

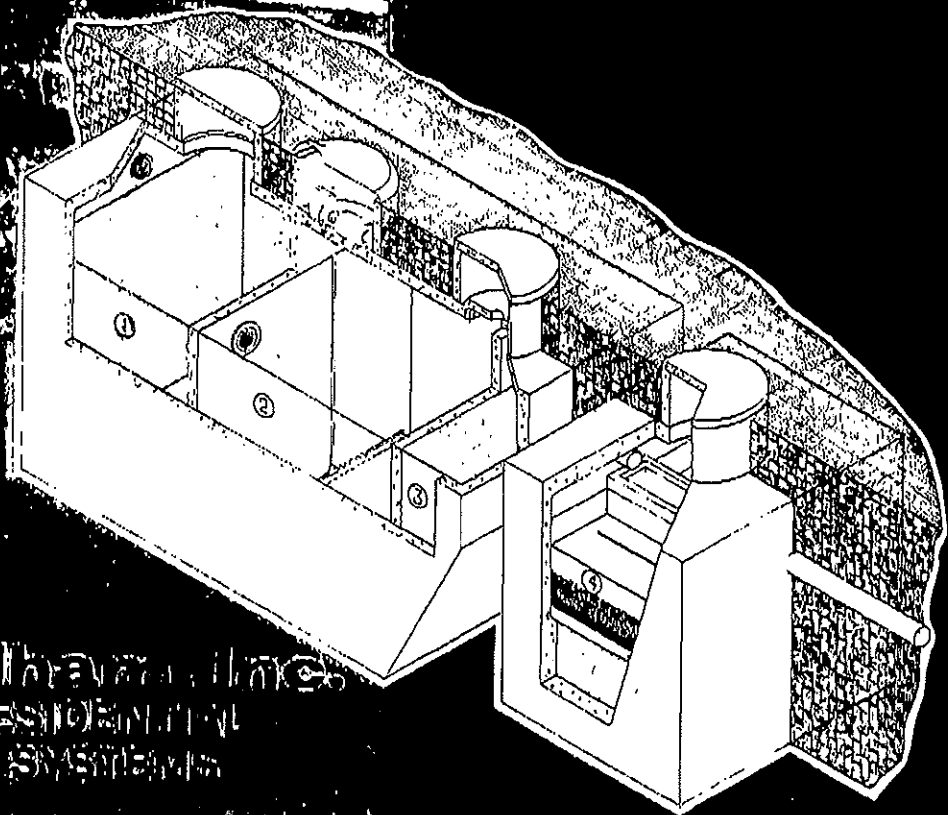
OldHAM

INCORPORATED

SEWAGE TREATMENT SYSTEMS



AN AFFORDABLE
 SEWAGE TREATMENT
 SYSTEM THAT
 IS IDEAL FOR COMMERCIAL AND RESIDENTIAL USES



OldHAM Inc. is the leading
 commercial and residential
 sewage treatment systems

AERATED SEWAGE TREATMENT SYSTEM FOR INDIVIDUAL RESIDENCES

THE TREATMENT PROCESS IS ACCOMPLISHED IN 4 STEPS

The Oldham Sewage Treatment System utilizes the extended aeration process that treats sewage by stabilization of organic matter. This is achieved by thoroughly mixing fresh and treated sewage in an oxygen saturated environment combined with continuously controlled sludge return. Extended aeration of the recirculating solids produces a clear odorless effluent.

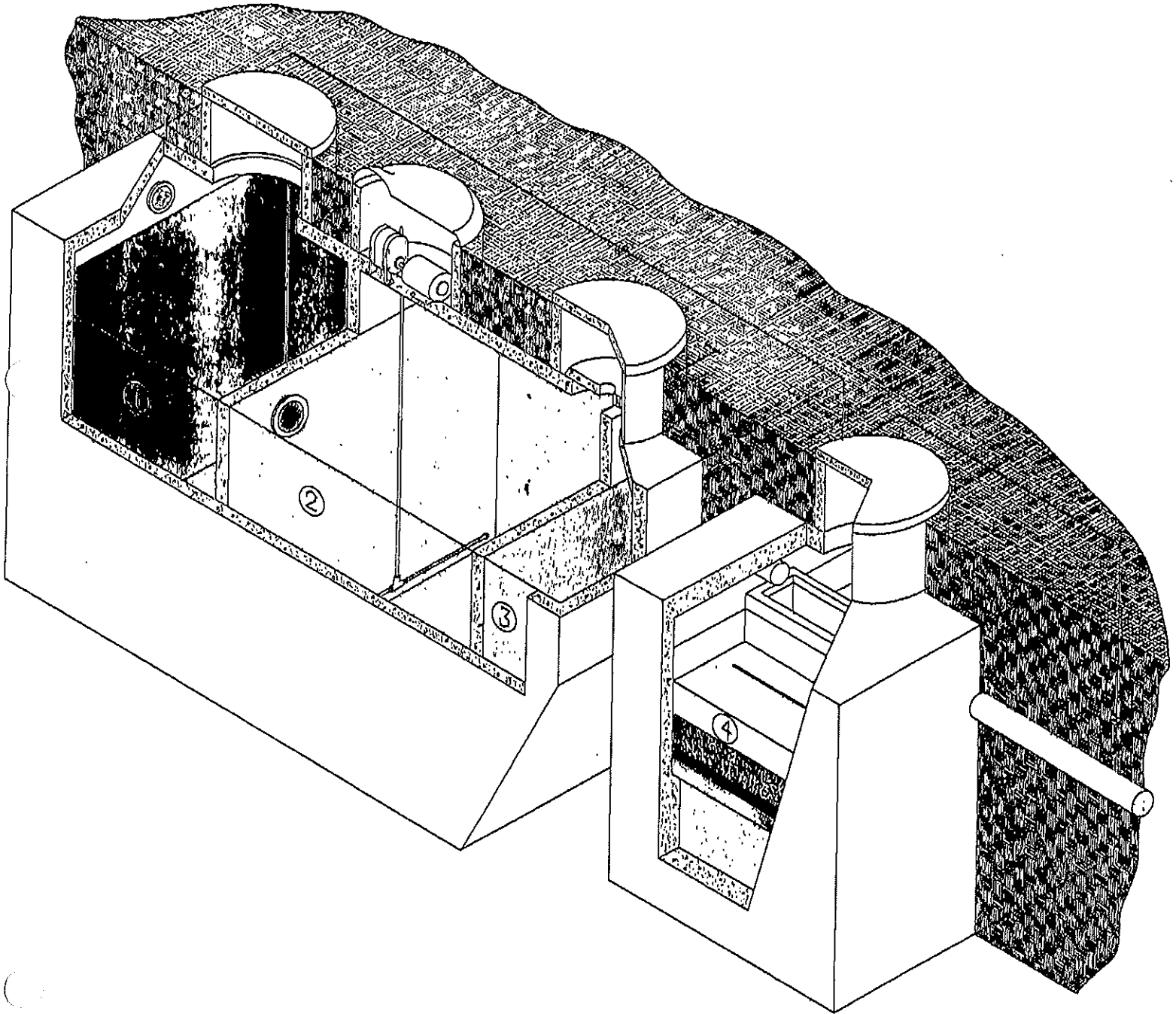
- 1** The first compartment, 400 gallons capacity, receives the raw sewage from the house. All foreign matter and heavier solids settle in this compartment. The solids which will decompose in water (comprising more than 99% of the solids) together with the liquid waste, then pass through a vitrified elbow into the second compartment.
- 2** In this compartment, air, which is supplied by a positive displacement type pump located in a concrete riser on the top of the tank, is discharged into the contents of the compartment near the inlet wall and near the bottom of the tank. The discharge of air at this point causes the liquid in the compartment to circulate or roll with sufficient force that all of the solids in the sewage are maintained in suspension in the liquid. Oxygen in the solution creates an environment favorable to the growth of aerobic bacteria. These microscopic organisms digest the solids in the sewage within a period of 24 hours. The capacity of this compartment is 600 gallons, more than the daily treatment capacity of the system. The average sewage flow from an individual residence is 400 gallons per day. **Backwash water containing salt from water softeners should by-pass waste water treatment systems.**
- 3** The third compartment is the clarifier. When the contents of the aeration compartment enter the clarifier, the treated solids, no longer subjected to the rapid circulation of the aeration compartment, settle to the bottom of the clarifier and return to the aeration compartment by gravity through a slot, where they are further digested. The lighter solids, which will float, are returned to the aeration compartment by means of a skimming device located at the surface of the liquid. Clear liquid is discharged from the clarifier from a point 2" below the surface of the liquid, through a vitrified elbow, and then carried to the point of discharge through the effluent pipe. The clear liquid, discharging from the tank, contains sufficient dissolved oxygen to guarantee a stable effluent, suitable for discharge under the jurisdiction of the local health department.

Ground water from basement drain tile, and storm water must not be discharged into the system, as it will create an hydraulic overload, which will destroy the aerobic digestion process.

Any discharge of wastewater in excess of the rated capacity should be avoided.
- 4** This step in the treatment process is accomplished in the aerated upflow filter. The effluent from the clarifier of the aeration tank enters the filter and is discharged downward through a 4" pipe into the bottom compartment of this tank where more of the suspended solids settle, and are retained for periodic removal by pumping.

The liquid in the upper part of this settling compartment is forced upward, by the incoming liquid, through narrow slots in a concrete slab which supports the filter media. As it rises above the filter media, **post aeration is accomplished by introducing air from the blower on the aeration tank, through a diffuser pipe. Post aeration improves the quality of the effluent by further reduction of the suspended solids, and B.O.D. (strength), and increasing the dissolved oxygen before discharge.**

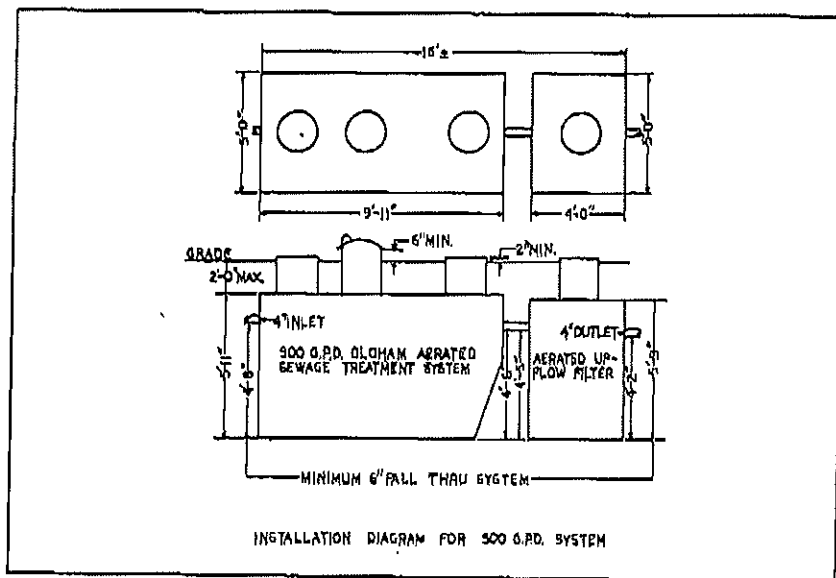
This system has successfully completed performance evaluations, demonstrating conformance to Class I effluent quality standards. Tests were performed according to the provisions of nationally recognized standards of testing under normal and stress conditions.



The Oldham Aerated Sewage Treatment System for Individual residences is made in two sizes:

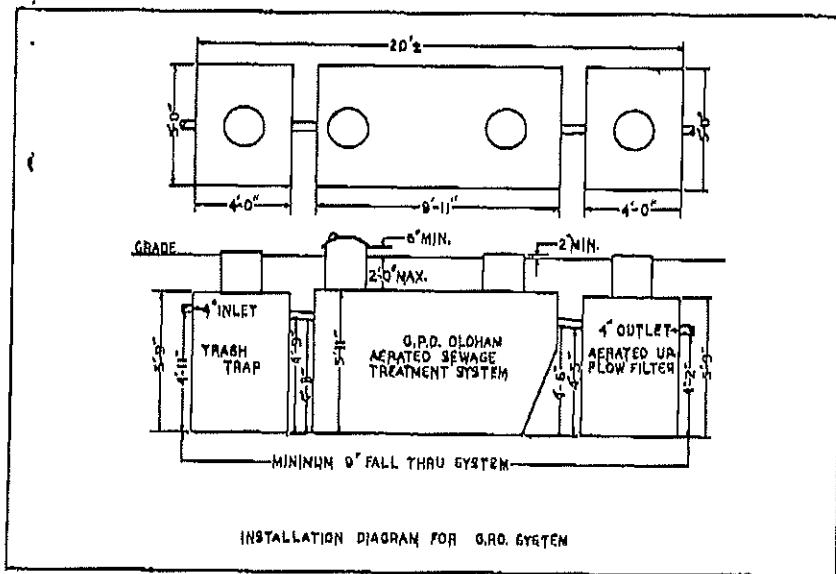
1. 500 Gallon per Day

For the average house of not more than three bedrooms and two baths, the standard size system, which treats up to 500 Gallons per day of normal domestic water, is sufficient.



2. Gallon Per Day

For houses of more than average size, where the amount of wastewater may exceed 500 gallons of wastewater per day, the larger system is recommended.



Peak flows should not exceed one-third of the total daily flow in any three hour period.

LOCATION

The Oldham Aerated Sewage Treatment System should be installed in a location away from the house in the direction of discharge and where it will not be subject to surface flooding. Care must be used to insure that a good drain is available to avoid any possibility of water backing up in the unit.

Ground cover of 12 to 14 inches is sufficient and will not cause any problem in servicing the unit. Tanks set more than 24" below the surface of the ground are not recommended.

OPERATION

To conform to the testing procedures, under which all individual residential aerated sewage treatment systems are tested, sufficient air for the aerobic digestion process, circulation of the contents of the aeration compartment and post aeration of the effluent, is supplied by a motor and blower unit which delivers 14 cubic feet of air per minute at 2 pounds pressure. To properly treat the waste water of an average household the ½ horsepower motor will consume 85 to 90 kilowatts of electricity per month.

The motor is controlled by a timer, and is set by factory trained personnel to operate the necessary length of time to properly treat the sewage. This operating time will vary depending upon the amount of sewage to be treated each day.

An undersupply of oxygen retards the aerobic digestion process and will result in a septic condition which will cause an offensive odor.

An oversupply of oxygen will result in too much aerobic digestion and the solids will become too light to settle and will be discharged with the effluent.

Therefore, it is necessary to maintain the correct amount of oxygen in the contents of the aeration compartment. The proper oxygen content can be readily determined by noting the color of the contents, which should be a chocolate brown.

For proper operation of the aeration equipment and control of the aerobic digestion process, the service of properly trained personnel is advisable.

ELECTRICAL CONTROLS

The 120 volt motor is protected by a fusestat located in the equipment riser and a red warning light on the cover of the equipment riser. In the event that the fusestat burns out the red warning light will come on indicating that the motor is not operating and service is necessary.

The distributor furnishes the underground electric service wire from the Oldham Sewage Treatment System to the exterior of the residence served by the system. The homeowner, builder or electrician is requested to connect this service wire into the electric service panel using a service breaker of not less than 20 amp capacity.

The distributor's or service company's name is attached to the cover of the equipment riser. The homeowner is requested to notify the distributor or service company should service to the system be required.