The Florida Senate

BILL ANALYSIS AND FISCAL IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: The Professional Staff of the Committee on Fiscal Policy

BILL:	SB 796
INTRODUCER:	Senator Bradley
SUBJECT:	General Permits for Distributed Wastewater Treatment Systems
DATE:	April 7, 2025
REVISED:	

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Barriero	Rogers	EN	**Favorable**
2.	Reagan	Betta	AEG	**Favorable**
3.	Barriero	Siples	FP	**Pre-meeting**

I. Summary:

SB 796 grants a general permit for the replacement of existing onsite sewage treatment and disposal systems with distributed wastewater treatment systems (DWTSs), provided that the permittee conducts monthly reporting, annual inspections, recordkeeping, and biosolids management in accordance with applicable rules. The installation of a distributed wastewater treatment unit (DWTU) may proceed without further action by the Department of Environmental Protection (DEP) if the permittee notifies the DEP at least 30 days before the installation. The notification must certify that a Florida registered professional designed the DWTU in compliance with applicable rules and that the proposed DWTU meets specific design and operational requirements. To be eligible for the general permit, the DWTU and the DWTS must be commonly owned and operated by the permittee.

The bill has no fiscal impact on state revenues or expenditures.

The bill takes effect July 1, 2025.

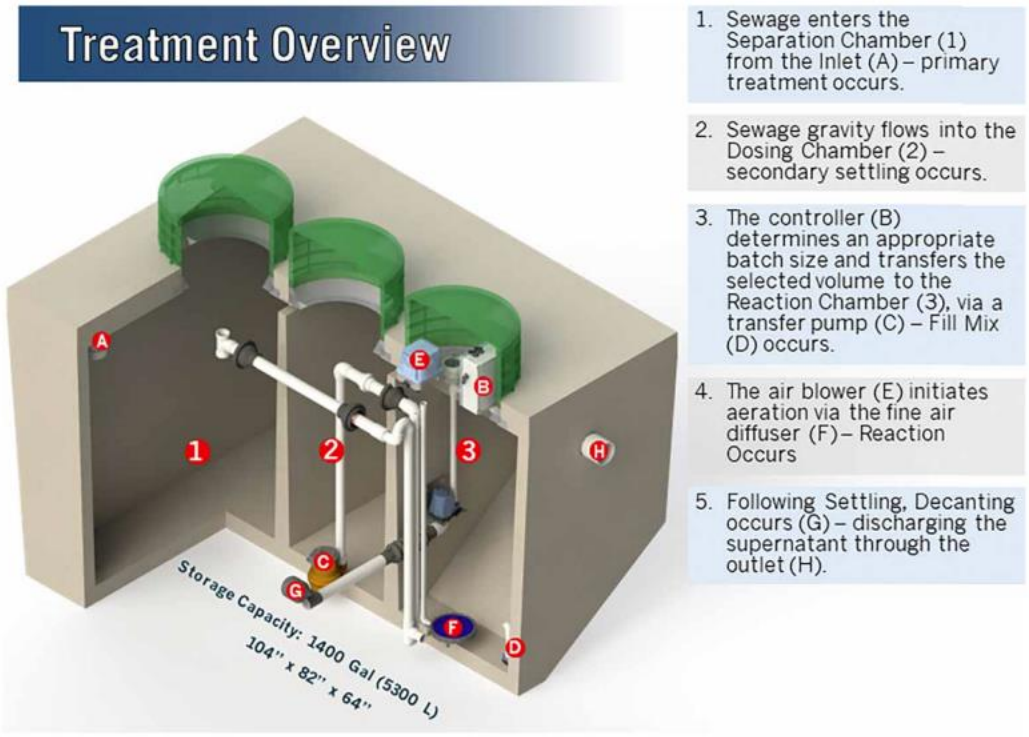
II. Present Situation:

Distributed Wastewater Treatment Systems

Distributed wastewater treatment systems consist of separate distributed wastewater treatment units (DWTUs) that are in different geographical locations but are linked to a central system either physically or by management.[1] The design of DWTUs varies based on manufacturer and setting (residential, commercial, or industrial).

[1] *See* EPA, Water Environment Foundation, and The Water Research Foundation, *Distributed Systems Overview*, 1 (2019), *available at* https://www.wef.org/globalassets/assets-wef/2-resources/topics/a-n/distributed-systems/technical-resources/wsec-2019-fs-012-wef_wrf_distributed_sytems_overview.pdf. (last visited March 22, 2025).

For residential use, one type of DWTU consists of three separate chambers.[2] The first chamber is used for primary sedimentation (settling) and digestion of biosolids. The wastewater flows via gravity from the first chamber into a flow equalization and dosing chamber. An onboard computer continuously monitors the liquid level in the dosing chamber and determines an appropriate treatment batch volume based on incoming flows (calculated based on the rate of change in liquid level). The computer then pumps a batch of wastewater from the dosing chamber into a reaction chamber, where biological treatment is provided in a sequential, computer-controlled aeration, mixing, and clarification process.[3]



Example of a residential DWTU[4]

After each batch is completed, the onboard computer selects a variable fraction of the treated batch for additional treatment via internal recycling.[5] This fraction of fully treated effluent is pumped back to the first (settling) chamber, diluting the incoming wastewater and receiving additional treatment. The remaining fraction of each treated batch of effluent is discharged to the drainfield. Finally, the DWTU utilizes a return activated sludge process to optimize sludge volume in the reaction chamber and minimize accumulation of biosolids in the settling chamber. Activated sludge is periodically returned to the settling chamber where biosolids are broken down via anaerobic digestion. The biosolids residuals must be removed from the DWTU

[2] Brian E. Lapointe et al., *Distributed wastewater treatment offers an environmentally preferable alternative to conventional septic systems in Central Florida*, Water Science & Technology, vol. 86, 433 (2022), *available at* https://iwaponline.com/wst/article/86/3/432/89867/Distributed-wastewater-treatment-offers-an. (last visited March 22, 2025).
[3] *Id.*
[4] *Id.* at 434 (showing the graphic of the DWTU).
[5] *Id.*

periodically (approximately every 7-10 years) by a licensed contractor for treatment and disposal.[6]

DWTU treatment processes are performed by an onboard computer and remotely monitored.[7] The remote monitoring system communicates with each DWTU over a wireless data network to:

- Record wastewater treatment volume and flow, component run time and power consumption, and equipment deficiencies;
- Perform diagnostics; and
- Enable remote supervisory control by a licensed wastewater operator.[8]

DWTUs are currently permitted and regulated as domestic wastewater treatment facilities under ch. 403, F.S., and chs. 62-600 and 62-620, Florida Administrative Code.[9]

Domestic Wastewater Treatment Facilities

The majority of the state's wastewater is controlled and treated by centralized treatment facilities regulated by the Department of Environmental Protection (DEP).[10] Florida has approximately 2,000 permitted domestic wastewater treatment facilities.[11]

Wastewater treatment facilities are required to provide secondary treatment prior to reuse or disposal.[12] Such treatment requires that carbonaceous biochemical oxygen demand (CBOD5) and total suspended solids not exceed specific levels based on the method of disposal (i.e., surface water disposal, reuse, land application, or groundwater discharge).[13] For example, for land application or groundwater discharge, the annual average of CBOD5 and total suspended solids (TSS) may not exceed 20.0 milligrams per liter (mg/L), and the maximum-permissible concentration in any single sample may not exceed 60.0 mg/L.[14]

Advanced waste treatment (AWT) is required before discharging into certain impaired waterbodies.[15] The DEP may also order AWT if deemed necessary.[16] AWT provides a reclaimed water product containing no more than the following concentrations of pollutants:

- 5 mg/L of Biochemical Oxygen Demand;
- 5 mg/L of Suspended Solids;
- 3 mg/L of total nitrogen; and

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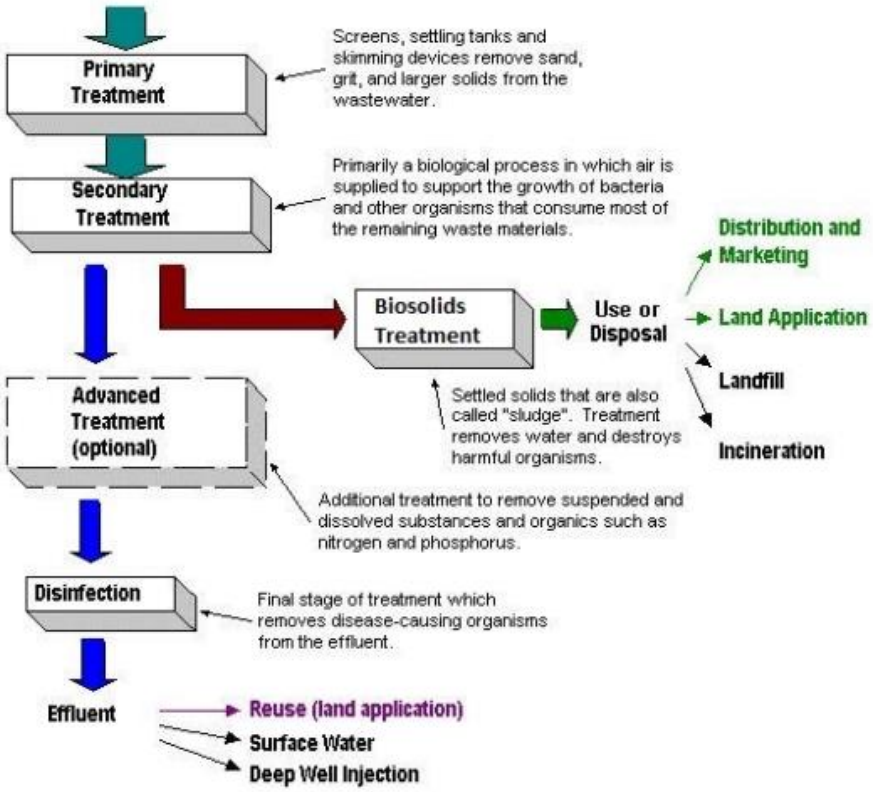
[6] *Id.* at 433-435.
[7] *Id.* at 434.
[8] *Id.* at 434-435.
[9] *See* Email from the Department of Environmental Protection (DEP) to Senate Committee on Environment and Natural Resources on Oct. 4, 2024 (on file with the Senate Committee on Environment and Natural Resources).
[10] DEP, *Domestic Wastewater Program*, https://floridadep.gov/water/domestic-wastewater (last visited Mar. 22, 2025).
[11] DEP, *General Facts and Statistics about Wastewater in Florida*, https://floridadep.gov/water/domestic-wastewater/content/general-facts-and-statistics-about-wastewater-florida (last visited Mar. 22, 2025).
[12] Sections 403.086(1)(a) and (2), F.S.; Fla. Admin. Code R. 62-600.420.
[13] CBOD5 is the quantity of oxygen utilized in the carbonaceous biochemical oxidation of organic matter present in water or wastewater, reported as a five-day value determined using approved methods. Fla. Admin. Code R. 62-600.200(8).
[14] Fla. Admin. Code R. 62-600.420(3).
[15] Section 403.086(1)(c), F.S.
[16] Section 403.086(1)(a), F.S.

- 1 mg/L of total phosphorous.[17]



Facilities may be required to provide additional treatment to satisfy water quality standards for receiving surface and ground waters.[18] Systems within Monroe County are subject to different treatment requirements.[19]

Wastewater treatment facilities must monitor the flow, the influent for CBOD5 and TSS, and the effluent for all effluent parameters as required by the permit.[20] The minimum schedule for sampling is based on the facility's permitted capacity. For example, for facilities with a permitted capacity of 2,000-24,999 gallons per day, sampling must be conducted according to the following parameters:[21]

- Daily[22] testing for flow, pH, and chlorine residual;[23]
- Weekly testing for e. coli or enterococci; and
- Monthly testing for TSS, CBOD5, nutrients, chlorine residual, and fecal coliform.

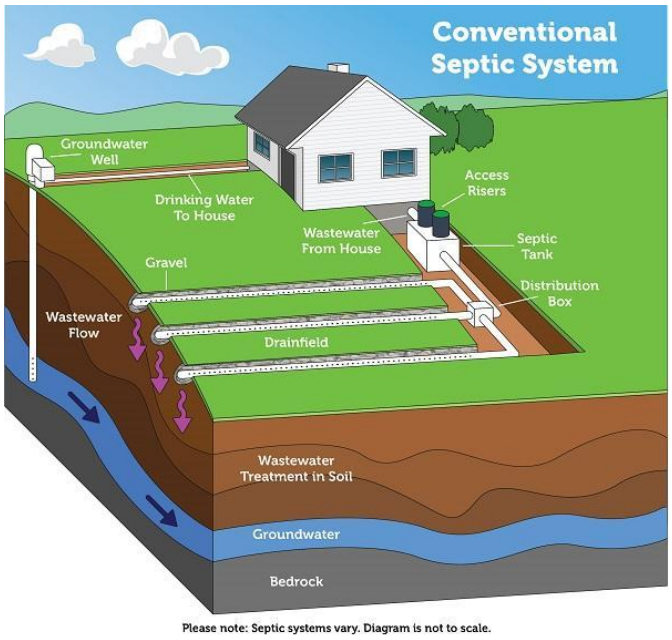
[17] Section 403.086(4)(a), F.S.
[18] Fla. Admin. Code R. 62-600.430. DEP, *Domestic Wastewater Treatment Process*, *available at* https://floridadep.gov/water/domestic-wastewater/documents/domestic-wastewater-treatment-process (showing flowchart of wastewater treatment process). (last visited Mar. 20, 2025).
[19] Section 403.086(11), F.S.
[20] Fla. Admin. Code R. 62-600.660(1).
[21] *Id.* at Figure 1.
[22] The "daily" frequency is either 2, 3, or 5 days per week consistent with the required operator attendance specified in paragraph 62-699.310(2)(a), F.A.C. *Id.* at n. 8.
[23] Total chlorine residual measured for disinfection effectiveness. *Id.* at n. 2.

Wastewater treatment facilities which are designed so that some or all the effluent may enter groundwaters must also conduct groundwater monitoring.[24]

Permits other than general and generic permits require the permittee to allow the DEP and the U.S. Environmental Protection (EPA) to sample or monitor any substances or parameters at any location necessary to assure compliance.[25] Such permittees must also allow the DEP and the EPA to inspect the facilities, equipment, practices, or operations regulated under the permit.[26]

Onsite Sewage Treatment and Disposal Systems (OSTDSs)

OSTDSs, commonly referred to as "septic systems," generally consist of two basic parts: the septic tank and the drainfield.[27] Waste from toilets, sinks, washing machines, and showers flows through a pipe into the septic tank, where anaerobic bacteria break the solids into a liquid form. The liquid portion of the wastewater flows into the drainfield, which is generally a series of perforated pipes or panels surrounded by lightweight materials such as gravel or Styrofoam. The drainfield provides a secondary treatment where aerobic bacteria continue deactivating the germs. The drainfield also provides filtration of the wastewater, as gravity draws the water down through the soil layers.[28] In Florida, the bottom of the drainfield must be at least 24 inches above the water table during the wettest season of the year.[29]



Please note: Septic systems vary. Diagram is not to scale.

There are an estimated 2.6 million OSTDSs in Florida, providing wastewater disposal for 30 percent of the state's population.[30] Development in some areas is dependent on OSTDSs due to

[24] Fla. Admin. Code R. 62-600.670(1).
[25] Fla. Admin. Code R. 62-620.610(9)(d).
[26] Fla. Admin. Code R. 62-620.610(9)(c).
[27] Florida Dep't of Health (DOH), *Septic System Information and Care*, http://columbia.floridahealth.gov/programs-and-services/environmental-health/onsite-sewage-disposal/septic-information-and-care.html (last visited Mar. 12, 2025); EPA, *Types of Septic Systems*, https://www.epa.gov/septic/types-septic-systems (last visited Mar. 12, 2025) (showing the graphic provided in the analysis).
[28] *Id.*
[29] Fla. Admin. Code R. 62-6.006(2). For system repairs and alterations to add sewage flow, where the existing elevation of the bottom surface of the drainfield is less than 24 inches above the wet season high water table, the bottom of the drainfield must be maintained at the existing separation or a minimum of 12 inches above the wet season high water table, whichever is greater. Where the bottom of the drainfield is less than 12 inches above the wet season high water table, the drainfield must be brought into full compliance with all new system standards. Fla. Admin. Code R. and 62-6.001(4)(e)2. and 3. *See also* Fla. Admin. Code R. 62-6.015(6)(a).
[30] DEP, *Onsite Sewage Program*, https://floridadep.gov/water/onsite-sewage#:~:text=Onsite%20sewage%20treatment%20and%20disposal%20systems%20%28OSTDS%29%2C%20commonly,represents%2012%25%20of%20the%20United%20States%E2%80%99%20septic%20systems (last visited Mar 22, 2025).

the cost and time it takes to install central sewer systems.[31] For example, in rural areas and low-density developments, central sewer systems are not cost-effective.[32]

Conventional OSTDSs do not reduce nitrogen from raw sewage. In Florida, approximately 30-40 percent of the nitrogen levels are reduced in the drainfield of a system that is installed 24 inches or more from groundwater.[33] This still leaves a significant amount of nitrogen to percolate into the groundwater, which makes nitrogen from OSTDSs a potential contaminant in groundwater.[34]

Different types of advanced OSTDSs can remove greater amounts of nitrogen than a typical septic system (often referred to as "advanced" or "nutrient-reducing" septic systems),[35] and may be required in certain areas. For example, enhanced nutrient-reducing OSTDSs[36] are required for new systems within the Indian River Lagoon[37] and on lots of one acre or less within a basin management action plan, reasonable assurance plan, or pollution reduction plan where a sewerage system is not available.[38] There are also special treatment requirements for the Florida Keys.[39] In addition, performance-based treatment systems[40] must meet specific treatment standards.[41]

The DEP must inspect OSTDSs before placing a system into service[42] and approve the final OSTDS installation before a building or structure may be occupied.[43] If certain alterations[44] are

[31] DOH, *Report on Range of Costs to Implement a Mandatory Statewide 5-Year Septic Tank Inspection Program*, Executive Summary (2008), *available at* http://www.floridahealth.gov/environmental-health/onsite-sewage/_documents/costs-implement-mandatory-statewide-inspection.pdf. (last visited Mar. 20, 2025).
[32] *Id*.
[33] DOH, *Florida Onsite Sewage Nitrogen Reduction Strategies Study*, *Final Report 2008-2015*, 21 (Dec. 2015), *available at* http://www.floridahealth.gov/environmental-health/onsite-sewage/research/draftlegreportsm.pdf; *See* Fla. Admin. Code R. 64E-6.006(2).
[34] University of Florida Institute of Food and Agricultural Sciences, *Onsite Sewage Treatment and Disposal Systems: Nitrogen*, 3 (2020), *available at* http://edis.ifas.ufl.edu/pdffiles/SS/SS55000.pdf. (last visited Mar. 20, 2025).
[35] DOH, *Nitrogen-Reducing Systems for Areas Affected by the Florida Springs and Aquifer Protection Act* (updated May 2021), *available at* http://www.floridahealth.gov/environmental-health/onsite-sewage/products/_documents/bmap-n-reducing-tech-18-10-29.pdf.
[36] "Enhanced nutrient-reducing OSTDS" means an OSTDS approved by DEP as capable of meeting or exceeding a 50 percent total nitrogen reduction before disposal of wastewater in the drainfield, or at least 65 percent total nitrogen reduction combined from onsite sewage tank or tanks and drainfield. Section 373.469(2)(b), F.S.
[37] *See* section 373.469(3)(d), F.S.
[38] Sections 373.811(2) and 403.067(7)(a)10., F.S.
[39] Section 381.0065(4)(l), F.S.
[40] "Performance-based treatment system" means a specialized OSTDS designed by a professional engineer with a background in wastewater engineering, licensed in the state of Florida, using appropriate application of sound engineering principles to achieve specified levels of CBOD5 (carbonaceous biochemical oxygen demand after five days), TSS (total suspended solids), TN (total nitrogen), TP (total phosphorus), or fecal coliform found in domestic or commercial sewage waste, to a specific and measurable established performance standard. Fla. Admin. Code R. 62-6.025(7). If a site restricts home construction because of setbacks or authorized sewage flow, a system can be designed by an engineer to meet strict levels of effluent pollutant reductions. The three levels of performance-based treatment systems are secondary treatment, advanced secondary treatment, and advanced wastewater treatment.
[41] *See* Fla. Admin. Code R. 62-6.025(11).
[42] Fla. Admin. Code R. 62-6.003(2).
[43] Section 381.0065(4), F.S.
[44] This includes alterations that change the conditions under which the system was permitted, sewage characteristics, or increase sewage flow. The DEP approval is required prior to such alterations. Fla. Admin. Code R. 62-6.001(4), F.S.

made, system tanks must be pumped and visually inspected.[45] If an existing system was approved within the preceding five years, a new inspection is not required unless there is a record of failure of the system.[46] System repairs must be inspected by the DEP or a master septic tank contractor.[47]

Buildings or establishments that use an aerobic treatment unit or generate commercial waste must be inspected by the DEP at least annually.[48]

Biosolids

When domestic wastewater is treated, a solid, semisolid, or liquid byproduct known as biosolids[49] accumulates in the wastewater treatment plant and must be removed periodically to keep the plant operating properly.[50] The collected residue is high in organic content and contains moderate amounts of nutrients.[51] Properly treated biosolids may be used as a fertilizer supplement or soil amendment, subject to regulatory requirements that have been established to protect public health and the environment.[52]

According to the DEP's estimates in 2019, wastewater treatment facilities produce about 340,000 dry tons of biosolids each year.[53] Biosolids can be disposed of in several ways: transfer to another facility, placement in a landfill, distribution and marketing as fertilizer, incineration, bioenergy, and land application to pasture or agricultural lands.[54] In 2019, about two-thirds of the total amount of biosolids produced was beneficially used and one-third was landfilled.[55]

General Permits

A general permit is a permit issued by rule of the DEP under s. 403.814, F.S., which authorizes a person to undertake certain activities, which when performed in accordance with the specific requirements and practices set forth in the general permit have a minimal adverse environmental

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[45] Fla. Admin. Code R. 62-6.001(4)(b).
[46] Fla. Admin. Code R. 62-6.001(4)(c).
[47] Fla. Admin. Code R. 62-6.003(3).
[48] Section 381.0065(4), F.S.
[49] Biosolids are the solid, semisolid, or liquid residue generated during the treatment of domestic wastewater in a domestic wastewater treatment facility and include products and treated material from biosolids treatment facilities and septage management facilities. The term does not include the treated effluent or reclaimed water from a domestic wastewater treatment facility, solids removed from pump stations and lift stations, screenings and grit removed from the preliminary treatment components of domestic wastewater treatment facilities, or ash generated during the incineration of biosolids. Section 373.4595, F.S.
[50] DEP, *Domestic Wastewater Biosolids*, https://floridadep.gov/water/domestic-wastewater/content/domestic-wastewater-biosolids (last visited Mar. 12, 2025).
[51] DEP, *Domestic Wastewater Biosolids*.
[52] *Id*.
[53] DEP, *Biosolids in Florida*, 5 (2019), *available at* https://www.florida-stormwater.org/assets/MemberServices/Conference/AC19/02%20-%20Frick%20Tom.pdf#:~:text=Biosolids%20and%20Management%20in%20Florida%20Estimated%20Total%20Production,two-thirds%20are%20beneficially%20used%20and%20onethird%20is%20landfilled. (last visited Mar. 20, 2025).
[54] *Id*. at 4.
[55] *Id*. at 5.

effect. A person may proceed under a general permit 30 days after notifying the DEP, without any further action by the DEP.[56]

III. Effect of Proposed Changes:

Section 1 amend s. 403.814, F.S., regarding general permits. The bill grants a general permit for the replacement of an existing onsite sewage treatment and disposal system with a distributed wastewater treatment system (DWTS)[57] if the distributed wastewater treatment unit (DWTU)[58] and DWTS are commonly owned and operated by the permittee. The installation of each DWTU may proceed without further action by the Department of Environmental Protection (DEP) if the permittee submits a notification to the DEP at least 30 days before installation. Such notification must certify that a Florida registered professional designed the DWTU in accordance with applicable rules and that the proposed DWTU meets all the following requirements:

- The design capacity of the DWTU does not exceed 10,000 gallons per day of domestic wastewater or 5,000 gallons per day of commercial wastewater.
- The DWTU may discharge without disinfection into a slow-rate subsurface application system designed and operated to protect public health and safety and maintain the current separation, and in no case has less than 12 inches of separation, between the bottom surface of the drainfield and the water table elevation at the wettest season of the year.
- The horizontal setback distance from the DWTU and subsurface application system to property lines, surface waterbodies, potable water wells, and utilities is consistent with rules adopted under this ch. 403, F.S., which regulates domestic wastewater treatment facilities, and s. 381.0065, F.S., which regulates onsite sewage treatment and disposal systems.
- The permittee has legal access to maintain and operate the DWTU and remove the DWTU in case of termination of service.
- The permittee has submitted a plan for conducting monthly effluent compliance sampling of a representative number of deployed DWTUs, the results of which may be aggregated to determine compliance with performance standards consistent with this subsection and the rules adopted under this chapter.
- The operation of the DWTU does not:
  - Create saturated conditions on the ground surface;
  - Adversely impact wetlands or other surface waters; or
  - Cause or contribute to a violation of state water quality standards.

The bill requires the permittee to conduct monthly reporting, annual inspections, recordkeeping, and biosolids management for the DWTU consistent with the applicable rules adopted under ch. 403, F.S., which regulates wastewater treatment facilities. Permittees are also required to schedule staffing and visitation by licensed operators for the DWTU in a manner that is consistent with the rules adopted under ch. 403, F.S., except that visitation may be accomplished using an electronic control system.

[56] Section 403.814(1), F.S.
[57] The bill defines DWTS as an integrated system approach to treating wastewater consisting of one or more distributed wastewater treatment units.
[58] The bill defines DWTU as an advanced onsite closed-tank wastewater treatment system that is remotely operated and controlled by the permittee using an electronic control system and designed to achieve secondary treatment standards and a minimum of 80 percent total nitrogen removal before discharge to a subsurface application system.

Section 2 provides an effective date of July 1, 2025.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

D. State Tax or Fee Increases:

None.

E. Other Constitutional Issues:

None.

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

None.

C. Government Sector Impact:

None.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Statutes Affected:

This bill substantially amends section 403.814 of the Florida Statutes.

IX. Additional Information:

A. Committee Substitute – Statement of Changes:
(Summarizing differences between the Committee Substitute and the prior version of the bill.)

None.

B. Amendments:

None.