



# Filamentous Algae In Stormwater Pond

USILST-LOC109.001



**Photos:** The first photo shows filamentous algae coverage in summer 2008; the middle photo is a SB10000 in action; photo on right is from summer 2010 showing significant filamentous algae reductions.

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**System Overview:** This pond provides an aesthetic benefit for a corporate headquarters of a large company located on the north side of the pond. It is also a stormwater collection and retention pond with a surface area of approximately 13 acres. At its deepest point the pond measures 6 ft, and has an average depth of about 4 ft.

### **Problem Before SolarBee Installation:**

Because of its shallowness and having high-nutrient stormwater runoff for source water, this pond had a history of blue-green algae (cyanobacteria) blooms that caused odors, as well as excessive filamentous algae growth that would cover much of the pond surface. The pond would often be stagnant, lacking sufficient circulation.

**SolarBee Installation:** Date: December 2007, installed two SB10000v12 units in this pond.

**Results:** Since the SolarBees were installed in the stormwater pond, blue-green algae blooms and associated odors have been prevented.

However, the combination of improved water clarity and the shallowness of the pond can create a favorable habitat for filamentous green algae to grow on bottom sediments, and eventually rise to the surface due to trapped metabolic gases. This scenario has been observed in other similar SolarBee installations during the first summer. This also happened in the BP stormwater pond during the first summer (2008, see middle photo above). As also observed in other similar applications, enhanced sediment oxidation through SolarBee circulation has a negative effect on filamentous algal growth in the second and subsequent years after installation. By 2010, filamentous algae had been greatly reduced in this stormwater pond as well (see right hand photo above). No chemical treatments have been used since 2008, and complaints of unsightly algal blooms or noxious odors have also ended, which is very important as the pond directly faces corporate headquarters. They report the pond is now in "good shape", and they are very happy with the SolarBees and the significant improvements in pond ecology enhanced long-distance circulation has provide.

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