

PLACE
STAMP
HERE

Proper dewatering is important!!

Appropriate dewatering devices are critical practices that help to control construction site runoff and keep the sediment on-site and out of receiving streams, lakes, and other drainageways.

Questions? Call Us!

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Dewatering Practices

A guide for explaining different dewatering devices, how they work, and why they are important.



CITY OF FRANKLIN
STORMWATER



What is dewatering?

Runoff from construction sites usually contains a large amount of sediment and must be managed appropriately. A dewatering device is a temporary structure for the purpose of filtering and/or settling sediment-laden water prior to being discharged off-site.

What are my options?

During the construction process, temporary sediment basins should be carefully dewatered down to the top of the wet pool level. Perforated risers and skimmers are two methods recommended by TDEC. They are used to slowly drain from the surface water down to the permanent wet pool level within a 72-hr time period as required by Tennessee's Construction General Permit (CGP).

Post-construction, it is common practice that these sediment basins are retained on-site, converted and reconstructed as a permanent detention pond for reducing runoff volume and peak flow to pre-construction conditions. It is necessary that the basin be drained to wet storage and then the remaining slurry is pumped into an external dewatering bag. Once collected, dewatering may require three or four days of rain-free weather for the drained sediment to sufficiently dry out for handling.

Skimmers, Risers, Bags

Surface Skimmers

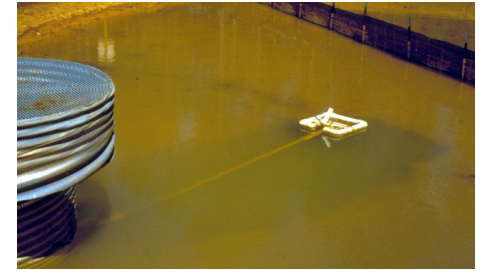
The most effective dewatering device is a floating type of skimmer configured to always draw down water through a small orifice opening located just below the water surface until the permanent wet pool level. A resting pier should be constructed beneath the skimmer to establish the permanent pool elevation and to prevent the skimmer from becoming stuck in the mud.

Perforated Risers

Another method is a perforated vertical pipe or tubing attached to the principle spillway riser at the permanent pool elevation and designed to draw down the volume of water between the riser crest and permanent pool over the recommended 72 hours. This practice is less effective than the surface skimmer because dewatering takes place over the entire 2-3ft perforated column, rather than at the surface.

Dewatering Bags

A gravity filter bag, also referred to as dewatering bags, are square or rectangular bags made of non-woven geotextile fabric that collects sand, silt, and fines. Water is pumped into one end of the bag and will then seep through the bottom and sides. A second barrier, such as a rock filter bed or straw bale barrier, is placed beneath and beyond of the edges to capture any sediment that escapes.



The good and the bad

Problems we commonly see...

1. Devices not installed at all!
2. No resting pier for skimmer, and then gets stuck in the mud.
3. Riser is perforated below wet pond level.
4. Dewatering bag is not filtering properly.
5. Improperly sealed low flow orifice on principal spillway structure.