

# CHAPTER 13 ROADSIDE MANAGEMENT

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## 13.1 INTRODUCTION

Roadside vegetation is managed with the road users' requirements as the first consideration. Roadside management activities and responsibilities involve the art and science of vegetation establishment and maintenance within the highway right-of-way. Parking areas, scenic views and roadside litter pick-up/disposal are also responsibilities included in this Chapter.

**The District Roadside Specialist/Supervisor (DRS) is responsible for directing and monitoring all roadside management programs and activities routinely performed by county or contract personnel who are directly responsible to the County Maintenance Manager. DRSs are certified and earn CEUs annually in herbicide applications and tree (arborist) operations to serve as the technical knowledgeable person for roadside operations.**

Routine roadside management programs and activities include the following:

1. Mowing
2. Herbicide vegetation control
3. Mechanical and manual vegetation control (trimming and removal activities)
4. Revitalization, wildflowers, planting and plant maintenance
5. Operation and maintenance of parking, picnic and scenic view areas
6. Roadside litter control
7. Other public service activities

Care must be taken to ensure that each work activity is properly coded by cost function. The Highway Foreman Manual [Pub 113](#) identifies the proper coding for each activity along with the activity requirements, performance standard, method, procedure and other information on the conduct of the activity.

Roadside activities are incorporated into each major highway construction project as part of the contractor's responsibility. Until such time as the project is completed, no Department Force roadside maintenance work is to be conducted within the limits of the project. However, where a section of roadside maintenance must be initiated to aid in the establishment of desirable trees, shrubs and turf to prevent loss of plant material or to deter the invasion of noxious or invasive plant growth, roadside maintenance can be conducted.

Scheduling of all roadside maintenance activities shall follow these general priorities:

1. Maintenance Function Code (MFC) A & B Urban
2. MFC - A&B Rural
3. MFC - C, D&E Urban
4. MFC - C, D&E Rural

Roadside activity reporting data is collected through the use of the M-609 mobile app. The data is stored in the Roadside Spray Application (RoSA) database. These records are accessible online for review and approval.

This reporting is for the following:

1. To handle the Pennsylvania Department of Agriculture requirements to record all herbicide applications on a daily basis and retain for three years. See section 13.4 Herbicide Vegetation Control for additional information.
2. To satisfy the National Pollutant Discharge Elimination System (NPDES) regulations, Record Keeping, by documenting Department and Contractor herbicide work in accordance with the Pennsylvania Department of Environmental Protection.

3. Optional for other roadside activities including but not limited to mowing, tree removal, rest area maintenance, seeding, landscaping and plantings.
4. Not required if the roadside maintenance falls within the scope of a contractor's obligations under a construction project.

The completed M-609 for contract work, serves as documentation for work performed, materials and equipment utilized and hours worked. New contractors should be provided with the [M-609](#) Accessing Ipad App by PennDOT Business Partners if they do not already have access to the M-609 mobile app.

The contractor's Confirmation of Services must agree with the M-609's.

See [Management Directive 310.31](#) for additional information on contract payments.

## 13.2 VEGETATION MANAGEMENT

Our program of vegetation control involves three major functions: mowing, herbicide spraying and tree trimming or removal.

### PURPOSE

Roadside vegetation management is intended to provide for the safety of the traveling public; stewardship for adjacent property owners and responsibility to Commonwealth taxpayers. Utility, economy and beauty are also provided to the roadside area. Utility is provided by stabilizing roadside soils, preventing erosion and by growing and encouraging desirable vegetation in place of undesirable vegetation. Economy is provided by the selection of vegetation such as Crownvetch which needs no mowing or fertilization, low maintenance grasses which reduces mowing or other types of sustainable vegetation which can withstand roadside environment. Beauty is provided by green and well maintained turf, plantings of trees and shrubs, wildflowers for pollinators, Crownvetch, the propagation of native plants (Mt. Laurel, Rhododendron, Dogwood, etc.), and the screening of department facilities.

### OBJECTIVE

The objectives of Chapter 13, Sections 1-6 are to identify the various methods by which roadside vegetation successional development can be managed to accomplish the purposes mentioned above. Methods available can be broadly classified as biological/cultural, chemical and mechanical/manual. This is collectively identified as an Integrated Vegetation Management (IVM) program.

### BIOLOGICAL/CULTURAL

These practices involve the use of desirable plants, beneficial insects and fungi to limit or abate the growth of undesirable plants. Several of these beneficial biological vectors are utilized for control of gypsy moth, mile-a-minute vine and several types of thistles. Culturally, Crownvetch and fine fescue grasses are used for their ability to establish and suppress unwanted weeds, for beautification and conservation purposes. Crownvetch has shown the ability to suppress the invasion of forest tree species and to extract nitrogen from the air to sustain healthy growth without any maintenance fertilization. Encourage pollinator friendly areas where volunteers can be utilized without compromise to safety or pavement preservation.

### CHEMICAL

Herbicide applications are an essential part of a sound, economic vegetation management program. Selective, non-selective, basal stem and plant growth regulator applications are the main control methods. The cost effectiveness of managing roadside vegetation with specific herbicides is well documented and is an integral part of the Department's IVM program.

### MECHANICAL/MANUAL

Mowing, brush cutting, tree trimming and removal with equipment operated by skilled personnel has been and will remain an important part of the roadside vegetation management program. Mowing has been and will remain the foundation of the IVM program and basic to vegetation control. Urban areas in particular do not lend themselves to biological/cultural and many herbicide management practices. However, managing

vegetation by mechanical/manual techniques is costly, energy consuming and in many cases a traffic control/safety problem.

### QA PROGRAM

Roadside Planning and Operational Quality Assurance Program reviews are scheduled for the first quarter of the calendar year contingent upon current policies and resources. A BOMO Maintenance section will review each district for the following:

1. QA form filled in with the purchase order numbers for the stated operation and time frame under review
2. monthly monitoring documentation for the past spray season
3. herbicide usage report available in RoSA showing all herbicide records as approved for the year under review
4. completion maps available in RoSA showing all herbicide records as approved for the year under review
5. work plans for the next growing season in the planned folder
6. planning map copies in planned folder
7. planned herbicide acres form in planned folder
8. applicator list in planned folder
9. [NPDES](#) permit referenced in application contracts

The laws and policies covering vegetation management are noted mainly in section 13.5 with additional policies in sections 13.3, 13.4 and 13.6. Vegetation refers to trees, shrub, other plants and grasses.

## 13.3 MOWING (ASSEMBLY 714-7711-01 & 02)

### GENERAL

Roadside mowing is an essential maintenance activity which contributes to motorists' safety, sign visibility, vegetation control and roadside appearance. Mowing is required to maintain safe unobstructed views at intersections, traffic divider islands, driveways, signs and official/emergency median crossings. The increased use of smaller vehicles compounds the sighting problems caused by overgrown vegetation.

Mowing is an essential activity of the IVM program and must be routinely performed in designated areas to prevent growth and development of noxious/invasive weeds and trees. Proper and timely mowing creates a favorable public impression of highway maintenance. The public's conception of highway maintenance is frequently based upon visible features such as height of grass, presence of weeds and litter, or the encroachment of brush and tree limbs into the roadway.

### POLICY

Annual mowing schedules and cycles shall be determined by the District Roadside Specialist and County Maintenance Manager guided by Standard Limits of Mowing (13-5, 13-6) and conducted based on financial, climatic, environmental or emergency conditions that exist.

**The District Roadside Specialist shall be responsible for advising the County Maintenance Managers on the technical aspects of grass maintenance and herbicide applications.** Maintenance Managers shall monitor county programs to assure that mowing equipment is cutting to uniform heights. The cutting heights shall be determined by the number of mowing cycles per year.

Note: Slopes flatter than 3:1 shall be mowed once annually beyond the Type "L" mowing to designated mow lines. Beyond 10' refer to Figure 3 (Standard Limits Woody Growth;page13-36).

### NO MOW AREAS

1. Behind designated mow lines or no mow areas. Cut or fill slopes, medians or interchange infield areas established to Crownvetch, wildflowers, reforestation, installed landscapes or other stands of

desirable plants. These areas could be considered "pollinator areas" for local and transient species of pollinators (i.e. butterflies, bees, etc.).

2. On any slope area steeper than 3:1, or flatter where the equipment may damage turf or capsize. Refer also to Figure 3 (Standard Limits Woody Growth; page 13-36).

Optional: Mow lines may be permanently established by placing three foot high channel bar posts, on 50 foot centers, around the area to remain unmowed. Every third or fifth post should have the standard A2-1-1 MOW/LINE sign affixed to the top of the post. The District Roadside specialist is responsible for determining, altering and designating establishment of mow lines. Promptly repair damaged signs and posts.

## **MOWING PROCEDURES**

### **ESSENTIAL STEPS FOR EFFICIENT OPERATIONS**

Scheduling personnel must consider the following items for efficient mowing operations:

#### **1. The Grass Growth Inhibitor Application Schedule**

Herbicides are available to control the height and seed head formation of many grasses. The economic value of a grass growth inhibitor program is dependent upon the following factors:

- A. Cost of material and application as compared to cost of conventional mowing.
- B. Acreage of treatment involved and ability to treat at the optimum stage of growth for maximum control.
- C. Required mowing before or after treatment to attain maximum control.
- D. Traffic hazard created by presence of mowing equipment throughout the summer.

The District Roadside Specialist shall be responsible for the development of the program for plant growth regulators.

#### **2. The Broadleaf Weed Control Application Schedule**

Herbicides are available to control broadleaf weeds and vegetation in grass areas where uniform texture and height are desirable.

No mowing is scheduled for one week before or after a herbicide treatment.

The District Roadside Specialist shall provide technical directions in the timing and application technique.

#### **3. Basal Stem Application Schedule**

Herbicides are available to selectively control woody invasion in reduced mowing areas during the growing and dormant times of the year.

#### **4. Preliminary Litter Pickup Schedules**

The cleaning of the mow areas before mowing must not be a responsibility of the mower operator, or mowing production will be greatly reduced. However, any litter or debris which has accumulated in the mowing area between the cleanup and actual mowing must be removed to prevent equipment damage, being thrown into passing vehicles or unsightly aftereffects. One of the major causes of mower equipment downtime is attributed to hitting vehicle parts, rock sand litter, tires being punctured by glass, portions of reinforcing rods and protruding remnants of channel bar or telespar posts.

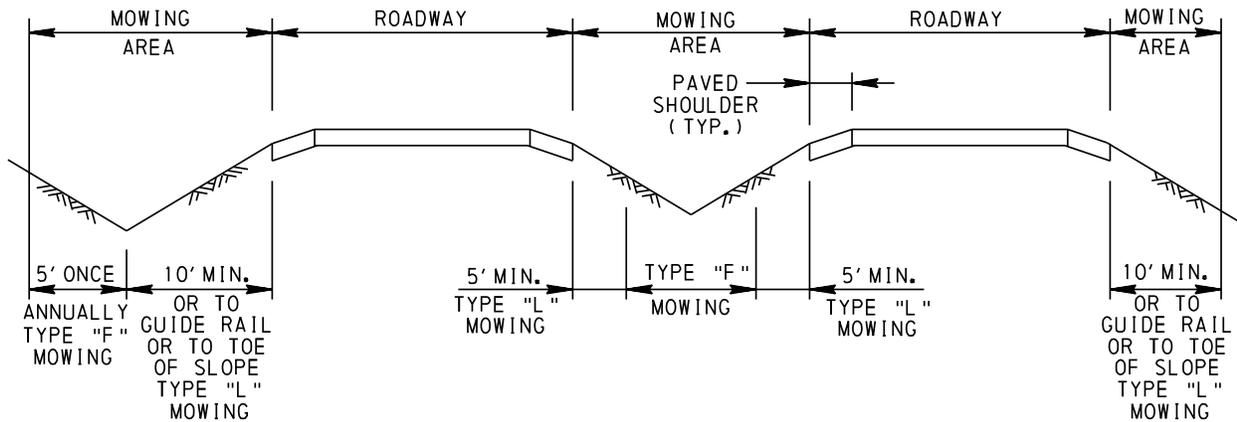
#### **5. Route Scheduling and Operating Time (Department Equipment)**

Each foreman shall develop an efficient routine for carrying out the mowing operation to be performed in their area.

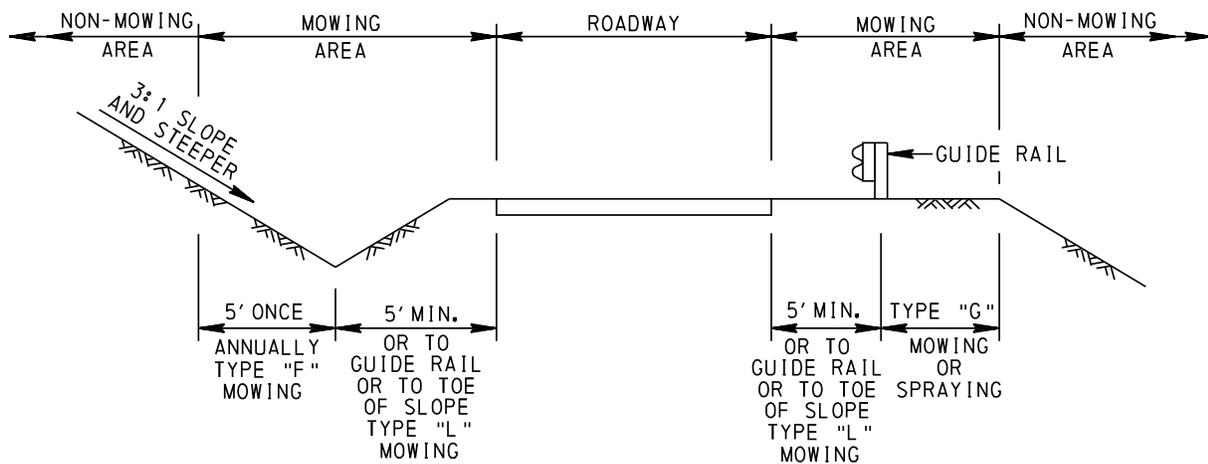
A planned method of operation will minimize unnecessary doubling back and excessive turning and maneuvering. The schedule and routine should allow the operator(s) to efficiently mow going out and again on the return trip. There should be little or no dead heading. A scheduling system, similar to that developed for snowplowing, identified on county maps will increase operational and administrative management efficiency.

# STANDARD LIMITS OF MOWING

**FIGURE #1**  
**MOWING FOR FOUR OR MORE LANES**  
**UNCURBED HIGHWAYS**  
 (NOT TO SCALE)



**FIGURE #2**  
**MOWING FOR TWO OR THREE LANES**  
**UNCURBED HIGHWAYS**  
 (NOT TO SCALE)



**STANDARD LIMITS OF MOWING (Continued)**

Mowing Types

- “L” Mowing is restricted to a single pass and the right side of the travel lane shall be cut to the minimum in Figure #1 or #2 where achievable or to guiderail or toe of slope. Widths greater than the minimum are allowable if accomplished within the single pass.
- “F” Mowing is full-width with multiple passes and shall be done once annually after July 1st or every other year to eliminate woody plant establishment and maintain the 30 foot recovery zone or to the limits of the right of way. Consider extending type “F” mowing cycles to two years where achievable.
- “G” Mowing is behind guiderail using a boom arm mower to the maximum of eight feet as described in Chart A for the various types of guiderail and shall be done once annually or every other year. Proper selective herbicide treatment may be performed in complement or in place of mowing.

Non-mowing areas are maintained with selective herbicide treatment.  
 Guiderail areas are maintained with non-selective herbicide treatment.

Type “L” Mowing Limits – minimum mowing widths of a single pass

(uncurbed)	<u>4 or more lanes</u>	<u>2 or 3 lanes</u>
Right side	min. 10’	min. 5’
Median	min. 5’	min. 5’
Back of Swale (once annually)	min. 5’	min. 5’
Interchanges & Traffic Islands	min. 5’	min. 5’

To handle seasonal fluctuations, the district executive may expand mowing widths in type “L” cycles on a year by year basis in affected areas to maintain sight distance at crossovers or gore/ramp areas and to control noxious weeds. Cut the back slope of a swale annually after July 1st to maintain a clear drainage channel and adequate sight distance of signs where it is possible to achieve.

<u>Mowing Cycles</u>	<u>Urban</u>	<u>Rural</u>
Limited Access	3 to 5	1 to 3
Other roadways	2 to 4	1 to 2
 <u>Mowing Heights</u>	 <u>cutting cycles/year</u>	 <u>minimum remaining height</u>
	3 or more	4”-6”
	1 or 2	5”-8”

Grass shall not be cut lower than 4 inches in areas with 3 or more cutting cycles. Grass shall not be cut lower than 5 inches in areas with less than 3 cutting cycles.

General

Do not mow within eighteen inches of landscape trees and shrubs. District Roadside Specialist determines mowing beyond standards for a particular area due to vegetation management objectives such as sight distance, drainage and invasive weeds.

Increasing the amount of actual operating time on a piece of equipment is of major importance in reducing the cost of carrying out an efficient mowing program. The following are considered necessary for a proficient operation:

- A. Hand mowing and the use of small mowers shall be kept to a minimum. Mowing of this classification is to be confined to those areas where tractor mowers cannot operate or grass growth inhibitor use is unavailable or ineffective.
- B. Each mower crew must leave their headquarters on time daily.
- C. All equipment operators shall check and inspect their equipment thoroughly before leaving their headquarters. The mower cutting height must be checked daily or a "stop" permanently affixed to insure that the minimum height which is dependent on a number of yearly cycles is achieved after cutting. Each operator shall obtain the following days work area assignment at the close of work. This information is indicated on Form 6146 (weekly work schedule).
- D. When it is inappropriate to return equipment to the county or to a satellite maintenance building for overnight storage, the operator should seek permission to park the equipment in a well lighted and secure area, at a service station or other recognized area. (The operator or foreman must arrange to place the equipment on the gas truck schedule for routine servicing.)
- E. The foreman must insure that all personnel assigned to tractor mowers are certified operators. It is their responsibility to take or recommend disciplinary action against any operator(s) who damage plants or plantings or equipment through careless or irresponsible actions.
- F. Correct Type and Number of Mowers to "Fit" the Mowing Section. MFC A & B highway systems are characterized by wide, fully graded medians with 6:1 to 4:1 sloped grass roadside areas adjacent to paved shoulders and interchange areas. These systems carry the major volume of traffic. In order to maintain uniformity of mowing treatment and reduce the effects on traffic flow, the operation should be performed quickly and with maximum regard for traffic safety. Mowers capable of mowing large swaths without throwing litter into traffic should be utilized. Irregular areas and any "cleanup" mowing required should be performed by a smaller piece of equipment working with the large mower as required. This tandem operation will simplify traffic protection signing and permit assistance in case of breakdown.

For other highway systems which require shoulder or limited one swath slope mowing, the tractor mowers with underslung rotary and/or side mounted cycle bar or flail should be utilized. Operating independently, this equipment can, throughout the mowing season, normally accomplish the mowing cycles required and handle the majority of mowing complaints. Utilize equipment that minimizes clumping of the cut material.

### **CROWNVETCH AREAS**

Pennsylvania's Beautification Conservation plant Penngift Crownvetch has been so proclaimed by the 165th Pennsylvania General Assembly under Act No. 150 on June 17, 1982. Many complaints are received from adjacent property owners and the motoring public when mowing of any Crownvetch occurs. However, where Crownvetch grows into the mowed grass areas established at interchanges, medians or roadside areas, it should be controlled by mowing and/or broadleaf weed control applications. No Crownvetch shall be mowed on slopes or other areas where it has been established for (1) erosion control, (2) as a low maintenance vegetation in interchanges and median areas, or (3) as a vegetation to suppress forest invasion. The District Roadside Specialist shall select and direct the vegetation management program for these areas so that ultimately a stable vegetative community is attained.

Mowing within the right-of-way by adjacent roadside property owners may be authorized on a limited basis where appropriate, under the provisions of a Vegetation Management Permit ([M-688](#)). This is a no-fee permit procedure which will protect the Department's interest in the affected vegetation and save the Department and its employees from any property damages or claims resulting from it.

## **CONTRACT MOWING**

Contracts for county mowing will be coordinated through the District Roadside Specialist, but contract mowing inspection, acceptance and invoicing shall be conducted by and through the Maintenance Manager and their organization. Modifications to this procedure are possible if suitable resources and personnel warrant it.

Mowing schedules, frequency, traffic protection, quality, liability and other requirements are defined in each mowing contract.

## **MOWING SAFETY**

All mowing operations are to be performed in compliance with [Pub 213](#).

Department equipment operators must routinely (daily as a minimum) inspect cutting blades, teeth, tines and shields to assure that all mower parts are secure and not subject to being thrown into passing vehicles or onto adjacent property.

Personnel mowing with small mowers and other approved equipment must be careful to maintain good footing and be constantly aware of the proximity of fellow workers. The foreman must insist on a safe spacing distance between workers using cutting tools.

## **13.4 HERBICIDE VEGETATION CONTROL**

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### **POLICY**

The Department conducts annual herbicide programs to economically and effectively manage roadside vegetation within each county. The Department's position on the use of herbicides is covered and may be quoted as per the sample letter (Herbicide Use Position) included in this section.

### **PURPOSE**

The purpose of herbicide application is to control or eradicate noxious and invasive plants, as required by law, and to control other undesirable vegetative growth within the highway right-of-way. Through prudent and timely application of herbicides, the frequency of side dozing, mowing, tree trimming and future tree removal is substantially reduced. This represents cost savings in maintenance operations, savings in energy consumption and a reduction in motorist/maintenance activity conflicts.

### **PROGRAM CONTROL**

Herbicide material, application technology, Federal and State regulations and public acceptance are continually changing in this program. Close coordination and communication must be maintained between the Department's representative on the Governor's Pesticide Advisory Board, Governor's Invasive Species Council, District Roadside Specialist personnel and county maintenance operations, if maximum benefits are to be attained. Each complaint must be promptly investigated.

### **HERBICIDE USE POSITION**

All motorist and highway frontage residents are exposed to the Department's roadside vegetation management practices. It is prudent that all people impacted by this program understand the Department's concerns, herbicide policies and practices relative to roadside vegetation management.

The first priority in the management of roadside vegetation in Pennsylvania is to maintain a safe travel way which is free of obstructing vegetation. Generally, herbicide spraying accounts for less than 25% of our total vegetation management program, and is based upon legal, moral, administrative and financial dictates. The roadside aesthetic quality is influenced by the local environment, financial resources available for maintenance and the effectiveness of the planning and implementation of the DRS. The use of beneficial insects, desirable vegetation and appropriate herbicides are all employed by the Department to control the invading forest and undesirable growth. The Department uses modern herbicides primarily because of the financial advantages, safety and effectiveness these chemicals have provided.

The vegetative succession is complicated by the individual or collective desires of our twelve million residents, highway construction and reconstruction programs which keep roadside vegetation in a near perpetual state of pioneer plant development. Most pioneer species such as brambles, locust, sumac, etc. are undesirable "Front Yard" vegetation.

[Controlled Plants and Noxious Weeds law](#) (2017, Oct. 30, P.L. 774, No. 46) and subsequent legislation identifies Canada Thistle and Giant Hogweed as some of the weeds which must be controlled from spreading to adjacent land. The Department is morally obligated to control or destroy poison ivy and other roadside vegetation which adversely affects thousands of motorists and roadside visitors.

Administratively, it is the Department's policy to conduct a herbicide application program each year along segments of the state highway system, in order to eradicate or control undesirable vegetation and to reduce expensive roadside mowing and brushing activities. Our employees' leave usage attributed to the effects of poison ivy and other noxious and irritating vegetation is reduced in direct proportion to the effectiveness of a herbicide program. Financially, there is an enormous saving through the utilization of herbicides as compared to performing these vegetative management operations with hand labor, mechanized equipment or by other means.

The Department's policy regarding herbicides is to follow an environmentally sound approach by using Best Management Practices (BMPs) such as refraining from applying restricted use materials and avoid controlling vegetation in standing or running waters of the Commonwealth. All herbicides, which are one of many types of pesticides, must be approved by the Environmental Protection Agency (EPA) and registered for use in Pennsylvania by the Pennsylvania Department of Agriculture. Herbicides are applied by certified applicators by certified applicators with approval and licensing as required by the Pennsylvania Pesticide Act as amended. Our program is carefully planned and monitored to assure the most effective and environmentally safe results. The safety of pesticides (particularly the herbicides used along Pennsylvania's roads) are given additional credence by the intensive research and laboratory tests required by the EPA prior to approval for marketing.

The Department also retains a research contract with Penn State University's College of Agriculture, for the purpose of evaluating our overall management practices and herbicide screening. In addition to the evaluations concerning pesticides, they are also examining the feasibility of using low maintenance grasses and/or groundcovers along the roadways in order to minimize the need for chemical controls.

Laws and other resources directing pesticide use in Pennsylvania include the federal Insecticide, Fungicide, and Rodenticide Act as amended; the Pennsylvania Pesticide Act of 1973 as amended and new NPDES regulations at 25 Pa. Code Chapter 92a effective October 9, 2010, as amended. Other valuable sources of information relative to pesticide safety and uses are:

1. American Council on Science and Health  
110 East 42nd Street, Suite 1300  
New York, NY 10017
2. National Agricultural Chemical Association  
1155 15th Street, NW  
Washington, DC 20005
3. U.S. Dept. of Health & Human Services  
200 Independence Avenue, SW  
Washington, D.C. 20201
4. Mid-Atlantic Regional Office (Region 3)  
U.S. Environmental Protection Agency  
1650 Arch Street  
Philadelphia, PA 19103 - 2029
5. Pennsylvania Department of Agriculture  
Bureau of Plant Industry  
2301 North Cameron Street  
Harrisburg, PA 17110
6. PA Dept. of Environmental Protection  
Rachael Carson State Office Bldg  
400 Market Street  
Harrisburg, PA 17105

Considering safety, cost and effectiveness, it is impractical to attempt vegetation control on 150,000 acres of right-of-way utilizing only the mechanical methods. Based on all the available facts and data, including best management practices nationwide, the mechanical removal of vegetation have a higher financial, greater traffic disturbance, increase traffic safety concern and negative employee safety impact in comparison to a chemical-based vegetation management program.

The management of vegetation along Pennsylvania's highways is a diverse and sizeable task, accomplished in constant view and scrutiny of the public. With due respect to the safety of the traveler as well as the safety of all our citizens, the Department of Transportation seeks understanding and support for this program.

The Department may negotiate, on a case by case basis, a Vegetation Management Permit ([M-688](#)) whereby the abutting property owner would be responsible for vegetation control in return for the Department not using herbicide spraying. This permit would require an indemnification agreement supported by insurance in an amount sufficient to cover any Department liability.

## PROGRAM REQUIREMENTS

1. All personnel involved in this program must be Certified Applicators or otherwise meet the requirements of the PA Pesticide Act as amended, and utilize all herbicides in accordance with labeled instructions. The misuse of herbicide materials is a violation of State and Federal law. It places the applicator, supervisor and the Department in a position for a lawsuit and jeopardizes the Department's entire pesticide program. Each material and program requires separate precautionary practices in handling and application.

For both Department's and Contract applications, a Pesticide Application Business License is required. All vehicles involved in the operation shall have the BU (Business License) number displayed (in 3 inch high letters and numbers) on both sides of the vehicle at a readily visible location. All applications shall be made by either a certified applicator or a noncertified employee acting with the instructions and under the control of a certified applicator physically present at the application site, the certification for the applicator shall be in Right -of- Way Category 10 for Roadside applications and Park Pest Control Category 23 for Safety Rest Area and Roadside Rest Pest Controls. **Where contract applicator services are required, contracts are to be developed by the District Roadside Specialist with standard specifications appropriate for the activity.**

2. All herbicides used must be
  - a. Registered with the U.S. Environmental Protection Agency (EPA)
  - b. Approved for use in Pennsylvania by the PA. Department of Agriculture (PDA)
  - c. Labeled for use along highway right of way
  - d. Listed on the current annual Department herbicide list given to the PA Department of Environmental Protection (DEP)

Only those herbicides listed on the annual report to DEP for the current calendar year shall be utilized in Department programs.

**Any requested additions to the annual herbicide list goes through the District Roadside Specialist and provided to the Bureau of Maintenance and Operations (BOMO) by December 31st of the prior year so it can be included if appropriate in the BOMO annual report to DEP.**

Both Department and contract applicator personnel and equipment are involved in applying herbicides. When the department purchases herbicides for department or contractor applicators, the herbicides are purchased, stored and dispensed through the R/3 SAP Plant Maintenance system. When contractors are required to purchase material (performance based or in contract specifications), the department will specify a list of acceptable materials for each spraying function. A Department representative must be delegated the responsibility for assuring that all herbicide material dispersed to any pesticide applicators, is utilized along highways programmed and that all unused material is returned and credited to stores.

3. As noted in the Introduction, Section 13.1, form M-609 is the control document in this program and indicates, in part, the herbicide used, ratio of mixture, date, location and climatic conditions at time of application and other necessary information.

The M-609 forms are entered, reviewed, approved and stored through a mobile application and in an intranet database (RoSA - Roadside Spray Application) for a minimum of three years. The associated county treatment maps are generated in the RoSA system. Any paper completion maps are retained in the District Roadside Specialists office for a period of three years.

4. The DEP [NPDES permit](#) for Pesticide application requires an annual usage report, monitoring and an annual herbicide list. All applicators, department force and contractors need to be aware of the DEP NPDES permit and the permit requirements while knowing their own response plans for spills and adverse incidents. The evaluation of new products shall be sanctioned and coordinated through Central Office and when products demonstrate beneficial results and meet minimum procurement policy requirements, they are placed on the statewide pesticide contract.

### NPDES PERMIT RESPONSIBILITIES

- **District Roadside Specialist will monitor spray applications and document two per month from May through September.** Utilize the [Monitoring Documentation Form](#) (M-715).
  - District Roadside Specialist will reference the [NPDES permit](#) in spray contracts and inform all operators and their applicators reporting responsibilities. Operators include PennDOT spray contractors and PennDOT spray crews.
  - Operators follow Appendix C of the permit for documentation and reporting requirements for: 1. Correction Actions, 2. Adverse Incident and 3. Reportable Spills and Leaks. Additional spill information is location in [Pub 611 Vol 2](#).
  - District Roadside Specialist report herbicide usage for the calendar year by December 31st as designated by BOMO.
  - **Assistant Maintenance Managers in each county will look for and note off-target herbicide applications throughout the year and during your annual survey of their roads.**
  - Report off-target observations to the District Roadside Specialist.
  - Applicators, contractors and department county managers shall understand the reporting requirements for a reportable spill and an adverse incident. After initial mitigation response, applicators shall notify their chain of command and the District Roadside Specialists of reportable spills or adverse incidents especially when DEP may become involved. State corrective action in the reporting process when appropriate.
5. Timely responses to complaints is essential for favorable public opinion, sample collections, documentation and program acceptance.
  6. Herbicide treatment records associated with permits, utilities and others within the highway right-of-way must have approval in accordance with State Highway Laws and Regulations as amended. Copies of permits or other approval documents shall be filed with the District's county program accomplishment maps for the application year and retained for a minimum of three (3) years.

### PRE-APPLICATION REQUIREMENTS

Ground application contracts are to be solicited so that no contractual and operational interruption occurs during the application season.

A multi-year renewal option should be included.

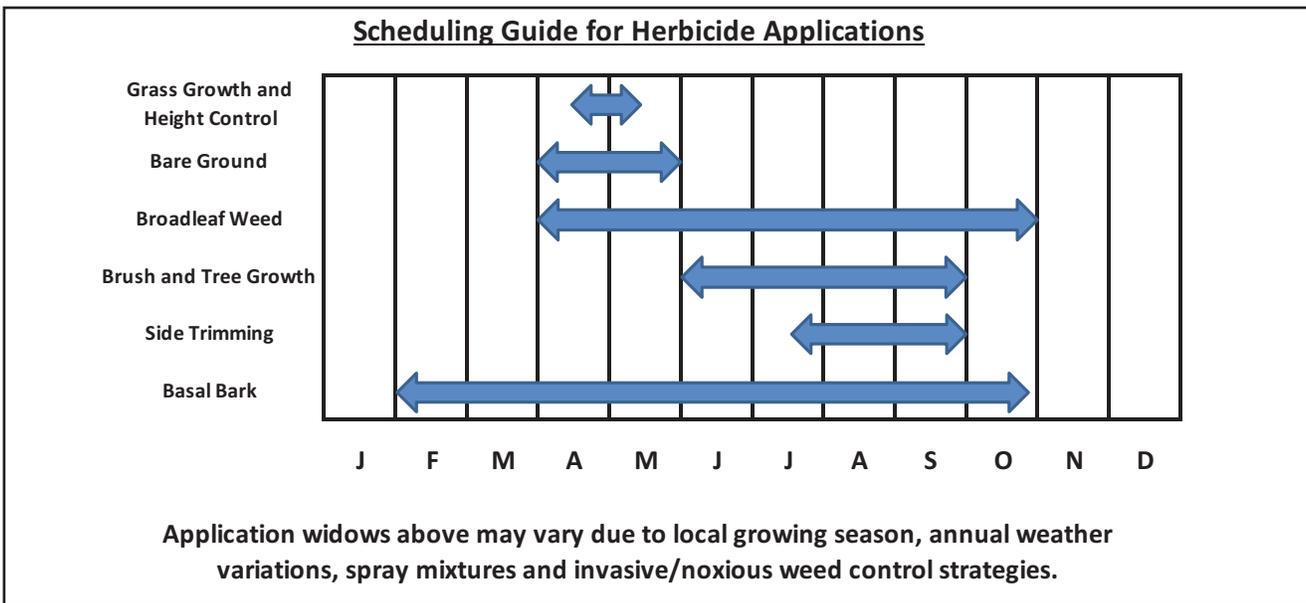
The cardinal rule in herbicide application is to read the label and not violate any of the instructions which could lead to claims for improper use. The District Roadside Specialist is the individual to consult for directions on specific application rates and techniques as the labeled information relates to their roadside vegetation management program.

Prior to the application of any herbicide material, personnel training and calibration of equipment are required to assure the proper application rate for the area and vegetation treated. Each piece of equipment will require this calibration weekly and at the beginning of each spray program or different spray combination.

Additional guidelines are covered in the Foreman's Manual Pub 113 Activities numbers 714-7711-03 thru 714-7715-03.

**PROGRAM PREPARATION**

The District Roadside Specialist is technically responsible for the District herbicide program. The District shall assist and/or direct the Maintenance Manager in the preparation of county program maps and monitoring of the program. This involvement includes the selection, storage and proper dispersal of herbicides, the inspection of Department and contract applications and monitoring of the programs.



**COUNTY MAP PREPARATION**

Prepare two county program maps for each county in the District by December 31st for the next calendar year. Bureau of Maintenance and Operations personnel will review the maps as part of the Roadside Planning review conducted during the first quarter of the calendar year. The following color coding is to be utilized.

<u>Program</u>	<u>Herbicide Material or Use Areas</u>	<u>Color Coding</u>
7711-02 (Mechanized Mowing) . . . . .	Tracking mowing operations . . . . .	Green
7711-03 (Chemical Mowing). . . . .	P.G.R.'s (Plant Growth Regulators) . . . . .	Lt. Green
7712 (Non-Residual Selective) . . . . .	Residual (Non-Selective). . . . .	Red
7713 (Selective Brush Control) . . . . .	Broad leaf weed and brush control . . . . .	Brown
7714 (Selective Tree Growth & Control). . . . .	Materials for brush and tree growth control and side trimming operations . . . . .	Blue

- 7715-02 (Mechanized Tree Cutting) . . . . . Tracking tree operations . . . . . Purple
- 7715-03 (Basal Stem) . . . . . Low volume stem applications . . . . . Orange
- No Spray Areas . . . . . Yellow

Where all routes in a geographical portion of a county are being treated uniformly, appropriate color shading or cross hatching, rather than coloring each route separately is acceptable.

If color blindness prevents distinguishing the map colors above, cross hatching and lines with symbols can be established and identified in the legend. Work with BOMO to update this section and develop symbols for each program for statewide usage.

Along with the preparation of the proposed program maps, one county map indicating the county's current year accomplishment is also required if not available in RoSA.

**HERBICIDE APPLICATION**

Under the five assembly activities, covering herbicide application, there are five distinct vegetation control objectives and respective coding as follows:

- Grass growth and height control -attained with grass growth regulator chemicals (Cost Function 7711-03).
- Bare ground -attained with non-selective herbicides (Cost Function 7712).
- Broadleaf weed, brush and tree growth control attained with selective herbicides (Cost Function 7713).
- Side trimming, forest invasion, and canopy thinning attained with the selective herbicide fosamine (Krenite), (Cost Function 7714).
- Basal Bark and Dormant stem applications (Cost Function 7715-03).

**1. GRASS GROWTH AND HEIGHT CONTROL**

Most herbicide manufacturers have been diligently evaluating grass growth regulators to reduce or replace mowing requirements, conserve petroleum products and reduce mowing cycles and the frequency of conflict between mowing equipment and highway traffic. (A major safety consideration).

Research conducted by Penn State University has resulted in the recommendation of several materials or combinations of materials which are effective in suppressing leaf growth and seed head formation of grasses. The recommendations are listed in the Penn State research project annual reports supplied to the District Roadside Specialists.

Primary treatment areas are those which are difficult or impossible to mow, or all mow areas if determined to be economically feasible. Areas at guiderails and other roadside areas where height of vegetation must be controlled while preserving the vegetative turf for erosion control, should be prime target areas.

Treatment can be made using ground equipment. Adherence to labeled instructions is particularly important when using lower rates of herbicides per acre to control growth while not damaging the plant to assure quality of results.

Where broadleaf weeds infest these mow areas the inclusion of a compatible weed control herbicide is recommended.

**2. BARE GROUND OBJECTIVE**

Herbicides which are identified as non-selective are utilized for this purpose. They are selected by the District Roadside Specialists based upon their ability to work effectively and control and/or prevent any vegetation from growing in the treated area. There are both pre-emergence herbicides, (those which are applied to the soil area before any vegetation appears in the spring), and post-emergence herbicides, (those which eliminate vegetation which is present at time of application).

## AREAS, MATERIALS, TIMING AND PRECAUTIONS

Primary treatment areas are joints in concrete divisors and paved traffic islands, areas beneath the guiderail, around headwalls, delineator and sign posts in mow areas, in storage yards and at other areas where any vegetation is objectionable. With a few exceptions, most non-selective materials work through the soil and root system of plants in the treated areas. For preemergence materials, best results are obtained by early spring treatment after the soil is thawed, but before vegetation growth appears. Treatments made after growth appears (post-emergence) requires the use of herbicides which possess both foliar and residual control properties or a combination of herbicides to accomplish complete and season long vegetation eradication.

Special Considerations should be made under the following conditions:

- Adjacent to trees, shrubs or lawns where the spray material may penetrate the soil and effect the root system of desirable plants or where rainwater may flush over the treated area and move the applied herbicide into the root system area of desirable plants or turf.
- Where the adjacent landowner is maintaining the area by mowing or other acceptable method.
- Where the soil areas have been seeded, sodded or vegetatively treated to prevent soil erosion, i.e., guiderail areas on newly seeded construction projects, etc.
- Where soil erosion is taking place or where road drainage is concentrated and discharging over a fill slope or onto private property.

### 3. WEED CONTROL

#### A. BROADLEAF WEEDS

Herbicides developed to control broadleaf weeds, including Giant Hogweed, Canada thistle, and other noxious weeds as identified under the Controlled Plants and Noxious Weeds Law (2017, Oct. 30, P.L. 774, No. 46) and any current legislation that preempts it are broadly classified as selective herbicides. The presence of and need to control undesirable plants is a continuing science. The economic, legal, aesthetic and moral factors are all interrelated in this program.

#### DEPARTMENT RESPONSIBILITY

**ECONOMIC** - By controlling weed growth in mow areas, the frequency of mowing is reduced substantially, and turf quality is greatly enhanced, providing the maximum soil stabilization and erosion control for the roadside area.

**LEGAL** - Safety for the traveling public and a safer work environment for our employees are the major priorities of roadside maintenance. The State Highway Law of 1945 as amended and other related statutes address the responsibility for highway maintenance to the Department. Appropriate and consistent vegetation management provides a safer roadway environment and thereby reduces the Department's exposure to tort liability. Additionally, the use of herbicides is crucial to the control of noxious weeds and compliance with the state law regulating the growth and spread of these weeds. The Pennsylvania Pesticide Act controls the use of these materials in Pennsylvania including the requirements regarding hypersensitive individuals.

**AESTHETIC** - An attractive roadside is the secondary benefit of a sound vegetation management program. The major purpose of maintaining and controlling vegetation along the highway is to provide safety for the traveler, pavement preservation and to assure the stability of the roadway section. The aesthetic quality attained by well managed and weed free roadside turf areas reflects favorably upon the Department and its maintenance ability. Most motorists and roadside tenants have very definite opinions as to what represents quality roadside maintenance and form opinions of our overall program by the aesthetic quality of our roadsides.

MORAL - The Department is obligated to cultivate the goodwill of both the motorist and roadside neighbors. We are morally obligated to maintain our roadside vegetated areas to a quality compatible with the adjacent culture. In urban and developed areas, we should maintain the roadside area to a higher degree than is demanded through agricultural forested areas, i.e., all weedy plant growth should be controlled in the early stages of growth to prevent seed development and possible contamination of adjacent lawns and gardens. Ragweed, poison ivy, and similar vegetation which is physically discomforting to the motorist or our roadside neighbor should also be eradicated or controlled by broadleaf weed control applications in compliance with our moral obligation.

#### **MATERIAL SELECTIONS, TIMING AND PRECAUTIONS**

The "Research Reports" compiled from the research project retained with the Pennsylvania State University College of Agriculture Sciences are the primary sources of information relative to the methods and materials best suited for roadside vegetation management functions. Also, review and follow methods and procedures outlined in the Foreman's Manual and in this chapter.

For all pesticide applications but especially broadcast foliage, extreme care must be exercised as many adjacent agricultural crops and other vegetation are sensitive to these herbicides.

#### **NEVER SPRAY:**

- When wind speed exceeds 10 mph or when debris is being blown around.
- Terrestrial vegetation in standing or running waters of the Commonwealth
- Near homes, gardens, flower beds, lawns, through towns, and villages or beyond the right-of-way.
- 2, 4-D or related material on Crownvetch in an effort to eradicate or control scattered objectionable plants growing in a predominately pure stand of Crownvetch. Use materials or methods which will not damage the Crownvetch or open a soil area to future weed invasion.
- When it is raining. When rain does occur within one hour of treatment, retreat the area, unless label directions indicate otherwise.
- With untrained or unqualified personnel. Training must be conducted annually due to changes in materials, equipment, techniques, rules and regulations or program adjustments.

#### **B. BRUSH AND TREES**

Perhaps more than any other herbicide program, the broadcast foliage application conducted for the control of brush and small trees, generates the most criticism. This is due to dead foliage resulting from the herbicide application, which (with the exception of fosamine) creates a "brown-out" when all adjacent or untreated foliage is alive and green.

Selective herbicides are available from the statewide pesticide contract and based upon their ability to control brush and tree growth, are to be selected for this program by the District Roadside Specialist.

The need to utilize herbicides, other than fosamine, in this control program is dictated by:

1. The relative resistance of certain plant species such as Box Elder, Wild Cherry, Sassafras and Aspen.
2. The need to apply herbicides throughout the growing season to effectively utilize personnel and equipment and complete the annual program.
3. The need to apply herbicides to control individual plants which are mixed in with desirable plants to be saved.
4. The need to perform some treatments in the late fall or early spring when foliage treatments are not appropriate or possible.

#### 4. SIDE TRIMMING FOREST INVASION AND CANOPY THINNING

Pennsylvania is 60% forested and roadside areas are continually invaded by forest tree growth. Controlling this invading forest through manual tree trimming and removal operations is five to ten times more costly than by the use of the herbicides.

The development and use of the herbicide fosamine has enabled the Department to recover much ground lost in maintaining appropriate vehicular clearances, control forest invasion along highways constructed in the 1960's and 1970's, and reduce the shading (both summer and winter) created by tree branches over the roadway.

The application of fosamine from Mid-July through September permits herbicide penetration of buds and prevents any or the full development of leaves the following spring. Leaves that are present during this late summer application are generally only slightly discolored, therefore the "brown-out" condition does not occur to generate criticism. The leafless branches which occur the following spring are generally not objectionable or in most cases not obvious to the motoring public. Fosamine is not translocated to the unsprayed portions of the plant, therefore, only that portion treated is controlled.

Ground application equipment is ideally suited for fosamine side trimming and limited forest invasion control. Pioneer species such as Birch, Locust and Sumac are easily controlled and should be treated before they attain heights exceeding ten feet.

Where undesirable individual or scattered clumps of plants are developing in roadside areas or invading within thirty feet of the roadway, a dormant basal treatment is recommended. Where populations of these undesirable plants approach 1000 or more stems per acre, and are not intermixed with desirable plants, broadcast foliage applications of fosamine should be programmed. The width of treatment up cut slopes should be thirty to forty feet extending from the ditch line. The area behind the guiderail and down-fill slopes should be thirty to forty feet depending upon the shoulder width and fill gradient, i.e., the narrower the shoulder and the steeper the fill, the nearer the traffic will be to the encroaching forest vegetation, therefore the wider the treatment area. A combination of fosamine and broadleaf foliage herbicides are recommended when species, location and herbicide resistance warrant it.

Many roadways, particularly MFC C, D & E types, are completely canopied over by the tree branches and obstruct or hinder sunlight penetration. With the shading provided, roadway drying is therefore delayed. This greatly affects snow and ice melting and the frequency of snowplowing and use of salts and abrasives for motorist safety. Where canopy exists beyond acceptable spraying limits, cutting (ground to sky) may be the only option.

#### STORAGE AND HANDLING OF PESTICIDE PRODUCTS

A person may not use, handle, transport, store, display or distribute a pesticide in a manner that is inconsistent with its label; or endangers people or the environment; or contaminates food, fertilizers, seed or other products that may be handled, transported, stored, displayed or distributed with the pesticides.

All pesticides must be stored in accordance with the Department of Agriculture Regulations. Guidelines are as follows:

1. Enclosed heated building, with a minimum temperature above freezing. Not subject to water dampness or other adverse conditions.
2. Area must be completely enclosed and locked.
3. Adequate space available to accommodate the County's annual pesticide requirements; and to allow for similar chemicals to be stored together.
4. Area must be accessible for handling pallets of dry and liquid materials including 15 gallon containers.
5. Area must have windows or other means of ventilation if and when needed.

Only authorized individuals shall be permitted to sign out pesticide materials. These individuals must be certified applicators and generally include the District Roadside Specialist and/or designated county personnel.

The District Roadside Specialist should periodically inspect the storage area using the following checklist:

1. Locked when not in use?
2. Properly signed?
3. Have spill containment and a stocked spill kit?
4. Away from flammable materials, including petroleum products and gas cylinders?
5. Away from any floor drains and flood-prone areas?
6. Heated and protected from the elements?
7. All materials properly stored and labeled?
8. Pesticides separated from seed, fertilizer, food items or other products which could be contaminated?
9. Area neat and readily accessible?
10. Area be properly ventilated?
11. Adequate lighting?
12. Removal of outdated material by use or disposal.
13. Containment of leakage or spillage?
14. Containers off the floor?
15. Emergency response plan posted and filed with appropriate local agencies?
16. Current list of emergency phone numbers posted?
17. Dispersal records accurate and up to date?

For additional information, reference [fact sheet](#) entitled Herbicide and Pesticide Storage.

### **13.5 VEGETATION CONTROL POLICIES AND TREE OPERATIONS**

The following is an overview of the laws and policies governing this activity. Unless specifically noted, vegetation includes trees, shrub, other plants and grasses.

#### **VEGETATION CLEARANCE RESPONSIBILITIES**

1. "The Department of Transportation shall have the absolute right to trim, cut and remove any trees, grasses, shrubs and vines growing within the legal right-of-way of any state highway, and to trim and cutaway any trees, grasses, shrubs and vines growing on adjacent property insofar as they overhang or encroach upon the legal right-of-way of any state highway." [Act of June 1, 1945, P.L. 1242 (36 P.S. §670-410) as amended July 7, 1972, P.L. 738 Act No. 173] as amended.
2. "It is the duty of the property owner to remove from their property any tree, plant, shrub or other similar obstruction, or part hereof, which obstructs the view of any driver and constitutes a traffic hazard.

When the Department determines that a traffic hazard exists, it shall notify the owner of the property to remove the hazard within ten days." [Act of June 17, 1976, P.L. 162, Act No. 81'1 (75 PA C.S. §6112(b))]

The summary offense for non-compliance is \$10.00/day for each day the owner fails to remove it.

3. No trimming, thinning, damaging or removal of vegetation within the legal right-of-way of any state highway is permitted, unless a Vegetation Management Permit or other agreement has been issued. [(Act of June 1, 1945, P.L.1242 as amended July 7, 1972, P.L. 738, §1(36 P.S. §670-410)]
4. Where trimming, thinning, damaging or removal has been performed without a permit, and the individual is found guilty of a summary conviction, a fine of between \$100 and \$300 for each cutting, trimming, thinning, removal or damaging can be levied [Act of June 1, 1945, P.L. 1242, as amended July 7, 1972, P.L. 738 §1 (36 P.S. §670-410)].
5. Outdoor Advertising Devices

There is a distinction between vegetation control for the erection, repair or maintenance of a sign (which is prohibited) and vegetation control to remediate screening that has grown in front of lawfully erected signs (which is allowed). That is, vegetation cannot be trimmed or removed to facilitate repair or maintenance of a sign, but it can be trimmed or removed if it is screening the view of a sign.

### **MAINTAINING, REPAIRING OR ERECTING THE DEVICE**

- a. No vegetation located within any right of way that is part of a highway controlled under the Outdoor Advertising Control Act [Act of December 15, 1971, P.L. 596 (36 P.S. §2718.101 et seq.)] may be trimmed, thinned or removed in maintaining, repairing or erecting an outdoor advertising device. 67 Pa. Code §445.9(c) as amended.
- b. District Outdoor Advertising Control Manager should be consulted to determine [controlled highways](#).
- c. Vegetation management permit ([M-688](#)) may be issued along highways not controlled under the Outdoor Advertising Control Act.

### **RESTORING THE VIEWING ZONE**

- a. The Department is required to issue permits to off-premise and on-premise sign owners for control of vegetation that has grown in front of and is screening an existing lawfully erected sign if the sign owner meets the requirements of the Highway Vegetation Control Act, Act 79 of the 1983, 36 P.S. §2720.1 et seq. (Act 79 of 1983) as amended. The Department uses [M-700](#) permits for this purpose. Act 79 of 1983 applies to both off-premise and on-premise signs. All off-premise signs must have a Department permit to be considered lawfully erected; only on-premise signs beyond 50 feet of the advertised activity along the interstate system must have a Department permit to be considered lawfully erected.
  - b. Permits for Vegetation Control to Restore Viewing Zone for an Outdoor Advertising Device ([M-700](#)) may be issued for existing lawfully erected off-premise and on-premise signs on all types of highways – non-limited access highways and limited access highways, including interstates.
6. Driveways - Business and Private
    - a. Abutting landowner is responsible.
    - b. Department will not improve sight except when it is apparent the Department must correct a serious deficiency or hazard.
    - c. Department may issue a permit to driveway owner to remove vegetation within the right of way.

Abutting landowners are responsible for ensuring visual clearance at business and private drive intersections. The Department will not improve visual clearance at business or private drive intersections except when it is apparent that the Department must correct a serious deficiency or hazard. When business and private drives intersect a state highway and vegetation within the state highway right-of-way obstructs the view from the travel lane, the Department may issue a Vegetation Management Permit to the business or private drive owner upon request. When

issuing a permit, the safety of the through traffic, and the vegetation value or function must be the primary consideration in determining clearance permitted. The District Roadside Specialist shall review the driveway in the field and determine the conditions relative to permit approval. If property owners prove uncooperative, the roadside specialist should review the situation with the District permit supervisor.

7. Roadside Businesses and Activities

- a. Department or contract operations are not allowed to specifically increase visibility for a business or activity.
- b. Department may issue a permit and agreement to the adjacent property owner to remove vegetation within the right of way.

8. Horizontal and Vertical Clearances

- a. Department maintains for Traffic Safety and Pavement Preservation
- b. Department not responsible for vertical clearance in:
  - i. cities of all classes
  - ii. boroughs
  - iii. incorporated towns
  - iv. townships with adjacent property owner clearance ordinances
- c. Department has the right but not the duty to maintain vertical clearance in townships without adjacent property owner clearance ordinances and not assuming responsibility.

9. Limited Access Highways

Department has overall maintenance unless otherwise defined by a construction and maintenance agreement.

10. Intersections of State Road and other public roads

Wherever another public road intersects a state highway, the vegetation within the right-of-way limits of the state highway shall be maintained to provide reasonable unobstructed sight distance in both directions. The municipality is responsible for removing any obstructions outside the state highway right-of-way which limits sight distance.

11. Maintenance beyond Curblines

- a. County Highways Taken Over by Act 615 of 1961 and Highways in First Class Cities. Department of Transportation may not perform any maintenance beyond the face of curb. (Full maintenance on bridges, however, is the responsibility of the Department).
- b. Highways in Boroughs, Incorporated Towns and Cities Other Than First Class. Department of Transportation will not perform any maintenance beyond curblines except as required to maintain the structural integrity of the highway such as slopes, walls, etc. Where some properties are curbed and others are not, the curblines can be projected on the uncurbed properties. If there are no existing curblines, the Secretary can indicate on a plan of public record the width of the street or highway the Department will maintain.
- c. Highways with Four-Digit S.R. Numbers beginning with a 1, 2, 3, or 4 in Townships. Department of Transportation may perform maintenance beyond curblines. Townships are not obligated to do so.
- d. Highways with Four-Digit S.R. Numbers preceded with one or more zeros in Townships. Department of Transportation will perform maintenance beyond curblines.

- e. Department of Transportation may perform maintenance beyond curblines when it is apparent that the Department must act to correct a situation existing outside its normal area of maintenance responsibility in order to correct serious deficiency or hazards.
12. Maintenance of Traffic Signs and Devices
- a. Removal of vegetation around official traffic signs is set forth in Figure #4 (page 13-37). Priority for vegetation removal is based on sign classification, with regulatory signs, especially STOP and YIELD signs, having the highest priority. Warning signs are the second priority, followed guide signs, including general motorist service and PA Tourism Signing Trust (Logo) signs. This applies to all interstate, non-interstate NHS and non-NHS highways. Vegetation removal should be completed prior to October 31st each year to account for any vegetation growth that occurred during the growing season. The BOMO Quality Assurance staff will review interstates for the spring standard of care. Spot reviews will occur on non-interstate NHS and non-NHS highways. Public safety is our first priority. The line-of-site between the roadway and official traffic signs is critical for motorist safety. Routine vegetative management practices are necessary in continuing this safety effort. The PA Tourism Signing Trust acts on behalf of the Department and does not require a [M-688](#) Permit.
  - b. Removal of trees, brush and other vegetation for Intelligent Transportation Systems (ITS) Devices should be completed by October 31st of each year. Provide a clear minimum sight distance as specified in [Pub 646](#) Intelligent Transportation Systems Design Guide, Section 3.3.

## TREE OPERATIONS

1. When trees located within the legal right-of-way of the state highway have blown down on private property, it is permissible and normally desirable, from a public relations standpoint to remove the wood from the private property once the property's owner's permission is secured.
2. Any dead, weakened or decayed trees and limbs within the right-of-way which constitute a dangerous condition of the state highway (as verified by the District Roadside Specialist) shall be scheduled for removal.
3. During the conduct of tree removal or trimming activities within the right-of-way, if the Department determines that it must extend these activities beyond the right-of-way in order to comply with proper arboricultural procedures, written approval of the property owner must first be obtained.
4. Where the Department has been notified that dead, weakened or decayed trees and limbs exist beyond the right-of-way limits and pose a hazard of falling onto the Department's right-of-way, the Department shall:
  - A. Notify the property owner by certified mail of the condition and advise the owner of the owner's responsibility to remove or be subject to future damage claims if the tree falls or
  - B. If the tree is an imminent danger to the highway, seek authorization from the property owner to remove or trim. An Authorization to Enter Form prepared in triplicate, must be used or
  - C. If an emergency arises, enter the property and perform the necessary work without prior notice.All work outside the department right-of-way must be done at a reasonable time and in a reasonable manner under all the surrounding circumstances. All work must be documented as fully as possible. The Department should seek contribution from the property owner for removal or trimming costs.
5. Hazardous trees and trees near utility lines shall be removed by skilled and adequately insured tree expert contractors. Department forces shall not attempt to remove any vegetation from utility lines, and shall contact the appropriate utility company in all such situations, including emergencies. Do not jeopardize Department personnel or ill-equipped crews to perform these tree removal activities.
6. On free access right-of-way, all wood resulting from removal activities of trees that measure four inches or larger in diameter at a point four and one half feet from the surface of the ground (diameter

at breast height – DBH) shall be offered to the abutting property owner. The abutting property owner should be provided reasonable notice prior to cutting operations and advised that they may have the resulting wood and the Department policy to cut into lengths of not less than two feet and place it on private property at the right of way line. Reasonable notices are personal contact with or certified mail to the abutting owner. Door hangers may be used to initiate personal contact. Standard language for use in making contact with abutting owners is set forth in the [M-689](#) which is also available in triplicate forms from the Department's publication section in Harrisburg. All contacts with abutting owners will be documented in the project file. These notification requirements do not apply for trees that constitute a dangerous condition of the State highway and require immediate removal. Where the abutting owner refuses the wood, then Department will appropriately dispose of the wood. On limited access right-of-way, wood will not be offered to abutting owners.

All brush resulting from trimming and/or removal activities shall be chipped and uniformly blown onto the adjacent slope area, where appropriate, or into an enclosed chip box and disposed of at the most convenient and acceptable location near the job site. Wood and chips resulting from these operations shall not be sold or utilized by Department employees for personal gain. The stockpiling and use of these chips for Department landscape mulching purposes is encouraged.

The standards for managing vegetation within the highway right-of-way are shown in Figure #3 (page 13-31) and in Chart A (page 13-34).

7. The Department is not required to provide vertical clearance to permit the operation of vehicles exceeding a height of 13'6", with the exception of buses permitted by and operated wholly within the municipality if approved by the P.U.C. In such cases, the total height, including load, shall not exceed 14'6" [Act of June 17, 1976, P.L. 162, No. 81, '§1 (75 PA C.S. '§4922)] as amended.

## 13.6 PERMITS AND AGREEMENTS

- A. [M-688](#) - APPLICATION FOR A RIGHT-OF-WAY VEGETATION MANAGEMENT PERMIT (For General Use Only)
- B. [M-688U](#) - APPLICATION FOR A RIGHT-OF-WAY VEGETATION MANAGEMENT PERMIT (For Utilities Use)
- C. [M-688L](#) and M-688LA
  - 1. APPLICATION FOR A RIGHT-OF-WAY VEGETATION MANAGEMENT PERMIT (Limited Access)
  - 2. HIGHWAY VEGETATION MANAGEMENT AGREEMENT
- D. [M-700](#)
  - 1. PERMIT REQUEST FOR VEGETATION CONTROL TO RESTORE THE VIEWING ZONE FOR AN OUTDOOR ADVERTISING DEVICE(S)"
  - 2. See section below entitled: PERMITS FOR VEGETATION CONTROL TO IMPROVE THE VIEWING ZONE FOR AN OUTDOOR ADVERTISING DEVICE (p. 13-29)

### PROGRAM PROCEDURES FOR MANAGING VEGETATION ALONG LIMITED ACCESS RIGHT-OF-WAY

#### 1. PROCEDURAL STATEMENT AND PROGRAM OVERVIEW

The Pennsylvania Department of Transportation (PennDOT) recognizes the benefit of providing high quality, aesthetically pleasing views to highway users, along with recognizing the views to commercial properties adjacent to the highway are an integral part of the State's business and marketing economic plan. Permits for maintaining vegetation within the right of way of limited access State highways that are controlled for maintenance purposes are covered in this standard procedure. As a result, this standard procedure will establish statewide practices and procedures for trimming, removing and maintaining vegetation within the right of way of limited access highways, including interstates, while enhancing the views of the motoring public. While recognizing the need for the viewing enhancements, the development of the highway and safety of the motoring public shall continue to outweigh the importance of enhancing the views to office, institutional, commercial, and industrial developments.

The standard procedures will be overseen by the Bureau of Maintenance and Operations to provide uniform standards of acceptable maintenance practices for the maintenance and replacement of vegetation along highways. The District Maintenance Offices will have primary responsibility for reviewing, approving and monitoring applications and work under the procedures.

Vegetation maintenance activities include the vegetation trimming, thinning or removal of vegetation planting, herbicides application, mowing, landscape design, work site access, litter removal, and other related vegetation management activity.

Vegetation management under these procedures will only be permitted for opening visibility to facilities owned by the applicant that have been constructed. Permits will not be granted for the accommodation of facilities prior to the completion of construction.

These procedures do not apply to creating visibility for existing, new or proposed outdoor advertising control devices. Owners of existing lawfully erected outdoor advertising devices may apply for a Permit for Vegetation Control to Improve the Viewing Zone for an Outdoor Advertising Device ([M-700](#)) under the provisions of Act 79 of 1983. Vegetation may not be trimmed, thinned or removed within limited access right of way for the maintenance, repair or erection of an outdoor advertising device.

These procedures do not generally apply to vegetation management by utility companies. The procedures only apply if there is no existing highway occupancy permit for the utility facility, no pending highway occupancy permit application for the utility facility, or no utility relocation is involved.

These procedures include the requirement to provide replacement vegetation plantings or compensation for vegetation removed and to provide other vegetation maintenance of right of way adjacent to replacement plantings.

The [M-688L](#) Vegetation Management Permit issued under these procedures authorizes the trimming, thinning and removal of vegetation within the limited access right of way, while maintenance agreement under these procedures authorizes placement of replacement plantings and maintenance within the right of way as approved by the Department.

A maintenance agreement under these procedures is an agreement between PennDOT and the permit applicant listing the work to be performed, how it will be performed, what materials will be used, and other information that is specific to the permit when landscaping is installed that needs continual maintenance.

The work site under these procedures is the specific section of right-of-way between the beginning and end point of the approved location where vegetation maintenance activities shall be performed.

Access to the work site must use existing points of access along the limited access highway, and must be approved by PennDOT. No permit work or staging is allowed within the travelled way of the limited access highway. Staging is allowed within shoulders of the highway. The applicant will furnish, erect, and maintain all signs as required in the current [Pub 213](#) and [MUTCD](#), as well as any additional special work zone provisions that may be made applicable.

## 2. AUTHORITY

It is unlawful to trim, thin, damage or remove vegetation within the legal right-of-way of any state highway without first having obtained the consent of the Department. [Act of June 1, 1945, P.L. 1242, as amended July 7, 1972, P.L. 738, §1 (36 P.S. §670-410)]. This consent must be evidenced by a Vegetation Management Permit ([M-688L](#)).

## 3. SCOPE

County, District, and Central Office personnel shall be involved in the review and/or granting of permits and entering into maintenance agreements to maintain and replace vegetation within the right of way of limited access highways, including interstates.

## 4. PROCEDURE

### A. Permit application process

- 1) Permit applications for selective vegetation thinning, pruning, removal or planting will be made by the applicant to the PennDOT District Maintenance Office on Form [M-688L](#). A separate application must be submitted for each work site. This application and pending permit does not cover earthwork or grading performed on the right-of-way. A separate permit must be obtained for such work.
- 2) A permit must be secured prior to performing any vegetation thinning, pruning, removal or planting. The permit shall be effective for one year from the date of issuance unless tied to a maintenance agreement that provides for a different term. Any permitted work not completed before the expiration of the one-year period may not be performed; the permittee must submit a new application.

- 3) All permit applicants must submit a complete [M-688L](#) for vegetation trimming, removal and/or planting with all required documentation, to the respective District Maintenance Office before a permit and agreement to maintain vegetation will be granted. The following is a list of all required documentation that must be submitted with the completed M-688L:
- a. Certificate of comprehensive general liability insurance, property damage insurance and automobile liability insurance. The minimum amounts of coverage shall be \$250,000 per person and \$1,000,000 per occurrence for bodily injury, including death, and \$250,000 per person and \$1,000,000 per occurrence for property damage.  
  
These coverages shall be occurrence based. The policy(ies) shall name the Commonwealth as an additional insured and shall contain a provision that the coverages afforded there under shall not be cancelled or changed unless at least thirty (30) days prior written notice has been given to the Commonwealth.
  - b. A detailed site plan identifying at a minimum, the following items:
    - (1) Limits of the work site,
    - (2) Existing vegetation,
    - (3) Detailed description of the requested action with the caliperinch for any existing and proposed replacement vegetation and diameter at breast height (DBH) for marketable timber
    - (4) Right-of-way line
    - (5) Proposed work crew access to the work site
    - (6) Edge of pavement line
    - (7) Site plan scale showing actual distances
    - (8) Table or key identifying vegetation and other icons indicated on the site plan.
    - (9) What measures will be taken to protect any vegetation that is left in place during the removal of other vegetation.
  - c. Photographic images of the proposed work site.
  - d. A written report signed by a certified arborist or certified forester identifying the existing vegetation and the requested action for each. A statement shall be included that the work performed is consistent with arboricultural standards. Also, the replacement cost of all desirable vegetation is to be included in the report.
    - (1) An arborist is considered certified if she or he is on the list published by the International Society of Arboriculture. A forester is considered certified if she or he is on the list published by the Society of American Foresters.
    - (2) Desirable vegetation is that vegetation determined desirable by either a District Roadside Specialist or a certified arborist/forester because it has either an aesthetic or monetary value and is not considered dead or unwanted vegetation by the responsible District Maintenance Office. Plants listed on a recognized invasive or noxious plant listing are not considered desirable and will not be replaced. Desirable trees are species having attractive flowers or marketable timber value with a caliper of 1.5" or greater and any plant that was planted as part of a PennDOT planting project. If the tree is multi-stemmed, the largest caliper stem will be measured.

- e. Security in the amount of \$10,000 or the cumulative replacement cost of all desirable vegetation, whichever amount is higher, to run concurrently with the [M-688L](#) permit and maintenance agreement, if applicable, unless sooner released or permitted to be reduced by PennDOT to the amount of \$10,000. The purpose of the security is to secure restoration of the right-of-way to its original condition or the replacement site to its replacement condition or its natural condition if damage occurs. The type of security required will typically be a performance bond. This bond is the only bond required under these procedures.
  - f. A certified statement that all federal, state and local laws, regulations, ordinances or rules have been or will be met in performing the proposed work, including but not limited to all state and federal environmental requirements, in particular those relating to threatened or endangered species, wetlands and historic and archeological elements.
  - g. PNDI report.
  - h. Proof of land ownership.
- B. Permit Application Considerations
- 1) Applicants must provide compensation for desirable vegetation as noted in Section 11 (Removal and Compensation) below and incorporate proper pruning practices. Work will be limited to the work area described in the application and no equipment or work shall be beyond the work site limits.
  - 2) Applicants must provide proof that they own the land which will have an enhanced view following the permitted work.
  - 3) Selective vegetation thinning and removal will only be permitted for opening visibility to facilities of the applicant that have already been constructed or where existing development is being reconstructed or modified.
  - 4) Applicants are responsible to ensure compliance with all federal and state environmental requirements, in particular those relating to Threatened and Endangered (T&E) specie and wetlands located in the proposed project area and historic and archaeological requirements. These must be completed prior to submitting the permit application. The requirements regarding T&E will be accomplished using the Department of Conservation and Natural Resources (DCNRs) Pennsylvania Natural Diversity Inventory (PNDI) Tool. The online review tool can be located at [www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us) under the special links click on the PNDI project planning Environmental Review tool and follow the online instructions. If there are no species of concern in the project location take the receipt that will be generated by the system and include it with the application. If there is a species of concern located in the project area, coordinate with the agency with jurisdiction for the species indicated on the receipt. Once the coordination process has been completed attach the documentation to the application package. Documentation as to wetland and historic and archaeological coordination, if applicable, must also be attached to the application package.
  - 5) All work must conform to current state and federal law and must comply with the following current procedures and policies as applicable:
    - a. Landscape Planting Design ([Pub 13M, Chapter 8](#)).
    - b. Maintenance Manual, ([Pub 23, Chapter 13 – Roadside Management](#))
    - c. Roadside Planting Guidebook ([Pub. 461](#)).
    - d. Specifications ([Pub. 408](#)).
    - e. Temporary Traffic Control Guidelines ([Pub. 213](#)) and the [MUTCD](#) on work zone traffic control, as well as any additional special work zone provisions that may be made applicable.

- 6) Vegetation used as a living snow fence must be maintained to allow vegetation to continue functioning as a living snow fence.
- 7) All bare ground left exposed after the removal of vegetation must be seeded in accordance with [Pub 408](#), Section 804 Seeding and Soil Supplement.
- 8) All trimming and removal work performed must be in compliance with [M-688L](#), page 2 of 2, "Requirements Governing Vegetative Management By Utility CO's Or Other, Within The Highway Right-Of-Way," except that compliance with these procedures is deemed a determination that the work is a justifiable benefit to the roadside environment.
- 9) If the application for vegetation cutting is for a site located within the corporate limits of a city or town, local officials must be given an opportunity to review and comment on the application.
- 10) Pruning and Thinning
  - a. Only pruning and thinning identified in the certified arborist/forester's written report attached to the application will be permitted.
  - b. PennDOT must approve the specific trees, shrubs, and other vegetation that may be pruned or thinned in the worksite.
  - c. Pruning must be performed in accordance with the natural shape and appearance of the vegetation and must follow the current arboricultural standards of [ANSI A300 \(Part 1\) Pruning](#).
- 11) Removal and Compensation
  - a. Only vegetation removal identified in the certified arborist/forester's written report attached to the application will be permitted.
  - b. PennDOT must approve the specific trees, shrubs and other vegetation that may be removed within the limits of the work site.
  - c. Trees that are removed will have their roots left undisturbed so no soil is disturbed.
  - d. All wood chips may be distributed evenly on the site to a depth of not more than four inches unless PennDOT requires off site removal.

The vegetation management activities must comply with all Department of Agriculture (PDA) quarantines. If the work site or any part of it is in a quarantine area, a PDA compliance agreement is required for moving regulated articles out of the quarantine area.
  - e. When desirable vegetation is removed, the Department shall be compensated two hundred percent (200%) of the replacement cost of all desirable vegetation removed plus installation costs of compensatory vegetation, either by a planting of compensatory vegetation or payment for the desirable vegetation removed plus installation costs.
  - f. PennDOT shall make the final determination on the replacement cost of desirable vegetation removed and whether a payment for compensation or the planting of compensatory vegetation will be required.
  - g. Compensatory vegetation is PennDOT approved vegetation that is purchased, planted, and guaranteed to survive as described in the current edition of the Publication 408 Specifications. Compensatory trees will be at least 1.5" in caliper at six (6) inches above the ground unless otherwise accepted by PennDOT.
  - h. If compensatory vegetation replanting is required, PennDOT will determine the details, final approval and location of the compensatory vegetation replanting based upon the replacement cost of the desirable vegetation removed.

- i. A suitable list of trees and shrubs are available in PUBb 461 - Roadside Planting. Other trees and shrubs may be used with the approval of PennDOT.
- j. Compensatory vegetation shall be planted in accordance with the current versions of [Pub 408](#) Specifications and [Pub 461](#) Roadside Planting Guidebook.
- k. After the establishment period of twelve (12) months, the security for compensatory vegetation will be considered for release or reduction to \$10,000.

## 12) Maintenance Agreements

- a. All landscaping and compensatory vegetation planting must have a Maintenance Agreement (M-688LA) initiate internally. This agreement will control the landscaping and planting, including but not limited to administrative procedures, maintenance work and a maintenance schedule showing vegetation maintenance to be performed by the applicant.
- b. The propose Maintenance Agreement shall be submitted to the District Maintenance Office for routing through the Bureau of Maintenance and Operations, Office of Chief Counsel, and Federal Highway Administration if necessary.
- c. The Maintenance Agreement will include a scope of work consisting of two exhibits. Exhibit A will be the completed [M-688L](#), while an Exhibit B will need to be developed delineating the replacement plantings and continuing vegetation maintenance requirements. Plans and specifications to be approved by PennDOT will be required and referenced in the Agreement but not attached as an exhibit.
- d. The work site under the Maintenance Agreement will be described in terms of the State Route, which direction of travel (e.g. southbound), and the segment/offset to segment/offset area within which the applicant will be performing the initial and continuing vegetation maintenance activities.
- e. Notices under the Maintenance Agreement are to be provided to the District Office.
- f. Failure to comply with all the requirements specified in the Maintenance Agreement may result in immediate cancellation of the agreement and forfeiture of all or part of the performance bond.
- g. The Maintenance Agreement will include the [M-688L](#) permit as an attachment. The M-688L authorizes the thinning and removal upon full execution and approval of the Maintenance Agreement.

## 13) Issuance or Denial of Permit

- a. Within sixty (60) days following receipt of the application for vegetation maintenance, PennDOT will approve, deny or return for more information the application after performing an onsite inspection. This time period does not include the time necessary for central office review and execution of the Maintenance Agreement, if necessary.
- b. If the [M-688L](#) permit is approved, a copy of the permit must be onsite during any work activities to show proof of legal access to the limited access right-of-way.
- c. If the application is denied, PennDOT will advise the applicant, in writing, of the reasons for denial.
- d. All or part of the application may be denied by PennDOT when it determines:
  - 1) Removal of vegetation will adversely affect the safety of the traveling public or the public right-of-way, or is otherwise not in the best interests of PennDOT or the Federal Highway Administration.

- 2) The application is to open the view to an advertising device.
- 3) The facility is not screened from view.
- 4) Trees, shrubs or any vegetation that was planted in accordance with a local, state, or federal beautification project are identified as being removed.
- 5) Planting was done in conjunction with a design noise barrier, living snow fence, visual barrier, erosion control, or an aesthetics enhancement to the roadside.
- 6) The identified vegetation has aesthetic value as viewed from the highway.
- 7) The applicant has not performed satisfactory work on previous permits.
- 8) The proposed removal would open views to junkyards.
- 9) The work site is within one thousand feet (1,000') of any State Scenic River or Scenic Byway. A Scenic Byway is any linear transportation corridor as designated or as may hereafter be so designated by PennDOT under the Pennsylvania scenic byways program as having outstanding scenic qualities. A State Scenic River is a river that is classified, designated and administered as Wild, Scenic, Pastoral, Recreational and Modified Recreational River according to the Pennsylvania Scenic Rivers Act.
- 10) The proposed work is not in compliance with federal, state and local laws, regulations, ordinances or rules, including but not limited to state and federal environmental requirements, in particular those relating to the Threatened and Endangered review in PNDI and wetland and historic and archeological requirements.
- 11) Access from the travelled portion of the limited access highway is deemed unsafe due to crash history, geometric features or otherwise.

## 6. CONDITIONS, ENFORCEMENT AND INSPECTION OF PERMIT AND PERMIT WORK

- A. Payment or planting of the compensatory vegetation must be completed before any vegetation removal may occur unless approved by PennDOT in advance.
- B. PennDOT inspections will occur, at a minimum, at the following times:
  - 1) After the application is submitted and before the permit is approved or denied.
  - 2) After the tree pruning, trimming, removal and/or planting is completed.
  - 3) If the planting has been performed, two weeks before the end of the establishment period of twelve (12) months has expired per the maintenance agreement.

PennDOT will document each inspection with a Roadside Activity Report (M-609). After the final, the PennDOT inspector will document an approved permit by listing the permit number and the wording "Approval of Final Inspection" in the remark section of the M-609.

- C. Once the permitted work is completed and approved, the permit is terminated. After the permit is terminated, a new permit must be issued before re-entering the worksite. The Maintenance Agreement will remain in place following completion of the work authorized by it.
- D. The permittee or their agent shall not impede traffic on the highway in performing the permitted work. Access to the work site must be approved by PennDOT and must be made from existing points of access along the limited access highway. No permit work or staging is allowed within the travelled way of the limited access highway. Staging is allowed within shoulders of the highway. The permittee will furnish, erect, and maintain all signs as required in the current [Pub 213](#) and [MUTCD](#), as well as any additional special work zone provisions that may be made applicable. If PennDOT deems access from the travelled portion of the highway is unsafe, the application will be denied.

- E. Any damage to vegetation, highway fences, signs, paved areas, ditched or other department property will be repaired or replaced by the permittee to the satisfaction of PennDOT. All cut brush, logs and other debris will remain on the site spread across a location outside the thirty foot recovery zone and wood chips uniformly spread out to a depth of no more than four (4) inches unless directed otherwise by PennDOT.
- F. Brush and tree stumps must be cut within four (4) inches of the ground unless the area will be mowed than cut all stumps flush to the ground. No burning or burying will be permitted on the highway right-of-way.
- G. Upon satisfactory completion of all work, PennDOT will notify the permittee in writing of accepting the performed work, terminate the permit, and return the performance bond required by the permit.
- H. Failure to comply with all the requirements specified in the permit, unless otherwise mutually agreed to by the permittee and PennDOT, shall result in the immediate revocation of the permit and forfeiture of part or all of the performance bond as determined by PennDOT.
- I. Vegetation Trimming, Thinning and Removal Performed without a Permit

If vegetation within limited access right of way is trimmed, thinned or removed without a permit, the violator must correct the conditions created in accordance with all of the above procedures. If the vegetation was trimmed, thinned or removed in connection with the erection, repair or maintenance of an outdoor advertising control device, the procedures set forth in Section 8.02 of the Highway Beautification Manual ([Pub 581](#)), entitled "Vegetation Control", also apply. In the later situation, coordination with the District Outdoor Advertising Control Manager is required.

### **PERMITS FOR VEGETATION CONTROL TO IMPROVE THE VIEWING ZONE FOR AN OUTDOOR ADVERTISING DEVICE**

Applications to trim or remove vegetation under an ([M-700](#)) must be forwarded to the District Roadside Management Office. If necessary, the District Roadside Specialist shall consult with the District Outdoor Advertising Control Manager to determine whether an M-700 should be issued. See Section 8.02 Vegetation Control of the Highway Beautification Manual ([Pub 581](#)).

M-700s may only be issued in relation to existing off-premise or on-premise signs that have been lawfully erected. They may not be issued to improve visibility for the erection of new outdoor advertising devices or the repair and maintenance of existing outdoor advertising devices. All off-premise signs must have a Department permit to be considered lawfully erected; only on-premise signs beyond 50 feet of the advertised activity along the interstate system must have a Department permit to be considered lawfully erected.

The requirements for issuing an [M-700](#) are different from those in relation to issuance of an [M-688](#) Vegetation Control Permit. Over time, vegetation may grow to screen lawfully erected devices and Act 79 of 1983 gives the owner a right to remediate the screening to allow the device to properly function.

The [M-688](#) may not be used in connection with outdoor advertising devices along highways controlled by the Department. Only the M-700 may be used. The M-688 may be used in connection with outdoor advertising devices along highways not controlled by the Department. An outdoor advertising device is considered screened by vegetation if its view is obstructed as viewed from the center of the lane of traffic of the highway and from a height of no more than 60 inches above the highway surface. A device's view is obstructed when the intent of the advertising is not discernible for a total of five seconds in the viewing zone. The viewing zone of a device is that distance measured along the center of the lane of traffic of a highway over which a vehicle will travel at the posted speed limit. Vegetation is defined as all trees, grasses, shrubs and vines growing within the legal right-of-way of [controlled highways](#).

In short, the vegetation that can be removed under an [M-700](#) is only that necessary to reestablish the outdoor advertising device's five second viewing zone from the highway. The five second viewing zone is determined from the center of the appropriate lane of traffic at a height of no more than 60 inches above the highway surface from a vehicle traveling at the posted speed limit.

The [M-700](#) permit request requires the applicant to provide a sketch showing the kind, size and type of vegetation to be controlled, a statement of the remedial action proposed for the viewing zone, and a photograph of the screening proposed to be remedied. Permit requests that do not include these details or other submissions as required by the M-700 permit request should be denied as incomplete.

The District Roadside Specialist and the District Outdoor Advertising Control Manager are to inspect the device and the surrounding area to determine whether an [M-700](#) should be granted. The device owner/applicant should be informed of the date and time of the inspection so the device owner/applicant may be present at that time.

If an M-700 is granted, the permittee shall be authorized to do one or any combination of the following:

1. Raise, lower or adjust the device to reduce the conflict with the vegetation so as to eliminate, as nearly as possible, the screening. (This option is not available, however, to non-conforming devices. Nor should a permit be issued if the adjustment violates another statute, regulation, or ordinance.)
2. Prune or trim the vegetation to reduce or eliminate the screening.
3. Prune, trim, relocate or remove individual plants in the vegetation to reduce or eliminate the screening.

The device owner/applicant may be required to post security in the form of a performance bond if permit is issued. Vegetation management under an [M-700](#) may not conflict with normal conservation practices. It is imperative that M-700 applications be addressed promptly because Act 79 of 1983 includes a 30-day deemer provision: Section 4(c) of Act 79 of 1983 provides for an automatic approval as follows: "If the application neither is approved nor disapproved within 30 days of the filing therefore, the application shall be deemed to be approved and the permit shall be deemed to have been granted immediately."

### **13.7 REVITALIZATION (ASSEMBLY 7716)**

Revitalization work consists of applying lime, fertilizer, seed and mulch to roadside earthen areas where the existing vegetation is weak, deteriorating, damaged or in such a condition that erosion is imminent. This work is also performed where Department grading operations have taken place and erosion is considered a problem.

The furnishing and placing of topsoil, sod, ground cover plantings and erosion protection materials as specified in the [Pub 408](#), are also items appropriate for revitalization activities.

This work shall be programmed in coordination with the District Roadside Specialists who will determine the seed formula, lime, fertilizer and mulch types and rates for the particular problem areas. A calendar year contract should be available at all times for District use.

The Maintenance Manager should report problem areas or anticipated work areas to the District's Roadside Specialist for their review and inclusion in the District's annual revitalization service purchase contract. Under this program, revitalization work can be performed within a 7day scheduling period, depending upon the timeliness for seeding, mulching, planting and placement of erosion protection materials.

### **WILDFLOWERS - (ASSEMBLY 7717)**

The Wildflower program consists of all activities associated with the establishment of herbaceous plants having conspicuous and desirable flower characteristics; and the propagation and enhancement of naturally occurring plants having equal traits. The primary purpose of establishing cultivated areas of "wildflowers" is to draw attention to the aesthetic quality of plants, kindling an awareness to the beauty of the natural environment. In this way the Department can maintain public acceptance of a low maintenance roadside program.

Preferred locations for "cultivated" wildflowers include high visibility areas along the interstate system as well as other major highways, especially in medians and at intersections; gateways to cities; and major points of interest. Sizes of areas and flower varieties must be appropriate to the travel speed, terrain and natural surroundings of each particular location.

The wildflower program may also create an interest in our citizens and roadside tenants to become involved in partnering with the Department through the various adopting programs. Adopt and Beautify Program (AAB) can provide the opportunity for volunteers to promote pollinator plantings along their migratory paths.

Additional policy requirements and program guidelines are detailed in the performance standards of the Foreman's Manual.

Wildflowers provide good public relations and create a positive attitude for the traveler. They assist the traveler in providing natural delineation of the roadway and a keener sense of alertness to the roadway surroundings thereby contributing to the traveler's safety.

## **13.8 ROADSIDE PLANTING**

The Department is dedicated to the design, construction and maintenance of the "complete" highway. This philosophy incorporates the need for roadside plantings of trees, shrubs and vines. Each new highway construction project is analyzed in the design stages relative to the need for roadside plantings, and appropriate planting is included.

There are many miles of highway which have not been planted and along which specific planting could be accomplished. There are locations where accent plantings would provide a useful purpose such as framing an exceptional panoramic view, screening an objectionable feature or providing a psychological or noise abatement screen for a roadside property owner.

Planting of evergreen seedlings for live snowbreak purposes or for reforestation of roadside areas which are appropriate for this purpose are programs covered by this activity. All plantings conducted beyond the right-of-way must be covered by properly executed planting agreements. Old snowbreak plantings are covered by agreements which are still in effect as per the language of these agreements.

### **MINOR PLANTINGS - (ASSEMBLY 719)**

Minor plantings include reforestation, snowbreak and replacement plantings and are performed by the county roadside crew, or by contract. Plantings performed with Department

Forces require prior purchase of plant material from outside sources, the Department of Conservation and Natural Resources (DCNR), Correctional Industries or are transplanted from Department plantings. When performing replacement plantings, the original species and sizes should be specified unless planting site or availability conditions justify changes. Turf areas and plantings which are destroyed by errant vehicles or by vandalism should be evaluated by the District Roadside Specialist and replacement cost in kind and size determined.

Losses resulting from errant vehicles should be referred to the Damage Claim Coordinator for reimbursement purposes. The Damage Claim Coordinator will bill the responsible party for the cost of removing and replacing the planting (and any additional damage, e.g. guiderail, signs, etc.) in accordance with [Pub 23, Ch 14 \(Accident Damage Claims\)](#). Losses resulting from vandalism may require investigation by the Department and the State Police in an attempt to identify the responsible party. In many cases, sufficient guilt cannot be

established to file criminal action under P.L. 1212 and recover damages; however, it is the Department's responsibility to pursue this action to its conclusion. (Failure to obtain criminal restitution does not preclude the Department from pursuing reimbursement through civil action). Where vandalism has occurred, replanting with desirable material is necessary to prevent erosion and preserve the aesthetic quality of the area.

Orders for plant material from Correctional Industries should be prepared and submitted on Field Limited Purchase Orders. These orders must be placed early in February to provide for the spring planting season or by July to provide for fall planting.

The Service Purchase Contract procedures, utilizing the standard specification, provides for furnishing and planting. It is important to prepare these contracts on an annual basis, as required, so that plantings are performed as intended and no one year expenditure is excessive.

### **MAINTENANCE OF PLANTINGS (ASSEMBLY 719)**

Plantings cannot serve their intended purpose unless intensive maintenance is provided during the establishment period. This activity begins with the final acceptance of the project from the contractor, or as soon as plantings are established by Department Forces. This maintenance consists of mowing, weeding, cultivating, pruning, mulching, fertilizing, spraying and other operations related to plant establishment and care.

Competing vegetation, rodents, insects and disease, climatic conditions and mowing equipment are the major factors which must be controlled or modified to permit desirable plants to establish along the roadside.

The maintenance of clean tree pits around new plantings will eliminate vegetative competition, reduce a favorable habitat for rodents and many insects and keeps mowers away. Nonselective herbicides when used as per labeled instructions are recommended for use around individual plants. Caution must be exercised when utilizing herbicides to prevent plant injury.

Insects and disease are ever present and their control is important to prevent ultimate destruction of the plants. Generally, it requires several seasons of an uncontrolled population growth before plants are severely damaged so that control programs can be formulated after observing the initial damage. Where insect and disease damages occur, the respective County Agent's Office should be contacted to determine the insecticide most effective, and best spray schedule for your particular problem. Again labeled instructions must be followed to prevent improper application or applicator injury. Where Department applicators are not certified in the proper category a contract should be considered.

Timely watering during extremely dry periods following planting is an absolute necessity to plant establishments. Where this operation cannot be assured with Department equipment and personnel, emergency service purchase contracts should be executed to perform this service.

In those counties with extensive planting programs and little or no personnel available for plant maintenance, annual service purchase contracts utilizing the standard specifications are recommended. It is advisable to incorporate watering equipment by use of a separate item into this contract.

## **13.9 PUBLIC SERVICE FACILITIES/OPERATIONS AND MAINTENANCE**

General maintenance begins before the respective area is opened in the spring for use by the traveling public. As a pre-season preparation at all roadside rests, parking areas, picnic table areas and scenic views, the following work should be done respective to the area:

- 1) Grass areas mowed, raked, reseeded and fertilized as required.
- 2) Shrubbery and trees pruned and fertilized as required.
- 3) Driveways and parking areas repaired.
- 4) Structures repaired and painted.
- 5) Fireplaces refinished and repaired.

- 6) Shrub beds cultivated, edged and mulched.
- 7) All signs refinished and erected.
- 8) Refuse containers repainted.
- 9) Toilets cleaned.
- 10) Picnic tables refinished and placed.
- 11) Execution of service purchase contracts for the pumping of privy vaults and refuse collection.

Following this initial work, a schedule of follow-up maintenance should be planned. The details will depend on the use of each particular area.

## **INTERSTATE SAFETY REST AREAS**

The Interstate Safety Rest Areas/Welcome Centers are staffed 24 hours a day either by contract or department forces.

General operational procedures include general cleaning consisting of the complete day to day cleaning and operation of the rest area and welcome center buildings and grounds.

Carpentry consists of repairs to the buildings, tables, benches, doors, partitions, windows and general building trade items.

Painting consists of refinishing both interior and exterior painted or varnished surfaces.

Mowing and landscape maintenance services consists of mowing and edging the complete lawn and weeding of all plant beds, shrub beds and tree pits each week unless otherwise directed.

There is a "No Smoking" policy at all areas.

For specific instructions and guidelines on the operation and maintenance of all Interstate Safety Rest Area Facilities refer to the individual contract specifications.

## **ROADSIDE PICNIC TABLES**

Roadside picnic tables on the interstate highway system will only be placed at locations where adequate deceleration and acceleration lanes are available. This will limit the installation of picnic tables to rest areas.

Roadside picnic tables on federal aid primary limited access highways may be placed in accordance with the following:

No tables are to be placed on short sections of limited access highways.

No tables are to be placed along sections of limited access highways within five miles of an existing roadside rest area.

Tables should be placed only where sight distance is adequate (a minimum of 1000 feet in both directions).

## **13.10 ROADSIDE LITTER PICKUP AND DEBRIS REMOVAL**

The Department Maintenance Forces are ultimately responsible for litter and debris removal within the right-of-way of our state highways. Litter and debris includes, but is not limited to, fallen branches, rocks, articles from vehicles, rubbish, junk and dead animals. Remove all litter and debris from the travel portion of the highway. Public perception as well as health and safety concerns require removal of dead animals not only from the travel portion of the roadway, but from areas within the highway right of way that are visible to the traveling public. Utilize department forces and/or current contracting methods to remove and properly dispose of dead animals.

According to Department of Environmental Protection's [25 Pa Code 243.11](#), the Department has 24 hrs at the time of notice to remove dead animals from the traveled portion of the roadway, unless public safety is at risk. The relocation of dead animals should coincide with normal operations.

Since 2012, the PA Game Commission (PGC) has identified Chronic Wasting Disease (CWD) in road kill deer in various counties. PGC has established Disease Management Area(s) (DMA) across the Commonwealth. According to PGC, road kill deer cannot be removed from a DMA without approval. Below are road kill deer disposal methods considered appropriate within a designated DMA:

- Dead Deer ITQ (contractor)
- Relocate to an on-site crematorium
- Relocate to an approved landfill (local facility)

The Department has agreed with the PGC to remove dead deer from state maintained highways while PGC works with local government entities in handling on all local roads.

With the exception of the sections of highway covered by the Adopt-A-Highway, the Litter Brigades or other litter control efforts, the Department Maintenance Forces will conduct litter pickup as follows:

- All MFC A and B roads and MFC C, D and E roads with an ADT in excess of 1500 vehicles should be scheduled three (3) times per year:
  - 1) Early Spring
  - 2) Midsummer
  - 3) Fall

The spring pickup should be scheduled prior to mowing or earth moving operations.

- Other MFC C, D and E routes should have one general clean-up scheduled in the spring prior to the mowing operation.
- Expressway Interchanges should be scheduled monthly or more frequently if directed by the County Maintenance Manager. These areas should be the first priority for inclement weather pickup or as alternate work activity, if a scheduled project is delayed or canceled.

NOTE: It is a requirement that litter bags be carried in all Department Maintenance vehicles at all times in order to facilitate pickup efforts.

- Expressway Interchanges should be scheduled monthly or more frequently if directed by the County Maintenance Manager. These areas should be the first priority for inclement weather pickup or as alternate work activity, if a scheduled project is delayed or canceled.

NOTE: It is a requirement that litter bags be carried in all Department Maintenance vehicles at all times in order to facilitate pickup efforts.

## **DEPARTMENT PERSONNEL ACTIVITIES**

### **Roadside Litter Pick Up and Debris Removal (Assembly 714 7735 01)**

All routine activities related to litter pick up and debris removal generated by motoring public, normal weather and wind conditions. Also, see specific programs under the Highway Beautification section that follows.

### **Roadside Tire Remnant Removal (Assembly 714 7735 02)**

Activities related to tire remnant removals on limited access highways.

### **Traffic Services Deer Removal (Assembly 713 7682 01)**

Activities related to removal of deer carcasses only.

### **Traffic Services Incidental Services Other (Assembly 713 7689 01)**

Activities related to any miscellaneous incidental service assemblies like dead animal removals (other than deer), right of way fence maintenance, etc.

## **ROADSIDE BEAUTIFICATION**

### **Adopt A Highway (AAH) (Assembly 714 9849 01)**

Volunteers adopt two mile sections of highway roadside to pick up litter four times a year over a two year commitment. Location approval and distribution of supplies (safety vests, gloves, bags, signs) handled by the county AAH coordinators. Maintenance crews collect refuse bags.

### **Great American Cleanup of Pennsylvania (Assembly 714 9813 01)**

Volunteers beautify Pennsylvania in an annual statewide event. County maintenance office handles distribution of supplies to pick up litter. Maintenance crews collect refuse bags and dispose free-of-charge in approved landfills.

### **Adopt And Beautify (AAB)**

Volunteers beautify highway roadsides through landscape plantings and litter pick up over a two year commitment. District Roadside specialist handles site approval and the county coordinates supplies distribution.

### **Sponsor a Highway (SAH)**

The department's contracted vendor secures interested businesses and other interested parties to pay for their skilled work force to perform roadside work including: litter removal, graffiti removal, sweeping, landscape plantings and mowing. Contractor also places signs recognizing sponsors along the roadside. Litter removal under this program covers one mile at a time and does not cover the same locations as the AAH program.

### **Litter Brigades (Assembly 714 9848 01)**

County Adult and Juvenile Probation Offices provide for highway litter cleanup to be part of a probation sentence.

In the Juvenile Litter Brigade agreement, PennDOT currently pays \$14.00 per lane mile to the County Probation Office to pay restitution for the crime committed. Adult offenders are not paid because County Judges are looking for public service activities as part of the probation.

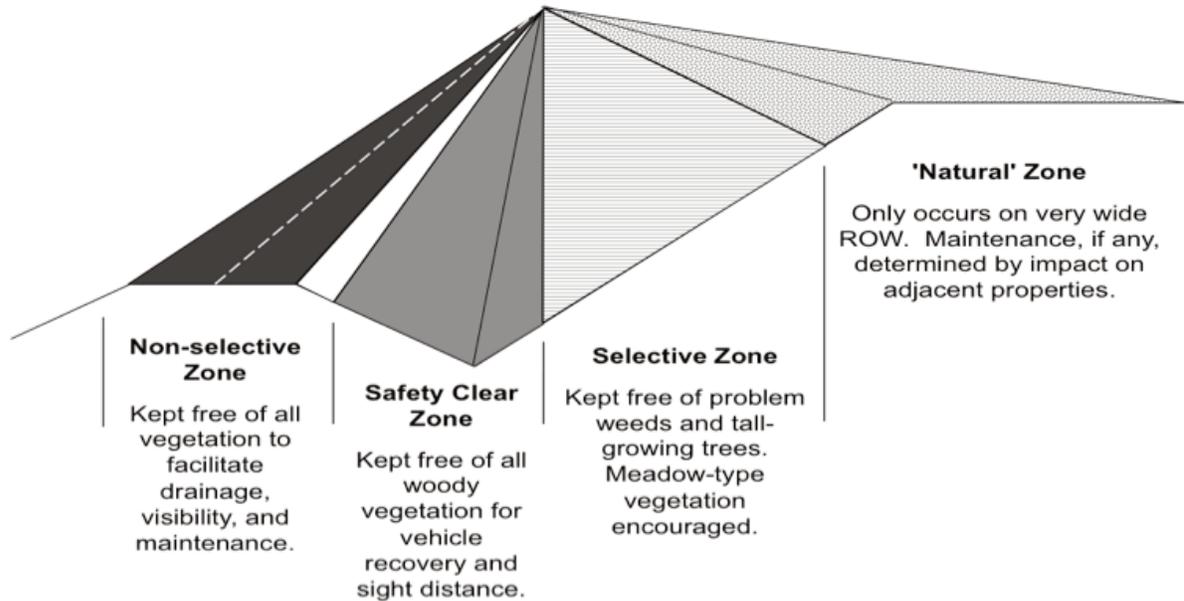
# STANDARD LIMIT~ WOODY GROWTH

## Zone Concept

### Figure # 3

(Planted or Volunteer)

To Be Maintained Along Uncurbed Highways



<b>Non-selective:</b>	<b>Target:</b>	all vegetation (bareground)
	<b>Focus areas:</b>	guardrails, signposts, concrete islands and barriers.
	<b>Objective:</b>	promote water flow off of the road surface.
<b>Safety Clear Zone:</b>	<b>Target:</b>	woody plants
	<b>Focus areas:</b>	dependent on size of right-of-way (ROW)
		1. large ROWs – 30 feet from edge of roadway
		2. small ROWs– on a 33 foot ROW, from the outer edge of the non-selective zone to the ROW boundary (only a few feet).
	<b>Objective:</b>	provide recovery zone for vehicles that have left the travel lane.
<b>Selective Zone:</b>	<b>Target:</b>	tall-growing tree species and noxious and invasive plants.
	<b>Focus areas:</b>	wider ROW, extends from the edge of the safety clear zone to a distance of up to 80 feet from roadway.
	<b>Objective:</b>	remove trees and problem weeds through occasional mowing (once every 2-3 years) and/or periodic herbicide applications.
<b>Natural Zone:</b>	<b>Target:</b>	noxious and invasive plants
	<b>Focus areas:</b>	wide ROW, extends outward from the edge of selective zone.
	<b>Objective:</b>	perform maintenance activities only if noxious or invasive weeds are present.

## VEGETATION REMOVAL TO IMPROVE SIGN VISIBILITY

Figure #4

Signs play an important role in providing information to the road user about the rules of the road, potential situations that might not be readily apparent and guidance. To accomplish this, signs have to be readily visible, both day and night, through proper retro reflectivity and visibility. One factor that can significantly reduce visibility is vegetation growing near signs that obstruct the line of sight between oncoming traffic and the sign face. To address this situation, the following factors should be considered as part of routine maintenance of highway signs:

1. Maintain adequate visibility distance. As a general rule-of-thumb, the full sign face should be visible to oncoming traffic for a distance in feet equal to 10 times the speed limit. Therefore, if the speed limit is 65 mph on a limited access highway, all signs should be visible for a minimum distance of 650 feet. On a highway where the speed limit is 35 mph, all signs should be visible for a distance of 350 feet. These distances are applicable to all lanes on a multiple lane approach.
2. When removing vegetation from in front of the face of a sign, clear vegetation for 15 feet to the right of way line, whichever is less, on both sides and behind the immediate face of the sign and 10 feet from the top of the sign. This will greatly reduce the time before maintenance will again be required to remove vegetation to restore adequate visibility. When cutting the main stem of trees 4" dbh (diameter breast height) or greater, the remaining stump shall be within 4" of the ground and sprayed with herbicide to prevent re-sprouting. All sidetrimming will be to the branch collar (Diagram 1) within the right-of-way (ROW) and where permission is given beyond the ROW. Cut all other vegetation to within 12" of the ground or less if the sign needs additional clearance. Maintain at all times a vegetative groundcover along the area cleared for sight distance to limit soil erosion.
3. If a sign requires the removal of vegetation more often than once annually, the District Roadside Specialist should be consulted for treating unusual vegetation situations.

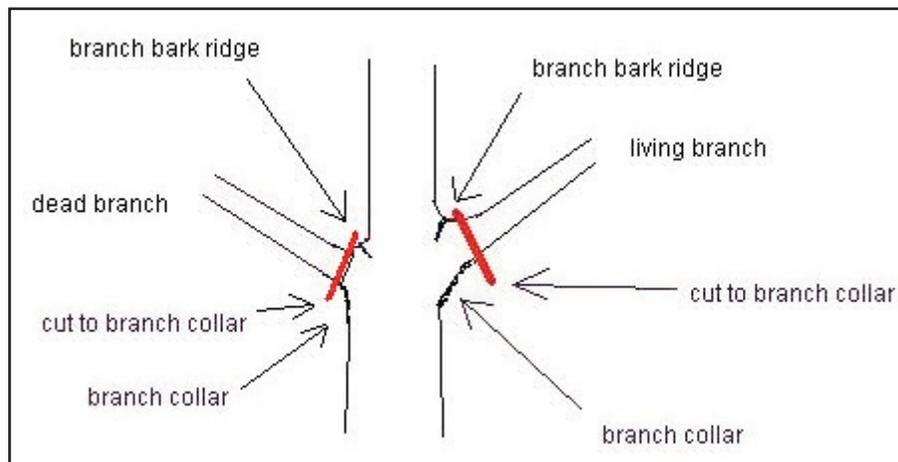


Diagram 1 - Branch collar cuts

## CHART A

### MINIMUM UNOBSTRUCTED DISTANCE BEHIND GUIDERAIL

(ENGLISH)			
Guide-rail Type	Description	Minimum Unobstructed Distance	Post Spacing
2-W	Weak Post W-Beam Guiderail (Normal Post Spacing)	8'-0"	12'-6"
2-WC	Weak Post W-Beam Guiderail (Close Post Spacing)	5'-0"	6'-3"
2-S	Strong Post W-Beam Guiderail (Normal Post Spacing)	4'-0"	6'-3"
2-SC	Strong Post W-Beam Guiderail (Close Post Spacing)	2'-0"	3'-1-1/2"
2-WM	Weak Post W-Beam Median Barrier	7'-0"	12'-6"
2-WCC	Weak Post W-Beam Guiderail (Very Close Post Spacing)	4'-0"	3'-1-1/2"
(METRIC)			
Guide-rail Type	Description	Minimum Unobstructed Distance	Post Spacing
2-W	Weak Post W-Beam Guiderail (Normal Post Spacing)	2.1 m	3810 mm
2-WC	Weak Post W-Beam Guiderail (Close Post Spacing)	1.5 m	1905 mm
2-S	Strong Post W-Beam Guiderail (Normal Post Spacing)	0.9 m	1905 mm
2-SC	Strong Post W-Beam Guiderail (Close Post Spacing)	0.6 m	952.5 mm
2-WM	Weak Post W-Beam Median Barrier	2.1 m	3810 mm
2-WCC	Weak Post W-Beam Guiderail (Very Close Post Spacing)	1.2 m	952.5 mm