



National Pollutant Discharge Elimination System & State General Permit for the Discharge of Swimming Pool Wastewater to Surface and Ground Waters of the State

Permit No. CTGPL0000

Fact Sheet

This fact sheet sets forth the significant factual, legal, and policy considerations examined during preparation of this draft master general permit. This action has been prepared in accordance with the Connecticut State Statutes and its implementing regulations, the Regulations of Connecticut State Agencies. Issuance of a master general permit serves to simplify and streamline the National Pollutant Discharge Elimination System (“NPDES”) and state ground water permitting process for similar types of discharges; in lieu of each facility having to obtain an individual permit. This general permit provides permit conditions and limitations to protect waters of the State from pollution.

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Section 1. State History & Authority

In 1965 the Connecticut Clean Water Task Force was commissioned to investigate the condition of rivers and harbors in Connecticut. The Connecticut Clean Water Task Force developed an action program called Clean Water for Connecticut in 1966. On May 1, 1967, Connecticut's Clean Water Bill was signed into law, inaugurating the state's modern water pollution control program. The Connecticut Water Quality Standards were then approved by the federal government in 1970. A year later the Department of Environmental Protection was created, and Congress began drafting the federal legislation for the first national Clean Water Act using Connecticut's Clean Water Act as a guide.

Congress passed the Federal Water Pollution Control Act of 1972 ("Clean Water Act" or "CWA") on October 18, 1972, 33 U.S.C. 1251 et seq., with the objective to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." section 101(a), 33 U.S.C. 1251(a). To help achieve this objective, the CWA provides that "the discharge of any pollutant by any person shall be unlawful" except in compliance with other provisions of the statute, CWA section 301(a), 33 U.S.C. 1311(a).

Pursuant to the CWA and Title 22a-430 of the Connecticut General Statutes any person who initiates or creates a discharge of pollutants to the waters of the state (surface or ground waters) must first obtain a permit authorizing the discharge. Additionally, the Connecticut Department of Energy and Environmental Protection ("DEEP") is a delegated authority to implement the federal National Pollutant Discharge Elimination System ("NPDES") Program. In accordance with this delegation, DEEP has been provided the authority to promulgate regulations and issue permits in accordance with the Connecticut General Statutes ("CGS") and Regulations of Connecticut State Agencies ("RCSA") for discharges to surface waters.

DEEP first issued the Swimming Pool Wastewater General Permit on July 1, 1998, and the current General Permit expires on August 9, 2024. This general permit is issued under the authority of section 22a-430b of the Connecticut General Statutes "CGS" and the Regulations of Connecticut State Agencies ("RCSA").

Section 2. Authorization Under This General Permit

This general permit is a renewal and continues to authorize the discharge of swimming pool wastewater from public pools to surface and ground waters of the state of Connecticut. This general permit is intended to authorize discharges of water containing de minimis amounts of pollutants. A de minimis discharge of pollutants for purposes of this general permit is defined as treated wastewater, which complies with all of the conditions and limitations specified in this permit. These discharges are not associated with industrial processes, site remediation activities, and/or sanitary sewerage systems.

Swimming pool wastewater includes the discharge of filter backwash, maintenance pressure washing, and pool draining wastewaters to surface water and ground water. Authorization is subject to the terms and conditions of this permit. This general permit is not intended for

swimming pool discharges from private residential pools; however, the Department encourages private residents to use the best management practices provided in the permit when initiating a discharge to waters of the State. Section 22a-426-1 of RCSA considers swimming pool discharges from residential pools as “clean water” so long as best management practices are implemented to mitigate adverse environmental impacts. Residential pool owners should take all reasonable steps to discharge swimming pool wastewater in a manner that minimizes discharges to ground and surface waters, discharges devoid of pollutants, and discharges that do not impact adjacent property not under common ownership.

Discharge(s) to ground waters of the State which may result from a discharge authorized by this permit, such as ground surface discharge by way of land application and infiltration or from overland flow are also authorized under this general permit.

Discharges to Publicly Owned Treatment Works (“POTWs”) are no longer covered under this general permit. Authorization to discharge applicable wastewaters maybe obtained by applying for permit coverage under the General Permit for Discharges from Miscellaneous Industrial Users (“MIU GP”) or the General Permit for the Discharge of Wastewaters from Significant Industrial Users Permit (“SIU GP”).

2.1 Eligible Activities

This permit operates under the premise that if appropriate Best Management Practices (“BMPs”) are implemented prior to discharge, and when necessary, treatment is provided, adverse environmental impacts should not occur. If appropriate BMPs are not employed, and the discharge causes adverse environmental impacts to the receiving water, the discharge is in violation of this general permit and may be subject to enforcement actions.

To be considered an eligible activity under this general permit the discharges shall be comprised solely of wastewater from a public pool.

2.2 Limitations of Coverage

The following activities and discharges are prohibited under this general permit:

Any discharge of water, substance or material into the waters of the State other than eligible discharges specified in this general permit.

Any discharge of swimming pool wastewater to publicly or privately owned storm sewers or conveyances without written consent from the owner and in compliance with the general permit.

Discharges of sanitary wastewater, including floor drains in bathrooms, showers, and equipment rooms, and discharges of swimming pool wastewater comingled with other sanitary or process wastewater.

Discharges of disinfectants which contain copper or silver are prohibited for the use in splash pads or similar facilities which have routine and frequent overflows onto the ground and directly into surface waters.

Discharges to the POTW via directly connected to the sanitary sewer. Discharges of swimming pool wastewater from a public pool to a POTW through the sanitary sewer are not authorized under this general permit and are regulated by the MIU GP or the SIU GP.

Section 3. Obtaining Permit Coverage

Any discharge of water, substance or material into the waters of the state other than the ones specified in this permit are not authorized by this general permit, and any person, owner, operator, SP1 and SP2 licensed contractor, or municipality which initiates, creates, originates or maintains such a discharge is automatically covered under this permit. Discharges from facilities eligible for coverage under this general permit are not expected to exceed any surface or ground water standards provided all applicable discharges are in accordance with the general permit terms and conditions.

The Department encourages those that own and operate a public pool to make best efforts to connect to the POTW and limit discharges to surface and ground waters where adverse environmental impacts may occur. For any public pool constructed after July 1, 1998, located at a site served by sanitary sewer, the plumbing shall be constructed such that all discharges of wastewater are directed to sanitary sewer, unless sanitary sewer is not available in the area. If a sanitary sewer is not available at the site, a subsurface disposal system dedicated to swimming pool wastewater is required. Discharge of wastewater to ground surface (ground water), or land application, shall only occur when sanitary sewer is not available and a subsurface disposal system is not technically feasible due to factors, such as the site location. A discharge of wastewater to a surface water shall only occur when sanitary sewer is not available in the area, a subsurface disposal system is not technically or practicable, and a discharge to ground surface is not practicable due to, but not limited to factors such as the site location and proximity to surface water. The Department encourages permittees that own and operate a public pool to make best efforts to connect to the sanitary sewer and limit discharges to surface and ground waters where adverse environmental impacts may occur.

The permittee is responsible for retaining appropriate documentation for the chosen disposal option utilized at the facility. Failure to connect to an available POTW or utilize a subsurface disposal system, if available, may result in the termination of permit coverage under this general permit. Wastewater disposal options resulting in a discharge to ground water or surface water shall be the last and final resort. The Department expects the permittee to evaluate all disposal options under the guidance of a qualified professional and retain documentation of such evaluation onsite.

Should the POTW and sanitary sewer become available (meaning the area of service has expanded), the disposal option must be updated, and the discharge of wastewater must be connected to POTW within two (2) years of the sanitary sewer becoming available. Not

connecting to the POTW due to financial constraints shall not be a justification for failing to connect to the POTW. The permittee shall retain records of such connection in accordance with the record keeping requirements of the general permit.

An appropriate air gap shall be utilized for all wastewater disposal scenarios.

Section 4. Registration Requirements

Any person, owner, operator, SP1 or SP2 licensed contractor, or municipality (“permittee”) which, in accordance with this general permit, wishes to initiate, create, originate or maintain a discharge of swimming pool wastewater generated by a public pool is automatically granted coverage under this general permit without submitting a registration to the Commissioner, provided the permittee complies with all of the permit conditions and utilizes best management practices mitigating adverse impacts.

Persons, owner, operator, SP1 or SP2 licensed contractor, or municipalities who already have permit coverage under previous iterations of this general permit maintain their permit coverage, provided the person, owner, operator, SP1 or SP2 licensed contractor, or municipality complies with all of the permit conditions and utilizes best management practices mitigating adverse environmental impacts.

Section 5. Swimming Pool Operations & Conditions of this General Permit

Continuous chemical addition and filtration are required to ensure a safe swimming experience for persons using public pools, which are duly regulated by the Department of Public Health. Chemicals are added for disinfection and control of pH, alkalinity, and hardness. Sanitizers are added to kill and control disease-carrying bacteria, algae, and dirt. The most commonly used sanitizers are chlorine and bromine based compounds. Salt (sodium chloride) can also be used in pools to reduce the demand for sanitizers. Pool water needs to be continuously filtered for removal of organic and inorganic suspended solids which would otherwise cloud water and interfere with disinfection resulting in potential public health concerns. Since pool water is commonly used for the backwash of the filter, the filter backwash also usually provides for blowdown of hardness, perspiration, body oils, lotions, nitrogen compounds (chloramines), and other dissolved solids as the pool water is replaced with fresh water.

The Department presumes that wastewater discharged in accordance with the permit terms, conditions, and limitations will have de minimis effects on the pollutant load entering the receiving waterbody. Discharges that do not comply with the permit terms and conditions could have adverse effects, cause aquatic toxicity or result in aquatic mortality.

Pool Cleaning

Extensive pool cleaning usually takes place at the beginning of the season with the use of highly concentrated acids. The chemicals disperse in the volume of water remaining in the pool prior to

drainage. Minor pool cleaning takes place throughout the year using similar chemicals. Extensive pool cleaning may occur again at the end of the summer.

Filter Backwash

Filter systems include granular media filters (sand or anthracite filters) and fabric filters (paper or cloth cartridge filters and precoat diatomaceous earth filters). The backwash of sand filters will result in the discharge of an initial high concentration of solids. Backwash of diatomaceous earth filters will result in the discharge of the same types of solids as from sand filters plus the precoat diatomaceous earth added to the filter fabric.

Cloth cartridge filters are manually cleaned by rinsing in water and paper cartridges can be cleaned or simply disposed of. Since pool water is commonly used for backwash, the filter backwash water will usually contain chlorine at a concentration equivalent to the level maintained in the pool.

Pool Drainage

At the end of the operating season, the outdoor facilities will drain out approximately 1/3 to 1/2 the pool volume. Drawing down the pool allows space for ice expansion and yet provides adequate pressure on the walls to prevent collapse. Discharges to the ground water via seepage in the proximity of the pool can cause floatation of the pool due to ground water pressure. Indoor facilities may operate for many years before the pool needs to be drained and refilled.

In CT, the complete contents of swimming pools are seldom discharged because some level of water must be maintained to ensure the structural integrity of the pool. The Department recommends that swimming pool wastewater be free of all disinfectant and at ambient temperature prior to disposal. The Department has identified several pollutants commonly associated with the discharges of swimming pool wastewater. Numeric and narrative standards have been developed to protect the waters of the state and are specific to the types of wastewater and disposal options. See Section 5.5 of this fact sheet for the specific permit limits and conditions.

Disinfection & pH Adjustments

The Department has established effluent limitations which regulate the use of disinfectants with an active ingredient of chlorine, bromine, and poly(hexamethylenbiguanide hydrochloride (“PHMB”) compounds. The permit limitations are also sufficient for protection of the use of acids and bases for the purpose of pH adjustment, including but not limited to muriatic acid, cyanuric acid, soda ash, and sodium hydroxide.

Cyanuric acid is used as a chlorine stabilizer and marketed to reduce the amount of chlorine needed to maintain the minimum chlorine residual in an outdoor pool. Hydrochloric acid or sodium bisulfate is added to lower pH and sodium carbonate is added to raise it. A balance between pH, alkalinity and hardness must be maintained to control corrosion and scaling. Sodium bicarbonate is generally added to increase alkalinity and muriatic (hydrochloric) acid or sodium bisulfate to reduce it. Hardness is raised with calcium chloride and lowered by draining

outdoor pool water and replacing it with lower hardness make-up water. A softener or demineralize to reduce hardness may also be used.

Chlorine is commonly used to disinfect swimming pool water to protect pool users from bacteria. Chlorine kills bacteria, algae, and disease-causing organisms. DEEP has developed effluent limits to protect the receiving waterbody from discharges of chlorine.

Bromine, like chlorine, is also a commonly used pool or spa disinfecting agent. The advantages of bromine include a more stable level of disinfecting power at higher water temperatures, and less objectionable smell compared to that of chlorine. DEEP has developed effluent limits to protect the receiving waterbody from discharges of bromine.

The Department's preferred and most environmentally friendly means for dechlorination is to let the water rest and allow the chlorine to dissipate naturally. The use of chemicals such as sodium bisulfite or sodium thiosulfate may be used to dechlorinate water but should be minimally used and in accordance with the manufacturer's label to prevent depression of dissolved oxygen, specifically if the wastewater is discharged to a surface waterbody.

5.1 Comprehensive Education and Training Program

The permittees are required to develop, implement, and keep current a comprehensive education and training program for all swimming pool personnel involved in the operation of pool maintenance and discharges. The program shall cover pool opening and closing procedures, maintenance procedures including but not limited to, filter backwashing, pool wall and bottom acid cleaning and/or pressure washing, periodic draining to maintain chemical balance or for sanitation purposes, chlorine or bromine testing, emergency procedures, and regulatory requirements of this general permit.

5.2 Annual Training

Permittees must perform annual training for all personnel involved in the operation of pool maintenance using the Comprehensive Education and Training Program, retain records, and make them available upon request and inspection.

5.3 Erosion and Sediment Control

No persons shall cause erosion during or as a result of the discharge of any wastewaters. Persons covered under this general permit shall implement BMPs and corrective measures to prevent or minimize erosion and sedimentation during and after the discharge has ceased.

5.4 Release Prevention Plan

Permittees are required to develop, implement, and keep current a Release Prevention Plan ("Plan"). The Plan shall include precise instructions and procedures for opening and closing valves to prevent unpermitted discharges to waters of the state. The Plan shall include lock out tag out procedures, records stored in an accessible location, and made available upon request.

5.5 Treatment and Disposal Options

5.5.1 Discharges to Ground Water via a Dedicated Subsurface Disposal System

Wastewater may be discharged from a public pool to a dedicated subsurface leaching system, dry wells, galleries, etc. (designed to receive pool water and not sewage). All chemicals must be neutralized prior to discharge, and the location of the leaching system shall meet the prescribed setbacks from drinking water wells and onsite sewage disposal systems per the CT Public Health Code.

Swimming pool draining wastewater may be discharged from a public pool to dedicated subsurface disposal system water provided the following effluent limitations are met for each discharge:

Parameter	Limit Type	Discharge Limit	Sample Type	Sample Frequency
pH, standard units	Minimum – Maximum	6.5 – 8.0	Grab	Per Discharge
Cyanuric Acid, mg/L	Maximum	100	Grab	Per Discharge
poly(hexamethylenebiguanide hydrochloride), mg/L	Maximum	0.10	Grab	Per Discharge
Total Residual Chlorine, mg/L	Maximum	0.1	Grab	Per Discharge
Total Residual Bromine, mg/L	Maximum	0.1	Grab	Per Discharge

5.5.2 Discharges to Ground Water via a Land Treatment System

Wastewater may be discharged from a public pool to a dedicated land treatment system. Land application of wastewater onto the ground surface shall not result in ponding or flooding conditions, the discharge shall infiltrate the ground completely and not run off into a surface water, stormwater collection conveyance system to surface water, wetland, pond or onto adjacent property not under common ownership.

The entire discharge volume shall be land applied and absorbed into the soil matrix maintaining a minimum distance of at least 25 feet from any drinking water supply well, subsurface sewage disposal system or surface water body.

All other swimming pool wastewater may be land applied to the ground surface provided the following effluent limitations are met for each discharge:

Parameter	Limit Type	Discharge Limit	Sample Type	Sample Frequency
pH, standard units	Minimum – maximum	6.5 – 8.5	Grab	Per Discharge
Cyanuric Acid, mg/L	Maximum	100	Grab	Per Discharge
poly(hexamethylenebiguanide hydrochloride), mg/L	Maximum	0.10	Grab	Per Discharge
Total Residual Chlorine, mg/L	Maximum	3.0	Grab	Per Discharge
Total Residual Bromine, mg/L	Maximum	3.0	Grab	Per Discharge

5.5.3 Discharges to Surface Water

Wastewater may be discharged from a public pool to a surface water. The permit includes prohibited discharges to surface water and restrictions for discharges in public water supply areas. This general permit has been revised from the 2021 general permit and prohibits the discharge of swimming pool draining wastewater to a surface water from a pool that uses a chlorine generator to produce free chlorine, and thus will have a higher sodium chloride content. These discharges must be discharged to a POTW or applied to the ground surface and infiltrate into the ground to mitigate instream aquatic toxicity in accordance with the permit terms and conditions. The permit also prohibits the discharge of copper, total, zinc, total, and silver to surface water.

Additionally, this section was modified from the 2021 general permit to include the state of Connecticut’s narrative water quality standards as follows:

The permittee shall assure that the surface water affected by the subject discharge shall conform to the Connecticut Water Quality Standards.

- No discharge shall contain, or cause in the receiving stream, a visible oil sheen or floating solids, or cause visible discoloration or foaming in the receiving stream.
- No discharge shall cause acute or chronic toxicity in the receiving water body.
- The temperature of any discharge shall not increase the temperature of the receiving stream above 85 °F, or in any case, raise the temperature of the receiving stream by more than 4 °F.

Swimming pool draining wastewater may be discharged from a public pool to a surface water provided the following effluent limitations are met for each discharge:

Parameter	Limit Type	Discharge Limit	Sample Type	Sample Frequency
pH, standard units	Minimum – Maximum	6.5 – 8.0	Grab	Per Discharge
Cyanuric Acid, mg/L	Maximum	100	Grab	Per Discharge
poly(hexamethylenebiguanide hydrochloride), mg/L	Maximum	0.10	Grab	Per Discharge
Total Residual Chlorine, mg/L	Maximum	0.1	Grab	Per Discharge
Total Residual Bromine, mg/L	Maximum	0.1	Grab	Per Discharge
Temperature, degrees Fahrenheit	Maximum	85	Grab	Per Discharge

Section 6.0 Record Keeping & Record Retention

This section was revised from the 2021 general permit to clarify the record keeping requirements for all discharges. All records and analytical reports shall be maintained for a minimum of five (5) years and made available upon inspection or request.

Section 7.0 Reporting a Violation

This section was modified to provide concise and consistent requirements for how and when to report a permit violation. DEEP has developed an online web-based platform for permittees to report violations and the required five (5) day follow up report.

Section 8.0 Regulations of Connecticut State Agencies

This section includes the applicable Regulations of Connecticut State Agencies by reference.

Section 9.0 State and Federal Standard Conditions

This section includes the standard conditions from the state and federal regulations for the convenience of the permittee and are generally duplicative of the incorporated regulations in Section 8 of this general permit.

Section 10.0 Antidegradation

Implementation of the Antidegradation Policy follows a tiered approach pursuant to the state and federal regulations and consistent with the Connecticut Antidegradation Policy included in the Connecticut Water Quality Standards in Section 22a-426-8(b-f) of RCSA. Tier 1 Antidegradation review applies to all existing permitted discharge activities to all waters of the state. Tiers 1 and 2 Antidegradation reviews apply to new or increased discharges to high quality waters and wetlands, while Tiers 1 and 3 Antidegradation reviews apply to new or increased discharges to outstanding national resource waters.

An antidegradation evaluation is conducted during the development of this general permit to ensure that existing and designated uses of surface waters and the water quality necessary for their protection are maintained and preserved, consistent with Connecticut Water Quality Standards, RCSA Sec.22a-426-8(a)(1). This review involved the following:

- An evaluation of narrative and numeric water quality standards, criteria, and associated policies;
- The discharge activity both independently and in the context of other dischargers in the affected waterbodies; and
- Consideration of any impairment listed pursuant to Section 303d of the federal Clean Water Act or any TMDL established for the waterbody.

DEEP has determined that the discharges and activities authorized by this general permit are consistent with the maintenance, restoration, and protection of existing and designated uses assigned to the receiving water body by considering all relevant available data. Discharges to high quality waters and wetlands are not authorized under this general permit and may require an individual permit and antidegradation evaluation to protect those waterbodies.

Section 11.0 Public Participation

On February 6, 2024, the Department published a 30-day notice of its Tentative Determination to reissue the General Permit for the Discharge of Swimming Pool Wastewater to Surface and Ground Water. The Notice of Tentative Determination was published in the Connecticut Post, Hartford Courant, New Haven Register, New London Day, Waterbury Republican American, and the Willimantic Chronicle. The Notice of Tentative Determination as well as a draft copy of the general permit and its fact sheet were concurrently posted on DEEP's website.

Section 12.0 Changes to the 2024 General Permit

12.1 The proposed General Permit will no longer require the submittal of a registration form and permit coverage will be automatic, provided that persons discharging eligible wastewaters comply with all of the permit terms and conditions as specified in the General Permit. The Department is not requiring existing permittees authorized to discharge under the current General Permit to submit a new registration form to maintain permit coverage.

12.2 The General Permit no longer requires “any person in the business of cleaning, draining or maintaining multiple public pools and/or private residential pools” to submit a contractor registration form and coverage under this General Permit will be automatic provided that persons discharging eligible wastewaters comply with all of the permit terms and conditions as specified in the General Permit.

12.3 The General Permit no longer authorizes discharge of swimming pool wastewater from a public pool to sanitary sewers. Authorization to discharge to a local Publicly Owned Treatment Works (POTW) shall be obtained under the Pretreatment Miscellaneous Industrial User (MIU GP) or Significant Industrial User (SIU GP) General Permit.

12.4 The general permit includes criteria for tiered wastewater disposal options, whereas language has been expanded to encourage preferred disposal options for pools constructed after the issuance of this permit. Discharges to surface water are least desirable as they present the greatest risk to public health and the environment.

12.5 Added Best Management Practices to minimize adverse environmental impacts, such as, erosion and sedimentation controls, splash barriers and flow rate controls to minimize stream bed scouring and nuisance discharges to adjacent properties.

12.6 Included effluent limits for cyanuric acid and poly(hexamethylenebiguanide hydrochloride) and prohibited discharges with detectable amounts of copper, total, zinc, total, and silver to surface water and land surface.

12.7 The reporting requirements have been updated to reflect the new online noncompliance reporting platform.

12.8 Section 4.5.1 Prohibited Discharges to Surface Water, paragraph 4.5.1.1 was revised to clarify that discharges to a stormwater conveyance system is authorized if the owner of the stormwater conveyance system provides written authorization.

12.9 Provided clarification that the term “public pool” includes splash pads.

12.10 Added minimum separating distances for the discharge of chlorine generators for disposal systems discharging to groundwater to protect ground water wells from sodium chloride contamination.