2003 Report of the

COMMISSION ON THE FUTURE OF VIRGINIA'S ENVIRONMENT

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

REPORT DOCUMENT NO. 56

COMMONWEALTH OF VIRGINIA
RICHMOND
2003

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2003 REPORT

I. EXECUTIVE SUMMARY

The Commission on the Future of Virginia's Environment was originally created by the 1996 Session of the General Assembly as a two-year joint legislative study committee on the "future of Virginia's environment." House Joint Resolution 221 directed the joint study committee to examine the history of environmental and natural resources programs and the budgetary trends for resources management in the Commonwealth, and to develop a long-term vision and plan for the future protection, enhancement, and utilization of Virginia's natural resources.

The General Assembly successively continued the study for one-year intervals beginning in 1998 (HJR 136), and continuing through 1999 (HJR 719), 2000 (HJR 76) in which it was formally recognized as "The Commission on the Future of Virginia's Environment," and 2001 (HJR 373). The details of the Commission's work and accomplishments are documented in House Document No. 4 (1999), House Document No. 15 (2000), and House Document No. 108 (2000).

In recognition of the number of difficult environmental and natural resources issues continuing to face the Commonwealth, the General Assembly continued the Commission for another year with the passage of Senate Joint Resolution 117 during the 2002 Session ***(Appendix A)***. The Commission, chaired by Senator Bill Bolling, completed its most recent one-year charge by following up on several items from the previous year, and by working to revise and strengthen Virginia's laws concerning the land application of biosolids.

During its study of biosolids the Commission received testimony from a wide range of stakeholders, including state and federal regulatory agencies, local governments, wastewater treatment facilities, concerned citizens, environmental groups and scientists. The Commission formed a biosolids subcommittee that received in-depth written comments from all interested parties, and presented its findings in the form of a legislative bill draft. Subsequent meetings of the full Commission were dedicated to reviewing the status of items from the previous year, including the 2001 Waste Report, regulated medical waste regulations, barge regulations, landfill closures, wetlands permitting and litigation, Total Maximum Daily Loads (TMDL), Tributary Strategies Program, updates on recycling and the Commonwealth's anti-litter campaign, and a presentation on Low Impact Development. Finally, 2002 marked the second year and conclusion of work by the Erosion and Sediment Control and Stormwater Management Subcommittee, chaired by Senator Emmett Hanger.

During 2002, the full Commission and two subcommittees met on the following dates:
Full Commission - April 29, May 28, June 18, October 15 and November 7
Biosolids Subcommittee - August 28 and October 7
Erosion and Sediment Control & Stormwater Management Subcommittee - October 17

II. COMMISSION ACTIVITIES

A. BIOSOLIDS.

1. Background (Senate Bill 618).

The Virginia Department of Health (VDH) defines biosolids as sewage sludge that has received an established treatment for required pathogen control and has been managed to reduce vector attraction to a satisfactory level and contains acceptable levels of pollutants, such that it is acceptable for use for land application, marketing or distribution in accordance with 12 VAC 5-585. Various biosolids contractors and wastewater treatment facilities provide biosolids generated by treatment facilities at little or no cost to farmers for use as fertilizer. Land application accounts for approximately one-half of the sewage sludge disposal in Virginia; the remainder is either incinerated or deposited in landfills. Due to a variety of reasons, including citizen complaints regarding odor, potential health risks, truck traffic and spillage issues, several Virginia localities have recently enacted ordinances placing limits on or banning the land application of biosolids within their boundaries.

During the 2002 Session of the General Assembly, the Senate Committee on Agriculture, Conservation and Natural Resources referred Senate Bill 618 to the Commission on the Future of Virginia's Environment ***(Appendix B)***. As introduced, SB 618 would grant localities the authority to ban the land application of sewage sludge (biosolids) within their boundaries. The May 28 meeting provided Commission members with background information on this issue. The Commission received testimony from an advocate of SB 618, staff regarding current state law, the U.S. Environmental Protection Agency (EPA) regarding the history of the federal biosolids program, and the Virginia Department of Environmental Quality (DEQ) and VDH regarding the state's current biosolids program.

A representative from the Northumberland County Board of Supervisors presented the bill to the Commission on behalf of its chief patron, Senator Creigh Deeds. The county supervisor characterized SB 618 as "simple in nature and broad in scope" and emphasized the need for clarification in state law so localities will know exactly what authority they have in this area. He asserted that the bill would provide such clarity and prevent further "regulation" of this issue by the courts. He also questioned the ability of VDH to effectively oversee the land application of biosolids with only two full-time employees assigned to the statewide program.

2. State Laws.

Staff provided a review of state laws and pending litigation relating to the land application of biosolids. The EPA sets minimum standards in 40 CFR Part 503 of the Clean Water Act and delegates the majority of administration and enforcement to the states. The primary land application provisions in state law are set forth in §§ 32.1-164.5 and 62.1-44.19:3 of the Code of Virginia ***(Appendices B and C)***[1], while the corresponding Board of Health regulations are established in 12 VAC 5-585-10 et seq. Any sewage treatment facility that land applies sewage sludge must obtain a permit from DEQ, while anyone contracting with a sewage

[1] SB 1088 (2003) amended § 32.1-164.5 and added new sections 32.1-164.6 and 31.2-164.7. *See* ***Appendix U.***

treatment plant to land apply sewage sludge must obtain a permit from VDH. The Virginia Right to Farm Act (§ 3.1-22.28 et seq.) prohibits local ordinances from requiring a special use permit for agricultural practices in areas zoned for agriculture ***(Appendix D)***. The Act specifically excludes, however, the land application of sewage sludge from the agricultural practices it protects from such local regulation. Similar provisions are also found in § 15.2-2288 of the local government title.

3. Biosolids Litigation.

In 2001 the Virginia Supreme Court held a local ordinance prohibiting the land application of biosolids invalid due to its inconsistency with state law. *Blanton v. Amelia County 261 Va. 55, 540 S.E. 2d 869 (2001)* ***(Appendix E)***. State law, the Court held, expressly authorizes land application conditioned upon the issuance of a permit. In response to a question from the Commission, staff explained that the decision in *Blanton* was limited to consideration of one particular county ordinance and that the Court did not offer examples of local ordinances that would be permissible. Similarly, a 2002 Attorney General Opinion concluded that a local ordinance requiring the permit applicant to obtain a conditional use permit from the locality before land applying or storing biosolids was preempted by the comprehensive state program regulating biosolids use. *A.G. Op. March 29, 2002* ***(Appendix F)***. Ordinances placing special requirements on the land application of biosolids are currently being challenged by contractors in Circuit Court in Spotsylvania County and by farmers in the United States District Court for the Western District of Virginia.

4. Agency Presentations.

a. Environmental Protection Agency (EPA)

(i) History of EPA Involvement. Dr. Robert Bastian, from the EPA's Office of Water, presented a history and an overview of the current federal program on management of sewage sludge. The EPA began an extensive research and development program studying sewage sludge land application in the 1960s. Both the Resource Conservation and Recovery Act (RCRA) and the Clean Water Act (CWA) emphasize the recycling or reuse of waste materials whenever possible to divert such material away from landfills or to prevent them from being destroyed in a manner that creates pollution in other areas, such as incineration. In the late 1970s, the EPA worked with states to develop guidelines for land application pursuant to Part 257 under RCRA and CWA. During this period, states were at the forefront in issuing permits and tracking individual projects. In the early 1990s, due in part to activity in the courts, the EPA developed more comprehensive sewage sludge standards under 40 CFR Part 503. The EPA is in the process of developing a comprehensive biosolids data management system to track biosolids quantity, quality and practices.

(ii) Health Studies. In the 1970s a study of farm families land applying class B biosolids showed no adverse health effects. Currently, the EPA is in the process of studying dioxin and radiation levels in sewage sludge. So far, problems in these areas appear to be site-specific and formal guidance should be issued by the end of the calendar year. Studies on the potential health concerns related to odors and bioaerosols are being coordinated with Centers for

Disease Control and the National Institute for Occupational Safety and Health. Also, the National Academy of Science is currently reviewing the scientific methods used in formulating the Part 503 standards established 10 years ago.

(iii) Federal Regulation. 40 CFR Part 503 addresses use and disposal of sewage sludge. Today more than one-half of the sewage sludge produced in the United States is land applied. The EPA standards are minimum requirements and states often impose stricter standards. The federal rules are self-implementing, therefore no federal permit is required to land apply. Nothing in Part 503 directs local facilities to incinerate or land apply, etc., which leaves the method of sludge disposal a state or local option. Part 503 standards include: sludge quality requirements concentrating on nine heavy metals and field loading limits (at agronomic rates), vector attraction reduction requirements, management practices dealing with nitrogen levels, and recordkeeping requirements. The federal rules distinguish between class A (pathogens reduced to below detectable levels using specified methods) and class B (significant reduction of pathogens combined with site restrictions) biosolids. Pasteurization, heat drying and composting are treatment methods used to reduce pathogen levels.

(iv) EPA Policy. If applied in accordance with minimum Part 503 requirements, biosolids can be safely applied. The EPA views the states as having the lead in the implementation of land application procedures. Dr. Bastian was not aware of any statewide bans on this process.

b. Virginia Department of Environmental Quality (DEQ)

(i) VPDES Permit. Pursuant to § 62.1-44.19:3 Virginia Code, DEQ requires a Virginia Pollutant Discharge Elimination System Permit (VPDES) for any sewage treatment works land applying sewage sludge. Land application is by far the most utilized method of sludge disposal pursuant to VPDES permits as opposed to land filling or incineration. The plant owner (sludge generator) is responsible for the quality of the biosolids to be land applied unless he contracts with a land applicator, in which case the latter is responsible.

(ii) Environmental Protections. VDH regulations provide sludge quality standards and soil monitoring requirements for pathogens, metals, vector attraction, nutrients, etc. Ground water monitoring is required in locations where sludge is applied more than once every three years. Sludge quality data is made available to owners of the land where the sludge will be applied, and notice is given to adjoining landowners. Other site management environmental protections include buffer requirements (minimum distances from occupied dwellings, wells, springs, property lines, roadways), slope restrictions (must be less than 15 degrees), pH management requirements and storage requirements, nutrient loading, and time of the year guidelines. Wastewater treatment plants treating more than one million gallons of water a day of which there are 90-100 such plants in Virginia, are required to provide annual quality reports to DEQ on a regular basis; whereas, smaller facilities are only required to keep records on-site to be available for periodic inspections.

(iii) DEQ Policy. When properly applied and managed, biosolids provide essential plant nutrients, enhance moisture retention, improve soil fertility and productivity, reduce soil erosion and runoff, and save diminishing landfill space.

c. Virginia Department of Health (VDH)

The Director of the Office of Environmental Health Services at VDH provided the Commission with relevant biosolids statistics and described the agency's role in the land application of biosolids.

(i) Biosolids Facts.

- 50% of biosolids generated in Virginia are land applied, while the rest are either incinerated (20%) or land-filled (30%).
- 50% of all biosolids applied to land in Virginia come from out of state.
- Since 1997, VDH has approved more than 100 permits covering 300,000 acres, many of which are currently due for re-issuance.
- More than 40,000 acres in Virginia receive biosolids annually.
- Forty-two counties contain permitted sites.
- There are nine contractors currently land-applying biosolids in Virginia.
- Biosolids contain nutrient-rich organic material such as nitrogen and phosphorous, dry solids consisting mostly of paper and hair fibers, trace elements from sewage, including very low levels of toxic chemicals, and millions of microorganisms per gram.

(ii) Biosolids Program. VDH quality control measures include monitoring of trace elements and vector attraction, and verification of the treatment process. The biosolids program staff consists of one scientist and two full-time engineers who visit generators both in and out of state. VDH receives monthly reports on biosolids quality from generators through the contractors. In addition to the federal requirements of 40 CFR Part 503, VDH's biosolids use regulations also require the contractor (land applicator) to obtain a permit for each site. The permit application must include a landowner/farmer agreement setting forth management practices and nutrient management plans in some instances. Once issued, each permit is valid for five years. During the permit approval process, VDH visits each site. After land application, staff visits are limited to investigating complaints (approximately two times per month) and routine inspections of approximately 12 sites per year. Most land application sites receive biosolids approximately once every three years. For in-state generators of biosolids, VDH relies heavily on information obtained from DEQ. For out-of-state generators (e.g. New York, New Jersey, Washington, D.C.), VDH staff visits those facilities to ensure compliance with Virginia's quality standards.

(iii) Notification and Public Comment. Once VDH approves a permit application, VDH staff notifies other state agencies (Department of Conservation and Recreation, Agriculture and Consumer Services, and DEQ), the county administrator and county board chairman. VDH then holds a public informational meeting, which is advertised in local newspapers. The contractor and farmer are often present in addition to VDH staff to answer

questions from the public regarding the proposed use of biosolids. The most common complaints from the public are related to odor and truck traffic.

(iv) Setbacks and Buffers. Biosolids must be applied at least 100 feet from drinking water wells and 200 feet from occupied dwellings. Other setbacks are site-specific, depending on slope and other conditions. Setbacks from streams are at a minimum 35 feet. When local ordinances are more restrictive than the state regulations, VDH works with the locality in establishing setback and buffer requirements. Commission members questioned the enforceability of more stringent local ordinances in light of the *Blanton* case. While declining to address such legal issues, the Director did explain that VDH is considering a petition submitted by biosolids contractors with regard to advance notification to surrounding landowners and to local governments, and identification of contractor resources to ensure ability to deal with any problems resulting from a land application. Contractors have requested agency review of these issues as typical standards being enacted by some localities.

Land application of sewage sludge shall not occur within the following minimum distances:

	Minimum Distance (feet) to Land Application Area		
Adjacent Features	**Surface Application**	**Incorporation**	**Winter**
Occupied dwellings	200	200	200
Water supply wells and springs	100	100	100
Property lines	100	50	100
Perennial streams and other surface waters except intermittent streams	50	35	100
Intermittent streams/drainage ditches	25	25	50
All improved roadways	10	5	10
Rock outcrops and sinkholes	25	25	25
Agricultural drainage ditches with slopes equal to or less than 2.0%	10	5	10

(v) Fee Collection. In 2001, Senate Bill 2827 granted localities the authority to adopt ordinances for the "testing and monitoring of the land application of sewage sludge within its political boundaries to ensure compliance with applicable laws and regulations" ***(Appendix G)***. Pursuant to the regulations promulgated under this provision, VDH must reimburse local monitoring costs "deemed reasonable" by the Division of Wastewater Engineering of the Office of Environmental Health Services up to $2.50 per dry ton of biosolids land applied and may reimburse the locality for costs up to $4.00 if sufficient revenue exists. 12 VAC 5-585-50 ***(Appendix H)***.

d. Virginia Department of Conservation and Recreation (DCR) - Sludge Nutrient Management Plan

The DCR Director of the Soil and Water Conservation Division addressed the Commission on nutrient management and nutrient pollution as they relate to the land application of biosolids. The goal of nutrient management is to use nutrients to the maximum extent possible, while limiting pollution of surface and ground water. This concept also applies to application of chemical fertilizers and manure. He explained that runoff from biosolids can reach streams and waterways and leach into ground water. The nitrogen and phosphorus found within biosolids can fertilize algae growth, reducing water clarity and endangering fish habitat. Nitrates present additional concerns with surface and ground water. DCR has trained and certified more than 350 nutrient management consultants, one-third of whom are state employees.

Restriction of fall and winter applications of biosolids is important because these times are particularly prone to runoff and leaching of nutrients. The Director recommended requiring nutrient management plans (NMPs), currently required in about 20 percent of all sites, for *all* application sites. In contrast to the biosolids program, NMPs are required for manure applications on all confined animal farms that must have waste permits (1300 permits in Virginia). In response to a question from the Commission, the Director said that the land application buffers DCR requires are for water quality and that the agency works toward consistency with VDH regulations (50 feet for surface waters). Site-specific conditions might cause alterations to this standard. He added that nutrient management plans do not impact buffer requirements.

5. Stakeholder Testimony.

a. Local Government Perspectives

(i) The Spotsylvania County Attorney testified that a county ordinance requiring a special use permit for the land application of Class B biosolids is currently the subject of litigation before the circuit court. Spotsylvania favors the use of Class A biosolids, and applies it on county lands. Also, the County interprets the Virginia Supreme Court opinion in *Blanton* to allow localities to enact biosolids ordinances, as long as they are not inconsistent with state law.

(ii) The Rappahannock County Administrator explained that his county is concerned with ground water resources because 96 percent of its citizens depend on private water supplies. Land application has been banned in the County since 1985 due primarily to concern that biosolids will contaminate the ground water. This position by the Board of Supervisors has been supported during local elections and the Board has defended itself in state and federal courts. Based on a visit to Blue Plains Wastewater Treatment Plant in the District of Columbia, a major biosolids exporter to Virginia, the Board believes that current controls and safeguards are completely inadequate. Board members support SB 618 because they feel they are best qualified to make decisions regarding the land application of biosolids in Rappahannock County. In response to a question from the Commission, the administrator replied that most of

the biosolids produced in Rappahannock County are land-filled, while the remainder are exported to neighboring counties.

(iii) The Director of Public Utilities in Henrico County spoke on behalf of a group of wastewater treatment plants. He asserted that plants produce safe Class B biosolids for land application in Henrico County. The Class B biosolids program costs $15 per ton at the wastewater treatment plant, while a Class A program would cost $60 per ton - an increase of $1.35 million per year for the County. This increased cost is due to more treatment of the biosolids, not necessarily more technology. Random monitoring for trace elements of concern has resulted in civil and criminal penalties for lack of compliance, including the prosecution of eight cases in Henrico County. The Director explained the wastewater treatment process as biological. Once wastewater reaches the water reclamation plant, sludge is removed and sent to a Class B treatment facility where an anaerobic treatment kills most pathogenic microorganisms. The sludge is then sent to a gravitational source to spin out the water. Regulations require testing for nine trace elements. He said that testing shows that these elements are reduced to levels much less than those required by the EPA, and that years of empirical data show no documented evidence of illness attributable to personnel working around wastewater treatment.

(iv) The Director of Water Quality from the Hampton Roads Sanitation District explained that land application keeps county sewage disposal costs down. Without the land application option, incinerator costs would be $5 million-$30 million, prohibitive for small communities. Landfill costs are approximately double those of land application ($60 per ton versus $27 per ton). Based on the 700,000 tons of biosolids land applied in Virginia, this practice saves $23 million annually and these savings are passed on to citizens. Regarding environmental impact, the Director asserted that fields with sludge application have less runoff than those using chemical fertilizers. He said biosolids application minimizes nutrient runoff, reduces the environmental impact of chemicals, restores organic matter and helps sustain open space. He added that there are no health concerns at their facilities. As for agricultural impact, the director explained that land applied with biosolids can result in as much as a 20-bushels-per-acre increased corn yield compared with chemical fertilizers.

(v) The Director of Environmental Services at the Alexandria Sanitation Authority addressed public concern regarding heavy metals and cited a recent Pennsylvania State University study confirming that sludge is good for crops. As for pathogens and illness, she discussed site practices, asserting that risks with Class B biosolids could be reduced if required site practices are followed. She said that odors are not regulated, but that the USDA is sponsoring research regarding odor control. Local government wastewater treatment facilities exist to serve Virginia citizens and their businesses. Better collaboration between federal and state agencies is needed and "we need to work towards equitable solutions that would allow biosolids application." In response to questions from the Commission, the Director explained that Alexandria land applies 100 percent of its biosolids.

A Commission member then asked a representative of the Virginia Association of Counties (VACo) to comment on the apparent conflict both within counties and between urban and rural counties on this issue. He confirmed the existence of these conflicts and explained that some counties, like Henrico, are both generators and receivers of biosolids.

b. Biosolids Contracting Industry Representative: Overview of Biosolids Land Application Process

Land applicators contract with generating localities and farmers. There is a complex process guided by state and federal regulations that require permitting, site evaluation, sample analysis, preparation of sites such as marking off buffers, working with the local governments, obtaining agreements from owners, and finally applying the biosolids. Biosolids are applied by using a manure spreader for crop fields; for hay or no-till pastures it is spread on top of the soil. The land applicator then follows up with reports to VDH. Responsibility for complying with the regulations exists with the land applicators. Currently in Virginia, three times more land is permitted for the land application of biosolids than is actually being used for application.

In response to a Commission member asking if the contractors' biggest concern is 130 different regulations or living with regulations on a statewide basis, the industry representative said regulations must be at the state level in order to have consistency. The industry representative then asked why local control is needed to protect the environment from biosolids when local control has not been needed to control the application of other materials such as pesticides. Similarly, the state does not allow localities to establish local requirements with regard to air pollution.

A Commission member suggested residential subdivisions in areas still zoned for agricultural uses should not have biosolids applied to them. The industry representative replied, "If biosolids are not safe, then we should not use them, period." He said that the burden of proof should be on the people who say biosolids are not safe to present their case to have biosolids banned. Or, in the alternative, they could seek a change in the regulations. He said that the local governments have zoning authority and contractors are willing to work on using zoning requirements to address these conflicts. Biosolids contractors oppose giving localities the authority to make their own biosolids ordinances and ask that regulations be kept at the state level like other environmental programs.

c. Virginia Farm Bureau Federation: Current Agricultural Practices

A representative from the Virginia Farm Bureau Federation offered his organization's support for state and federal regulation of application of biosolids to agricultural land. He added, "Many of our farmers can't afford fertilizer or lime for their crops." A farmer of 4000 acres in Essex, Middlesex, and King and Queen Counties said that fertilizer represents 50 percent of the crop direct input costs. He recently harvested a crop from a field where he had applied biosolids the previous spring. His farm has 1,728 acres permitted for land application of biosolids in Essex and King and Queen Counties. Land application in Middlesex County is currently not allowed. Last spring he treated 900 acres with biosolids. In accordance with a nutrient management plan, on a typical acre, 19 tons of biosolids are applied, along with 125 pounds of nitrogen and 300 pounds of phosphorus and potash. The cost is $80-$120 per acre. Using biosolids saved his farm close to $90,000 this year. He conceded that odor is a legitimate concern, but offered that biosolids are applied only every four to six years, and the odor is a nuisance only for two to four weeks - not an ongoing problem. Furthermore, no-till application

actually produces less odor than soil incorporation because the biosolids are quickly dried out by the sun.

d. Citizen Groups

Representatives of the Northumberland Association For Progressive Stewardship (NAPS) Sewage Sludge Study Group expressed a variety of health and safety concerns. The group's chairman said the Northumberland County Board of Supervisors, using federal and state standards as minimum guidelines, should maintain tight controls over the land application of biosolids. In response to a question from the Commission, he stated that they favor the banning of land application of biosolids but he also conceded that there are farms far away from homes, wells and waterways where land application could be allowed, with the proper restrictions. Sheilynn J. Hummel, MD, expressed concern over substances that may be present in biosolids but are not monitored, such as antibiotics, hormones and antineoplastics. By remaining in biosolids, these chemicals can be subject to plant and animal uptake and thereby enter the food chain.

Dr. Lynton Land, PhD, a geology professor at the University of Texas, said that because the Chesapeake Bay is impaired for both nitrogen and phosphorous, it is critical that nutrient management plans for both nitrogen and phosphorous be mandated. Dr. Land said that pharmaceuticals and personal care products (PPCPs) represent a very new group of compounds about which there is considerable concern. He also suggested the following as a label for Class B sewage sludge:

> **"Biosolids normally supply similar amounts of plant available nitrogen and phosphorus, but crops require one-fifth to one-half as much phosphorus as nitrogen. Applying biosolids at rates to supply the nitrogen needs of the crop can [will] increase the potential for phosphorous contamination of surface water where soil phosphorous levels are already high."**

A final presenter voiced the group's concerns over the danger to shallow wells from the current 100-foot buffer zone for biosolids. The buffer zone is applied without regard to the type of well and the state of its construction.

Mr. C.W. Williams, Chairman, Biosolids Study Group, expressed concerns over the odors and health risks posed by land application of biosolids. He related a number of anecdotal incidents to the Commission. He also asserted "falsehoods [regarding the health risks of biosolids] are being promulgated through the high offices of the Virginia government and anyone not having knowledge of sludge 'un-safety' must be living under a rock." He also expressed dissatisfaction with the biosolids industry's efforts to work with localities and comply with regulations.

6. Expert Panel.

Two scientists from Virginia colleges briefed the Commission on their latest studies involving biosolids. Dr. Robert Hale, from the College of William and Mary's Virginia Institute

of Marine Science (VIMS), reported his findings and concerns first. Due to the presence of a variety of chemicals found in high levels in sludge, Dr. Hale expressed his concern with the accepted status quo of the land application of sewage sludge. The EPA last reported on sewage sludge in 1993, using data collected in 1989. He believes the EPA standards and risk assessment are flawed and need to be updated with current information and researched further. However, even if more research is conducted, "everything literally in the kitchen sink ends up in biosolids" and the danger many of these chemicals may pose to people, fish or other animals is unknown. Dr. Hale informed the Commission that the National Academy of Sciences was reviewing the EPA's sewage sludge standards and would issue a final report in the beginning of July.

In response to Dr. Hale's comments, Dr. Gregory Evanylo from Virginia Tech questioned the risks raised with the land application of sewage sludge. Dr. Evanylo asserted that Class B sewage sludge is reasonably safe when properly treated and applied according to regulations. He added that no activity is one hundred percent safe, and raised many questions, such as: if contaminants are present in sewage sludge, are they necessarily present at dangerous levels? Are they not found elsewhere in the environment? Are they also found in "clean" water discharged from wastewater treatment plants? Can they be transported up the food chain? Dr. Evanylo said that if there are dangerous levels of compounds present in biosolids, then they should be stopped at the source, not at the end of the process.

In response to a question regarding the levels of contaminants found in sludge, and whether the quality of biosolids has improved over the years, Dr. Hale said that it is important to know all the chemicals found in the sludge and how they interact before one can accurately assess whether the dosage of one known contaminant poses an acceptable risk. Dr. Hale said that the EPA has reported that heavy metal concentrations have decreased in biosolids, but his studies have shown that the levels of other chemicals are increasing.

7. Biosolids Subcommittee.

At its August 28, 2002, meeting, the Biosolids Subcommittee distributed to the public draft legislation based on testimony from previous Commission meetings and input from members. Chairman Bolling explained that this was offered as a starting point, and that the subcommittee would accept written comments from the public on the bill draft for one month.

The Commission also received a staff summary of the National Research Council's biosolids report, an update of pending biosolids litigation, and a review of several counties' biosolids ordinances. A VDH scientist provided testimony on biosolids use regulations and the work of a biosolids advisory group.

a. National Research Council Report

In the summer of 2000, the EPA requested the National Research Council (NRC) to study the land application of biosolids and evaluate the methods used by the EPA in assessing the risks from chemical pollutants and pathogens. The EPA requested that the study assess the science that supports its sewage sludge regulations (Part 503) under the Clean Water Act and help guide them in making future decisions. The NRC completed this study in May 2002 and issued its

266-page Findings and Recommendations report in July. The EPA was scheduled to respond to the NRC report by June 2003 and to make any recommendations by December 2003. The overarching findings of the NRC report state:

> "There is no documented scientific evidence that the Part 503 rule has failed to protect public health. However, additional scientific work is needed to reduce the persistent uncertainty about the potential for adverse human health effects from exposure to biosolids. There have been anecdotal allegations of disease, and many scientific advances have occurred since the Part 503 rule was promulgated. To assure the public and to protect public health, there is a critical need to update the scientific basis of the rule to (1) ensure that the chemical and pathogen standards are supported by current scientific data and risk-assessment methods, (2) demonstrate effective enforcement of Part 503 rule, and (3) validate the effectiveness of biosolids-management practices."

b. Biosolids Litigation

As of the August meeting, biosolids litigation was still pending in the Circuit Court of Spotsylvania County, and in the United States District Court for the Western District of Virginia. Biosolids contractors challenging a county ordinance that requires a special use permit to land apply biosolids filed the Spotsylvania lawsuit. This case was in the pleading phase, and a trial date was expected to be set before the end of the year. A group of farmers in Appomattox County who were challenging an ordinance that required rezoning of an area already zoned for agricultural uses to a new designation of intensive farming overlay district filed the case in federal court (*Tommy O'Brien, et al., v. Appomattox County, Virginia, et al.).* The judge partially granted the plaintiffs motion for preliminary injunction, which effectively suspended the enforcement of the county ordinance pending the outcome of the case.

c. County Ordinances

The Commission reviewed biosolids ordinances from Buckingham, Louisa and Hanover Counties as examples of local efforts to craft ordinances in conjunction with the biosolids contractor industry ***(Appendix I)***. All three ordinances address issues such as notification to the local governing body, sign posting and penalties for violations. Other issues addressed include requirements that the contractor post a bond or present proof of insurance, time of application restrictions, approved truck routes, and odor provisions.

d. VDH - Biosolids Use Regulations Update

As of the August meeting, VDH had issued 100 current permits for the land application of biosolids. Forty-two counties contain permitted sites. More than 300,000 acres are permitted in Virginia, and more than 40,000 acres annually receive biosolids. VDH's Biosolids Use Regulations Advisory Committee (BURAC) was in the process of considering several rulemaking proposals. In response to HB 2827 (2000) BURAC was proposing recommendations for testing and monitoring fees and reimbursements to localities. On April 26, 2002, the Board of Health approved a $2.50 per dry ton fee. This was subsequently revised to include a maximum of $4.00

per ton for which VDH can reimburse localities for their expenses. Based on a petition from the contractor industry, BURAC also considered recommending rule changes to include a financial responsibility or insurance requirement and standards for notification, signage and spill cleanup. The Board of Health was also in the process of revising its field storage regulations.

e. Biosolids Bill Draft

After accepting written comments from the public for one month on an initial bill draft, the subcommittee reconvened on Monday, October 7, 2002, to discuss the comments and to hear additional testimony. The subcommittee received written comments from 19 individuals and interest groups including biosolids contractors, citizens at large, environmental organizations, local government, state agencies and wastewater facilities. *(See **Appendix J** for a summary of public comments.)* After a lengthy discussion that involved testimony from the audience, the chairman offered an amended bill draft aimed at taking many of the public comments into account. The subcommittee endorsed the amended draft for the full Commission's consideration at the November 7, 2002, meeting.

B. EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT SUBCOMMITTEE.

1. Subcommittee Background.

Senate Joint Resolution No. 438 (2001) (***Appendix K***) directed the Commission to examine the consistency, adequacy and the implementation of local erosion and sediment control programs and local stormwater management programs. The Commission established an Erosion and Sediment Control and Stormwater Management Subcommittee to further examine the complexities of the different state programs and to provide recommendations to the full Commission. The members appointed to the 2001 subcommittee were: Senator Bill Bolling, Chairman, Senator W. Henry Maxwell, Senator Emmett Hanger, Delegate David Albo, and Delegate Kirkland Cox. The Erosion and Sediment Control and Stormwater Management Subcommittee was continued in 2002 and its membership consisted of: Senator Emmett Hanger, Chairman, Senator Mary Margaret Whipple, Delegate Lee Ware, Mr. Peter Schmidt, and Mr. Cliff Schroeder, Sr.

2. 2001 Deliberations.

In 2001, the Commission heard testimony from the state environmental agencies and other interest groups. Meanwhile, the subcommittee met twice with the state environmental agencies that presented an overview of Virginia's different Erosion and Sediment Control and Stormwater Management programs. DCR, DEQ, and the Chesapeake Bay Local Assistance Department (CBLAD) all stressed their commitment to working together to improve inter-agency coordination. They submitted a report that included current reporting requirements and program review cycles of the various agency programs, and suggestions for improving agency coordination ***(Appendix L)***. Although it found the Stormwater Management Act (§ 10.1-603.1 et seq.) of the Code of Virginia to be consistent with the different state programs all meeting the

same minimum standards for the ongoing management of stormwater, the subcommittee recognized the need to increase the adequacy of the Act. Because the Act is not mandatory statewide, a significant portion of Virginia has not adopted local stormwater management programs.

3. 2001 Recommendations.

The subcommittee recommended further consideration of a mandatory statewide requirement that all localities in Virginia adopt a local stormwater management program. The subcommittee also recommended further evaluation of the need for enhanced staffing to enable DCR, DEQ and CBLAD to review all local erosion and sediment control and stormwater management ordinances for adequacy and enforcement in a timely manner.

In addition, the subcommittee identified a number of specific issues involving the enhancement and implementation of the two programs. Such issues recommended for further evaluation included:

- Revising Erosion and Sediment Control Law (ESCL) to require performance bonds rather than making them optional;
- Authorizing escalation of penalties for repeat violations of ESCL;
- Modifying ESCL to require an erosion and sediment control plan for the removal of mature trees greater than a specified size;
- Modifying ESCL to enable collection of damages caused by ineffective erosion and sediment control practices;
- Allowing localities to require long-term guarantees from developers installing stormwater management devices as a means of assuring that they function as promised over time; and
- Authorizing localities to impose inspection fees on privately installed best-management practice facilities to offset jurisdictional inspection costs.

4. 2002 Deliberations.

The subcommittee met on October 17, 2002, to discuss Low Impact Development (LID), to hear new recommendations from the Virginia Association of Soil and Water Conservation Districts (VASWCD) and to discuss the recommendations carried over from 2001.

a. Low Impact Development (LID)

A DCR representative gave a presentation on Low Impact Development in Virginia. LID is an innovative approach to site development and stormwater management that mitigates the negative impacts of development on the environment. The approach emphasizes the integration of site design and planning with natural ecosystems and their hydrologic functions. LID practices are currently allowed under existing regulations for erosion and sediment control and stormwater management, state agencies are promoting LID, and interest in LID application is increasing statewide. Urban and suburban development can be designed in harmony with the natural landscape to more closely replicate that of the pre-developed site. This type of creative

design can reduce the destructive effects of stormwater runoff. As an alternative to traditional cookie-cutter development and technology, LID can save green space, reduce paved areas and eliminate the necessity for stormwater ponds to divert run-off. LID thus protects surface and ground water quality, reduces soil erosion and the sedimentation of streams, and improves and preserves the quality of our waterways.

After some discussion of the applicability of LID in Virginia, the subcommittee agreed to further examine the possibility of applying low-impact development to state projects, what role the state could play to encourage the implementation of low-impact development statewide, and the potential for developing state guidelines.

b. Land-Disturbing Activity

A representative of VASWCD expressed concern with an interpretation of the definition of "land-disturbing activity." Section 10.1-560 of the Code of Virginia contains the definitions for the Erosion and Sediment Control Law (Article 4 (§ 10.1-560 through 10.1-571) of Chapter 5 of Title 10.1.) There are 13 exceptions provided within the definition of "land-disturbing activity," including a conditional one for the harvesting of forest crops. Apparently, in some counties where large tracts of land have been clear cut, best management practices have not been used and erosion and sediment control plans have not been submitted for review and approval as required by the ESCL. The land is neither reforested nor converted to bona fide agricultural or improved pasture use, as required for the exception in § 10.1-560 to apply. Sometimes, he claimed, developers install logging roads or farm roads that later become subdivision roads without having submitted the requisite erosion and sediment control plan. In some of these cases, the owner does not declare what he is going to do with the land, the land lies fallow causing substantial soil erosion, and the counties do not enforce the ESCL.

The subcommittee discussed these concerns with the state agencies that were present. It appeared that sufficient statutory authority currently exists in the Code for localities to ensure compliance with the ESCL. The subcommittee recognized the enforcement challenge with multiple state and local agency involvement, and recommended looking into possible solutions to this problem.

c. Program Overview/Carryover Issues

The subcommittee received an overview of Virginia's erosion and sediment control and stormwater management programs. The presentation included a summary of the state programs and a description of how the state environmental agencies' roles and responsibilities overlap ***(Appendix M)***. The subcommittee members then discussed the recommendations carried over from 2001. Of those issues, the subcommittee proposed further investigation into requiring all localities to adopt a stormwater management program and revising the erosion and sediment control law to require performance bonds, increased penalties for repeat violations, and third-party collection of damages for violations.

5. 2002 Recommendations.

At the November 7, 2002, meeting of the full Commission, Senator Hanger reported the findings of the subcommittee. Although the subcommittee did not propose any formal recommendations, the members did come to a consensus on the issues they felt warranted further investigation. Of the eight items carried over from 2001 ***(Appendix N)*** and the two new issues discussed at the October 17 meeting, the subcommittee recommended the following issues be further examined:

- Developing state guidelines and support of Low Impact Development;
- Requiring all localities to adopt a stormwater management program; and
- Revising the Erosion and Sediment Control Law to require performance bonds, penalties for repeat violations and third-party collection of damages for violations.

C. FOLLOW-UP ITEMS

1. 2001 Waste Report; Regulated Medical Waste Regulations; Barge Regulations, Landfill Closures And Wetlands.

The Commission received testimony from the Director of DEQ regarding the 2001 Waste Report, regulated medical waste regulations, barge regulations, landfill closures and wetlands. The Director explained that the U.S. Army Corps of Engineers had recently approved Virginia's State Programmatic General Permit, thus streamlining the regulatory enforcement of development in wetlands ***(Appendix O)***.

2. Wetlands Litigation Update.

A representative from the Office of the Attorney General of Virginia updated the Commission on ongoing wetlands litigation. The issue of the State Water Control Board's authority to regulate state wetlands outside of federal Corps jurisdiction was being litigated before two federal courts and numerous state courts ***(Appendix P)***.

3. Total Maximum Daily Loads (TMDLs) Update.

DEQ presented an update on the Total Maximum Daily Load (TMDL) program for impaired Virginia waters ***(Appendix Q)***. A TMDL is the amount of pollutant a stream segment can assimilate without violating water quality standards. The causes of statewide water impairment include high bacteria levels, poor biological/aquatic life conditions low dissolved oxygen or pH, fish contamination and a combination of other factors. TMDLs are established by identifying the sources of pollution, calculating the amount of pollutants entering the stream from each source and calculating the reductions in pollutants by source needed to attain and maintain water quality standards. TMDL development costs are estimated at $30-$40 million, of which $18.6 million is currently available ($.5 million of this is state funds, the rest is federal). Costs of implementing this federally mandated program are estimated to run as high as $640 million. As of October 2002, Virginia had approved 48 TMDLs, three were pending approval

and 11 sites had been de-listed from the impaired water list. By May of 2010, the state is required to have implemented 665 TMDLs.

4. Tributary Strategies Program.

The DCR updated the Commission on its Tributary Strategies program. Codified in 1996 with the passage of the Tributary Strategies Act, the program's purpose is to restore and protect aquatic habitat for living resources, reduce nutrient and sediment loads, and identify control actions that are practical, cost-effective and equitable. Much of the appropriations for the program fall under the 1997 Water Quality Improvement Act. For point source pollution (factories, power plants, etc.) $92.3 million has been appropriated to date, and DCR estimates a current shortfall of $97 million. For nonpoint source pollution (agricultural operations) DCR estimates a funding shortfall of $160 million. Current point source agreements will reduce nitrogen levels being introduced into Virginia waterways by 13.7 million pounds per year and phosphorus levels by 243,000 pounds per year. Meanwhile, DCR anticipates that current nonpoint source programs will reduce nitrogen by 6.44 million, phosphorus by 1.69 million and sediment by 958,000 pounds per year.

5. Low Impact Development.

Following up on the work of the ESCSM Subcommittee, the Commission heard two presentations on Low Impact Development (LID), an alternative to traditional stormwater management methods. The Associate Director of Prince George's County (Maryland) Department of Environmental Resources described LID as "comprehensive source control technology ... sensitive to addressing local government's unique environmental and regulatory needs in the most economical manner possible by reducing costs associated with stormwater infrastructure design, construction, maintenance and enforcement." LID encourages the multifunctional cost-effective use of the urban green space, buildings, landscaping, parking lots roadways, sidewalks and other techniques to detain, filter, treat and reduce runoff. Roadblocks to implementing the LID site planning approach include the need to educate regulatory agencies, the development community and the public on the new technology. ***(Appendix R)***

6. Air Quality Update.

In light of pending federal changes to air quality monitoring standards, DEQ presented an update to the Commission on air quality in Virginia, and on the impacts that new standards would have. ***(Appendix S)***

7. Recycling Update.

The vice-chair of the Virginia Recycling Markets Development Council presented the results and recommendations of the Council based on its 20001-2001 deliberations ***(Appendix T)***. The Council recommended:

- That the state table the establishment of a State Recycling Markets Development Specialist position;

- Leaving the mandated recycling rate at the present level;
- Establishing a statewide surcharge on disposal of municipal solid waste; and
- Studying the feasibility of expanding the Virginia Recycling Tax Credit to include more than manufacturing equipment.

III. FINAL CONCLUSIONS AND RECOMMENDATIONS

The Commission formally and unanimously recommended to endorse the biosolids bill draft that resulted from extensive study by both the full Commission and the Biosolids Subcommittee. The proposed legislation, Senate Bill 1088, subsequently passed during the 2003 General Assembly Session and became law on July 1, 2003 ***(Appendix U)***. The new law attempts to accomplish the following:

- Require Nutrient Management Plans prepared by DCR-certified personnel of all application sites (currently NMPs are required only of sites where applications take place more than once every three years) (Sub C 8 of § 32.1-164.5 the Code of Virginia);

- Require DCR *approval* of NMPs for sites operated by an owner or lessee of a confined animal feeding operation or a confined poultry feeding operation, and sites where the permit authorizes land application more than once every three years at greater than 50 percent annual agronomic rate (Sub C 8 of § 32.1-164.5);

- Create standard complaint and investigation procedures, including an electronic database and local government notification (Sub C 9 of § 32.1-164.5);

- Provide flexibility for VDH to enact reasonable site-specific conditions (Sub D of § 32.1-164.5);

- Require proof of financial responsibility from biosolids contractors pursuant to regulations (Sub G of § 32.1-164.5);

- Create a program to train and certify applicators (Sub A of § 32.1-164.6), and require a certified person onsite during land application (Sub B of § 32.1-164.6);

- Allow localities to order abatement of application in cases of violations (§ 32.1-164.7); and

- Require VDH to conduct a further review of biosolids regulations (second enactment clause).

Chairman Bolling concluded the meeting by thanking the Commission members, the various executive agency staff, and citizens for all their hard work and cooperation with the Commission and their dedication to Virginia's environment. Legislation continuing the Commission was not enacted by the 2003 General Assembly.

IV. APPENDICES

Appendix A

SENATE JOINT RESOLUTION NO. 117

Continuing the Commission Studying the Future of Virginia's Environment.

Agreed to by the Senate, January 25, 2002
Agreed to by the House of Delegates, March 5, 2002

WHEREAS, the 1996 Session of the General Assembly passed House Joint Resolution No. 221, creating a study to examine the history of environmental and natural resources programs and funding for such programs in the Commonwealth and to develop a long-term vision and plan for the future management of Virginia's natural resources; and

WHEREAS, the 1998 Session of the General Assembly passed House Joint Resolution No. 136 and the 1999 Session of the General Assembly passed House Joint Resolution No. 719, continuing the study on the future of Virginia's environment; and

WHEREAS, the Commission has had a very busy and productive year, continuing its study of such issues as: 1) solid waste management, including the status of House Bill No. 1205 (2000) landfills, the revision of the Commonwealth's regulations governing the disposal of regulated medical waste, and development of regulations governing the transportation of municipal solid waste by barge on the rivers of the Commonwealth; 2) implementation of wetlands regulations, pursuant to House Bill No. 1170 as approved by the 2000 Session of the General Assembly; 3) implementation of ballast water reporting requirements, pursuant to Senate Bill No. 1072 as approved during the 2001 Session of the General Assembly; 4) recycling, pursuant to Senate Joint Resolution No. 133 as approved by the 2000 Session of the General Assembly; and 5) urban best management practices, pursuant to Senate Joint Resolution No. 217 as approved by the 2000 Session of the General Assembly; and

WHEREAS, the Commission has also been responsible for several additional studies as referred by the 2001 Session of the General Assembly, including: 1) local erosion and sediment control and storm water management programs pursuant to Senate Joint Resolution No. 438; 2) a study of the Commonwealth's storm water management permit process, as referred by the Speaker of the House of Delegates; and 3) proposed legislation governing the operation of stationary air pollution sources pursuant to Senate Bill No. 1030; and

WHEREAS, the Commission also identified several other issues for consideration during the 2001 legislative interim, including: 1) long-term funding needs for various environmental programs in Virginia; 2) the enhancement of land conservation and open space preservation programs; 3) implementation of the Commonwealth's tributary strategies in the Chesapeake Bay Watershed; 4) the potential impact of the federally mandated total maximum daily load program on Virginia; 5) an overview of the Commonwealth's water quality monitoring program; 6) an overview of the Commonwealth's Underground Storage Tank Fund; 7) brownfields restoration; and 8) development of new regulations currently under consideration by the Chesapeake Bay Local Assistance Board; and

WHEREAS, while much of the Commission's work on these issues has been completed, and various legislative recommendations have been advanced as a result of the work of the Commission, there is much additional work that the Commission desires to complete on these and other issues; and

WHEREAS, there will undoubtedly be additional areas of concern relating to environmental issues that arise for consideration during the 2002 Session of the General Assembly, issues that could benefit from

further review and/or study by the Commission; and

WHEREAS, in recognition of the role the Commission has established for itself as a body of experts on emerging environmental issues, and the importance that these issues hold for the people of Virginia, it is felt that the Commission should continue for an additional year; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That the Commission Studying the Future of Virginia's Environment be continued. The Commission shall consist of 18 members, which shall include 10 legislative members, seven nonlegislative members, and one ex officio member, to be appointed as follows: four members of the Senate to be appointed by the Senate Committee on Privileges and Elections; six members of the House of Delegates, to be appointed by the Speaker of the House, in accordance with the principles of proportional representation contained in the Rules of the House of Delegates; seven nonlegislative members, three to be appointed by the Senate Committee on Privileges and Elections and four to be appointed by the Speaker of the House; and, the Secretary of Natural Resources, or his designee, who shall serve as a nonvoting ex officio member.

In conducting its study, the Commission shall continue to monitor the implementation of its recommendations and create opportunities for the members of the Commission to become educated on environmental issues that may require legislative action.

The direct costs of this study shall not exceed $16,000.

The Division of Legislative Services shall provide staff support for the study. All agencies of the Commonwealth shall provide assistance to the Commission, upon request.

The Commission shall complete its work by November 30, 2002, and shall submit its written findings and recommendations to the Governor and the 2003 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

Implementation of this resolution is subject to subsequent approval and certification by the Joint Rules Committee. The Committee may withhold expenditures or delay the period for the conduct of the study.

Appendix B

SENATE BILL NO. 618

Offered January 18, 2002

A BILL to amend and reenact § 62.1-44.19:3 of the Code of Virginia, relating to sewage sludge.

Patron-- Deeds

Referred to Committee on Agriculture, Conservation and Natural Resources

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Be it enacted by the General Assembly of Virginia:

1. That § 62.1-44.19:3 of the Code of Virginia is amended and reenacted as follows:

§ 62.1-44.19:3. Prohibition on land application, marketing and distribution of sewage sludge without permit; ordinances; fees.

A. No owner of a sewage treatment works shall land apply, market or distribute sewage sludge from such treatment works except in compliance with a valid Virginia Pollutant Discharge Elimination System Permit issued by the Board.

B. No person shall contract or propose to contract, with the owner of a sewage treatment works, to land apply, market or distribute sewage sludge in the Commonwealth, nor shall any person land apply, market or distribute sewage sludge in the Commonwealth without a current Virginia Pollution Abatement Permit from the Board or a current permit from the State Health Commissioner authorizing land application, marketing or distribution of sewage sludge and specifying the location or locations, and the terms and conditions of such land application, marketing or distribution.

C. Any county, city or town may adopt an ordinance that provides for *the prohibition, restriction, or regulation of the land application of sewage sludge within such locality. Any such ordinance may provide for a fee to cover the cost of* the testing and monitoring of the land application of sewage sludge within its political boundaries to ensure compliance with applicable laws and regulations *and locally adopted ordinances*.

D. ~~Not later than January 1, 2003, the Board of Health shall adopt regulations requiring the payment of a fee for the land application of sewage sludge, pursuant to permits issued under subsection B, in~~ *In* counties, cities or towns that have adopted ordinances in accordance with subsection C~~. The~~, *the* person land applying sewage sludge shall (i) provide advance notice of the estimated fee to the generator of the sewage sludge unless notification is waived, (ii) collect the fee from the generator, and (iii) remit the fee to the ~~Department of Health~~ *locality* as provided for by ~~regulation~~ *local ordinance*. The fee shall not exceed the amount necessary to reimburse the direct costs for a reasonable amount of testing and for the monitoring of the land application of sewage sludge by counties, cities and towns that have adopted such ordinances. The fee shall be imposed on each ~~dry~~ ton of sewage sludge that is land applied in such counties, cities and towns~~in accordance with the regulations adopted by the Board of Health. The regulations shall include requirements and procedures for:~~

~~1. Collection of fees by the Department of Health;~~

~~2. Retention of proceeds in a special nonreverting fund to be administered by the Department of Health;~~

~~and~~

~~3. Disbursement of proceeds by the Department of Health to reimburse counties, cities and towns with duly adopted ordinances providing for the testing and monitoring of the land application of sewage sludge, as provided for in this subsection~~.

Appendix C

§ 32.1-164.5. Land application, marketing and distribution of sewage sludge; regulations; permit.

A. No person shall contract or propose to contract, with the owner of a sewage treatment works, to land apply, market or distribute sewage sludge in the Commonwealth, nor shall any person land apply, market or distribute sewage sludge in the Commonwealth without a current Virginia Pollution Abatement Permit from the State Water Control Board or a current permit from the State Health Commissioner authorizing land application, marketing or distribution of sewage sludge and specifying the location or locations, and the terms and conditions of such land application, marketing or distribution.

B. The Board of Health, with the assistance of the Departments of Environmental Quality and Conservation and Recreation, shall promulgate regulations to ensure that (i) sewage sludge permitted for land application, marketing or distribution is properly treated or stabilized, (ii) land application, marketing and distribution of sewage sludge is performed in a manner that will protect public health and the environment, and (iii) the escape, flow or discharge of sewage sludge into state waters, in a manner that would cause pollution of state waters, as those terms are defined in § 62.1-44.3, will be prevented.

C. Regulations promulgated by the Board of Health, with the assistance of the Departments of Environmental Quality and Conservation and Recreation pursuant to subsection B of this section, shall include:

1. Requirements and procedures for the issuance and amendment of permits as required by this section;

2. Procedures for amending land application permits to include additional application sites and sewage sludge types;

3. Standards for treatment or stabilization of sewage sludge prior to land application, marketing or distribution;

4. Requirements for determining the suitability of land application sites and facilities used in land application, marketing or distribution of sewage sludge;

5. Required procedures for land application, marketing and distribution of sewage sludge;

6. Requirements for sampling, analysis, record keeping and reporting in connection with land application, marketing and distribution of sewage sludge;

7. Provisions for notification of local governing bodies to ensure compliance with §§ 32.1-164.2 and 62.1-44.15:3;

8. Requirements for site-specific nutrient management plans, which shall be developed by persons certified in accordance with § 10.1-104.2 prior to land application for all sites where sewage sludge is land applied, and requirements for approval of nutrient management plans by the Department of Conservation and Recreation prior to permit issuance under specific conditions, including but not limited to sites operated by an owner or lessee of a Confined Animal Feeding Operation, as defined in subsection A of § 62.1-44.17:1, or Confined Poultry Feeding Operation, and sites where the permit authorizes land application more frequently than once every three years at greater than 50 percent of the annual agronomic rate; and

9. Procedures for the prompt investigation and disposition of complaints concerning land application of sewage sludge, including the requirements that (i) holders of permits issued under this section shall report all complaints received by them to the State Department of Health and to the local governing body of the jurisdiction in which the complaint originates, and (ii) localities receiving complaints concerning land application of sewage sludge shall notify the Department and the permit holder. The Department shall maintain a searchable electronic database of complaints received during the current and preceding calendar year, which shall include information detailing each complaint and how it was resolved.

D. Where, because of site-specific conditions identified during the permit application review process, the Department determines that special requirements are necessary to protect the environment or the health, safety or welfare of persons residing in the vicinity of a proposed land application site, the Department may incorporate in the permit at the time it is issued reasonable special conditions regarding buffering, transportation routes, slope, material source, methods of handling and application and time of day restrictions exceeding those required by the regulations promulgated under this section. Before incorporating any such conditions into the permit, the Department shall provide written notice to the permit applicant, specifying the reasons therefor and identifying the site-specific conditions justifying the additional requirements. The Department shall incorporate into the notice any written requests or recommendations concerning such site-specific conditions submitted by the local governing body where the land application is to take place. The permit applicant shall have at least 14 days in which to review and respond to the proposed conditions. Should the permit applicant object to the inclusion of any such condition, the approval of the Commissioner shall be required before the condition objected to may be included in the permit.

E. The Board may adopt regulations prescribing a reasonable fee not to exceed $2,500 to be charged for the direct and indirect costs associated with the processing of an application to issue, reissue, amend or modify any permit to land apply, distribute or market sewage sludge pursuant to this section.

F. There is hereby established in the treasury a special fund to be known as the Sludge Management Permit Fee Fund, hereinafter referred to as the fund. The fees required by this section shall be transmitted to the Comptroller to be deposited into the fund. The income and principal of the fund shall be used only and exclusively for the direct and indirect costs associated with the processing of an application to issue, reissue, amend or modify any permit to land apply, distribute or market sewage sludge. The State Treasurer shall be the custodian of the moneys deposited in the fund. No part of the fund, either principal or interest earned thereon, shall revert to the general fund of the state treasury.

G. All persons holding or applying for a permit authorizing the land application of sewage sludge shall provide to the Department written evidence of financial responsibility, which shall be available to pay claims for cleanup costs, personal injury and property damages resulting from the transportation, storage or land application of sewage sludge. The Board of Health shall, by regulation, establish and prescribe mechanisms for meeting the financial responsibility requirements of this section.

(1994, c. 288; 2003, c. 681.)

previous | next

§ 62.1-44.19:3. Prohibition on land application, marketing and distribution of sewage sludge without permit; ordinances; fees.

A. No owner of a sewage treatment works shall land apply, market or distribute sewage sludge from such treatment works except in compliance with a valid Virginia Pollutant Discharge Elimination System Permit issued by the Board.

B. No person shall contract or propose to contract, with the owner of a sewage treatment works, to land apply, market or distribute sewage sludge in the Commonwealth, nor shall any person land apply, market or distribute sewage sludge in the Commonwealth without a current Virginia Pollution Abatement Permit from the Board or a current permit from the State Health Commissioner authorizing land application, marketing or distribution of sewage sludge and specifying the location or locations, and the terms and conditions of such land application, marketing or distribution.

C. Any county, city or town may adopt an ordinance that provides for the testing and monitoring of the land application of sewage sludge within its political boundaries to ensure compliance with applicable laws and regulations.

D. Not later than January 1, 2003, the Board of Health shall adopt regulations requiring the payment of a fee for the land application of sewage sludge, pursuant to permits issued under subsection B, in counties, cities or towns that have adopted ordinances in accordance with subsection C. The person land applying sewage sludge shall (i) provide advance notice of the estimated fee to the generator of the sewage sludge unless notification is waived, (ii) collect the fee from the generator, and (iii) remit the fee to the Department of Health as provided for by regulation. The fee shall not exceed the amount necessary to reimburse the direct costs for a reasonable amount of testing and for the monitoring of the land application of sewage sludge by counties, cities and towns that have adopted such ordinances. The fee shall be imposed on each dry ton of sewage sludge that is land applied in such counties, cities and towns in accordance with the regulations adopted by the Board of Health. The regulations shall include requirements and procedures for:

1. Collection of fees by the Department of Health;

2. Retention of proceeds in a special nonreverting fund to be administered by the Department of Health; and

3. Disbursement of proceeds by the Department of Health to reimburse counties, cities and towns with duly adopted ordinances providing for the testing and monitoring of the land application of sewage sludge, as provided for in this subsection.

(1994, c. 288; 2001, c. 831.)

Appendix D

§ 3.1-22.28. Right to farm; restrictive ordinances.

In order to limit the circumstances under which agricultural operations may be deemed to be a nuisance, especially when nonagricultural land uses are initiated near existing agricultural operations, no county shall adopt any ordinance that requires that a special exception or special use permit be obtained for any production agriculture or silviculture activity in an area that is zoned as an agricultural district or classification. For the purpose of this section, "production agriculture and silviculture" means the bona fide production or harvesting of agricultural or silvicultural products but shall not include the processing of agricultural or silvicultural products or the above ground application or storage of sewage sludge. However, counties may adopt setback requirements, minimum area requirements, and other requirements that apply to land on which agriculture and silviculture activity is occurring within the locality that is zoned as an agricultural district or classification. No county, city or town shall enact zoning ordinances which would unreasonably restrict or regulate farm structures or farming and forestry practices in an agricultural district or classification unless such restrictions bear a relationship to the health, safety and general welfare of its citizens. This section shall become effective on April 1, 1995, and from and after that date all land zoned to an agricultural district or classification shall be in conformity with this section.

(1981, c. 384; 1991, c. 293; 1994, c. 779.)

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§ 15.2-2288. Localities may not require a special use permit for certain agricultural activities.

A zoning ordinance shall not require that a special exception or special use permit be obtained for any production agriculture or silviculture activity in an area that is zoned as an agricultural district or classification. For the purposes of this section, production agriculture and silviculture is the bona fide production or harvesting of agricultural or silviculture products but shall not include the processing of agricultural or silviculture products or the above ground application or storage of sewage sludge. However, localities may adopt setback requirements, minimum area requirements and other requirements that apply to land used for agriculture or silviculture activity within the locality that is zoned as an agricultural district or classification.

(Code 1950, § 15-968.5; 1962, c. 407, § 15.1-491; 1964, c. 564; 1966, c. 455; 1968, cc. 543, 595; 1973, c. 286; 1974, c. 547; 1975, cc. 99, 575, 579, 582, 641; 1976, cc. 71, 409, 470, 683; 1977, c. 177; 1978, c. 543; 1979, c. 182; 1982, c. 44; 1983, c. 392; 1984, c. 238; 1987, c. 8; 1988, cc. 481, 856; 1989, cc. 359, 384; 1990, cc. 672, 868; 1992, c. 380; 1993, c. 672; 1994, c. 802; 1995, cc. 351, 475, 584, 603; 1996, c. 451; 1997, c. 587.)

Appendix E

1 of 100 DOCUMENTS

REUBEN L. BLANTON, ET AL. v. AMELIA COUNTY, ET AL.

Record No. 000277

SUPREME COURT OF VIRGINIA

261 Va. 55; 540 S.E.2d 869; 2001 Va. LEXIS 16

January 12, 2001, Decided

PRIOR HISTORY: [***1] FROM THE CIRCUIT COURT OF AMELIA COUNTY. Thomas V. Warren, Judge.

DISPOSITION: Reversed and final judgment.

LexisNexis (TM) HEADNOTES - Core Concepts:

JUDGES: OPINION BY JUSTICE LEROY R. HASSELL, SR.

OPINIONBY: LEROY R. HASSELL, SR.

OPINION: **[*58]** **[**870]**
Present: All the Justices

OPINION BY JUSTICE LEROY R. HASSELL, SR.

I.

In this appeal, we consider whether ordinances enacted by a county's board of supervisors **[**871]** contravene *Code § 1-13.17*, which prohibits the enactment of ordinances that are inconsistent with the laws of this Commonwealth.

II.

A.

Appellants, Reuben L. Blanton, L. L. Covington, Lois N. Hall, David L. Foley, Jack E. Bulls, Grub Hill Farm, Inc., Hoot Owl Hollow Farms, and Little Patrick Farms, Inc., (collectively, the plaintiffs), filed a bill of complaint for declaratory judgment and injunctive relief against Amelia County, the Board of Supervisors of Amelia County, and Philip T. Vannoorbeeck, who serves as the County Administrator and Zoning Administrator (collectively, the County). The litigants entered into the following stipulations of fact which are relevant to our disposition of this appeal.

B.

Blanton, Covington, Hall, Foley, and Bulls are residents of Amelia County who engage in farming activities. Grub Hill **[***2]** Farm, Inc., a Virginia corporation, Little Patrick Farms, Inc., a Virginia corporation, and Hoot Owl Hollow Farms, a Virginia partnership, are business entities which own and lease farmland in Amelia County.

The State Health Commissioner has issued "biosolids use/treatment works operation permits" which authorize Blanton, Bulls, Foley, and Hoot Owl Hollow Farms to use biosolids upon their respective farmlands. The remaining plaintiffs, with the exception of Grub Hill Farm, have submitted applications to the State Health Commissioner for permits which would authorize them to apply biosolids on farmlands that they own or lease. Additionally, Blanton has an application pending before the State Health Commissioner which, if granted, would permit him to use biosolids on additional farmland owned by him. Plaintiff Grub Hill Farm intends to file an **[*59]** application for the land use of biosolids to its farmland "in the near future."*

* We have concerns whether all the plaintiffs have standing to challenge the County's ordinances. See generally *Mosher Steel v. Teig, 229 Va. 95, 100-01, 327 S.E.2d 87, 91-92 (1985); Cupp v. Board of Supervisors, 227 Va. 580, 589-90, 318 S.E.2d 407, 411-12 (1984); Fairfax County v. Southland Corp., 224 Va. 514, 519-21,*

297 S.E.2d 718, 720-21 (1982). However, since it is clear from the record that plaintiffs Blanton, Foley, Bulls, and Hoot Owl Hollow Farms do have standing to challenge the County's ordinances, we need not determine whether the remaining plaintiffs have the requisite standing.

[*3]**

Biosolids, which are a type of sewage sludge, are delivered and applied free of charge by authorized applicators to farmland which has been approved by the State Health Commissioner for such application. Farmers who have received permits to use biosolids have reduced their expenditures for fertilizer and lime.

In 1999, the Board of Supervisors of the County of Amelia had numerous discussions and public meetings pertaining to the use of biosolids. After conducting public hearings, the Board of Supervisors adopted two ordinances that banned the use of biosolids in Amelia County. One ordinance is entitled, "A Zoning Ordinance Banning the Placement of Biosolids in Any Zoning District." The Board of Supervisors adopted this zoning ordinance because the Board determined that

"the spreading, placement or disposal of human waste sludge or industrial sludge on land in Amelia County . . . constitutes a nuisance and further . . . constitutes a hazard to the health, safety and general welfare of the inhabitants of said county and . . . constitutes a danger of pollution of the waters of the county. The Board finds that public necessity, convenience, general welfare and good zoning practices **[***4]** warrant the adoption of this Ordinance banning the land application of biosolids."

The other ordinance is entitled, "An Ordinance Banning the Placement of Biosolids on Any Land in the County." When adopting this ordinance, the Board of Supervisors, exercising its police powers, concluded that

"the spreading, placement or disposal of human waste sludge or industrial sludge on land in Amelia County . . . constitutes a nuisance and further . . . constitutes a hazard to the health, safety and general welfare of the inhabitants of said county **[*60]** **[**872]** and . . . constitutes a danger of pollution of the waters of the county."

The ordinances became effective upon adoption on March 17, 1999, and are currently in effect. The ordinances prohibit Blanton, Bulls, Foley, or Hoot Owl Hollow Farms from using biosolids on their farmland even though they have valid permits authorizing such use.

C.

After the litigants filed the above-referenced stipulations in the circuit court, the litigants filed motions for summary judgment. The plaintiffs asked that the court enter summary judgment on their behalf and asserted, among other things, that the County's ordinances are inconsistent with state law in **[***5]** violation of *Code § 1-13.17.* In their motion for summary judgment, the defendants argued that as a matter of law the County has "the right and authority to ban the land application of sewage sludge." The circuit court granted the County's motion and entered a judgment on behalf of the County. The plaintiffs appeal.

III.

A.

Code § 1-13.17 states:

"When the council or authorities of any city or town, or any corporation, board, or number of persons, are authorized to make ordinances, bylaws, rules, regulations or orders, it shall be understood that the same must not be inconsistent with the Constitution and laws of the United States or of this Commonwealth."

Code § 32.1-164.5 governs the land application, marketing, and distribution of sewage sludge. This statute states in relevant part:

"A. No person shall contract or propose to contract, with the owner of a sewage treatment works, to land apply, market or distribute sewage sludge in the Commonwealth, nor shall any person land apply, market or distribute sewage sludge in the Commonwealth without a current Virginia Pollution Abatement Permit from the State Water Control Board or a current **[*61]** permit from the State Health **[***6]** Commissioner authorizing land application, marketing or distribution of sewage sludge and specifying the location or locations, and the terms and conditions of such land application, marketing or distribution.

"B. The Board of Health, with the assistance of the Departments of Environmental Quality and Conservation and Recreation, shall promulgate regulations to ensure that (i) sewage sludge permitted for land application, marketing or distribution is properly treated or stabilized, (ii) land application, marketing and distribution of sewage sludge is performed in a manner that will protect public health and the environment, and (iii) the escape, flow or discharge of sewage sludge into state waters, in a manner that would cause pollution of state waters, as those terms are defined in § 62.1-44.3, will be prevented.

"C. Regulations promulgated by the Board of Health, with the assistance of the Departments of Environmental Quality and Conservation and Recreation pursuant to subsection B of this section, shall include:

"1. Requirements and procedures for the issuance and amendment of permits as required by this section;

"2. Procedures for amending land application permits to include [***7] additional application sites and sewage sludge types;

"3. Standards for treatment or stabilization of sewage sludge prior to land application, marketing or distribution;

"4. Requirements for determining the suitability of land application sites and facilities used in land application, marketing or distribution of sewage sludge;

"5. Required procedures for land application, marketing and distribution of sewage sludge;

"6. Requirements for sampling, analysis, record keeping and reporting in connection with land application, marketing and distribution of sewage sludge;

"7. Provisions for notification of local governing bodies to ensure compliance with § § 32.1-164.2 and 62.1-44.15:3;

"8. Conditions where a nutrient management plan approved by the Department of Conservation and Recreation may be required.

[873]** "D. The Board of Health shall adopt regulations in accordance with this section not later than October 1, 1994. The Board of Health may adopt, as final, proposed regulations that **[*62]** were the subject of public notice and for which one or more public hearings or informational meetings were held in accordance with the Administrative Process Act (§ 9-6.14:1 et seq.) after July 1, 1993, and **[***8]** prior to September 30, 1994.

"E. The Board may adopt regulations prescribing a reasonable fee not to exceed $ 2,500 to be charged for the direct and indirect costs associated with the processing of an application to issue, reissue, amend or modify any permit to land apply, distribute or market sewage sludge pursuant to this section.

. . . .

"G. Any permit, certificate or authorization for the land application, marketing or distribution of sewage sludge issued prior to October 1, 1994, shall remain in effect for the remainder of the term specified in such permit, certificate or authorization. Such permits, certificates and authorizations may be amended in accordance with the Administrative Process Act (9-6.14:1 et seq.). Any amendment after the adoption of the regulations specified in this section shall be in accordance with such regulations."

The State Board of Health, as directed by *Code § 32.1-164.5*, promulgated Biosolids Use Regulations. See *12 VAC 5-585-10*, et seq. These Regulations define "biosolids" as:

"[A] sewage sludge that has received an established treatment for required pathogen control and is treated or managed to reduce vector attraction to a **[***9]** satisfactory level and contains acceptable levels of pollutants, such that it is acceptable for use for land application, marketing or distribution . . . ."

The Regulations define "land application" as:

"The distribution of either treated wastewater of acceptable quality, referred to as effluent, or supernatant from biosolids use facilities, or stabilized sewage sludge of acceptable quality, referred to as biosolids, upon, or insertion into, the land with a uniform application rate for the purpose of utilization, assimilation or pollutant removal. Bulk disposal of stabilized sludge in a confined area, such as landfills, is not land application. Sites approved for land application of biosolids or supernatant **[*63]** in accordance with this chapter are not considered to be treatment works."

B.

The plaintiffs argue that the County's ordinances are unenforceable because they are inconsistent with state law. Continuing, the plaintiffs assert that the General Assembly has authorized the State Board of Health to regulate the land application of biosolids and that the County may not enact ordinances which ban the use of biosolids in the County.

Responding, the County asserts that **[***10]** its ordinances are not inconsistent with state law. The County says that *Code § 32.1-164.5*, which authorizes the land application of biosolids in certain prescribed circumstances, does not limit the County's "role . . . in the field of sludge disposal and regulation." The County also asserts that *Code § 32.1-164.5(A)* is prohibitory in nature and does not preclude the County from banning the land application of biosolids. Continuing, the County argues that the Biosolids Use Regulations, promulgated by the State Board of Health, "demonstrate the unequivocal policy of the Commonwealth that localities are to continue to exercise their usual control in the field of land use. Nowhere in the state regulations does [the State Board of Health] prohibit, attempt to prohibit, or otherwise indicate that either it or the General Assembly

intended to prohibit local bans on the land application of biosolids." We disagree with the County's contentions.

In *King v. County of Arlington, 195 Va. 1084, 81 S.E.2d 587 (1954),* we discussed the principles that we must apply when considering whether a local ordinance is in conflict with the public policy of this Commonwealth as embodied **[***11]** in its statutes. We stated:

"It is, of course, fundamental that local ordinances must conform to and not be in conflict with the public policy of the State as embodied in its statutes. Indeed, that principle is embodied in our statutes which **[**874]** require that local ordinances must 'not be inconsistent with' the state law. [*Code § 1-13(17).*]

"But, 'The mere fact that the state, in the exercise of the police power, has made certain regulations does not prohibit a municipality from exacting additional requirements. So long as there is no conflict between the two, and the requirements of **[*64]** the municipal bylaw are not in themselves pernicious, as being unreasonable or discriminatory, both will stand. The fact that an ordinance enlarges upon the provisions of a statute by requiring more than the statute requires creates no conflict therewith, unless the statute limits the requirement for all cases to its own prescription. Thus, where both an ordinance and a statute are prohibitory and the only difference between them is that the ordinance goes further in its prohibition, but not counter to the prohibition under the statute, and the municipality does not attempt to authorize by the ordinance **[***12]** what the legislature has forbidden or forbid what the legislature has expressly licensed, authorized, or required, there is nothing contradictory between the provisions of the statute and the ordinance because of which they cannot coexist and be effective. Unless legislative provisions are contradictory in the sense that they cannot coexist, they are not deemed inconsistent because of mere lack of uniformity in detail.'

"If both the statute and the ordinance can stand together and be given effect, it is the duty of the courts to harmonize them and not nullify the ordinance."

King, 195 Va. at 1090-91, 81 S.E.2d at 591 (citations omitted). We restated these principles in *Wayside Restaurant v. Virginia Beach, 215 Va. 231, 234, 208 S.E.2d 51, 53-54 (1974).* See also *Trible v. Bland, 250 Va. 20, 24, 458 S.E.2d 297, 299 (1995); City of Norfolk v. Tiny House, 222 Va. 414, 421, 281 S.E.2d 836, 840 (1981); City of Lynchburg v. Dominion Theatres, 175 Va. 35, 42, 7 S.E.2d 157, 160 (1940).*

Applying these principles, we hold that the County's ordinances are inconsistent with *Code § 32.1-164.5* and the Biosolids Use **[***13]** Regulations promulgated by the State Board of Health. As we have clearly and repeatedly stated, a local government may not "forbid what the legislature has expressly licensed, authorized, or required." The General Assembly, by its enactment of *Code § 32.1-164.5*, has expressly authorized the land application of biosolids conditioned upon the issuance of a permit.

The General Assembly has also directed that the State Board of Health, with the assistance of the Departments of Environmental Quality and Conservation and Recreation, promulgate the requirements and procedures for the issuance and amendment of permits. *Code § 32.1-164.5(C)* also enumerates, among other things, **[*65]** certain requirements and conditions which must be contained in the regulations that govern the land application of biosolids in this Commonwealth. The County's ordinances are inconsistent with *Code § 32.1-164.5* and the Biosolids Use Regulations because the ordinances forbid certain plaintiffs from using biosolids on their farmland even though those plaintiffs have obtained licenses to use biosolids pursuant to the statutory and regulatory scheme established by the General Assembly.

It is true that the Biosolids **[***14]** Use Regulations promulgated by the State Board of Health contemplate that local governments will have some involvement in the field of biosolids use regulation. For example, the Biosolids Use Regulations require that "conformance to local land use zoning and planning should be resolved between the local government" and the holder of a permit which authorizes the permittee to use biosolids for land application. *12 VAC 5-585-260.* Additionally, Regulation *12 VAC 5-585-620,* which governs "minimum information required for completion of a biosolids management plan utilizing land application," requires the applicant to comply with "local government zoning and applicable ordinances." *Code § 32.1-165.4* and the Biosolids Use Regulations promulgated pursuant to this statute do not prohibit a local government from enacting ordinances which may affect the land application of biosolids. However, local ordinances and requirements must not be inconsistent with *Code § 32.1-164.5* or the Biosolids Use Regulations.

The County, relying upon our decision in *Dail v. York County, 259 Va. 577, 528 S.E.2d* **[**875]** *447 (2000),* asserts that its ordinances do not conflict with the Biosolids Use Regulations **[***15]** because such regulations do not have "the force and effect of law." The County's argument is without merit.

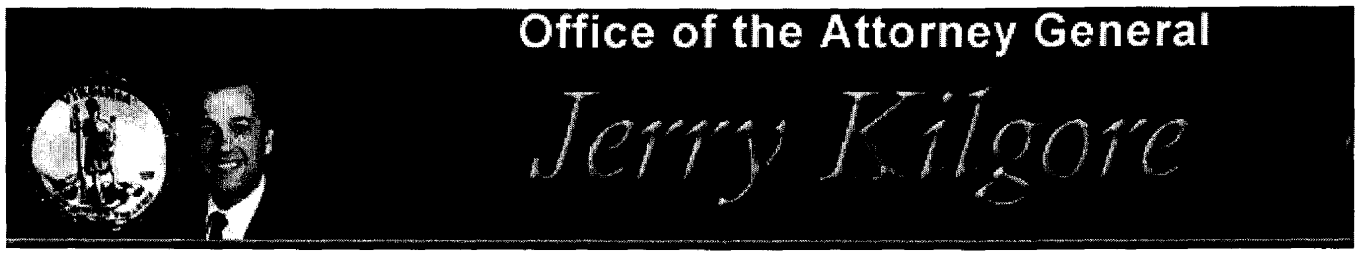
It is true, as the County asserts, that we held in Dail that the provisions of a challenged ordinance were not invalid because that ordinance purportedly conflicted with the "best management practices promulgated by the

State Forester" which did not have "the force and effect of law." *Id. at 585, 528 S.E.2d at 451.* Unlike the State Forester's best management practices that we considered in Dail, the provisions of *Code § 32.1-164.5*, as well as the Biosolids Use Regulations, constitute enforceable laws of this Commonwealth.

For the reasons stated above, we will enter a declaration that the County's ordinances, enacted pursuant to the County's police power and zoning power, are void and unenforceable because both **[*66]** ordinances are inconsistent with *Code § 32.1-164.5* and the Biosolids Use Regulations promulgated pursuant to that statute. We will also reverse the judgment of the circuit court and enter a final **[***16]** judgment on behalf of the plaintiffs.

Reversed and final judgment.

Appendix F



01-085

HOT TOPICS!!

COUNTIES, CITIES AND TOWNS: GENERAL POWERS AND PROCEDURES OF COUNTIES.

HEALTH: ENVIRONMENTAL HEALTH SERVICES – SEWAGE DISPOSAL.

Governance of biosolids activities within Commonwealth resides with Department of Health. Local ordinance requiring applicant to obtain conditional use permit before applying or storing biosolids in locality is preempted by comprehensive state program regulating biosolids use.

Mr. Henry A. Thompson, Sr.
County Attorney for Sussex County
March 29, 2002

Issue Presented

You ask whether a county may enact an ordinance requiring that a person apply for a conditional use permit[1] prior to applying or storing biosolids in the county.[2] You attach a draft of a proposed ordinance amending the Sussex County Code adding a provision on land application of biosolids. You note that the Virginia Waste Management Act[3] requires the governing body of a locality to certify to the Department of Environmental Quality that the location and operation of solid waste facilities are consistent with applicable local ordinances.[4] You conclude that a county, in the exercise of its police powers, may require a person to submit an application for a conditional use permit.[5]

Response

In light of the applicable authorities and the comprehensive state program regulating the use of biosolids in the Commonwealth, it is my opinion that a local ordinance requiring an applicant to obtain a conditional use permit before applying or storing biosolids in the locality is preempted by the comprehensive state program.

Applicable Law

Article 1, Chapter 6 of Title 32.1, §§ 32.1-163 through 32.1-166, authorizes the State Board of Health to implement a comprehensive plan for the handling, treatment, disposal and storage of sewage sludge. Specifically, § 32.1-164.5(A) provides that no person shall "land apply" sewage without a proper state permit. Section 32.1-164.5(B) further provides:

> The Board of Health ... shall promulgate regulations to ensure that (i) sewage sludge permitted for land application, marketing or distribution is properly treated or stabilized, (ii) land application, marketing and distribution of sewage sludge is performed in a manner that will protect public health and the environment, and (iii) the escape, flow or discharge of sewage sludge into state waters, in a manner that would cause pollution of state waters ... will be prevented.

The overriding goal of statutory interpretation is to discern and give effect to legislative intent.[6] Virginia adheres to the Dillon Rule of strict construction, which provides that local governing bodies "have only those powers that are expressly granted, those necessarily or fairly implied from expressly granted powers, and those that are essential and indispensable."[7] Local ordinances adopted under the broad police power authority of § 15.2-1200 of the *Code of Virginia* must not be inconsistent with state law.[8] An ordinance is inconsistent with state law if state law preempts local regulation in the area, either by expressly prohibiting local regulation or by enacting state regulations so comprehensive that the state may be considered to occupy the entire field.[9]

Discussion

In accordance with § 32.1-164.5(B), the Department of Health has adopted comprehensive regulations prescribing standards for treating and stabilizing sewage sludge, also referred to as "biosolids,"[10] prior to land application. These Biosolids Use Regulations also create a sampling and testing program, define restrictions for land application sites, prescribe minimum levels of biosolids treatment, and set forth the procedures for treating, utilizing, transporting, storing, and marketing biosolids.[11]

The Virginia Waste Management Act authorizes the

Virginia Waste Management Board to regulate sanitary landfills, prohibit open dumps, and generally to regulate and control solids waste activities within the state.[12] The Waste Management Act does not authorize localities to adopt ordinances; it merely requires them to have "solid waste management plans."[13] It is my opinion that this Act is not intended to govern biosolids activities within the Commonwealth; rather, such responsibility resides with the Department of Health pursuant to § 32.1-164.5.

Section 32.1-164.5(A) requires a person to obtain the appropriate permit for the storage and land application of sewage sludge. Section 32.1-164.5(C)(7) provides for notification of local governing bodies when a land application permit is processed. Where the state and the county share jurisdiction in the area, however, the powers of the respective state boards are paramount, and any local ordinance must not operate in a conflicting manner.[14] Accordingly, a prior opinion of the Attorney General concludes that, even though the Department of Health must consider land use concerns expressed by a county board of supervisors with regard to a sludge storage facility seeking reissuance of its state permit, a local ordinance may not subject a facility falling within state purview to restrictions more stringent than those proposed by the state.[15]

Additionally, when the General Assembly expressly bestows certain powers in a statute, it intends to exclude those powers which have been omitted.[16] For example, § 62.1-44.19:3(C) expressly limits the authority of localities to regulate biosolids activities:

> Any county, city or town may adopt an ordinance that provides for the testing and monitoring of the land application of sewage sludge within its political boundaries to ensure compliance with applicable laws and regulations.

Thus, a locality may adopt ordinances that pertain only to the testing and monitoring of land application of biosolids within its political boundaries. It is my opinion, therefore, that § 62.1-44.19:3(C) indicates a legislative intent to restrict the locality's authority to enact ordinances related only to the functions expressed in the statute.

To summarize, § 32.1-164.5 and the Biosolids Use Regulations contain the Commonwealth's comprehensive program for regulating biosolids use, including sewage

sludge, in the Commonwealth. The General Assembly has delegated the principal responsibility for regulating and managing the storage and land application of sewage sludge to specific state boards.[17] The pertinent regulations vest the State Health Commissioner with the authority to "impose standards and requirements more stringent than those contained in [the Biosolids Use Regulations] when required to protect public health or prevent nuisance conditions from developing."[18] The Virginia Waste Management Act does not govern biosolids activities within the Commonwealth, nor does § 62.1-44.19:3(C) grant to localities the authority to restrict or prohibit the land application of biosolids beyond adopting ordinances pertaining to testing and monitoring.

Conclusion

In light of these statutes and the comprehensive state program regulating the use of biosolids in the Commonwealth, it is apparent that the state occupies the field of sewage sludge disposal, treatment and management. Accordingly, it is my opinion that a local ordinance requiring an applicant to obtain a conditional use permit before applying or storing biosolids in the locality is preempted by the comprehen-sive state program.[19]

[1] *See* Va. Code Ann. § 32.1-164.5(A) (Michie Repl. Vol. 2001) (requiring state permit for land application of sewage sludge).

[2]You also ask for a review of a proposed ordinance assuming a conditional use permit may be required. Because my answer to your first inquiry is in the negative, it is unnecessary to address your second inquiry.

[3]Va. Code Ann. tit. 10.1, ch. 14, §§ 10.1-1400 to 10.1-1457 (Michie Repl. Vol. 1998 & Supp. 2001).

[4]*See id.* § 10.1-1408.1(B)(1) (Michie Supp. 2001).

[5]Any request by a county attorney for an opinion of the Attorney General "shall itself be in the form of an opinion embodying a precise statement of all facts together with such attorney's legal conclusions." Va. Code Ann. § 2.2-505(B) (LexisNexis Repl. Vol. 2001).

[6]*See* Turner v. Commonwealth, 226 Va. 456, 459, 309 S.E.2d 337, 338 (1983); Vollin v. Arlington Co. Electoral Bd., 216 Va. 674, 678-79, 222 S.E.2d 793, 797 (1976); 1990 Op. Va. Att'y Gen. 155, 155, and opinions cited therein.

[7]City of Chesapeake v. Gardner Enterprises, 253 Va. 243, 246, 482 S.E.2d 812, 814 (1997).

[8]*See* Va. Code Ann. § 1-13.17 (LexisNexis Repl. Vol. 2001); § 15.2-1200 (Michie Repl. Vol. 1997); 1983-1984 Op. Va. Att'y Gen. 86, 87.

[9]*See* King v. County of Arlington, 195 Va. 1084, 1087, 81 S.E.2d 487 590 (1954) (exercise of state's police power with respect to regulation of dogs); 1983-1984 Op. Va. Att'y Gen., *supra*, at 87; *see also* Hanbury v. Commonwealth, 203 Va. 182, 185, 122 S.E.2d 911, 913 (1961).

[10]*See* 12 VAC 5-585-10 (West Supp. 2001) (defining "biosolids" as "sewage sludge that has received an established treatment for required pathogen control and is treated or managed to reduce vector attraction to a satisfactory level and contains acceptable levels of pollutants, such that it is acceptable for use for land application, marketing or distribution in accordance with [the Biosolids Use Regulations]").

[11]*See* 12 VAC 5-585-10 to 5-585-650 (Law. Coop. 1996 & West Supp. 2001).

[12]*See* Va. Code Ann. § 10.1-1402 (Michie Repl. Vol. 1998).

[13]*See id.* § 10.1-1411 (Michie Repl. Vol. 1998).

[14]*See* 1995 Op. Va. Att'y Gen. 66, 67.

[15]1999 Op. Va. Att'y Gen. 116.

[16]Turner v. Wexler, 244 Va. 124, 127, 418 S.E.2d 886, 887 (1992); 2A Norman J. Singer, Sutherland Statu-tory Construction § 47:23 (West 6th ed. 2000) (*expressio unius est exclusio alterius*); 1998 Op. Va. Att'y Gen. 33, 34.

[17]*See* 1999 Op. Va. Att'y Gen., *supra*, at 117.

[18]12 VAC 5-585-260 (West Supp. 2001).

[19]This opinion supersedes a previous opinion issued by this Office concluding that the state has not occupied the field of regulation of the disposal of sewage sludge, and that localities possess the authority to restrict land application of sewage sludge. 1983-1984 Op. Va. Att'y Gen. 86, 88. The 1984 opinion was issued prior to the enactment of § 32.1-164.5. To the extent the 1984 opinion conflicts with this opinion, it is expressly overruled.

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Appendix G

CHAPTER 831

An Act to amend and reenact § 62.1-44.19:3 of the Code of Virginia, relating to sewage sludge.

[H 2827]

Approved April 4, 2001

Be it enacted by the General Assembly of Virginia:

1. That § 62.1-44.19:3 of the Code of Virginia is amended and reenacted as follows:

§ 62.1-44.19:3. Prohibition on land application, marketing and distribution of sewage sludge without permit.

A. No owner of a sewage treatment works shall land apply, market or distribute sewage sludge from such treatment works except in compliance with a valid Virginia Pollutant Discharge Elimination System Permit issued by the Board.

B. No person shall contract or propose to contract, with the owner of a sewage treatment works, to land apply, market or distribute sewage sludge in the Commonwealth, nor shall any person land apply, market or distribute sewage sludge in the Commonwealth without a current Virginia Pollution Abatement Permit from the Board or a current permit from the State Health Commissioner authorizing land application, marketing or distribution of sewage sludge and specifying the location or locations, and the terms and conditions of such land application, marketing or distribution.

C. Any county, city or town may adopt an ordinance that provides for the testing and monitoring of the land application of sewage sludge within its political boundaries to ensure compliance with applicable laws and regulations.

D. Not later than January 1, 2003, the Board of Health shall adopt regulations requiring the payment of a fee for the land application of sewage sludge, pursuant to permits issued under subsection B, in counties, cities or towns that have adopted ordinances in accordance with subsection C. The person land applying sewage sludge shall (i) provide advance notice of the estimated fee to the generator of the sewage sludge unless notification is waived, (ii) collect the fee from the generator, and (iii) remit the fee to the Department of Health as provided for by regulation. The fee shall not exceed the amount necessary to reimburse the direct costs for a reasonable amount of testing and for the monitoring of the land application of sewage sludge by counties, cities and towns that have adopted such ordinances. The fee shall be imposed on each dry ton of sewage sludge that is land applied in such counties, cities and towns in accordance with the regulations adopted by the Board of Health. The regulations shall include requirements and procedures for:

1. Collection of fees by the Department of Health;

2. Retention of proceeds in a special nonreverting fund to be administered by the Department of Health; and

3. Disbursement of proceeds by the Department of Health to reimburse counties, cities and towns with duly adopted ordinances providing for the testing and monitoring of the land application of sewage sludge, as provided for in this subsection.

Appendix H

Database updated through 19:19 Va.R. June 2, 2003 (see cumulative table)

12VAC5-585-50. Reimbursement.

Reimbursement of local monitoring costs deemed reasonable by the division will be made in order of receipt of an acceptable invoice. Such invoices will be reimbursed for reasonable costs up to $2.50, as adjusted, per dry ton of biosolids land applied in a county during the period of time specified in the submitted invoice. If sufficient revenue exists from the fees collected monthly, then invoiced claims exceeding $2.50, as adjusted, per dry ton of biosolids land applied in that county, during the period of time specified in the submitted invoice, may be released for reimbursement of up to $4.00 per dry ton of biosolids land applied in that county during the month that the reimbursable costs were incurred, based on the order of receipt of the invoice.

Statutory Authority

§§32.1-164.5 and 62.1-44.19:3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 14, eff. April 23, 2003.

Appendix I

AN ORDINANCE CONCERNING THE LAND APPLICATION OF SEWER SLUDGE IN BUCKINGHAM COUNTY

ARTICLE ONE
NAME

The name of the ordinance shall be The Sewer Sludge Land Application Ordinance for Buckingham County.

ARTICLE TWO
DEFINITIONS

"Biosolids" means a sewage sludge that has received an established treatment for required pathogen control and is treated or managed to reduce vector attraction to a satisfactory level and contains acceptable levels of pollutants, such that it is acceptable for use for land application, marketing or distribution in accordance with the regulations of the Virginia Department of Health

"Biosolids Coordinator" means an employee of the County or agent designated by the County, whether full time or part time, who shall monitor the application of biosolids to the lands of the County to insure that the applications are performed in accordance with all applicable laws, rules, regulations and ordinances. Unless otherwise specifically designated by the Board of Supervisors and in absence of such designation or individual, the Zoning Administrator shall serve as the Biosolids Coordinator.

"Land application" means the distribution of either treated wastewater of acceptable quality, referred to as effluent, or supernatant from biosolids use facilities, or stabilized sewage sludge of acceptable quality, referred to as biosolids, upon, or insertion into, the land with a uniform application rate for the purpose of utilization, assimilation or pollutant removal.

"Owner" means any individual, any group of individuals acting individually or as a group, or any public or private institution, corporation, company, partnership, firm or association.

"Permit" means an authorization granted by the authority of the State of Virginia to operate, facilities and specific sites utilized for biosolids management, including land application, marketing and distribution of biosolids.

"Sewage" means the water-carried and nonwater-carried human excrement, kitchen, laundry, shower, bath or lavatory wastes, separately or together with such underground,

surface, storm and other water and liquid industrial wastes as may be present from residences, buildings, vehicles, industrial establishments or other places.

"Sewage sludge" or "sludge" means any solid, semisolid, or liquid residues which contain materials removed from municipal or domestic wastewater during treatment including primary and secondary residues. Other residuals or solid wastes consisting of materials collected and removed by sewage treatment, septage and portable toilet wastes are also included in this definition. Liquid sludge contains less than 15% dry residue by weight. Dewatered sludge contains 15% or more dry residue by weight. The liquid obtained from separation of suspended matter during sludge treatment or storage is referred to as supernatant.

"Shall" means a mandatory requirement.

"Should" means a recommendation.

ARTICLE THREE
PERMITTED APPLICATION

A. No **individual, group of individuals acting individually or as a group, or no public or private institution, corporation, company, partnership, firm or association** shall apply to any lands in the County of Buckingham any biosolids, sewage, sewage sludge or sludge unless permitted to do so by the laws of the Commonwealth of Virginia, the Regulations and Rules of all State and Federal Agencies and unless applied in accordance with this ordinance.

B. Any **individual, group of individuals acting individually or as a group, or any public or private institution, corporation, company, partnership, firm or association** holding a permit issued by authority of the Commonwealth of Virginia who intends to apply or have applied to land any biosolids, sewage, sewage sludge or sludge to any lands in the County of Buckingham shall:

1. Do so only in accordance with the permit issued by authority of the State of Virginia;
2. Do so in accordance with this ordinance;
3. Do so in compliance with all other ordinances, laws, rules and regulations of the State of Virginia, the County of Buckingham, and the Unites States Government;
4. Notify in writing the Biosolids Coordinator at least thirty(30) days prior to the anticipated land application of the biosolids to any land in the County of Buckingham of the dates and times it is anticipated that biosolids will be applied to land in Buckingham County. The notification may give alternative dates if weather or other factors prevent the application on the anticipated date. The County shall notified as soon as reasonably possible

that the biosolids will not be applied on the anticipated date and what alternative date will be used.;

5. Identify in writing to the Biosolids Coordinator the name, address and phone number of the applicator;

6. Identify in writing to the Biosolids Coordinator the specific land where the application will take place;

7. Identify in writing to the Biosoilids Coordinator the owner of the land, the address and phone number of the owner of the land;

8. Identify in writing to the Biosolids Coordinator the person who will supervise the application on behalf of the owner of the land.

9. At least 28 days prior to the land application, the owner of the land, or someone on the owner's behalf, post a sign, not smaller than 48 inches in width and 36 inches in height, with black letters at least 3 inches high and a white background, on or near the site of the application, visible to the public from the nearest public access which shall set forth the name of the owner of the land; the name of the person managing or in charge of the land, if not the owner; the fact that biosolids will be applied to the land in that area; the date of the anticipated application; the name of the applicator and the name, address and telephone number of a contact person for the applicator, and the name and telephone number of the County's Biosolids Coordinator and certify the same to the Biosolids Coordinator. Such sign shall remain posted until the application is complete.

10. Deliver to the Biosolids Coordinator at least thirty days prior to the anticipated date of land application:

    a. A copy of all the permits, issued by the State of Virginia, allowing the land application;

    b. A copy of all information required to be submitted to the State of Virginia pursuant to 12 VAC 5-585-630, including the Nutrient Management Plan, if the State requires the same

11. Allow the County to take samples of the Biosolids before application.

12. Allow the County to take soil and water samples before and after the land application.

13. Allow the County to inspect the site at reasonable times before, during and after the application.

14. The applicator and the owner or the person in charge of the land, if not the owner, shall certify in writing, under oath, at the end of the application , that the application was performed in accordance with the Operational Plan, including the Nutrient Management Plan if there is one, the permit allowing the application and all applicable local, state, and federal laws, rules, regulations and ordinances.

C. Any **individual, group of individuals acting individually or as a group, or any public or private institution, corporation, company, partnership, firm or association** holding a permit issued by authority of the Commonwealth of Virginia who intends to apply or have applied to land any biosolids, sewage, sewage sludge or sludge to any lands in the County of Buckingham should, wherever possible avoid or delay the application of biosolids to land in Buckingham County, Virginia if such application conflicts with known outside community or social events, such as, by way of example and not limitation, homecoming events, outdoor weddings or receptions. The Biosolids Coordinator should serve as liaison in these matters.

D. Any **individual, group of individuals acting individually or as a group, or any public or private institution, corporation, company, partnership, firm or association** holding a permit issued by authority of the Commonwealth of Virginia who intends to apply or have applied to land any biosolids, sewage, sewage sludge or sludge to any lands in the County of Buckingham shall not store the biosolid's on land in Buckingham County, Virginia for future application but shall land apply the biosolid's as they are received on the date provided the County for application except as allowed by the regulations of the Virginia Department of Health.

E. Biosolids shall not be applied to land in Buckingham County, Virginia other than the times thirty minutes before sunrise to thirty minutes after sunset.

ARTICLE FOUR
INSURANCE
and
BOND

Any applicator shall, prior to any application of biosolids, sewage, sewage sludge, or sludge to lands in Buckingham County, Virginia, provide the Biosolids Coordinator with a certificate of insurance for any liability insurance coverage that the applicator has and if none, the applicator shall so affirmatively state in writing to the Biosolids Coordinator.

Further the applicator shall, prior to any application of biosolids, sewage, sewage sludge, or sludge to lands in Buckingham County, Virginia, provide the Biosolids Coordinator with a copy of any insurance bond that covers the applicator in regard to bio solids and if none, the applicator shall so affirmatively state in writing to the Biosolids Coordinator.

ARTICLE FIVE

VIOLATION

Any violation of this Ordinance shall be a class one misdemeanor as defined in the Code of Virginia, as amended from time to time. Each violation shall constitute a separate offense.

ARTICLE SIX
FEES

The County may assess such fees as are allowed by State law.

ARTICLE SEVEN
SEVERABILITY

In the event that any portion of this ordinance is declared void for any reason whatever, such decision shall not affect the remaining portion of the ordinance, which shall remain in full force and effect, and for this purpose the provisions of this are hereby declared to be severable.

ARTICLE EIGHT
EFFECTIVE DATE

This Ordinance shall become effective immediately upon adoption by the Buckingham County Board of Supervisors and shall repeal the previous Sewer Sludge Land Application Ordinance for Buckingham County which was adopted on an emergency basis as provided in Section 15.2- of the 1950 Code of Virginia, as amended. Compliance with the repealed ordinance to date shall be deemed compliance with this ordinance.

HANOVER ORDINANCE

standards of this article. If the county administrator finds that the applicant's submittal to the county engineer does not meet those requirements, the county administrator shall affirm the administrative decision. If the county administrator finds that the submittal does meet the requirements, the county administrator may reverse or modify the decision.
(Ord. No. 91-34, § 1, 3-25-92; Ord. No. 93-15, § 1, 2-23-94)

Sec. 10-49. Administration; penalty and enforcement.

(a) The provisions of this article shall be administered and enforced by the county engineer.

(b) A violation of this chapter shall be an offense punishable as a Class 1 misdemeanor. Each day during which the violation continues shall constitute a separate violation. In addition, the county engineer may institute civil proceedings to enjoin violations.
(Ord. No. 91-34, § 1, 3-25-92; Ord. No. 93-15, § 1, 2-23-94)

Sec. 10-50. Fees.

Fees shall be charged for review of any submittals required by this article, in accordance with a fee schedule adopted by the board of supervisors after notice and public hearing.
(Ord. No. 91-34, § 1, 3-25-92; Ord. No. 93-15, § 1, 2-23-94)

Secs. 10-51—10-59. Reserved.

ARTICLE III. LAND APPLICATION OF BIOSOLIDS

Sec. 10-60. Findings.

The board of supervisors finds that the spreading, placement or disposal of biosolids from sanitary sewage treatment facilities on land (generally referred to as the "land application of biosolids"), without appropriate regulation by the county and notice to the county and its residents, may create a public nuisance, may result in hazards to the health, safety and general welfare of the inhabitants of the county, and may present a danger of pollution of the waters and soils of the county.
(Ord. No. 98-07, § 1, 6-2-98)

Sec. 10-61. Purpose.

The purposes of this article are to outline the procedures to be followed for land application of biosolids in the county, including obtaining approval for such activity.
(Ord. No. 98-07, § 1, 6-2-98)

Sec. 10-62. Statutory authority.

This article is enacted pursuant to the authority of Virginia Code section 15.2-1200.
(Ord. No. 98-07, § 1, 6-2-98)

(f) This section shall not apply to the placement of biosolids in a sanitary landfill permitted by the commonwealth for such purposes and constructed and operated in accordance with all applicable federal, state and local requirements.
(Ord. No. 98-07, § 1, 6-2-98)

Sec. 10-65. Prohibited practices.

(a) No person shall apply liquid biosolids, supernatant from biosolids storage facilities, or stormwater from biosolids storage facilities to land in the county. No owner of land shall permit the application of liquid biosolids, supernatant from biosolids storage facilities, or stormwater from biosolids storage facilities to land in the county under such person's ownership, possession or control.

(b) No person shall apply biosolids to areas within urban service areas in the county. No owner of land shall permit the application of biosolids to lands under such person's ownership, possession or control which are located within urban service areas in the county.

(c) No person shall apply biosolids that generate odors offensive to persons of ordinary sensibility as determined at the property lines of any other person and as determined twenty-four (24) hours or more after land application of biosolids has been completed. For purposes of this subsection, "completed land application of biosolids" means full incorporation of biosolids, if required.
(Ord. No. 98-07, § 1, 6-2-98)

Sec. 10-66. Application procedure for land application of biosolids approval.

(a) At least thirty (30) days prior to applying biosolids to any land in the county, the contractor shall submit an application to the director of public works (the "director") of the county. The director shall maintain a computerized data base of all active land application of biosolids applications.

(b) The application shall be on a form provided by the county and be accompanied by the following:

(1) A copy of the current applicable state permit (including any amendment to or reissuance thereof) or other applicable permit(s) from the federal or state authorizing agencies.

(2) A proposed operation schedule indicating when land application of biosolids is planned for land in the county, to what lands such application is anticipated (listed by county GPIN) and an estimation of the duration of the planned application(s).

(3) The name, telephone number and address of the hauler(s) of the biosolids (if different than that of the applicant).

(4) The source of the biosolids, including the name, address, and telephone number of a contact person of the source. If the applicant has a contract with such source, the applicant shall also provide the expiration date thereof.

(5) Designation on a county map of a primary and alternative hauling route.

(6) At the applicant's option, a written statement signed by the property owner(s) and lessee(s), if any:

a. Authorizing representatives of the county access anywhere on the land(s) for purposes of inspecting the land application of biosolids process, and

b. Providing that he will make a good faith effort to implement any nutrient management plan ("NMP") applicable to the land upon which biosolids may be applied.

NOTE: If the written statement described in paragraph (b)(6) above is not provided with the application, the applicant must provide such statement as part of the notification required by section 10-69 of this article.

(c) Upon receipt of the application, the director shall review the application for its compliance with these requirements and forward a copy of the application for review by the Hanover-Caroline Soil and Water Conservation District.
(Ord. No. 98-07, § 1, 6-2-98)

Sec. 10-67. Approval or disapproval.

(a) The director shall review the application for land application of biosolids and grant written approval within ten (10) days of the receipt of the application if the director determines that the application meets the requirements set forth in section 10-66 of this article.

(b) When the director determines that an application does not meet the requirements set forth in section 10-66 of this article, the director shall provide written notice of disapproval stating the specific reasons for disapproval to the applicant within ten (10) days of receipt of the application. The notice shall specify the modifications, terms and conditions which will permit approval of the application, and shall provide the applicant with an opportunity to respond and/or correct the noted deficiencies within ten (10) days, unless otherwise agreed to in writing by the director.

(c) If the director fails to take action on an application for land application of biosolids within ten (10) days of receiving it, the application shall be deemed approved and the contractor may proceed with the proposed activity.

(d) An approved application will expire one (1) year from the date of approval.
(Ord. No. 98-07, § 1, 6-2-98)

Sec. 10-68. Amendment.

Any application which has previously been approved by the director may be changed by the director where:

(1) Inspection has revealed the inadequacy of the application to accomplish the fertilization objectives of the project, and appropriate modifications to correct the deficiencies are agreed to by the applicant and the director.

(2) The applicant finds that because of changed circumstances, the project described in the application cannot be effectively carried out, and proposed amendments to the application, consistent with the requirements of this article, are agreed to by the applicant and the director.

(Ord. No. 98-07, § 1, 6-2-98)

Sec. 10-69. Notice requirements.

(a) At least forty-eight (48) hours before the contractor begins the land application of biosolids to the lands the contractor must notify the director of his intent to begin the land application process, provided that contractor has an approved application for the land application of biosolids on file with the director. Such notification shall be in writing and may be mailed or hand-delivered or faxed (with the original mailed on the same day) to the county director of public works. Contractors mailing such notices should send them to: Hanover County Director of Public Works, P.O. Box 470, Hanover, Virginia 23069-0470. Notices may be hand-delivered to the office of the director of public works, Wickham Administration Building. Contractors faxing such notices shall fax them to: (804) 537-6233. Whether mailed, hand-delivered or faxed, the notice must be received by the director of public works forty-eight (48) hours before the contractor begins land applying biosolids to an approved area, except for the mailed original where the faxed notice was timely received.

(b) The notice required in subsection (a) shall include:

(1) A field map of the lands to which biosolids will be applied, such map to include the applicable county GPIN number;

(2) A written statement of when the land application will begin, how long the process is estimated to continue, and when the land application of biosolids will terminate. If circumstances cause the commencement of the land application of biosolids activity to take place more than five (5) days after the date indicated, the director shall be so notified promptly in writing.

(3) The date biosolids will be incorporated (if applicable);

(4) The proposed plant schedule, or designation as a pasture;

(5) The name, telephone number and address of the hauler, if different than the contractor;

(6) The telephone number and pager number (if available) of field technicians who will be land applying the biosolids;

(7) The source of the biosolids to be land applied, including name, address and phone number of contact person;

(8) The name, telephone number and address of the owner and/or lessee of the land to which biosolids will be applied.

(9) A recent soil analysis and nutrient management plan (NMP) prepared by an individual certified by the commonwealth as a certified nutrient management planner, that meets the standards and criteria contained in the Virginia Nutrient Management Training and Certification Regulations (Virginia Code section 5-15-10, et seq.);

(10) If not previously submitted with the application: (i) a written statement signed by the property owner(s) authorizing representatives of the county access anywhere on the subject land for purposes of inspecting the land application process; and (ii) a written statement signed by the property owner or lessee, if any, indicating that he will make a good faith effort to implement the NMP;

(c) In addition to the notification requirements set forth in sections 10-69(a) and (b) of this article, forty-eight (48) hours before beginning the land application of biosolids to approved county land, the contractor shall post signs at all field entrances which front public roads or, if no field entrances front public roads, on the owner's public road frontage nearest to the land application site. The signs shall contain the following information:

(1) A heading which reads "Biosolids Land Application in Progress;"

(2) A statement that the contractor (listed by name) is land applying biosolids to lands in the county which have been approved by the director;

(3) The GPIN number for the land to which biosolids are being applied;

(4) The name, telephone number and address of the hauler of the biosolids;

(5) The telephone number of the field technicians who will be land applying the biosolids;

(6) The source of the biosolids to be land applied;

(7) The name, telephone number and address of the owner and/or lessee of the land to which biosolids are being applied;

(8) The telephone number for the county department of public works is (804) 537-6181; and

(9) The telephone number for the Hanover-Caroline Soil and Water Conservation District is (804) 798-8107.

(d) Signs posted pursuant to section 10-69(c) of this article shall comply with the county zoning ordinance general sign regulations (article 7, section 3). Specifically, the signs shall be temporary nonilluminated signs, not less than four (4) square feet and no more than six (6) square feet in area, providing notice of biosolid waste products onto a farm as further described in section 10-69c.
(Ord. No. 98-07, § 1, 6-2-98)

Sec. 10-70. Penalty for violation of article.

Any person, firm or corporation, whether as principal, agent, employee or otherwise, violating, causing or permitting the violation of any of the provisions of this article shall be guilty of a Class 1 misdemeanor and upon conviction thereof, may be punished as provided in section 18.2-11 of the Code of Virginia, 1950, as amended and chapter 1, section 1-11 of the Hanover County Code. Each and every day during which any portion of any violation of this article is committed, continued or permitted shall constitute a separate offense.

The director may deny or revoke applications for land application of biosolids for violations of any provisions of this article. The director may also deny or revoke applications for the land application of biosolids utilizing a hauler or biosolids originating from a source which previously caused violations of this article.

Nothing in this section shall be construed to prohibit an appropriate officer of the county from applying to an appropriate court to restrain, correct or abate any violation of this article by injunction or other appropriate proceedings.
(Ord. No. 98-07, § 1, 6-2-98)

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BOARD OF SUPERVISORS
COUNTY OF LOUISA
RESOLUTION

At a regular meeting of the Board of Supervisors of the County of Louisa held in the Louisa County Public Meeting Room at 5:00 p.m. on the nd of 2002, at which the following members were present, the following resolution was adopted by a majority of all members of the Board of Supervisors, the vote being recorded in the minutes of the meeting as shown below:

PRESENT	VOTE
C. Edward Kube, Jr., Chairman	
Willie L. Harper, Vice-Chairman	
Fitzgerald A. Barnes	
Edward T. Deale	
Jack T. Wright	
David B. Morgan, M.D.	
P. T. Spencer, Jr.	

On the motion of Mr. Spencer, seconded by Mr. Wright, which carried by a vote of 7 - 0, the following resolution was adopted:

A RESOLUTION TO AMEND CHAPTER 38 OF THE LOUISA COUNTY CODE BY ADOPTING ARTICLE III. BIOSOLIDS

WHEREAS, the application of biosolids can pose a health and sanitation problem, if not applied in accordance with state regulations, and

WHEREAS, the Board of Supervisors finds it desirable to establish procedures to insure that the land application of biosolids is conducted in accordance with state law, and

NOW, THEREFORE BE IT RESOLVED, by the Louisa County Board of Supervisors on this 19th day of February 2002, that the Board amends Article III to Chapter 38 of the Louisa County Code to read as follows:

Article III. BIOSOLIDS

Sec. 38-61. Definitions.

The following words, terms and phrases, when used in this Article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Biosolids means a sewage sludge that has received an established treatment for required pathogen control and is treated or managed to reduce vector attraction to a satisfactory level and contains acceptable levels of pollutants, such that it is acceptable for use for land application, marketing or distribution in accordance with state regulations. The term shall include what is commonly referred to as "Class B Biosolids".

County Coordinator means an employee of the county, either full-time or part-time, charged with the responsibility of insuring that the land application of biosolids is conducted in accordance with state regulations and is conducted in as orderly a fashion as possible.

Exceptional Quality Biosolids means biosolids that have received an established level of treatment for pathogen control and vector attraction reduction and contain known levels of pollutants, such that they may be marketed or distributed for public use in accordance with state regulations. Exceptional quality biosolids are not subject to the requirements of this Article. The term shall include what is commonly referred to as "Class A Biosolids".

Land Application means the distribution of either treated wastewater of acceptable quality, referred to as effluent, or supernatant from biosolids use facilities, or stabilized sewage sludge of acceptable quality, referred to as biosolids, upon, or insertion into, the land with a uniform application rate for the purpose of utilization, assimilation or pollutant removal.

Owner means any individual, any group of individuals acting individually or as a group, or any public or private institution, corporation, company, partnership, firm or association, governmental body or its subordinate units, a municipal corporation or other legal entity.

Permit means an authorization granted by the authority of the Commonwealth of Virginia to operate facilities and specific site utilized for biosolids management, including land application, marketing and distribution of biosolids.

Sewage means the water-carried and nonwater-carried human excrement, kitchen, laundry, shower, bath or lavatory wastes, separately or together with such underground, surface, storm and other water and liquid industrial wastes as may be present from residences, buildings, vehicles, industrial establishments or other places.

Sewage Sludge or *Sludge* means any solid, semisolid, or liquid residues, which contain materials, removed from municipal or domestic wastewater during treatment including primary and secondary residues. Other residuals or solid wastes consisting of materials collected and removed by sewage treatment, septage and portable toilet wastes are also included in this definition. Liquid sludge contains less than 15% dry residue by weight. Dewatered sludge contains 15% or more dry residue by weight. The liquid obtained from separation of suspended matter during sludge treatment or

storage is referred to as supernatant.

Shall means a mandatory requirement.

Should means a recommendation.

SEC. 38-62 Permitted Application

A. No individual, group of individuals acting individually or as a group, or no public or private institution, corporation, company partnership, firm or association shall apply to any lands in the County of Louisa any biosolids, sewage, sewage sludge or sludge unless permitted to do so by the laws of the Commonwealth of Virginia and the Regulations and Rules of all State and Federal Agencies and unless applied in accordance with this ordinance.

B. Any individual, group of individuals acting individually or as a group, or any public or private institution, corporation, company partnership, firm or association holding a permit issued by authority of the Commonwealth of Virginia who intends to apply or have applied to land, any biosolids, sewage, sewage sludge or sludge to any lands in the County of Louisa shall:

1. Do so only in accordance with the permit issued by authority of the Commonwealth of Virginia.
2. Do so in accordance with this ordinance.
3. Do so in compliance with all other ordinances, laws, rules and regulations of the Commonwealth of Virginia, the County of Louisa, and the United States Government.
4. Notify the County Coordinator in writing at least thirty (30) days prior to the anticipated land application of the biosolids to any land in the County of Louisa of the dates and times it is anticipated that biosolids will be applied to land within the County. The notification may give alternative dates if weather or other factors prevent the application on the anticipated date. The County shall be notified as soon as reasonably possible that the biosolids will not be applied on the anticipated date and what alternative date, if any, will be used.
5. The County Coordinator will be provided with the following information in writing:
    a. The name, address and phone number of the applicator
    b. The specific land where the application will take place
    c. The name, address and phone number of the owner of the land where the application will take place
6. At least 30 days prior to the land application, the owner of the land, or someone on the owner's behalf post a sign not smaller than 48 inches in width and 36 inches in height, with black letters at least 3 inches high and a white background, or such other sign of similar size and make up as the County Coordinator approves, on or near the site of application, visible to the public from the nearest public access which shall set forth the fact that biosolids will be applied to the land in the area, the name of the applicator, address and telephone number of a contact person for the applicator,

and the name and telephone number of the County Coordinator and certify the same to the County Coordinator. Such signs shall remain posted until the application is complete.

7. Deliver to the County Coordinator at least thirty days prior to the anticipated date of the land application:

a. A copy of all permits, issued by the Commonwealth of Virginia, allowing the land application.

b. A copy of all information required to be submitted to the Commonwealth of Virginia pursuant to 12VAC5-585-630, including the Nutrient Management Plan, if required by the regulations.

8. Allow the County to take samples of the Biosolids before application.

9. Allow the County to take soil and water samples before and after the land application.

10. Allow the County to inspect the site at reasonable times before, during and after the land application.

11. The applicator shall certify in writing at the end of the application, that the application was performed in accordance with the Operational Plan, including the Nutrient Management Plan, if required, the permit allowing the application and all applicable local, state, and federal laws, rules, regulations and ordinances.

12. The County Coordinator shall immediately notify the applicator of any failure to follow the Operational Plan or of any spillage of biosolids on property not subject to permits issued by the Commonwealth of Virginia, the Operational Plan or on public streets or rights of way upon discovery of such failure or spillage. The applicator shall respond, in conformance with its Biosolids Permit Operational Plan and established company policy, to undertake appropriate corrective action for improperly applied biosolids or to clean up biosolids onto public streets, roadways or other unpermitted areas, immediately upon receiving the notification. In the event that the applicator does not respond to notification of spillage and the county conducts the clean up, the applicator shall compensate the county for the actual costs of said clean up.

13. The Applicator shall have a sweeper truck available at all applications of biosolids within the County. In the event that a single applicator is applying biosolids on multiple sites simultaneously on a single day, provision of a single sweeper truck shall be deemed as compliance with this section.

14. Prior to reentry onto any public road, trailers used in the application of biosolids shall be scraped to avoid the accidental spread of biosolids on public roads or other places not permitted by the Department of Health.

C. Any individual, group of individuals acting individually or as a group, or any public or private institution, corporation, company, partnership, firm or association holding a permit issued by the authority of the Commonwealth of Virginia who intends to apply or have applied to land any biosolids, sewage, sewage sludge or sludge to any lands in the County of Louisa should wherever possible avoid or delay the applications of biosolids to the land in Louisa County, Virginia if such application conflicts with known outside community or social events, such as, by way of example and not limitation, homecoming events, outdoor weddings or receptions. The County Coordinator shall serve as liaison in these matters.

D. Any individual, group of individuals acting individually or as a group, or any public or private institution, corporation, company, partnership, firm or association holding a permit issued by the authority of the Commonwealth of Virginia who intends to apply or have applied to land any biosolids, sewage, sewage sludge or sludge to any lands in the County of Louisa shall not store the biosolids on land in Louisa County, Virginia for future application but shall land apply the biosolids as they are received on the date provided the County for application, except as allowed by the regulations of the Virginia Department of Health.

E. Biosolids shall not be applied to land in Louisa County, Virginia other than the times thirty minutes before sunrise to thirty minutes after sunset.

SEC. 38-63 Application on Small Lots

The application of biosolids shall not be permitted on lots of less than twenty-five acres. For the purposes of this Article only, contiguous lots under the ownership of one owner shall be deemed as one lot for determining minimum lot size.

Land application of biosolids shall not be conducted unless the applicator has in effect liability insurance in the amount of at least one million dollars ($1,000,000.00) aggregate per occurrence, covering all losses and claims arising from the land application or transportation of biosolids and all related activities. Such insurance shall be maintained in full force and effect throughout the time that the applicator is engaged in land application of biosolids in Louisa County. The applicator shall name the County of Louisa, the Board of Supervisors, and its elected and appointed officials, agencies, departments, agents and employees (collectively, County of Louisa) as additional insureds. The applicator shall provide the County Coordinator with certificates of insurance and promptly notify the Coordinator of any claims or cancellations. Where possible, contractors shall notify the County Coordinator thirty days in advance of any proposed change in insurance carriers or any proposed cancellation of insurance coverage.

Sec. 38- 65.Violation

Any violation of this Article shall be a class one misdemeanor as defined in the Code of Virginia, as amended from time to time. Each violation shall constitute a separate offense.

Sec. 38-66. Fees

The County may assess such fees as are allowed by State law and applicable regulations.

Sec. 38-67 Severability

In the event that any portion of this ordinance is declared void for any reason whatsoever, such decision shall not affect the remaining portions of this Article, which shall remain in full force and effect, and for this purpose the provisions of this are hereby declared to be severable.

SEC. 38-68 Effective Date

This ordinance is effective immediately. Any application that is in progress on today's date or any that were scheduled before the effective date shall be deemed in compliance with this ordinance upon notification of the County Coordinator of all such applications previously scheduled and to occur less than thirty days after the effective date of this ordinance.

A Copy, teste:

_____

C. Lee Lintecum, Clerk
Board of Supervisors
Louisa County, Virginia

[file name]

Appendix J

Public Comments on Biosolids Draft Legislation
General Summary

Biosolids Contractors

- Pollution liability should not be required (unwarranted and too expensive).
- Local monitors should immediately report infractions to VDH, and VDH should make ruling.
- "Material source" should be removed from VDH's site-specific condition authority because sources already subject to state and federal regulatory standards and VDH reviews sources on case-by-case basis.
- Certification requirements should apply to local inspectors as well as applicators.

Citizens at large

- No state agency or employee should promote land application of biosolids (Conflict of interest with VDH serving as both regulator and promoter of land application of biosolids.)
- Need both General Liability *and* Pollution Insurance.
- No sludge application within 10 km of any home or business.
- Sludge application notice should be attached to property deed.
- Notification to neighbors should be mandatory.
- Nutrient Management Plan (NMP) for phosphorus and nitrogen should be required.
- Posting of warning signs (of potential health hazards) 30 days in advance.
- Electronic database of complaints (for easy public access).
- State guarantee payment for liability.
- Incorporation of VDH regulations into local ordinances.
- Appointment of "Blue Ribbon Panel" including independent medical doctor, microbiologist, toxicologist, and geologist, to study health risks.

Environmental Organizations

- Mandatory Nitrogen and Phosphorus-based NMP.

Local government

- Authority to prohibit land application of biosolids.
- Complaints should be submitted in writing.
- More specific requirements for complaints should be set forth.
- Pollution insurance should not be required.
- "Alternative" financial responsibility instead of "additional."
- Enforcement at local level should be optional, VDH should ultimately responsible.
- Add protection of "environment" to site-specific conditions provision.
- Clarification as to who needs to be certified. (drivers, supervisors, etc.)
- VDH should maintain searchable, electronic complaint database.
- Nitrogen and phosphorous NMP.

State Agencies
Mandatory Nutrient Management Plans approved by DCR.

Wastewater Facilities
- Generators should be notified of complaints.
- Notification of site-specific conditions should state "basis for such determination" - current language requires statement of "reasons therefor."
- No pollution liability coverage should be required - unnecessary and too expensive; also, delete "cleanup costs."
- Need clarification that financial responsibility requirements do not apply to local governments, but only to those required to hold a permit "referenced in subsection A of this section."
- "Additional mechanisms" for financial responsibility should not require regulatory process - Board of Health should have this authority.
- Certification should only be required of supervisor or responsible person in charge.
- Certification need not distinguish between "Class A" and "Class B" and should apply to any person required to hold a permit.
- Local enforcement inspectors should meet certification requirements and only a certified inspector should be able to initiate abatement.
- Class I wastewater license should suffice, operators already trained in biosolids treatment, disposal and application.
- 180-day certification deadline should be extended to at least one year.
- Dispute resolution should be determined by VDH no later than 48 hours.
- Bifurcated scientific review process: VDH report on technical issues by June 30, 2004, and provide second report with suggestions to change law 12 months later, June 30, 2005.
- DEQ should be involved in scientific risk assessment.
- There should be no changes to current NMP requirements, or alternatively, no requirement that the plan be approved by DCR.

Appendix K

SENATE JOINT RESOLUTION NO. 438

Directing the Commission Studying the Future of Virginia's Environment to study the implementation of local erosion and sediment control programs and local stormwater management programs.

Agreed to by the Senate, February 22, 2001
Agreed to by the House of Delegates, February 21, 2001

WHEREAS, it is the stated policy of the Commonwealth to protect state waters from pollution, impairment, or destruction; and

WHEREAS, in response to concerns regarding the adverse impacts of erosion and sediment on the quality of state waters, the General Assembly adopted the Erosion and Sediment Control Law (§ 10.1-560 et seq.) in 1973, which requires local governments or soil and water conservation districts in Virginia to adopt and administer an erosion and sediment control program; and

WHEREAS, the Division of Soil and Water Conservation within the Department of Conservation and Natural Resources studied the implementation of the Virginia Erosion and Sediment Control Program and recommended in a report submitted to the General Assembly in 1988 that there be an increase in staffing at the Division of Soil and Water Conservation and that enforcement capabilities be improved; and

WHEREAS, the General Assembly passed House Joint Resolution No. 178 in 1992, which created a joint subcommittee to study the necessity of improvement in erosion and sediment control programs statewide, including ways that the State Water Control Board could assist localities in developing, enforcing, and improving existing erosion and sediment control programs, and after concluding its study the subcommittee recommended that greater assistance be given to localities in implementing erosion and sediment control programs and that greater emphasis be placed on ensuring that localities update their programs to reflect changes in state law; and

WHEREAS, in response to concerns regarding the adverse impacts of stormwater on the quality of state waters, the General Assembly adopted the Stormwater Management Act (§ 10.1-603.1 et seq.) in 1989, which allows local governments to adopt and administer stormwater management programs; and

WHEREAS, the Chesapeake Bay 2000 Agreement calls for the reduction of sediment in areas of rapid development and growth throughout the Chesapeake Bay watershed; and

WHEREAS, effective local erosion and sediment control programs and local stormwater management programs are necessary to reduce the amount of sediment that enters the Chesapeake Bay and to ensure Virginia's compliance with the Chesapeake Bay 2000 Agreement; and

WHEREAS, there is currently insufficient information as to the effectiveness of local programs in controlling erosion and sediment and managing stormwater and the consistency of such programs with the Erosion and Sediment Control Law and the Stormwater Management Act; and

WHEREAS, Senate Joint Resolution No. 373 (2001) continues the Commission Studying the Future of Virginia's Environment to create opportunities for the members of the Commission to become educated on environmental issues that may require legislative action; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That the Commission Studying the Future of Virginia's Environment be directed to study the implementation of local erosion and sediment control programs and local stormwater management programs.

In conducting its study, the Commission shall examine (i) the consistency of local erosion and sediment control ordinances with the Erosion and Sediment Control Law; (ii) the adequacy of local stormwater management programs and the consistency of such programs with the Stormwater Management Act; and (iii) the implementation of erosion and sediment control programs and stormwater management programs by local governments, including a review of local program administration, plan review, inspection and enforcement. The Commission shall also make recommendations as to ways to ensure that local erosion and sediment control programs and local stormwater management programs are consistent across jurisdictional lines and ways to improve existing erosion and sediment control programs and stormwater management programs.

The Division of Legislative Services shall provide staff support for the study. Technical assistance shall be provided by the Department of Conservation and Recreation and the Department of Environmental Quality. All agencies of the Commonwealth shall provide assistance to the Commission, upon request.

The Commission shall complete its work in time to submit its written findings and recommendations by November 30, 2001, to the Governor and the 2002 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

Implementation of this resolution is subject to subsequent approval and certification by the Joint Rules Committee. The Committee may withhold expenditures or delay the period for the conduct of the study.

Appendix L

An Evaluation of Current Reporting and Program Review Requirements Affecting Local Stormwater Management and Erosion and Sediment Control Programs And Proposals for Improved Agency Coordination

For The Commission on the Future of Virginia's Environment

Prepared By

Chesapeake Bay Local Assistance Department
Department of Conservation and Recreation
Department of Environmental Quality

December 2001

CONTENTS

Section 1 - Introduction

The Commission on the Future of Virginia's Environment has requested that the Department of Conservation and Recreation (DCR), the Department of Environmental Quality (DEQ), and the Chesapeake Bay Local Assistance Department (CBLAD) examine the annual reporting requirements and program evaluation mechanisms applied to local stormwater management and erosion and sediment control programs to identify redundancy and opportunities for consolidation or enhanced coordination.

This document provides a description of the current annual reporting and program evaluation requirements imposed by the three Departments; provides a description of the common elements that may be used to satisfy the information needs of each Department; and identifies several key issues inherent to consolidation that must be resolved for these efforts to be successful.

Section 2 - Summary of Consolidation/Coordination Efforts

A. REPORTING

Construction Activity and BMP Data Tracking

Current: Data is presently gathered and submitted annually by some localities. Also, some localities have a Best Management Practice (BMP) tracking database and this information is not currently reported to the Departments. Data is gathered by all Phase 1 VPDES localities and submitted to DEQ with their annual reports. The data is used to cross-check DEQ's VPDES permit database to ensure that the facilities that are reported to us by the localities have applied for a VPDES permit.

Proposed: To effectively capture construction activity data and BMP tracking for all sites with greater than one acre of disturbance, applicants could submit this information as part of the Virginia Permit Discharge Elimination System (VPDES) construction permit. The reporting burden would then be removed from localities and the state would be able to collect valuable data in a more organized and orderly fashion, to better serve program prioritization needs, provide for efficient and accurate federal reporting, and to return this information to localities in a useable format to assist local program efforts. More input is needed from localities to determine whether this obligation imposes a substantial burden, however, because this option would eliminate DEQ's ability to coordinate compliance activities by cross-checking between local and VPDES data bases.

Enforcement and Inspection Data Tracking

Current: DEQ requires a summary report of local inspection and enforcement efforts for the 11 localities currently under VPDES Municipal Separate Storm Sewer System (MS4) permits. Neither DCR or CBLAD require submission of this data. DEQ, DCR, and CBLAD all consider such information in review of local program, but there is no consistent method to track or report such information.

Proposed: Departments will agree on a combined standard reporting format and provide tools to localities to track, organize, report, and apply such information to program implementation. This format could be in place by 2003.

B. LOCAL PROGRAM REVIEW

Current: DEQ reviews Phase I MS4s annually as part of its inspection program and plans to review Phase II local programs once every five years. DCR has program reviews scheduled periodically (currently on an 8-year cycle based on current staffing) based on specific criteria to appropriately prioritize reviews. CBLAD has conducted individual program reviews at the request of localities or their Board and in response to the proposed regulatory amendments. CBLAD is developing a local program review checklist and procedure such that all localities will be reviewed on a five-year cycle. Each Department currently conducts these reviews separately.

Proposed: The three Departments commit to identifying common program review elements and consolidating those elements into a single checklist/reporting format. The Departments further commit to provide localities the opportunity to be reviewed by each Department concurrently in a coordinated fashion to reduce local program burdens.

Section 3 - Issues to be Resolved in Implementing a Consolidated Annual Reporting and Performance Evaluation Program

There are a number of outstanding issues that must be resolved before consolidated annual reporting and performance evaluations could be implemented. Foremost among these issues is determining how to coordinate the effort, developing a management system, and prioritizing program reviews.

A. PRIORITIZATION OF REVIEW EFFORTS

In addition to developing a system for administering the consolidated reporting and performance evaluations, it will be necessary to prioritize the local programs for review. Each Department may have a particular interest in seeing that certain local programs are reviewed before others; and, these priorities may not run true across Departmental lines. A mechanism for prioritizing localities for review will need to be developed. However, because the joint review may be implemented as a local option, this may not be overly complex.

B. STAFFING REQUIREMENTS

Each of the three Departments involved are already charged with oversight of various program management activities. In order to conduct consolidated program reviews it may be necessary to provide additional staff or change roles of existing staff. However, the workload implications will vary greatly depending on how many localities request joint reviews.

The projected additional staffs needed to accomplish program reviews on a reliable (1-3 year) schedule are as follows:

CBLAD – 4 FTEs ($270,000)
DCR –10 FTEs ($750,000)
DEQ – 2 FTE ($130,000)*

(**NOTE:** DEQ has requested .5FTE for implementation of Phase II of its VPDES-MS4 permitting program that would be utilized to conduct program reviews once every five years. Higher staffing would be required for more frequent reviews.)

C. CONCLUSION

These are simply a few of the issues that must be addressed prior to implementing the suggested consolidated annual reporting and performance evaluation processes. Each agency has committed to the concept of providing this opportunity for streamlining to local governments; however, these, and other as yet unidentified issues, must be resolved for the consolidation effort to succeed.

Section 4 - Proposed Consolidated Tracking and Reporting Requirements To Satisfy Departmental Needs

A. PROPOSED "GENERAL" TRACKING AND REPORTING REQUIREMENTS

Reporting Category and Data Collected	Proposed Method of Collecting Data
Characterization of Development Impacts	
Total Number of Development Projects	VPDES Construction Permit Application and/or DCR Database (under development)*
Total Area of Land Disturbance	
Total Number of Building Permits for New Construction or Redevelopment	Department of Housing and Community Development
Characterization of Stormwater Management Efforts**	
BMP Locations	VPDES Construction Permit Application and/or DCR Database (under development)*
Type of Land Existing/Proposed	
Maintenance Agreement Executed	
Total Number of BMPs Implemented by Type	
Total Drainage Area Served by Each BMP Type	
Total Load Reductions Anticipated by BMP Type	
Total Load Reductions Anticipated All BMPs	
Characterization of Enforcement	
Number of Inspections by Type: - ESC, BMP, VPDES, CBPA (RPA)	Enforcement Tracking Program (proposed)
Number of Enforcement Actions by Type: - ESC, CBPA, VPDES - Notice of violation, Stop work orders, surety drawdowns, fines (with amount), and court action	

** DCR is currently developing a comprehensive Internet-based Stormwater BMP Tracking Database that will be used to voluntarily track statewide BMP implementation.*
***Specific information would be submitted to DEQ through the VPDES permit application process for all sites over 1 acre. Specific instructions to be developed and process implemented by 2003.*

B. PROPOSED "PROGRAM-SPECIFIC" REPORTING REQUIREMENTS

Certain requirements are not amenable to the collection methods described below, nor are they specific to stormwater management. These requirements are listed below, to identify separate reporting requirements that must be met to satisfy individual Programs/Departments.

*If a locality is subject to a **CBPA Program**, the following additional information is needed:*

- Impacts to Resource Protection Areas
- Exceptions/Variances
- Septic field tracking and pump-out information
- Zoning ordinance changes
- Comprehensive plan changes
- General characterization of development impacts under a one-acre threshold (infill development, small sites, etc.)

*If a locality is subject to a **VPDES MS4 Permit**, the following additional information is needed:*

- The status of implementing the components of the stormwater management program that were established as permit conditions
- Proposed changes to the stormwater management programs that were established as permit conditions. Such proposed changes must be consistent with 9VAC25-31-130C2d
- Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application
- A summary of data, including monitoring data, that is accumulated throughout the reporting year
- Annual expenditures and a budget for the year following each report
- Identification of water quality improvements or degradation

Section 5 - Current Annual Reporting Requirements

In an effort to provide context to the task of consolidating and streamlining the annual reporting on the measures localities are taking to address the various water quality and environmental protection activities required by the Commonwealth, it is helpful to identify what annual reports and information the DCR, CBLAD, and DEQ currently require. In order to do so, a committee of representatives of these Departments was assembled and identified the annual reporting requirements associated with their respective programs. The following is a synopsis of those annual reporting requirements.

A. DEPARTMENT OF CONSERVATION AND RECREATION

Annual reporting of stormwater management activities by localities is not currently required by DCR, nor is there a reporting requirement for the 324 localities or regional entities participating under DCR's Erosion and Sediment Control Program. DCR periodically requests that localities submit a report with general information regarding their Erosion and Sediment Control program (e.g. total disturbed area, number of projects, etc.), but compliance with such requests has been sporadic. DCR has also been in the process of developing a comprehensive Internet-based Stormwater BMP Tracking Database (noted previously in this document) so that localities will have an easy-to-use tool to track and report on SWM/BMP implementation. Statutory authority for DCR's current reporting requirements is provided below.

Virginia Stormwater Management Regulations

4VAC3-20-251. Reporting on stormwater management.

"The department is required to report to the General Assembly on the extent to which stormwater management programs have reduced nonpoint source pollution to the Commonwealth's waters and mitigated the effects of localized flooding. In order to complete this report, localities with stormwater management programs and state agencies may be asked to voluntarily submit an annual report to the department. Such a request may suggest reporting of data on the number and types of stormwater management facilities installed in the preceding year, the drainage area or watershed size served, the receiving stream or hydrologic unit, a summary of monitoring data, if any, and other data useful in determining the effectiveness of the programs and BMP technologies in current use. "

As seen above, localities may be asked to voluntarily submit an annual report to DCR, and DCR may suggest the format for this information. The database currently under development by DCR is envisioned to facilitate the voluntary entry of this data.

Virginia Erosion and Sediment Control Law

10.1-566A. Monitoring, reports and inspections.

The plan-approving authority or, if a permit is issued in connection with land-disturbing activities which involve the issuance of a grading, building, or other permit, the permit-issuing authority (i) shall provide for periodic inspections of the land-disturbing activity and require that an individual holding a certificate of competence, as provided by § 10.1-561, who will be in charge of and

> responsible for carrying out the land-disturbing activity and (ii) may require monitoring and reports from the person responsible for carrying out the plan, to ensure compliance with the approved plan and to determine whether the measures required in the plan are effective in controlling erosion and sediment.

DCR may require monitoring data and reports to assess on site plan compliance and effectiveness in controlling erosion and sedimentation.

Virginia Erosion and Sediment Control Regulations

> **4VAC50-30-90. Review and Evaluation of Local Programs: Minimum Program Standards**
>
> "...B. The department staff, under authority of the board, shall periodically conduct a comprehensive review and evaluation of local programs. The review and evaluation of a local program shall consist of the following: (i) personal interview between the department staff and the local program administrator or designee or designees; (ii) review of the local ordinance and other applicable documents; (iii) review of plans approved by the program; (iv) inspection of regulated activities; and (v) review of enforcement actions.
>
> C. Local programs shall be reviewed and evaluated for effectiveness in carrying out the Act using the criteria in this section. However, the director is not limited to the consideration of only these items when assessing the overall effectiveness of a local program..."

Currently, DCR periodically requests that localities that implement Erosion and Sediment Control Programs submit a report on the amount of land disturbance, number of permits issued, and other data necessary to characterize the program. This request for data is used to better characterize statewide development activity, program compliance, and to satisfy federal reporting requests and to direct program resource and efforts.

B. CHESAPEAKE BAY LOCAL ASSISTANCE DEPARTMENT

There are no annual reporting requirements currently required for the 84 localities operating under the Chesapeake Bay Preservation Area Designation and Management Regulations; however, CBLAD has, from the inception of the program, requested information from localities regarding the number of water quality impact assessments and buffer encroachments administered at the local level. This type of report is not explicitly required by regulation and compliance with such reporting has been minimal and has yielded little in the way of useful information. Additionally, recipients of grant funds awarded through the competitive grants process have been required to provide quarterly reports outlining not only how the grant funds were used, but also identifying the number of water quality impact assessments, encroachments, administrative waivers, and related data. Again, this information has proved to be of limited use.

An annual reporting requirement has been proposed under the proposed amendments to the Chesapeake Bay Preservation Area Designation and Management Regulations currently being promulgated by the Chesapeake Bay Local Assistance Board. The proposed language is as follows:

9VAC10-20-250. Administrative Proceedings (PROPOSED)

"...1. In order to carry out its mandated responsibilities under § 10.1-2103.10 of the Act, the board will:

a. Requirethat each Tidewater local government submit an annual implementation report outlining the implementation of the local program. The board will develop reporting criteria which outline the information to be included in the reports and the time frame for their submission. The board will use the information in these reports to assess local patterns of compliance with the Act and this chapter and to evaluate the need for an administrative proceeding to more closely review any individual local government's compliance. All proceedings of this nature will be developed and conducted in accordance with this section...."

10.1-2103.10. Powers and duties of the board.

"The Board is responsible for carrying out the purposes and provisions of this chapter and is authorized to:

...10. Take administrative and legal actions to ensure compliance by counties, cities and towns with the provisions of this chapter including the proper enforcement and implementation of, and continual compliance with, this chapter..."

The reporting criteria are being developed as part of the Local Program Compliance Evaluation process. CBLAD envisions that this report will encompass elements relating to the general extent of development and disturbance, the tracking of BMPs implemented, septic tank pump-out criteria compliance, and the other elements of the local program required under the Regulations. It is further envisioned that any and all such reporting requirements will be fully coordinated (possibly through the Program Manager discussed earlier) with DCR and DEQ to eliminate any redundancy in information gathering.

C. *DEPARTMENT OF ENVIRONMENTAL QUALITY*

The Department of Environmental Quality has reporting requirements that affect the 11 localities (3 large MS4's (>250k population), and 8 medium MS4's (100-250k population) that are permitted under the Phase I VPDES Municipal Separate Storm Sewer program. The reporting requirements necessitate that localities annually provide a narrative report addressing seven specific elements or questions. The manner in which localities answer these questions varies widely, and the DEQ narrative report is not highly conducive to incorporation or consolidation into a checklist format. The required information can, however, be included in joint reporting guidelines.

<u>VPDES Municipal Separate Storm Sewer System Permit</u>

Large and Medium MS4s

9 VAC 25-31-200. Additional conditions applicable to specified categories of VPDES permits

"...C. Municipal separate storm sewer systems.
The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Board under 9 VAC 25-31-120 A 1 e must submit an annual report by a date specified in the permit for such system. The report shall include:

1. The status of implementing the components of the storm water management program that are established as permit conditions;

2. Proposed changes to the storm water management programs that are established as permit condition. Such proposed changes shall be consistent with 9 VAC 25-31-120 C 2 d;

3. Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application;

4. A summary of data, including monitoring data, that is accumulated throughout the reporting year;

5. Annual expenditures and budget for year following each annual report;

6. A summary describing the number and nature of enforcement actions, inspections, and public education programs; and

7. Identification of water quality improvements or degradation..."

A different set of reporting guidelines will be required of regulated small MS4s once the current general permit-writing process is completed. There will be at least 43 small MS4s to be automatically designated, and an additional 10 MS4s potentially designated as covered by Phase II of the federal mandate. There are no similar reporting requirements for the construction site permits or industrial operation permits issued by DEQ.

Small MS4s

9VAC25-31-121. Small Municipal Separate Storm Sewer Systems

"...7. Evaluation and assessment
a. You must evaluate program compliance, the appropriateness of your identified best management practices, and progress towards achieving your identified measurable goals. The Board may determine monitoring requirements for you in accordance with monitoring plans appropriate to your watershed. Participation in a group-monitoring program is encouraged.
b. You must keep records required by the VPDES permit for at least 3 years. You must submit your records to the Department only when specifically asked to do so. You must make your records, including a description of your storm

water management program, available to the public at reasonable times during regular business hours (see 9 VAC 25-31-80 for confidentiality provision). (You may assess a reasonable charge for copying. You may require a member of the public to provide advance notice.)

c. Unless you are relying on another entity to satisfy your VPDES permit obligations under 9 VAC 25-31-121 E 1, you must submit annual reports to the Department for your first permit term. For subsequent permit terms, you must submit reports in years two and four unless the Department requires more frequent reports. Your report must include:

(1) The status of compliance with permit conditions, an assessment of the appropriateness of your identified best management practices and progress towards achieving your identified measurable goals for each of the minimum control measures;

(2) Results of information collected and analyzed, including monitoring data, if any, during the reporting period;

(3) A summary of the storm water activities you plan to undertake during the next reporting cycle;

(4) A change in any identified best management practices or measurable goals for any of the minimum control measures; and

(5) Notice that you are relying on another governmental entity to satisfy some of your permit obligations (if applicable)..."

Section 6 - A Possible Method of Consolidating Annual Reporting Requirements

As should be evident from the information provided above, there is limited overlap in the current required annual reporting localities must the three Departments. Only DEQ has an annual reporting requirement, and that requirement is made up of a narrative description of how the locality is implementing its MS4 permits. None of the programs use an annual reporting mechanism to compile consistently reliable data on storm water reduction and treatment efforts, development trends and activity, effects of construction activity on the environment, or the strengths and weaknesses of local programs. This, in itself, is a weakness of the Commonwealth's efforts at environmental protection.

As a way to remedy this identified weakness, it is suggested that a consolidated annual reporting requirement be established. The information requested should be broken down into two types as discussed previously: (1) information that is so general as to be of use to all Departments and (2) information that is Program/Department-specific.

A. DEVELOPMENT ACTIVITY AND BMP TRACKING

Characterization of Development Impacts:

- Total Number of Development Projects (Sites/Subdivisions)
- Total Area of Land Disturbance

- Total Number of Building Permits for New Construction or Redevelopment

Characterization of Program Action/Effort:

- Total Number of Best Management Practices (BMPs) implemented
- Total load reductions anticipated
- Total drainage area served by BMPs
- BMP Tracking: Number & type of BMPs installed, maintenance agreements executed,

- (Specific information should be entered into DCR online tracking database or, if similar tracking is kept through local tracking system, should be submitted to state in electronic format conducive to importing into database (Specific instructions to be developed).

The proposed method for obtaining this data (except for the building permit statistics) already exists and is in current use by the DEQ's VPDES permit application. These permits are currently required for any land disturbance over five acres in size, and will be modified to require any construction with over one acre of land disturbance to apply by 2003. It would seem to be a minor programmatic change to amend the application (and regulations if necessary) to require information on the storm water management impacts outlined above. By using this application process to collect the desired information on land disturbance, the nature of the development projects, and BMPs implemented, the state could effectively gather important information on program compliance for the three programs, while eliminating any burden on the localities to collect and report this information. The Department of Housing and Community Development already compiles the building permit data on a locality basis. The information relating to enforcement activities would have to be compiled through other means.

DEQ may obtain increased permit compliance rates by working with localities to enhance implementation and compliance with state and local program requirements. The data collected could be stored in a database and made available online and/or in hard copy to localities to use in their own tracking system. The collection of this data in this format would provide additional reason for localities to assist in ensuring that applicants for local permits obtain the required DEQ permit as well, as they would have a good source of data and a tracking mechanism for BMPs already in place. It could also assist DEQ in prioritizing inspections and enforcement efforts for the VPDES construction site permits.

Another option for gathering this information would be to have localities enter the data into the DCR database currently under development, or provide an annual report on this in electronic format. This solution would resolve any conflicts in data collection methods, but would also cause an additional local data collection burden. This solution would, however, allow us to obtain data on construction sites and BMPs that fall under the one-acre threshold for the VPDES permits.

B. ENFORCEMENT TRACKING – COMMON ELEMENTS

At present, very little data is collected on the enforcement and inspection of construction sites participating in one of the stormwater management programs. Localities may have their own tracking mechanisms, but, in fact, many localities do not track this information in any central

location to assist in reporting or in improving the efficiency of their program. The DEQ presently requires, for the 11 large and medium MS4 permits, that inspection and enforcement information be compiled and submitted through their annual reporting process. This will not be required for the Phase II small MS4 permittees. CBLAD envisions that inspection and enforcement tracking and reporting will be an essential part of any reporting requirements developed to meet the proposed regulatory language, as the CBLAD has been very interested in setting objective criteria for determining the level of compliance maintained by Tidewater localities. Data on the enforcement and inspection of BMP, Resource Protection Areas and Erosion and Sediment Controls is a local program element that would be considered in any local program review, so the provision of collection tools and an acceptable format agreed to by all agencies would be of benefit. DCR carefully considers inspection and enforcement trends and processes during its periodic reviews of local program implementation. The following general items could apply to the inspection and enforcement of the elements of any of these programs.

Characterization of Enforcement:

- Number of Enforcement Actions: ESC, CBPA, VPDES
- Nature of Enforcement Actions: Notice of violation, Stop work orders, surety drawdowns, fines, court cases, voluntary compliance obtained.
- Number of Inspections: E&S, BMP, VPDES, CBPA (RPA)

C. PROPOSED REPORTING CONSOLIDATION EFFORT

The Departments propose to develop a standard reporting format, and potentially computerized tools for localities to assist in tracking this information (also to be implemented by late 2003) to provide for local inspection and enforcement tracking for compliance with any of the three programs. The tools envisioned would assist localities in tracking construction site inspections, long-term BMP inspections, violations and other enforcement actions. A computerized tool could generate an annual report or periodic reports which would satisfy the reporting criteria pertinent to this area for any on of the three agencies. Any consolidated enforcement tracking format, and any tools provided to localities to assist in the tracking could be developed, and training could be provided to localities to effectively utilize this. The reporting element to the applicable agency would only be required when one of the three programs necessitated submittal of such information.

Section 7 - Local Program Review Coordination and Consolidation

A. CURRENT LOCAL PROGRAM REVIEW EFFORTS

Department of Conservation and Recreation: DCR conducts periodic audits on local Erosion and Sediment Control and Stormwater Management Programs adopted pursuant to the applicable regulations. The program review process has been consolidated for the Erosion and Sediment Control and Stormwater Management programs, and was recently revamped to provide more consistent and objective analysis than was previously affected. Review are currently prioritized based on a variety of factors affected the size, scope, and effectiveness of local programs. DCR envisions that at the current schedule, program

review will be completed for each locality every 8 years. The specific mandates relating to local program review requirements are as follows:

Virginia Stormwater Management Law and Regulations

10.1-603.12. Department to review local and state agency programs.

A. The Department shall periodically conduct a comprehensive review and evaluation of the effectiveness of each local government's and state agency's stormwater management program. The review shall include an assessment of the extent to which the program has reduced nonpoint source pollution and mitigated the detrimental effects of localized flooding. A summary of these reviews and evaluations shall be submitted annually to the General Assembly.

B. If, after such a review and evaluation, a local government is found to have a program which does not comply with the provisions of this article or regulations promulgated thereunder, the Department may issue an order requiring that necessary corrective action be taken within a reasonably prescribed time.

4VAC3-20-111. Requirements for local program and ordinance.

"...B. The department shall periodically review each locality's stormwater management program, implementing ordinance, and amendments. Subsequent to this review, the department shall determine if the program and ordinance are consistent with the state stormwater management regulations and notify the locality of its findings. To the maximum extent practicable the department will coordinate the reviews with other local government program reviews to avoid redundancy. The review of a local program shall consist of the following:

1. A personal interview between department staff and the local program administrator or his designee;
2. A review of the local ordinance and other applicable documents;
3. A review of plans approved by the locality and consistency of application;
4. An inspection of regulated activities; and
   A review of enforcement actions..."

Virginia Erosion and Sediment Control Regulations

10.1-561.: State erosion and sediment control program.

"...D. The Board shall promulgate regulations establishing minimum standards of effectiveness of erosion and sediment control programs, and criteria and procedures for reviewing and evaluating the effectiveness of erosion and sediment control programs. In developing minimum standards for program effectiveness, the Board shall consider information and standards on which the regulations promulgated pursuant to subsection A of this section are based.

> E. The Board shall periodically conduct a comprehensive review and evaluation to ensure that all erosion and sediment control programs operating under the jurisdiction of this article meet minimum standards of effectiveness in controlling soil erosion, sediment deposition and nonagricultural runoff. The Board shall develop a schedule for conducting periodic reviews and evaluations of the effectiveness of erosion and sediment control programs..."

4VAC50-30-90. Review and Evaluation of Local Programs: Minimum Program Standards

> "...B. The department staff, under authority of the board, shall periodically conduct a comprehensive review and evaluation of local programs. The review and evaluation of a local program shall consist of the following: (i) personal interview between the department staff and the local program administrator or designee or designees; (ii) review of the local ordinance and other applicable documents; (iii) review of plans approved by the program; (iv) inspection of regulated activities; and (v) review of enforcement actions.
>
> C. Local programs shall be reviewed and evaluated for effectiveness in carrying out the Act using the criteria in this section. However, the director is not limited to the consideration of only these items when assessing the overall effectiveness of a local program..."

Chesapeake Bay Local Assistance Department: CBLAD has conducted isolated reviews of Tidewater localities at the request of the Chesapeake Bay Local Assistance Board or affected localities over the past several years. At the request of the Board, and to satisfy the program compliance review requirements indicated in the proposed revisions to the Chesapeake Bay Designation and Management Regulations, CBLAD has been developing a comprehensive program review checklist and procedure for the regular review of all local programs. CBLAD staff envisions that these reviews could be completed for all subject localities every five years at present. The proposed language relating to Local Program Review is as follows:

CBPA – Current Language and Proposed Regulatory Revisions

10.1-2103.10. Powers and duties of the board.

"The Board is responsible for carrying out the purposes and provisions of this chapter and is authorized to:

...10. Take administrative and legal actions to ensure compliance by counties, cities and towns with the provisions of this chapter including the proper enforcement and implementation of, and continual compliance with, this chapter..."

9VAC10-20-250. Administrative proceedings.

"Section 10.1-2103.8 of the Act provides that the board shall ensure that local government comprehensive plans, subdivision ordinances and zoning ordinances are in accordance with the provisions of the Act, and that it shall determine such compliance in accordance with the provisions of the Administrative Process Act. When the board determines to decide such compliance, it will give the subject local government at least 15 days notice of its right to appear before the board at a time and place specified for the presentation of factual data, argument and proof as provided by § 9-6.14:11 of the Code of Virginia. The board will provide a copy of its decision to the local government. If any deficiencies are found, the board will establish a schedule for the local government to come into compliance.

1. *In order to carry out its mandated responsibilities under § 10.1-2103.10 of the Act, the board will:*

    a. *Require that each Tidewater local government submit an annual implementation report outlining the implementation of the local program. The board will develop reporting criteria which outline the information to be included in the reports and the time frame for their submission. The board will use the information in these reports to assess local patterns of compliance with the Act and this chapter and to evaluate the need for an administrative proceeding to more closely review any individual local government's compliance. All proceedings of this nature will be developed and conducted in accordance with this section. b. Develop a compliance review process. Reviews will occur on a five-year cycle, and, when feasible, will be conducted as part of the local government's comprehensive plan review and update process. The review process shall consist of a self-evaluation by each local government of local program implementation and enforcement as well as an evaluation by department staff. Based on these evaluations, the board will make a consistency finding regarding the implementation of each local program.*

        (1) *The self-evaluation shall be conducted by each local government according to procedures developed by the board.*
        (2) *At a minimum, the department staff's evaluation will include a*

review of previous annual reports and site visits.

2. Certification of a local program. Upon a satisfactory finding resulting from the compliance review process, the board will certify that the local program is being implemented and enforced by the local government consistent with the Act and this chapter and is, therefore, in compliance. Such a certification shall be valid for a period of five years until the local government's next scheduled review, unless the board finds a pattern of noncompliance during the interim period of time, pursuant to subdivision 1 of this section."

Department of Environment Quality: DEQ reviews all municipalities covered by Phase I of the VPDES stormwater management requirements annually. They are required, for all large and medium MS4s, to conduct an annual "inspection" of the permitted facilities. As the permitted facilities constitute a Municipal Separate Storm Sewer System and management program, this takes the form of a local program review. The agency has proposed inspecting the Phase II local programs once every five years.

B. PROPOSED COORDINATION OF LOCAL PROGRAM REVIEW EFFORTS

The three Departments have agreed to develop a consolidated local program review checklist/review results format, with common elements and data needs relating to stormwater management and erosion and sediment control identified clearly, and program review checklist items or requirement which are specific to the individual mandate of each agency identified in separate sections. The three Departments have also agreed to conduct these reviews and coordinate them to afford localities subject to more than one program the opportunity to have all three agencies conduct their reviews concurrently. This will allow us to provide a checklist with desired information to localities identifying all of the information that all the agencies would need, and for the agencies to show up together to reduce any redundancy in the review of plans and inspection of sites. The prioritization and selection of sites will require significant coordination between the agencies. This will alleviate the perception that localities could be subject to repetitive and duplicative review by separate agencies pertaining to the same basic management program and measures.

Summary of Stormwater Management / Erosion & Sediment Control Programs

Agency	Program	Authority	Federal Mandate	Lead	Description	Coverage
DEQ	VPDES Permit Program	State Water Control Law	Federal Clean Water Act and NPDES Program Delegation	State	Permits require: - industrial: storm water pollution prevention plan (SWPPP) - construction: SWPPP (primarily E&S controls) -MS4: storm water management program (SWMP) SWPPP and SWMP require that permittee reduce pollutants in surface water discharges to the maximum extent practicable (MEP) (water quality control)	Permits are required for: - Certain industrial categories - Land clearing > 1 acre (phase 2); phase 1 land clearing > 5 acres - MS4's - Phase I -11 localities; Phase II - 53 localities, plus federal, state, VDOT, universities in urbanized areas; Phase II permit applications due by 3/10/03
DCR	Stormwater Management Program	Stormwater Management Act	No	Local	Establishes standards for local stormwater management programs, if localities choose to adopt such ordinances. The standards are designed to control water volume and the runoff of sediments and other pollutants. 17 Localities have adopted such ordinances. (water quality and quantity control)	Land clearing > 1 acre
DCR	Erosion & Sediment Control Program	E&S Act	No	Local & State	Either localities or DCR must enforce certain BMPs to reduce erosion and sediment runoff. DCR establishes the standards, reviews plans, and serves as the regulatory body for state projects. 166 Local programs have been adopted (water quality control)	Land clearing >10,000 sq.ft.
CBLAD	Chesapeake Bay Preservation Act	Chesapeake Bay Preservation Act	No	Local	Tidewater localities are required to address stormwater management and E&S through their land use planning activities. CBLAD establishes the standards (consistent with DCR standards) and reviews plans. 84 Localities in Tidewater must implement (water quality control)	Land clearing > 2,500 sq. ft.

Appendix M

NOTE: DCR State E&S Control Programs apply to every city and county, and some incorporated towns, in Virginia (324 localities total). CBLAD's stormwater management requirements apply to 84 Tidewater localities, 52 of which are covered by VPDES permitting requirements. DEQ's VPDES permitting requirements (both phase I and phase II) apply to 64 localities. 17 localities have chosen to implement programs under DCR's stormwater management criteria (of these, 12 are covered by the VPDES permitting requirements and 9 are covered by the Chesapeake Bay Preservation Act)

LOCALITIES COVERED BY E&S AND STORMWATER MANAGEMENT PROGRAMS:

TIDEWATER VIRGINIA:

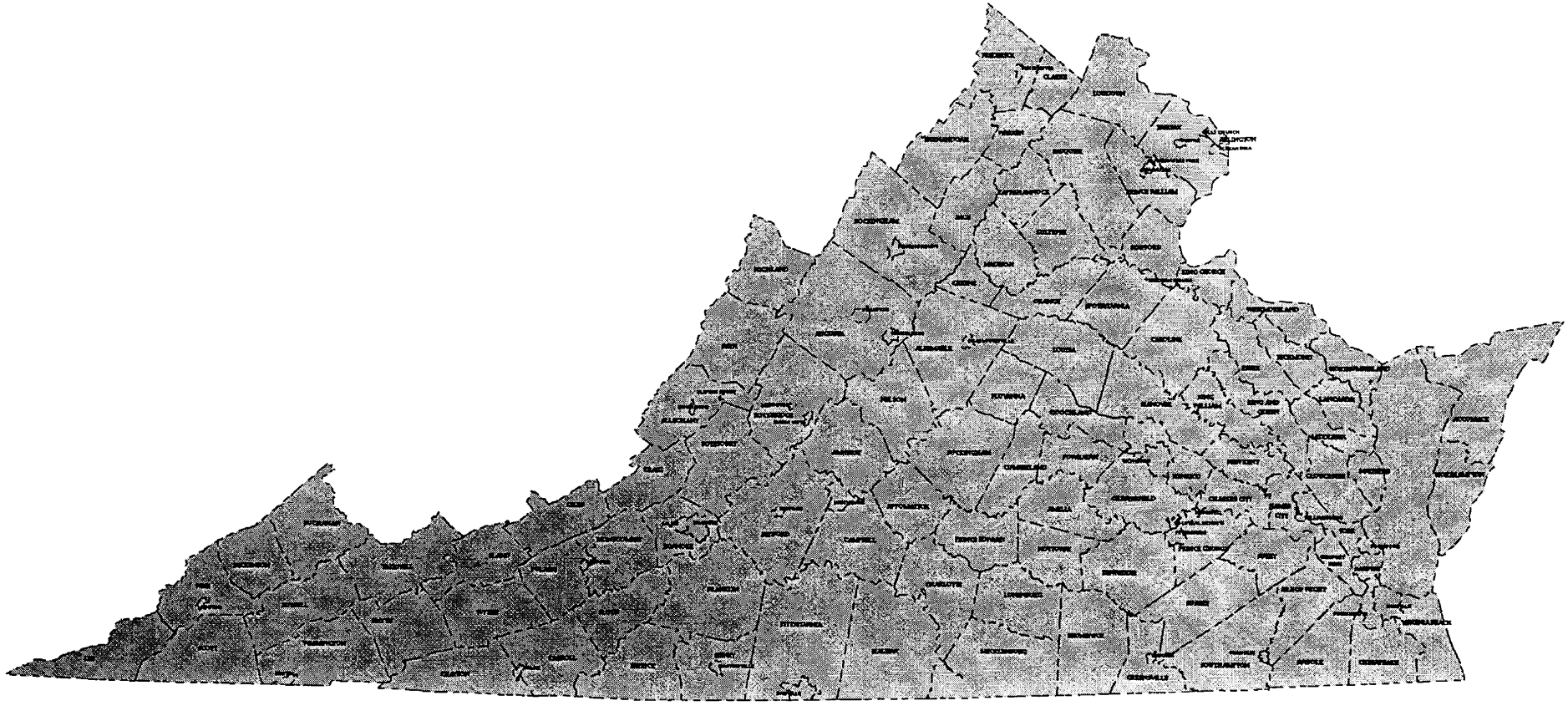
	Ches. Bay Act (CBLAD)	Eros.& Sed. (DCR)	Strmwtr Act (DCR)	VPDES Permits (DEQ)
Cities:				
Alexandria	X	X	X	2
Chesapeake	X	X	X	1
Colonial Heights	X	X		2
Fairfax	X	X		2
Falls Church	X	X		2
Fredericksburg	X	X		2
Hampton	X	X	X	1
Hopewell	X	X		2
Newport News	X	X	X	1
Norfolk	X	X		1
Petersburg	X	X		2
Poquoson	X	X		2
Portsmouth	X	X		1
Richmond	X	X		2
Suffolk	X	X	X	2
Virginia Beach	X	X	X	1
Williamsburg	X	X	X	2
Counties:				
Accomack	X	X		
Arlington	X	X		1
Caroline	X	X		
Charles City	X	X		
Chesterfield	X	X		1
Essex	X	X		
Fairfax	X	X		1
Gloucester	X	X		2
Hanover	X	X		2
Henrico	X	X		1
Isle of Wight	X	X		
James City	X	X		2
King and Queen	X	X		
King George	X	X		
King William	X	X		

Lancaster	X	X		
Mathews	X	X		
Middlesex	X	X		
New Kent	X	X		
Northampton	X	X		
Northumberland	X	X		
Prince George	X	X		2
Prince William	X	X	X	1
Richmond	X	X		
Spotsylvania	X	X		2
Stafford	X	X	X	2
Surry	X	X		
Westmoreland	X	X		
York	X	X		2
Incorporated Towns:				
Ashland	X	X		
Belle Haven	X	X		
Bloxom	X	X		
Bowling Green	X	X		
Cape Charles	X	X		
Cheriton	X	X		
Claremont	X	X		
Clifton	X	X		
Colonial Beach	X	X		
Dumfries	X	X		
Eastville	X	X		
Exmore	X	X		
Hallwood	X	X		
Haymarket	X	X		
Herndon	X	X		2
Irvington	X	X		
Kilmarnock	X	X		
Melfa	X	X		
Montross	X	X		
Nassawadox	X	X		
Occoquon	X	X		2
Onancock	X	X		
Onley	X	X		
Painter	X	X		
Parksley	X	X		
Port Royal	X	X		
Quantico	X	X		
Saxis	X	X		
Smithfield	X	X		
Surry	X	X		
Tangier	X	X		
Tappahannock	X	X		
Urbanna	X	X		
Vienna	X	X		2
Warsaw	X	X		
West Point	X	X		

White Stone	X	X		
Windsor	X	X		
OUTSIDE TIDEWATER VIRGINIA:				
Cities:		X		
Bristol		X		2
Charlottesville		X		2
Danville		X		2
Harrisonburg		X		2d
Lynchburg		X		2
Manassas		X		2
Manassas Park		X		2
Martinsville		X		2d
Radford		X		2d
Roanoke		X		2
Salem		X		2
Staunton		X	X	2d
Waynesboro		X	X	2d
Winchester		X		2d
Counties:				
Albemarle		X	X	2
Amherst		X		2
Bedford		X		2
Botetourt		X		2
Campbell		X		2
Clarke		X	X	
Dinwiddie		X		2
Greene		X	X	
Loudoun		X		2
Pittsylvania		X		2
Roanoke		X		2
Scott		X		2
Washington		X		2
Incorporated Towns:				
Berryville		X	X	
Blacksburg		X		2d
Bluefield		X	X	
Christiansburg		X		2d
Culpeper		X	X	
Front Royal		X		2d
Gate City		X		2
Leesburg		X		2d
Vinton		X		2
Weber City		X		2

DEQ: 1 = Phase 1 permit; 2 = Phase 2 permit; 2d = Phase 2 permit if DEQ designates

Localities Implementing the Virginia Erosion and Sediment Control Law Administered by DCR



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DCR

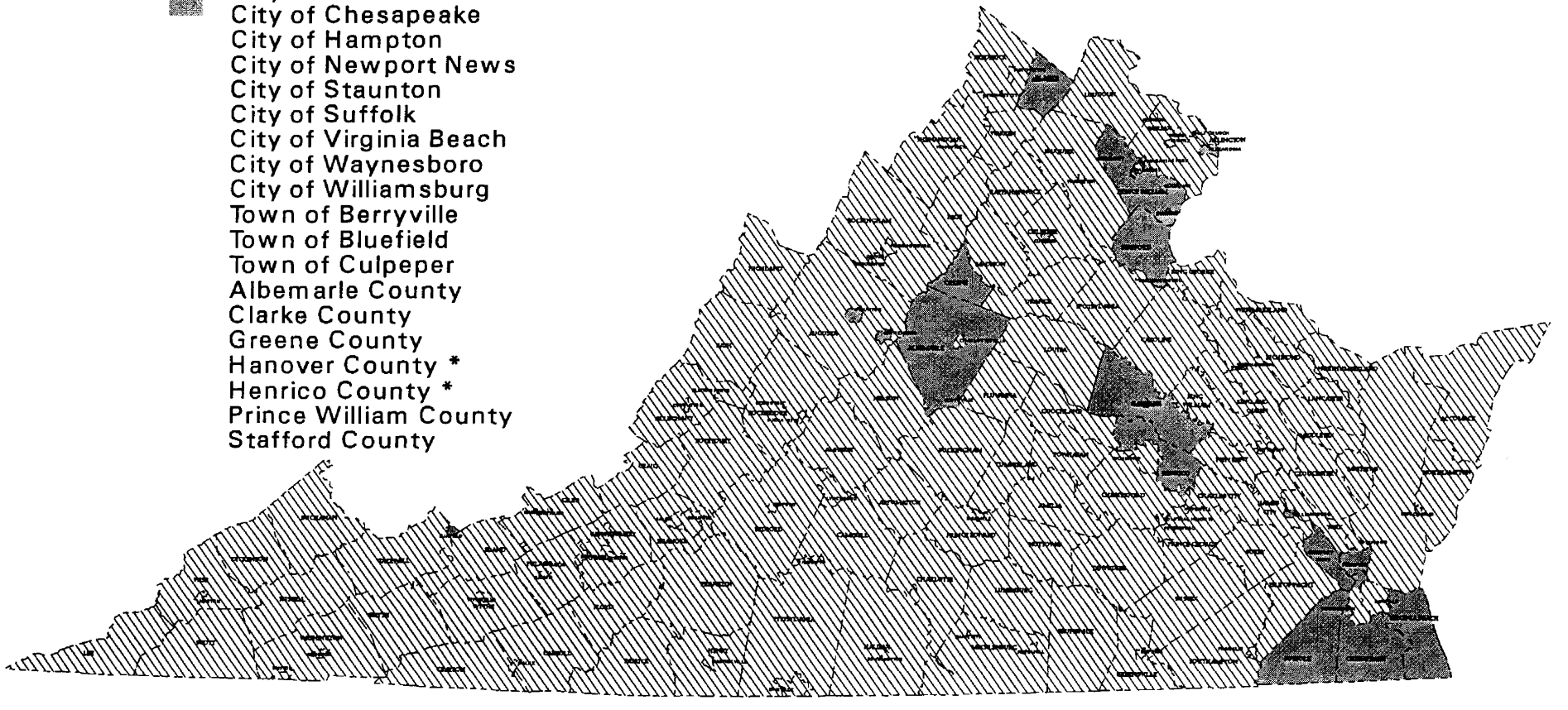
Department of Conservation & Recreation

CONSERVING VIRGINIA'S NATURAL AND RECREATIONAL RESOURCES

29 Nov 01

Locally Adopted Stormwater Management Programs Pursuant to Virginia Stormwater Management Law

City of Alexandria
City of Chesapeake
City of Hampton
City of Newport News
City of Staunton
City of Suffolk
City of Virginia Beach
City of Waynesboro
City of Williamsburg
Town of Berryville
Town of Bluefield
Town of Culpeper
Albemarle County
Clarke County
Greene County
Hanover County *
Henrico County *
Prince William County
Stafford County



Localities with the authority to adopt local Stormwater Management Programs under the Virginia Stormwater Management Act administered by DCR.

* Pending review of regional program.

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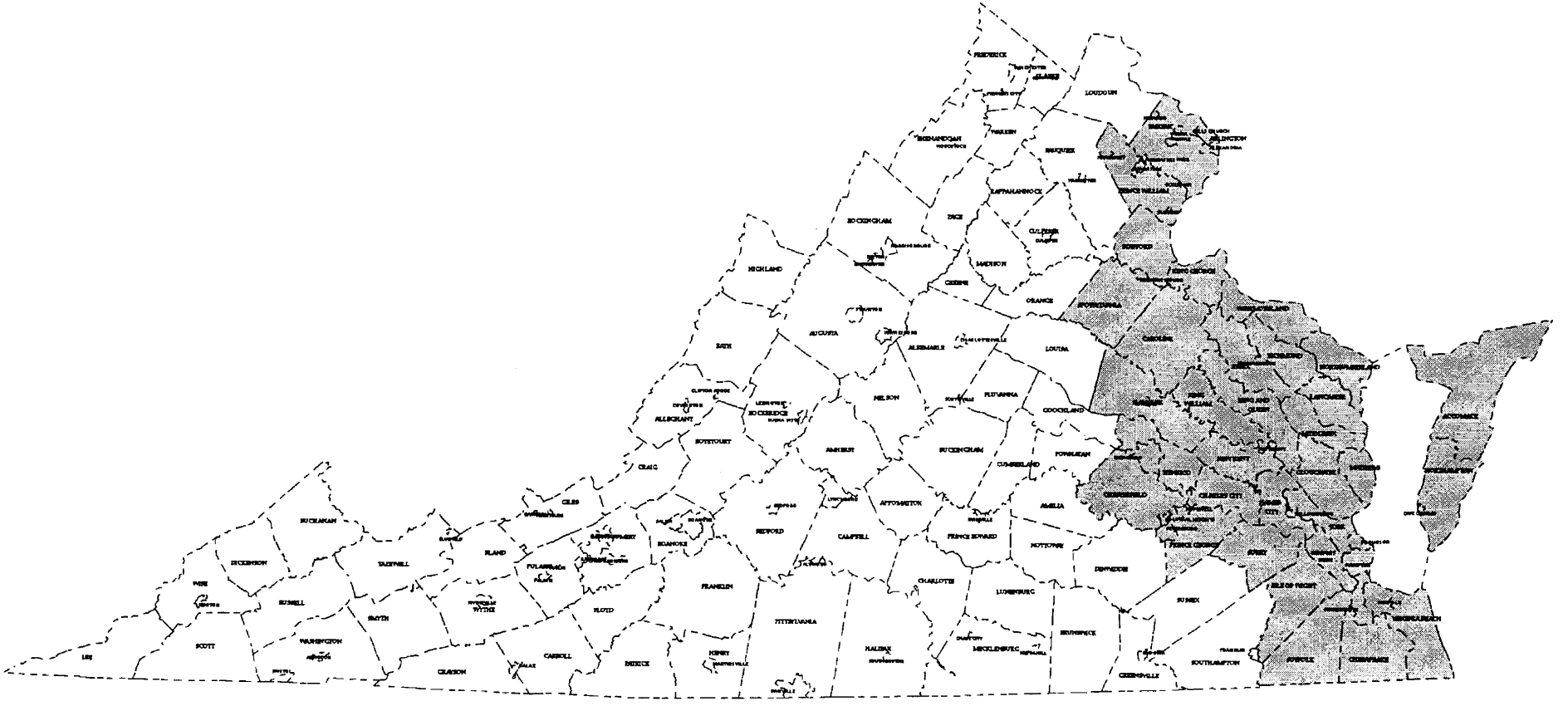
CONSERVING VIRGINIA'S NATURAL AND RECREATIONAL RESOURCES

30 Nov 01

Chesapeake Bay Preservation Act Coverage: Tidewater VA



NOTE: Localities under the Chesapeake Bay Preservation Act designate areas of the locality to be covered by the provisions of the Act and may not include the entire locality.

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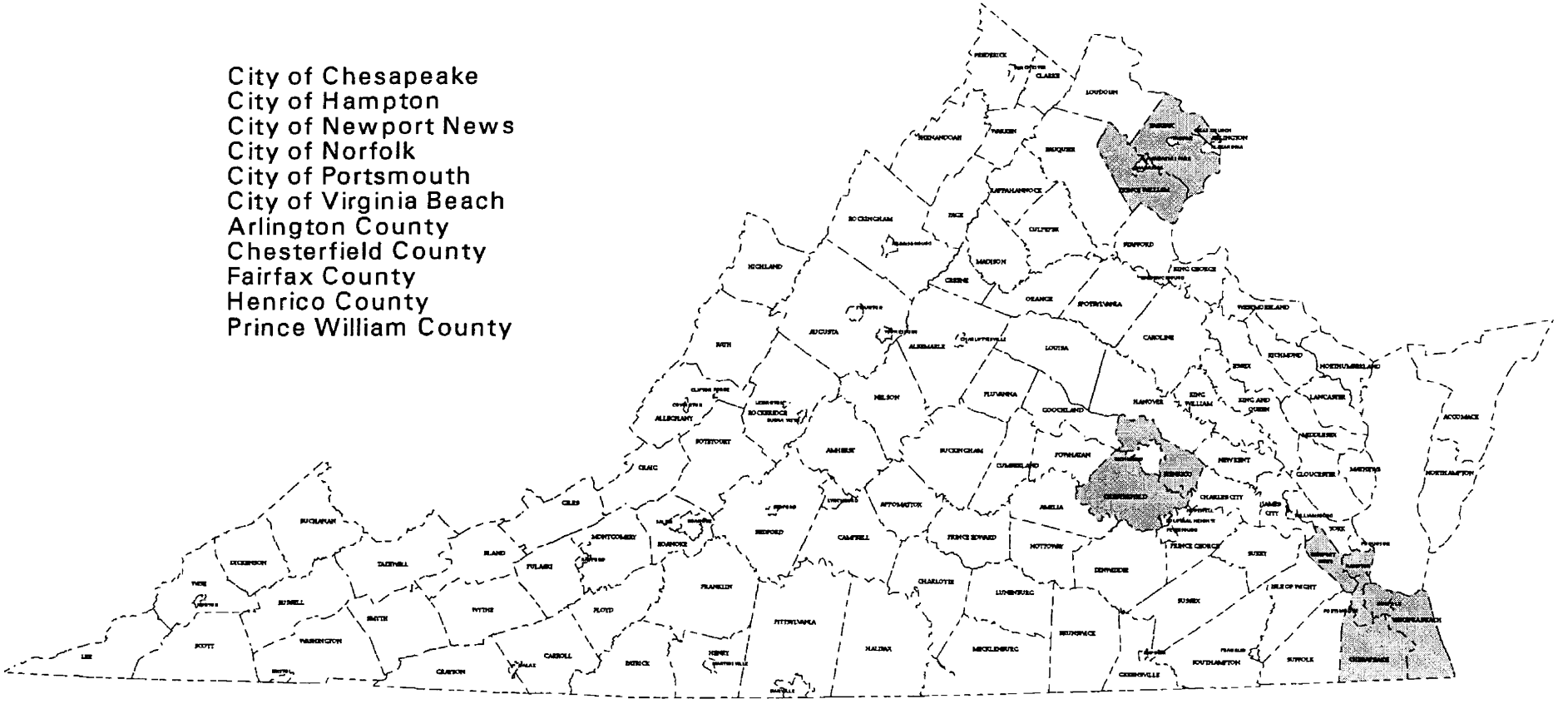
Department of Conservation & Recreation

CONSERVING VIRGINIA'S NATURAL AND RECREATIONAL RESOURCES

29 Nov 01

VPDES Municipal Stormwater Permit Designated Localities
Phase 1

City of Chesapeake
City of Hampton
City of Newport News
City of Norfolk
City of Portsmouth
City of Virginia Beach
Arlington County
Chesterfield County
Fairfax County
Henrico County
Prince William County



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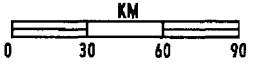

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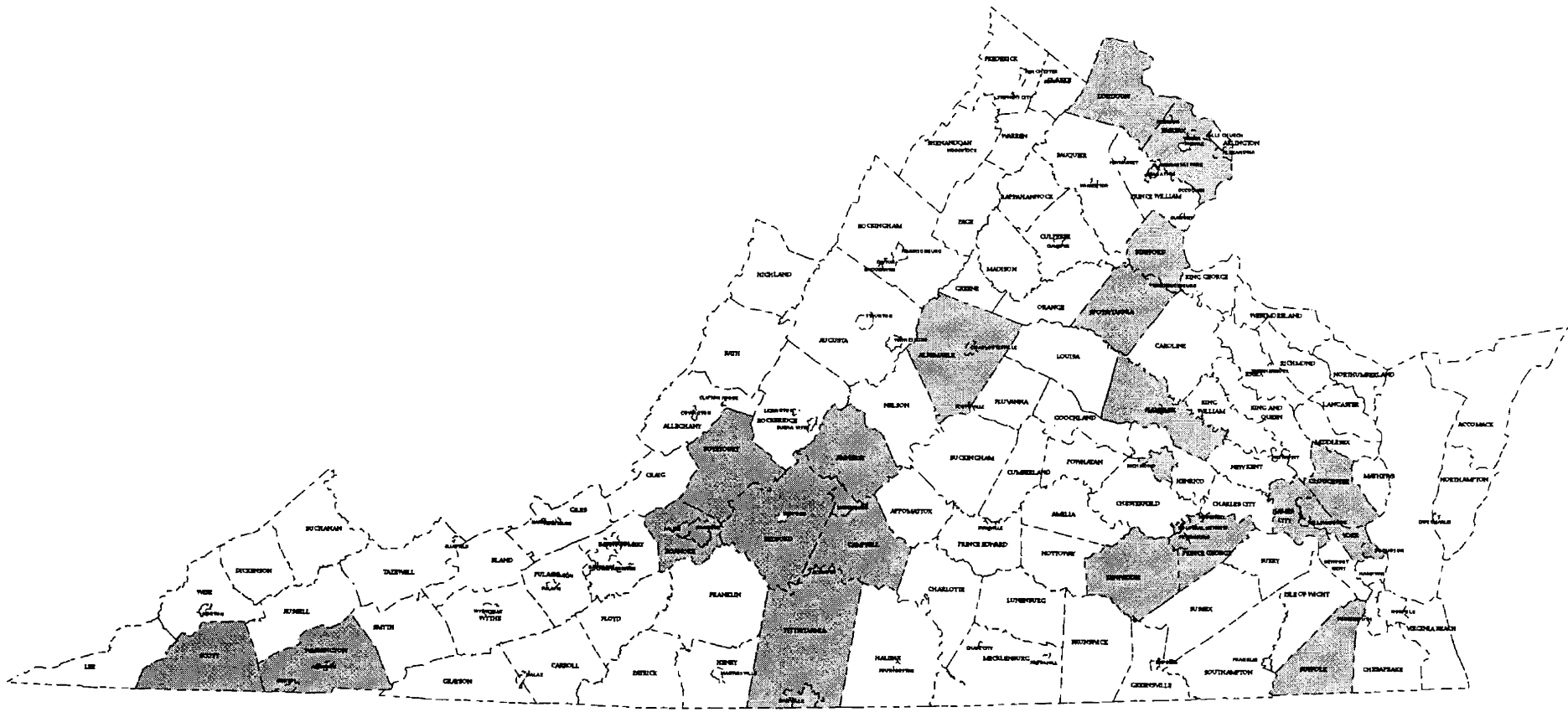
29 Nov 01

VPDES Municipal Stormwater Permit Designated Localities
Phase 2



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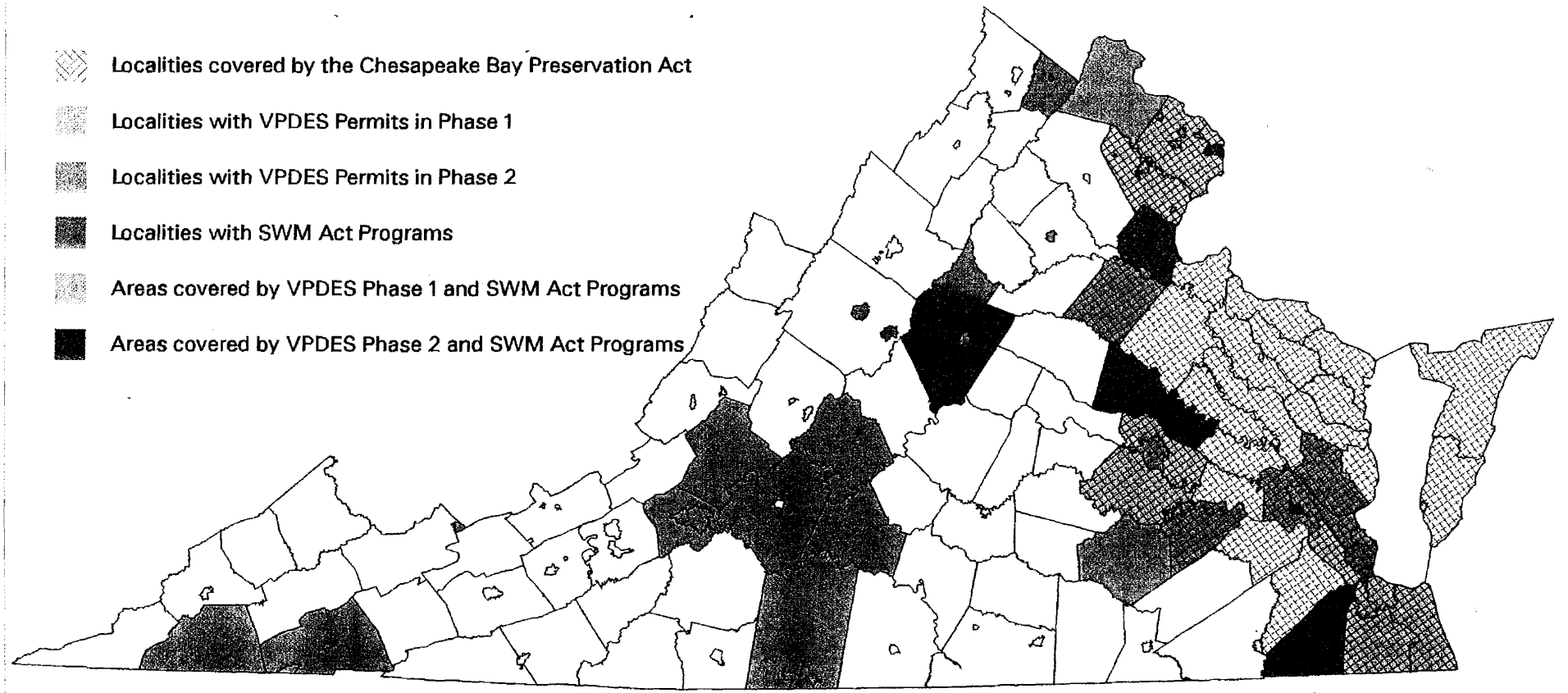
CONSERVING VIRGINIA'S NATURAL AND RECREATIONAL RESOURCES

29 Nov 01

Chesapeake Bay Preservation Act, VPDES and Stormwater Management Act Program Localities



Appendix N

EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT RECOMMENDATIONS FROM 2001

1. Revise the Erosion and Sediment Control Law, § 10.1-565, to require performance bonds rather than making them optional.

2. Authorize, within § 10.1-569 of the Erosion and Sediment Control Law, escalation of penalties for repeat violations. Currently, civil penalties are capped at $2000 per violation.

3. Modify § 10.1-563 of the Erosion and Sediment Control Law to include the removal of trees, greater than a specified size, as a land disturbing activity on tracts planned for development. This would require submittal of an ESC plan for tree removal.

4. Modify subsection J of § 10.1-562 of the Erosion and Sediment Control Law to enable collection of damages caused by ineffective E&S control practices.

5. Require all localities in Virginia to adopt a local Stormwater Management program.

6. Allow localities to require long term guarantees from developers installing SWM devices as a means of assuring that they function as promised over time.

7. Authorize localities to impose inspection fees on privately installed BMP facilities to offset jurisdictional inspection costs.

8. Further evaluate the need for enhanced staffing to enable DCR, DEQ, and CBLAD to review all local ESC/SWM ordinances for adequacy and enforcement.

DEQ Update

Commission on the Future of Virginia's Environment
October 15, 2002

Update Topics

- 2001 Solid Waste Disposal Report
- Medical Waste Regulations
- Trash Barge Regulations
- HB1205 Landfills
- Wetlands - State Programmatic General Permit Approval

2001 Solid Waste Management

- 23.7 million tons of solid waste managed
  - 15.8 million tons was landfilled
  - 2.2 million tons was incinerated
  - balance was handled at transfer stations,
- 4.8 million tons of solid waste imported
  - up 7.8% from 2000, but up less than 1% from 1999
- Recycling rate = 37.8%
- Reported Available Capacity = 16.4 years
  - MSW = 18.3 years
  - CDD = 8.3 years
  - Non-captive Industrial = 16.2 years

Regulation of Barges

- Prohibition on trash barges in certain rivers was overturned by the federal courts
- 2-high stacking limit (§10.1-1454.1)
  - Trial set for December 19-20 in U.S. District Court
- Regulations
  - Final regulations suspended in response to petition
  - Additional public comment period held and TAC reconvened to discuss the issues raised
  - Final action required by the Board
  - DEQ will conduct an additional public comment period

Regulated Medical Waste

- Amendment 2 effective June 19, 2002
  - Updates the regulation with respect to the blood-borne pathogen standard and federal transportation requirements
  - Provide for temporary storage of RMW without a permit.
  - Clarification and consolidation of the regulations and elimination of redundant requirements.
- Treatment and Off-site storage facilities are required to obtain permits
- Generators must properly manage the waste
- Statewide training underway to improve compliance

RMW cont'd.

These items are RMW

- Cultures and stocks
- Human blood and body fluids
- Tissues and other anatomical waste
- All needles and used sharps
- Animals carcasses when intentionally infected
- Any cleanup residue contaminated with RMW
- Any solid waste mixed with RMW
- Any waste a medical professional thinks should be handled as RMW

These items are <u>not</u> RMW

- Garbage trash and sanitary wastes including home generated sharps
- Used personal hygiene products
- Empty items such as urine collection bags and tubing
- Absorbent items, unless they are saturated or would release human body fluids if compressed
- Specific medical care items such as oxygen tubing

Closure of HB1205 Landfills

- 29 landfills scheduled for closure
  - 9 combo landfills / 20 full 1205 landfills
  - 7 landfills have closed since the passage of HB1228
- Closure Schedule
  - 2007 = 8 landfills (1 combo / 7 full 1205s)
  - 2012 = 15 landfills (6 combo / 9 full 1205s)
  - 2020 = 6 landfills (2 combo / 4 full 1205s)
- Cost to close vs. funds set aside (full 1205 landfills)
  - 2007 = $4 million
  - 2012 = $7.5 million
  - 2020 = $3.5 million

Wetlands - State Programmatic Permit

- SPGP provides that state VWP permits can serve in lieu of federal permits
  - DEQ estimates that 70% of wetland projects will now only have to obtain a state permit
- SPGP will be effective on Nov. 1, 2002
- DEQ has hired and trained 6 new permit writers for SPGP implementation
  - funded with permit fees and federal grants
- DEQ and the USCOE have conducted statewide workshops for the public and agency staff on the new regulations and SPGP

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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DEQ Public Affairs Office, P.O. Box 10009, Richmond, Virginia 23240, Fax (804) 698-4453
Visit the DEQ web site at www.deq.state.va.us

FOR IMMEDIATE RELEASE
June 27, 2002

CONTACT: **Bill Hayden**
(804) 698-4447
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DEQ ISSUES SOLID WASTE REPORT FOR 2001

RICHMOND, VA. – The Department of Environmental Quality released its annual report today on solid waste management in Virginia. The report includes the amounts of solid waste managed in Virginia in 2001, and the amounts and sources of solid waste generated outside the Commonwealth.

The total amount of solid waste – which includes municipal solid waste, construction and demolition debris, sludge and other types of waste – received at Virginia facilities during 2001 increased by about 1.9 million tons from 2000. The amount of solid waste from outside Virginia increased by about 350,000 tons.

The main findings of the report include:

- Of more than 23.7 million tons of solid waste reported in 2001, about 14.8 million tons were municipal solid waste, which is trash from households and businesses.

- More than 15.8 million tons of the total reported solid waste were disposed of in landfills; about 2.2 million tons were incinerated.

- The total amount of municipal solid waste generated outside Virginia was about 4.1 million tons. Maryland; New York; Washington, D.C.; and North Carolina accounted for more than 93 percent of all waste received from out-of-state sources.

- The 2001 report, for the first time, estimates available landfill capacity in Virginia and the expected lifespan of landfills at current disposal rates. Landfills reported capacity of about 228.8 million tons for municipal solid waste, which would last 18.3 years. This does not account for population changes or the closing of older landfills by 2020 as required by state law.

All the solid waste identified in this report was managed under state and federal regulations at permitted solid waste management facilities in Virginia. The full report is available on the DEQ web site (*www.deq.state.va.us/waste/waste.html*).

###

Financial Assurance Status of Active Sanitary Landfills Operating with Non-Subtitle D Liners (House Bill 1205 Landfills)

8/27/02

Facility Name	Permit	Closure Dates				Closure Cost (2002)	Funds Set Aside (per VACO)* (2002)	Difference	Mechanism
		Final HB1288	VACO 1999**	Corps 1999	1205 Submission 1993				
Hanover County Landfill[1]	314	12/31/02	2000	N/A	1995	$2,369,112	$345,000[2]	-$2,024,112	FT
Fluvanna County Sanitary Landfill	429	2007	2020[3]	N/A	1995	$484,611	$105,319[4]	-$379,292	FT
Martinsville Landfill	49	2007	N/A	2005	2005	$2,222,309	None[5]	-$2,222,309	FT
Mecklenburg County Landfill	14	2007	2010	N/A	2008	$636,215	$432,106[6]	-$204,109	FT
Augusta County Sanitary Landfill	21	2007	2002	N/A	1996	$3,453,774	$3,976,969	$523,195	FT
South Boston Sanitary Landfill	31	2007	2000	2017	Not available	$1,038,557	$194,105[7]	-$844,452	FT
Waynesboro City Landfill	204	2007	2000	2001	2005	$989,746	$2,131,000[8]	$1,141,254	FT
SUBTOTAL						**$11,194,324**	**$7,184,499**	**-$4,009,825**	
Fauquier County--Corral Farm Landfill	149	2012	2002	2002-2003	1994	$637,016	$0[9]	-$637,016	FT
Louisa County Landfill	194	2012	2004	2011	1995	$638,080	$1,501,240	$863,160	FT
Loudoun County Landfill	1	2012	2005[10]	N/A	1996/1997	$3,444,160	$720,000	-$2,724,160	FT
Lunenburg County Landfill	227	2012	2015	N/A	1998	$1,793,669	$150,000[11]	-$1,643,669	FT

[1] Pursuant to a consent order, Hanover County has agreed that the facility shall cease receiving solid waste on 12/31/02 unless that date is extended by the Director for good cause shown by Hanover County.
[2] VACO survey states County has projected another $650,000 in FY04 for closure. County estimates immediate closure costs at $320,000.
[3] Date obtained through DEQ phone survey in 2000.
[4] Obtained from VACO survey in 1999.
[5] Obtained from VACO survey in 1999.
[6] VACO survey states 6.6 acres of the landfill have been closed and that the closure costs are for the remaining 17.4 areas of the 1205 cell.
[7] Obtained from VACO survey in 1999.
[8] Obtained from VACO survey in 1999.
[9] Since closure of 1205 landfill has been put back, funds set aside for closure are now being used to open a new Subtitle D cell. County expects to have $1,500,000 reserved for closure by 2005.
[10] Date obtained through DEQ phone survey in 2000.
[11] Obtained from VACO survey in 1999.
*All numbers in this category were provided by VACO in the summer of 2002 unless noted otherwise.
** All dates in this category were provided by VACO in the fall of 1999.

Some cost estimates listed have not been approved by the department and may be revised as a result of departmental review.
Mechanism Types are as follows: FT- Financial Test, LOC- Letter of Credit, TA- Trust Agreement, SB- Surety Bond

Financial Assurance Status of Active Sanitary Landfills Operating with Non-Subtitle D Liners (House Bill 1205 Landfills)

8/27/02

Facility Name	Permit	Closure Dates				Closure Cost (2002)	Funds Set Aside (per VACO)* (2002)	Difference	Mechanism
		Final HB1288	VACO 1999**	Corps 1999	1205 Submission 1993				
Northampton County Landfill	507	2012	N/A	2002	2000	$1,131,902	$50,000[12]	-$1,081,902	FT
Orange County Landfill	90	2012	2015	N/A	1998	$1,561,538	None[13]	-$1,561,538	FT
Rockbridge County	75	2012	N/A	2008	1997	$1,100,174	$1,000,000[14]	-$100,174	FT
Scott County Landfill	23	2012	2015	2006	1998	$388,909	None[15]	-$388,909	FT
Shenandoah County Sanitary Landfill	469	2012	ASAP	N/A	1995	$450,225	$263,864	-$186,361	FT
SUBTOTAL						**$11,145,673**	**$3,685,104**	**-$7,460,569**	
Franklin County Landfill	72	2020	N/A	2003	2003	$731,957	$731,139[16]	-$818	FT
Appomattox County Sanitary Landfill	86	2020	2002	N/A	Not available	$467,932	None[17]	-$467,932	FT
Accomack County North Landfill	461	2020	2018	2022	1995	$2,815,074	$1,431,559	-$1,383,515	FT
Bristol Sanitary Landfill	498	2020	N/A[18]	N/A	1996	$1,617,135	None[19]	-$1,617,135	FT
SUBTOTAL						**$5,632,098**	**$2,162,698**	**-$3,469,400**	
TOTAL - HB 1205						**$27,972,095**	**$13,032,301**	**-$14,939,794**	

[12] According to VACO survey, the county plans to issue a Lease Revenue Bond in 2002 to close landfill.
[13] Obtained from VACO survey in 1999.
[14] Obtained from VACO survey in 1999.
[15] Obtained through DEQ phone survey in 2000. Consulting engineer scheduled to undertake update of solid waste management plan in FY03. This will include details on the closure, post-closure, and construction of a new transfer station and development of solid waste convenience centers.
[16] According to a VACO survey, the County has a reserve account of $2,563,984.96 for landfill closure and construction to meet expenses associated both with closure of the old landfill and construction of a new one.
[17] According to a VACO survey, the County has not set aside specific funds for landfill closure. It has set aside $2 million, which could be used to cover closure costs.
[18] Closure date not able to be determined by facility. Facility is mining waste from the facility and also using the facility to dispose of material unsuitable for the balefill.
[19] Obtained through DEQ phone survey in 2000.
*All numbers in this category were provided by VACO in the summer of 2002 unless noted otherwise.
** All dates in this category were provided by VACO in the fall of 1999.

Some cost estimates listed have not been approved by the department and may be revised as a result of departmental review.
Mechanism Types are as follows: FT- Financial Test, LOC- Letter of Credit, TA- Trust Agreement, SB- Surety Bond

Financial Assurance Status of Active Sanitary Landfills Operating with Non-Subtitle D Liners (Combination House Bill 1205/ Subtitle D Landfills)

8/27/02

Facility Name	Permit	Closure Dates				Closure Cost (1205 and Subtitle D area) (2002)	Funds set Aside (per VACO)* (2002)	Difference	Mechanism
		Final HB1288 (1205 area)	VACO 1999**	Corps 1999	1205 Submission 1993				
Petersburg City Landfill	228	2007	N/A	2007	1995	$2,538,012	None[1]	-$2,538,012	FT
SUBTOTAL						**$2,538,012**	**$0**	**-$2,538,012**	
Accomack County South Landfill	91	2012	2018	2018	1996	$2,730,008	None	-$2,730,008	FT
Big Bethel Landfill	580	2012	N/A	2001	1994	$8,306,646	$8,143,771[2]	-$162,875	SB
Greensville County Sanitary Landfill	405	2012	N/A	2017	1996	$1,987,705	$588,279	-$1,399,426	FT
Independent Hill-- Prince William Sanitary Landfill	29	2012	2024; 2062	2003, 2008	1997	$9,419,599	$4,647,173	-$4,772,426	FT
Shoosmith Sanitary Landfill	587	2012	N/A	2016-2022	1993	$3,717,139	$2,477,836[3]	-$1,239,303	TA
SPSA Regional Landfill	417	2012	2018	2000	1997	$6,690,703	$6,542,771[4]	-$147,932	LOC
SUBTOTAL						**$32,851,800**	**$22,399,830**	**-$10,451,970**	

[1] Obtained through DEQ phone survey in 2000.
[2] This is a 2002 figure which has been updated through DEQ records. Closure funding assured through surety bond. Surety will pay for closure if facility fails to pay for closure.
[3] This figure represents a 2002 Trust fund balance taken from DEQ records.
[4] This figure represents the amount of a Letter of Credit updated in 2002. SPSA maintains a letter of credit in the amount of the closure cost estimate.
* All numbers in this category provided by VACO in the summer of 2002 unless noted otherwise.
** All dates in this category provided by VACO in the fall of 1999.

The HB 1205 area may represent varying proportions of the total closure costs of combination facilities.
Some cost estimates listed have not been approved by the department and may be revised as a result of departmental review.

Mechanism Types are as follows: FT- Financial Test, LOC- Letter of Credit, TA- Trust Agreement, SB- Surety Bond

Financial Assurance Status of Active Sanitary Landfills Operating with Non-Subtitle D Liners (Combination House Bill 1205/ Subtitle D Landfills)

8/27/02

Facility Name	Permit	Closure Dates				Closure Cost (1205 and Subtitle D area) (2002)	Funds set Aside (per VACO)* (2002)	Difference	Mechanism
		Final HB1288 (1205 area)	VACO 1999**	Corps 1999	1205 Submission 1993				
Virginia Beach Landfill #2 (Mount Trashmore)	398	2020	2015[5]	N/A	1998	$5,956,371	None[6]	-$5,956,371	FT
R-Board (Stafford/ Fredericksburg) Landfill	589	2020	2006	N/A	1998	$1,744,052	$275,000[7]	-$1,469,052	FT
SUBTOTAL						**$7,700,423**	**$275,000**	**-$7,425,423**	
TOTAL - COMBO						**$43,090,235**	**$22,674,830**	**-$20,415,405**	

[5] Date obtained from 1999 CAFR.
[6] Obtained through DEQ phone survey in 2000.
[7] Obtained from VACO survey in 1999.
* All numbers in this category provided by VACO in the summer of 2002 unless noted otherwise.
** All dates in this category provided by VACO in the fall of 1999.

The HB 1205 area may represent varying proportions of the total closure costs of combination facilities.
Some cost estimates listed have not been approved by the department and may be revised as a result of departmental review.

Mechanism Types are as follows: FT- Financial Test, LOC- Letter of Credit, TA- Trust Agreement, SB- Surety Bond

The Norfolk District has issued a revised version (below) of the SPGP originally issued on April 15, 2002. This revised version incorporated many of the procedural changes recommended at a series of public workshops and from joint meetings between the Virginia Department of Environmental Quality and the Corps. The SPGP will become effective on November 1, 2002. The SPGP Standard Operating Procedures and examples discussed at the workshops will be posted on our web site in the next few weeks. Also effective on November 1, 2002, the District Engineer, Colonel David L. Hansen, is suspending Nationwide 39 and the nontidal portion of Nationwide Permit 14. All projects previously verified under Nationwide Permit 39 and 14 remain in effect until their expiration date. All other Corps Nationwide Permits remain in effect.

Norfolk District
US Army
Corps of Engineers

CENAO-TS-G

October 4, 2002

SPGP-01

PUBLIC NOTICE ANNOUNCING THE EFFECIVE DATE FOR THE VIRGINIA STATE PROGRAM GENERAL PERMIT (SPGP-01)

On April 15, 2002, the Norfolk District announced the issuance of a State Program General Permit (SPGP-01) for residential, commercial, and institutional developments and linear transportation projects in nontidal waters and wetlands within the Commonwealth of Virginia. However, its implementation was delayed until the Virginia Department of Environmental Quality (DEQ) hired and trained additional staff, we developed all pertinent interagency procedures, and informed the public of the SPGP review process through a series of workshops. This process is now complete and the SPGP, with minor procedural revisions, will become effective on November 1, 2002.

All permit applications submitted to the Corps and DEQ prior to November 1, 2002 will be evaluated under existing procedures. All permit applications received by the Corps and DEQ on November 1, 2002 or later will be processed under the SPGP. Those projects previously verified under Corps Nationwide Permit 14 or 39 will remain valid until their expiration date. If a property owner proposes to perform work under a nonreporting Corps Nationwide Permit 14 or 39, they may proceed provided they commence work or are under contract to commence work by November 1, 2002 and complete the work by November 1, 2003. To minimize confusion, I am hereby suspending Corps Nationwide Permit 39 and the nontidal portion of Corps Nationwide Permit 14 for activities proposed within the nontidal waters and wetlands of the Commonwealth of Virginia, effective November 1, 2002. However, any Nationwide Permit verifications issued subsequent to that date on applications received prior to that date will remain valid until their expiration date. All other Corps Nationwide Permits and their associated procedures remain in effect.

The Norfolk District will conduct an annual review of the effectiveness of the SPGP and evaluate the extent of its cumulative impacts. At the end of each year, the Norfolk District will prepare a report summarizing the data and statistics concerning permits issued through the SPGP. The report will summarize the number, type, acreage of wetlands and linear feet of stream impacts authorized, and their geographic distribution of wetlands and streams impacts and the compensatory mitigation required. The Norfolk District will then issue a public notice providing the opportunity for the public, interested organizations, and pertinent agencies to submit comments on the report during a 30 day comment period. The Norfolk District will then meet with the DEQ, the Fish and Wildlife Service, the Environmental Protection Agency, and the National Marine Fisheries along with other interested parties to review the DEQ's implementation of the portion of the program where they are the lead agency as well as the overall effectiveness of the SPGP. The Norfolk District will then decide what, if any, changes to propose to the SPGP. If the Norfolk District proposes to modify the SPGP, it will issue a public notice and request comments. After fully considering all comments received, the District will complete its public interest review and advise the public through the issuance of a public notice of the modifications to the SPGP. During this review process, the SPGP would remain in effect as originally issued.

A copy of the SPGP can be obtained from the Norfolk District by phoning (757) 441-7652 or on the District's world wide web page under "General Permits" at http://www.nao.usace.army.mil/Regulatory/Regulatory.html or DEQ's world wide web site at http://www.deq.state.va.us

David L. Hansen
Colonel, U.S. Army
District Engineer

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25 September 2002

CENAO-TS-G

MEMORANDUM THRU Chief, Regulatory Branch
District Counsel (Attn: Katherine Will)
Chief, Technical Services Division
Deputy District Engineer

MEMORANDUM FOR District Engineer

SUBJECT: State Program General Permit (SPGP)

1. Since issuing the SPGP on 15 April 2002, we have held four public workshops and conducted four regional training sessions with Corps and DEQ staff. From these efforts and related discussions, suggestions were made by the staffs of both agencies and the public to clarify various procedural aspects of the SPGP. Many of these changes have been incorporated into a revised SPGP. None of

these changes affect the impact limits or expand the scope of the SPGP or warrant changes to the NEPA documentation.

2. The changes are outlined in bold in Enclosure 1 and a public notice announcing the effective date of the SPGP along with a revised SPGP appear as Enclosure 2.

3. Your approval and signature are requested.

Bruce F. Williams
Chief, Northern Virginia
Regulatory Section

Enclosures

WETLANDS LITIGATION

Federal Courts

United States District Court for the Eastern District of Virginia, Norfolk Division:

Treacy (State Water Control Board) v. Newdunn Associates, LLP
(Civil Action No. 4:01cv86). On June 15, 2001, in response to mechanized grading and stumping in wetlands on property located in Newport News Virginia, the State Water Control Board (the "Board") issued a Notice of Violation ("NOV") to Newdunn Associates, LLP ("Newdunn"), advising Newdunn that its activities violated State Water Control Law and, specifically, CODE § 62.1-44.5, prohibiting alteration of State waters, except as authorized by permit.

When Newdunn ignored the NOV and continued excavation, the Board issued an Emergency Special Order ("ESO") ordering Newdunn to cease stumping and grading without a permit and began administrative proceedings by noticing an informal fact-finding hearing under CODE § 2.2-4019. In response to continued unlawful excavation, the Board filed suit in the Circuit Court for the City of Newport News under CODE § 62.1-44.15(8b), to enjoin Newdunn from violating § 62.1-44.5 and also from violating CODE § 62.1-44.15:5, prohibiting excavation in a wetland without a permit.

Newdunn removed this suit to the United States District Court for the Eastern District of Virginia, Norfolk Division (the "District Court"), arguing that, as written, CODE § 62.1-44.15:5 only permits the Board to regulate State wetlands which are also federal jurisdictional wetlands — that is: wetlands which are hydrologically connected to waters of the United States or their tributaries and, thus, subject to regulation by the Army Corps of Engineers under the federal Clean Water Act.

On April 3, 2002, the District Court entered summary judgment for Newdunn, ruling that State Water Control Law conveyed jurisdiction to the Board only to regulate jurisdictional wetlands also subject to regulation under the Clean Water Act. In so doing, the District Court found that the Board lacked jurisdiction to regulate isolated State wetlands that were not adjacent to waters of the United States. In addition, the District Court found as a matter of fact that, by advising Newdunn that the Army Corps of Engineers had determined that wetlands on its property were jurisdictional wetlands, the Board chose to rely on federal jurisdiction.

On May 22, 2002, the District Court nonetheless granted the Commonwealth's motion to stay its own order, pending appeal to the United States Court of Appeals for the Fourth Circuit. In so doing, the District Court recognized that the issues decided were "complex" and that "another court" might decide the question

differently. It entered a stay, therefore, to prevent other parties from acting in reliance on the April 3 order, pending resolution of the appeal. The District Court also enjoined Newdunn from further developing or impacting wetlands on its property, until the Fourth Circuit renders a decision.

United States Court of Appeals for the Fourth Circuit:

Treacy (State Water Control Board) v. Newdunn Associates, LLP (Record No. 02-1480). The Commonwealth has appealed the District Court's order on the ground that the District Court lacked federal question jurisdiction to construe State Water Control Law and decide the case. The Commonwealth has also argued that the District Court's order violated the Commonwealth's sovereign immunity from suit and that the Court should have abstained from interfering with ongoing State administrative proceedings regarding this matter. Additionally, the Commonwealth has argued that the District Court was bound by prior Board orders rejecting Newdunn's jurisdictional argument and finding that its conduct constituted unlawful excavation in a State wetland. Finally, the Commonwealth maintains that the District Court misinterpreted State Water Control Law and the evidence in the case.

The Appeal currently is ongoing and initial briefs have been filed. The Commonwealth will file its reply to Newdunn's brief on or about October 21, 2002. Oral argument is expected to be scheduled for late December/early January and the Clerk advises that a decision can be expected sometime in the Spring of 2003.

State Courts

Administrative Appeals:

Newdunn v. Treacy (State Water Control Board) (Case No. CH01-2121, Norfolk Circuit Court). Despite asserting jurisdiction over the ESO suit, the District Court declined to enjoin Board proceedings concerning this matter which resulted in October 11, 2001 and February 11, 2002 orders of the Board, rejecting Newdunn's jurisdictional argument and finding that its conduct constituted excavation in a State wetland without a permit and alteration of State waters without a permit in violation of State Water Control Law.

Newdunn has appealed these orders to Norfolk Circuit Court pursuant to the Virginia Administrative Process Act (CODE § 2.2-4000, *et seq.*). Newdunn has moved for summary judgment on its appeal on the ground that the District Court order is *res judicata* and binds the Circuit Court even though it has been stayed and is on appeal. The Circuit Court has thus far declined to rule on Newdunn's motion, awaiting a decision by the Fourth Circuit.

Declaratory Judgment Actions:

A.J. Company, LC v. State Water Control Board (Case No. CH02-2217, Virginia Beach Circuit Court). Despite the District Court's stay of its April 3 order, and despite the pendency of the appeal of that order in the Fourth Circuit, counsel for Newdunn has filed a declaratory judgment action on behalf of A.J. Company, LC in Virginia Beach Circuit Court. In this suit, A.J. Company seeks declaratory judgment under CODE § 8.01-184, that the Board lacks jurisdiction to regulate isolated State wetlands and that it does not, therefore, have to obtain a permit to eradicate such wetlands on its property.

The Commonwealth has demurred to and moved to dismiss A.J. Company's petition for declaratory judgment on the ground that the petition is barred by sovereign immunity and is unripe in that § 8.01-184 requires a petitioner to seek available administrative remedies prior to bringing suit. A ruling on the Commonwealth's demurrer and motion to dismiss is pending. If denied, the Commonwealth will argue that State Water Control Law manifestly provides the Board jurisdiction to regulate isolated State wetlands. No matter the result, an appeal of the Court's decision on the merits is likely to the Supreme Court of Virginia.

Ashe v. State Water Control Board (Chancery No. 13779, York County Circuit Court). Despite the District Court's stay of its April 3 order, and despite the pendency of the appeal of that order in the Fourth Circuit, counsel for Newdunn has filed a declaratory judgment action on behalf of Ashe in York County Circuit Court. In this suit, Ashe seeks declaratory judgment under CODE § 8.01-184, that the Board lacks jurisdiction to regulate isolated State wetlands and that he does not, therefore, have to obtain a permit to eradicate such wetlands on its property.

The Commonwealth has demurred to and moved to dismiss Ashe's petition for declaratory judgment on the ground that the petition is barred by sovereign immunity and is unripe in that § 8.01-184 requires a petitioner to seek available administrative remedies prior to bringing suit. A ruling on the Commonwealth's demurrer and motion to dismiss is pending. If denied, the Commonwealth will argue that State Water Control Law manifestly provides the Board jurisdiction to regulate isolated State wetlands. No matter the result, an appeal of the Court's decision on the merits is likely to the Supreme Court of Virginia.

A further hearing on the Commonwealth's demurrer and motion to dismiss is set for October 18, 2002.

Motarino v. State Water Control Board (Case No. CH02-759, Chesapeake Circuit Court). Despite the District Court's stay of its April 3 order, and despite the pendency of the appeal of that order in the Fourth Circuit, counsel for Newdunn

has filed a declaratory judgment action on behalf of Motarino in York County Circuit Court. In this suit, Motarino seeks declaratory judgment under CODE § 8.01-184, that the Board lacks jurisdiction to regulate isolated State wetlands and that he does not, therefore, have to obtain a permit to eradicate such wetlands on its property.

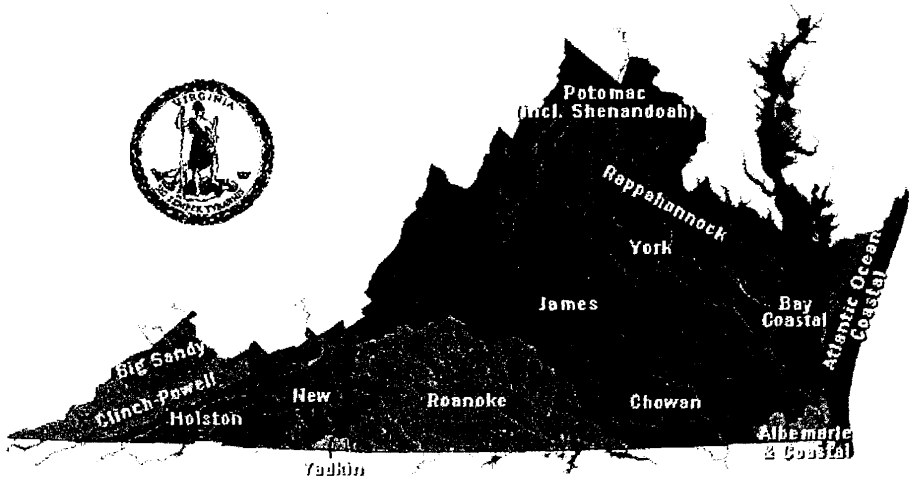
The Commonwealth has demurred to and moved to dismiss Motarino's petition for declaratory judgment on the ground that the petition is barred by sovereign immunity and is unripe in that § 8.01-184 requires a petitioner to seek available administrative remedies prior to bringing suit. A ruling on the Commonwealth's demurrer and motion to dismiss is pending. If denied, the Commonwealth will argue that State Water Control Law manifestly provides the Board jurisdiction to regulate isolated State wetlands. No matter the result, an appeal of the Court's decision on the merits is likely to the Supreme Court of Virginia.

Rollingwood v. State Water Control Board (Case No. CH02-582, Chesapeake Circuit Court). Despite the District Court's stay of its April 3 order, and despite the pendency of the appeal of that order in the Fourth Circuit, counsel for Newdunn has filed a declaratory judgment action on behalf of Rollingwood, LC in Chesapeake Circuit Court. In this suit, Rollingwood seeks declaratory judgment under CODE § 8.01-184, that the Board lacks jurisdiction to regulate isolated State wetlands and that it does not, therefore, have to obtain a permit to eradicate such wetlands on its property.

The Commonwealth has demurred to and moved to dismiss Rollingwood's petition for declaratory judgment on the ground that the petition is barred by sovereign immunity and is unripe in that § 8.01-184 requires a petitioner to seek available administrative remedies prior to bringing suit. A ruling on the Commonwealth's demurrer and motion to dismiss is pending. If denied, the Commonwealth will argue that State Water Control Law manifestly provides the Board jurisdiction to regulate isolated State wetlands. No matter the result, an appeal of the Court's decision on the merits is likely to the Supreme Court of Virginia.

A further hearing on the Commonwealth's demurrer and motion to dismiss is set for October 21, 2002.

UPDATE ON VIRGINIA'S TMDL PROGRAM

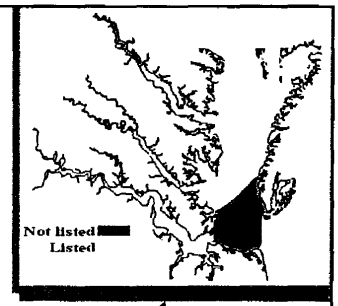


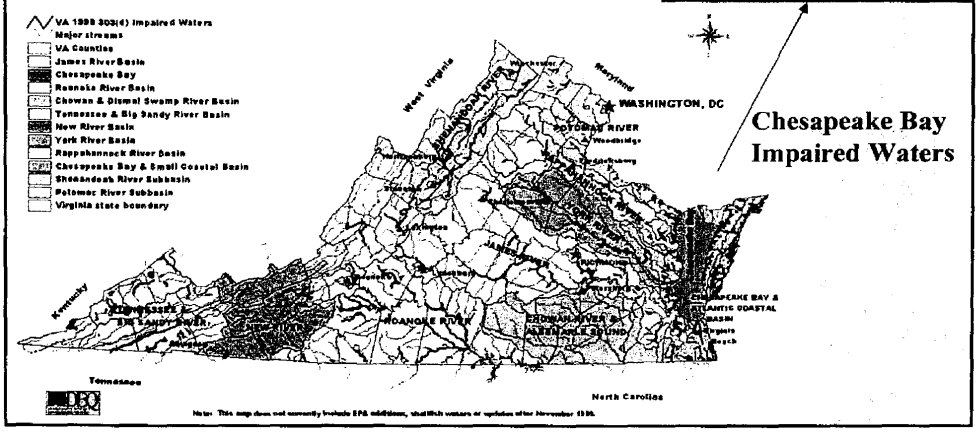
Steps in TMDL Process

- **Place Impaired Waters on 303(d) List due to Water Quality Standards violations**
- **Develop TMDL - Total Maximum Daily Load - for Impaired Waters**
- **Develop TMDL Implementation Plan**
- **Implement TMDL Plan**
- **Remove Waters from 303(d) List when Water Quality Standards Achieved**

Impaired Waters in Virginia

- **1,021 impaired waters on statewide 2002 list**
- **By 2010, approx. 620 TMDLs need to be developed under Federal Court Consent Decree**





Chesapeake Bay Impaired Waters

Impaired Waters Comparison of 2002 Assessment Results with 1998

Part 1A Waters

	1998	2002	Increase	Percent
Estuaries [square miles]	1,580	1,663	83	**5%**
Rivers [miles]	2,641	4,489	1,848	**70%**
Lakes [acres]	69,532	87,911	18,379	**26%**

Reasons for increases:

-Analysis of additional waters

-Use of stricter procedures to assess waters

Causes of Impairments Statewide

- High bacteria levels
- Poor biological/aquatic life conditions
- Low dissolved oxygen or pH
- Fish contamination
- Combination of factors

What is a TMDL?

Amount of a pollutant a stream segment can assimilate without violating water quality standards.

TMDL = WLA + LA + MOS

- WLA is the Pollutant Waste Load Allocation to All Point Sources
- LA is the Pollutant Load Allocation to All Nonpoint Sources
- MOS is the Margin of Safety

How is a TMDL done?

Special Study is conducted to:

- **Identify all sources of pollution contributing to violation of water quality standards.**
- **Calculate the amount of pollutants entering the stream from each source.**
- **Calculate the reductions in pollutants, by source, needed to attain/maintain water quality standards.**

Cooperative Effort Among State Agencies

- DEQ has overall lead
- MOUs signed with:
  - DCR - January 1998
  - DMME - September 2000
- MOUs outline responsibilities for:
  - –monitoring and data analysis
  - –development of 303d list, TMDLs, and implementation plans
- Working closely with VDH on TMDLs for shellfish waters

Consent Decree TMDL Development Schedule

DEQ TMDL Submittal Dates	Consent Decree Schedule	Credit Limit for Waters Removed From List
5/1/99	1	0
5/1/00	12	2
5/1/02	30	6
5/1/04	81	11
5/1/06	220	13
5/1/08	134	14
5/1/10	187	14
TOTAL	665	60

Status: As of October 2002, Virginia has 48 approved TMDLs; 3 pending approval; and, 11 delistings.

TMDL Program Costs

- Costs for:
  - Developing TMDLs and Implementation Plans
  - Implementing TMDLs
- TMDL Development Costs:
  - 2000 Report to GA estimated need of approx. $60 Million through 2010
  - Agencies working to reduce costs through streamlining process and more cost effective methods
  - Current estimate is between $30 - $40 Million
  - Expected funds available: approx. $18.6M through 2010 [$18.1M - federal; $0.5M - state]

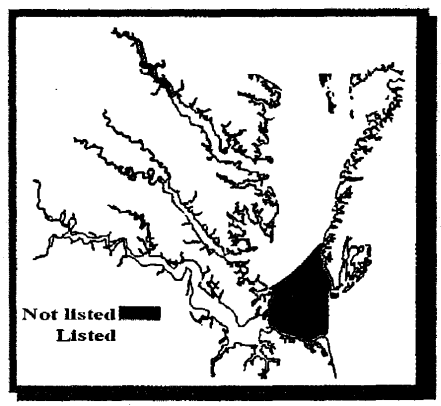
TMDL Implementation Costs

Statewide TMDLs (except Ches. Bay/Tidal Rivers)

- Under existing Water Quality Standards
- $640 Million (est.)
  - projected statewide estimate based on results from 14 TMDL Implementation Plans

"Delisting" the Chesapeake Bay by 2010

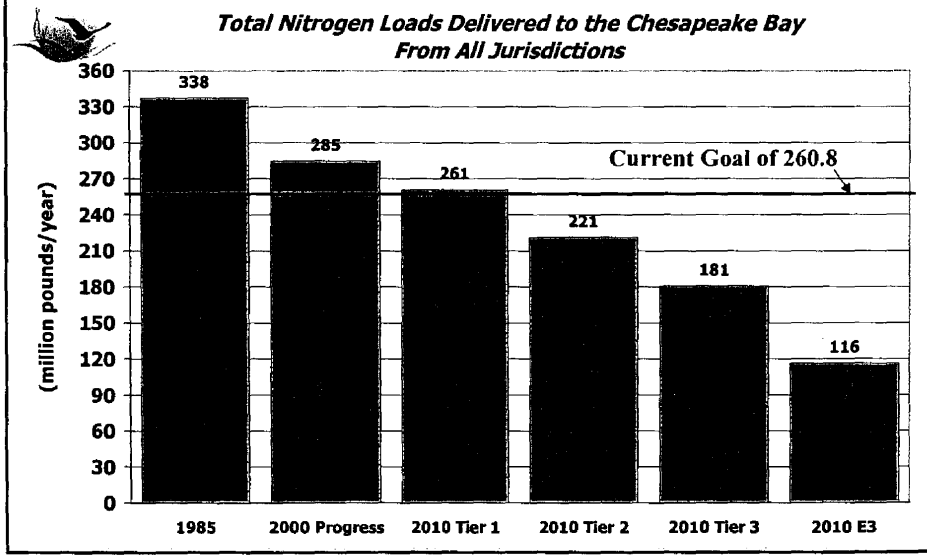
- Excess nutrients and sediments cause low dissolved oxygen and impair growth of Bay grasses (SAV)
- New water quality standards for Bay are under development
- Existing tributary strategies will be revised based on new loading allocations to meet the new standards



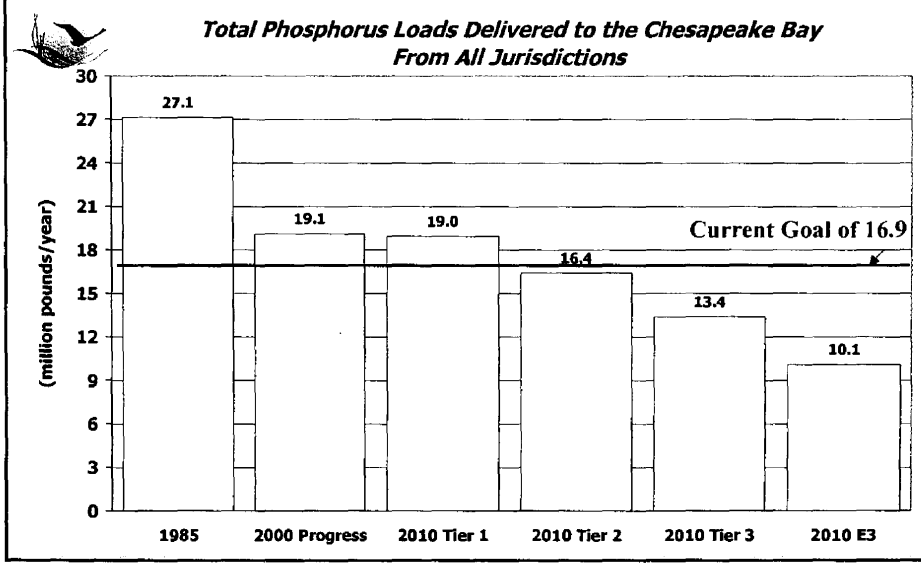
Chesapeake Bay Pollutants vs. Water Quality Standards

POLLUTANTS	WATER QUALITY STANDARDS
• Nitrogen	• Dissolved Oxygen
• Phosphorus	• Water Clarity
• Sediments	• Chlorophyll [measure of algae]

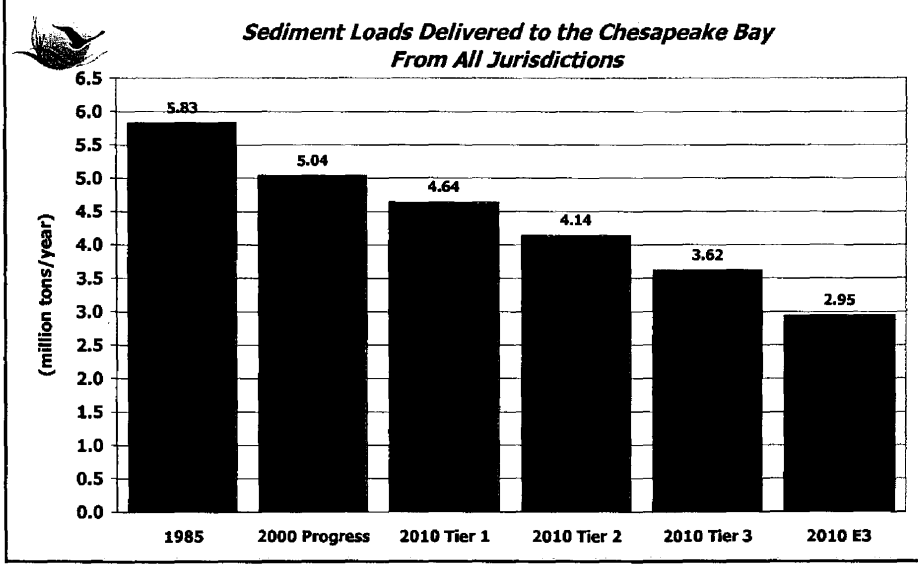
Status: Nitrogen Loads

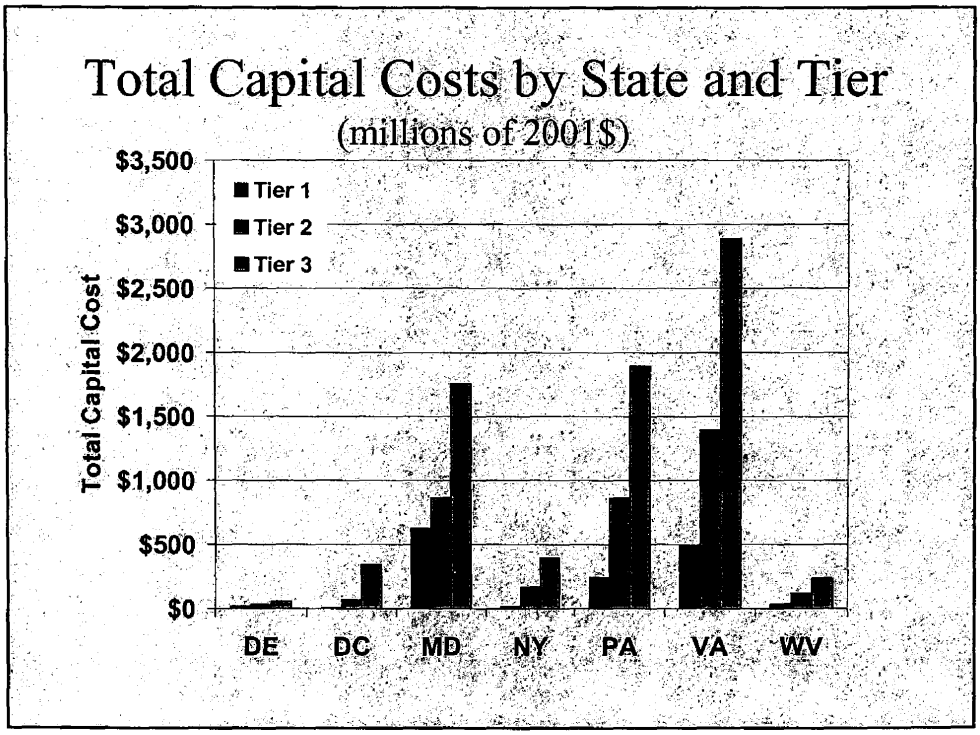


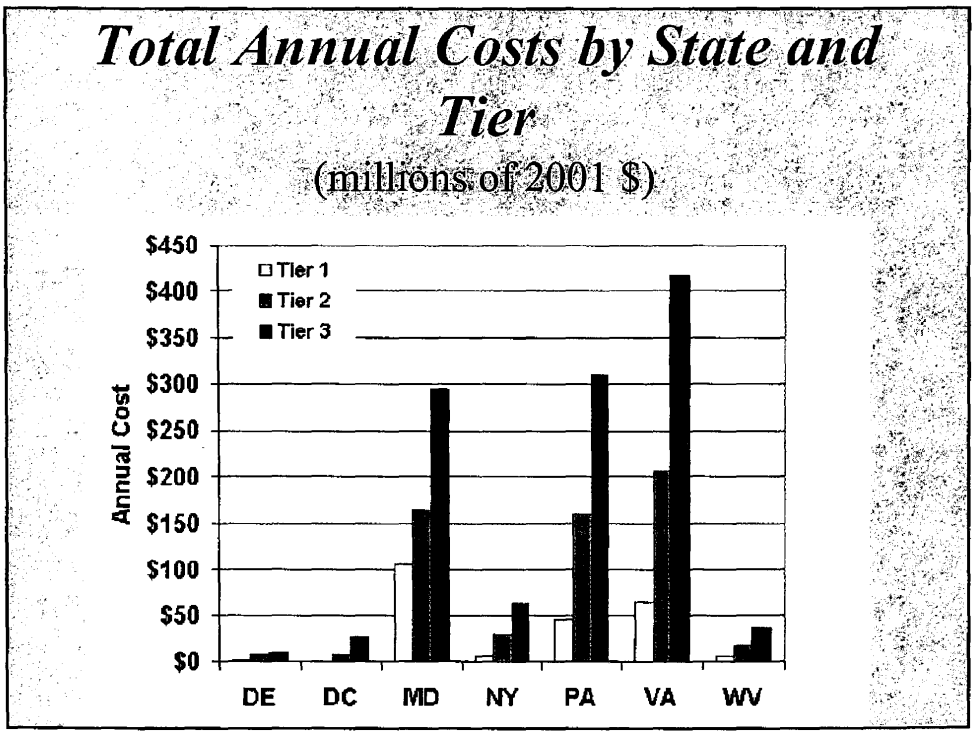
Status: Phosphorus Loads



Status: Sediment Loads

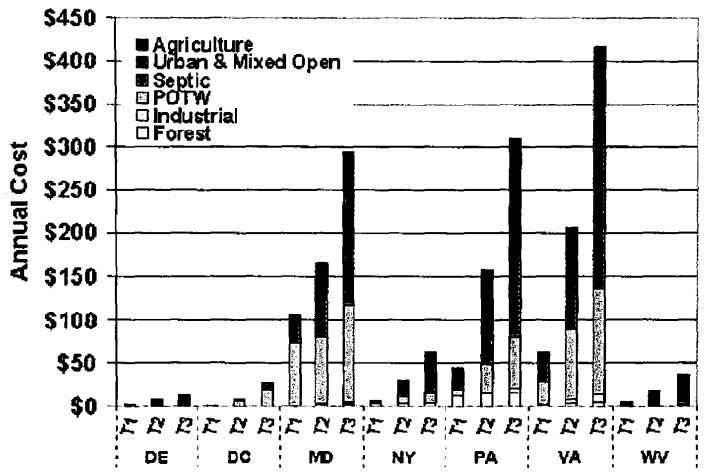



Total Capital Costs by State and Tier
(millions of 2001$)
Total Capital Cost
$3,500
$3,000
$2,500
$2,000
$1,500
$1,000
$500
$0
Tier 1
Tier 2
Tier 3
DE
DC
MD
NY
PA
VA
WV


Total Annual Costs by State and Tier
(millions of 2001 $)
Annual Cost
$450
$400
$350
$300
$250
$200
$150
$100
$50
$0
Tier 1
Tier 2
Tier 3
DE
DC
MD
NY
PA
VA
WV

Total Annual Costs by State, Sector and Tier

(millions of 2001 $)



Chesapeake Bay Implementation Costs

Chesapeake Bay and Tidal Rivers

- Existing Tributary Strategies: $648 Million (est.)
- Cost to Delist the Bay and tidal rivers will depend on new Water Quality Standards
- Ballpark capital cost estimate for VA to delist the Bay: $1.5 to 3.0 Billion

New EPA Watershed Rule

- Existing TMDL Rule adopted in 1992
- 2000 TMDL Rule suspended until May 2003
- EPA working on updating entire 303(d), TMDL, and Planning Programs
- New name - Watershed Rule - better description of programs covered
- Draft Rule at OMB for review prior to release for public comment
- EPA expects proposed rule in Fall 2002; final rule in 2004

Comparison of Proposed Watershed Rule with Existing and 2000 Rules

	Existing Rule [1992]	2000 Rule	Proposal
Water Quality Assessment [305(b) Reports and 303(d) Lists]	. Separate . Reports and lists every 2 years	. Separate . Reports every 2 yrs. . Lists every 4 yrs.	. Integrated . Reports and lists every 4 years
TMDL development Schedules [Note: Consent Decree schedule overrules]	. Not in rule . Guidance 8 to 13 years	. 10 to 15 years . EPA approves TMDLs with mandatory backstop if delayed	. 8 to 13 years . EPA approves TMDLs with discretion to backstop if delayed
Plans • Continuing Planning Process • Water Quality Management • TMDL Implementation • Watershed	. CPP w/o performance expectations . CPP review from time-to-time . Statewide and areawide WQM plans . EPA WQM plan approval	. Kept current rule requirements for CPP and WQM Plans, plus . TMDL implementation plans submitted and approved w/TMDL	. CPP w/performance expectations . EPA CPP review every 5 years . Plans done on a watershed scale . No EPA plan approval

APPROVED TMDLs in VIRGINIA

Status: October 10, 2002

Segment Name	City/County	Impaired Miles	Impairment	Date of EPA Approval
JAMES RIVER BASIN				
Montebello Spring Bran.	Nelson Co.	0.02	Benthic	6/27/02
Moore's Creek	Albemarle Co.	6.37	Fecal Coliform	5/24/02
Willis River	Cumberland Co.	14.30	Fecal Coliform	5/31/02
Coursey Springs Bran.	Bath Co.	0.02	Benthic	6/27/02
Castaline Spring Bran.	Augusta Co.	0.80	Benthic	6/27/02
NEW RIVER BASIN				
Mill Creek	Montgomery Co.	5.68	Fecal Coliform	6/5/02
POTOMAC RIVER BASIN				
Catoctin Creek	Loudoun Co.	7.40	Fecal Coliform	5/31/02
North Fork Catoctin Creek	Loudoun Co.	10.53	Fecal Coliform	5/31/02
Upper S Fork Catoctin Creek	Loudoun Co.	11.49	Fecal Coliform	5/31/02
South Fork Catoctin Creek	Loudoun Co.	6.01	Fecal Coliform	5/31/02
Four Mile Run	Arlington Co.	8.00	Fecal Coliform	5/31/02
Accotink Creek	Fairfax Co.	4.50	Fecal Coliform	5/31/02

RAPPAHANNOCK RIVER BASIN				
Thumb Run	Fauquier Co.	7.41	Fecal Coliform	5/31/02
Mountain Run	Culpeper	7.58	Fecal Coliform	4/27/01

ROANOKE RIVER BASIN				
Middle Blackwater River	Franklin Co.	15.78	Fecal Coliform	12/4/01
Upper Blackwater River	Franklin Co.	9.83	Fecal Coliform	3/9/01
North Fork Blackwater	Franklin Co.	11.48	Fecal Coliform	3/9/01
South Fork Blackwater	Franklin Co.	6.05	Fecal Coliform	2/2/01
Maggodee Creek	Franklin Co.	21.13	Fecal Coliform	4/27/01
Lower Blackwater River	Franklin Co.	20.00	Fecal Coliform	4/27/01
Gills Creek	Franklin Co.	27.97	Fecal Coliform	5/31/02
Sheeps Creek	Bedford Co.	7.33	Fecal Coliform	2/2/01
Elk Creek	Bedford Co.	7.48	Fecal Coliform	2/2/01
Machine Creek	Bedford Co.	20.00	Fecal Coliform	2/2/01
Little Otter River	Bedford Co.	27.22	Fecal Coliform	2/2/01
Big Otter River	Campbell Co.	14.75	Fecal Coliform	2/2/01

Cockran Spring	Augusta Co.	0.80	Benthic	6/27/02
Christians Creek	Augusta Co.	31.52	Fecal Coliform	5/31/02
Dry River	Rockingham Co.	6.47	Fecal Coliform	2/2/01
Muddy Creek/Dry River	Rockingham Co.	7.04	Nitrate	4/27/00
Muddy Creek	Rockingham Co.	10.36	Fecal Coliform	9/1/99
Cooks Creek	Rockingham Co.	13.32	Fecal Coliform	6/5/02
			Benthic	6/5/02
Blacks Run	Rockingham Co.	10.74	Fecal Coliform	5/31/02
			Benthic	6/5/02
Pleasant Run	Rockingham Co.	6.30	Fecal Coliform	3/9/01
Naked Creek	Augusta Co.	6.75	Fecal Coliform	5/21/02
Mill Creek	Rockingham Co.	2.66	Fecal Coliform	3/9/01
S.F. Shenandoah River	Warren Co.	36.45	PCB	10/1/01
Holmans Creek	Rockingham & Shenandoah Co.s	10.44	Fecal Coliform	12/5/01
Lacey Spring	Rockingham Co.	0.20	Benthic	6/27/02
N.F. Shenandoah River	Front Royal	5.33	PCB	10/1/01
Orndorff Spring Branch	Shenandoah Co.	0.15	Benthic	6/27/02

BASIN				
Byers Creek	Washington Co.	1.19	Fecal Coliform	2/2/01
Cedar Creek	Washington Co.	5.24	Fecal Coliform	2/2/01
Hall Creek	Washington Co.	5.87	Fecal Coliform	2/2/01
Hutton Creek	Washington Co.	4.20	Fecal Coliform	2/2/01
Little Creek	Washington Co.	5.52	Fecal Coliform	6/5/02

DELISTINGS APPROVED BY EPA

James River	Amherst, Bedford Co.	5.71	Fecal coliform	Delisted 8/19/02
McClure River	Dickenson Co.	13.00	Fecal Coliform	Delisted 8/19/02
Dan River	Patrick Co.C113	10.16	Fecal Coliform	Delisted 8/19/02
Fall Creek	Danville	2.18	Fecal Coliform	Delisted 8/19/02
Mountain Run	Culpeper	7.58	Benthic	Delisted 4/18/01
Rockfish River	Nelson Co.	4.87	Benthic	Delisted 4/26/01
South Fork Rivanna River	Albemarle Co.	3.38	Fecal coliform	Delisted 8/19/02
Kerrs Creek	Rockbridge Co.	11.49	Benthic	Delisted 4/26/01
Rivanna River	Albemarle Co.	13.21	Fecal coliform	Delisted 8/19/02
Mill Creek	Rockbridge Co.	8.60	Fecal Coliform	Delisted 8/19/02
Cedar Grove Creek	Rockbridge	4.71	Fecal Coliform	Delisted 8/19/02

TMDLs PENDING EPA APPROVAL

Dodd Creek	Floyd Co.	2.62	Fecal Coliform	Pending
Mill Creek	Rockingham Co.	2.66	Benthic	Pending
Pleasant Run	Rockingham Co.	6.30	Benthic	Pending

Appendix R

LOW IMPACT DEVELOPMENT

NEW SMART TECHNOLOGY FOR CLEAN WATER

"Definition / Issues / Roadblocks / Next Steps"

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October 9, 2002

I. Introduction

Low Impact Development (LID) provides new economically and environmentally sustainable tools for local and state officials, the private sector and others to better address nonpoint pollution wet weather flow regulatory challenges for the protection of our receiving waters. LID has initiated new dialogue, opened up new areas of research, provided new management tools and has caused us to question many of our past urban nonpoint pollution control approaches. LID represents the most advanced stormwater management technology and has evolved from the lessons learned over the past 30 years here in the United States and around the world. Through LID's new advance technological tools it is possible to have better environmental protection for significantly less cost.

However, despite the demonstrated environmental and economic advantages of LID over today's conventional approaches, there remain numerous barriers to its widespread acceptance and utilization. These barriers are well understood and typical for an emerging technology. They include issues related political agendas, institutional structure and philosophy, lack of professional education and training, competing and vested interests in maintaining the status-quo, regulatory conflicts and inflexibility, lack of funding for research and development and professional / personal beliefs, knowledge and preferences. The following is a summary of LID's basic principles / practices and some of the issues and roadblocks to adopting LID as a cost effective mainstay of our urban stormwater technology.

II. What is Low Impact Development?

LID is a comprehensive source control technology. Prince George's County, Maryland first pioneered LID in 1997 to help address the growing economic and environmental limitations of conventional stormwater management practices. As LID was developed by a local government, it is sensitive to addressing local government's unique environmental and regulatory needs in the most economical manner possible by reducing costs associated with stormwater infrastructure design, construction, maintenance and enforcement. LID also provides for local government's need for economic vitality through reasonable and continued growth and

redevelopment. LID allows for greater development potential with less environmental impacts through the use of smarter designs and advanced technologies to achieve a better balance between conservation, growth, ecosystem protection and public health / quality of life.

LID is simple and effective. Instead of the large investments in complex and costly centralized conveyance and treatment infrastructure, LID allows for the integration of treatment and management measures into urban site features. LID encourages the multifunctional cost-effective use of the urban green space, buildings, landscaping, parking lots, roadways, sidewalks, and various other techniques to detain, filter, treat and reduce runoff. LID is completely different from conventional management strategies. Conventional practices use highly efficient drainage systems to get water off a site as quickly as possible to a *centralized treatment device* (i.e., stormwater pond). LID uses many *decentralized micro-scale at the source control techniques* to manage runoff. This involves strategic placement of distributed lot-level controls that can be "customized" to more closely mimic a watershed's hydrology and water quality regime. One of the primary goals of LID design for new development (greenfields) is to reduce runoff volume through infiltration, recharge, evaporation and finding beneficial uses for rainwater rather than disposing of it as a waste product into storm sewers. The result is a landscape that is functionally equivalent to predevelopment hydrologic conditions that generates less surface runoff, less pollution, less erosion and damage to lakes, streams, and coastal waters.

LID is economical. It costs less than conventional stormwater management systems to construct and maintain, in part, because of fewer pipes, few conveyance structures and less impervious surface. But the benefits do not stop there. Space one dedicated to stormwater ponds can now be used for additional development to increase lot yields or provide for more conservation. The greater use of on lot multipurpose landscaping / vegetation also offers human "quality of life" opportunities by greening neighborhoods thus contributing to livability, value, sense of place, and aesthetics. Other benefits include enhanced property values and re-development potential, greater marketability, improved wildlife habitat, thermal pollution reduction, energy savings, smog reduction, enhanced wetlands protection, and decreased flooding. LID is a multi-dimensional approach with multiple benefits.

LID is flexible. It offers a wide variety of structural and nonstructural techniques to provide for both runoff quality and quantity benefits. LID works in highly urbanized constrained areas and environmentally sensitive areas for urban infill or retrofit projects. In a combined sewer system, LID can reduce both the number and the volume of sewer overflows. Opportunities to apply LID principles and practices are infinite as any feature of the urban landscape can be modified to control runoff (e.g., buildings, roads, walkways, yards, open space) or reduce the introduction of pollution.

LID is a balanced approached. LID is an advanced ecologically based land development technology that seeks to better integrate the built environment with the natural environment. LID's principles and practices allow the developed site to maintain its predevelopment watershed and ecological functions (hydrology, water quality and habitat structure). LID tools include five basic techniques: 1) encourages conservation measures (wetlands, streams, woodlands and buffers); 2) promotes impact minimization techniques (impervious surface reduction and disconnection); 3) provides for strategic runoff timing (slowing water down to allow infiltration and evaporation); 4) uses an array of integrated management practices (rain gardens and

amended soils); and 5) advocates pollution prevention measures to reduce the introduction of pollutants to the environment.

The more LID techniques used the closer one can get to restoring the natural hydrologic and water quality regime of a watershed. LID now gives us the tools to design the built environment to remain a functioning part of and ecosystem instead of apart from it. The effectiveness of LID technologies is only limited by the knowledge and skills of the site engineers / designers. There is no one technique for LID. Its power lies in the cumulative benefits of all its techniques.

III. Why LID Should Matter to Local Officials?

LID has numerous benefits and advantages over traditional / conventional approaches. In short, it is a more environmentally sound technology and a more economically sustainable approach to addressing the adverse impacts of urbanization. By addressing runoff close to the source though intelligent site design, LID can enhance the local environment and protect public health while saving developers and local governments money. LID promotes fiscal health, protects environmental assets and builds community livability. Other benefits include:

1. LID addresses the tough new nonpoint source / stormwater management regulatory challenges faced by states and localities in the least onerous and most economically sustainable manner.

2. LID provides superior protection of source waters (surface and ground water reservoirs) from the impacts of nonpoint runoff and ground water contamination associated with urbanization.

3. Through more effective and flexible technologies, local governments can better balance their unique conservation, growth and economic development objectives.

4. LID reduces stormwater conveyance and management infrastructure and their associated construction, maintenance and enforcement costs.

5. Since LID uses multiple systems it is more effective in addressing unique water pollution and aquatic habitat degradation than conventional one-dimensional best management practices (BMP's).

6. LID technologies are universally applicable for all greenfields, brownfields and urban redevelopment applications in any climatic or geological region.

7. LID has added benefits beyond clean water, including increased quality of life, fiscal health, reduced air pollution, water conservation, better habitat protection and increased property values.

8. LID provides a better balance between growth necessary for economic vitality than the popularized growth management and conservation oriented approaches.

IV. How are Federal, State and Local Communities Using LID?

There are a growing number of local, state and federal projects / programs that are using and demonstrating LID technologies. Listed below are just a few examples of LID initiatives.

1. The U.S. EPA's Office of Research and Development and Office of Water have provided some funding to help advance the development of new models to analyze LID's multiple scale systems and provided limited grants for a few outreach and demonstration projects.

2. U.S. EPA and Prince George's County held the first national LID roundtable. Bringing together forty-five national experts to discuss their latest research and the issues / roadblocks faced in gaining wide spread acceptance of emerging more effective innovative technology.

3. Washington D.C. Government and their water and sewer authority with the encouragement of EPA Region III is using LID as part of the city's long-term combined sewer overflow control plan. LID's small-scale space-saving source control techniques make it a powerful technology to retrofit existing urban areas.

4. The Chesapeake Bay Program's Executive Council (comprised of the governor's of Maryland, Virginia, Pennsylvania and the Mayor of District of Columbia) have issued a new stormwater management directive to their respective jurisdictions to include LID in their stormwater programs for greenfield and urban retrofit development.

5. Voluntary watershed restoration associations such as the "Chagrin River Partnership" in Ohio and the "Friends of the Rappahannock River" in Virginia are aggressively conducting outreach and education programs for their members to promote LID's low cost smart technology. Local government members are particularly excited about LID's economic benefits that reduce infrastructure maintenance burdens and maintain development potential.

6. There are a number of demonstration projects such as the Navy Yard in Washington D.C. and the Jordan Cover subdivision in Connecticut that have showcased various LID technologies for urban retrofit and greenfields development.

7. The Puget Sound Water Quality Action Team's (part of the National Estuary Program) conducted the first national conference on LID in Seattle, Washington in 2001. The conference provided the first opportunity to for experts and pioneers in source control technologies to have a venue to discuss and display innovative control approaches

8. In addition to the above United States examples there are many other examples overseas in both Europe (Germany and France) and the Pacific Rim nations (Australia, New Zealand, Taiwan and Japan) where LID or onsite distributed source control stormwater management technology has been practice for some time with great success.

V. Barriers to Using LID Tools for Water Protection

Despite the successes of LID, the majority of jurisdictions across the Nation do not know about LID or remain comfortable with business as usual unconvinced that change is not necessary or would not be beneficial. LID challenges current conventional thinking and approaches to stormwater management. Therefore, it is expected that those vested in traditional approaches would be skeptical, doubtful, suspicious or misinformed about what LID is and its possibilities. There are many questions surrounding LID that have been expressed by consultants and practitioners. However, it is interesting to note that since the release of the first LID design manual in 1997, no one has ever challenged the technical and scientific merits of LID's decentralized micro-scale source control strategy. To challenge LID on a technical basis would require challenging our current basic scientific understanding and engineering principles of hydrology, hydraulics, ecology, biology, etc.

The criticism of LID has only been based on speculation and misinformation about LID's practical application and long-term maintainability. All of the criticism has come from those not familiar with or experience with the use of LID technology. Those not wishing to take any risks have used the speculative issues surrounding LID as a way to resist change and maintain the status quo. It is not easy (for many reasons) for the professionals in the field to make the necessary fundamental paradigm shifts from conventional approaches to LID approaches.

The most common issues about LID are discussed below. All of these issues can be easily resolved through increased efforts in education and awareness of the benefits and application of LID technologies.

Issue 1. There is nothing new about LID, we've done it for years.

Many have been mislead or are ignorant of the current definition and objectives of LID. The term LID is a generic one much like sustainable development. A literal interpretation of low impact development (to lesson development impacts) could also be used to describe current technology. Advocates of more traditional approaches that heavily favor conservation and use of less effective and costly BMP's are quick to use the new hot term of LID to describe their old approaches. Many within the established professional organizations and consulting services have a vested economic interest in continuing to market conventional technologies and maintaining the status quo. Few in the industry of stormwater management (professional engineers, practitioners, planners, etc.) want to admit that there is a growing body of evidence exposing the economic and environmental limitations of current technology. After all, for the last twenty years we have been making claims that we use the "best management practices". It is very hard to admit that perhaps current technology may not be the best.

Many detractors lump LID into the popularized impact minimization strategies of better site design, conservation design or growth management. However, LID goes far beyond the goal of impact mitigation of these conventional approaches by providing many more technological tools to plan and engineer a site to maintain or restore a watershed's hydrologic and ecological functions. LID requires strategic and customized use of conservation measures, multifunctional small-scale controls, and pollution prevention to address site-specific stormwater pollutant loads, timing, flow rate, and volume needs. This is not the same as a broad-brushed set of generic site

design or conservation tools that merely reduce impacts or sacrifice the environmental quality of urban watersheds for greater protect of conservation areas.

Simply put, LID is a new approach using decentralized integrated source control practices making more cost effective and efficient use of a site to maintain the watershed hydrology and water quality. The conventional approach uses a separate and centralized approach that results in the creation of a large stormwater infrastructure to convey and treatment runoff that also competes with valuable space.

Issue 2. Where is the scientific data that LID works better than ponds?

LID technology is a very recent development. There is no great body of research and monitoring data on the long-term application of the combined affects of the entire suite of LID principles and practices. However, LID is based on sound scientific and engineering principles, knowledge and experience. Every technique used in LID has been used in one way or another for urban stormwater control or used in another related field of water / wastewater treatment. This question is symptomatic of the specialization, compartmentalization, isolation and parochialism that stormwater consultants and practitioners often exhibit. LID is based on what we have learned over the years about stormwater management and the application of technology transferred from other fields of engineering and science such as sanitary engineering, agriculture, forestry, soil science, phytoremediation, bioremediation and ecology. As an example, the 50-year history of the successful land application and treatment of wastewater effluent clearly demonstrates the effectiveness of the plant / soil complex to assimilate pollutants for either wastewater or urban runoff. With the use of innovative thinking and a little common sense, LID simply combines a variety of current practices and adapts other technologies to treatment urban runoff.

There is an existing and growing body of research and data on the performance of a variety of LID techniques such as bioswales, bioretention, grass filter strips conducted by universities (Maryland, Virginia and Washington State), Federal Highway Administration, EPA and others. When you the look at the entire body of existing and related scientific data and engineering / environmental technologies, you begin to see the advantages and benefits of LID's multiple systems (treatment train) approach. Just looking at the monitoring data on bioretention (rain gardens) alone shows it to be far more effective than any other stormwater BMP or pond. The data is all there for those who want to look for it and are open to the transfer of science and technology from other fields of science and engineering.

In 2000 Prince George's County began monitoring a paired watershed (conventional design versus a LID prototype design) for stormwater runoff flow and found the LID site generates 2/3 less flow than the conventional site for small storm events. When you add the flow and frequency reductions that can be achieved with LID, you get the added benefits of reducing total annual pollutant loads by reducing runoff volumes and erosion potential.

We can't afford to wait 20 years to generate the data to absolutely prove that LID works to the skeptics resisting change. For those most comfortable with the status quo, there will never be enough evidence to justify change. For example, we have been collecting data on conventional BMP's for the last twenty years and there are still remains questions about its

efficacy. Despite the fact that many studies show that current technology does not meet our ecological protection goals, this has not resulted in a change in institutional thinking or any significant movement to improve the technology. This in part a result of the fact that current technology has been codified into state and local regulations and is reinforced by institutional thinking of administrators, universities and professional organizations. Traditionalist feel threatened and want to block the development of LID's because of its potential to totally replace current approaches. However, the goal of those advocating LID is not to replace traditional approaches but to complement and expand our toolbox of solutions to better meet our most difficult ecological challenges.

Issue 3. LID is unreliable since the long-term maintenance of on-site privately owned practices cannot be guaranteed.

What's to stop property owners from filling in the rain gardens or cutting down trees? This concern demonstrates a fundamental lack of understanding of the comprehensive nature and wide array of practices used in LID. Many try to simplify LID by characterizing it as only relying on rain gardens and rain barrels that will not be maintained by the property owner. They fail to recognize or don't want to understand that LID is a comprehensive multiple systems approach using dozens of techniques that retain, detain, infiltrate, recharge, filter, use, modify runoff timing and prevent pollution in order to maintain and restore hydrology and water quality. LID multiple systems approach has built-in redundancy that greatly reduces the possibility of failure. Many LID techniques have nothing to do with nor can they be significantly influenced by the behavior of the property owner. These include basic subdivision and infrastructure designs features such as reducing the use of pipes, ponds, curbs, gutters, saving recharge areas, saving streams / drainage courses, infiltration swales, saving buffers, reducing impervious surfaces, disconnection, open space conservation, grading strategies, saving streams/ wetlands / buffers, disperse drainage and using open drainage systems. LID's long-term success has much more to do with the knowledge, skills, intelligence and creativity of the site designer (planners, engineers, architects, and environmental scientists) to design an ecologically sound site than what the property owner does or doesn't do.

Furthermore, the LID allows for additional storage volume as a margin of safety to account for some losses over time (although it is expected that LID will work better over time). If one wants to raise their level of comfort about maintenance of on-site landscape features, they can be placed easements with maintenance agreements. Experience has shown (not speculation) that using smart designs will reduce maintenance burdens for property owners and local governments.

LID site source controls encourage property owners to be responsible for the impacts associated with their property. This ensures and promotes active public engagement in protecting our receiving waters by the simple act of maintaining their properties. The key factor in the success of LID is to ensure that the landscape practices (such as rain gardens) are attractive and perceived by the property owner as adding value to the property. If we are successful in designing attractive LID practices that are viewed as assets, the primary motivation for long-term maintenance is economic. Property owners are much more likely to be motivated to maintain LID landscape practice to protect their vested economic interest in their property than out of a

sense of environmental stewardship. Also, LID techniques are simple, needing no special equipment and are inexpensive to maintain.

Issue 4. LID is more expensive to construct because it takes more time to get approvals for innovative techniques.

This can be true depending on the receptiveness of local government officials to innovative practices. If they are not receptive, reviewers will either not allow modifications or require extensive studies to show equivalency to current codes. Longer review times (if in the order of months) can increase the loan carry costs for a developer. Another cost increase is associated with design. Since LID is new, inexperienced consultants usually take much longer to design and will charge more for their services. This can also be true for construction costs. Inexperienced contractors will charge more for new techniques. There are cost increases associated with the increase use of on site landscaping material. However, despite these additional costs (over conventional approaches) experience has shown that LID still saves money through reduced infrastructure and site preparation work.

If a developer uses the entire suite of LID techniques it cost less for sediment control, clearing, grading, roadways, curbs, gutters, sidewalks, inlets, pipes and ponds. The developer can recover more developable space since there is no need to waste space for a stormwater pond. Generally, greenfields single-family residential development cost savings are typically four to five thousand dollars per unit or a 30% reduction in overall infrastructure costs. The reduced infrastructure construction eventually translates into reduced future costs for infrastructure maintenance. The infrastructure reduction savings far out weight any of the cost increases due to LID techniques.

Increased time to review is not an indictment of LID but of the institutions, individuals and bureaucracies that remain inflexible, unwilling to change or ignorant of the need and benefits to change.

Issue 5) LID conflicts with state and local land use laws.

In fact, just the opposite is true. This critic results from the lack of understanding that LID relies more heavily on smarter and advanced technologies than it does on conservation and growth management. LID is a technology for the built environment. Although LID promotes conservation as the first step for greenfields development, it remains the purview of the local jurisdiction to define the green infrastructure and buildable space based on their local objectives and within their regulatory requirements. LID is silent on the issue of growth management, architectural style or in promoting livable communities such as new urbanism. Once the local government defines their vision of the type of community /style they desire and the building envelope, LID provides technological tools for better protection of receiving waters. LID can be used for any type built environment.

However, the popularized conservation design, smart growth and better site design approaches (that generally promotes new urbanism) almost always conflicts with local land use laws as they require rezoning, clustering, changing lot sizes / yields or place limits on lot densities. Detractors of LID (or those resisting change) try to associate LID with these current

land use control orientated approaches. LID was developed by a local government in order to preserve a local government's right to determine zoning and land use. LID focuses more on modifying building codes and design standards (roadways, site grading, water uses and building criteria) to achieve better environmental protection. LID requires revisions or waivers to some building codes not zoning codes. LID provides a balance between conservation and technology to optimize both environmental protection and economic needs.

IV. Institutional Roadblocks to LID

Successful integration of LID's lot level management strategies into existing stormwater programs requires a major paradigm shift away from centralized controls to one of decentralized controls. In order for such a shift to occur elected officials, program administrators, civil engineers, urban planners, environmental scientist, technicians, plan reviewers, inspectors, contractors and maintenance personnel must be willing / motivated to change the way they do business and be educated on the new technologies and approaches. Below is a list of roadblocks to change that must be addressed to make change happen.

1. Leadership

Chang will not occur or be successful without strong leadership or an agent for change. Leadership can come from any sector including federal, state, and local governments, political leaders, environmental groups, businesses, institutions, and stakeholders. Generally, there is one person or a group of dedicated individuals that oversee and ensure that change occurs throughout the entire institutional structure. Change will not occur without intervention. In fact, bureaucracies, institutions, regulations, protocols, standards, convention and compartmentalization of disciplines generally work to maintain the status quo not to encourage change or innovation. Change is not easy and will not occur without leadership by example and a strong advocacy by a champion. It takes time, dedication, and perseverance by the agent(s) of change to ensure changes occurs.

2. Motivation

Change will not occur unless there is a motivation or reason to change. The best motivations for change include regulatory compliance, economic incentives, protection of a valued living or water resource, or a perceived problem that must be addressed by developing new goals, objectives and solutions. Under the municipal stormwater NPDES program the regulatory motivation is in place to encourage the use of stormwater management throughout the nation. LID can offer a more economical approach to achieving the regulatory objectives. Additionally, in many parts of the Country (Chesapeake Bay / Puget Sound) change is being driven by the need to protect endangered species and to protect economically important fisheries.

3. Inflexible Regulations

Federal, State and local enabling legislation and new regulatory standards must be in place to allow for the use of LID principles and practices. Existing standards and criteria

that discourage change and innovation need to be made more flexible to allow LID approaches. Current standards have evolved to meet past problems and objectives. If we are to met the emerging complex and difficult problems of protecting receiving and ecological integrity from urbanization our regulations must be flexible enough to allow for innovation to change.

4. Perceived Competition with Growth Management Objectives

Because LID is a customized approach that can be used for any land use type or receiving water goal, it allows communities flexibility in providing environmental protection in exiting highly developed or new growth areas. In many urban areas growth may be difficult due to the proximity to sensitive environmental areas or exceeding a TMDL. LID provides the ability to develop a "customized" protection program that allows both growth and better environmental protection. However many advocates of growth management and conservation programs see LID's technological solutions as promoting urban sprawl and supporting continuation of consumptive development patterns. LID technology can allow higher density urbanization with less environmental impacts. LID provides solutions to protecting urban streams in growth areas. LID is a technology approach not a land use growth management approach for protection. Growth management programs require strong political commitments to hold the line on growth and reduce environmental impacts. What we do know is that growth management alone will not meet all of our water resources protection goals and that technology must play an important role in protecting and restoring our urban streams.

5. Education, Knowledge and Experience

Change will not occur unless professionals are aware that there are other viable options available. Unfortunately, neither federal nor state agencies have dedicate enough resources towards effective educate the of the nation's consultants and practitioners about other perhaps more effective technologies. Compounding the lack of awareness is the lack of technical expertise and experience to design and review new innovative technologies. A significant education program is need for all professionals in the field to better understand how to appropriately use LID technologies with cross disciplinary training programs among water quality officials.

6. Ineffective Methods of Information Dissemination

Federal and state agencies have for the last several years spent tremendous resources on technical outreach. However, these efforts have for the most part focused on conventional approaches. For example, EPA is reluctant to place a high priority on emerging technologies (in their minds unproven techniques) for fear of failure. They have taken a very conservative approach to change, so much so, that even in the face of studies and research that either show problems with current technology or benefits of new approaches it has had little affect on how and what technical information they promote. Furthermore, the venues for disseminating information are very limited and generally not very effective. EPA has focused tremendous resources on supporting a few nonprofit groups to act as national clearinghouses to disseminate information on conventional

approaches. As these groups impart their own politics, philosophy, priorities and agendas (what they chose to or not to promote) they have severely limited dissemination of information and discussion / debate on alternative approaches. This has resulted in the nationalization of uniform thinking and promotion of conventional technologies. A national uniform standardized *"one-size fits all"* approach to urban stormwater management is a formula for stagnation and disaster.

Each community has a unique geology, climate, protection objectives and economic resources and objectives. Stormwater management programs need to be customized to meet local community needs not national uniform standards. EPA needs to ensure that it provides all technological options that can be used to meet unique regional and local needs.

8. Professional Consultants and Advisors

The consultant and advisors to EPA and other federal agencies that determine national policy have developed the same conservative approach to change and innovation as their clients. They give them what they want and expect, not necessarily what is needed. As an example, EPA has developed strong partnerships with very conservative national professional organizations such as the American Society of Civil Engineers (ASCE). There are many good reasons to work with national organizations like the ASCE but, if you are interested in promoting change and looking for innovation in ecological protection strategies, you won't find this group promoting radical changes. Instead, since conservative organizations are very much vested in traditional approaches, the direction they usually take is only refinement of their existing technologies and continued justification / rationalization of their basic approaches but, not paradigm shifts. What is needed is a far more diverse multidisciplinary group of advisors to federal policy makers to ensure a more comprehensive approach to advancing technology. All perspectives must be taken into account when developing policy and technologies.

9. Antiquated Analytical Tools

Current watershed analytical tools are inadequate to model the benefits of LID's source control approaches. Current tools were designed to model conventional approaches to stormwater management i.e. BMP's and detention. There are several efforts by EPA, Monash University in Australia and Prince George's County, Maryland to develop new hydrologic and water quality research modeling tools to verify the new technical approaches of LID. Furthermore there needs to be simple design tools to assist the site planner in understanding how to successfully apply LID to meet desired goals. Without tools to verify and for easy design LID techniques there will always be great resistance to change.

10. Lack of Resources for Research and Development and Education

Developing and adopting new approaches to doing business costs money. Resources are needed at every level for awareness education, training, research and development. There are numerous fragmented efforts for research, development and education among

many local, state and federal agencies. If for example, the federal agencies involved in outreach, assistance and research in urban stormwater management and related environmental fields of ecological protection were to coordinate and pool their resources to develop and promote LID technologies major advances could be made in a much shorter time frame.

11. Lack of Public Understanding and Support

Citizens and community organizations often do not understand the threats to water quality in their community, or the connections between urbanization and individual behaviors and water pollution. Much more effort is needed on educating the general public on their responsibilities to protect the environment through pollution prevention and to become active participants in the protection of water quality.

VI. What Steps Must be Taken to Implement LID

LID needs a jump-start to develop the necessary critical mass to overcome the inertia of instructional roadblocks. Once LID technology takes hold and is embraced and supported by government and professional institutions (becomes institutionalized and mainstreamed) it will develop rapidly on its own and will be self-sustaining and able to compete on its owns for resources due to LID's inherent economic and environmental benefits.

To develop the necessary critical mass, there must dedicated resources to implement a program for technological change. An example, of a program to promote a new approach is EPA's Smart Growth program which advocates growth management and more livable communities. A program of similar scope and magnitude for research, development and promotion of LID technologies would be adequate to ensure real change in a reasonable time frame. In general, a program to advance LID on a national level would include the following components:

- Provide for basic scientific research and development on LID modeling tools, practices, applications, monitoring and design standards.
- Develop general and technical guidance documents and materials on LID's benefits, principles, and applications. These guidance materials would be customize by regions (i.e., EPA regions) to address unique issues, goals and objectives.
- Develop targeted outreach and technical educational programs (seminars, conferences, workshops) for key institutions and professional advisors (local government, universities, home builders, civil engineers, planers, architects, etc.)
- Develop grant incentives for local and state government to demonstrate LID projects for both greenfields and urban retrofit.
- Require regulated municipalities through existing permit programs to include LID principle and practices to meet source water, stormwater and combined sewer overflow requirements.

- Require and provide funding for all Federal agencies and facilities to lead by example to use LID for all greenfields and retrofit projects.
- The Federal Highway Administration, EPA, Corps of Engineers, Department of interior and NOAA should develop joint cooperative programs to pool resources to advance and promote LID technologies.

Air Quality Update
-Ozone and Particulate-

Commission on the Future of Virginia's Environment

November 7, 2002

Air Quality

- DEQ's ambient air monitoring network shows that air quality in Virginia is generally good, but some areas need improvement
- Levels for SO_2, NOx, PM 10 and CO are less than 50% of health-based standards in all parts of Virginia.
- Some areas of Virginia exceed the standards for ozone and PM 2.5

Ozone

- 1-hr standard (will be rescind once 8-hr standard is implemented)
  - Richmond and Tidewater have been redesignated as in attainment for the 1-hour standard
    - plans to maintain air quality have been adopted
  - Northern Virginia is being "bumped up" to severe non-attainment for the 1-hour standard
    - Exceeded 1-hour standard on 6 different days in 2002
    - All 10 Northern Virginia monitors exceeded 1-hour standard for at least 1 day
    - An implementation plan to improve air quality is being developed with D.C. and MD

Ozone cont'd.

- 8-hour ozone standard
  - EPA proposed in 1997 (litigation delayed implementation, but was resolved in support of the standards)
    - Air quality is evaluated based on the 4th highest 8-hour value averaged over 3 years
    - 3-year average must be 84 ppb or less to meet standard
  - Draft plan for implementation of new standard expected from EPA late 2002 and will be finalized late 2003
  - Designation of non-attainment areas will be finalized in 2004
  - State Implementation Plans to improve air quality will be due in 2007

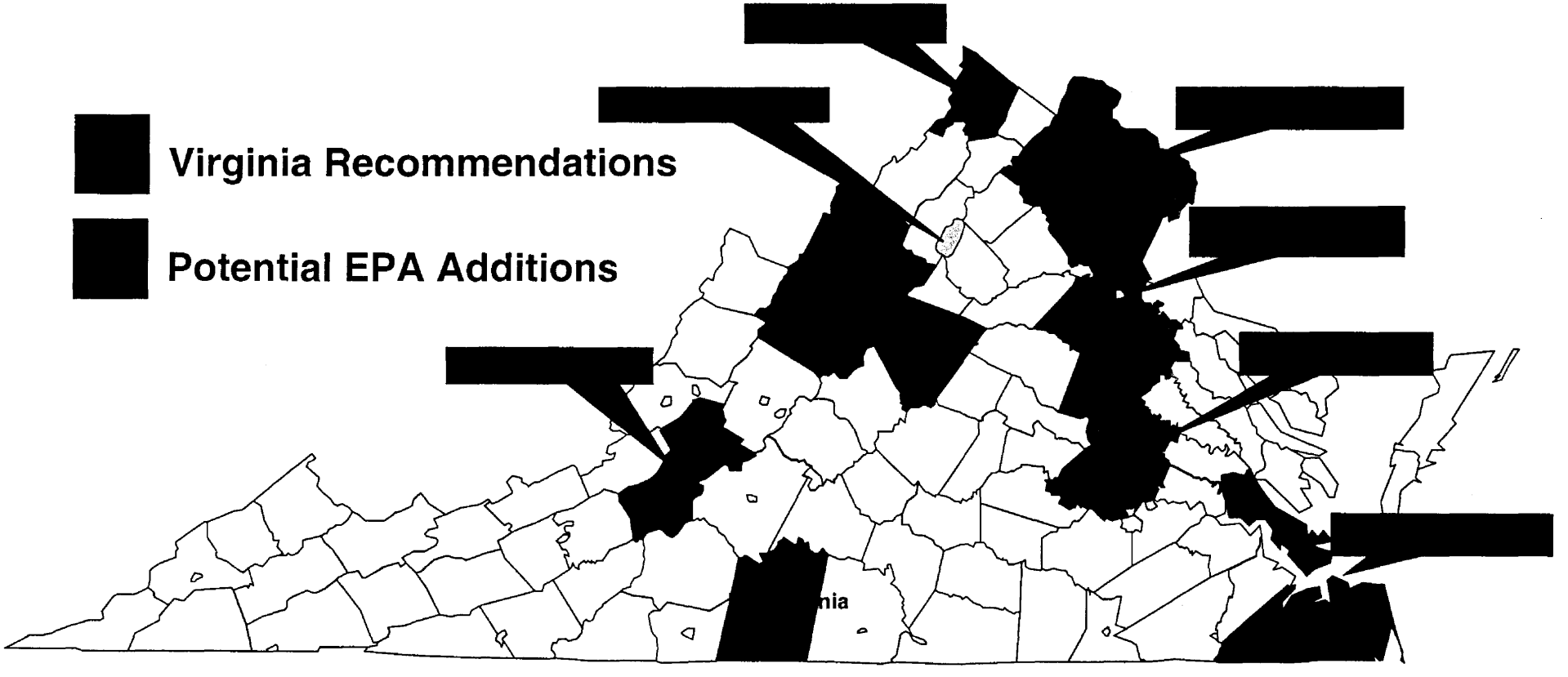
Ozone Designations (8-hr std)

Designation of Non-Attainment Areas

- Based upon air quality monitoring, ozone precursor emissions, population, and expected growth
- Virginia submitted recommendations to EPA in 2000
  - Richmond area, Hampton Roads, Northern Virginia, Fredericksburg area, Frederick County, Roanoke Area
  - EPA has proposed addition of 4 counties based on modeling (Rockingham, Augusta, Albemarle, Pittsylvania)
- Revised recommendations are due in April 2003 will be finalized in 2004
  - Recommendations will be similar to those submitted in 2000, but may exclude Fauquier County, Caroline County and Fredericksburg based on most recent monitoring data

Potential Nonattainment Areas

DEQ Recommendations & EPA Additions



Recommendations made in 2000 based on 1997 to 1999 monitoring data

Implications of Ozone Nonattainment

- State Implementation Plans to reduce NOx and VOC
  - DEQ will work with metropolitan planning organizations and local officials to develop each SIP
  - Plans will vary based on the severity of the ozone problem
  - The NOx SIP call is expected to solve most ozone problems in Virginia
- Transportation Conformity requirements will apply 1-year after final designation (2005)
- Nonattainment areas will require:
  - Emissions offsets for permitted facilities
  - More stringent pollution controls for permitted facilities

Early Action Compact (EAC)

- If localities enter EAC, nonattainment designations and related mandatory actions may be delayed
  - Takes advantage of national measures and optional local measures to achieve air quality goals
  - Measures may include early implementation of vapor recovery measures, carpooling programs, etc.
  - DEQ is working with Frederick County and Roanoke on this approach
- EAC Requirements
  - Agreement by 12/31/02
  - Develop plan for local measures to reduce Nox and VOC
  - Submit plan by 3/2003 and implement plan by May 2004

PM 2.5 Standard

- EPA proposed new standard in 1997 (litigation delayed implementation, but was resolved in support of the standards)
  - 24 hours: 65 micrograms/cubic meter
  - Annual: 15 micrograms/cubic meter
- 24 Hour Standard is being met everywhere in Virginia
- Annual standard is being met everywhere except for Bristol and Roanoke

PM 2.5 Designations / SIPs

- Designations will be based on air monitoring results
  - Proposed designations due 7/03 - 7/04
  - Designations finalized by 7/05
- EPA will propose implementation rules spring of 2003 (March)
- State Implementation Plans will be due after the rules are finalized

Presentation to the Solid Waste Subcommittee of the Commission on the Future of Virginia's Environment (SJR76)

Date: November 07, 2002
Time: 1:00PM
Location: General Assembly Building
Presentator: Diane L Jones VRMDC

1. Who the VRMDC is:

The VRMDC was established by the General Assembly to develop and monitor the implementation of a plan to strengthen Virginia Recycling Infrastructure and Markets.

It is made up of a group of industry and government leaders dedicated to preserving Virginia environment.
(current membership list is attached)

2. What we have accomplished:

Increased the Public's awareness about recycling.

Worked with DEQ to develop reporting of

- What market barriers exist for recycling industries?
- Determining the frequency in which materials are collected for recycling or otherwise disposed of.
- Providing a list of the Commonwealth's solid waste managers at the planning district level.
- Through survey, of Virginia's Solid Waste Planning Units, surmised opinion of the current State mandate on recycling and costs being expended on recycling.

3.What we are recommending:

Based on its deliberations between July 2001 and June 2002, the Virginia Recycling Markets Development Council has the following recommendations.

- That the state tables the establishment of a State Recycling Markets Development Specialist position.
- That the state leave the mandated recycling rate at its present level and encourage individual localities to establish a policy to improve their own goals above the state mandated rate.
- That the state establish a surcharge on disposal of municipal solid waste (MSW) in Virginia
- That further study of the Virginia Recycling Tax Credit be done to determine the feasibility of expanding the recycling tax credit program to include more than manufacturing equipment.

4. Why we recommend that the state table the establishment of a State Recycling Markets Development Specialist position

In light of budget shortfalls, employee layoffs, and the uncertain status of a solid waste surcharge, the committee recommends a new study, incorporating changed circumstances, during FY-2003.

5. Why we recommend that the state leave the mandated recycling rate at present level.

DEQ performed a "Virginia Recycling Rate Mandate Survey" in order to assist the Council with recommendation. The survey was sent to Virginia's Solid Waste Planning Units. A 73% response rate was attained. A public forum on the issue in conjunction with the fall, 2002 Virginia Recycling Association conference was also held.

A total of 70% of those responding indicated that the existing 25% recycling rate was appropriate.

The survey also requested the amount of funding that municipalities were devoting to recycling. It was determined that of the 66 planning units who responded a total of $19,103,736 was used for recycling programs.

Lastly, the survey identified specific jurisdictions that reported marketing problems with certain commodities. The Council requested that members representing industries specific to these commodities contact and assist the jurisdictions identified.

6. Recommend that the state establish a surcharge on disposal of municipal solid waste (MSW) in Virginia.

Who: All solid waste disposal facilities required by §10.1-1413.1 to report annual amounts of waste disposed.

How much: The Council agreed that a surcharge of $2.00 - $3.00 per ton should be considered.

Distribution of:

70% of funds generated should be sent back to solid waste management planning units based upon a formula using population as a basis because population is one of the best indicators of solid waste generation. Our recommendation further breaks down this percentage with guidelines for usage. Guidelines focus on recycling and waste reduction programs, including recycling markets development and processing. They include solid waste management and planning, landfill closure, (especially 1205 landfills), brownfields. Lastly, they percentage use for local open space and watershed management programs.

30% would be used for statewide environmental programs, such as open space preservation or water quality improvement, with 2% of these funds used to fund DEQ to administer the program.

When: Recommend July 1, 2004 as an effective date of legislation.

FY2001 RECYCLING MARKETS DEVELOPMENT COUNCIL

APPOINTEES	*REPRESENTING*
Michael Benedetto	Chairman, VRMDC FY2002 Paper Industry
Diane Jones	Vice-Chair, VRMDC FY 2002 Rural Planning District
Brian Salmon	Aluminum Industry
B. Paige Estep	Citizen Member
David Woodbury, Jr.	Glass Industry
Thomas Smith	Municipal Government
Michael Ward	Oil Industry
Robert J. Kerlinger, Jr.	Organic Waste Industry
Phillip Abraham	Plastics Industry
McCandlish, Holton	Public at Large
Edward Duke	Recycling Industry
Eddie Schneider	Solid Waste Collection Industry
Richard M. Lerner	Scrap Metal Industry
John Kline	Tire Industry
Paul Alcantar	Urban Planning District
Douglas Wine	Virginia Municipal League
STATE AGENCY	
A. Georgiana Ball	Department of General Services
William R. Bailey III	Department of Transportation
Michael P. Murphy	Department of Environmental Quality
William Vehrs	Department of Business Assistance

Appendix U

CHAPTER 681

An Act to amend and reenact § 32.1-164.5 of the Code of Virginia and to amend the Code of Virginia by adding sections numbered 32.1-164.6 and 32.1-164.7, relating to land application of sewage sludge; study; report.

[S 1088]

Approved March 19, 2003

Be it enacted by the General Assembly of Virginia:

1. That § 32.1-164.5 of the Code of Virginia is amended and reenacted, and that the Code of Virginia is amended by adding sections numbered 32.1-164.6 and 32.1-164.7 as follows:

§ 32.1-164.5. Land application, marketing and distribution of sewage sludge; regulations.

A. No person shall contract or propose to contract, with the owner of a sewage treatment works, to land apply, market or distribute sewage sludge in the Commonwealth, nor shall any person land apply, market or distribute sewage sludge in the Commonwealth without a current Virginia Pollution Abatement Permit from the State Water Control Board or a current permit from the State Health Commissioner authorizing land application, marketing or distribution of sewage sludge and specifying the location or locations, and the terms and conditions of such land application, marketing or distribution.

B. The Board of Health, with the assistance of the Departments of Environmental Quality and Conservation and Recreation, shall promulgate regulations to ensure that (i) sewage sludge permitted for land application, marketing or distribution is properly treated or stabilized, (ii) land application, marketing and distribution of sewage sludge is performed in a manner that will protect public health and the environment, and (iii) the escape, flow or discharge of sewage sludge into state waters, in a manner that would cause pollution of state waters, as those terms are defined in § 62.1-44.3, will be prevented.

C. Regulations promulgated by the Board of Health, with the assistance of the Departments of Environmental Quality and Conservation and Recreation pursuant to subsection B of this section, shall include:

1. Requirements and procedures for the issuance and amendment of permits as required by this section;

2. Procedures for amending land application permits to include additional application sites and sewage sludge types;

3. Standards for treatment or stabilization of sewage sludge prior to land application, marketing or distribution;

4. Requirements for determining the suitability of land application sites and facilities used in land application, marketing or distribution of sewage sludge;

5. Required procedures for land application, marketing and distribution of sewage sludge;

6. Requirements for sampling, analysis, record keeping and reporting in connection with land application, marketing and distribution of sewage sludge;

7. Provisions for notification of local governing bodies to ensure compliance with §§ 32.1-164.2 and 62.1-44.15:3;

8. ~~Conditions where a~~ *Requirements for site-specific* nutrient management ~~plan approved by the Department of Conservation and Recreation may be required.~~ *plans, which shall be developed by persons certified in accordance with § 10.1-104.2 prior to land application for all sites where sewage sludge is land applied, and requirements for approval of nutrient management plans by the Department of Conservation and Recreation prior to permit issuance under specific conditions, including but not limited to sites operated by an owner or lessee of a Confined Animal Feeding Operation, as defined in subsection A of § 62.1-44.17:1, or Confined Poultry Feeding Operation, and sites where the permit authorizes land application more frequently than once every three years at greater than 50 percent of the annual agronomic rate; and*

9. Procedures for the prompt investigation and disposition of complaints concerning land application of sewage sludge, including the requirements that (i) holders of permits issued under this

section shall report all complaints received by them to the State Department of Health and to the local governing body of the jurisdiction in which the complaint originates, and (ii) localities receiving complaints concerning land application of sewage sludge shall notify the Department and the permit holder. The Department shall maintain a searchable electronic database of complaints received during the current and preceding calendar year, which shall include information detailing each complaint and how it was resolved.

D. ~~The Board of Health shall adopt regulations in accordance with this section not later than October 1, 1994. The Board of Health may adopt, as final, proposed regulations that were the subject of public notice and for which one or more public hearings or informational meetings were held in accordance with the Administrative Process Act (§ 2.2-4000 et seq.) after July 1, 1993, and prior to September 30, 1994~~ *Where, because of site-specific conditions identified during the permit application review process, the Department determines that special requirements are necessary to protect the environment or the health, safety or welfare of persons residing in the vicinity of a proposed land application site, the Department may incorporate in the permit at the time it is issued reasonable special conditions regarding buffering, transportation routes, slope, material source, methods of handling and application and time of day restrictions exceeding those required by the regulations promulgated under this section. Before incorporating any such conditions into the permit, the Department shall provide written notice to the permit applicant, specifying the reasons therefor and identifying the site-specific conditions justifying the additional requirements. The Department shall incorporate into the notice any written requests or recommendations concerning such site-specific conditions submitted by the local governing body where the land application is to take place. The permit applicant shall have at least 14 days in which to review and respond to the proposed conditions. Should the permit applicant object to the inclusion of any such condition, the approval of the Commissioner shall be required before the condition objected to may be included in the permit.*

E. The Board may adopt regulations prescribing a reasonable fee not to exceed $2,500 to be charged for the direct and indirect costs associated with the processing of an application to issue, reissue, amend or modify any permit to land apply, distribute or market sewage sludge pursuant to this section.

F. There is hereby established in the treasury a special fund to be known as the Sludge Management Permit Fee Fund, hereinafter referred to as the fund. The fees required by this section shall be transmitted to the Comptroller to be deposited into the fund. The income and principal of the fund shall be used only and exclusively for the direct and indirect costs associated with the processing of an application to issue, reissue, amend or modify any permit to land apply, distribute or market sewage sludge. The State Treasurer shall be the custodian of the moneys deposited in the fund. No part of the fund, either principal or interest earned thereon, shall revert to the general fund of the state treasury.

G. ~~Any permit, certificate or authorization for the land application, marketing or distribution of sewage sludge issued prior to October 1, 1994, shall remain in effect for the remainder of the term specified in such permit, certificate or authorization. Such permits, certificates and authorizations may be amended in accordance with the Administrative Process Act (2.2-4000 et seq.). Any amendment after the adoption of the regulations specified in this section shall be in accordance with such regulations~~ *All persons holding or applying for a permit authorizing the land application of sewage sludge shall provide to the Department written evidence of financial responsibility, which shall be available to pay claims for cleanup costs, personal injury and property damages resulting from the transportation, storage or land application of sewage sludge. The Board of Health shall, by regulation, establish and prescribe mechanisms for meeting the financial responsibility requirements of this section.*

§ 32.1-164.6. Certification of Sewage Sludge Land Applicators.

A. The Board, with the assistance of the State Department of Health, Department of Environmental Quality and Department of Professional and Occupational Regulation shall promulgate regulations and standards for training, testing and certification of persons land applying Class B sewage sludge in the Commonwealth, and for revoking, suspending or denying such certification from any person for cause. The regulations shall include standards and criteria for the approval of programs of instruction taught by governmental entities and by the private sector for the purpose of certifying

sewage sludge land applicators. The Board shall promulgate the regulations and standards required by this subsection by no later than July 1, 2004.

B. No person shall land apply Class B sewage sludge pursuant to a permit under § 32.1-164.5 or § 62.1-44.19:3 unless a certified sewage sludge land applicator is onsite at all times during such land application, as of 180 days following the effective date of regulations required by this section.

§ 32.1-164.7. Local enforcement of sewage sludge regulations.

Any locality that has adopted an ordinance for the testing and monitoring of the land application of sewage sludge pursuant to § 62.1-44.19:3 shall have the authority to order the abatement of any violation of §§ 32.1-164.5, 32.1-164.6 or § 62.1-44.19:3 or of any violation of any regulation promulgated under those sections. Such abatement order shall identify the activity constituting the violation, specify the Code provision or regulation violated by the activity and order that the activity cease immediately.

In the event of any dispute concerning the existence of a violation, the activity alleged to be in violation shall be halted pending a determination by the Department, whose decision shall be final and binding unless reversed on judicial appeal pursuant to § 2.2-4026. Any person who fails or refuses to halt such activity may be compelled to do so by injunction issued by a court having competent jurisdiction. Upon determination by the Department that there has been a violation §§ 32.1-164.5, 32.1-164.6 or § 62.1-44.19:3 or of any regulation promulgated under those sections and that such violation poses an imminent threat to public health, safety or welfare, the Commissioner shall commence appropriate action to abate the violation and immediately notify the chief administrative officer of any locality potentially affected by the violation. Neither the Commissioner, the Commonwealth, nor any employee of the Commonwealth shall be liable for failing to provide the notification required by this section.

2. That the State Department of Health shall review the July 2002 Report of the National Research Council titled "Biosolids Applied to Land: Advancing Standards and Practices," the June 2003 comment and response document prepared by the U.S. Environmental Protection Agency and the December 2003 recommendation by the U.S. Environmental Protection Agency for revisions to the federal regulations governing the land application of sewage sludge, as well as plans and recommendations developed by the U.S. Environmental Protection Agency in response to such report, and shall submit an executive summary and report its findings and recommendations to the Virginia State Board of Health and the General Assembly no later than June 30, 2004, as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents and reports. The executive summary and the report shall be posted on the General Assembly's website. In developing its findings and recommendations, the Department shall request comments from other state agencies, local governments, and organizations and persons having an interest in the land application of sewage sludge. The report shall include any recommendations for revisions to current state laws and regulations governing the land application of sewage sludge that the Department deems necessary to ensure protection of public health and safety, the environment and natural resources, agricultural land and state waters. The Virginia State Board of Health shall initiate rulemaking proceedings pursuant to § 2.2-4007 no later than September 1, 2004, should the Board determine such proceedings are necessary to implement any such recommendations.