

## Facilities thoughts, comments and plans for 'Lake 2' after meeting with Trace Wolfe, Clear Waters, Inc. (CWI)

### Our 'lakes' are in fact retention ponds, part of the permitted Stormwater Management System for Edgewater Landing.

Retention ponds serve two primary purposes. The first is to collect stormwater runoff from impermeable residential surfaces and control its' release to reduce the impact on downstream waterways. The second is to provide pollutant removal through settling and biological removal.

- As such, there is NO 'permanent solution to the problem' possible. We have contacted SJRWMD and other 'lake management' companies repeatedly.
- CWI has performed an oxygen profile of the retention pond and has collected samples to be analyzed for nutrient pollutants. Current oxygen levels are well within the range to support fish and other aquatic life. There are enough fish in the retention pond to preclude stocking additional fish.
- Current aeration system is performing as needed and doesn't need modification. The surface aerator in the southern end of the retention pond does NOT pull bottom material up and spread it around as the suction is at the surface of the retention pond.
- CWI also took water samples from 'Lake 3' for comparison. Results are still pending.
- CWI doesn't have manpower available to quickly clean the 'stuff' from 'lake 2' but will have some bodies working on Fridays to clean the worst areas.
- The installed 50 gallon Bio-Zyme system is doing its' job but may be too small to meet peak algae bloom periods (as now). A temporary 750 gallon portable system is recommended for two months @ cost of \$1,765.12. Consideration is also being given to changing our system to 100 gallons.
- Bottom sludge in the retention pond is negligible thru all but a small area at the northernmost end of the retention pond, and there isn't growth to justify 'mowing' the bottom as was done in 'Lake 3' last year. Consider hiring a company to remove from that north cove @ cost of from \$5k – \$7k.
- Replace the existing fountain, to greatly reduce maintenance costs, and replace with two (2) large volume fountains, one at each end of the retention pond.
- After reviewing the plans associated with the SJRWMD permit for the retention ponds, I believe the depth to be slightly more than 6' across the majority of 'lake 2, sloped at the edges to match the shoreline EXCEPT – it looks like there was supposed to be a berm, above water, from 607 Starboard Ave to 708/710 Navigators Way. Obviously this is now beneath the surface, whether or not approved during the construction process. If nothing else, it is a shallowness that inhibits flow in and out of the very north end where the sludge is deepest.
- I talked with John Jullianna, from SJRWMD, about algae control in our ponds two years ago when 'lake 3' was the major problem. I talked to John again last week to confirm what we had previously discussed.
  - We can dredge or otherwise clean the bottom of the retention ponds without needing a permit, but only to the depths approved with the original permit.
  - We could possibly get a permit to dredge deeper and build an island or, less likely, a permit to add bulkheads. Both would require justification and the services of a professional engineer.
  - In any case, we have gotten cost estimates, not bids, of about \$100,000 per pond to do dredging.
  - John also said we should not be concerned about the 'submerged berm' as it would be expected to erode away over time.