

WHAT ECOSENSE™ FILTRATION SYSTEMS REMOVE & HOW FAST...

The EcoSense water filtration system is a complete system for the absorption of over 93%-98% of the oils, grease and other pollutants that are included in most surface and storm water runoff, as well as industrial water discharges at a filtered (polished) rate of over 36 gallons per minute per filter! The EcoSense system is designed for most all sizes and shapes of pre and post construction catch-basins, inlets, drains and all other types of structures.

TESTING: ESA's systems have been tested on-site and in laboratories with verification extraction results that are recorded by four different countries. Studies at a number of independent laboratories and universities show that the ESI filter systems have a hydrocarbon extraction efficiency rating range of between 93% to 98% under all kinds of weather and stress conditions .

SAFETY: Combined with the debris screen and debris baskets, ESA patented by-pass water evacuation design Over-Flow Tubes that handle large rain downpours that become "deluge events". Reduced chances of debris blockages and the ability to handle large volumes, reduces the risk of flooding. As soon as the head pressure from the extra water exceeds the filter's high efficient extraction ratio, the ESA specially designed regulated head pressure system allows the excess water to by-pass the filters through ESA's "Clean-Pass Over-Flow Tubes", which function like relief valves - regulating the incoming water volume to allow it to flow freely. The design takes water from the middle of an in-drain backup minimizing any risk of surface floating oils and heavy sediments or debris passing through. In additional, by the time this happens the water has typically already passed the first flush event which carries most pollutants and so the rest of the incoming water is considered relatively clean and free from most harmful pollutants. During and after the deluge event, water continues to drain through the filters.

QUALITY: ESA uses a combination of rigorously tested "inert" materials for its systems to ensure years of trouble-free service. The ESA filters provide absorption of hydrocarbons and over 600 hazardous known pollutants – and can also be used to raise the PH value in water. The EcoSense filtration system is considered within the industry as one of the best water transfer systems available today.

EXAMPLES OF SOME OF THE CHEMISTRY AND ITEMS THAT ECOSENSE FILTER SYSTEM MEDIA IS EFFECTIVE IN REMOVING FROM WATER WASTE STREAMS:

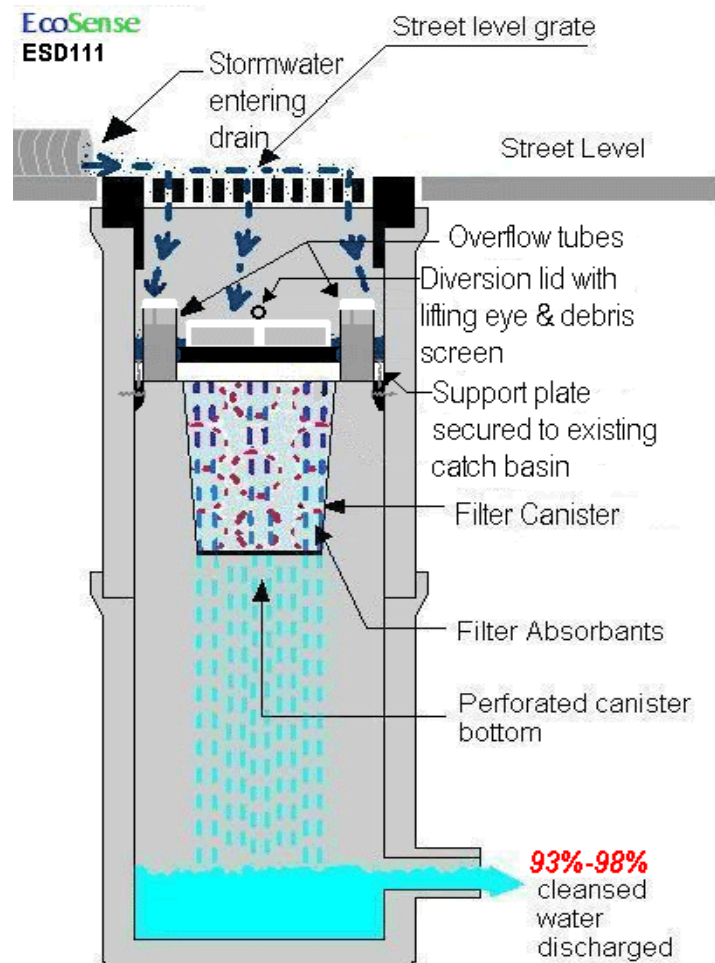
Engine oil	gasoline	brake fluid	transmission fluid	diesel fuel
anthracene	naphthalene	benzene	non-ionic surfactants	chloroform
penenthrene	creosote	oil/grease	ethyl benzene	pentachlorophenol
exotic fuels	PCE	flourene	pyrene	fulvic acids
solvents	toulene	humic acids	indeno pyrene	methylene chloride
THM's	aluminum	magnesium	antimony	manganese
arsenic	mercury	barium	nickel	cadmium
selenium	calcium	silver	chromium	tin

PLUS UP TO 600 METALS AND OTHER POLLUTANTS.....

KEY FEATURES OF ESA'S HYDROCARBON FILTERS

As an example of a standard storm drain in any street, parking lot, equipment storage or wash-down area, the ESA filter system is designed as follows:

- A support plate is installed on brackets below the surface being drained in any type of storm drain or drain for surface water.
- This support plate is made of long lasting, high quality and non-toxic materials and has an opening for an ESA hydrocarbon filter (or number of filters for larger systems)
- Also key, is that each plate has ESA especially designed overflow valves for large storm "deluge" situations so that the system not will prevent water draining reducing any external flooding.
- Note that ESA's overflow valves are designed so that hydraulic pressure forces the water through them, but in a way that is designed to prevent debris from passing through..!



- ESA filters will often be installed with ESA's Debris Baskets in line over the filter to catch the huge variety of debris that is part of most environments (note that EcoSense has installed many hundreds of systems in Miami, which are preventing some 60 to 90 tons of debris from polluting Miami's waterways each year now. *Interestingly, ESA systems has caught everything for the City from trash and leaves to guns and shoes..!*)
- Each ESI filter unit comes with a protective cover that prevents lit cigarettes and all other types of trash to directly fall onto the filter plus the cover has a stainless steel mesh filter to prevent solids from entering the system.
- There is a Venturi Effect built into the design of the filter also tends to prevent a large percentage of sediments from entering the filter and instead, deposits the sediments on the support plate for ease of cleaning.



- In addition to the over-flow valves, the support plate has dry-drains to thoroughly dry any sediment on the support plates for additional sanitation purposes and prevent the growth of biological matter.

- i) Each filter system also has a hook on top so that it only takes seconds for a maintenance crew to drop a hook down through the grates – attached to an ESA Scale Meter - to easily and quickly checks the weight of the ESI filter system – which immediately shows the percentage of use still remaining in the filter. The maintenance crew does not have to remove any heavy grates or lids and in less than a minute a system can be checked. And this same Debris Screens and Diversion Lids keep flammable sources and debris safely out of the system,



- j) Oily, dark water clears in seconds - As storm, surface, over-flow or any other types of water pour through the ESA filter (SEE WEB SITE VIDEO), the filthy, oily waters go in the top and come out looking like the clean, clear water of a mountain stream..!