

Enviro ™
GUARD
Wastewater Treatment Systems



OWNER'S MANUAL

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CONSOLIDATED
Time Tested Wastewater Solutions!



Enviro-Guard™ Wastewater Treatment System

Thank you for your recent purchase of the Enviro-Guard Wastewater Treatment System. We are confident that if properly maintained your system will provide years of trouble free operation while maintaining the highest effluent quality standards. Through the use of time tested components, certified under ANSI/NSF Standard 40, the Enviro-Guard system meets the needs for onsite wastewater treatment beyond the capabilities of septic tanks by providing three stages of treatment in one compact, easy to install, package. You can expect your unit to treat domestic-strength wastewater to produce an effluent that is clear, odorless and environmentally safe.

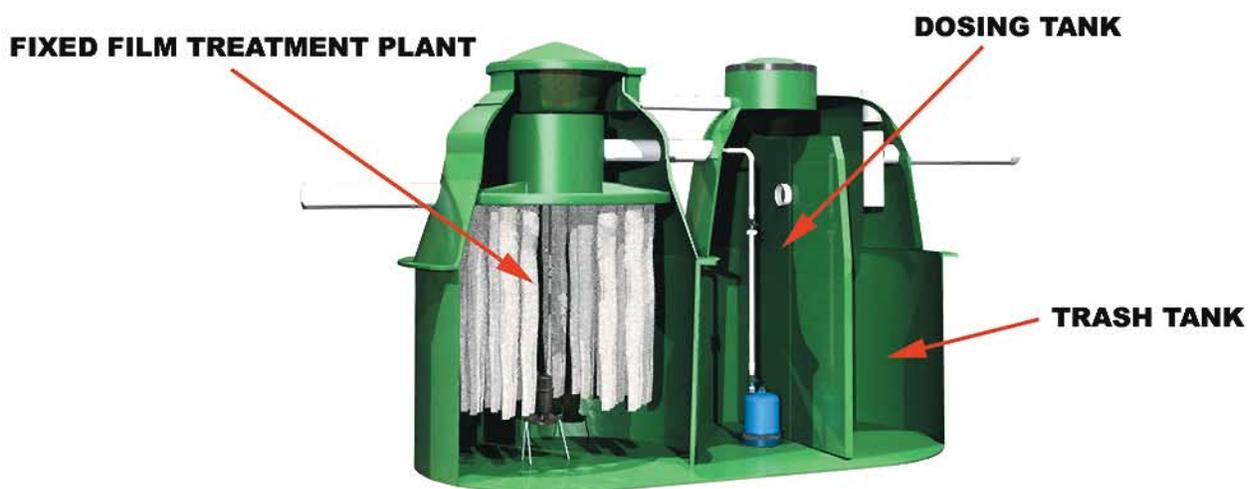


FIGURE 1:
Enviro-Guard Wastewater Treatment System

HOW DOES THE ENVIRO-GUARD WORK?

Among the unique features of the Enviro-Guard is that the entire three stage process takes place within a single, watertight tank. Wastewater flows into the first stage, a trash tank, which traps grit, inert material, and floatable solids. From the trash tank, clarified wastewater flows into a dosing tank where it is pretreated and held until it is pumped into the final treatment tank in measured doses and at timed intervals. Inside the treatment tank, an aerator near the bottom draws air in and disperses it. This process transfers oxygen throughout the tank. The oxygen, which is dissolved in the water, provides an environment that promotes the growth of aerobic microbes. These microbes effectively consume organic materials. As important, the oxygen promotes the growth of microbes on the 135 ft² of fabric media that are placed into the tank. Figure 1 shows the Enviro-Guard.

Fixed film filter media serve a second, vital function: filtration of the effluent. All treated water leaving the tank passes through the filters. All solids are retained in the system. There is no by-pass to permit organic waste to be discharged into the environment.

The result is **CLEAR, ODORLESS, AND ENVIRONMENTALLY SAFE EFFLUENT!**



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IMPORTANT ITEMS TO REMEMBER

The Enviro-Guard has an initial break-in period from four-to-six weeks, during which time bacteria and other microorganisms establish themselves in the treatment tank and on the fabric media. The development of these colonies occurs naturally, so use all plumbing fixtures in a normal manner from initial start-up. You may notice a tendency for the unit to foam from laundry wastes during this period. This is normal and should cease by the sixth week. You can control this foaming by using moderate amounts of low-sudsing bio-degradable liquid detergents.

Enviro-Guard systems are designed to treat domestic-strength wastewater and should not be expected to treat industrial-strength wastewater. The continuous addition of large amounts of cleaners, greases, and oils, etc., will lead to a need for service calls. **DO NOT DISPOSE OF PAINTS OR SOLVENTS IN ANY QUANTITY.**

Storm drains and other surface waters should not be permitted to enter the system because the additional water will overload the unit.

You will not be required to service or to maintain your Enviro-Guard unit, but there are a number of "DO" and "DO NOTS" to ensure proper, trouble free operation. Following these simple rules will minimize maintenance issues and prolong efficiency of your Enviro-Guard.

- DO ...** Check that your unit's access lids are securely tightened down
- DO ...** Keep the surface water from ponding around the unit
- DO ...** Call your service technician at the first sign of trouble
- DO ...** Follow your service technician's advice. He is trained to ensure that your unit operates at its maximum efficiency
- DO ...** Use low-sudsing, low phosphate bio-degradable detergents
- DO ...** Contact your authorized Enviro-Guard service representative if the system is to be used intermittently or if extended periods of non-use are anticipated
- DO ...** Contact your service representative when you plan to leave the unit operating for extended periods of no-flow

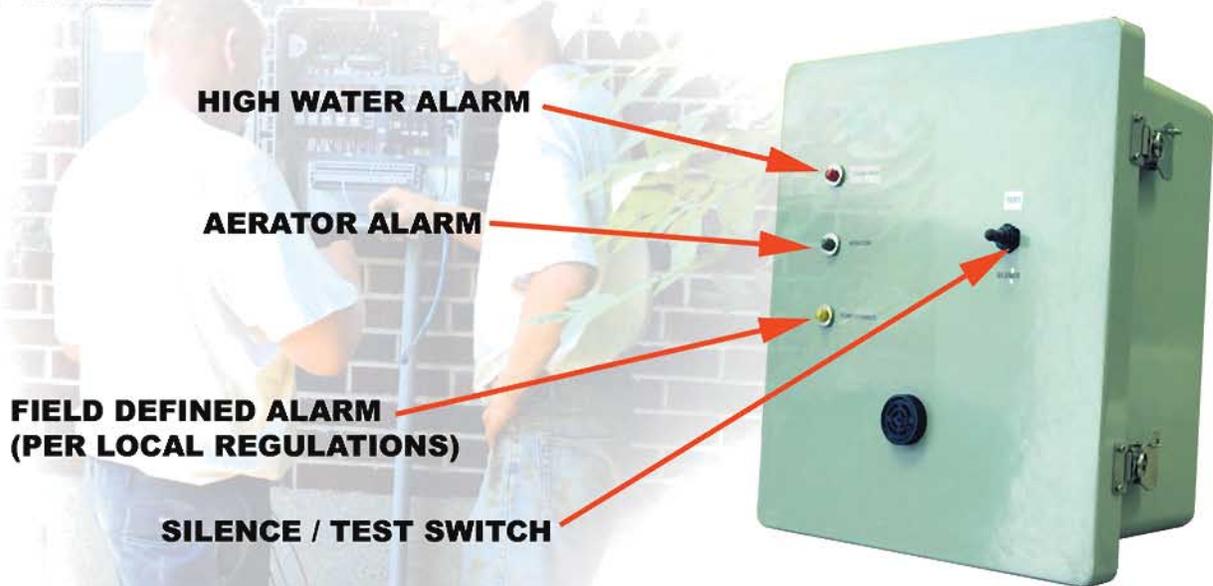
- DO NOT ...** Put non-disposable items into your system. These items include but are not limited to: wet strength paper towels, disposable baby diapers, sanitary napkins, rubber and plastic products, rags, grit and coffee grounds
- DO NOT ...** Place excessive amount of fats, oil, or grease into your system. This will impair the operation of the system
- DO NOT ...** Put solvents, paints, etc., in the drain. These are harmful to the environment and will increase the need for service.
- DO NOT ...** Attempt to service the unit yourself. This may void your warranty



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AUDIO VISUAL CAUTION SYSTEM

Every Enviro-Guard unit comes equipped with an audio-visual alarm system. This alarm should be mounted in a location that is visible and easy to access. If a service condition develops, you will be alerted—AUDIBLY and VISUALLY—with a light and buzzer. Silence the buzzer by pressing the silence button on the alarm. If the light should stay on, call your service representative.



Malfunctions may arise from a variety of causes. Here are some observations you can make in helping your service representative diagnose the malfunction:

1. Is the alarm activated during a non-flow period, i.e., late at night, early morning?
If so, then the probable cause is a aerator outage, leaking plumbing or overloading from a sources outside the sanitary sewer (i.e., storm drains plumbed into treatment system).
2. Is the alarm activated intermittently while washing clothes or taking a shower?
If so, then you may have an impending service need or excessive water use.

You should periodically check your alarm's circuitry by depressing the alarm test button and verify that the light and buzzer activate.



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MAINTENANCE PROGRAM



YOUR ENVIRO-GUARD UNIT REQUIRES PERIODIC SERVICING AS OUTLINED BY NSF AS A CLASS 1 SYSTEM.

Maintenance of your Enviro-Guard is essential to ensure its proper operation and longevity, so your unit comes with an initial two-year maintenance warranty required by your servicing dealer.

As a part of this warranty, an authorized service representative will inspect your Enviro-Guard at six month intervals and make any necessary adjustments on your unit at no cost to you. The only exceptions are for the replacement of "out of warranty" and "physically abused" parts, abuse to the treatment process, repairs or replacement of items not supplied by Consolidated Treatment Systems, Inc., or installation issues related to the soil dispersal system.

At the end of the warranty period, an annual service contract, based on the above requirement will be offered for the continuation of service. Please contact your servicing dealer for further details.

In the event a problem arises, or service is required, refer to the data plate (located on the alarm and access lid) or the service label for instructions on contacting your service representative. If you need parts or service and do not know whom to contact, please contact Consolidated Treatment Systems, Inc., for the name of the dealer nearest you.

Periodic residuals removal is critical to the operation of your Enviro-Guard system.

Enviro-Guard systems accumulate inert material as a normal part of their operation. These solids will eventually need to be removed. When your service provider performs six-month maintenance, the service provider will measure the level of solids in the treatment tank. Your service provider will notify you when pumping is necessary. Typically, an Enviro-Guard will require pumping approximately every three years. Solids will accumulate in all three tanks, so periodic pumping will be necessary. Please speak with your servicing dealer so that you have a clear understanding of what equipment and services are covered in any warranty or annual service agreement.

Your Enviro-Guard system is designed and intended to treat domestic-strength wastewater (i.e., human bodily waste and liquid waste generated by the occupants of dwellings). To insure optimum performance and longevity, do not discharge any type of non-residential wastewater or other high-strength waste, including commercial food service waste, without contacting the manufacturer to determine if this will be acceptable without additional treatment.



Enviro-Guard units must be installed and maintained in compliance with all state and local laws and regulations. This includes compliance with all regulations concerning proper effluent disposal and the pumping and disposal of solids and byproducts pumped from the unit.



IDENTIFYING SYSTEM MALFUNCTIONS

An alarm will alert you to high water and aerator failures. These failures can be caused by several factors, some of which you can diagnose. If you eliminate causes under your control, your service provider should be contacted to examine your system to determine the nature of the failure.

An electrical failure, through a power loss or open circuit breaker, is the chief cause of high water or aerator failure. Check the appropriate circuit breaker in your main electrical panel to determine that the breaker is properly activated.

High water can result from excessive flow into the unit. Check all plumbing fixtures in the dwelling or structure to confirm that there are no leaky fixtures. Be mindful that excessive laundry, high occupancy loads (such as a party), draining tubs, surface water leaking around lids, connections of stormwater drains and so forth all can contribute excessive water to the Enviro-Guard.

High water can result from plugged filter media. A qualified service provider, who should be contacted immediately, can only make this diagnosis.

High water can also result from groundwater or blocked piping. These issues are beyond the scope of this manual and must be addressed by a qualified service provider. Please contact your authorized Enviro-Guard dealer if you experience high water and have ruled out excessive flow from sources you can control.

Please contact your authorized Enviro-Guard dealer if you experience an aerator failure and have ruled out an open circuit breaker. The issue is now beyond the scope of this manual and must be addressed by a qualified service provider.

You should not experience odors from your Enviro-Guard. Odors may be indicative of faulty lid placement, faulty plumbing, incomplete treatment, or wastewater characteristics. If you notice an odor, check to see that lids are properly closed and locked. If this is the case, the odor may be coming from a roof vent. Raising the roof vent so its height is close to the elevation of the peak can eliminate odors from roof vents.

Odors can arise if incomplete wastewater treatment is taking place. Wastewater treatment can be inhibited by additions of medicines, disinfectants, degreasers, or toxic materials to the wastewater. Medicines, such as antibiotics and chemotherapy compounds, are particularly harsh. You should assess these types of items have entered the waste stream and eliminate them as much as possible. In serious cases, pumping may be the only solution to remove these compounds.



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Some items, such as soap, have fragrances in them. You may notice these fragrances if you have added too much fragrance-containing substance to the wastewater stream. Fragrances are intended to "volatilize" easily, so eliminating the odor will result from using less of or eliminating the substance from wastewater.

Effluent from an Enviro-Guard system should be clear and odorless. If effluent is cloudy and/or has odors, contact your Enviro-Guard dealer immediately. The causes and remedies of effluent issues are beyond the scope of this manual.

SERVICE POLICY

The purchase of every Enviro-Guard Wastewater Treatment System includes a (2) year initial service policy furnished to the owner by the manufacturer or the authorized service representative. The initial policy contains provisions for 4 inspection / service visits (scheduled once every six months over a two year period) during which electrical, mechanical, and other applicable components are inspected, adjusted, and serviced.

The initial service policy also contains provisions for an effluent quality inspection consisting of a visual assessment for color, turbidity, and scum overflow, and an olfactory assessment for odor.

A authorized service representative will notify you, in writing, regarding any improper system operations that cannot be remedied at the time of inspection and the written notification shall include an estimated date of correction.

Following your initial (2) year service policy, an extended service policy will be made available, for purchase by the owner, with terms comparable to those in the initial service policy.



The only exception to the above is for the replacement of "out of warranty" and "physically abused" parts or abuse to the treatment process. Moreover, this warranty will not cover other treatment and dispersal components and devices, such as pre-tanks, drain fields, pump stations, and the like.



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YOUR ENVIRO-GUARD WARRANTY DOES NOT COVER THE COST OF SERVICE CALLS, LABOR OR MATERIALS REQUIRED DUE TO THE FOLLOWING:

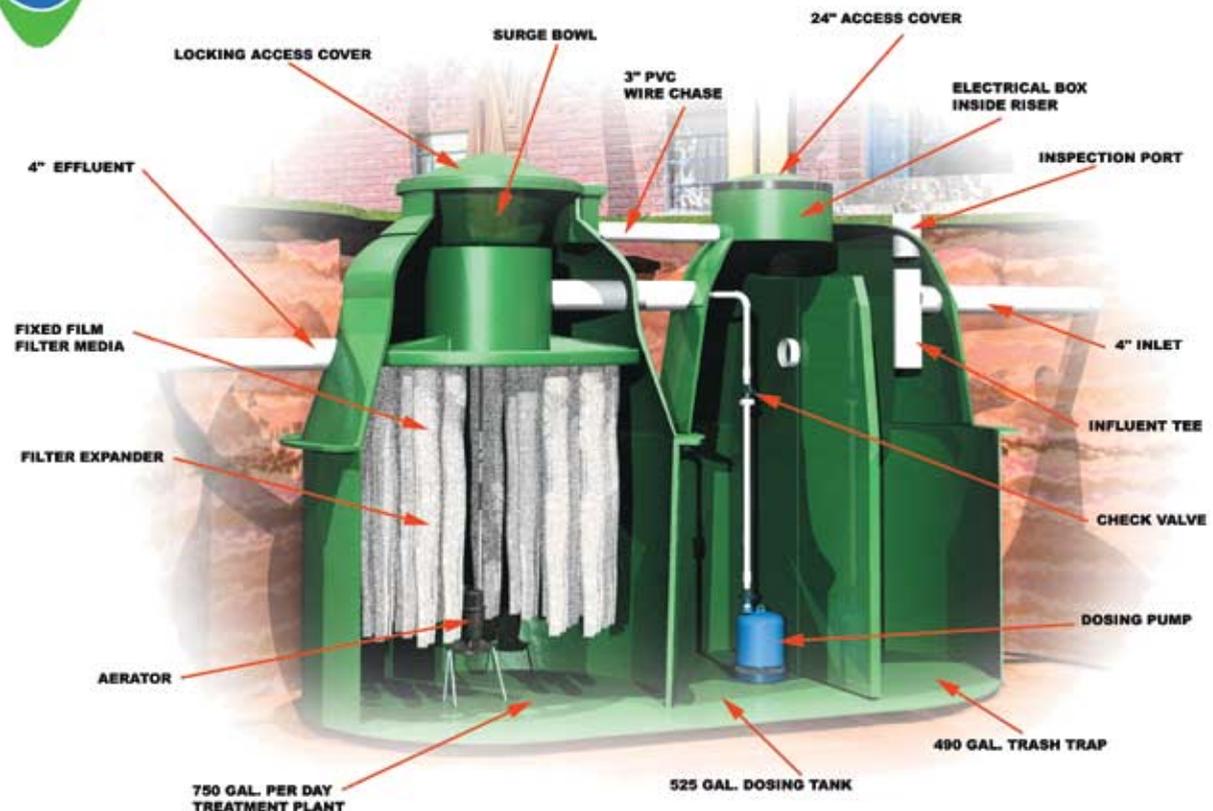
1. Misuse, "abuse," or any repair or alteration performed by anyone other than authorized Enviro-Guard personnel;
2. Use of components other than authorized Enviro-Guard replacement components;
3. Other influent, including but not limited to, flow from storm water connections, leaking piping, leakage from improperly maintained plumbing fixtures, water softener backwash, and the like;
4. Failure to maintain electrical power to the dosing pump and treatment tank in accordance with the requirements of the Consolidated Treatment Systems, Inc. or the authorized Enviro-Guard service representative;
5. Disposal into the Enviro-Guard of non-biodegradable materials (i.e., plastics, coffee grounds, etc.) chemicals, solvents, grease, all paints or any other type of non-domestic wastewater;
6. Wastewater flows to the Enviro-Guard that exceed the hydraulic or organic treatment design capabilities;
7. Any usage contrary to Enviro-Guard owner's manual and/or the Enviro-Guard representatives' recommendations. (Please refer to "Do's and Do Not's").

ENVIRO-GUARD SPECIFICATIONS, COMPONENTS, and MATERIALS

ENVIRO-GUARD SPECIFICATIONS FOR WASTEWATER TREATMENT (Based Upon NSF Standard 40 Evaluation of Wastewater Treatment Process)			
PARAMETER (Mean Results)	INFLUENT (mg/L)	EFFLUENT (mg/L)	REDUCTION (Percent)
CBOD ₅	224	5	98%
TSS	219	5	98%



Enviro-GuardTM Wastewater Treatment System



Enviro-Guard Components and Materials

Enviro-Guard Basin, Partitions, Domes, and Lids:

- Fiberglass-Reinforced Resin

Dosing Pump:

- Cast Iron, 1/3 hp Effluent Pump, 3450 rpm with 3/4-inch solids handling.
120 Volt AC, 60 Hz, 1.80 amps.

Aerator:

- Cast Iron, Stainless Steel, 1/6 HP 1550 RPM Motor With Thermal Overload Protection
120 Volt AC, 60 Hz, 1.8 amps

Filter Tubes:

- Felted Polyester Fabric

Tube Expanders:

- Slotted and Drilled Polyethylene Pipe

Alarm System:

- Low voltage (12 volt DC) sensors signal to the control box. The flashing light (audible indicator) alerts the owner to loss of air supply or high water level in the tank.



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WARRANTY

Consolidated Treatment Systems, Inc., warrants the parts in each aerobic treatment plant to be free from defects in material and workmanship for a period of two (2) years from date of installation for treatment of household wastewater when properly registered with the manufacturer. Consolidated Treatment Systems, Inc., sole obligation under this warranty is as follows: Consolidated Treatment Systems, Inc., shall fulfill this warranty by repairing or exchanging any component part, FOB Factory, that shows evidence of defects, provided said component part has been paid for and is returned through an authorized dealer, transportation prepaid. The warrantee must also notify Consolidated Treatment Systems, Inc., of the defect complained of. There is no informal dispute settlement mechanism available under this LIMITED WARRANTY.

No warranty is made as to the field performance of any plant. This LIMITED WARRANTY applies only to the parts manufactured by Consolidated Treatment Systems, Inc., does not include any portion of the household plumbing, drainage, or installation of disposal system. Components or accessories supplied by Consolidated Treatment Systems, Inc., but manufactured by others, are warranted only to the extent of and by the terms and conditions of the original manufacturer's warranty. In no event shall Consolidated Treatment Systems, Inc., be responsible for delay or damages of any kind or character resulting from, or caused directly or indirectly by, defective components or materials manufactured by others.

Recommendations for special applications will be based on the best available experience of Consolidated Treatment Systems, Inc., and published industry information. Such recommendations do not constitute a warranty of satisfactory performance.

This LIMITED WARRANTY extends to the consumer of the product. As used herein, "consumer" is defined as the purchaser who first uses the plant or the subsequent user(s) for the 2 years after its initial installation. It is the first user's or servicing dealer's obligation to make known to the subsequent user(s) the terms and conditions of this warranty.

This warranty is a LIMITED WARRANTY and no claim of any nature shall be made against Consolidated Treatment Systems, Inc., unless and until the consumer, or his legal representative, notifies Consolidated Treatment Systems, Inc., in writing of the defect complained of and delivers the product and/or defective part(s), freight prepaid, to the factory or an authorized service station.

Consolidated Treatment Systems, Inc., reserves the right to revise, change, or modify the construction and design of the aerobic treatment plants for household wastewater, or any component part or parts thereof, without incurring any obligation to make such changes or modifications in equipment previously sold. Consolidated Treatment Systems, Inc., also reserves the right, in making replacements of component parts under this warranty, to furnish a component part which, in its judgment, is equivalent to the part replaced.

UNDER NO CIRCUMSTANCES WILL CONSOLIDATED TREATMENT SYSTEMS, INC., BE RESPONSIBLE TO THE WARRANTEE FOR ANY OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOST PROFITS, LOST INCOME, LABOR CHANGES, DELAYS IN PRODUCTION AND/OR IDLE PRODUCTION, WHICH DAMAGES ARE CAUSED BY A DEFECT IN MATERIAL AND/OR WORKMANSHIP IN ITS PRODUCT OR PARTS SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTY, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS, AND OF ANY OTHER OBLIGATION ON THE PART OF CONSOLIDATED TREATMENT SYSTEMS, INC., SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIAL LEGAL RIGHTS AND YOU MAY HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.