

THE DISPOSAL OF SOLID WASTES
REPORT OF THE
VIRGINIA ADVISORY LEGISLATIVE COUNCIL
To
THE GOVERNOR
and
THE GENERAL ASSEMBLY OF VIRGINIA



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COMMONWEALTH OF VIRGINIA
Department of Purchases and Supply
Richmond
1970

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*** Mr. Frost, deceased, September 18, 1969.

THE DISPOSAL OF SOLID WASTES

REPORT OF THE VIRGINIA ADVISORY LEGISLATIVE COUNCIL

Richmond, Virginia
January , 1970

To:

HONORABLE MILLS E. GODWIN, JR., *Governor of Virginia*

and

THE GENERAL ASSEMBLY OF VIRGINIA

The 1968 General Assembly of Virginia adopted two resolutions, one of which directed the Virginia Advisory Legislative Council to study the desirability of licensing water and sewage plant operators and, the other directed the Virginia Advisory Legislative Council to study matters relating to waste materials and their proper disposal. These resolutions are as follows:

HOUSE JOINT RESOLUTION NO. 156

Directing the Virginia Advisory Legislative Council to study matters relating to waste materials and their proper disposal.

Whereas, the improper disposal of solid wastes, including abandoned automobiles, creates problems which threaten the health and welfare of the citizens, destroys the beauty of the cities, towns and countryside; and contributes to the pollution of the water and air; and the State of Virginia is producing annually many tons of solid wastes (refuse) from the homes, institutions, commercial establishments, farms, and industries within the State; and at the present rate of growth of the State and the anticipated increase in individual production of refuse, the amount of solid wastes to be disposed of will greatly increase in the years to come; and

Whereas, littering of the highways with bottles, cans, and other waste materials creates both an aesthetic and a financial problem, and some means should be devised to bring home these facts to the traveling public; and

Whereas, the disposal of waste petroleum products without contamination of our streams and rivers is a further problem of increasing magnitude; and

Whereas, the disposal of wastes in most communities of the State at the present time is not being performed in a sanitary manner, most communities within the State coping with the problem on a day-to-day basis with no definite plans towards its long-range implications, many communities in the State being unwilling or financially unable to dispose of refuse in a sanitary manner, and in some there appearing to be a reluctance to assume responsibility in this matter, and unless vigorous early action is taken to dispose of wastes in an efficient, sanitary, and orderly manner, the enormity of the quantity of materials to be disposed of in the future will create serious health and aesthetic problems which will be not only intolerable, but perhaps insurmountable; now, therefore

Resolved by the House of Delegates, the Senate concurring, That the Virginia Advisory Legislative Council is directed to make a study and report on all phases of the refuse disposal problem in Virginia. The Council shall endeavor to ascertain the magnitude and acuteness of the problem, study methods presently being used, explore several avenues of approach toward solving the problem, indicate where responsibilities lie, study the need for legislation and possible financial assistance, and make such recommendations as it deems appropriate to the health, safety and welfare of the inhabitants of Virginia.

The Council shall conclude its study and make its report to the Governor and the General Assembly not later than October one, nineteen hundred sixty-nine. All agencies of the State shall assist the Council in its study when requested.

SENATE JOINT RESOLUTION NO. 2

Directing the Virginia Advisory Legislative Council to study the desirability of licensing water and sewage plant operators.

Whereas, the population of the Commonwealth is increasing at a rapid rate; and

Whereas, the need for better control of water supply and sewage treatment to protect the health and welfare of the citizens of the Commonwealth becomes more necessary; and

Whereas, in order to accomplish the desired objectives, it is essential that properly qualified personnel be in charge of operating water supply and sewage treatment plants throughout the Commonwealth; and

Whereas, a study should be made of these problems, with a view toward the licensing of personnel engaged in such work; now, therefore, be it

Resolved by the Senate of Virginia, the House of Delegates concurring, That the Virginia Advisory Legislative Council is directed to study the desirability of the licensing of personnel who operate water supply and sewage treatment plants. The Council shall give attention to, but not be limited by, the following:

1. Minimum level of education required prior to examination as a licensed operator.
2. Minimum experience, if any, required prior to examination as a licensed operator.
3. Type of licenses with reference to degree of knowledge, skill, experience, judgment and moral character for various size or type of plants.
4. What limitations, if any, should be placed on amount of experience prior to issuance of any license or advancement from one grade to another.
5. Determination of what government agency should police the issuance of licenses and what agency would check on competence and performance after licensing.
6. Determination of administrative procedures, scope of examinations and other items that must be determined for method of examining similar to examinations now being given for other licenses.

All appropriate agencies of the State shall assist the Council in its study, by request. The Council shall complete its study and make its report to the Governor and General Assembly not later than November one, nineteen hundred sixty-nine.

The Council, in organizing the studies it was directed to conduct, determined that these two resolutions related, generally, to the same subject, to-wit, the disposal of waste, sewage and trash, and as a result, the preliminary study could be undertaken by one committee. Honorable James M. Thomson, Alexandria, member of the House of Delegates and a member of the Council was selected Chairman of the Committee to make a preliminary study and report its findings and recommendations to the Council.

The following persons were chosen to serve with Mr. Thomson as members of this Committee: Honorable Willis M. Anderson, Roanoke, member of the House of Delegates; R. L. Argus, Yorktown; Jacob Brown, Richmond; B. Calvin Burns, Woodbridge; W. C. Chapman, Franklin; A. J. Chewning, III, Virginia

Beach; James J. Corbalis, Jr., Alexandria; Claiborne D. Gregory, Richmond; John H. Hackney, Jr., Richmond; Harry L. Hale, Fairfax; Colonel John W. Knapp, Lexington; E. C. Meredith, Richmond; L. Bert Nye, Jr., Washington, D. C.; A. H. Paessler, Richmond; Clinton E. Parker, Charlottesville; N. C. Sharp, Manassas; Marion A. Steele, Manassas; Honorable Stanley C. Walker, Norfolk, member, House of Delegates; and William R. Walker, Blacksburg.

At the organizational meeting of this Committee, it was decided to form three subcommittees each of which would concentrate on one of three areas of study and make recommendations to the full Committee. One of the subcommittees was headed by Mr. Thomson and studied the feasibility of licensing water and sewage plant operators. Another was headed by Stanley C. Walker and studied the disposal of solid wastes affecting water. The third was headed by Willis M. Anderson and was concerned with the disposal of wastes which did not affect water, or in more mundane language, littering. Each subcommittee thoroughly considered its assigned topic and reported its findings and recommendations to the full Committee. The office of the Secretary to the Virginia Advisory Legislative Council served as secretariat to the Committee, Frank R. Dunham representing it.

After the subcommittees had reported, the Committee held public hearings in Richmond and Norfolk, where all interested persons were given an opportunity to be heard. Further, portions of the proposed legislation were sent to interested persons and their written comments were requested and received. In addition, the Committee made on-site inspections of waste disposal facilities in the Norfolk and Alexandria areas.

After studying all facets of the waste-disposal problem in the State, the Committee made a written report to the Council.

RECOMMENDATIONS

The Council has thoroughly considered the Committee's report and makes the following recommendations:

1. A statute should be enacted to provide for mandatory examination and certification of operators of water and waste-water works.

2. Code section 32-9 should be amended to give the State Board of Health authority to regulate and prescribe methods of sewage disposal only. The present section has for several years been interpreted by the Board as giving it authority to regulate and control sewage disposal from installations ranging from privately owned single family residences to those either publicly or privately owned which are designed for less than four hundred persons and are exempted from the provisions of the State Water Control law. A new section 32-9.1 should be enacted giving the Board of Health authority to prescribe and regulate the method of garbage, refuse and other solid waste disposal used by each locality in the State and every locality shall be required to submit a plan of its presently used methods and the anticipated changes therein for the next twenty years, to the State Board by January 1, 1971.

3. Ancillary to the above recommendation, this study should be continued in order to analyze the plans submitted by the local government units and to devise feasible and efficient means of financing such programs through encouragement of regional programs, amendment of zoning laws to permit long-range site acquisition at low cost and the possibility of State assistance to the localities. A special commission of persons knowledgeable in the field should be appointed by the Governor for this purpose.

4. Code sections 62.1-194 and 33-279.1 should be amended to prescribe a lower and more enforceable fine and punishment for violating the prohibitions against throwing of garbage, trash and other solid wastes into the water and onto

the highways. The maximum fine is suggested to be \$100 and the maximum jail sentence thirty days.

Reasons for and Intended Effect of Recommendations:

I. *The Mandatory Examination and Certification of Water and Waste Water Works Operators.*

Certification of the competency of water and waste water works operators is not a new concept. In 1918, New Jersey enacted the first statute requiring mandatory examination and certification of waste water treatment plant operators. Since then, eighteen states have enacted similar statutes. Twenty-eight other states, including Virginia, have voluntary certification programs. In Virginia this voluntary program has been in operation for some ten years and has provided a pool of almost five hundred voluntary certificate holders, who are competent and experienced. However, this voluntary program has reached a plateau and needs to be expanded. An obvious disadvantage of voluntary certification is that legally it can be ignored. As a matter of fact, this is true in several areas of the State. When less than a highly competent person is operating a water or waste water works, water pollution can easily result and when this occurs it becomes the entire State's problem because many citizens may be injured. Because eventually, pollution reaches the larger compact areas, one urban area on a stream simply cannot and must not permit pollution of its water because of the incompetence of some other unit upstream.

A significant advantage of a certification program is that it affords great protection to the investment of public funds. Modern water and pollution control facilities represent a huge financial investment. To place the operation of such facilities in the hands of nonqualified personnel not only is bad business, but it gives the taxpayer less than the best that can be offered and to which he is entitled. Another obvious benefit is the protection afforded the State's water resources by competent operators and operations.

Qualified operators in waste water treatment plants reduce the necessity for strict surveillance of plants and new and improved methods of operation usually evolve. Such qualified operators not only do much to prevent accidental pollution but utilize existing facilities in the manner they were designed to be used, thus extending the time when facility expansion is needed.

Engineering societies and equipment manufacturing groups support mandatory certification because all too often they are blamed erroneously for failures in fact caused by poor operators.

The legislation proposed in this report generally does the following:

1. *The Board*—A seven man Board for the Certification of Operators of Water and Wastewater Works is created representative of persons most knowledgeable in the field to determine the necessary qualifications for operators, oversee their activities and generally administer the Act. Of the members, two are operators of the highest qualification of each type plant, two are plant owners and one, a college professor engaged in teaching the management of such plants. These are to be appointed by the Governor. The other two members are two State officials expert in the field, namely, the Director of Engineering of the Department of Health and the Executive Secretary of the State Water Control Board. Certainly, a Board with such qualifications will be able to function effectively to select qualified operators and see that their operations are of top-notch quality.

2. *Certificates*—Provision is made for the issuance of a certificate to every applicant who successfully passes an examination given by the Board. An examination shall be given once a year and more often should there be any need for it at

the Board's discretion. Based on the examination, the Board indicates on the certificate the classification of plants the operator is qualified to operate.

Also, there is a so-called "grandfather" clause in the proposed bill whereby restricted certificates are to be issued without examination to any person certified by an owner to be in responsible charge of a water or waste water works on the date the proposed legislation is effective. These certificates are restricted or limited in that they are valid only in an operation under the control of the person who certifies the name of the operator. Of course a person issued such a limited certificate may at any time pass the examination and receive a general certificate.

A reciprocity provision is included whereby the Board is authorized to issue certificates without examination to any person certified in any other state or foreign country if the requirements for certification are equal to and of a standard not lower than those adopted in this State.

Lastly, the Board is directed to issue certificates without examination to any operator possessing a certificate under the State's present voluntary program if application therefor is made within two years of the effective date of the proposed legislation.

3. *Emergency Operations*—In any emergency situation where a certified operator is not available for any of many reasons the Board is authorized to permit a water or waste water works to be operated for not more than six months without a certified operator. Should the emergency continue, the permit may be extended beyond the six-month period for thirty day intervals not to exceed ninety days. The determination of situations constituting such an emergency is left to the discretion of the Board.

4. *Fees and Renewals*—The fee for an examination is fifteen dollars and the annual renewal fee is left to the Board's discretion with a minimum of five dollars and a maximum of fifteen. These fees are modest in amount and are believed to be sufficient to finance the Board's operations. Lapsed certificates may be reinstated upon application for reinstatement and the payment of a ten dollar reinstatement fee. In such a case, the Board in its discretion may require the applicant for reinstatement to take another examination.

5. *Revocation of Certificates of Operators*. The Board may revoke after a hearing any license issued, upon satisfactory proof that the holder has practiced fraud and deception, has been guilty of negligent operations, is mentally or physically incompetent to perform his duties or has violated any rule or regulation of the Board. Of course, failure to pay the required renewal fee shall cause the certificate to be revoked or not reissued.

A further ground of revocation which is wisely inserted is that if a holder is not gainfully employed in fulfilling his duties as an operator for thirty-six months out of any consecutive sixty-month period, the Board shall revoke his certificate. This provision guarantees that all certified operators will be knowledgeable of all modern techniques and procedures.

6. *Classification of Plants*. The Board is directed to establish proper classifications for all plants in use and in so establishing these qualifications the Board must consider the population served by the plant, the characteristics of the water or waste water treated, the size, complexity, and other conditions affecting such plants, the condition of the source of supply or receiving stream and the experience required to operate and supervise any operation. Thus, the Board determines the skill necessary to operate a water or waste water plant.

7. *Appeals*. Appeal from any ruling denying or revoking any certificate by the Board is given to the Circuit Court of the City of Richmond.

In synopsis, the above highlights the principal provisions of the proposed legislation.

II. *Waste Disposal*

Man is contaminating his environment by causing pollution of the air, on the land and in the water. The State has taken steps to control the pollution of its water and air. It is time provision was made to control the disposal of solid wastes on its land.

There is a growing concern on a material level toward the ever-increasing problem of solid waste control. The Federal Government has enacted legislation to provide federal funds for studies, planning, and demonstration. A federal law is pending in Congress to provide construction grants.

All of the states are in the process of planning for solid waste management. At least twenty-five have enacted legislation or are in the process of proposing such laws.

Solid wastes include all material not liquid or gaseous which people do not need and, therefore, becomes waste. In our affluent society just about everything purchased becomes solid waste in a short period of time. On a national average, it is estimated that each person produces five pounds a day of domestic wastes. If bulky wastes, such as stoves, refrigerators, tree trimmings and stumps, building materials, and old automobiles are included, the figure becomes about fourteen pounds per person. There has been a continuing increase in the growth of refuse produced and this is expected to continue in the future.

Unquestionably the rapidly growing population of Virginia will produce an increasing quantity of refuse. Hence, it can be predicted that the amounts of refuse to be disposed of will greatly increase in the years ahead.

A recent survey made by the State Health Department revealed that only 22% of the communities in Virginia with a population of 5,000 or over were disposing of their refuse in a satisfactory manner, and less than 5% of the communities under 5,000 were doing a safe and sanitary job.

A. TYPES AND QUANTITIES OF WASTES:

1. *Domestic solid wastes*, or material produced by living, includes garbage, paper, cans, plastics, bottles, rags, and the like.

The character of these wastes has been changing. With the introduction of frozen foods and other prepared foods, the amount of garbage has been declining. Garbage grinders have also reduced the quantity. On the other hand, the use of paper, disposable bottles, cans, and plastics has greatly increased and thus the per capita amount of refuse has increased each year. Presently, it is estimated that 1,825 pounds of domestic refuse is produced by each person each year. It can be projected that this amount will increase to 2,000 lbs. by 1985, and to 3,000 lbs. by 2000. This must be considered in projecting future needs. The disposal of domestic wastes constitutes the major problem of waste disposal in Virginia.

2. *Bulky Wastes:*

In this category are old stoves, refrigerators, hot water heaters, washing machines, and other household appliances; also, stumps, logs, old lumber, and demolition debris. These materials are more difficult to dispose of in landfills or by incineration, but the disposal of these materials does not constitute the health nuisance characteristic of other wastes. Some of these wastes may have some salvage value, and some can be buried in a sanitary landfill.

3. *Old automobiles:*

The number of abandoned and junked automobiles is on the increase. This is primarily due to the decrease in the scrap metal price. Facilities for shredding and

processing old cars have been installed at Alexandria and Chesapeake. The price being offered for old cars is such as to discourage their being funneled into salvage, and it may be necessary for communities to subsidize the cost of collecting and delivering them to the salvage plants. Indications are that because they are salvageable, industry may be able to handle old cars in the future. The problem is in the cost of hauling.

4. *Industrial wastes:*

Large amounts of industrial wastes are produced through manufacturing and processing. Some of these wastes are highly inflammable or toxic and require special treatment for disposal. Most are not any more objectionable than domestic wastes and can be disposed of by conventional methods. Because disposing of the residue from a manufacturing process is an element of the manufacturing process itself, it should be the responsibility of the company producing the wastes to provide proper disposal.

5. *Agricultural wastes:*

At the present time, agricultural wastes are not a problem in Virginia. On the farm such wastes can be placed in the fields. In the case of operations where agricultural products are processed and wastes are accumulated, they should be treated as any other industrial waste.

6. *Litter:*

The litter problem is concerned primarily with the habits and practices of individual citizens. State and national anti-litter programs are coordinating massive public relations efforts, and it is considered that this method of approach cannot be improved. Litter must be disposed of and a State-wide refuse disposal program will provide this phase which is not included in the present anti-litter efforts.

B. *WHAT HAS BEEN DONE*

For a number of years the State Health Department has been concerned with the solid waste problem in Virginia. The Bureau of Solid Waste & Vector Control in the Division of Engineering is the State agency which has been working with the problem. Lacking any statutory enforcement authority, the Bureau has worked with local communities through promotion and persuasion in an effort to improve refuse disposal practices in Virginia. While the program has had some success, it cannot hope to cope with the problems ahead unless it is expanded and its jurisdiction better defined.

Under present law the State Board of Health may regulate the methods of disposition of garbage, sewage or other refuse. In August, 1965, the State Board of Health passed a resolution requesting each city, town, and county to file annually with the Virginia State Health Commissioner a report designating how they are handling the disposal of refuse and their plans for the next ten years. These reports were reviewed and filed, and have served to alert the communities to the need for improving their solid waste practices. Because the State Board of Health has no mandatory authority, not every county filed the report, partly because several counties have no general disposal system.

The State Health Department has adopted and given wide distribution to a set of standards for the disposal of refuse, in which it states "It is anticipated that these standards will be the basis for future regulations."

In 1967, the State received a planning grant from the U. S. Public Health Service. The work under this grant was divided into three phases. The first consisted of obtaining statistical data. This information demonstrated that refuse disposal is not being properly handled at the present time. The second phase con-

sisted of preparing twenty-year refuse disposal plans for each city, town, and county in the State. These plans were 60% completed by September 1, 1969 and will be 100% completed by June 30, 1970. An important fact is that 47 communities have taken steps to implement the recommendations made in the twenty-year plans. The final phase of the planning grant will be the preparation of an overall State plan. Unfortunately, this planning grant will terminate June 30, 1970. The State Health Department's budget for the biennium 1970-72 includes sufficient personnel to carry on a substantial program. Personnel now on the planning grant will be transferred to the State payroll. It is planned to divide the State into four districts with a solid waste consultant in each. An engineer will work directly with the larger cities and urban counties.

C. METHODS OF DISPOSAL AVAILABLE

At the present time there are only two methods of refuse disposal which are acceptable from a public health standpoint; namely, incineration and the sanitary landfill. Research may produce better and more acceptable methods in the future but, the problem exists today and must be handled with tools available today.

Incinerators cost large sums to construct. Current figures are in the neighborhood of \$10,000 to \$12,000 per ton per day capacity. Air pollution facilities may raise the figure higher. In addition, operational costs are high, running \$4.50 to \$5.00 per ton. Ash and unburnables must still be disposed of by some other method. It can be readily seen that incineration is an expensive method and is usually resorted to as a last resort.

For sometime to come, the sanitary landfill will be the most frequently recommended means of disposal. In simple terms this consists of placing refuse on the ground, compacting it, and covering it daily with six inches of earth. This method has the advantage of being the most economical, since initial costs are relatively low, and consist mainly of the purchase of machinery. Operating costs run from \$1.00 to \$2.00 per ton. However, its use is limited to areas where there is sufficient usable land within reasonable haul distance, where there is suitable and sufficient cover material, and where there is no danger of polluting the surface or underground water.

In most areas of Virginia, the sanitary landfill can be satisfactorily used. In the more densely populated areas, the better solution is incineration. Usually there is a great monetary advantage in several local governments jointly operating a single disposal site, and this should be encouraged.

The method in most common current use throughout the State is the open, burning dump. When disposal sites are not conveniently located for use by the public or none are provided, promiscuous dumps appear along highways and byways. Dumps, whether they be authorized or promiscuous, are unacceptable from a public health and aesthetic standpoint because they feed rats, breed flies and other vermin, smell bad, look bad, and contribute to the air pollution problem.

The Council was impressed with the magnitude of the solid waste problem and the prospects of it becoming much greater in the immediate years ahead. It is realized that the problem cannot be solved by a single massive effort. Rather, it is a continuing and increasing problem, and its solution necessarily must be accomplished over a period of years by aggressively attacking the problem at the local level.

The role of local government is to furnish service to its citizens which the citizens cannot readily furnish for themselves. Most certainly domestic refuse disposal fits properly into this category. Solid waste disposal is only one of local government's involvements and one, because of its negative factors, which is frequently resented and neglected. It is proper and imperative that local government provide suitable domestic refuse disposal and operate it in a safe and sanitary

manner. Some local jurisdictions have assumed this responsibility; others have not and there is no authority which makes this mandatory.

Because disposing of residue from a manufacturing process is part of the process, it should be the responsibility of private industry to provide proper disposal of such waste.

It should be the function of State government to provide leadership, direction, and assistance—to act as a catalyst—for progressive local action. The State should develop guidelines, approve plans, promulgate regulations, give technical assistance, conduct studies, coordinate with other agencies, evaluate new methods, and conduct a continuing program of education.

As a first step, the Council recommends that § 32-9 of the Code of Virginia be amended and the authority of the State Board of Health in this section be limited to sewage disposal. The authority to regulate sewage disposal contained in this section has been used by the State Health Department over the years to regulate and control the disposal of sewage from installations ranging from privately owned single family residences up to those either publicly or privately owned and designed for four hundred or less people which may be exempted from the provisions of the State Water Control Law. A new section 32-9.1 should be enacted giving the State Board of Health authority to regulate and prescribe the methods of garbage, trash and other solid waste disposal used by every county and city in the State. As a beginning, each such local government unit shall be required to furnish to this Board a plan for such disposal and anticipated changes projected over the ensuing twenty years. These plans must be submitted by January 1, 1971. Two or more counties or a city and one or more counties are permitted and are in fact encouraged to submit regional plans. Each county must also include the plans of all towns located therein who may have systems separate from the county's.

As this information is received, a complete picture can be obtained and a general overall State plan for garbage, sewage and other solid waste disposal can be drawn.

In the limited time available for this study, it was impossible to adequately study all phases of the solid waste problem and give complete recommendations to cover all situations. The recommendations included in this report are based on the portion of the problem for which immediate action is imperative. Therefore, it is recommended that this study be continued by a special commission to be appointed by the Governor to give further study to those aspects of the problem not included in this report.

This commission should be composed of experts in the field of waste disposal and such expertise should be found among college professors, engineers and other persons working in the field.

Fundamentally, it is considered essential to establish the responsibility of State and local government, and of private industry. Once this has been fixed, a program can be formulated. There are many aspects of the total solid waste problem that may require additional legislation as these problems are better defined and more complete technical knowledge becomes available.

Some of the problems to be studied further are plans and programs for regional disposal systems, their feasibility and cost; long-range site acquisition and changes in zoning laws to permit its availability and use over a long period of time; and the possibility of State assistance to the localities in setting up and operating solid waste disposable systems which are free from health contamination and are efficient and economical to operate.

III. LITTER

The distastefulness of litter is well expressed in one of the resolutions directing this study "littering of the highways with bottles, cans and other waste mate-

rials creates both an aesthetic and financial problem". (House Joint Resolution No. 156) Littering is costly. It is estimated Americans pay five hundred million dollars per year cleaning up or picking up litter. The State Department of Highways estimates it spends \$700,000 per year gathering up the litter strewn upon the highways of Virginia. The standard of living in America today is the highest ever known and new methods of producing food and articles for human consumption and use are constantly improving. Almost everything we use comes in a bottle, a can or a package. Indoors this creates no problem because tradition and training guides litter into a trash can or disposal. But, outdoors, working men, housewives and children become litterbugs and give little or no heed to the household slogan made so popular and so familiar by the news media "Every litter bit hurts." Instead of cleaning up the beautiful outdoors which we all love and admire, people seem to become anti-beauty and throw trash on the ground, in the water, out the window or over the side, caring nothing for natural beauty, the next guy and the tax money it takes to clean up *their* trash. Not only is litter an eyesore and expensive but is directly responsible for 44,000 fires each year and is a menace to health and safety. In regard to health and safety litter on the land creates breeding grounds for disease, carrying insects and rodents, and litter in the waterways endangers swimmers, fishermen, boats and is a threat to marine and plant life.

On a national level, Keep America Beautiful, Inc. was formed in 1953 as a non-profit, non-partisan public service organization to combat the litter problem. It is devoted to the preservation and improvement of America's scenic beauty—both rural and urban—and conducts a continuous program of public education to stimulate individual responsibility and pride in clean, safe, healthful and attractive surroundings.

In this State, Keep Virginia Beautiful, Inc. acts as an advisory board to the Governor and administers funds allocated by the General Assembly for films, litter bags and other civic improvement materials. In addition, it assists cities and counties in their efforts.

One such effort was that undertaken recently and instituted jointly with the Virginia Malt Beverage Association, Inc. and the U. S. Brewers Association. In 1968, Virginia was selected as a pilot state for an Industry Litter Prevention Month, in which some ten thousand litter posters and thousands of decals and litter bags were distributed. Workshops were held throughout the State and copies of the U. S. Brewers Association "Industry Litter Prevention Guide" were widely given and mailed out. In commenting on this program Governor Mills E. Godwin, Jr. wrote in part as follows:

"I want to commend and to endorse the special efforts being made during June by the industries and businesses associated with Keep Virginia Beautiful, Incorporated, to prevent litter from marring Virginia's streets and highways and her matchless countryside.

Virginia was one of the early states to launch an organized effort of this kind. This year she has been selected as a pilot state for special emphasis by industry and business. . . .

There is no richer heritage of material beauty than Virginia's and hardly a greater shame than its willful neglect by the discarding of litter. The stewardship of beauty falls on every citizen with respect to his own acts and those of others, and I am especially grateful to those who are contributing so generously of their time and resources in this civic endeavor."

/s/ MILLS E. GODWIN, JR.
Governor

This program accomplished a great deal. It is hoped that this program undertaken by civic organizations will continue. Anti-littering campaigns are spearheaded by civic pride. Citizens must be made to see the filth and dirt of litter and become determined to stop it. Education is of course necessary to bring home to every

citizen of the State his responsibility in stopping litter. Once each citizen becomes aware and aroused, an end to littering will be in sight. The programs of the kind mentioned are strongly recommended and are urged to be continued.

In surveying the role the State can play to deter littering, changes in Virginia's laws on littering are recommended.

In the final analysis, the effectiveness of any law is dependent upon how it is obeyed and a law is obeyed because of a combination of psychological and physical factors. The chief physical factor is enforcement. Knowledge that arrest and punishment will follow a violation induces many persons to obey it who would otherwise ignore it.

In studying Virginia laws on littering it has been found that the punishment prescribed is the same as for any other misdemeanor, namely as set forth in § 18.1-9 of the Code of Virginia "a fine not exceeding one thousand dollars or confinement in jail not exceeding twelve months, or both—." Because the maximum penalty for littering on the highways or waterways is so severe, it was thought advisable to lower the maximums to a fine of one hundred dollars, confinement in jail not to exceed thirty days, or both. Lessening the penalty, it is hoped will encourage more stringent enforcement of the State's laws on litter.

These amendments it is hoped will encourage law enforcement officers to enforce the State's anti-litter laws and make every citizen conscious and aware that littering is not only against the law, but against good health, good beauty and good husbandry.

IV. CONCLUSION

In concluding, it should be pointed out that waste disposal is becoming a bigger and more pressing problem. The ways and means of disposing of man's wastes become more complex as society becomes more civilized. Trash and sewage are comprised of articles man wants to get out of his sight. Today, the means to accomplish this are costly and involved. Every governmental unit and every individual citizen must cooperate to effect this. We trust this report gives some insight into the problems and offers some help towards the solution.

Proposed legislation to set forth the recommendations of the Council is attached to this Report.

ACKNOWLEDGMENTS

We express our appreciation to the members of the Committee for the great amount of time and effort which they gave to this study. We also express our appreciation to all who afforded the Committee the benefit of their knowledge and views both at public hearings and in conference.

Respectfully submitted,

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A BILL To amend the Code of Virginia by adding in Title 54 a new chapter numbered 16.1 containing sections numbered 54-573.1 thru 54-573.17, inclusive, and to amend § 54-864, as amended, of the Code of Virginia, the new and amended sections relating to the creation of a board for certification of operators of water and waste water works; definitions; membership of board; meetings of board; issuance of certificates; hearings; certificates without examination; interim operations; fees; operators' classifications for water and waste water works and individual treatment plants; minimum qualifications of operators; authority to adopt rules and regulations; penalties for violations; appeals; the amended section relating to powers and duties of the Director of the Department of Professional and Occupational Registration.

Be it enacted by the General Assembly of Virginia:

1. That the Code of Virginia be amended by adding in Title 54 a new chapter numbered 16.1, containing sections numbered 54-573.1 thru 54-573.17, inclusive, and to further amend the Code of Virginia by amending § 54-864, as amended, the new and amended sections as follows:

§ 54-573.1. It is the policy of the Commonwealth of Virginia and the purpose of this Chapter to protect the public health, welfare, and property; to conserve and protect the water resources of the State; and to require examination of operators and certification of their competency to supervise and to operate water and wastewater works.

§ 54-573.2. As used in this Chapter:

(1) "Board" means the Board for Certification of Operators of Water and Wastewater Works created by this Chapter.

(2) "Certificate" means a certificate of competency issued by the Board certifying that an operator has met the requirements for a specified operator classification.

(3) "Water works" means each system of structures and appliances used in connection with the collection, storage, purification, and treatment of water for drinking or domestic use and the distribution thereof to the public, except distribution piping. Systems serving less than four hundred persons shall not be considered to be a water works unless certified by the Board to be such.

(4) "Wastewater works" means each system of (a) sewerage systems or sewage treatment works, serving more than four hundred persons, as set forth in § 62.1-31 of the Code of Virginia, (b) sewerage systems or sewage treatment works serving less than four hundred persons, as set forth in § 62.1-31 of the Code of Virginia, if so certified by the Board, and (c) facilities for discharge to State waters, as set forth in §§ 62.1-28, 62.1-29 and 62.1-30 of the Code of Virginia, of industrial wastes or other wastes as set forth in §§ 62.1-15 (8) and 62.1-15 (9) of the Code of Virginia, if certified by the Board.

(5) "Operator" means any individual employed or appointed by any owner as defined in this section, and who is designated by such owner to be the person in responsible charge, such as a supervisor, a shift operator, or a substitute in charge, and whose duties include testing and evaluation to control water or wastewater works operations. Not included in this definition are superintendents or directors of public works, city engineers, or other municipal or industrial officials whose duties do not include the actual operation or direct supervision of water or wastewater works.

(6) "Owner" means the Commonwealth of Virginia, or any political subdivision thereof, any public or private institution, corporation, association, firm or company organized or existing under the laws of this State or of any other state or nation, or any person or group of persons acting individually or as a group, who own, manage, or maintain water or wastewater works.

(7) "Person" means any individual, group of individuals, a corporation, a partnership, a business trust, an association or other similar legal entity engaged in operating water works or wastewater works.

§ 54-573.3. There is hereby created the Board for the Certification of Water and Wastewater Works Operators which shall consist of seven members, five of whom shall be appointed by the Governor and one of whom shall be the Director of the Division of Engineering of the State Department of Health and one of whom shall be the Executive Secretary of the State Water Control Board. The members to be appointed by the Governor shall have the following qualifications on the date of appointment: one person employed as a water works operator having a valid certificate of the highest classification issued by the Board; one currently employed as a wastewater works operator having a valid certificate of highest classification issued by the Board; one a faculty member of a State university or college whose principal field of teaching is management or operation of water or wastewater works; one the owner of a water works; and one the owner of a wastewater works. In making the appointments no owner or water works operator shall be represented by more than one person. Initial appointments of the operator members shall be made from among persons having valid certificates of the highest classification under the presently existing voluntary certification program administered by the Certification Board for Water and Wastewater Works Operators, Inc.

Each member of the Board shall be appointed for a four-year term, except in the case of the initial appointments when the owner representatives shall be appointed for one and three years each, the operators for two and four years each, and the faculty member for four years.

Vacancies shall be filled by the Governor for unexpired terms.

No appointive member shall be eligible to serve for more than two successive four-year terms.

The Governor may remove any member of the Board for misconduct, incapacity, or neglect of duty, and he shall be the sole judge of the sufficiency of the cause for removal.

§ 54-573.4. (1) The Board shall annually elect a chairman from its membership and five members present shall constitute a quorum for the conduct of business.

(2) The Board shall meet at least once each year and shall hold at least one examination each year at a time and place to be designated by it for the purpose of examining qualified applicants for certification. Additional meetings may be called by the chairman or upon the written petition of a majority of the Board members for either the conduct of business or for giving examinations. Each member of the Board, except ex officio members, shall receive a per diem of twenty-five dollars per day for each day spent on business of the Board and shall be reimbursed for necessary travel expenses incident to the performance of their duties.

§ 54-573.5. (1) The Board shall issue a certificate attesting to the competency of every applicant who has complied with the requirements of this Chapter and the rules and regulations of the Board. Each certificate shall indicate the classification of plants which the operator is qualified to supervise or operate.

(2) Certificates shall be valid unless revoked by the Board or unless invalidated by failure to remit renewal fees.

(3) The Board may revoke the certificate of an operator following a hearing, when it finds (1) the operator has practiced fraud or deception; or (2) reasonable care, judgment, or the application of his knowledge or ability was not used in the

performance of his duties; or (3) the operator is incompetent or incapable, mentally or physically, to perform his duties; or (4) has violated any rule or regulation of the Board.

(4) Any certificate issued to any certified operator who has not been gainfully employed and fulfilling the duties of operator in a classified water or wastewater works for at least thirty-six months out of any immediately preceding sixty-month period, shall be revoked by the Board.

§ 54-573.6. The Board shall, before denying an application for a certificate or before suspending or revoking any certificate set the matter down for a hearing and at least ten days prior to the date set for the hearing, it shall notify in writing the applicant, or licensee, of any charges made, and shall afford the applicant or licensee an opportunity to be heard in person or by counsel in reference thereto. Such written notice may be served by delivery of same personally to the applicant or licensee, or by mailing same by registered mail to the last known business or home address of such applicant or licensee. The hearing shall be held within the county or city in which the respondent has his place of business or residence in Virginia at such place therein and at such time as the Board prescribes.

The Board shall have the power to subpoena and bring before it any person in this State or take testimony of any such person by deposition with the same fees and mileage in the same manner as prescribed by law in judicial procedure in courts of this State in civil cases. Any party to any hearing before the Board shall have the right to the attendance of witnesses in his behalf at such hearing, upon making request therefor to the Board and designating the person or persons sought to be subpoenaed.

If the Board shall determine that any applicant is not qualified to receive a license, a license shall not be granted to such applicant, and if the Board shall determine that any licensee is guilty of a violation of any of the provisions of this chapter, his or its license shall be suspended or revoked.

§ 54-573.7. The Board, on application therefor, may issue a certificate, without examination, in a comparable classification to any person who holds a certificate in any state, territory or possession of the United States or any foreign country, provided the requirements for certification of operators under which the person's certificate was issued are equal to those established by this chapter and are of a standard not lower than that specified by regulations adopted under this chapter.

§ 54-573.8. Certificates of appropriate classification shall be issued by the Board without examination to any operator, who, on the effective date of this chapter, holds a certificate of competency attained under the current voluntary certification program administered by the Certification Board for Water and Wastewater Works Operators, Inc. and who applies for such certification within two years after the effective date of this chapter.

§ 54-573.9. Certificates of appropriate classification may be issued without examination, to any person certified by the owner to have been in direct responsible charge of a water or wastewater works on the effective date of this chapter. A certificate so issued will be valid only for that water or wastewater works or a works of like classification under said owner's control, until the holder takes the examination prescribed by the Board.

§ 54-573.10. At any time after the effective date of this chapter, and upon application by the owner, the Board may permit interim operation of a water or wastewater works without a certified operator for a period not to exceed six months unless extended by the Board in any situation determined by it to be "an emergency" and should the emergency continue for more than six months, the Board may extend such permit for thirty day intervals not to exceed a total of ninety days.

§ 54-573.11. (1) A certificate issued under the provisions of this chapter shall not confer on the holder thereof any rights or privileges unless such certificate is current and the appropriate fee prescribed in this section has been paid to the Secretary of the Board. The fee to be paid by an applicant for an examination to determine his fitness to receive a certificate shall be fifteen dollars. Upon successful completion of the examination and after paying the fee prescribed, such applicant shall receive such certificate.

(2) Each certificate issued in accordance with the provisions of this chapter shall be renewed on or before January first of each year. The Secretary of the Board shall send to each current certificate holder on or before December first of each year a notice advising the certificate holder that unless he renews his certificate such certificate shall become invalid if not renewed on or before January first following. The fee for the renewal of such certificate shall be not less than five dollars nor more than fifteen dollars as fixed by resolution of the Board.

(3) Any certificate holder who permits his certificate to lapse in accordance with the provisions of this chapter, shall apply for reinstatement of such certificate on form prescribed by the Board and shall pay a fee of ten dollars.

(4) Original application fees submitted by applicants who do not meet the qualifications described by the Board to sit for the examination will be returned to the applicant.

(5) Should the certificate not be renewed as provided above, the Board, in its discretion, may require the certificate holder to successfully pass another competency examination.

(6) All funds collected by the Board as provided in this Chapter shall be paid into the State treasury and are hereby appropriated to the said Board for the purpose of administering, enforcing and effectuating the purposes of this Chapter. All payments out of this appropriation shall be made by the Treasurer of Virginia on warrants of the Comptroller issued on vouchers signed by the secretary of the Board.

§ 54-573.12. The Board shall establish operator classifications for all water and waste waterworks or individual treatment plants that are a part of such works, usually used or intended for use, and such classification shall take into consideration the population served, the characteristics of the water or wastewater treated, the size, type, complexity, or other conditions affecting such works, the condition of the source of supply or receiving stream, and the skill, knowledge, and experience that an operator must have to supervise and operate the works so as to achieve successfully the purposes of this Chapter.

§ 54-573.13. (1) Minimum qualifications of operators shall not be less than those in comparable classifications currently in force under the voluntary certification program administered by the Certification Board for Water and Wastewater Works Operators, Inc.

(2) Applicants shall be examined by the Board as to education, experience, and knowledge as related to the classification of works for which examined. Applicants may be required further to give evidence of good moral character, dependability, initiative, interest in his work, and other pertinent characteristics in relation to responsible operation of or supervision over operations.

§ 54-573.14. The Board shall adopt such rules and regulations as are reasonably necessary to carry out the purpose and intent of this Chapter. The rules and regulations shall include, but are not limited to, provisions establishing the basis for operator classifications and qualifications of applicants, directions for applying for certification, procedures for examination of candidates, payment of fees, and such other provisions as are necessary for the administration of this Chapter. The Board shall not specify the number of certified operators to be

required, nor at what times certified operators are to be present, at water or wastewater works.

§ 54-573.15. (1) On or after two years following the effective date of this Chapter, it shall be unlawful for any owner to operate a water or wastewater works unless the competency of the operator in the required classification is duly certified by the Board under the provisions of this Chapter. Furthermore, it shall be unlawful for any person to be employed as an operator, as defined herein, without being duly certified under the provisions of this Chapter.

(2) The owner shall apply for permission for interim operation, under the provisions of § 54-573.10, within fifteen days following an emergency that precludes full compliance with the provisions of this Chapter.

(3) The owner shall comply within one year from the date of notice of any change of classification under the provisions of this Chapter.

§ 54-573.16. Any owner or operator of a water or wastewater works violating any provisions of this Chapter, or the rules and regulations adopted thereunder, shall be guilty of a misdemeanor. Each day of operation in violation of this Chapter or any rule or regulation adopted thereunder shall constitute a separate offense.

In addition, any person violating or failing, neglecting, or refusing to obey any rule, regulation or order, or requirement of, or any provision of any certificate issued by the Board may be compelled to obey same and comply therewith by injunction, mandamus, or other appropriate legal remedy.

§ 54-573.17. Any person aggrieved by any action of the Board or any person whose certificate has been revoked shall have the right of appeal to the Circuit Court of the City of Richmond of the action complained of. Such appeal shall be taken within thirty days from the date of the order or rule of the Board appealed from.

§ 54-864. Administration; certain powers and duties of Director with respect to twelve boards.—It shall be the duty of the Director to perform the administrative duties of the following boards and agencies of the Commonwealth: (1) The State Board of Accountancy; (2) The State Board for the Examination and Certification of Architects, Professional Engineers and Land Surveyors; (3) The Virginia Board of Psychologists Examiners; (4) The State Board for the Certification of Librarians; (5) The Board of Examiners of Mines, created by chapter 150 of the Acts of the General Assembly of nineteen hundred and forty; (6) The Board of Commissioners to Examine Pilots; (7) The Virginia Real Estate Commission; (8) The Board of Veterinary Examiners; (9) The Board of Barber Examiners; (10) The Virginia State Board of Opticians; (11) The Virginia State Board of Registered Professional Hairdressers; ~~and~~ (12) The Virginia Board for Registration of Social Workers; *and* (13) *Board for Certification of Operators of Water and Wastewater Works.*

Each of the twenty ~~one~~ *two* boards designated in this section and § 54-865 is hereby transferred to the Department of Professional and Occupational Registration, and each shall be a separate board within said Department. All of the administrative functions of the twelve boards designated in this section shall be under the direction and supervision of the Director, and it shall be the duty of the members of each of the several boards designated in this section to cooperate with the Director to the end that his powers of direction and supervision of the administrative functions of each board shall not be impaired.

In the performance and discharge of his duties hereunder with respect to the twelve boards designated in this section only, the Director shall (1) be the secretary of each board; (2) maintain all records for each board; (3) collect and

account for all fees prescribed by law to be paid into each board and account for and deposit the moneys so collected in the manner prescribed by the several acts creating said boards; (4) make and file annually with the Governor a consolidated report with respect to each board; (5) employ such personnel and assistance as may be required for the operation of said boards; (6) enforce all regulations promulgated by said boards; and (7) exercise such other powers as may be necessary to function as the sole administrative officer and director of each of said boards.

2. This Act shall be effective January one, nineteen hundred and seventy-one.

A BILL To amend and reenact § 32-9, as amended, of the Code of Virginia and to further amend the Code of Virginia by adding a new section numbered 32-9.1, the amended and new sections relating, respectively, to the authority of the State Board of Health to regulate and prescribe the method or methods of sewage disposal and solid waste disposal, and requiring each county and city to submit certain plans.

Be it enacted by the General Assembly of Virginia:

1. That § 32-9, as amended, of the Code of Virginia be amended and reenacted, and that the Code of Virginia be amended further by adding thereto a section numbered 32-9.1, as follows:

§ 32-9. Sewage disposal.—The Board may regulate *and prescribe* the method or methods of disposition of ~~garbage or sewage and any other refuse matter or any combination thereof~~ in this State. The Board is authorized and directed through joint studies with authorized representatives of common carriers, to consider control devices and to investigate possible devices where none exist to control the discharge of human waste from common carriers.

§ 32-9.1. *Solid Waste Disposal.—The Board shall regulate and prescribe the method or methods of disposition of garbage, refuse and other solid wastes or any combination thereof in this State to be utilized by each county, city and town in the State. On or before January 1, 1971, each county and city of this State shall submit to the Board a plan in a form to be prescribed by the Board, setting forth its plan for garbage and all other solid wastes disposal, which plan shall include the cost, the proposed method of financing, the site or sites to be used and the overall changes in such plan anticipated for the ensuing twenty years. Each county's plan must include the facilities to be used by all towns located therein. Two or more counties or any county or counties and any city or cities may submit a regional plan in lieu of an individual plan.*

A BILL To amend and reenact § 33-279.1 of the Code of Virginia relating to dumping of trash and other debris on highways, rights of way and private property.

Be it enacted by the General Assembly of Virginia:

1. That § 33-279.1 of the Code of Virginia be amended and reenacted as follows:

§ 33-279.1. Dumping trash, etc., on highway, right of way or private property.—Any person * who shall dump or otherwise dispose of trash, garbage, unsightly matter or other solid wastes on a public highway, right of way, or on private property without the written consent of the owner thereof or his agent shall be guilty of a misdemeanor and upon conviction pay a maximum fine not to exceed one hundred dollars or be confined in jail not to exceed thirty days. Every law enforcement officer of this State and its subdivisions shall have authority to enforce the provisions of this section.

A BILL To amend and reenact § 62.1-194, as amended, of the Code of Virginia relating to casting garbage and other debris into the waters of the State.

Be it enacted by the General Assembly of Virginia:

1. That § 62.1-194, as amended, of the Code of Virginia be amended and reenacted as follows:

§ 62.1-194. Casting garbage, etc., into waters.—Except as otherwise permitted by law, it shall be unlawful for any person to cast, throw or dump any garbage, refuse, dead animal, trash, carton, bottle, container, box, lumber, timber or like material, or other ~~debris or noxious substance or matter~~ *solid waste* into any of the waters of this State. Every such act shall be a misdemeanor *punishable by a fine not to exceed one hundred dollars or be confined in jail not to exceed thirty days, or both.* Every law-enforcement officer of this State and its subdivisions shall have authority to enforce the provisions of this section.

A BILL To create a Commission to continue a study begun by the Virginia Advisory Legislative Council in 1968, concerning the disposal of solid wastes and to appropriate funds.

Be it enacted by the General Assembly of Virginia:

1. § 1. There is hereby created a commission to continue the study of disposal of solid wastes in this State begun by the Virginia Advisory Legislative Council in 1968. The commission shall be composed of nine members to be appointed by the Governor and generally shall be persons engaged either in teaching or working with solid waste disposal.

§ 2. The commission shall study all matters relating to the disposal of solid wastes and shall consider especially various systems of solid waste disposal which could be employed by several counties, cities or any combination thereof on a regional basis, including the cost and possible methods of financing such systems; and further, the zoning of areas of land as waste disposal sites which could be purchased at moderate costs and continued for waste disposal sites several years into the future.

§ 3. The commission shall conclude its study and report its recommendations to the Governor and the General Assembly not later than November one, nineteen hundred seventy-one.

2. The members of the commission shall be paid any necessary expenses incurred in the performance of their duties but shall receive no other compensation. There is hereby appropriated from the General Fund of the State treasury the sum of twenty-five hundred dollars, to carry out the provisions of this act.