thin stream to the target zone.

Cleaning- Cleaning of any equipment used by any sub-contractor of the Town of Millbury shall be done only at the contractor's facility and according to EPA and DEP guidelines.

Only the amount of herbicide necessary to carry out the vegetation control, based on monitoring results, will ensure that there will be no waste and minimize potential problems

- The vehicles carrying the spray operations 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, fact sheets, the VMP, current YOP and Herbicide Spill Check List (Appendix 5) will be carried on-site by the applicator(s).

Private Properties – Trees located on private property will not be treated.

Sensitive Area Restrictions – In defined sensitive areas, there exist a no-spray buffer zone where herbicide use is prohibited and a zone where herbicide use is allowed under certain conditions. In areas around sensitive areas where herbicide use is allowed, only the minimum labeled rate of application for the control of target species can be applied.

The Department of Public Works shall notify the Board of Selectmen, Board of Health, and the Natural Resource Commission at least 21 days in advance of the application of herbicides to town right-of-ways. The notice shall include but not be limited to the approximate date on which such spraying shall occur, provide however that said spraying shall not conclude more than ten days after said approximate date; a copy of a DAR approved Herbicide Fact Sheet on the active ingredient(s) of the Herbicide(s) used; and the name of the certified applicators and name of the company hired who would be making the applications.

Linear spot treatment of roadsides and sidewalks will be posted with an 81/2” X 11” caution sign with a white background and red lettering. The signs will include the date of application, name of product applied, Products EPA registration number and the Public Works 24-hour telephone number. Signs will be posted in the most visible way by staking, attaching to light posts and or using folding traffic barriers. These signs would be posted 24 hours before and after application and no less than every 200 feet along the treated sidewalk or roadside area.

TECHNIQUES/PROGRAMS TO MINIMIZE THE AMOUNT AND FREQUENCY OF HERBICIDE APPLICATION

Integrated Pest Management (IPM) as it applies to roadside maintenance involves utilizing a variety of techniques to control unwanted vegetation in the most ecologically based manner. Implementation of IPM will result in a reduced reliance on chemical pesticides by encouraging the vegetation management technique that will result in establishment and stabilization of beneficial vegetation. The resulting cultural control will reduce the need for vegetation management in the future. Vegetation management activities will place the non-chemical techniques as the methods of choice in light of the goal of controlling the undesirable vegetation and establishing a stable, beneficial vegetation community. If and when used, herbicide use will be minimized through timing of applications to maximize control, and avoiding fixed application schedules while protecting non-target organisms and environmentally sensitive sites. The specific components of the roadside IPM program include:

Monitoring – All roadsides will be viewed prior to any scheduled treatment program. Monitoring will be done by foot, vehicle and as the result of requests from the public.

Record Keeping – Areas maintained, through mechanical or chemical control, will be recorded and a log of areas surveyed will be kept for future planning and reference. This is in addition to the record keeping requirements of the Pesticide Board.

Decisions to maintain vegetation, either mechanically or chemically, will be based on the following:

- Vegetation that interferes with traffic safety at intersections.
- Vegetation that interferes with pedestrian safety.

- Vegetation that interferes with traffic safety along the length of the roadway.
- Poison Ivy within ten feet of the sidewalk or paved roadway.
- Vegetation that interferes with the use of hiking trails and fire lanes. Nuisance grass growing in between guardrails, established plantings or in cracks of sidewalks.
- Poison ivy on or within ten feet of hiking trails.

Control Tactics – The decision to use one of the vegetation control techniques will depend on evaluating the specific situation. The goal of the control tactic will be to establish an easily maintainable, stable plant population, which will not interfere with vehicles or pedestrians. Emphasis will be given to the control tactic which will address the vegetation problem in the most environmentally sound manner and in a way to minimize vegetation control in the long term.

Selection of Alternative Vegetation

- Manipulation of native species
- Replanting of desirable species

Physical Controls

- Selective pruning
- Ground cutting
- Mowing

Chemical Controls

- Back pack sprayers (low volume foliar)
- Cut stump treatments

ALTERNATIVE LAND USE / ANY REASONABLE REQUEST MADE BY AN INDIVIDUAL.

Every effort will be given for alternative land use options. However, there are specific criteria to be met for adoption of alternative land use options. First, the alternative land use option must control the undesirable vegetation in a similar manner, ecologically and successfully as allowed in this VMP. For example, a common practice of abutters to roadways is to mow them and maintain road shoulders. In this instance, the monitoring program would reveal that the area does not warrant vegetation control. A written agreement with landowners for alternative vegetation control methods will be obtained. This agreement would clearly specify that the DPW would not treat vegetation in these areas and outline the landowner's responsibilities for vegetation control.

QUALIFICATIONS OF INDIVIDUAL DEVELOPING THIS VMP

Matt Stencel is a Massachusetts licensed pesticide applicator (#31775). He has an A.S. in Landscape Operations from the Stockbridge School of Agriculture, and a B.S. in Urban Forestry from the University of Massachusetts. He has been involved in the Green Industry for 25 years. He is the Operations Manager for the Millbury Department of Public Works.

REMEDIAL PLAN / SPILLS AND RELATED ACCIDENTS

All mixing and loading of herbicides will be conducted at the contractor's central facility where the herbicides are stored. Mixing only the amount of herbicide 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 herbicides in the vehicle will be kept in the vehicle. Herbicide labels and fact sheets should be carried on-site by the applicator.

As soon as any spill is observed, immediate action will be taken to contain the spill and protect the spill area. The cause of the spill must be identified and secured. Spill containment will be accomplished by covering the spill with adsorptive clay or other adsorptive material, or, for large spills, building clay or soil dikes to impede spill progress. Until completely clean, 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 procedures may be gathered from the following sources:

- Herbicide label
- Herbicide MSDS sheet
- Herbicide Manufacturer:
 - Monsanto 314-694-4000
- Massachusetts Pesticide Bureau 617 626-1781
- Massachusetts Department of Public Health 617-624-5757
- Massachusetts Department of Environmental
Emergency Response Section 888-304-1133
- Chem Trec 800-424-9300
- Millbury Fire Department 508-865-3521
- Millbury Police Department 508-865-3521
- Millbury Health Department 508-865-4754
- Pesticide Hotline 800-858-7378
- Clean Harbors 800 OIL-TANK
- Massachusetts Poison Information Centers 800-682-9211

Minor spills will be remedied by soaking up the spill with adsorptive clay or other adsorptive material and placing it in leak proof containers for proper disposal. Activated charcoal will be incorporated into the soil at the spill location at a rate of seven pounds per thousand square feet to inactivate any herbicide residue. Any minor spill will be reported to the Pesticide Bureau.

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. Massachusetts Department of Environmental Protection will be contacted when there is a spill of a regulated quantity, regardless of major or minor spill status and in accordance with 310 CMR 40.0000, Massachusetts Contingency Plan.