

DATE: February 25, 2005

FROM: Sonny P.A. Chickering, P.E., County Engineer

TO: Health Advisory Committee (HAC)
Vegetation Management Advisory Committee (VMAC)

SUBJECT: Response to the Jones & Stokes Report
"Lane County Roadsides, New Perspectives for Vegetation Management"
Dated January 27, 2005

Following adoption of Ordinance No. 12-03, "Roadside Vegetation Management and Last Resort Herbicide Use Policy" in August 2003, I ordered a moratorium on use of herbicides by Lane County (LC) Road Maintenance personnel. This moratorium has been in effect since that time, pending creation of an implementation plan for the Ordinance. Internal attempts to create the implementation plan were slowed significantly by the retirements in late 2003 of my Road Maintenance Manager and Vegetation Management Coordinator. After a few months of continued attempts to set aside time for preparation of the plan, I opted instead to contract the work to our on-call environmental consultant firm, Jones & Stokes. The resulting report was finalized in January of this year, and is the subject this staff response.

Proposed Amendments to Ordinance 12-03

I do not recommend an overall rewrite or revision of the Ordinance. Although improvements in form, accuracy and clarity would have made creation of an implementation plan easier, I believe the current Ordinance language provides sufficient direction to staff. We do propose five specific amendments to the Ordinance as follows:

1. LC 15.510(3)(e) which now reads:

Within one year after the effective date of this chapter, and for each consecutive year, Lane County will aspire to reduce its herbicide use along county roadsides by at least 5%. Herbicide use reduction will be measured by the percent of roadside miles treated with herbicides as compared to the previous three-year average.

Should be amended to read:

Within one year after the effective date of this chapter, and for each consecutive year, Lane County will aspire to reduce its herbicide use along county roadsides by at least 5%. Herbicide use reduction will be measured by the amount of product(s) used as compared to the previous three-year average. Quantities of product(s) will be recorded by fluid or solid weight prior to mixing with surfactants or other inert additives.

2. LC 15.510(4)(d) which now reads:

Product is not acutely toxic to humans; product is not labeled as DANGER or POISON (Toxicity Class I or II).

Should be amended to read:

Product is not acutely toxic to humans; product is not labeled as DANGER or WARNING (Toxicity Class I or II).

3. LC 15.520(1) which now reads:

Yellow notification signs shall be posted at least seven days prior to any herbicide application. Orange notification signs shall be posted and remain in place for at least seven days after herbicide application. Signs shall be posted along the treatment site. Signs shall be posted at half-mile intervals.

Should be amended to read:

Yellow notification signs shall be posted at least seven days prior to any herbicide application. Orange notification signs shall be posted and remain in place for at least seven days after herbicide application. Signs shall be posted at the beginning and end of the segment, as well as at other appropriate locations within that segment.

4. LC 15.520(2) which now reads:

Notification signs shall begin with a header containing the signal word from herbicide label alongside the words, "Application." For example, "WARNING: HERBICIDE APPLICATION." Signs shall be approximately 18 by 24 inches, and shall include the following information: the product name, active ingredient(s), known inerts, and other chemicals mixed with the product, the proposed date of application (yellow signage), the actual date of application (orange signage), the phone number of the department of Public Works contact person for the application, and the phone number or website where the herbicide label and material safety data sheets can be obtained.

Should be amended to read:

Notification signs shall begin with a header containing the signal word from herbicide label alongside the words, "Application." For example, "WARNING: HERBICIDE APPLICATION." Signs shall be approximately 8.5 by 11 inches, and shall include the following information: the product name, the proposed date of application (yellow signage), the actual date of application (orange signage), the phone number of the department of Public Works contact person for the application, and the phone number or website where the herbicide label and material safety data sheets can be obtained.

5. LC 15.520(3) which now reads:

During the herbicide application process, additional temporary roadwork signs shall be placed around the work site. The signs will be at least two feet square and say "HERBICIDE APPLICATION AHEAD." The spray truck will also say "HERBICIDE" on the front and back in at least six-inch high letters.

Should be amended to read:

During the herbicide application process, additional temporary roadwork signs shall be placed around the work site. The signs will be at least two feet square and say "HERBICIDE APPLICATION AHEAD."

Section (VIII) of the Jones & Stokes report provides reasons of support for proposed amendments 3, 4 and 5 above.

Adoption of Proposed Definitions

Section (I) of the Jones & Stokes report contains definitions of terms or phrases in the Ordinance that staff found unclear, ambiguous or open to interpretation. Adoption of these definitions would improve staff understanding of the Ordinance, and improve our ability to implement the Ordinance requirements in a uniform and consistent manner. We recommend these eighteen (18) definitions be added to the existing “Lane County Integrated Vegetation Management (IVM) Program Standards and Guidelines Document.”

For the complete text of the eighteen additional definitions, see pages 3 thru 7 of the Jones & Stokes report. For consistency with the intent of the Ordinance, I recommend that all uses of the word “pesticide” in the definitions be changed to “herbicide”. Under the section “additional definitions” at the bottom of page 7, I support also adding the proposed definition for the term “feasible alternative”.

Proposed Review of Existing Standards for Roadside Vegetation Control Thresholds

Roadside vegetation control thresholds for mowing and brushing are currently defined on pages 1 thru 3 of the Lane County Integrated Vegetation Management (IVM) Program Standards and Guidelines Document dated August 2001. Policies supporting the current thresholds are found within the Lane County Integrated Vegetation Management (IVM) Program Policy Document. We are concerned that lowering our roadside vegetation management standards will negatively impact safety, be contrary to public expectations, and result in more numerous complaints and requests for vegetation management activities.

For these reasons, I recommend the less conservative control thresholds suggested in the Jones & Stokes report (primarily at the bottom of page 24) be reviewed and considered by the VMAC during the first annual review period required by Ordinance 12-03. Any changes to current thresholds recommended by the committee would be forwarded to the HAC and Board of Health with the 2006 annual report.

Proposed Improvements to Roadside Vegetation Monitoring Practices

I support the Jones & Stokes recommendation to improve our record keeping processes through use of geographic information mapping systems (GIS). The key advantage of this technology is that tabular or listed data is coded to geographic locations using handheld or vehicle mounted geographic positioning hardware (GPS). The tabular data can then be plotted on very accurate computer generated maps, and viewed by staff or the public using common internet-browsing software. The Engineering Division already has a GIS mapping system in operation that associates field data identified by road mile point to a base map of the entire County. Extension of this technology to monitoring roadside vegetation practices can be accomplished by adding a new IVM layer or “coverage” to the GIS system.

Proposed New Technologies or Methods to be Investigated

The Jones & Stokes report contains numerous suggested alternative treatment technologies and methods. I propose staff use these items as a starting point for complying with the Ordinance requirement to investigate and report on non-herbicide control methods in each annual report. Limited pilot studies could be used to ascertain the effectiveness and cost of each alternative vegetation control method. Specific technologies and methods suggested by Jones & Stokes include:

- Pursuing demonstration or test use of the “Berm Shaper” device created and currently implemented by ODOT District 3, in Salem.
- Pursuing demonstration or test use of the “Retriever” device currently being used by ODOT District 4, in Corvallis.
- Considering opportunities for mulching, or use of other products made from recyclables such as ODOT and Caltrans have done.
- Considering use of a product called “Sparkless Bark”, produced in Lane County by a company called Roofgone, and created from recycled (ground/shredded) asphalt roofing.
- Continuing our current practice of planting preferred vegetation following construction, or in appropriate disturbed areas, i.e., one or more seed mixes, consisting mainly of grasses, for various situations.
- Conducting trials using focused herbicide treatments for common woody species, i.e., stump “painting” (current IVM program) or “wicking” via available manual labor rather than broadcast or directed spray.
- Using the Waipuna hot foam system in conjunction with occasional mechanical treatment, and for treating vegetation in “no spray” zones.

Proposed Action Thresholds for Noxious Weeds

The Jones & Stokes report devotes a significant portion of its content to the monitoring, control and eradication of noxious weed species, even going so far as to state that noxious weed control should be one of LC Road Maintenance’s highest priorities. This level of discussion is warranted by the fact that roadways are a primary method of travel and infestation (vector) for non-native species. Seeds, or portions of plants containing various other propagules, can simply ride along in the recesses and crevasses of vehicle undercarriages, or be contained in soils, aggregates, landscaping materials, farm crops or other products being moved from one location to another by motor vehicles. Transported weeds can pose serious ecological and economic problems for streamside and roadside vegetation and landscaping, as well as for commercially farmed crops.

The report separates noxious weeds commonly found within or near Lane County into the following groupings and suggested treatment responses:

- High Threat Species (Table 6) - ODA should be informed immediately, as they will have the most up-to-date control protocols available for use and will likely provide valuable consultation.
- Moderate Threat Plant Species (Common Weeds) listed in Table 7 - A control prescription should be developed, approved, and used; a set of methods covering a range of infestation sizes should be developed as needed, e.g., larger infestations may require large equipment or herbicide treatment(s) to be effective. A sample control prescription is shown in Appendix B of the report.
- Moderate Threat Plant Species (Uncommon Weeds) listed in Table 7 - A County staff person designated to effectively and knowledgeably address the potential problem should be consulted. If a new protocol is needed to address the infestation, the County should engage ODA or the County's on-call environmental consultant, as needed.
- Low Threat Species (Table 8) - Careful consideration should be given to the necessity of control and the methods used. While these plants present a variety of particular problems, they do not generally present a significant economic or health threat to the County. These plants may present some of the most difficult control problems.

At present, noxious weed control is included as one of six priorities listed in the IVM Goals Statement, on page iii of the "Lane County Integrated Vegetation Management (IVM) Program Policy Document." The six goals have been routinely implemented through our IVM program, however, assuring roadside safety, preserving the roadway and roadway structure, using resources in a cost-effective and responsible manner, and providing environmentally responsible vegetation management have been seen as higher priorities than noxious weed control. I recommend that noxious weed control not be given a higher priority in our current IVM program, unless the work is moved to a separate entity such as a newly created "Weed Control Board" as is used in Thurston County, WA and other jurisdictions across the northwest. Creation of a Weed Control Board would require action by the Board of County Commissioners.

The report recommends creation of "control prescriptions" for the threat species listed in Tables 6 through 8. Standard control methods that may be used include:

- Manual Removal (pulling)
- Mulching – (organic and inorganic mulches, solarization)
- Biological Controls
- Focused Herbicide Treatment (injection, brushing)
- Woody Plants (stump treatment)
- Large Infestations (herbicide spray and plowing)

I recommend my staff work with representatives of Jones & Stokes to prepare control prescriptions for the noxious weeds most commonly encountered within our road rights-of-way. Higher priority should be given to those weeds that pose the most significant threat to driver safety, are likely to significantly impact the road structure, will impede roadside drainage systems, or have the highest propensity for spreading to abutting properties.

Proposed Herbicide Products

The Permitted Herbicide Product List proposed by Jones & Stokes is shown as Table 9 on page 34. Appendix C contains an associated detailed product matrix, including the criteria used to rank listed herbicides based on soil half-life, mobility, and toxicity, weighted by the latter. These ranking criteria are taken directly from Ordinance 12-03, Section 15.510(4) addressing mandatory criteria and 15.510(5) covering additional criteria to be considered. Appendix E lists web-based information sources concerning these and other pesticides, and Materials Safety Data Sheets (MSDS) for each proposed permitted herbicide are included as Attachment 2 to the report.

Selection of herbicides to be placed on the Permitted Products List should be based upon need(s) identified in control prescriptions for the various types of vegetation to be addressed. Until control prescriptions are created, it would be premature to eliminate any of the products from Table 9 of the report.

Structural Organization and Operations

I support the Jones & Stokes recommendation to refill the position of Vegetation Management Coordinator. The complexities of implementing and administering an IVM program large and comprehensive enough to address more than 2,800 roadside miles are significant, and require the attention of a full-time coordinator. The successful candidate will have extensive knowledge and experience in all types of vegetation control science and methodology, both with and without the use of herbicides. Experience must include practical applications within road rights-of-way and knowledge of traffic control, equipment operation, and the safety of employees and the traveling public. The new coordinator must have the ability to understand and implement the intricacies of Ordinance 12-03, must have superior communication and educational skills, and must strive to create and foster open and productive relationships with members of the general public, the Health Advisory Committee, and the Vegetation Management Advisory Committee.

Recommended Training and Education

I support the Jones & Stokes recommendations related to continuing training and education of vegetation crew supervisors and employees. Organizations that will be utilized as training and education resources include:

- The Oregon Vegetation Management Association (OVMA).
- The National Roadside Vegetation Management Association (NRVMA).
- The Oregon Dept. of Agriculture (ODA) and Oregon Dept. of Transportation (ODOT).

I also support the recommendation to maintain a collection of noxious weed resources, such as laminated field books and/or a weed-resource library. Appendix D of the Jones & Stokes report contains a short list of suitable web-based resources that could be built upon and expanded by the new coordinator.

With regard to educating the public about vegetation control needs along County rights-of-way, my highest priorities are communicating what current roadside vegetation problems exist, and why regular vegetation control activities are a cost-effective method of preserving public funds

and providing safe roadways. Second would be creating a readily accessible GIS based information resource that would allow the public to determine what operations we are, and have been conducting in their area. Included in this effort would be sustaining the No Spray Area (NSA) program, and complying with the public notification and communication requirements of Ordinance 12-03.

Although Jones & Stokes has recommended strengthening our involvement with regional jurisdictions and organizations with regard to noxious weed control, the constitutional limitation on our funding source restricts how much time, energy and money we can allocate to this serious problem. It appears there is a critical mass of citizens and agencies interested and willing to work cooperatively on the prevention, control and eradication of noxious weed infestations. The Board of County Commissioners should consider creation of a separate entity such as the “Weed Control Board” used in Thurston County, WA and other jurisdictions across the northwest. Such an organization could organize or participate in cooperative noxious weed education and training efforts similar to the “Master Recycler” program sponsored by the Lane County Waste Management Division.

Public Notification and Communication Systems

Some details of the herbicide spray notification process mandated by the Ordinance seem overly prescriptive, particularly with regard to the amount of information to be provided on roadside signs, and the number of signs that must be posted. Full compliance with the Ordinance as currently written, will significantly impact the amount of time spent in the field and the exposure of employees to traffic hazards. A related and unnecessary increase in the cost of herbicide application is expected, and may prove significant enough to eliminate the use of herbicides as a cost-effective component of our IVM program. As a result, we have proposed a few specific amendments to the Ordinance as outlined at the beginning of this document.

Record Keeping

I support the Jones & Stokes recommendations regarding more transparent and open record keeping processes. In particular, record keeping should be managed so it is focused on addressing information needed for preparing the Annual Report, and for review at any time. An Excel spreadsheet, GIS database, or other electronic data collection and display system should be developed for logging and displaying daily work activities. The VMAC could receive a copy of the year-to-date production data at each of their meetings as a means of assessing IVM program compliance throughout the year.

Records kept should include, but not be limited to the following:

- All data required by law (including the ordinance) in the required format.
- Number of roadside miles receiving any application, including all manual, mechanical, herbicidal, alternative, and experimental treatments.
- Amounts of resources used for each treatment type, such as FTE’s machine hours, amounts of herbicide, and the estimated cost of all other pertinent materials.

- Equipment costs, including new equipment, maintenance, and depreciation.

Annual Report Template (Attachment 1)

- Title Page - The report should be addressed to the Health Advisory Committee, Vegetation Management Advisory Committee, and Board of Health.
- Part I, Past-Year Herbicide Use - A definition for “quantity and concentration of product” should be added to the other 19 definitions proposed for listing in the “Lane County Integrated Vegetation Management (IVM) Program Standards and Guidelines Document.”
- Part I, Table of Past-Year Herbicide Use - If the Board of Health approves the use of herbicides not on the Approved Products List during the course of the report year, quantities and concentrations of those herbicides will be shown separately.
- Part IV, Cost of Herbicide Application - Modify the title and content of this section to reflect the costs of all IVM activities during the report year, including non-herbicide treatment activities.
- Part V, Non-Herbicide Control Methods - Change the title of this section to “Successful Herbicide Reducing Control Methods”.
- Part VI, Ineffective Control Methods - Change the title of this section to “Unsuccessful Herbicide Reducing Control Methods”.
- Part VIII, Planned Herbicide Use Reduction - The text in this section appears to be incorrectly copied from Part VII. The content of this section should accurately portray at least a four-year running summary of herbicide use.