

## DEWATERING SOLUTIONS

Keep your site in compliance with our dewatering products for clean water discharge in dewatering operations.



### Standard Sediment Dewatering Bags

GEI Standard Sediment Bags are a common option for removing unwanted materials from discharge or stormwater runoff. Bags are generally smaller in size, making them ideal for dumpsters, drop boxes, or small dewatering areas.



### Heavy Duty Dewatering Bags

GEI Heavy Duty Dewatering Bags use a thicker geotextile with higher filtration properties than Standard Dewatering bags. They reliably filter even finer pollutants in medium to large-volume site discharge, wastewater, and runoff.



### Oil and Sediment Dewatering Bags

GEI Oil & Sediment Bags are oil absorbing, retaining hydrocarbons while flushing soils and particles. Their high filtering qualities are ideal for pumping areas where soils have oil contaminants that require filtration prior to discharge on site.



### Dewatering Filtration Socks

GEI Dewatering Filter Socks are one of the easiest ways to filter water runoff as it leaves your site. Designed to attach directly to the end of vertical dewatering pipes or hoses, these filter socks contain sediment, debris, and other pollutants as the water discharges from your site.



### Geotextile Dewatering Tubes

GEI Dewatering Tubes are used for large filtration or sludge removal projects. They have significantly larger dimensions and superior strength fabric as compared to dewatering bags.



### Dewatering Applications

- Construction
- Hydro Excavation
- Railroad
- Agriculture
- Oil Drilling
- Sludge Removal
- Water Treatment
- Manufacturing
- Shoreline Protection
- Jetty and Seawall
- Mining
- Dredging
- Aquaculture
- Paper Mills



## What Should I Consider When Choosing Between Dewatering Products?

Choosing dewatering products depends greatly on the project and location. There are a number of factors to consider:

- Quantity and Type of Sediment
- Water Flow Rate
- Drainage
- Available Space
- Permittivity/Microns
- Water Volume
- Type of Application
- Timeline and Budget

## How Fast Will You Be Pumping into the Bag?

Dewatering Bags are made from different fabrics depending on your application and that rate (gpm) at which you will be pumping water into the bag. Bags are typically made with either an 8 oz or 10 oz material, although custom materials and sizes are available. Dewatering Tubes can handle significant volume and tend to be measured in cubic yards of sediment.

## How Much Sediment Do You Need to Contain?

Determining the size bag or how many bags you will need will often depend on the amount of sediment you need to contain. Bags are rated with a certain capacity to help contain different volumes. Also, Dewatering Bags and Tubes should only be filled to 80% capacity with time allowed for drainage prior to filling again. As such, most customers utilize a series of bags or tubes for continuous pumping operations so that when one bag or tube is full, the pump hose can be attached to the next bag in line. The number of bags would be determined by total volume, pumping rates and settling/dewatering time.

## How Much Available Space Do You Have?

Another major component is the amount of available space you have for your product. Please consider sizing, such as widths and lengths, so we can help you choose a Dewatering Bag that will successfully fit in your location. Layouts are typically handled by laying dewatering products down in relatively flat areas. Drainage can be improved by increasing the open surface area of the bottom by laying down hay bales, gravel, or pallets below. Both drainage and efficient removal can be accommodated if you utilize a flatbed trailer or open top 20' rolloff to house your Dewatering Bag or liner.

## What Type of Sediment Makes Up Your Slurry?

Sediment can be made up of numerous components at different values such as fine sand, silt, clay, colloids, and organic bio-matter from decomposition. There are two ways to determine use: utilize a hanging bag test to see how long it takes your sediment and slurry mix to filter through typical dewatering materials, and / or sending samples of your slurry to a reputable company who specializes in dewatering chemistry to help bind your particles into larger ones. With ultra-fines such as silt and organic matter, chemicals such as polymer flocculants or coagulants may need to be mixed and added to the slurry prior to pumping into a Dewatering Bag or Tube. Adding chemistry that causes positive and / or negatively charged molecules to attract, pulls the smaller fine particles together into larger clumps. This allows them to be blocked by the fibers in the dewatering bags rather than pass through the sieve openings. These additives should be selected with care according to environmental and permitting requirements, and with the help of a credible scientist. Once they have determined the molecular structure and nature of the organic and inorganic composition of your slurry, you will have a better understanding of what types of bags or tubes will be effective. Depending on the mix of material, either anionic flocculants for minerals, or cationic flocculants for organic particles, or a combination, may be required. Once you have determined what type of sediment you are trying to remove, Dewatering Bags (or tubes if you have significant volume) should be chosen according to volume first, then permittivity.

## Woven vs. Non-Woven Materials

Non woven geotextile fabrics are made with synthetic fibers manufactured with thermally bonded polypropylene and /or polyester fibers which are then needle-punched to create a felt-like surface with good elongation and permittivity. It's construction allows for strength and provides a good surface to capture sediment with enough aperture for filtration. Dewatering Socks and Bags are made with non-woven geotextile materials due to their higher flow rates, elongation properties and permittivity.

Geotextile Dewatering Tubes are made from weaving polypropylene tapes together in a controlled criss-cross pattern, allowing for construction of geofabrics with superior tensile strength values. Though they do not have the same filtration rates or permittivity as non-woven geotextile materials, they are highly effective at retaining sediment and allowing water to pass through in large volumes. The weight and volume of sediment and slurry utilized in these tubes actually facilitates the dewatering process through compaction and surface area.

## Florida Compliance

In February of 2015, Florida DEP added dewatering operations to the revised Generic Permit for Stormwater Discharges from Construction Activities (CGP). It is not uncommon for land development to require dewatering onsite. Dewatering is the act of temporarily lowering the water table by pumping groundwater from one location to another, and discharge should not cause a violation to surface water quality standards during dewatering. Operators may obtain a Generic Permit for Discharge of Groundwater from Dewatering Operations through the FDEP when filing for their NPDES NOI. In addition, it's important to note that Standards must also get authorization from their respective local municipality and water management districts. In order for dewatering activities to meet the requirements of the DEP permit, the FDEP or EPA must identify the site or sites within 500 feet as not contaminated or remediated. If contamination is present, the responsible party must remediate the site before dewatering can begin. Adding dewatering activity to the CGP last year has allowed Standards to file one NOI with DEP for NPDES and Dewatering. If dewatering is not notated during the initial application the Standard would need to file a Notice of Intent to Use the Generic Permit for Discharge of Ground Water from Dewatering Operations.