

## BI-WEEKLY MONITORING AND MAINTENANCE MONTHLY REPORT SUMMARY – MAY 2009

### I. EXECUTIVE SUMMARY

We visited Red Wing View Ponds on May 12, 27 and 28. During May the weather remained cool with ample rainfall, keeping most algae growth subdued. Submerged vegetation continued to grow at normal rates. Most ponds we service were treated periodically during the month in anticipation of the return to normal summer temperatures. Along with causing widely variable water clarity readings in our area ponds, rainfall has also helped to dilute specific conductance and dissolved solids levels that were elevated early in the spring due to winter salting of paved surfaces.

There are seven locations on the property that are being monitored and maintained. There is a wide variance in conditions and ecology. The challenge on many of the ponds is that shallow depth will increase the potential for rapid growth of both algae and plants as the weather warms. AEM staff will treat to control nuisance growth as needed and the applications will have no water usage restrictions. The shallow wetland ponds in the northwest section of the development will be the most challenging. Normally after algae is treated it loses its buoyancy and sinks to the pond bottom or breaks apart. In very shallow conditions the decomposing material has no place to go unless there is a storm or serious water movement to flush it from the pond. staff will be diligent in treating the site every two weeks. We will be using AquaPrep to aid in the digestion of the algae and applying other bacteria and enzyme products to assist in the decomposition. These products also reduce the odors of the material.

The dissolved oxygen level was excellent at 13.4 mg/l with an excellent level of percent saturation at 144. The water temperature remained below normal for this time of year. Average visibility was 2.0 feet. Conductivity and dissolved solids levels decreased.

Aquatic plant growth amounted to less than 1 to 5 percent surface and 1 to 50 percent subsurface coverage. Three treatments were necessary. The northwest ponds and wetlands will be treated on each visit.

The water levels were normal to below normal. On May 28<sup>th</sup>, we observed on Pond 4, which is at the north end of Oriole Court, there is a sink hole present near the storm sewer, though the water does not flow into the storm sewer. We need to get the water level stabilized in this entire section, but it is beyond the scope of any services we can provide.

A muskrat, geese, snowy egrets, frogs and largemouth bass were observed. Aquatic wildlife activity was good.

The May water quality sampling report follows. Please call if you have questions or observations.

## BI-WEEKLY MONITORING AND MAINTENANCE MONTHLY REPORT SUMMARY – MAY 2009

### II. AQUATIC COMPONENTS

MONITORING DATES: 5/12, 27 and 28

#### 1. Aquatic Plant Growth

Rooted Aquatics  
Type: Pondweed

Location: Thinstem, curlyleaf, sago, floating leaf.  
<1% surface, up to 40% subsurface.  
Largest amount in 6.

Floating  
Type: Duckweed

Location: 2 – 3% surface.

Algae  
Type: Chara

Location: Up to 50% subsurface.

Type: Filamentous

Location: Cladophora, hydrodictyon.  
<1 – 5% surface, 1 – 3% subsurface.

Type: Planktonic

Location: None noted.

**TREATMENT: 5/12 – 2.5 gals. Cutrine, 0.75 gal. Reward, 48 ozs. Aqua Prep, 4 lbs. Cutrine Granular; 5/27 – 1.25 gals. Cutrine, 48 ozs. Reward, 1 lbs. Aquathol Granular, 4 lbs. Cutrine Granular; 5/28 – 2 gals. Cutrine, 2 gals. Clearigate, 48 ozs. Hydrothol, 48 ozs. Aqua Prep.**

### III. AQUATIC COMPONENTS

#### 2. Visual Review of Aquatic Wildlife (Fish and Others)

A muskrat, geese, snowy egrets, frogs and largemouth bass were observed.

**Comments:** Aquatic wildlife activity was good.

#### 3. Visual Review of Pond Banks and Edges

The ponds had <1 - 5% surface and 1 - 50% subsurface coverage of aquatic plants. The water levels were normal to below normal. Pond 4 appears to have a large hole near the drainpipe.

**Comments:** Three treatments were necessary.

## BI-WEEKLY MONITORING AND MAINTENANCE MONTHLY REPORT SUMMARY – MAY 2009

### IV. AQUATIC COMPONENTS

### HYDROLAB READINGS from 5/12

#### 4. Water Quality

5/12

**Dissolved Oxygen (mg/l)**                      1 Foot Depth:                      13.37

Comments: The D.O. level was excellent. 5.0 is the level required for fish survival; 12.0 is the saturation level of oxygen in water, although super-saturation is attainable during cool weather conditions and times of heavy plant growth.

**Dissolved Oxygen (% saturation)** 1 Foot Depth:                      144%

Comments: Saturation was excellent. Saturation is affected by water temperature, weather conditions, state of growth or degradation of plant materials in the water, time of day and other factors.

**Temperature (F)**                                      1 Foot Depth:                      63.4

Comments: The water temperature remained below normal for this time of year.

**pH**    1 Foot Depth:                      8.55

Comments: pH was slightly elevated. A pH of 7.0 is neutral. Higher pH levels are due to more alkaline soils. pH levels are also affected by the growth of aquatic plants.

**Specific Conductance**                              1 Foot Depth:                      0.483

Comments: This parameter decreased. This is a measure of the electrical current that can pass through water. Ponds with lots of dissolved materials that are charged particles (ions) will have a high conductivity. This is directly related to TDS below.

**Total Dissolved Solids (mg/l)**                      1 Foot Depth:                      309

Comments: TDS measures dissolved salts and minerals present in the water paralleling conductivity measurements.

**Turbidity**    1 Foot Depth:                      20.7

Comments: Turbidity is an optical measurement of matter suspended in the water column. High turbidity greatly affects water clarity, as measured below. The range is 0 (perfect clarity-distilled water) to 400 (less than one-inch visibility).

**Secchi Disk Clarity**                                      Visibility                                      2.0'

Comments: A Secchi disk is a quick and simple way of measuring the transparency and color of the water. The water was brown to clear with sediment suspended in the water column.