RESOLUTION 21-56

A RESOLUTION OF THE VILLAGE OF POPLAR GROVE RESOLVING ENTER INTO A PROFESSIONAL SERVICE AGREEMENT FOR THE PHOSPHORUS DISCHARGE OPTIMIZATION PLAN

WHEREAS, the Village of Poplar Grove ("Village") has a National Pollutant Discharge Elimination System (NPDES) Permit Number IL0071447 for its South Wastewater Treatment Plant (SWWTP) ; and

WHEREAS, Special Condition 18 the Village's NPDES Permit requires the Village to develop a Phosphorus Optimization Plan; and

WHEREAS, Special Condition 19 the Village's NPDES Permit requires the Village to develop a Feasibility Study to reduce phosphorus emissions; and

WHEREAS, it is necessary to prepare and submit said studies to the Illinois Environmental Protection Agency; and

WHEREAS, the Village has determined that it is in the best interest of its citizens to complete the Optimization Plan and Feasibility Study as herein described above.

NOW THEREFORE BE IT RESOLVED, by the President and Board of Trustees of the Village of Poplar Grove, Boone County, Illinois that by the adoption of this Resolution:

1. The above recitals are incorporated herein and made part hereof.
2. The Village hereby approves the professional service agreement attached hereto as Exhibit A and made part of this resolution.
3. The Village President is hereby authorized to sign the professional service agreement.
4. The Village Clerk of Poplar Grove shall attest the same after the signature of the Village President.

Adopted this 17th day of November 2021.

PASSED UPON MOTION BY _____

SECONDED BY _____

BY ROLL CALL VOTE THIS _____ DAY OF _____, 2021

AS FOLLOWS:

VOTING “AYE”: _____

_____

VOTING “NAY”: _____

_____

ABSENT, ABSTAIN, OTHER _____

_____

APPROVED_____, 2021

_____

VILLAGE PRESIDENT

ATTEST:

_____

VILLAGE CLERK

McMAHON
ENGINEERS ARCHITECTS

To: **The Committee of the Whole**

From: **Chris Dopkins, P.E. Village Engineer**

Re: **Phosphorous Discharge Optimization Plan – South WWTP**

Date: **November 3, 2021**

As I think many of you know, there has been concerted effort by the Federal EPA to reduce nutrients (Nitrogen, Potassium and Phosphorus) from being discharged into the environment. This is largely in response to Gulf Hypoxia, and observed algae growth within rivers, lakes and streams. During a routine review of the permit for the SWWTP, Test noted that the permit contains two special conditions which are outlined below.

SPECIAL CONDITION 18. The Permittee shall develop and submit to the Agency a Phosphorus Discharge Optimization Plan within twenty-four months of the effective date of this permit. The plan shall include a schedule for the implementation of these optimization measures. Annual progress reports on the optimization of the existing treatment facilities shall be submitted to the Agency by March 31 of each year beginning 12 months from effective date of the permit. In developing the plan, the Permittee shall evaluate a range of measures for reducing phosphorus discharges from the treatment plant, including possible source reduction measures, operational improvements, and minor facility modifications that will optimize reductions in phosphorus discharges from the wastewater treatment facility. The Permittee's evaluation shall include, but not be limited to, an evaluation of the following optimization measures:

A. WWTF influent reduction measures.
   1. Evaluate the phosphorus reduction potential of users.
   2. Determine which sources have the greatest opportunity for reducing phosphorus (i.e., industrial, commercial, institutional, municipal and others).
      a. Determine whether known sources (i.e., restaurant and food preparation) can adopt phosphorus minimization and water conservation plans.
      b. Evaluate implementation of local limits on influent sources of excessive phosphorus.

B. WWTF effluent reduction measures.
   1. Reduce phosphorus discharges by optimizing existing treatment processes.
      a. Adjust the solids retention time for either nitrification, denitrification, or biological phosphorus removal.
      b. Adjust aeration rates to reduce dissolved oxygen and promote simultaneous nitrification-denitrification.
      c. Add baffles to existing units to improve microorganism conditions by creating divided anaerobic, anoxic, and aerobic zones.
      d. Change aeration settings in plug flow basins by turning off air or mixers at the inlet side of the basin system.
      e. Minimize impact on recycle streams by improving aeration within holding tanks.
      f. Reconfigure flow through existing basins to enhance biological nutrient removal.

SPECIAL CONDITION 19. The Permittee shall, within twenty-four months of the effective date of this permit, prepare and submit to the Agency a feasibility study that identifies the method, timeframe, and costs of reducing phosphorus levels in its discharge to a level consistently meeting a potential future effluent limit of 0.5 mg/L and 0.1 mg/L. The study shall evaluate the construction and O & M costs of the application of these limits on a monthly, seasonal and annual average basis.

Phosphorous has been deemed the pollutant of concern by EPA, and any WWTP with a discharge of 1MGD or greater is now required to evaluate different treatment options for phosphorus. Due to the Village's permit, it is time to prepare and submit the optimization plan and feasibility study to the IEPA. These studies are in essence a miniature version of a facility plan where just about any feasible technology, public outreach, etc. that can be used to limit the discharge of phosphorus is evaluated. There are essentially two studies that need to be completed. The first is the Phosphorus Discharge Optimization Plan which will evaluate means for reducing the phosphorous discharge. The second is the feasibility study which will identify the cost effective means over a long term period to limit the discharge of phosphorus.

I look forward to discussing this item with the Committee and in the meantime please do not hesitate to contact me at 636-9590 with any questions. Thank you.

McMAHON
ENGINEERS ARCHITECTS

AGREEMENT
For PROFESSIONAL SERVICES

Village of Poplar Grove
200 North Hill Street
Poplar Grove, IL 61065

Date: November 2, 2021

McM. No. M0032-07-21-00001

PROJECT DESCRIPTION:

The Village of Poplar Grove is required to develop and submit a Phosphorus Discharge Optimization Plan to the Illinois Environmental Protection Agency (IEPA) to comply with their South Wastewater Treatment Plant (WWTP) discharge permit. The requirements of the Phosphorus Discharge Optimization plan are defined under Special Condition 18 of the South WWTP's permit. The purpose of the Plan is to evaluate different alternatives of meeting potential future stringent effluent phosphorus limits. The evaluation shall consider source reduction, plant performance optimization and facility modifications.

In addition to the Phosphorus Discharge Optimization Plan, the Village is also required to develop and submit a Feasibility Study noted in Special Condition 19. The purpose of the Study is to evaluate alternative identified in the Plan on a cost-effective basis. The Study should make a recommendation on meeting the future stringent limits.

SCOPE OF SERVICES:

MCMAHON ASSOCIATES, INC. agrees to provide the following Scope Of Services for this project:

- In accordance with Special Condition 18 of IEPA Permit #IL0071447, McMAHON will develop and submit a Phosphorus Discharge Optimization Plan.
- In accordance with Special Condition 19 of IEPA Permit #IL0071447, McMAHON will develop and submit a Phosphorus Feasibility Study.

Items Not Included In The Scope Of Services:

The following is not intended to be a comprehensive list. It is intended to highlight general areas not included in the Scope of Services.

- Permit Fees
- Laboratory Services

SPECIAL TERMS: (Refer Also To General Terms & Conditions - Attached)

The Scope Of Services and fee is based upon the understanding that the Owner will provide the following:

- Three (3) years of South WWTP performance data, including influent and effluent P.

The Village of Poplar Grove agrees that the Project Description, Scope Of Services and Compensation sections contained in this Agreement, pertaining to this project or any addendum thereto, are considered confidential and proprietary, and shall not be released or otherwise made available to any third party, prior to the execution of this Agreement, without the expressed written consent of McMahon Associates, Inc.

COMPENSATION: (Does Not Include Permit Or Approval Fees)

McMAHON Associates, Inc. agrees to provide the Scope Of Services described above for the following compensation:

☐ Rates Per Attached Fee Schedule

☒ Lump Sum: **Phosphorus Discharge Optimization Plan $7,500**
Feasibility Study $2,500

☐ Other:

COMPLETION SCHEDULE:

McMAHON Associates, Inc. agrees to complete this project as follows: Developing the Phosphorus Discharge Optimization Plan will commence upon receipt of signed Agreement. McMAHON will develop a draft Plan for the Village's review within 3-months of this Agreement being executed and the receipt of the South Plant Performance Data outlined in Special Terms. The Feasibility Study will be completed within 1-month of the Phosphorus Discharge Optimization Plan being approved by the Village Board.

ACCEPTANCE:

The General Terms & Conditions And The Scope Of Services (Defined In The Above Agreement) Are Accepted, and McMAHON Associates, Inc. Is Hereby Authorized To Proceed With The Services.

☐ This Agreement Confirms Our Written Proposal, Dated: _____

☐ This Agreement Confirms Our Verbal Estimate Given On: _____

The Agreement Fee Is Firm For Acceptance Within Sixty (60) Days From Date Of This Agreement.

OWNER:

By: _____
(Authorized Signature)

Title: _____

Date: _____

McMAHON ASSOCIATES, INC.
Machesney Park, Illinois

By: _____

Title: _____

Date: _____

Project Manager: _____

Please Return One Copy For Our Records

1700 HUTCHINS ROAD - MACHESNEY PARK, IL 61115
PH. 815.636.9590 ▪ FX. 815.636.9591 ▪ WWW.MCMGRP.COM

McMAHON ENGINEERS ARCHITECTS McMAHON ASSOCIATES, INC. GENERAL TERMS & CONDITIONS

1. McMAHON ASSOCIATES, INC. (hereinafter referred to as 'McMAHON') will bill the Owner monthly with net payment due in 30-days. Past due balances shall be subject to a service charge at a rate of 1.0% per month. In addition, McMAHON may, after giving 48-hours notice, suspend service under any Agreement until the Owner has paid in full all amounts due for services rendered and expenses incurred. These expenses include service charges on past due invoices, collection agency fees and attorney fees incurred by McMAHON to collect all monies due McMAHON. McMAHON and Owner hereby acknowledge that McMAHON has and may exercise lien rights on subject property.

2. The stated fees and Scope of Services constitute our best estimate of the fees and tasks required to perform the services as defined. This Agreement, upon execution by both parties hereto, can be amended only by written instrument signed by both parties. For those projects involving conceptual or process development services, activities often cannot be fully defined during initial planning. As the project progresses, facts uncovered may reveal a change in direction, which may alter the Scope. McMAHON will promptly inform the Owner in writing of such situations so changes in this Agreement can be negotiated, as required.

3. The stipulated fee is firm for acceptance by the Owner for 60-days from date of Agreement publication.

4. Costs and schedule commitments shall be subject to re-negotiation for delays caused by the Owner's failure to provide specified facilities or information, or for delays caused by unpredictable occurrences, including without limitation, fires, floods, riots, strikes, unavailability of labor or materials, delays or defaults by suppliers of materials or services, process shutdowns, pandemics, acts of God or the public enemy, or acts or regulations of any governmental agency. Temporary delay of services caused by any of the above, which results in additional costs beyond those outlined, may require re-negotiation of this Agreement.

5. Reimbursable expenses incurred by McMAHON in the interest of the project including, but not limited to, equipment rental will be billed to the Owner at cost plus 10% and sub-consultants at cost plus 12%. When McMAHON, subsequent to execution of an Agreement, finds that specialized equipment must be purchased to provide special services, the cost of such equipment will be added to the agreed fee for professional services only after the Owner has been notified and agrees to these costs.

6. McMAHON will maintain insurance coverage in the following amounts:

Worker's Compensation	Statutory
General Liability	
Bodily Injury - Per Incident / Annual Aggregate	$1,000,000 / $2,000,000
Automobile Liability	
Bodily Injury	$1,000,000
Property Damage	$1,000,000
Professional Liability Coverage	$2,000,000

If the Owner requires coverage or limits in addition to the above stated amounts, premiums for additional insurance shall be paid by the Owner. McMAHON's liability to Owner for any indemnity commitments, reimbursement of legal fees, or for any damages arising in any way out of performance of our contract is limited to ten (10) times McMAHON's fee not to exceed to $500,000.

7. The Owner agrees to provide such legal, accounting and insurance counseling services as may be required for the project for the Owner's purpose. All unresolved claims, disputes and other matters in question between the Owner and McMAHON shall be submitted to mediation, if an agreement cannot be reached by Owner and McMAHON.

8. Termination of this Agreement by the Owner or McMAHON shall be effective upon 7-days written notice to the other party. The written notice shall include the reasons and details for termination; payment is due as stated in paragraph 1. If the Owner defaults in any of the Agreements entered into between McMAHON and the Owner, or if the Owner fails to carry out any of the duties contained in these terms and conditions, McMAHON may, upon 7-days written notice, suspend its services without further obligation or liability to the Owner unless, within such 7-day period, the Owner remedies such violation to the reasonable satisfaction of McMAHON.

9. Re-use of any documents or AutoCAD representations pertaining to this project by the Owner for extensions of this project or on any other project shall be at the Owner's risk and the Owner agrees to defend, indemnify and hold harmless McMAHON from all claims, damages and expenses, including attorneys' fees arising out of such re-use of the documents or AutoCAD representations by the Owner or by others acting through the Owner.

10. Purchase Orders - In the event the Owner issues a purchase order or other instrument related to the Engineer's services, it is understood and agreed that such document is for Owner's internal accounting purposes only and shall in no way modify, add to or delete any of the terms and conditions of this Agreement. If the Owner does issue a purchase order, or other similar instrument, it is understood and agreed that the Engineer shall indicate the purchase order number on the invoice(s) sent to the Owner.

11. McMAHON will provide all services in accordance with generally accepted professional practices. McMAHON will not provide or offer to provide services inconsistent with or contrary to such practices nor make any other warranty or guarantee, expressed or implied, nor to have any Agreement or contract for services subject to the provisions of any uniform commercial code. Similarly, McMAHON will not accept those terms and conditions offered by the Owner in its purchase order, requisition or notice of authorization to proceed, except as set forth herein or expressly accepted in writing. Written acknowledgment of receipt, or the actual performance of services subsequent to receipt, of any such purchase order, requisition or notice of authorization to proceed is specifically deemed not to constitute acceptance of any terms or conditions contrary to those set forth herein.

12. McMAHON intends to serve as the Owner's professional representative for those services, as defined in this Agreement, and to provide advice and consultation to the Owner as a professional. Any opinions of probable project costs, approvals and other decisions made by McMAHON for the Owner are rendered on the basis of experience and qualifications and represent our professional judgment. Nothing contained in this Agreement shall create a contractual relationship with, or a cause of action, in favor of a third party against either the Architect or McMAHON.

13. This Agreement shall not be construed as giving McMAHON the responsibility or authority to direct or supervise construction means, methods, techniques, sequence or procedures of construction selected by Contractors or Subcontractors, or the safety precautions and programs incident to the work of the Contractors or Subcontractors.

14. The Owner shall be responsible for maintenance of the structure, or portions of the structure, which have been completed and have been accepted for its intended use by the Owner. All structures are subject to wear and tear, and environmental and man-made exposures. As a result, all structures require regular and frequent monitoring and maintenance to prevent damage and deterioration. Such monitoring and maintenance is the sole responsibility of the Owner. McMAHON shall have no responsibility for such issues or resulting damages.