Have you changed your filters lately?

BY **TONY STRICKLAND, CSFM**

Common sense tells us that changing filters is important. Consider, for example, the oil and fuel filters of the engines we use to perform work that determines how we are looked at professionally. Would any of you consider reusing the old filters? I have been told that using the old filters leaves the dirtiest material in the system which will, with time, clog the filters to the point they cease to function.

No, this is not another equipment maintenance checklist (nor is it a recommendation to check the filters of your lives although it is wise to do so periodically.) This is about the use of "Filter Fabric" and "Socked Pipe" in athletic field construction.

"Filter fabric" filters the water that is to flow into the pipes under it or adjacent to it and the sock on the "Socked pipe" is used similarly. How can we allow a filtration system that cannot be changed economically to be installed at the showplaces of our profession? This is a great characteristic if you want to prevent the subsurface from mixing with the soil profile!

Let's face it, filters do and will clog and if by its own definition filter fabric does its job, which I don't doubt, how many filtration processes can they perform before they become impervious to even the smallest molecule? Even with the most pristine conditions with the best engineering and using USGA approved sands, the installation process of these systems will generate some amount of fines that will be filtered out of the water to prevent the pipes from clogging. Now, take in account the activity of the sport on the field, the cultural practices of the sports field manager, aeration produces fines, traffic of any kind produces fines, organics from the roots produces fines and some fines come from fertilizers. Granted some of these are minute particles and some may pass through the fabric but how long does it take before the smallest particles start to bridge across the pores in the fabric?

I have personally experienced this problem. One morning, I walked out on the field at a minor league facility. Though it had not rained in 24 hours, there was an 8-12 inch layer of water covering the most of the outfield and very little water coming out the out-fall of the drain pipe. This didn't make sense.

"They" (the local municipality) said the field was just three months old and had been constructed in-house using the labor of prisoners from the local jail. They reported the field had subsurface drainage and a sand base profile from a reputable local source. I asked the engineers who had surveyed and managed the installation of the sub-surface drainage system to come onsite to locate the drain lines for inspection. We not only found the sand to be improper but the pipes also had a "sock" on them. After the engineers and I observed the separation and sedimentation of the sand layer, which created a gunky thick ooze at the transition from sand to gravel and restricted the rapid percolation as you would hope for, we also noticed no water movement into the gravel surrounding the socked pipe. I then scratched through the gravel to find the pipe, still no water movement; I then decided to cut the fabric and only then did the water create a vortex that would be the envy of the "Tidy Bowl Man."

My crew and I spent the rest of that season removing the twenty or more drain plugs across the field after every rain just to get the water off the field, not to mention chasing the waterfowl off. We still lost 14 home games that year while the sun

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was shining. We had fans that would still come to the games asking if they could use the dugouts for blinds when hunting season opened. This did not suit our owners too well and after an extended court battle, the jury agreed with us and not only requested the property owners to pay restitution but also ordered them to rebuild the field with an outside engineering firm and contractor.

The main reasons for this field's subsurface drainage system failure, as determined by engineers and consultants that were brought to the witness stand, was the sock on the pipe and the soils used for the root zone. The fabric had done its job by filtering the water to such an extent that the pores of the fabric had bridged over. How can this happen? The soil that was supposed to be the sand for this "sand based" field had over 30% silt and clay and over 20% organics that means over 50% of the soil was not sand. In addition there was no way to change this filtering system without digging up the field.

Water management is one of the most essential requirements of any sports field. Without it we lose turf areas, games, maintenance time, and cultural practice time. To help insure the integrity of your sports field get involved with the project in the design phase, make sure the products specified have the field's performance in mind and have been thoroughly and adequately tested or analyzed for compatibility.

If we as field mangers would get with those who are engineering and designing our fields before the plans are released and try to figure out the best scenario for our specific sites then we will be able to do the best possible job for the money we can. This is something any sports field professional should be aware of as our field of dreams is being built. Always ask questions, know your products and contractors, and let's keep the filters of our world where we can economically change them. **ST**

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