



THE VALLEY RAILROAD COMPANY
1 RAILROAD AVENUE, PO BOX 452, ESSEX, CT 06426
PHONE: 860-767-0103 FAX: 860-767-0104

Vegetation Management Plan

The Valley Railroad Company

Connecticut General Statutes Section 22a-66a(j) requires that railroads which operate in Connecticut must file a Vegetation Management Plan (VMP) with the Connecticut Department of Transportation (CDOT) and send copies of the plan to the chief elected official of each town in which pesticides will be applied. This plan is submitted by the Valley Railroad Company (hereafter “the Company”), based in Essex, CT, for trackage it maintains and operates under lease with the Connecticut Department of Energy and Environmental Protection (CDEEP). This long-term lease arrangement dates to October 1969.

Railroads in Connecticut operate under strict regulations as promulgated by various State and Federal agencies. These include CDOT, CDEEP, the Federal Railroad Administration, and the Surface Transportation Board. These rules and regulations are designed to regulate and promote the safety of all facets of railroad operation – railroad employees, members of the travelling and general public, protection of property, and protection of the environment. A railroad also has a moral obligation to be a respectful and active participant in the communities through which it operates.

A key component to safe operation of railroads is the proper maintenance and inspection of the track infrastructure and surrounding property so that safe operations are possible. Southern New England is fertile ground for tree and vegetation growth, both of which must be managed on railroads so that proper inspection, maintenance, and function of railroad infrastructure are possible and reliable. Unmanaged vegetation causes stability problems for poorly-draining roadbeds, employee safety issues due to slippery surfaces and physical contact with vegetation, reduces the ability to inspect track, increases the possibility of fire by passing trains or hot maintenance work (torching, grinding, welding), and sight line safety issues on railroad curves and at public/private roadway crossings.

The Company operates vintage historic train rides that offer scenic excursions through the southern Connecticut River Valley for upwards to 200,000 visitors per year, many of them local residents. The safety of these operations is of paramount importance. Proper and appropriate vegetation management is essential to safe and compliant operations, proper stewardship of the property, and to keep the property as pristine and park-like as possible for the enjoyment of the visitors and local residents alike. There is much to consider.

This VMP describes the numerous methods in use by the Company to effect safe and compliant operations, visually appealing maintenance of property, and proper environmental consideration in the communities through which we operate.



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Purpose and Objective

49 C.F.R. Section 213.37 clearly states:

“Vegetation on railroad property which is on or immediately adjacent to the roadbed must be controlled so that it does not:

- a) *Become a fire hazard to track carrying structures*
- b) *Obstruct visibility of railroad signs and signals*
- c) *Interfere with railroad employees performing normal track side duties*
- d) *Prevent proper functioning of signal and communication lines*
- e) *Prevent railroad employees from visually inspecting tracks and moving equipment from their normal duty stations.”*

The risk of fire is caused by dried vegetation within the track area being ignited by sparks caused by passing steel railroad wheels, or exhaust stack sparks from the locomotives. This can be dried vegetation on the roadbed itself, or dead leaves due to excessive tree canopy and overgrowth. It is imperative that train operators are able to view pertinent fixed signage along the railroad track, and to be able to have a view that automated warning devices at upcoming grade crossings have activated properly. Employees working upon the tracks require solid footing, and clear view of the ground below them, in order to safely traverse the track area while performing their duties of operating trains, inspecting and maintaining tracks, and performing any other work which requires them to be in the track area. Vegetation must be sufficiently clear of any overhead lines (such as electric lines at grade crossings for signal systems) to prevent their damage. Employees must have unobstructed views of the track structure such as switches, and the mechanical sections of passing trains, in order to effectuate proper inspections. Vegetation over top of rails makes it impossible for operating crews to view if dangerous objects have been placed on the rail or if the track has been tampered with, which might cause derailment and serious injury to employees, passengers, and equipment alike.

Additionally, vegetation affects many other requirements as set forth by the F.R.A. for the maintenance of safe rail operations. Vegetation growth within the ballast structure of the track inhibits proper drainage of water, which can then soften the roadbed and cause track to “pump” when trains pass over, possibly causing derailment. Vegetation making its way atop the head of the rails create traction issues for locomotives, which require a high degree of friction between the wheel and the rail in order to safely draw and stop trains, and also shunting (activation) issues for at-grade highway crossing warning devices. Vegetation along the track, especially on curves, impedes the ability of the train crew to observe along the side of their trains for possible problems such as dragging equipment or overheated/smoking bearings/brakes. Train employees whose duties require them to be on foot in the making up of trains in railyards need clear and firm ground to safely maneuver their way between tracks, connect cars and brake lines, and operate track switches.



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Vegetation management within the areas approaching at-grade highway crossings is especially crucial. F.R.A. mandates specific levels of sight distance approaching a crossing so that motorists may clearly see approaching trains in time to make safe decisions in relation to the speed of said approaching train. Track inspections, required twice-weekly on passenger track, require inspectors to have a clear and unimpeded view of the track structure. For an inspector to accurately be able to view the rail, tie plates, spikes, track joints, switches, frogs, and other track appurtenances they must be free of vegetation. While inspecting from the cab of an on-track vehicle, or the more intense walking inspection, it is essential for the infrastructure to be free of vegetation.

That the proper and compliant management of vegetation is essential to the proper and appropriate safety of operating railroads, their carriage (either passengers or goods), their employees, and the communities through which they operate is without question.

Vegetation Management

The Valley Railroad Company's VMP is unique among Connecticut rail operators because the Company itself is unique. As an operator of historic rail equipment (some of which is over 100 years old) on a rail corridor managed by CDEEP rather than CDOT, we are subject to most of the same rules as passenger/commuter carriers, as well as the many freight carriers, are required by law to follow, including those regarding the management of vegetation. There are differences, however, in the methods the Company uses to achieve such compliance in the context of a scenic, park-like setting within a quiet community through an environmentally significant portion of our State. Our visual appearance and aesthetics are perhaps of more significance to us than it might be to others. The individual and personal relationship we have with our lineside neighbors is vital and important.

The Company utilizes many methods of vegetation management on the route of tracks from Old Saybrook to Maromas (the southeastern portion of Middletown) between our physical connection with Amtrak's Northeast Corridor at Mill Rock Road, and the end of the leased property 1,200 feet north of the siding switch that goes into Pratt Whitney/United Technologies. As this is a park property, with scenic beauty and enjoyment being the primary reason people visit, our methods of vegetation management differ from other railroads. The Company has productive and friendly relationships with its lineside neighbors, and their concerns are taken into account. Vegetation management consists of:

- 1) Landscaping areas near at-grade highway crossings
- 2) Lineside mowing along the tracks
- 3) Application of weedspray to tracks by licensed contractor
- 4) Tree cutting
- 5) Limb cutting
- 6) Mechanical Brush Cutting



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Landscaping: The Company prides itself in maintaining the areas around at-grade public highway crossings by regular mowing and trimming, such that these areas have the appearance of residential lawns nearby. Such landscaping is performed in a way that it blends into, and is contiguous with, the same work performed by our neighbors, regardless of property border. In this way the community and the area of the crossing both have a clean appearance, appealing to our neighbors and train riders alike. It has been found that by increasing this work, our neighbors and highway owners also have found increased zeal for participating in making these areas attractive. Lines of responsibility regularly blur as all parties contribute to beautification of these areas. This is a scenic benefit to the neighborhoods the railroad passes through, and enhances the image of the State for the many of our visitors (over 40 %) who come from out-of-state.

Lineside Mowing: The Company annually uses a mechanical mower to maintain the vegetation alongside, but outside of, the trackbed area. This time-consuming work prevents the propagation of large vegetation in the key areas along the sides of the tracks, especially along curves, where operator's view down the tracks is imperative. As this is performed by an off-track vehicle, the flexibility is offered to mow a wide variety of locations that support maintaining the property in a park-like setting.

Weedspray: Limited application of weedspray by licensed contractor is performed once per year to the track structure and adjacent ballast section in full compliance with all regulations applicable to railroad use.

To ensure that the contractor is fully compliant with applicable regulations, the Company reviews the application program annually with representatives of CDEEP prior to the work being performed. This step (interestingly *not* required by statute) was initiated by the Company about 10 years ago to provide a higher level of confidence to itself and the communities through which it operates that the applications are done in complete compliance with applicable regulations. At the Company's invitation, representatives from CDEEP have performed ride-alongs on the application vehicle to ensure compliance. CDEEP officials have also performed soil and water tests at selected areas to ensure there is no unwanted migration outside of the targeted weedspray zone. A unique and helpful provision within the Company's lease with the State requires the Company to publish notice in a newspaper with local circulation prior to application.

Products used for railroad application in Connecticut must be listed by the Federal Environmental Protection Agency as approved products for transportation right-of-ways. Contract companies and individual operators are subject to stringent licensing and testing.

In recognition of the scenic aspects of this property, in addition to how we view ourselves as members of the community which we are part of, the Company contracts for a program which is considered minimal within the industry. Our general application consists of a 16' pattern, 8' in each direction from the center of the track, to keep the track structure itself, and surrounding ballast



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shoulder, free of vegetation. Most railroads use brush spray to control considerably wider areas along their tracks, facilities, signage, tree branches, and crossing approaches. The Company, instead, uses mechanical means outside of the envelope kept clear by weedspray. In railroad yards with multiple tracks, the application extends between the tracks to keep vegetation clear. In areas of running or standing water in lineside ditches application is not made, nor over bridges or at-grade highway crossings. Areas along the side of the track containing intentional and/or natural desirable growth (grass, pachysandra, shrubbery which does not impede sight lines) near homes or driveways are avoided altogether. As a courtesy to a particular neighborhood in Haddam, where homes are extremely close to the track, application is currently not made at all. A Company representative is always present with the contractor, to ensure safe rail operations, and to assist with instructing the operator as to locations where the application must be reduced or eliminated. A pre-emergent program is used, to avoid unsightly "brown-out" of dead vegetation along or upon the tracks.

Licensed contractors for this work are few, are very well trained, and use sophisticated specialized vehicles that offer pinpoint control of the application. From the cab of the vehicle the operator has full control of application patterns via electrical controls. The Company, for at least the past 27 years, has only used two contractors for the work, both of whom are well-respected in the field and with Connecticut regulatory officials.

Tree Cutting: The Company uses its own crews and contractors to engage in select tree removal to serve the purposes of safe and compliant operations. Healthy trees that do no impact compliance or safety of operations are retained to the greatest extent possible. Clear-cutting of trees is avoided where possible in favor of select pruning for train clearance and scenic vistas. Invasives and unwanted vegetation in the form of viney material that reaches upward into trees is thwarted by cutting off at ground level and allowing it to die and fall off, preventing removal or illness to trees. Trees that are growing on top of, or in very close proximity to, below-grade culverts are very often removed in their entirety due to the potential damage they cause due to root infiltration and dead load weight.

The Company is sensitive to its neighbors when determining the level of tree cutting required. In a location near the Chester/Haddam town line, a row of evergreens is kept closely trimmed near the track to protect the privacy of a home only 30' distant. In Haddam, a neighbor who highly values privacy was shown which trees needed to be removed to provide minimal train clearance prior to such activity taking place. Tree removal around at-grade crossings balances regulatory and safety requirements with the aesthetic needs of the surrounding neighborhood.

Material this is cut down is, in most cases, pulled away from the operated and mowed portions of the track and allowed to naturally decay. When convenient, wood that may be used as residential firewood is removed and used as such.

Limb Cutting: The Company frequently uses limb cutting (chain saw, pole pruner, power pruner) in order to effectuate adequate train clearance while reducing the need to remove



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otherwise healthy or desirable trees. An elevated work platform is often used to extend the workmen's reach in these cases. Preference is given to remove low canopy of trees to open up scenic vistas without wholesale tree removal. Along causeways, marshlands, and the river the Company seeks to reduce the visual impact to the viewscape such that boaters, kayakers, and canoeists do not recognize the presence of the railroad track unless a train is traversing it.

Mechanical Brush Cutting: From time to time the Company may use and/or hire a commercial brush cutter, but this is avoided whenever possible. Such machinery (also known as a flail cutter/mower, or a "brush hog") indiscriminately tears vegetation and leaves behind in its wake debris and tree damage that is not aesthetic and leaves desirable vegetation prone to disease and infection.

Safety and Liability

Mechanical vegetation removal poses risks to employees and members of the general public in regards to airborne and/or discharged debris that must be mitigated. Company personnel are subject to safety training to minimize such hazards, and the Company holds liability insurance for its activities. Contractors must exhibit safe practices, and are subject to considerable insurance requirements as imposed by the Company's lease with the State of Connecticut. Policy and common-sense approaches are both used to ensure public safety in the vicinity of mechanical vegetation control.

The application of weedy spray is performed in a safe and controlled manner that is presently overseen by regulation and authorities at both CDEEP and the EPA. Licensed contractors applying weedy spray to the track area only work with products that are authorized for use on transportation rights-of-way by the EPA and the State of Connecticut. When applied by a Connecticut-licensed contractor, in accordance with State and Federal law, material label instructions, and this VMP, weedy spray selected from a list of products licensed for use in Connecticut is expected to have no unreasonable adverse effects to the general public, employees, or the environment. Per Federal law, licensed applicators have the legal responsibility for any spills or unwanted discharges of product, being liable for damages, subject to penalties, and obligated to clean up and decontaminate areas resulting from spills. Since contractors normally only carry small amounts of products used for weedy spraying, the potential for serious accidents is very small.

SUMMARY

Connecticut is a lush, green state that values its environment, its vegetation, and its trees. The State is known for having one of the densest urban tree canopies in the country. That its



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citizens would have interest in a railroad's vegetation management plan is not only unsurprising, it is expected and appreciated. Railroads hold a great responsibility given the amount of land they cover, the areas they operate over, and the communities they are a part of. We all share in the stewardship of the land.

It is the Company's sincere belief that it has struck a reasonable balance between landscaping, mechanical brush control, and selective weedy spray use that best satisfies the many regulatory, safety, environmental, and aesthetic issues arising from undesirable vegetation within the current technology, and equally importantly, the concerns of the neighbors in the communities through which it operates. The Company is continually inquiring with regulatory authorities and challenging its contractors in regards new technology and/or products that may be equally or more effective. It strives to have a community responsiveness that is unmatched. Where we can improve - we do.

Robert W. Bradway, Jr.
Vice President - Track and Property
The Valley Railroad Company