Wildwood Park District
Special Board Meeting Valley Lake Treatment Proposals and Lake Update
Monday, March 8th, 2021 – 7:00PM

Due to the COVID-19 pandemic and state guidelines/restrictions, this meeting was held virtually through Microsoft Teams. All are welcome, but for security reasons, the link to the meeting is available by emailing the Park District Manager Brandon Magnini at bmagnini@wildwoodparkdistrict.com or calling 224-723-2795. Public Comments are welcomed and encouraged. Public Comments should be emailed to bmagnini@wildwoodparkdistrict.com and contain the following information:

*Name
*Street Address (Optional)
*City, State (Optional)
*Phone (Optional)
*Organization, agency, etc. being represented. (If representing yourself, put "Self")
*Topic or Agenda Item Number followed by Public Comment

Minutes

I. Call to Order – Pledge of Allegiance

The Special Board Meeting was called to order at 7:05pm. The Pledge of Allegiance was recited.

II. Roll Call:

Present: Commissioners Becky Jante, Anna Nelson, Matt Brueck, Dan Bundalo, and Dan Corrigan.
Absent: None

Park District Staff Present: Brandon Magnini Park District Manager

III. Approval of Agenda – Special Board Meeting – Monday, March 8th, 2021

Commissioner Brueck moved to approve the agenda of the Special Board Meeting of Monday, March 8th, 2021. Commissioner Nelson seconded the motion. Roll Call: Anna Nelson, aye, Matt Brueck, aye, Dan Corrigan, aye, Dan Bundalo, aye, Becky Jante, aye. All in favor, motion carried.

IV. Public Comment – Residents in attendance included: Sally and Donald Mahan, Alicia Corrigan, Marian Kowalski, Cliff and Jan Ward, Dave Johnson, Brian Frederickson, Marcus Leshock, Madeleine Mahan, Cindy Bundalo, Mike Morse, Michael Majewski, Kristen Andrews, and Larry Jante.

Alicia Corrigan expressed concern that the District understood the difference between beneficial bacteria and chemicals. She stated that Beneficial Bacteria is not a chemical and should be treated differently in terms of lake management and application. It was discussed that beneficial bacteria were applied periodically throughout the season in 2020. She requested that the Park District keep beneficial bacteria in mind when deciding on a proposal for the 2021 season as well as making sure we are sure of what we are potentially paying for with selecting a proposal that is not Scientific Aquatic's lower cost overall. Madeleine Mahan asked, "The last point on the list of "Lake Recommendations" is to investigate drainage areas in the watershed that may contribute a high nutrient load. Just north of my parents' house (33453 Greentree) is a drain where water is constantly trickling into the lake. We'd like to do more to keep that drainage from entering the lake in the first place. Do you have any suggestions for mapping the source of the drainage so we can add rain gardens or other BMPs"? Park District Manager Brandon Magnini told her that the District would look into her inquiry. Finally, Cliff and Jan Ward asked the Park District about how they would be putting together a comprehensive lake plan. The details were explained to them and

the District is taking the proper steps to putting together a plan with help from the Lake County Health Department so the plan can be used for years to come.

V. Unfinished Business

A. Valley Lake Treatment Companies Proposals Review & Lake Management Updates

Park District Manager Brandon Magnini presented the Board and all members of the public (Valley Lake Committee Members and Valley Lake residents) the attached PowerPoint presentation. Highlights included going over all four lake treatment company proposals for 2021, updated lake data and recommendations from the Lake County Health Department, and recommendations for lake treatment from the Valley Lake Committee as well as the Park District Manager, and the stated goals and objectives for creating a Valley Lake Management Plan and transparency from the Wildwood Park District.

VI. Public Comment – No further public comment.

VII. Adjournment

Commissioner Brueck made a motion to adjourn the Special Board Meeting of Monday, March 8th, 2021. Commissioner Nelson seconded the motion. Roll Call: Anna Nelson, aye, Matt Brueck, aye, Dan Bundalo, aye, Dan Corrigan, aye, Becky Jante, aye. All in favor, motion carried. Meeting adjourned at 7:45pm.

Secretary
Board of Park Commissioners

3/17/2021

Date

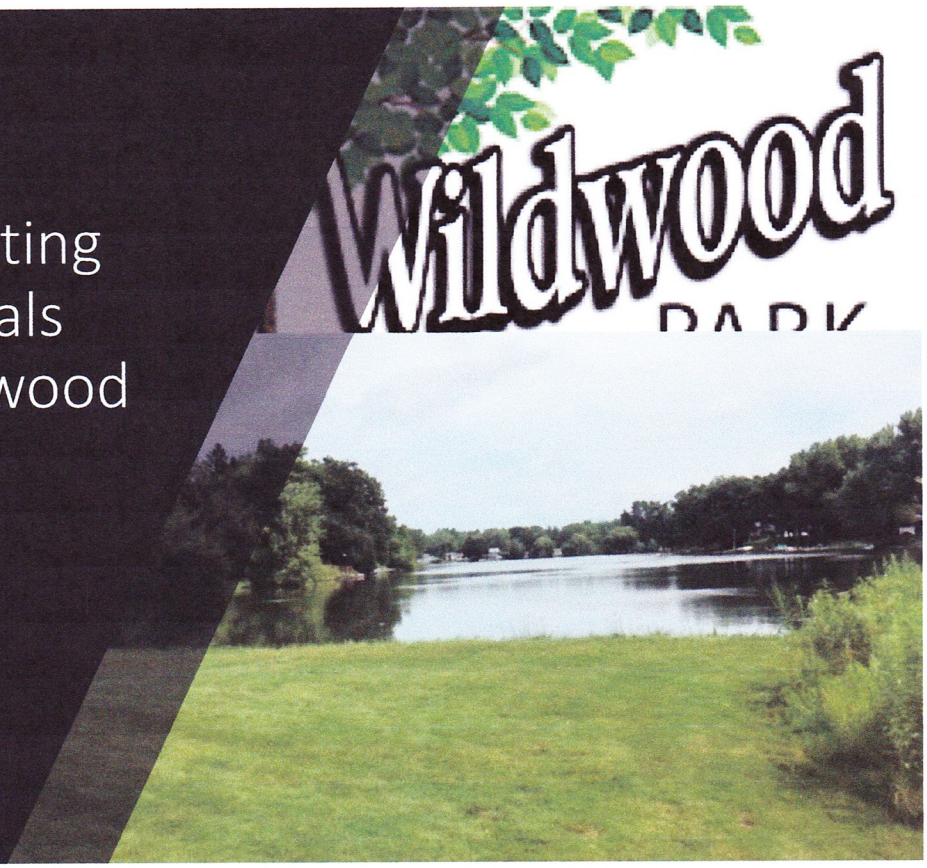
President
Board of Park Commissioners

3/17/21

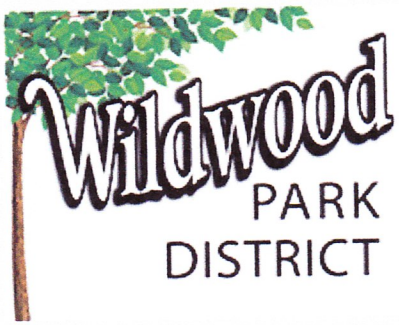
Date

Special Board Meeting Valley Lake Proposals 2021 Season Wildwood Park District

Monday, March 8th, 2021 7:00pm
Microsoft Teams



Wildwood Park District Valley Lake Goals



- Since 2009, the Park District has had 4 vendors on Valley; and we seek to establish a long-term relationship with one.
- The Wildwood Park District's Board of Commissioners are dedicated to full transparency.
- Our goals are to keep Valley Lake usable and expand into a more comprehensive lake management plan.

Background on 2020 Valley Lake Issues

- Several Blue-Green Algae blooms shut down the lake and beach for six weeks, only re-opening on Labor Day weekend.
- Several weeks of heavy rainfall and hot weather contributed.
- Miscommunication and issues with previous Applicator company.
- Lack of previous strong Park District plan and communication

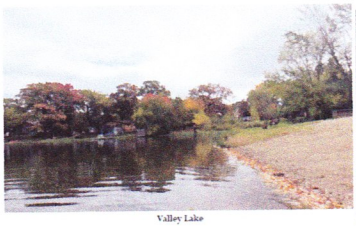
Lake County Health Department 2020 Valley Lake Report Excerpts

LAKE COUNTY, IL

2020 VALLEY LAKE SUMMARY REPORT

LAKE COUNTY HEALTH DEPARTMENT

ECOLOGICAL SERVICES



Valley Lake

Valley Lake is a 12-acre man-made lake constructed in 1952. It is located within the Des Plaines River watershed, in unincorporated Lake County, about one mile east of Illinois Route 45. Most of Valley Lake is owned and managed by the Wildwood Park District. A spillway at the northeast corner of the lake drains to an underground storm sewer network that eventually reaches the Des Plaines River. The Wildwood Park District has two access locations, Valley North, located on the north end of the lake, and Valley South, at the south end of the lake. A swimming beach is at Valley South. Both areas offer fishing from shore and a picnic area. Only non-motorized boating is allowed on the lake, and access is limited to park district residents.

In 2020, the Lake County Health Department– Ecological Services (LCHD-ES) monitored Valley Lake. Water samples were collected once a month from May through September. Sample location was at the deepest part of the lake (Appendix A). Samples were analyzed for nutrients, solid concentrations and other physical parameters. Additionally, an aquatic plant survey was conducted in September (2020) and a shoreline assessment surveyed in November (2020). This report summarizes the water quality sampling results, aquatic plant survey, and shoreline survey conducted on Valley Lake by the LCHD-ES.

INSIDE THIS ISSUE

ECOLOGICAL SERVICES WATER QUALITY SPECIALISTS

Gerard Urbanoro — Ecological Services — Alana Bartolai

gurbanoro@lakecountyil.gov — 847-377-8020 — abartolai2@lakecountyil.gov

SHORELINE EROSION

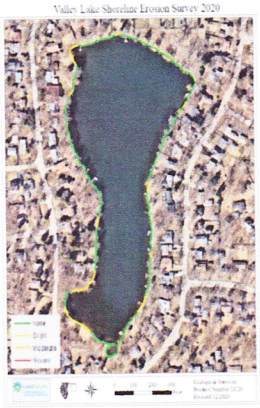
Erosion is a natural process along lake shorelines primarily caused by wind and wave action resulting in the loss of material from the shoreline. Disturbed shorelines caused by human activity such as clearing of vegetation and beach rocks and increasing runoff will accelerate erosion. Eroded materials cause turbidity, sedimentation, nutrients, and pollutants to enter a lake. Excess nutrients are the primary cause of algal blooms and increased aquatic plant growth. Once in the lake, sediments, nutrients and pollutants are harder and more expensive to remove.

A shoreline erosion assessment was conducted on Valley Lake (Figure 15). The shoreline evaluated for none, slight, moderate and severe erosion based on exposed soil and tree/plant roots, failing infrastructure and undercut banks. Based on the 2020 data, 20% of the shoreline had slight. A majority (80%) of the shoreline had no erosion as a result of the seawalls, riprap and emergent vegetation that protects the shoreline against erosion. Frequent increase or decrease of the water level can negatively influence a variety of the lake parameters including: nutrients, suspended solids, lake volume, and aquatic plants by increasing shoreline erosion.

Emergent plants absorb wind and wave energy preventing soil erosion. Native plants adds habitat for wildlife and can also help filter pollutants and nutrients from the near shore areas.

To see the complete dataset of shoreline erosion, refer to the shoreline condition assessment tables in Appendix B.

Figure 15: Shoreline Erosion Condition Valley Lake, 2020



HARMFUL ALGAL BLOOMS

Valley Lake experienced harmful algal blooms during the 2020 monitoring season. Blooms were noticed in July and August by the LCHD. Samples were collected during bloom events and a qualitative test was professed at LCHD to determine presence of microcystin toxins. Six samples were sent to the Illinois Environmental Protection Agency (IEPA) for quantitative testing and the samples were non-detect for Microcystin. The IEPA has established recommended recreational water concentrations to be safe at or below 8 micrograms per liter. The algae blooms at Valley Lake was mostly comprised of Anabaena. Anabaena may produce a few different toxins, including anatoxin and microcystin. The Wildwood Park District was notified during these occurrences.

Algae can grow quickly in water and is often associated with increased concentrations of nutrients such as nitrogen and phosphorous. Blue-green algae, or "cyanobacteria" are a type of algae that can bloom and produce toxins, which are similar to bacteria in structure but utilize photosynthesis to grow. Certain species of blue-green algae can produce toxins that could pose a health risk to people and animals when they are exposed to them in large enough quantities, and are identified as harmful algal blooms.

Blooms can last for an extended period of time and can deplete the oxygen and block sunlight in the water that other organisms needs to live. The water can appear blue-green, bright green, brown, or red and may look like paint floating on the water (Figure 13). Not all blue-green algae produce harmful toxins. The three types of cyanobacteria that are often associated with a harmful algal blooms (HAB) are Anabaena, Aphanizomenon, and Microcystis. The presence of these cyanobacteria does not always mean there are toxins are present in the water. The presence of toxins can only be verified through a sample analyzed in the lab. During a blooms, the toxins are contained within the algae cells. If these cells are ingested, they break open in the stomach and the toxins are released. Poisoning from harmful toxins in blue-green algae have caused the death of cows, dogs, and other animals. Most human cases occurred when people swim or ski in affected recreational water bodies during a bloom. If you suspect that you are experiencing symptoms related to exposure to blue-green algae such as stomach cramps, diarrhea, vomiting, headache, fever, muscle weakness, or difficulty breathing contact your doctor or the poison control center.

FOR MORE INFORMATION ON BLUE-GREEN ALGAE: www.epa.state.il.us/water/surface-water/blue-green-algae.html

TO REPORT BLUE-GREEN ALGAE BLOOMS: Lake County Health Department 847-377-8020

Anabaena sp.

LakeCounty
Health Department and
Community Health Center

Lake County Health Department Phosphorus Recommendations for 2021

- **Alana Bartolai of LCHD shared her findings with WWPD staff:**
- 1. Although phosphorus levels are upward trending, Phoslock & Alum treatments are expensive and don't have a long-life expectancy. Throwing a bag or two of the material in the lake will lower the levels but would only last 1-2 months.
- 2. External nutrient loads need to be addressed first. Excess nutrients are likely coming mostly from Valley South drain as well as underwater sediment, and water turnover takes about 1 year.
- 3. Phosphorus levels can be helped by keeping geese droppings away from lake (not mowing near tight shoreline) and encourage aquatic plants to grow there. Valley Lake is both phosphorus and nitrogen limited. This makes lake management hard as reducing total phosphorus in lake may not be enough to control algea blooms. In a nitrogen limited system, blue-green algae can outcompete other algae species due to their ability to fix nitrogen from the atmosphere and not water.
- 4. Per LCHD 2015 findings, lake water sample after a 1.17-inch rainfall was 1.93 mg/L which is 38.6 times the EPA limit. Further water testing is needed before South drain is redesigned. These high levels have been a problem dating back to the 2000 and 2007 LCHD Valley Lake reports.
- 5. Recommendation is that phosphorus and bacteria treatments should be tabled until more testing is done, and effective algae and swimmers itch treatments are handled for 2021 before very expensive phoslock or alum treatments are pursued. Water and Sediment testing is needed this year.

4 Separate Decisions to be made for Valley Lake

- 1. Algaecides to control blue-green algae
- 2. Copper Sulfate for Swimmer's Itch
- 3. Beneficial Bacteria for Nutrient Loading in the Sediment
- 4. Address Increasing Phosphorus Levels

Scientific Aquatic, Inc.

SCIENTIFIC AQUATIC WEED CONTROL, INC.
16525 ORCHARD VALLEY DRIVE
GURNEE, ILLINOIS 60031
847-662-5370
847-662-5392 FAX
nick.gowe@yahoo.com
www.scientificaquaticweedcontrol.com

PROPOSAL
11/19/20

PROPOSAL SUBMITTED TO:

DAN BUNDALO
33419 N GREENTREE RD
GRAYSLAKE, IL 60030

EMAIL: danbundalo@rocketmail.com
INVOICE: WILDWOOD PARK DISTRICT
33325 SEARS BLVD
WILDWOOD, IL 60030

WORK TO BE PERFORMED AT:

VALLEY LAKE

RES.
BUS.
CELL. 708-638-6189 CINDY BUNDALO
FAX.

WE HEREBY PROPOSE TO FURNISH ALL THE MATERIALS AND PROVIDE ALL THE LABOR AND EQUIPMENT NECESSARY FOR THE COMPLETION OF:

LAKE MAINTENANCE:
ALGAE CONTROL FOR THE SUMMER SEASON APRIL 15 THROUGH SEPTEMBER 15, 2021.

BACTERIA APPLICATION:
TREATMENTS EVERY OTHER WEEK APRIL 15 THROUGH SEPTEMBER 15, 2021.
CUSTOM BLENDS OF NATURAL BACTERIA AND ENZYMES DESIGNED SPECIFICALLY TO INCREASE WATER CLARITY AND REDUCE THE BUILD-UP OF DEAD ORGANIC DEBRIS OR 'MUCK'.

SWIMMER'S ITCH TREATMENT:
A MINIMUM OF 3 APPLICATIONS OF COPPER SULFATE TO CONTROL SWIMMERS ITCH EARLY IN THE MONTHS OF JUNE, JULY, AND AUGUST.

PHOSLOCK APPLICATION USING 55 POUND BAGS
RECOMMENDED: *2 TREATMENTS IN 4 ACRES OF THE LAKE CONCENTRATING IN THE SHORELINE AREA AND PROBLEM AREAS, LIKELY TO BE THE SOUTH END AND AROUND INLET, WITH EACH APPLICATION SUGGESTED AMOUNT OF 8 BAGS AT A RATE OF 2 BAGS PER ACRE.*
***APPROVAL WILL BE REQUESTED PRIOR TO APPLICATION. AMOUNT AND FREQUENCY CAN BE ADJUSTED.**
REMOVES PHOSPHORUS FROM THE WATER COLUMN AND SEDIMENT IMPROVING WATER QUALITY.

MAINTENANCE OF AERATION EQUIPMENT FOR THE 2021 SUMMER SEASON:
INCLUDES LABOR, CLEANING AND FILTER CHANGES FOR 2 COMPRESSORS, AND BASIC SYSTEM REPAIR.
REPLACEMENT COMPRESSORS OR PARTS WILL BE AN EXTRA CHARGE IF NEEDED AND APPROVED.

ALL MATERIAL IS GUARANTEED TO BE AS SPECIFIED AND THE ABOVE WORK IS TO BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATION SUBMITTED FOR THE ABOVE WORK AND COMPLETED IN WORKMANLIKE MANNER FOR THE SUM OF:

$ 6,432.00 **LAKE MANAGEMENT** – MAINTENANCE, AND BACTERIA AND SWIMMER'S ITCH TREATMENTS
$ 2,160.00 **PHOSLOCK** RECOMMENDED AMOUNT OF 8 BAGS PER APPLICATION @ $ 270.00 PER BAG
$ 485.00 **AERATION MAINTENANCE**

WITH PAYMENTS TO BE MADE AS FOLLOWS:

LAKE MANAGEMENT: $ 3,800.00 DUE APRIL 15 WITH BALANCE DUE AUGUST 16, 2021.
PHOSLOCK, COMPLETION OF APPLICATION.
AERATION MAINTENANCE: DUE APRIL 15.

ANY ALTERATION OR DEVIATION FROM ABOVE SPECIFICATIONS INVOLVING EXTRA COSTS WILL BECOME AN EXTRA CHARGE OVER AND ABOVE THE ESTIMATE. WE CARRY LIABILITY INSURANCE. WE SHALL ADHERE TO ALL REGULATIONS OF THE DEPARTMENT OF AGRICULTURE.

RESPECTFULLY SUBMITTED Michael Gowe

NOTE: THIS PROPOSAL MAY BE WITHDRAWN BY US IF NOT ACCEPTED WITHIN 30 DAYS.

ACCEPTANCE OF PROPOSAL

THE ABOVE PRICES, SPECIFICATIONS AND CONDITIONS ARE SATISFACTORY AND ARE HEREBY ACCEPTED. YOU ARE AUTHORIZED TO DO THE WORK AS SPECIFIED. PAYMENT WILL BE MADE AS OUTLINED ABOVE.

ILM

Proposal
#P4157
10/22/2020

ILM
110 Le Baron St
Waukegan IL 60085

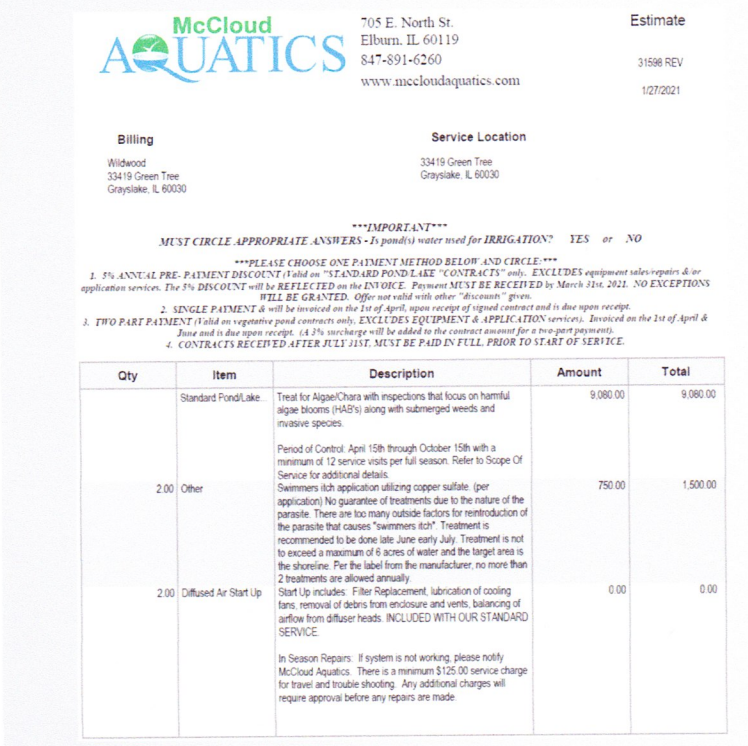
PH: 847.244.6662
Info@ilmenvironments.com

Bill To
Wildwood Park District
33325 N. Sears Boulevard
Wildwood IL 60030
United States

Contract Start Date: May 2021
Contract End Date: August 2021
Submitted To: Wildwood Park District : Brandon Magnini
SITE: Valley Lake
Project: 2021 Valley Lake Management
Environment Manager: Kelley Blake

Item	Visits	Price Per Visit	Amount
Algae Control Price includes bi-weekly visits for diagnostic monitoring, minor trash removal, and applications of industry-standard products to treat algae. Includes the elimination/reduction of planktonic algae blooms. May-August	8	$671.87	$5,374.96
Bacteria and Enzyme Treatment Application of bacteria and enzymes to reduce sediment, nutrients, and minimize algal growth. Price includes four monthly applications May-August.	4	$418.75	$1,675.00
Nutrient Deactivation/Water Clarification Application of Alum to bind with phosphorus and other suspended particles to help reduce algae growth and improve water clarity. Monthly May-July	3	$1,035.58	$3,106.74
Miscellaneous Application of appropriate product to treat swimmers itch in 4-acre area by beach. This treatment can be completed twice a year and swimmers should stay out of water for 12 hours after treatment is completed. *Larvae swim and can come from other untreated areas after treatment.	1	$937.47	$937.47
		Subtotal	$11,094.17
		Discount Item	
		Total	$11,094.17

McCloud Aquatics



McCloud AQUATICS

705 E. North St.
Elburn, IL 60119
847-891-6260
www.mccloudaquatics.com

Estimate

31598 REV

1/27/2021

Billing

Wildwood
33419 Green Tree
Grayslake, IL 60030

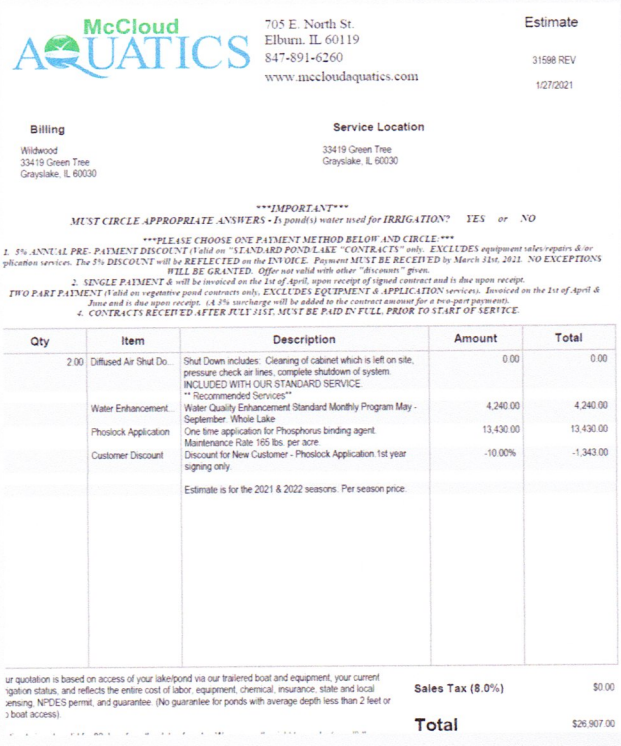
Service Location

33419 Green Tree
Grayslake, IL 60030

****IMPORTANT****
MUST CIRCLE APPROPRIATE ANSWERS - Is pond(s) water used for IRRIGATION? YES or NO

****PLEASE CHOOSE ONE PAYMENT METHOD BELOW AND CIRCLE:****
1. 5% ANNUAL PRE- PAYMENT DISCOUNT (Valid on "STANDARD POND/LAKE "CONTRACTS" only. EXCLUDES equipment sales/repairs &/or application services. The 5% DISCOUNT will be REFLECTED on the INVOICE. Payment MUST BE RECEIVED by March 31st, 2021. NO EXCEPTIONS WILL BE GRANTED. Offer not valid with other "discounts" given.
2. SINGLE PAYMENT & will be invoiced on the 1st of April, upon receipt of signed contract and is due upon receipt.
3. TWO PART PAYMENT (Valid on vegetative pond contracts only, EXCLUDES EQUIPMENT & APPLICATION services). Invoiced on the 1st of April & June and is due upon receipt. (A 3% surcharge will be added to the contract amount for a two-part payment).
4. CONTRACTS RECEIVED AFTER JULY 31ST, MUST BE PAID IN FULL PRIOR TO START OF SERVICE.

Qty	Item	Description	Amount	Total
	Standard Pond/Lake...	Treat for Algae/Chara with inspections that focus on harmful algae blooms (HAB's) along with submerged weeds and invasive species. Period of Control: April 15th through October 15th with a minimum of 12 service visits per full season. Refer to Scope Of Service for additional details.	9,080.00	9,080.00
2.00	Other	Swimmers itch application utilizing copper sulfate. (per application) No guarantee of treatments due to the nature of the parasite. There are too many outside factors for reintroduction of the parasite that causes "swimmers itch". Treatment is recommended to be done late June early July. Treatment is not to exceed a maximum of 6 acres of water and the target area is the shoreline. Per the label from the manufacturer, no more than 2 treatments are allowed annually.	750.00	1,500.00
2.00	Diffused Air Start Up	Start Up includes: Filter Replacement, lubrication of cooling fans, removal of debris from enclosure and vents, balancing of airflow from diffuser heads. INCLUDED WITH OUR STANDARD SERVICE. In Season Repairs: If system is not working, please notify McCloud Aquatics. There is a minimum $125.00 service charge for travel and trouble shooting. Any additional charges will require approval before any repairs are made.	0.00	0.00



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4. CONTRACTS RECEIVED AFTER JULY 31ST, MUST BE PAID IN FULL PRIOR TO START OF SERVICE.

Qty	Item	Description	Amount	Total
2.00	Diffused Air Shut Do...	Shut Down includes: Cleaning of cabinet which is left on site, pressure check air lines, complete shutdown of system. INCLUDED WITH OUR STANDARD SERVICE.	0.00	0.00
		** Recommended Services**		
	Water Enhancement...	Water Quality Enhancement Standard Monthly Program May - September. Whole Lake.	4,240.00	4,240.00
	Phoslock Application	One time application for Phosphorus binding agent. Maintenance Rate 165 lbs. per acre.	13,430.00	13,430.00
	Customer Discount	Discount for New Customer - Phoslock Application 1st year signing only.	-10.00%	-1,343.00
		Estimate is for the 2021 & 2022 seasons. Per season price.		

ur quotation is based on access of your lake/pond via our trailered boat and equipment, your current igation status, and reflects the entire cost of labor, equipment, chemical, insurance, state and local ensing, NPDES permit, and guarantee. (No guarantee for ponds with average depth less than 2 feet or o boat access).

Sales Tax (8.0%) $0.00

Total $26,907.00

Clarke Environmental, Inc.

clarke
GIVE WATER LIFE

CLARKE AQUATIC SERVICES, INC.
Aquatic Professional Services Proposal

PHOSPHORUS REDUCTION PROGRAM WITH PHOSLOCK

The Phosphorus Reduction Program is a prescription treatment with Phoslock, designed to bind up excess phosphorus in the water column and sediment. The prescription was developed by SePRO Corporation, the manufacturer of Phoslock, based on laboratory analysis of active phosphorus in water and sediment. The prescription has been designed based on dated water and sediment data collected in 2015 and will be modified based on current water and sediment analysis collected in 2021 to deliver the best results. SePRO has made the following treatment recommendations:

- Product(s) will be applied per label requirements and restrictions.
- Clarke Aquatic Services (Clarke) will determine the proper treatment time based on the weather and environmental conditions of the water along with SePRO recommendations.
- New water and sediment testing will be conducted prior to Phoslock treatment and may result in revised prescription if phosphorus levels have changed; these tests are included in Clarke's 2021 lake management program.

☐ ***Option 1 (Best): Remove approximately 80lbs of phosphorus with Phoslock*****.....*****$37,830.00 ($260.90 per bag)***
- Dosage Rate 8,000 lbs. applied in 2021 (145 bags of Phoslock)
- Application expected to target free phosphorus within water column and sediment.
- Treatment to be applied in a single application per SePRO recommendations.
- Product will be applied across 4 acres on south end of lake and plunge pool
- Expectation: Maximum result will be seen in shortest amount of time

☐ ***Option 2 (Better): Remove approximately 40lbs of phosphorus per year, over 2 years with Phoslock*****.....*****$19,440.00 per year in 2021 and 2022 (approx. $270 per bag). Two year commitment required.***
- Dosage Rate: 4,000 lbs. per year in 2021 and 2022 (72 bags of Phoslock per year)
- Application expected to target free phosphorus within water column and sediment.
- Treatment to applied in single application of 4,000 lbs. per year per SePRO recommendations.
- Product will be applied across 4 acres on south end of lake and plunge pool in 2021 and 2022
- Expectation: lower annual project cost and any new phosphorus that enters the system will be mitigated with annual treatments over the two year program

☐ ***Option 3 (Good): Remove approximately 60lbs of phosphorus with Phoslock*****.....*****$29,700.00 (approx.$270 per bag)***
- Dosage Rate: 6,050 lbs. applied in 2021 (110 bags of Phoslock)
- Product will be applied evenly over entire 11.96 acre lake and plunge pool; excluding deepest areas to maximize efficacy
- Application expected to target free phosphorus within water column only
- Treatment to be applied in 1 dose in spring (April/May)

☒ **Required: *Post treatment phosphorus sampling and laboratory analysis***
- After Phoslock application(s), additional water and sediment tests required to monitor efficacy of application.
- Post treatment water sampling and testing will be billed at $265.00 per sample (3 samples recommended)
- Post treatment sediment sampling and testing will be billed at $550 per sample (2 samples recommended)
- Fees include sample collection, shipping, analysis, and lab report.

The overall goal is to reduce Total Phosphorus levels which will be analyzed through follow up water and sediment testing. Phoslock will not need a buffering agent; product will permanently tie up legacy Phosphorus in the system and will be softer on the biota in the system (pH shifts, toxicity) when compared to alternative technologies.

clarke
GIVE WATER LIFE

Aquatic Professional Services Contract (the "Agreement")

Proposal Date: **March 8, 2021 (FOR 2021 SERVICE)**

Valley Lake
Valley Lake #088827

Thank you for choosing Clarke Aquatic Services, Inc. ("Clarke") for your aquatic management needs. **Valley Lake's** customized water solutions management program will include customized, targeted services and solutions provided by Clarke. The term of this contract is for the fiscal year January 1, 2021 thru December 31, 2021. The following professional aquatic management program is recommended for **Valley Lake**.

AQUATIC WEED AND ALGAE CONTROL MANAGEMENT SERVICES

Core Treatment Program: $9,040.00 annual

Core Treatment Program Scope of Services:

- A maximum of **eight (8)** inspections and treatments, as necessary, for control of algae and invasive aquatic weeds, HAB's and swimmers itch. Inspections and treatments will begin **May** and run through **September.** Clarke will determine the proper treatment program at the time of inspection based on environmental conditions. Reports will be available to customers through the Clarke service portal. Applications may be adjusted to start in April if needed.
- A maximum of **two (2)** properly time applications included to target swimmer's itch. No swimming will be permitted for 12 hours following each swimmer's itch application.
- Clarke will monitor water quality including dissolved oxygen levels, pH, temperature, and alkalinity.
- Any aquatic plants beneficial to an ecologically balanced aquatic system will be preserved. In the event of uniquely problematic vegetation requiring specialized services to control, additional fees may be requested.
- Should any banks become exposed due to water level drawdowns throughout the service program, Clarke will 'spot treat' for exposed nuisance vegetation at no additional cost.
- Standard program does not include removal of plant material. Clarke is also not responsible for lawn or bank maintenance including cutting, treating, or removing grasses or other vegetation above the existing waterline.
- All weed and algae control products used are EPA registered, labeled for aquatic use and applied per label requirements. Weed & algae control products exclude bacteria, phosphorous binders and dyes. All applicators are licensed, state certified aquatic applicators.
- Applications to control swimmers itch will include treatment around the entire perimeter of the lake, along shorelines, extending approximately 40' lakeward (total of 4 acres).
- Treatments will include maximum of 50% of entire waterbody per visit when conditions permit. During periods of high heat and lower oxygen levels, treatments will be reduced to include a maximum of 30% of lake to avoid adverse effects.
- **In 2021, Clarke will INCLUDE water quality sampling and laboratory analysis from 4 sites on the lake. This data will help us to develop long- term management strategies for Valley Lake (valued at $2,380.00). Final data report will be provided to Wildwood Park District.**
- If additional inspections and treatments are needed, beyond the 8 core inspections included in the aquatic weed and algae control management services outlined above, they will be billed at $904 per visit.
- Optional baseline water and sediment testing available (both tests recommended every 3-5 years):
  - Water quality tests will be billed at $595 per sample (3 samples per collection)
  - Comprehensive sediment testing at $885 per sample. (2 samples per collection)

Proposal Price Totals

- Scientific Aquatic, Inc. - $9,077.00 annual less $485 aeration maintenance cost.
- ILM - $11,094.17 annual including $3,106.74 for Alum treatment (phosphorus) for all necessary visits.
- McCloud Aquatics - $26,907.00 annual including phosphorous binding agent (one time 165 lbs. per acre).
- Clarke Environmental, Inc. - $9,04 0.00 annual and includes testing (approx. value $2,360.00). Phosphorous treatments cost on previous slide.

Algaecide and Swimmer's Itch Treatment *Only*

- Scientific Aquatic: $6,432.00 *Water Testing $158 extra each test.*
- McCloud Aquatics: $14,820.00
- ILM: $10,750.00
- Clarke Environmental: $9,040.00* *Includes ($2,360.00 of testing) **

Pros and Cons of Scientific Aquatic, Inc.

- *Pros:*
- Small, family-owned company that has worked on Valley from the 70's through late 2000's.
- Owners will do actual treatments on lake.
- Less costly in overall services including phoslock treatment.

Scientific Aquatic Weed Control, Inc.

Pros and Cons of Scientific Aquatic, Inc.

- *Cons*
- Since small company, COVID could cause service disruptions to their treatment services on Valley.
- Quoted 3 treatments of Copper Sulfate for Swimmers Itch on lake when only 2 are allowed by EPA law.
- Does not offer lake sediment testing. Baseline water test & report is $158 per.
- Has not been on lake since late 2000's for changing conditions (prior to failed plunge pool drain installation).

ILM
TRUSTED CARE OF LAND & WATER

Pros and Cons of ILM

- *Pros:*
- Large, professional aquatic treatment service.
- Phosphorus treatments not as costly as some other vendors (but not clear on how much area treatment would cover).

- *Cons:*
- Total cost of service is pricier than Scientific Aquatic and Clarke (w/o Phoslock treatment)
- Prior poor history of treatment on Valley Lake in late 2000's. Poor communication, excessive algae, shoreline weeds, Duckweed, etc. within 2 years.
- The following year Swimmer's Itch was rampant, and lake was rendered unusable.

Pros and Cons McCloud Aquatics

McCloud AQUATICS

Pros:

- Good references in the community with Loch Lomand in Mundelein. Solved Swimmer Itch issue there. Residents happy with lake management quality

Cons:

- Total cost of service is pricier than the three other quotes (even w/o Phoslock treatment).
- Cost of service is so high it may diminish all other benefits.

Pros & Cons for Clarke Environmental, Inc.

- *Pros:*
- Clarke solved 2015 Swimmer's Itch issue by applying 365 lbs. of Copper Sulfate over 6 acres; enabling swimming a few days later.
- Last summer Clarke came out at no charge several times with their Michigan Water Quality Specialist to help solidify and guide WWPD on the lake situation.
- Clarke came out in Fall 2020 to demonstrate aerator compressor maintenance procedures to WWPD staf and provided new equipment to maintain machines for a minimal cost.
- Clarke has 24 hr. portal for access for all treatment data, water/sediment testing results, etc.
- Clarke has managed Gages Lake for 10 years and no complaints (Rob Flood of GLCC recommends)
- Clarke will do both water and sediment testing beginning of season for no charge (this is essential to understand current trends and accurate data for treatments and a lake management plan).
- Clarke will provide Bio-Mapping of entire lake. Aquatic Plant mapping helps target invasive species that push out valuable aquatic plant life.
- Clarke is an international aquatic management company that will assist Park District staf in developing professional a sustainable lake management plan.
- Will apply swimmers itch treatments twice a year if needed around entire perimeter (see Appendix A.)

Pros & Cons for Clarke Environmental, Inc.

- *Cons:*
- Pricier *Potential* phoslock treatments (if wanted)
- Although very successful on Gages Lake, (and around this area) Clarke has yet to work on Valley Lake throughout a season.

clarke
GIVE WATER LIFE

Park District Manager's Recommendation

Recommendations for Treatment Valley Lake – Park District Manager Brandon Magnini

In the following pages, you will find all four of the proposals for Valley Lake Treatment for 2021 Season. You will also find the VLCC's recommendations and report on their preferred treatment company. I would like to briefly state my case below:

I feel strongly that the Wildwood Park District should contract with Clarke Aquatic Services, Inc. for the 2021 Season to treat Valley Lake and do water testing. The Park District has strong history with Clarke and uses them for weed control on Gages, prior Swimmer's Itch issues at Valley Lake, and most recently went out of their way to help myself and the Maintenance Team to troubleshoot aerator pump issues and instructed us how to do seasonal maintenance on them/gave us replacement kits.

Jennifer from Clarke has been a very valuable resource for me and our staff. She is very knowledgeable, and her team at Clarke are very good communicators and on top of every issue. In their proposal, I appreciate how they want to test the water in-season to recommend appropriate bacterial/Phoslock treatments when necessary v. throwing out a large number without knowing the exact needs of the lake year to year. From my understanding, they use the latest technology and are prompt with giving reports to the Park District in full detail when they are done with field work.

Compared to the McCloud Aquatics, and ILM (both of which are exceedingly expensive for what we want) Clarke has a strong, positive history with us. They came out at a moment's notice throughout the summer last year and gave us guidance when Valley Lake was in poor shape.

In summary, I believe that Clarke Aquatic Services Inc. would be my recommendation for the Board to vote on and choose as the treatment company for Valley Lake in 2021. They may be pricier than one other quote; but the value added in creating a partnership and a healthy lake for a long time is worth it.

Respectfully,

Brandon Magnini – Park District Manager

Valley Lake Committee Recommendations

February 10,2021

In summary for the review of contracts the V.L.C.C. committee compared what each company had to offer.

Scientific Aquatics is located close by in Gurnee, it is a small company family owned company in busine 60 years doing just lake management. They treat several ponds and nearby lakes here in Lake County. The owner, Nick Gowe treated Valley Lake for over 30 years. All of the residents including many still living on the lake were very happy with the service and results. His contract was ended due to cost cutting in 2008. Mr. Gowe is experienced and very familiar with Valley Lake and its issues. His son and daughter in law are now actively involved as partners in this small family business. They have been quic to respond, have excellent community references and will be the ones actually doing the treatments themselves on our lake.

I.L.M treated Valley lake when Scientific Aquatics was replaced. They did a very bad job, giving us a ver low quality of treatments, infrequent visits and very poor communication. Within two years we had excessive algae, shoreline weeds, Duckweed and excessive cattail growth. By the next year the lake ha swimmers itch and was not useable for swimming during the next years of ILM's management.

McCloud has been recommended by a similar lake in Mundelein, Loch Lomand. That lake had also beer challenged with swimmers itch and has similar run off drain issues similar to Valley Lake. McCloud has been treating that lake successfully and the residents and homeowners association have been pleased with no more swimmers itch and their lake quality, but not so much in the cost. We have had them out to bid before, but they have been significantly more expensive.

Clarke Environmental we are familiar with as they were the first ones to solve our swimmers itch issue Under their recommendation they treated the lake in 2015 with a copper sulfate treatment at a cost o $7,5000.00 for the one treatment. We had them bid for yearly contract in 2016 but the cost for their adding the same treatments as the other competing companies was $30,000.00. Clarke has not given an actual cost of the treatment plan for 2021 as we have asked for of the other companies, leaving us unsure as to what the yearly actual cost can be.

Being fiscally responsible and aware this is taxpayer funds used we are being careful in choosing the lowest comparable bid at this time.

The Valley Lake Committee, V.L.C.C. has reviewed 4 proposals for the 2021 Valley Lake Management.

With extensive review by all current active members, the Valley Lake Committee has a recommendation for their choice to submit to the Wildwood Park District Board for their consideration.

The *yearly* contract they have chosen, unanimously is Scientific Aquatics in Gurnee, Illinois

Thank you,

Valley Lake Conservation Committee

Cindy Bundalo

Alicia Corrigan

Marcus LeShock

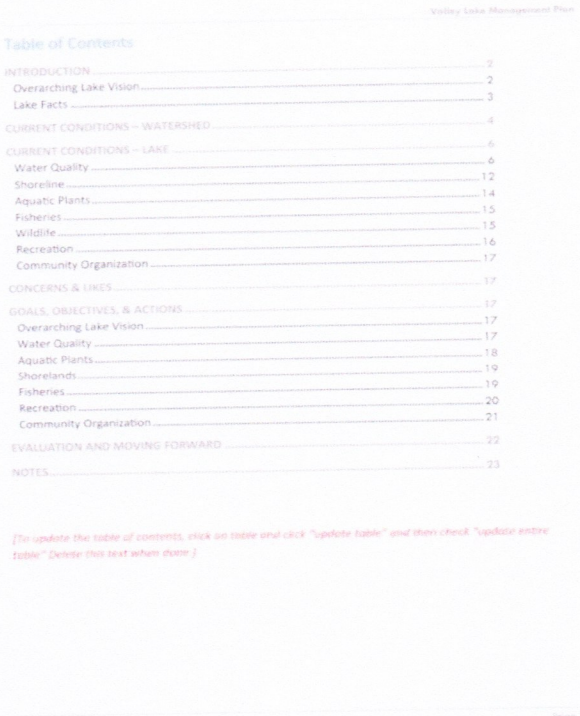
Dan Bundalo

Michael Majewski

Mike Morse

Appendix A - Clarke Environmental Swimmer's Itch Treatment Map

Appendix B – WWPD Valley Lake Plan



Valley Lake Management Plan

Table of Contents

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Park District now has strong relationship with the following entities after a period of inactivity and lack of communication:

- Lake County Stormwater Management
- Lake County Health Department Ecological Services
- Warren Highway Department
- Bleck Engineering

Appendix C – Valley Lake Management Recommendations

LAKE RECOMMENDATIONS

To improve the overall quality of Valley Lake, the LCHD-ES has the following recommendations:

- LCHD encourages the home owners to participate in the Volunteer Lake Monitoring Program.
- Chloride, while the trend is declining since 2007, it is recommended to follow best management practices for salt and de-icing of roads, sidewalks, and driveways in the watershed. Consider the benefit of attending one of Lake County's De-Icing workshops held annually to learn about these best management practices.
- Develop a Lake Management Plan that incorporates aquatic plant management. It is recommended to have a strategic plan related to lakes and lake management that can include their rules and regulations on how they manage the lakes.
- Become familiar with the appearance of harmful algal blooms and report any blooms to the LCHD-ES by calling 847-837-8030. Also, educate lake users about the appearance of harmful algal blooms so that blooms can be reported to LCHD.
- Establish a communication plan to alert homeowners through signs or postings when an algae bloom has been reported.
- Add Coarse Woody Habitat to increase fish habitat.
- Monitor Eurasian Water Milfoil and create an action plan to control the spread or remove the invasive plants.
- Consider trying to promote aquatic plant growth in Valley Lake. The littoral area around the island would be a good place to try and get aquatic plant growth. Carp impact aquatic plant growth since they can make water too turbid for a healthy plant community.
- Mitigate shoreline exhibiting erosion and improve shoreline buffer.
- Investigate drainage areas in the watershed that might contribute high nutrient loads to see if any best management practices can be implemented to reduce nutrient loads.

LakeCounty Health Department and Community Health Center

ECOLOGICAL SERVICES

Ecological Services Program Coordinator: Alana Bartolai

Abartolai2@lakecountyil.gov

Population Health Services
500 W. Winchester Road
Libertyville, Illinois 60048-1331

Phone: 847-377-8030
Fax: 847-984-5622

https://www.facebook.com/groups/

For more information visit us at:

https://www.lakecountyil.gov/2381/Lakes-Management-Unit

Protecting the quality of our lakes is an increasing concern of Lake County residents. Each lake is a valuable resource that must be properly managed if it is to be enjoyed by future generations. To assist with this endeavor, Population Health Environmental Services provides technical expertise essential to the management and protection of Lake County surface waters.

Environmental Service's goal is to monitor the quality of the county's surface water in order to:

- Maintain or improve water quality and alleviate nuisance conditions
- Promote healthy and safe lake conditions
- Protect and improve ecological diversity

Services provided are either of a technical or educational nature and are provided by a professional staff of scientists to government agencies (county, township and municipal), lake property owners' associations and private individuals on all bodies of water within Lake County.