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Caribbean Research Institute

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LOW-FLUSH TOILET RESEARCH COMPLETE

A technical report for completion of project No. A-004-VI, The Water Economy of a Low Flush Toilet in a Water Deficient Region, will soon be published by the V.I. Water Resources Research Center. The project was intended to measure a reduction in water usage at the Red Hook Dock public restroom facility after installation of low-flush toilets, monitor maintenance and operational problems, and evaluate the net effects that wide-scale use of low-flush equipment could have on the present level of demand for government water production and distribution.

The Red Hook restroom facility is operated by the Ports Authority and water for the restroom is supplied without cost by the Public Works Department. Five (5) conventional toilets at the restroom were replaced with Microphor LF-310 low-flush units in Feb. 1977 by the Water Center at a total cost of \$3580. The Microphor toilet is designed to operate on two (2) quarts of water per flush while conventional toilets use at least five (5) gallons per flush. All parts of the unit are corrosion resistant, a beneficial feature because of the high level of chlorides in the water. Stainless steel units were installed to minimize damage to that could be experienced due to vandalism.

The installation was initially tested on Feb. 24, 1977. From 7:30 a.m. until 3:15 p.m. there was a total of 60 flushes and 30 gallons of water was used. A conventional toilet would have required more than 300 gallons for identical use. Operation of the facility was then monitored for a period of seventeen (17) months, until June 27, 1978. Water delivery records were submitted for analysis by the Public Works Department for the period of Jan. 1, 1976 through June 1979.

The first year of operation of the low-flush toilets saved 36,500 gallons and reduced the true cost of water used (primarily desalted water) from \$757 to \$210. A calculation for the rate of amortization of the cost of the Red Hook installation based on the savings of water (assuming the true cost of water in the Virgin Islands to be \$15 per thousand gallons) resulted in a pay-back period of less than three (3) years.

The project report makes the following recommendations:

1. The Government of the Virgin Islands should pass legislation prohibiting the importation and sale of toilets which use more than 3.6 gallons of water per flush after January 1, 1980.
2. The Government of the Virgin Islands should immediately embark on an investment program to replace existing conventional toilet fixtures in public housing, public schools and

government offices with low-flush toilets.

3. The Government of the Virgin Islands should develop and implement a public relations campaign which would stress the cost effectiveness of conserving water for private individuals and commercial enterprises in the Territory, and should encourage the use of water saving devices such as low-flush toilets.

4. The Government of the Virgin Islands should study the cost effectiveness of offering tax incentives to private individuals and commercial enterprises for retrofitting existing plumbing fixtures with water saving equipment, especially low-flush toilets.

Copies of the report are available at the Water Center offices, 3rd Floor "CA" Bldg., CVI, or by calling 774-1252, Ext. 250.

CITIZEN'S HANDBOOK AVAILABLE

The Water Center is publishing a Citizen's Handbook on Virgin Islands Water Law. The Handbook is the result of the Water Center's conference on Virgin Islands Water Law which was held on St. Thomas in June 1978. Attorney Gwenellen Janov, formerly with the Department of Conservation and Cultural Affairs, was a contributor to the law conference and prepared the text for the Handbook under contract with the Water Center. Ms. Janov is now a staff attorney for the Federal Court of Appeals in New York City.

The document concentrates on the actual steps one must take in order to secure various permits. The Handbook includes sample forms of permit applications for licenses and permits.

Copies of the Handbook will be available in August in public libraries, from the Public Works Department offices (St. Croix, St. Thomas, and St. John), and at the Water Resources Research Center, Caribbean Research Institute, CVI/St. Thomas.

NEW EMPLOYEE

In June, Herbert (Herbie) E. Lockart III joined the Institute staff on a part-time basis as a research assistant with the Water Center.

Mr. Lockart holds a B.A. in Biology and Chemistry from Milton College (Milton, Wisconsin) and has completed courses in Economics and Business Law as a masters candidate at George Mason University (Virginia).