

INDUSTRY SERVICES

Site Drainage Systems

- Stormwater Drywells
- French Drains
- Piping
- Drainage Appurtenances
- Pump Systems

Technical Analysis

- Design Review
- Percolation Testing
- Geologic Database
- ADEQ Drywell Registration

Recharge Systems

- Municipal/Private Recharge Wells
- Injection Wells & Galleries

Environmental Applications

- Pattern Drilling/Soil Remediation
- Drainage Rehabilitation
- Drywell Abandonments
- OSHA HAZMAT-Certified

Drainage Renovation

- Problem Assessment
- Site Redesign/Modification
- System Retrofit

Drainage Maintenance

- Preventive Maintenance
- Service Contracts
- Drywell Cleaning

TORRENT RESOURCES INCORPORATED

1509 East Elwood Street
Phoenix Arizona 85040-1391

phone 602-268-0785
fax 602-268-0820

Nevada
702-366-1234

AZ Lic. ROC070465 A,
ROC047067 B-4; ADWR 363

CA Lic. 528080 A, C-42, HAZ

NV Lic. 0035350 A

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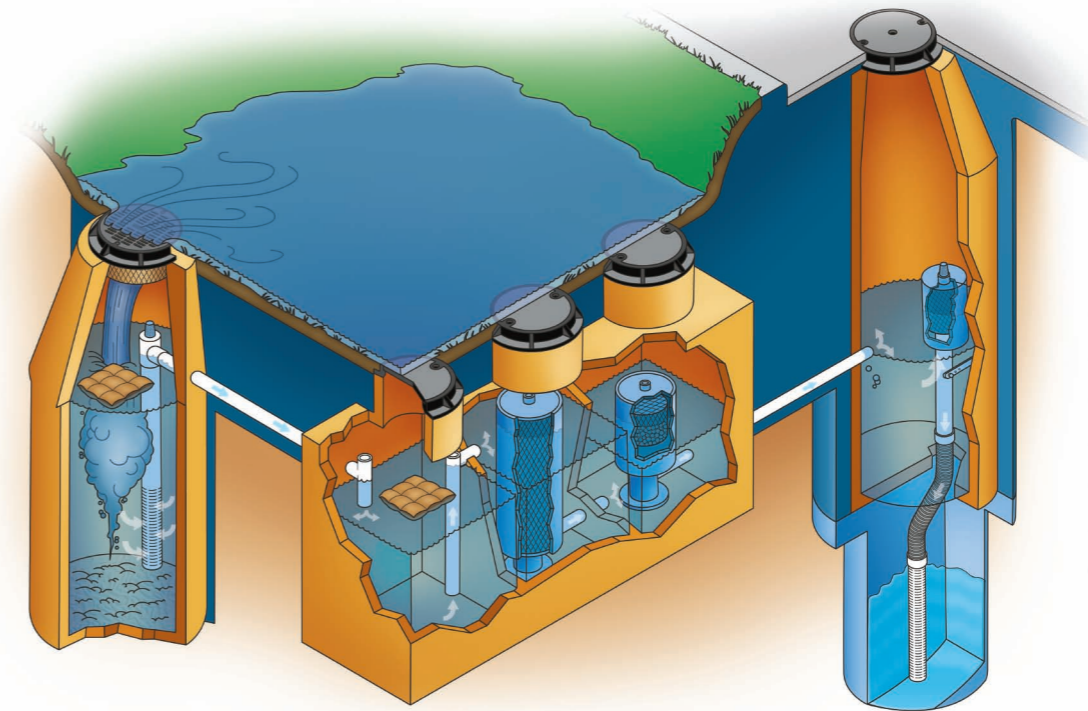
TORRENT RESOURCES (CA) INCORPORATED

phone 661-947-9836

CA Lic. 886759 A, C-42

www.TorrentResources.com

An evolution of McGuckin Drilling



The **Envibro® System**, as manufactured and installed exclusively by Torrent Resources, is specifically designed to process and dispose of stormwater runoff from service stations, industrial sites, transportation facilities or other special drainage treatment. Pictured is the **Envibro® 20** model for applications draining up to 10,000 sf of contributory area.

THE ULTIMATE IN DESIGN

Drainage areas that are impacted by industrial activity or organic compounds require special processing of the surface water runoff that is generated from these sites during storm events. Torrent Resources has developed the state-of-the-art **Envibro® System** to drain such sites while providing effective discharge controls. A combination of advanced materials and treatment technology are utilized to trap and separate organic compounds from the water prior to disposal.

SUPERIOR PERFORMANCE THROUGH DESIGN

Unique Imbiber Bead® technology enables the Envibro System to provide a superior level of treatment compared to interceptors, "sorbent" or "pass-through" systems. While such systems can fail in the "open" position, the Envibro System can eliminate the risk due to spills in the drainage area by successfully stopping and containing flow. The special "stop-valve" feature functions automatically without the need for a power source or human reaction.

THE ENVIBRO SYSTEM DRAINAGE PROCESS

Incoming runoff from paved surfaces is directed into a typical landscaped retention basin where the velocity of inflow is reduced and large solids are deposited. As water builds up in the basin, runoff spills over into a large collector chamber with a minimum of 1,000 gallons effective capacity. Trash, leaves and floating material are retained in an easily accessible 6" deep debris basket under the inlet grate. Petrochemical products are retained in this chamber, utilizing the American Petroleum Institute General Standards governing the separation of petroleum from water by gravity differentials. Sludge or heavy solids settle to the bottom of the chamber for easy removal.

The next step in the process begins as flow from the collector chamber is directed through a screened overflow pipe to a stationary tank. A flow regulator located upstream from the tank's first compartment slows internal velocity to effectively separate any residual fluids and solids. Floating hydrophobic absorbents literally wick petrochemical and organic compounds from the water.

ENVIBRO® SYSTEM PRODUCT INFORMATION AND DESIGN FEATURES

The next compartment filters fine particles and silts through a high-capacity fabric mesh. This filter fabric is composed of polypropylene fibers which naturally attract petrochemical fluids, thereby enhancing their removal. The **Envibro® 20** gpm model provides over 3,600 square inches of filter surface area. The 40 and 80 gpm models provide 7,200 and 14,400 square inches of filter capacity respectively.

UNPARALLELED CAPABILITIES

Final processing is achieved in the third compartment through an exclusive **PureFlo® II** Drain Field utilizing hydrophobic absorbent Polymer Imbiber Beads®. The patented beads will not even partially absorb water or brine solutions, enabling the Envibro System to deliver control capabilities unequalled by any of the more commonly available "sorberent" products or oil/water separators.

The PureFlo II Drain Field has approximately 30% void space available for fluid flow. Under normal operation, water passes freely through the voids between the beads in the Drain Field. However, when contacted by an active organic liquid, the Imbiber Beads instantly begin to absorb the liquid and expand up to 2,700%. The void space in the drain field is rapidly filled, acting as a stop-valve to prevent any further flow.

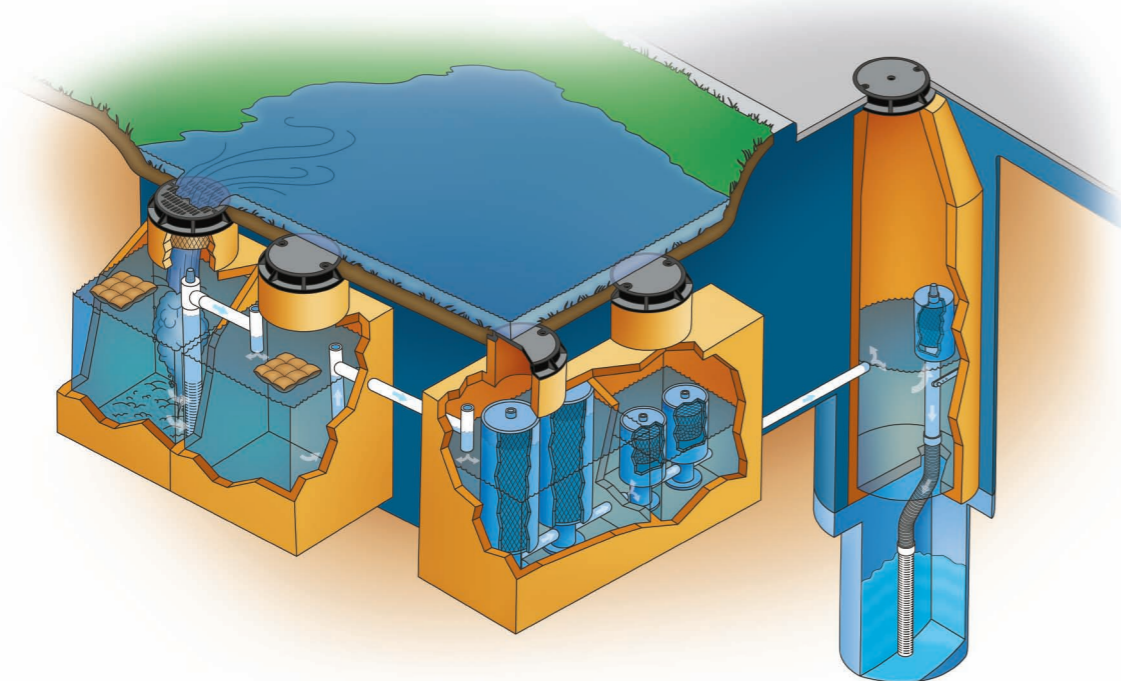
The unique beads are effective for a wide range of organic compounds including transportation fluids, chlorinated solvents, aromatic solvents and polar compounds. The Drain Field will not imbibe solids, high viscosity oils, low molecular weight alcohols and oxidizers. A full list of imbibed compounds is available upon request.

Processed water is finally discharged into a patented **MaxWell®** drainage system constructed to provide controlled flow and to allow for inspection. The Inspection Chamber of the MaxWell is sealed to prevent seepage. The **FloFast® II** Drainage Screen is slotted with 32 slots per foot, providing over 600 square inches of open area to ensure continuous flow to the surrounding soil. In addition, the drainage backfill material is a washed rock sized to best complement soil conditions and enhance natural soil absorption.

RELIABLE OPERATION

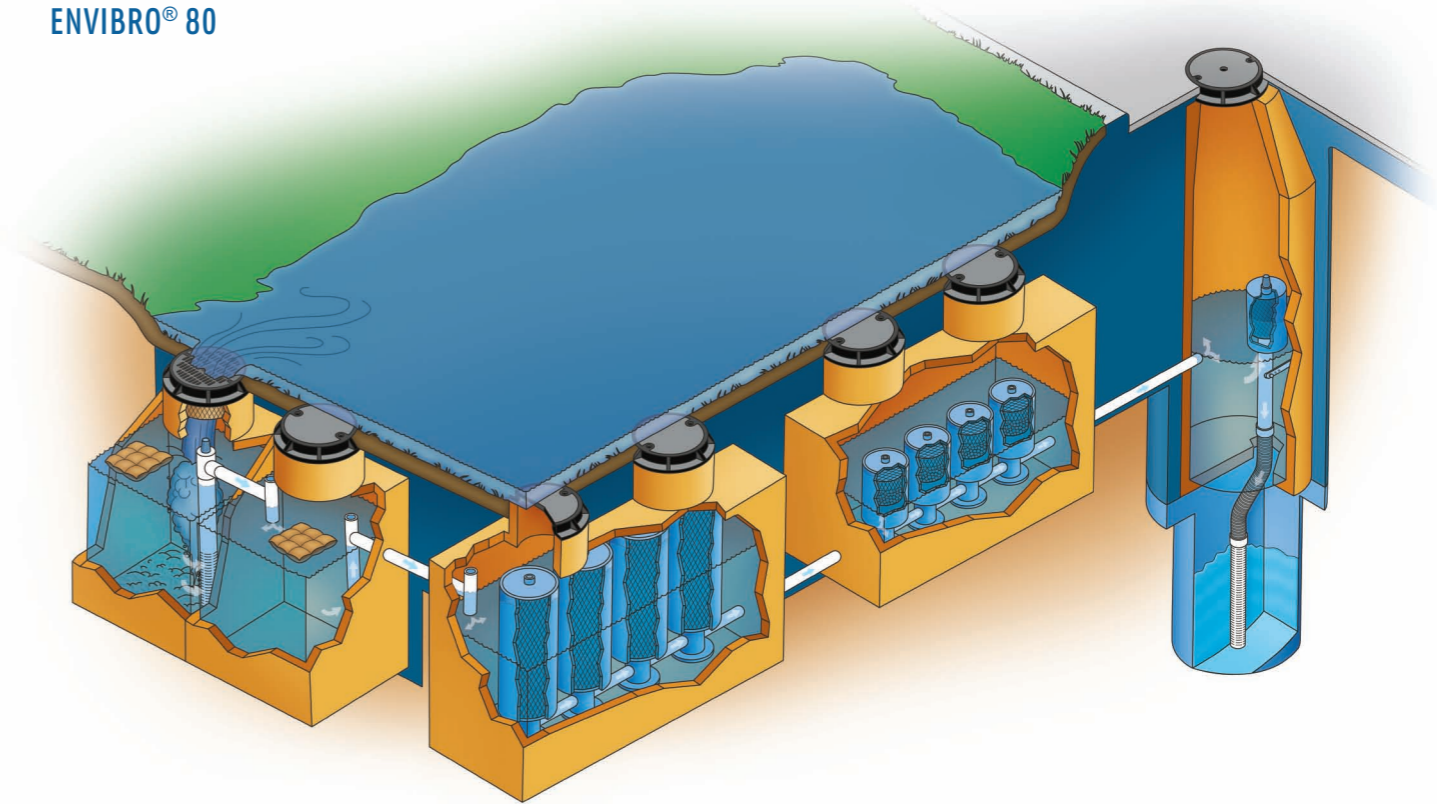
Organic liquids are contained within the **Envibro® System** under a broad range of conditions. The physical swelling of the Imbiber Beads is sufficient to stop flow and no chemical, mechanical or electrical actions are necessary. The Envibro System is recognized by governmental agencies as a best available demonstrated control technology or best management practice for sites requiring special drainage treatment.

ENVIBRO® 40



The pictured Envibro 40 will drain sites up to 20,000 sf of contributory area.

ENVIBRO® 80



For large sites with up to 1 acre of contributory area, the Envibro 80 is the most effective solution.

Standard sizes for gravity flow operation are 20, 40 and 80 gpm models. To allow for adequate processing time and to meet most municipal drainage ordinances, runoff from paved surfaces should be diverted into a surface retention basin prior to draining into the **Envibro® System**. Automated pump systems with float control operation are available for underground storage systems or for inlet pipes connecting to the collector that are deeper than 7 feet below grade. For system details and specifications, refer to the individual model Product Technical Publication.

EASE OF MAINTENANCE

The Envibro System requires limited maintenance under normal operating conditions. A service opening above the tank's compartment permits periodic removal of retained liquids or fines. The filter assembly and the PureFlo II Drain Field are easily accessible and can be cleaned by removing them from the tank and simply hosing them down to remove fine debris. We recommend this cleaning procedure following heavy rainfalls or high-loading of the system with trash and debris. Replacement of activated Imbiber Beads is normally required if they are exposed to an appreciable release of organic liquids. However, under normal operation, the Imbiber Beads can be expected to have a long life.

For your convenience, Torrent Resources offers a complete maintenance program. Please call for information regarding a service maintenance agreement.

THE ENVIBRO SYSTEM LIMITED WARRANTY

Envibro® Systems are designed to process and dispose of storm water runoff in a variety of industrial applications and are warranted against failure due to workmanship or materials for TWO YEARS from date of installation. All Envibro Systems are manufactured using the finest materials and techniques as described in the latest Torrent Resources Technical Publication, but the Company reserves the right to make improvements and to adapt its designs to specific field situations, material unavailability or other conditions beyond its control.

The effectiveness of Imbiber Beads for appropriate liquids should be determined before installation. Due to divergent bead effectiveness and variable run-off conditions, no warranty is made on specific performance. No responsibility will be accepted for consequential damages resulting from Envibro System manufacture, installation, performance or improper use. The use of Imbiber Beads with oxidizers is not recommended and can be potentially dangerous.

The grated inlet of the collector of the Envibro System has been sealed with a protective fabric which is to be removed after landscaping and paving are complete. Similar protection should be provided for any other inlets to the system. Premature fabric removal or lack of protection for other system inlets could result in system damage, and may void some, or all warranty conditions.