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HOUSE OF REPRESENTATIVES
AS REVISED BY THE COMMITTEE ON
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION
ANALYSIS – LOCAL LEGISLATION

BILL #: HB 1125

RELATING TO: Monroe Co./Water Quality Standards

SPONSOR(S): Representative Sorensen

TIED BILL(S): None

ORIGINATING COMMITTEE(S)/COUNCIL(S)/COMMITTEE(S) OF REFERENCE:

(1) LOCAL GOVERNMENT & VETERANS AFFAIRS (SGC) YEAS 9 NAYS 0
(2) NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION YEAS 11 NAYS 0
(3)
(4)
(5)

I. SUMMARY:

This bill provides effluent water quality limitations for water disposal systems serving as backups to reuse systems in Monroe County and allows water treatment requirements to be based on the actual amount of effluent discharged to the backup system rather than the capacity of the treatment plant.

On April 5, 2001, the Committee on Local Government & Veterans Affairs considered HB 1125, adopted a strike-everything amendment, and unanimously passed the bill. The amendment, which is traveling with the bill, is explained in this bill analysis. (See section IV. "AMENDMENTS OR COMMITTEE SUBSTITUTE CHANGES:".)

On April 11, 2001, the Committee on Natural Resources & Environmental Protection adopted a substitute strike-everything amendment to HB 1125, and then passed the bill as amended. The substitute amendment, which is traveling with the bill, is explained in section IV., "AMENDMENTS OR COMMITTEE SUBSTITUTE CHANGES:", of this bill analysis.

SUBSTANTIVE ANALYSIS:

A. DOES THE BILL SUPPORT THE FOLLOWING PRINCIPLES:

1.	Less Government	Yes []	No []	N/A [X]
2.	Lower Taxes	Yes []	No []	N/A [X]
3.	Individual Freedom	Yes []	No []	N/A [X]
4.	Personal Responsibility	Yes []	No []	N/A [X]
5.	Family Empowerment	Yes []	No []	N/A [X]

For any principle that received a "no" above, please explain:

N/A

B. PRESENT SITUATION:

Section 6 of chapter 99-395, Laws of Florida, establishes specific treatment and disposal requirements for sewage treatment facilities and onsite sewage treatment and disposal systems in Monroe County. For sewage treatment facilities, the stringency of requirements is tied to the design capacity of the facility in several tiers. For facilities with capacities greater than or equal to 100,000 gallons per day, advanced levels of treatment are required. For facilities below that threshold, and for onsite systems, advanced secondary treatment levels are required. In both cases, the level of nutrient reduction required (nitrogen and, especially, phosphorus) is more stringent than that which is often required in other areas of the state.

The most common means of wastewater disposal in the Keys is injection through a well. Rules promulgated by the Department of Environmental Protection (DEP) generally require that disposal wells must be at least 90 feet deep, cased and grouted to at least 60 feet. For facilities with design capacities greater than or equal to 1 million gallons per day, the wells must be at least 2,000 feet deep, reflecting the greater concern over the potential for upward migration of effluent at this quantity.

An exception to the treatment requirements is made for certain systems that reuse wastewater rather than disposing of it. Such systems are required to comport with the DEP's reuse requirements, which may require less in the way of nutrient reduction in part because of nutrient uptake associated with land application or because the reclaimed water is being used for alternative purposes (e.g., industrial cooling water or decorative uses). However, backup systems to reuse systems, which typically would involve an injection well or wells, are required to meet the other treatment and disposal requirements of the law.

The Florida Keys National Marine Sanctuary Water Quality Steering Committee, a broad-based group of federal, state, and local officials as well as environmental groups and local citizens developed chapter 99-395, Laws of Florida, which was sponsored by Representative Sorensen.

Importance and Limitations of Reuse

According to the DEP, almost 80 percent of the over 15 million people in Florida live near the coast, and population growth continues to center on coastal areas. Near the coast, ground water supplies are limited, shallow, and vulnerable to overdraft, contamination, and saltwater intrusion. Reuse helps to conserve potable water supplies since reclaimed water is used in place of potable water for

certain purposes. In addition, many reuse activities can help recharge ground water supplies. State of Florida objectives "encouraging and promoting reuse," are contained in sections 373.250 and 403.064, Florida Statutes.

However, the demand for reclaimed water for irrigation purposes may be reduced due to wet weather conditions. During these times, facilities may need to dispose of unneeded reclaimed water. Provisions for limited wet weather discharges for reuse systems are contained in Rule 62-610.860, Florida Administrative Code. Under restricted conditions, the DEP can permit wet weather discharges with minimal water quality review.

Wastewater Treatment and Disposal

The degree to which wastewater must be treated varies, depending on local environmental conditions and governmental standards. Two pertinent types of standards are stream standards and effluent standards. Stream standards, designed to prevent the deterioration of existing water quality, set limits on the amounts of specific pollutants allowed in streams, rivers, and lakes. Effluent standards, on the other hand, pertain directly to the quality of the treated wastewater discharged from a sewage treatment plant. The factors controlled under these standards usually include biochemical oxygen demand, suspended solids, acidity, and coliform bacteria.

Biochemical Oxygen Demand

Biochemical oxygen demand (BOD) is the amount of oxygen used by microorganisms in the process of breaking down organic matter in water. The more organic matter there is (e.g., in sewage), the greater the number of microbes. The more microbes there are, the greater the need of oxygen to support them; consequently, less oxygen is available for higher animals such as fishes. The BOD is therefore a reliable gauge of the organic pollution of a body of water. One of the main reasons for treating sewage or wastewater prior to its return to a water resource is to lower its BOD--*i.e.* reduce its need of oxygen and thereby lessen its demand from the groundwater into which it is released. If the oxygen level drops to zero, the water will become septic. Decomposition of organic compounds without oxygen causes the undesirable odors usually associated with septic or putrid conditions.

Suspended Solids

Another important characteristic of wastewater is suspended solids. The volume of sludge produced in a treatment plant is directly related to the total suspended solids present in the sewage. Industrial and storm sewage may contain higher concentrations of suspended solids than domestic sewage. The extent, to which a treatment plant removes suspended solids, as well as BOD, determines the efficiency of the treatment process.

Coliform Bacteria

The most important microbiological measure of drinking-water quality is a group of bacteria called coliforms. Coliform bacteria normally are not pathogenic, but they are always present in the intestinal tract of humans and are excreted in very large numbers with human waste. Water contaminated with human waste always contains coliforms, and it is also likely to contain pathogens excreted by infected individuals in the community. Since it is easier to test for the presence of coliforms rather than for specific types of pathogens, coliforms are used as indicator organisms for measuring the biological quality of water. The coliform count thus reflects the chance of pathogens being present; the lower the coliform count, the less likely it is that pathogens are in the water. The coliforms are facultative anaerobic (not requiring oxygen) rod-shaped bacteria that produce acid and gas from the fermentation of lactose sugar.

Subsurface Disposal

It is not always economical to build sewage collection systems and a centrally located treatment plant. Instead, a separate subsurface disposal system is provided for each home. For subsurface disposal to succeed, the permeability, or hydraulic conductivity, of the soil must be within an acceptable range. The capacity of the soil to absorb settled wastewater is determined by a "percolation test."

A subsurface disposal system consists of a buried septic tank and either a leaching field or seepage pits. A septic tank serves as a settling tank and sludge storage chamber. Although the sludge decomposes anaerobically, it eventually accumulates and must be pumped out periodically. Floating solids and grease are trapped by a baffle at the tank outlet, and settled sewage flows out into the leaching field or seepage pits. A leaching field includes several perforated pipelines placed in shallow trenches. The pipes distribute the effluent over a sizable area as it seeps into the soil. If the site is too small for a conventional leaching field, deeper seepage pits may be used instead of shallow trenches. Both leaching fields and seepage pits must be placed above seasonally high groundwater levels.

C. EFFECT OF PROPOSED CHANGES:

This bill changes the effluent water quality standards for water disposal systems serving as backups to reuse systems in Monroe County to allow water treatment requirements to be based on the actual amount of effluent discharged to the backup system rather than the capacity of the treatment plant. Specifically, this bill requires discharges of 100,000 gallons per day or more to meet advanced treatment requirements while lesser discharges have to meet advanced secondary requirements. Because wastewater treatment facilities do not regularly discharge in amounts equal to their capacities – they are designed to be able to handle excess flows during peak periods – the change to a volume-discharged basis has the effect of lessening the treatment requirements associated with backup systems to reuse systems.

Currently, Key West Resort Utilities is the only utility with a significant amount of reuse in Monroe County. The opportunity for reuse in the Keys is relatively limited and, according to the DEP, the number of facilities likely to take advantage of the changes to the law proposed in this bill is probably small.

D. SECTION-BY-SECTION ANALYSIS:

Section 1: Amends subsection (8) of section 6 of chapter 99-395, Laws of Florida, to allow backup systems to reuse systems discharging 100,000 gallons per day or more to meet advanced treatment requirements while requiring lesser discharges to meet advanced secondary requirements.

Section 2: Provides an effective date of upon becoming a law.

II. NOTICE/REFERENDUM AND OTHER REQUIREMENTS:

A. NOTICE PUBLISHED? Yes [X] No []

IF YES, WHEN?

February 26, 2001

WHERE?

The Citizen, Key West, Monroe County, Florida

B. REFERENDUM(S) REQUIRED? Yes [] No [X]

IF YES, WHEN?

N/A

C. LOCAL BILL CERTIFICATION FILED? Yes, attached [] No [X]

D. ECONOMIC IMPACT STATEMENT FILED? Yes, attached [] No [X]

III. COMMENTS:

A. CONSTITUTIONAL ISSUES:

None.

B. RULE-MAKING AUTHORITY:

None.

C. OTHER COMMENTS:

Expansion Of Wastewater Reuse Systems In Monroe County

This bill, as amended, will allow wastewater reuse facilities in Monroe County to expand without making costly upgrades to their backup system. Private utilities and local governments with reuse backup systems would potentially be allowed to discharge limited volumes of wastewater at lower levels of treatment than required by current law. The ability to provide for lower levels of treatment typically reduces the cost to construct and operate a facility and would therefore allow the private utility or local government to save money, which presumably would reduce customer charges. The amount of savings is completely dependent on site-specific conditions and the size of the facility. However, cost savings to customers on Stock Island are projected to be between approximately $1,292,000 and $4,000,000, or $840 and $2,600 per household respectively.

The Department of Environmental Protection expressed concern that a system with both reuse and disposal components could take advantage of the bill as written to discharge more wastewater at lesser treatment levels during times when the backup reuse system is operating. While this likelihood seems small given the structure of the current treatment requirements associated with the design capacity of treatment facilities, language was added by the sponsor to resolve this concern entirely. The bill, as amended, requires consideration of any other flows being discharged to the backup system in addition to the backup flows from the reuse system when making the threshold determination for treatment requirements.

Interim Standards For Areas To Be Served By Central Sewage Facilities

Chapter 99-395, Laws of Florida requires each home's onsite sewage treatment and disposal system must cease discharge or comply with stringent effluent water quality standards provided by law and the rules of the Department of Environmental Protection or the Department of Health, as applicable, by 2010. The law and various administrative rules have operated to require that all new,

repaired, or expanded onsite sewage and disposal systems must comport with the 2010 effluent water quality standards. Homeowners are required to purchase expensive upgraded onsite sewage and disposal systems in order to build a new home or expand an existing home even when the home is scheduled to be connected to a central sewage facility before July 1, 2010. Once the home is connected to a central sewage facility, the existing onsite sewage and disposal system is rendered useless and the homeowner often incurs an additional expenses associated with removing the onsite sewage and disposal system and paying to connect to the central sewage facility line. The bill, as amended, provides interim construction standards in Monroe County for new, expanded, or existing onsite sewage and disposal systems for homes scheduled to be served by a central sewage facility before July 1, 2010. Cost savings to affected households are projected to be approximately $7,000.

IV. AMENDMENTS OR COMMITTEE SUBSTITUTE CHANGES:

On April 5, 2001, the Committee on Local Government & Veterans Affairs considered HB 1125, adopted a strike-everything amendment, and unanimously passed the bill. The amendment, which is traveling with the bill, provides as follows:

- The amendment clarifies that the level of treatment required to be provided by a wastewater disposal system serving as a backup to a reuse system must be based upon the annual average daily flows of all discharge of effluent to the backup system and to injection wells.

- The amendment provides that wastewater disposal systems serving as backup to reuse systems must comply with the Department of Environmental Protection's reuse rules.

- The amendment provides that the bill establishes effluent water quality "limitations" rather than effluent water quality "standards."

- The amendment provides interim construction standards for new, expanded, or existing onsite sewage and disposal systems scheduled to be served by a central sewage facility before July 1, 2010.

On April 11, 2001, the Committee on Natural Resources & Environmental Protection adopted a substitute strike-everything amendment to HB 1125, and then passed the bill as amended. The substitute amendment differs from the original strike everything, as follows:

- One level of treatment is required for wastewater disposal systems serving as a backup to a reuse system that discharge no more than 25 days per year and less than 100,000 gallons per day based on the 25-day average flow to the backup system and to injection wells, and additional treatment is required for systems discharging more than 25 days per year or more than 100,000 gallons per day based upon the average daily flows of all discharge of effluent to the backup system and to injection wells.

- Interim construction standards for new, expanded, or existing onsite sewage and disposal systems would be allowed through July 1, 2004 in areas that are scheduled to be served by a central sewage facility before July 1, 2010; after July 1, 2004, additional standards would be required to be met; and on July 1, 2010, all such systems would be required to provide the level of treatment required in paragraph (c), Section 6, Ch. 99-395, Laws of Florida.

V. SIGNATURES:

COMMITTEE ON LOCAL GOVERNMENT & VETERANS AFFAIRS:

Prepared by:	Staff Director:
Christopher J. Shipley	Joan Highsmith-Smith

AS REVISED BY THE COMMITTEE ON NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION:

Prepared by:	Staff Director:
W. Ray Scott	Wayne Kiger