

Targeting drainage issue in Disharoon

Cofferdam (pictured above) constructed to address issue

Update at 10:15 a.m. April 7: A cofferdam is being constructed today. When completed, this rocks-and-gravel enclosure will give workers the ability to pump out excess water and gain access to an area where they have identified a drainage issue.

Water removal from Disharoon Lake uncovers drainage issue, Forces construction of temporary enclosure to address problem

By POA General Manager Scott Auer

The project to remove the rotted swimming-platform wood pilings and conduct an inspection of the Disharoon Lake drainage system has discovered a leak. Work crews are now busy constructing a temporary dike that diverts Disharoon Creek and allows the drain system to be inspected and repaired.

There are no safety risks to Property Owners, but efforts to swiftly resolve the issue are complicated by the now exposed Disharoon Lake bed. Thick with several feet of gooey silt, this knee-high pudding-like layer of sediment makes the lake bottom impassable by either foot or vehicle.

Crews that include staff from Geosyntec Consultants are building what's known as a cofferdam, which creates a water-tight enclosure that diverts the stream now running across the lake bed and allows unimpeded access to the source of the issue. On Monday, dump trucks first began depositing rocks and gravel on the lake bed to create a dry, mud-free pathway that enables workers and their equipment to reach the area.

Geosyntec, the engineering consultant also enlisted to work on the Lake Petit Dam, conducted a camera inspection of the outlet pipeline of the earthen embankment of Lake Disharoon dam in September 2020. Inspectors identified the need for standard maintenance, which had been included in the POA's 2021 capital plan, but did not spot anything that hinted at the current issue, said Wesley McDonald, Geosyntec senior engineer.

i.e. the "Low Level Drain Pipe"

“There appears to be a problem between the inlet structure and the outlet's pipeline, so we're investigating that area to understand exactly what's going on,” McDonald said. “This is a huge challenge that is not routinely done. It's just unique.”

Complicating the problem was the deluge that hit Big Canoe on March 25 and 26, which in a few hours blasted three inches of rainfall on the exposed lake bed, turning it into a turbid slurry of organic material and muck. The darkened water, which flowed into Lake Scoti, is the source of the discoloration in the waterways along the Creek Golf Course and beyond.

Some questions won't be answered until we gain access to the full drain system, but here are a few we can address.

Q: Are any of these problems because of the Creek 9 rejuvenation.

A: The two matters are unrelated. The murky water along the Creek course is the result of runoff from the Disharoon Lake bed – not the work on the Creek course that began in February and concludes later this year. The removal of the pilings and a concurrent inspection of Disharoon were scheduled months ago.

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Q: How will this unanticipated maintenance be paid for?

A: Although we had planned a full inspection and maintenance of the drainage system later this year, the need to build the cofferdam and address the new issue is an added expense that won't be determined until the inspection is completed. Big Canoe's Restricted Capital Reserve Fund, which now holds \$2.8 million, was designed as a safety net for any unforeseen road, bridge or dam repairs.

Q: Will all that sediment affect the quality of Big Canoe's drinking water?

A: Big Canoe's supply of drinking water remains safe, said Ron Medders, director of operations for Utilities, Inc. of Georgia. "The Big Canoe lake system is part of our watershed that we pull our drinking water from, but it currently is not affecting it to a degree that would cause alarm." Nonetheless, UIG has made operational changes to the system as a safeguard.

Q: Will this affect the water bill of Property Owners?

A: UIG "does not foresee any increase in rates right now," Medders said.

Q: How common is this sort of issue?

A: Very rare. "I have not seen anything like this before," McDonald said, "but I have co-workers who have experienced something similar. The thing is that every dam is different, and every dam has its own unique characteristics."

Q: Will this affect plans around the opening of the Beach Club on Memorial Day weekend.

A: There is no timetable as to when the work will be completed. The problem must first be identified, which cannot happen until the cofferdam is completed, the stream is diverted, and the drain system issue is located, identified and fixed. Once the repair is completed, we will rely on Disharoon's natural flow of water, which has twice the volume of what goes into Lake Petit, to quickly refill the lake.

Q: Who besides Geosyntec and UIG have been notified.

A: The Georgia Safe Dams Program, which is part of the Georgia Environmental Protection Division; the Georgia Department of Natural Resources, the state agency charged with protecting Georgia's air, land, and water; and the Pickens County EMA Director have been notified according to POA procedures.

Q: Can the same situation happen to Lake Petit Dam?

A: Lake Petit's drain system, which is constructed of reinforced concrete, was inspected from the inside out and by trained divers in September 2020. Disharoon Lake uses a galvanized metal outlet pipe, similar to the ones being replaced on the Creek 9 Course. They are differently constructed.

Q: Does the Disharoon Dam require inspections similar to the Lake Petit Dam?

A: No, it is not a Class One dam like the Lake Petit Dam. As such, quarterly inspections and reports to Georgia Safe Dams are not required. Georgia Safe Dams last inspected Disharoon Dam in 2016.

Q: Could this have been foreseen?

A: The camera inspection last fall did not reveal anything beyond the need for maintenance.

However, the situation is a reminder that much of Big Canoe is nearly a half-century old, meaning routine and often unforeseen repairs are the norm and not the exception. This is why the POA had proactively built the replacement of the Disharoon outlet pipe into the 2021 capital plans.