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## WATER-USE DATA SURVEY UNDERTAKEN

The Virgin Islands Planning Office is cooperating with the U.S. Geological Survey in the Development of a Water-Use Data System for the Virgin Islands. This Data System is expected to be in harmony with the National Water-Use Data System being developed on the U.S. Mainland and is expected to indicate for what purposes and how much water is being used, from what source the water is obtained and how much is consumed as a part of the total water withdrawn. Water-use is an important part of the hydrologic cycle and one which is needed for planning and management purposes. At present, there is very limited knowledge concerning water use in the Virgin Islands. This project will increase our knowledge in this area.

A questionnaire has been circulated to Government Agencies and others that may be concerned to determine if any water-use data is being collected, the type of data, their reliability, and their completeness. This questionnaire also provides agencies the opportunity to state their requirements for water-use data. This information then will be considered along with any requirements which the USGS may have for its National Water-Use Data System in determining the types of water-use data to be acquired.

Further information on this project may be obtained from Henry Smith at the V.I. Planning Office.

## ABOUT TOILETS

Toilet flushing consumes 45% of all water household-more than any other the home. The conventional

toilet consumes five to seven gallons of water per flush. In regions where there is a limited (and therefore expensive) water supply, it is reasonable to examine alternatives to conventional systems and equipment for sanitary waste removal as a method of reducing the level of water use.

Water has been used as a transport medium for disposing liquid and solid wastes simply because it was plentiful and cheap. Though the water flushing toilet remains the most economical method of disposing human waste in most areas of the United States, there are situations where this is not true. An impartial comprehensive economic analysis of the potable water situation in the Virgin Islands would undoubtedly demonstrate that it is simply wise and prudent to encourage major reductions in the use of potable water for toilet flushing--water in the Virgin Islands will always be scarce and expensive.

There are a number of ways to accomplish a reduction in the potable water use for sanitary flushing:

- . Non-potable water (gray water or salt water) should be required for toilet flushing.
- . Metering should be required for all public water hook-ups and sewer rates should be billed as a percentage increment of the monthly water bill.
- . Product labeling should be required in the Virgin Islands indicating the amount of water (as well as energy) consumed by every commercially available appliance or fixture.
- . Plumbing codes and building codes should be revised to allow and encourage installation of water conserving appliances and on-site recycling systems.

. Government purchasing specifications should immediately be revised to prohibit the purchase of water-wasting equipment and appliances.

. Public information and education campaigns should be organized to inform individuals about how to detect and repair leaks in toilet tanks and water lines, how various water-consuming appliances operate, how energy consumption are related, and describe the various types of water conservation equipment that are available and how to install them.

. Funding support should be created to encourage studies and demonstrate projects for on-site residential water recycling in order to develop construction and testing procedures for existing technology.

The Water Resources Research Center acts in the capacity of an information resource for the Virgin Islands and is available to both public agencies and private citizens. The Water Center has recently conducted an investigation into the use of low-flush toilets in the Virgin Islands and will publish those results in the near future. Six low-flush toilets (Microphor) were installed in the public rest rooms at Red Hook on St. Thomas and the unit operations have been monitored since February 1977. The project is Federally supported (Office of Water Research and Technology, U.S. Department of Interior) and is a cooperative program between the owner of the facility (V.I. Port Authority), the water supplier (V.I. Public Works Department), and the investigator (Water Center).

Only preliminary results are available. However, the water use figures demonstrate impressive savings by installation of the low-flush toilets. The water delivery records are as follows:

1976 1st Qtr.	Water delivered-	60 tons
	(15,000 gal.)	
2nd "	"	40 tons
3rd "	"	72 tons
4th "	"	30 tons
1977 1st "	"	40 tons*
2nd "	"	12 tons
3rd "	"	12 tons
4th "	"	16 tons
1978 1st "	"	12 tons
2nd "	"	28 tons
3rd "	"	8 tons

\* Installation of low-flush toilets at Red Hook

The toilets have effectively lowered water demands of the Red Hook facility and have operated reasonably well with a minimum of mechanical failures. Water saved has lowered the operating costs of the Red Hook facility. The project can be viewed as a successful undertaking.

The final results of the research are intended to assist the individuals and agencies who make program and policy decisions to understand the importance of reviewing existing water management policies in the Virgin Islands and demonstrate the effectiveness of introducing new solutions to the water problems. (Project A-004-VI, "The Water Economy of a Low Flush Toilet in a Water Deficient Region").

YOU CAN FIX A FAUCET LEAK. REPLACING A LEAKY FAUCET WASHER IS EASY:

1. Turn off water supply to faucet

2. Remove decorative cover and handle



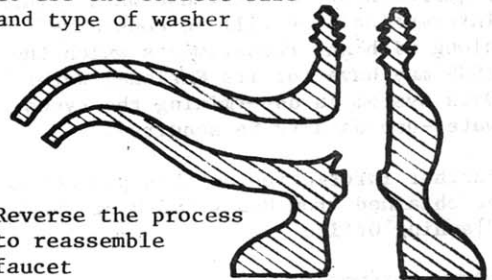
3. Remove collar or lock-nut



4. Take out stem



5. Replace washer. Be sure to use the correct size and type of washer



6. Reverse the process to reassemble faucet

7. Turn water supply back on

And remember--All faucets are not alike. You may need assistance.