AGREEMENT #23039 FOR PROFESSIONAL SERVICES
For LAKE COUNTY

This Agreement for Professional Services ("**Agreement**") is between the County of Lake ("**County**") and Christopher B. Burke Engineering, LTD., ("**Consultant**"), whose principal business address is 9575 West Higgins Road, Suite 600, Rosemont, IL 60018.

RECITALS

1. Lake County issued a REQUEST seeking Phase III Construction Engineering ("Services").
2. Consultant responded timely with a proposal dated March 7, 2023 ("Proposal").
3. Based on Consultant's Proposal, the County and Consultant have negotiated terms under which Consultant will perform the Services.
4. To memorialize the terms and conditions under which Consultant will perform the Services, the parties have drafted this Agreement.

In light of the foregoing, the County and Consultant agree as follows:

SECTION 1. AGREEMENT DOCUMENTS

This AGREEMENT constitutes the entire agreement between the County and the Consultant.

SECTION 2. SCOPE OF WORK

The Consultant shall provide the engineering services described in Exhibit A to this Agreement.

SECTION 3. EFFECTIVE DATE; TERM

This Agreement shall be effective from May 9, 2023 (the anticipated County Board Award of the construction contract and the anticipated County Board approval of this Engineering Agreement) through July 7, 2025 (the Contract completion date based on a Contract Time of 790 days), unless terminated under the provisions for doing so further below or the work set forth in this Agreement is completed before the end of the term. The work is complete upon a determination of completion by Lake County, as measured against any statements of work or other documents or contractual terms that the parties have memorialized. A determination of completion shall not constitute a waiver of any rights or claims that Lake County may have or thereafter acquire with respect to any provision of this Agreement. At the end of the Agreement term Lake County reserves the right to extend the Agreement for an additional period up to 60 days for the purpose of negotiating a new or extended agreement.

Effective Date. Unless a different effective date is provided above, this Agreement will become effective when all of the parties have signed it, and the date this Agreement is signed by the last party to sign it (as indicated by the date associated with that party's signature) will be deemed the "Effective Date" of this Agreement. If a party signs but fails to date a signature, the date that

the other party receives the signing party's signature will be deemed to be the date that the signing party signed this agreement, and the other party may inscribe that date as the date associated with the signing party's signature.

SECTION 4. AGREEMENT PRICE

The County will pay Consultant a fee of $458,000 for deliverables identified in Exhibit A - the Consultant's proposal dated March 7, 2023, and will invoice the County not more than once per month based upon the actual expense reimbursement.

SECTION 5. INVOICES & PAYMENT

A. At the start of this Agreement, the County will issue a purchase order for the work and Consultant shall submit invoices detailing the products and services provided and identify the purchase order number on all invoices.

B. Consultant shall maintain records showing the actual time its employees and agents devoted to the project, and the costs incurred. Consultant shall permit a representative from Lake County to inspect and audit all of Consultant's data and records for the work and services provided under this Agreement. Consultant shall make these records available at reasonable times during the Agreement period and for one year after the end of the Agreement.

C. All payments shall be made in accordance with the Illinois Local Government Prompt Payment Act, which generally requires approval of a vendor's bill within 30 days of receiving the invoice for the services contained in it, and payment within an additional 30 days (50 ILCS 505/1 *et seq.*).

D. Lake County's fiscal year ends on November 30. Invoices for services the Consultant has rendered up until November 30 of each year must be received by Lake County on or before January 15 of the subsequent calendar year.

   Other than the timeframe for payments related to the end of Lake County's fiscal year, as stated above, Lake County shall not be held financially liable for payment of any services rendered if the invoice for such services is not sent to the County within 90 days from the date the services were provided.

   If this Agreement is terminated prior to its expected expiration date, the Consultant must submit all invoices to Lake County no later than 30 days after the effective date of the termination.

   Payment for invoices received beyond the time periods in this subsection will be denied, absent an agreement to the contrary. Failure of the Consultant to invoice the County in

the timeframes noted in this section shall constitute the Consultant's waiver of the Consultant's right to payment.

SECTION 6. CHANGE ORDERS

In the event changes to the scope of the project or additional work become necessary or desired (a "Change"), the parties shall follow the procedures set forth in this Section to memorialize the change (a "Change Order"). A Change Order shall be effective only if documented in writing, dated and signed by both parties, and expressly referencing this Agreement. The Change Order shall set forth in detail: (i) the Change requested, (ii) the reason for the proposed Change; (iii) the cost of the Change; and (iv) the Change's impact on the time for completing the project.

In the event either party desires a Change, the Project Manager for such party shall submit to the other party's Project Manager a proposed Change Order. If the receiving party does not accept the Change Order in writing within 10 business days, the receiving party shall be deemed to have rejected the Change Order. If the parties cannot reach agreement on a proposed Change, Contractor shall nevertheless continue to render performance under this Agreement in accordance with its (unchanged) terms and conditions.

Changes that involve or increase in the amounts payable by the County may require execution by the County Purchasing Agent. Some increases may also require approval by the County Board. In cases where the Purchasing Agent's signature is required, or where County Board approval is needed, the Change Order shall not be deemed rejected by County after 10 days if the County's Project Manager has indicated in writing within the 10-day period an intent to present the Change Order for appropriate signature or approval.

SECTION 7. INDEMNIFICATION

Consultant agrees to indemnify and defend Lake County (its employees, elected officials, executives, and agents) from all claims, actions, demands, judgments or liabilities, fines, penalties, and expenses, including without limitation reasonable legal fees and expert costs, arising out of this Agreement and arising from the Consultant's (its employees', executives', and agents') actions, whether negligent, reckless, or intentional. Lake County shall provide notice to Consultant promptly of any such claim, suit, or proceeding, and will assist Consultant, at Consultant's expense, in defending any such claim, suit, or proceeding.

SECTION 8. INSURANCE

The Consultant must obtain, for the Contract term and any extension of it, insurance issued by a company or companies qualified to do business in the State of Illinois with an A.M. Best Rating of at least A and provide the County with a Certificate of Insurance 15 days before the start of the project, and thereafter annually upon each renewal date for contracts/projects that will last more than one year. Insurance in the following types and amounts is necessary:

Commercial General Liability Insurance

In a broad form on an occurrence basis shall be maintained, to include, but not be limited to, coverage for property damage, bodily injury (including death), personal injury and advertising injury in the following coverage forms where exposure exists:

- Premises and Operations
- Independent Contractors
- Products/Completed Operations
- Liability assumed under an Insured Contract/ Contractual Liability
- Personal Injury and Advertising Injury

With limits of liability not less than:
$ 1,000,000 Each Occurrence
$ 1,000,000 Products-Completed Operations
$ 1,000,000 Personal and Advertising injury limit
$ 2,000,000 General aggregate; the CGL policy shall be endorsed to provide that the General Aggregate limit applies separately to each of the contractor's projects away from premises owned or rented to contractor.

Excess/ Umbrella Liability

The Contractor's Excess/ Umbrella liability insurance shall be written with the umbrella follow form and outline the underlying coverage, limits of insurance will be based on size of project:
$ 2,000,000 per occurrence limit (*minimum*)

Automobile Liability Insurance

Automobile liability insurance shall be maintained to respond to claims for damages because of bodily injury, death of a person, or property damage arising out of ownership, maintenance, or use of a motor vehicle. This policy shall be written to cover any auto whether owned, leased, hired, or borrowed.
The Contractor's auto liability insurance, as required above, shall be written with limits of insurance not less than the following:
$ 1,000,000 Combined single Limit (Each Accident)

Workers Compensation (Coverage A) and Employers Liability (Coverage B)

Workers Compensation Insurance covering all liability of the Contractor arising under the Worker's Compensation Act and Worker's Occupational Disease Act at limits in accordance with the laws of the State of Illinois. Employers' Liability Insurance shall be maintained to respond to claims for damages because of bodily injury, occupational sickness, or disease or death of the Contractor's employees, with limits listed below:
Employers Liability

a) Each Accident $1,000,000

b) Disease-Policy Limit $1,000,000
c) Disease-Each Employee $1,000,000

Such Insurance shall contain a waiver of subrogation in favor of Lake County.

Professional Liability – Errors and Omissions (*if applicable)*

The Engineers/Architects/Consultants for the plans of the project shall be written with limits of insurance not less than the following:
$ 1,000,000 per claim per policy year
Coverage shall be provided for up to three (3) years after project completion. Policy is to be on a primary basis if other professional liability is carried.

County, acting at its sole option, may waive any of the foregoing insurance requirements upon a request to do so, but no waiver shall be effective unless made in writing. Such waiver may include or be limited to a reduction in the amount of coverage required above. The extent of waiver shall be determined solely by County's risk manager taking into account the nature of the work and other factors relevant to County's exposure, if any, under this agreement.

Failure to Comply: In the event the Contractor fails to obtain or maintain any insurance coverage required under this agreement, Lake County may purchase such insurance coverage and charge the expense to the Contractor.

SECTION 9. INDEPENDENT CONTRACTOR; LICENSURE OR CERTIFICATIONS; KEY PERSONNEL

A. **Independent Contractor Status**. The parties intend that the Consultant will be an independent contractor.

B. **Licensure or Certifications**. If required by law, the Consultant must at all times be and remain licensed or certified as a qualified provider of the services provided in this Agreement. Consultant shall submit copies of the required licenses or certifications upon the County's request. Consultant shall promptly notify County in writing of any citation Consultant receives from any licensing or certification authority, including all responses and correction plans.

C. Where the parties have identified particular individuals as being critical to a project ("Key Employees"), then Consultant shall not replace Key Employees without the County's prior written consent, which shall not be unreasonably withheld. Should Key Employees be reassigned, become incapacitated, separate from the Consultant, or be otherwise unable to perform the functions assigned to them, Consultant shall (i) within 10 business days, temporarily replace the person with another properly qualified employee and (ii) within 30 calendar days, permanently replace the person.

   Lake County shall have the right to request that Consultant replace Key Employees from the project by setting forth in writing the grounds for the request. Consultant shall have a reasonable time period in which to address the grounds or make a substitution.

D. Consultant shall complete its obligations under this Agreement in a sound, economical and efficient manner and in accordance with this Agreement and all applicable laws. Consultant agrees to notify Lake County immediately whenever it is unable to comply with applicable State, Federal, or local laws, rules and regulations. Where non-compliance materially impairs the Consultant from performing the services under this Agreement, the County may terminate the Agreement for cause.

SECTION 10. DISPUTE RESOLUTION

All issues, claims, or disputes that the Consultant raises or makes related to this Agreement shall be resolved in accordance with the Contract Disputes provision of the Lake County Purchasing Ordinance, § 33.097.

SECTION 11. NO IMPLIED WAIVERS

Waivers of a term or condition of this Agreement shall be in writing, and that writing must describe the circumstances giving rise to the waiver. The parties intend that no waiver of any term or condition shall be deemed or construed as a waiver of any other term or condition of this Agreement, and waiver of any breach shall not be deemed to be a waiver of any subsequent breach, whether of the same or a different provision of this Agreement.

SECTION 12. SEVERABILITY

If any provision of this Agreement is unenforceable to any extent, the remainder of this Agreement (or application of that provision to any persons or circumstances other than those as to which it is held unenforceable) will not be affected by that unenforceability and will be enforceable to the fullest extent permitted by law.

SECTION 13. JURISDICTION, VENUE, CHOICE OF LAW AND PROFESSIONAL STANDARDS

This Agreement shall be governed by and construed according to the laws of the State of Illinois. Jurisdiction and venue shall be exclusively found in the 19th Judicial Circuit Court of Lake County, Illinois.

SECTION 14. NOTICES AND COMMUNICATIONS

All notices and communications which may be given by Lake County to Consultant relative to this Agreement shall be addressed to the Consultant at the address shown herein below:

John P. Caruso, Vice-President
Christopher B. Burke Engineering, LTD
9575 West Higgins, Rosemont, IL 60018

Copies of any notices and communications which propose to modify or terminate this Agreement

shall be provided to: Lake County Purchasing Division, 18 North County Street, Waukegan, Illinois 60085-4350; Attention: Purchasing Agent.

SECTION 15. ASSIGNMENT, ALTERATIONS AND MODIFICATIONS

This Agreement shall not be assigned, delegated, or modified without the express written consent of both parties. This Agreement supersedes all other agreements, oral or written, between the parties with respect to the subject matter of this Agreement.

If Lake County agrees that the Consultant may assign, delegate, or subcontract the work under this Agreement, Consultant shall remain contractually liable to Lake County unless otherwise agreed in writing.

SECTION 16. TERMINATION

Lake County reserves the right to terminate this Agreement as set forth below.

a. Termination for Convenience:
Lake County reserves the right to terminate this Agreement, or any part of this Agreement, with or without cause, upon 30 days' written notice. In case of such termination, Consultant shall be entitled to receive payment from Lake County for work completed to the date of termination in accordance with the terms and conditions of this Agreement.

b. Termination Due to Material Breach:
In the event that this Agreement is terminated due to the Consultant's material breach, Lake County shall be entitled to purchase substitute items or services elsewhere and charge Consultant with losses the County incurs, including attorney's fees and expenses, notwithstanding any damage limitations the parties may agree to elsewhere.

c. Termination Due to Lack of Appropriations:
If sufficient funds are not appropriated by the Lake County Board to continue the services under this Agreement, then Lake County may terminate this Agreement. Lake County agrees to give written notice of termination to Consultant at least 30 days prior to the end of the last fiscal year for which appropriations were made. Lake County shall remit payment for all work completed and approved or accepted by the County, to the date of termination. Termination under this subsection shall not entitle the Consultant to contractual damages of any kind.

d. Termination Due to Force Majeure Events:

(i) If a Force Majeure Event prevents a party from complying with any one or more obligations under this agreement, that inability to comply will not constitute breach if (1) that party uses reasonable efforts to perform those obligations, (2) that party's inability

to perform those obligations is not due to its failure to (A) take reasonable measures to protect itself against events or circumstances of the same type as that Force Majeure Event or (B) develop and maintain a reasonable contingency plan to respond to events or circumstances of the same type as that Force Majeure Event, and (3) that party complies with its obligations under section 16(d)(iii), below.

(ii) For purposes of this agreement, "Force Majeure Event" means, with respect to a party, any event or circumstance, whether or not foreseeable, that was not caused by that party and any consequences of that event or circumstance.

(iii) If a Force Majeure Event occurs, the noncomplying party shall promptly notify the other party of occurrence of that Force Majeure Event and may terminate the Agreement based on it, with an obligation to pay only for services performed prior to the Force Majeure Event.

SECTION 17. CONFIDENTIALITY

Both parties acknowledge that Consultant's documents and dealings related to this Agreement are subject to the Illinois Open Meetings Act (5 ILCS 120/1 *et seq.*) and the Illinois Freedom of Information Act (5 ILCS 140/1 *et seq.*). Consultant agrees to comply with all pertinent federal and state statutes, rules and regulations and County ordinances related to confidentiality.

SECTION 18. WORK PRODUCT

All work product prepared by Consultant pursuant to this Agreement, including, but not limited to, policies, reports, analysis, plans, designs, calculations, work drawings, studies, photographs, models, and recommendations shall be the property of Lake County. Consultant shall deliver the work product to Lake County upon completion of Consultant's work, or termination of the Agreement, whichever comes first. Consultant may retain copies of such work product for its records; however, Consultant may not use, print, share, disseminate, or publish any work product related to this Agreement without the consent of Lake County.

SECTION 19. PRESS/NEWS RELEASES

Consultant may not issue any press or news releases regarding this Agreement without prior approval from Lake County. Consultant shall provide notice to Lake County's Chief Communications Officer if contacted by the media regarding the services set forth in this Agreement.

SECTION 20. DEBARMENT AND SUSPENSION

The Lake County Purchasing Ordinance § 33.125 through 33.126 defines the County's Authority and Decision to Debar.

The Consultant certifies to the best of his or her knowledge and belief that the Consultant:

A. Is not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any Federal department or agency.

B. Has not within a 3-year period preceding this contract been convicted of or had a civil judgment rendered against it for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain or performing a public (Federal, State, or local) transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statement, or receiving stolen property;

C. Is not presently indicted or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and

D. Has not, within a three-year period preceding this contract, had one or more public transactions (Federal, State, or local) terminated for cause or default.

Consultant agrees that, during the term of this Agreement, Consultant shall report to the County's contract administrator, within 10 days, any allegations to or findings by the National Labor Relations Board (NLRB) or Illinois Labor Relations Board (ILRB) that Consultant has violated a statute or regulation regarding labor standards or relations. If an investigation by the County results in a final determination that the matter adversely affects Consultant's responsibilities under this Agreement, then the County may terminate this contract.

SECTION 21. NON-DISCRIMINATION

During the term of this agreement, Consultant agrees to and shall comply with (1) the Equal Opportunity Employer provisions of Section 2000e of Chapter 21, Title 42 of the United States Code and Federal Executive Order Number 11246, as amended by Executive Order 11375, and (2) Chapter 33 of Title III of the Lake County Code of Ordinances (titled "Purchasing").

Signed:

COUNTY OF LAKE	**CHRISTOPHER B. BURKE ENGINEERING, LTD.**
By:_____	By:_____
Its Purchasing Agent	Michael E. Kerr, PE President
Date:_____	Date: 3/7/2023

Exhibit A

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 West Higgins Road Suite 600 Rosemont, Illinois 60018 TEL (847) 823-0500 FAX (847) 823-0520

February 28, 2023
Revised March 7, 2023

Lake County Public Works Department
650 West Winchester Road
Libertyville, IL 60048

Attention: Ms. Ying Miao, PE
Principal Engineer

Subject: Proposal for Construction Engineering Services
Construction of a 2 MG Reservoir and Pump Station

Dear Ms. Miao:

Christopher B. Burke Engineering, Ltd. (CBBEL) is pleased to submit this proposal to provide construction engineering services for the Construction of a new 2 MG Potable Water Reservoir and Pump Station. Below is our Understanding of the Assignment, Scope of Services and Estimated Fee.

UNDERSTANDING OF THE ASSIGNMENT

The Lake County Public Works Department (LCPWD) is seeking an engineering consultant to perform construction engineering services related to the Construction of a new 2 MG Reservoir and Pump Station located adjacent to and east of the White Deer Run Golf Course maintenance building and north of the railroad tracks. The engineering consultant will perform Phase III construction engineering services. The County will receive bids on April 5, 2023 with an anticipated award at the May 9, 2023 Lake County Board meeting. Construction is anticipated to take approximately 2 years. We also understand that LCPWD will utilize the project design engineer to perform shop drawing review services of Contractor's submittals.

SCOPE OF SERVICES

Construction Engineering Services:

Task 1 – Contract Administration: CBBEL will review contractor's payment applications and prepare change orders for the County's approval, and coordinate and process paperwork and forms required by the County. CBBEL will review Contractor's construction schedule and sequence(s); listing of materials and equipment submittals; general correspondence procedures; site access; staging areas required;

traffic control; subcontractors; preparation of pre-construction meeting agenda/minutes; and submittals for payment.

Task 2 – Construction Observation Services: Per the Contract Documents, this project will take approximately 760 calendar days (109 weeks) to complete. Under this task CBBEL will provide a full-time Resident Engineer (40 hours/week for 80 weeks) for the work to be performed. The Resident Engineer (RE) will perform the following duties:

- Notify the County of deficiencies, deviations of substitutions. With the notification, provide the County with an opinion for acceptance or denial, and request direction from the County regarding the deviation or substitution.
- Advise the County when disapprovals may be necessary due to failing to conform to the Contract Documents.
- Provide office support to the Resident Engineer related to interpretation of Contract Documents.
- Maintain office files of project correspondence.
- When present on site, observe the progress and quality of the executed work and determine if the work is proceeding in accordance with the Contract Documents. The Resident Engineer will keep the County informed of the progress of the work.
- Serve as the County's liaison with the Contractor working principally through the Contractor's field superintendent.
- Attend construction conferences. Prepare and circulate copies of agenda/meeting notes.
- Provide clarification(s) related to the intent of the Contract Documents.
- Review the Contractor's schedule at construction conferences and compare actual progress of work to Contractor's proposed construction schedule.
- Review Contractor's procedure for maintaining record drawings and field changes which may occur during the course of work.
- Maintain orderly files for correspondence, reports of job conferences, shop drawings and other submissions, reproductions or original Contract Documents including all addenda, change order and additional drawings issued subsequent to the award of the contract.
- Record the names, addresses and phone numbers of all contractors, subcontractors and major material suppliers in a field diary.
- For days in which the RE is present on site, keep a daily report book, which shall contain a daily report and quantity of hours on the job site, weather conditions, list of visiting officials, daily activities, job decisions and observations as well as general and specific observations and job progress. Submit weekly reports to County.
- Prior to final walk through, submit to the Contractor a list of observed items (punch list) requiring correction.
- Verify that punch list items have been addressed and corrections have been made.
- Coordinate and conduct the final walk through with the County, prepare a final punch list (if required).
- Verify that all the items on the final punch list have been corrected and make recommendations to the County concerning acceptance of the project.
- Except upon written instructions of the County, the Resident Engineer shall not authorize any deviation from the Contract Documents.
- Determine if the project has been completed in accordance with the Contract Documents and that the Contractor has fulfilled all of their obligations.
- We assume material testing will be performed by the Contractor.
- Coordinate system start-up.
- Prepare record drawings.
- Verify Contractor's construction layout.

- Assist County and Village residents with questions and comments.
- Assist the Contractor with interpretation of the Drawings and Specifications.

Please note that for any of the observation tasks with CBBEL may be performing, the Contractor(s) shall be informed that neither the presence of CBBEL field staff nor the observation and testing (if any) by our firm or subconsultant of our firm shall excuse the Contractor in any way for defects discovered in the work. It should be understood that CBBEL will not be responsible for any job and site safety on this project; job and site safety shall be the sole responsibility of the Contractor(s). CBBEL does not have the right to stop work and will not advise nor supervise the Contractor(s) means and methods of their work.

FEE ESTIMATE

Engineering Scope of Services		Eng VI	Eng I/II	Total Hours	Estimated Fee
Task	Description	$200/hr	$125/hr		
Construction Engineering					
1	Contract Administration	80	80	160	$26,000
2	Construction Observation Services	160	3200	3360	$432,000
	TOTAL (Revised 3/7/2023)			3520	**$458,000**

We will bill you in accordance with the agreed upon Standard Rates and establish our contract in accordance with the proposed Agreement for Professional Engineering Services.

Sincerely,

Michael E. Kerr, PE
President

JPC/pjb

N:\PROPOSALS\ADMIN\2022\Lake County Public Works Consulting & Engineering Services SOI 22125 P220447\Task Orders\Stand Alone - White Deer Run Reservoir Const\LCPWD 2 MG Reservoir & Pump Station Const Eng.030723.docx

John Caruso, PE

Vice President, Head, Mechanical/Electrical Engineering Department

YEARS EXPERIENCE: 35
YEARS WITH CBBEL: 35

EDUCATION
Bachelor of Science, 1988
Mechanical Engineering
University of Illinois at Chicago

PROFESSIONAL REGISTRATION
Professional Engineer, IL, 062.048356, 1993

Professional Engineer, WI, 43186-6, 2013

Professional Engineer, IN, PE11012145, 2010

Professional Engineer, CO, PE.0059191, 2021

PROFESSIONAL DEVELOPMENT
Ethics in City Government, Ethics Training for CDA/OMP Contractors, Vendors and Employees

PROFESSIONAL AFFILIATIONS
American Society of Mechanical Engineers

Engineers Without Borders

Illuminating Engineers Society

Professional Engineer experienced in design of mechanical/electrical engineering projects. Experience includes pump station design, water model studies, roadway and site lighting design, SCADA system design and irrigation design. Participated and/or acted as Resident Engineer on various potable water and sewage related pumping station projects, roadway lighting, and stormwater management projects. Responsibilities include design coordination with all related engineering disciplines on various projects with an emphasis on pumping applications including storm, sewage and potable water pump stations, as well as roadway lighting design and electrical design. Duties include preparation of design memorandum and preliminary engineering reports; acquisition of permits from state, county, and local agencies; preparation of contract specifications and construction plans; review of drawings and specifications for code compliance; providing RE services; design of standby engine generators and electric services; design of lighting systems for roadway, parking lot, landscape, and interior applications; and design of SCADA systems for sanitary, storm and potable water applications. Performs water model analyses using WaterGems, Infowater, WaterCAD and EPANET.

PUMP STATIONS

Southwest Storm Mitigation Phase I, Elmhurst: Project Manager for the design of an 17-acre-foot storm water detention reservoir with a 5 cfs duplex dewatering pump station including SCADA, fiber optic network communications and video surveillance of the facility. The pumps are housed in a 10 foot x 8 foot precast concrete wet well and discharge through a 1,600 foot, 12" diameter PVC forcemain. Remote telemetry is used to determine when pumping/dewatering can occur into the storm sewers after surcharging recedes. Construction cost $7,200,000.

Lansing Pump Station Improvements, Chicago Heights: Project Manager/Design Engineer for replacement of (3) 7,000 gpm horizontal split case potable water pumping units including associated isolation butterfly valves, globe check valves, pipe fittings, insertion flow meter, SCADA improvements to the City of Chicago Heights potable water pumping station. Construction Cost $300,000.

Meter Vault at Lansing Pump Station, Chicago Heights: Project Manager/Design Engineer for installation of 10' x 10' poured in place concrete, below grade meter vault over existing 36" water transmission main, including the installation of an insertion meter, electric and communication conduit and cable, connection to and modifications to existing SCADA system. Construction Cost $200,000.

Potable Water Booster Station, New Lenox: Project Manager/Design Engineer for construction of booster pump station at existing Village stand pipe and pump station. Improvements include modification to existing building adding approximately 400 SF of floor space including new standing metal seam roof, roof trusses, brick and CMW block wall construction for 2 new 750 gpm potable water booster pumps to create new pressure zone in remote, elevated area of the Village currently experiencing low water pressure. New standby diesel generator, modifications to existing motor control center, pressure reducing valves, and remote pressure monitor station reporting back to SCADA via radio is included in scope. Construction Cost $1,000,000.

East Main Pump Station, Lake County Public Works Department: Performed QA/QC for the $2.4 million rehabilitation Lake County's Regional East Main Pump Station originally placed in service in 1980. The East Main Pump Station has an average daily flow of 4 million gallons per day (MGD) with peak flow rates over 20 MGD. The project included replacing 2 of the vertical style non-clog pumps with 125 horsepower submersible style pumps that will allow the station to continue operations should the dry well ever flood in the future. The mechanical bar screens were replaced with mechanical shredders, thereby eliminating disposal of the screenings and significantly reducing odors and gases created in the screen room, which are treated by an existing forced air carbon scrubber. Two new stainless steel slide gates and new stainless steel grates and plates were added to the screen channels. The 1200 amp main electrical service entrances (2 ComEd feeds) were replaced with new switchgear which includes an automatic transfer switch between the ComEd feeds. A Kirk key operated generator receptacle was added to allow the County to power the station with one of two 500 kW portable generators. New variable frequency drives (VFD's) were added for each pump and the existing cone valves were modified to utilize individual REXA hydraulic units in lieu of the original Parco compressed air/hydraulic system. New PLC based controls and new level and flow instrumentation were included as well as new station LED lighting, a fresh coat of paint and new TPO roof.

IL Route 53 Storm Water Pump Station, Lombard: Project Manager for the design of a 170 cfs storm water pump station including 5 axial flow submersible propeller pumps, 2 submersible centrifugal pumps, a 650 kW diesel fuel standby generator, a 30' x 12' precast concrete electrical controls building, a below grade structural concrete wet well, discharge chamber and junction chamber, on site storm water detention, landscaping, pavement, water main, sanitary sewer, storm sewer, handrails, electric service, culvert lining and existing pump station modifications.

Flood Mitigation Project, Elmwood Park: Project Manager/Lead Designer for 150 cfs stormwater pump station, including four 250 Hp pumps, 1,600A motor control center, 1,000 kW engine generator, 30'x12' control building, SCADA, CCTV and 1,000' of twin 36" HDPE forcemains. Construction cost $3.6 million.

Storm Water Pump Station Rehabilitation, Winnetka: Project Manager/Design Engineer for the rehabilitation design of an existing storm water pump station. Improvements consisted of the removal of existing intake structures, removal of 4 existing 7,500 gpm pumps, installation of new 9' x 6' box culvert, intake structures with motor operated trash rake mechanism, 4 new 10,000 gpm submersible pumps, motor control center (MCC), modifications in below grade pump controls vault, new 1,000 amp CT cabinet, electric service and trash raker controls panel.

Cummins Technical Center Flood Risk Reduction, Columbus, IN: Project Manager responsible for design of flood control pumping stations. Project was a flood wall design to protect the Technical Center building. Included 45 cfs pump station, 5 cfs pump station, and over 500' of concrete flood wall.

Wastewater Treatment Plant Modifications, Rochester, IN: Modifications included replacement of 6 electric motors with inverter duty rated motors, installation of 6 variable frequency drives for trickling filter effluent pumps. Construction cost of $200,000.

Old Plank Park, Naperville: Design of approx. 7 cfs stormwater dewatering pump station for approx. 80 ac-ft stormwater detention facility. Required coordination and modifications to existing Country Commons pumping facility.

Graff Drive Stormwater Pump Station, Rosemont: Design of 20 cfs stormwater pump station including SCADA and 100kw standby generator to alleviate local flooding in residential area. Construction cost $586,000.

Country Commons, Naperville: Design of 2 cfs stormwater pump station to dewater 49 acre-feet stormwater reservoir underdrain system. Construction cost $550,000.

Well No. 9, Shorewood: Design of brick Well House for electrical, variable frequency drive and SCADA controls for 400 Hp, 1,200 gpm deep well pump. Packaged meter vault, manual transfer switch, and 2400 volt step up transformer included.

Well Nos. 6 & 8, Sycamore: Project Manager/Lead Designer for rehabilitation of two existing well houses. Upgrades included building additions to accommodate future radium treatment/removal equipment; electrical upgrades to existing well pumps; new diesel stand-by generator; underground piping revisions; well house piping revisions.

Wood Dale-Itasca Reservoir and Pump Station, DCDEC: Multi-phased stormwater management project along Salt Creek. Project included excavation of over 500,000 cy of material; construction of an earthen embankment approx. 0.5 mile long; 25 cfs pump station, 45' deep with two 75 hp pumps; 5 hp dewatering well, and SCADA telemetry system with a 75' tall radio antenna. Construction cost $5 million.

Westwood Creek Dam and Pump Station, Addison: Assisted in preparation of construction drawings for stormwater dam and pump station consisting of three 300hp submersible tube type propeller pumps, three 6'x8' motor operated sluice gates, and associated level sensing and control devices. Pump station rated at 500cfs and provided with 800kw diesel-electric generator for standby power. Responsibilities included RE for 2 years during construction, contract administration, and preparation of O&M manual. Performed annual dam inspection report for submission. CECI 1995 Engineering Excellence Achievement Award Winning Project. Construction cost $2 million.

Finley/Crescent Pond, Lombard: Design and resident engineering of 3 acre foot stormwater detention reservoir and 6cfs pump station. Construction cost $800,000.

Well No. 9, Sycamore: Designed a 250 hp 1350 gpm well pump for potable water deep well and a well house including provisions for radium treatment equipment. Design included a 350kw standby power generator, SCADA controls and chemical treatment facilities. Construction cost $827,000.

William Street Reservoir and Pump Station, Rosemont: Assisted in design and preparation of construction documents for below grade, poured-in-place concrete 5MG reservoir and 6,000gpm potable water pumping station. Responsibilities included sizing diesel electric generator; lighting, electrical power, piping layouts & CAD implementation to prepare contract drawings. Major equipment items included four 1,500gpm vertical turbine pumps driven by variable frequency drives; standby diesel electric generator; HVAC system for cooling main water pumps & heating pump station; chlorination equipment; control & alarm telemetry; & excavation support system. CECI 1995 Engineering Excellence Achievement Award Winning Project.

LIFT STATIONS

Seil Road Lift Station, Shorewood: Project Manager/Design Engineer for regional lift station rehabilitation including three 85 Hp, 1600 gpm sewage pumps, 250 kw diesel standby generator, new pump controller with three variable frequency drives and exterior cooling unit, SCADA upgrades, weather station, new check valves and site fencing. Converted project to Design-Build.

Edgebrook Lift Station, Wood Dale: Project Manager/Design Engineer for duplex sewage lift station rehabilitation including 350 gpm submersible sewage pumps, 40 kw natural gas standby generator, pump control panel, flow meter, check and isolation valves in valve vault, and waterproof hatches. Station was within floodplain elevation so area was raised above. DuPage County stormwater permit, recycled plastic site fencing, site grading and landscaping along with concrete access drive and raised stair/platform for access to pump control panel. Station was converted from dry pit can station to wet well submersible pumps.

Woods Lift Station, Flossmoor: Design and construction services and conversion to Design-Build for regional sewage lift station. Replaced dry pit can type station with submersible chopper style sewage pumps. MWRDGC permit. Reused existing pump controls with VFDs. Furnished new natural gas 50 kw standby generator, valve vult with new check and isolation valves.

Fairview Lift Station, Lombard: Rehabilitation of regional sewage lift station including new duplex high flow pump (1500 gpm) and duplex low flow (500 gpm) pumps, new pump controls, 250 kw natural gas standby generator, SCADA integration, reuse/recondition existing concrete wet well, new flow meter, check and isolation valves and new air/vacuum valve on existing 9000 ft. PVC forcemain.

Menards Lift Station, Glendale Heights: Project Manager for rehabilitation of existing sewage lift station along IL Route 64. Improvements include reuse of existing wet well with concrete rehabilitation, 3 new 1150 gpm submersible pumping units and associated valves and discharge piping, aluminum access hatches, expansion of existing precast concrete control building including new roof and three wall additions, pump controls including VFDs, valve vault, meter vault with in-line meter, reuse of existing forcemain, modifications to SCADA. Construction Cost $630,000.

Lake Park Estates Lift Station, Palatine: Project Manager for the rehabilitation of existing sewage lift station including converting dry well-wet well type station to submersible type station. Reuse of existing wet well, new valve vault and associated piping and valves, submersible pumping units, pump control panel and automatic transfer switch for 2 ComEd services. MWRDGC permit acquired. Construction Cost $170,000.

Elm and Blanchard Lift Station, Wheaton: Project Manager for the design and construction of sewage lift station rehabilitation including new submersible 85 hp pumping units, pump controls with variable frequency drive (VFDs), connection to existing standby generator, new electric service, protective structural barrier wall. Construction Cost $300,000.

Regency Drive Lift Station, Glendale Heights: Project Manager for design of 400 gpm sewage lift station modifications to convert from a can lift station to submersible pumps. Project also included a 50 kW natural gas generator.

VFW Lift Station, Rochester, IN: Design of sanitary lift station modifications for rehabilitation of existing lift station including pumps, controls, valves, hatches and bypass pumping. Construction cost of $140,000.

Klefstad Lift Station, Wood Dale: Project Manager for rehabilitation of duplex submersible sewage lift station conversion from dry pit station. Included 60kw natural gas standby generator. Construction cost $450,000.

Peck Farm Park, Geneva: Design of a lift station, distribution watermain and electrical service to 50,000 SF recreational building. Construction cost $800,000.

Blacksmith Drive Lift Station Improvements, Wheaton: Design and construction upgrades to existing sewage lift station including natural gas stand-by generation housed in pre-cast concrete building. New pump control panel and pump controls via transducer and backup floats.

Lorraine Blockhouse Improvements, Wheaton: Design and construction of upgrades to an existing sewage lift station including: demolition of existing 12'x12' brick building housing submersible pump controls, installation of a 10'x16' pre-cast concrete building with faux brick finish, new 60kw natural gas fueled generator, pump control panel, transducer and back-up floats. Overhead electrical service was replaced with below ground conduit and cables, along with new ComEd pad mounted transformers. New hatches provided on existing concrete pad and new pump guide-rail system and wet well piping was installed.

Geneva Water Quality Subdivision: Design and part-time construction observation services for sewage lift station and parking lot lighting. Lift station received backwash from future city water treatment plant filter tanks.

Lift Station Upgrades Phases I & II, Lombard: Project Manager/Design Engineer/Resident Engineer for the design and construction observation of 8 sanitary lift stations and 2 stormwater pump stations including demolition of existing dry-type stations. Construction cost $4.5 million.

WATER STORAGE TANKS

Four Flaggs Tank Rehabilitation, Painting and Tower Facilities Lightning Protection/Oriole Tower Lightning Protection, Niles: Project Manager for the painting and rehabilitation of the Four Flaggs Standpipe including the painting of the interior and exterior of standpipe, removal and replacement of pilasters, new cathodic protection system, water destratification system, grounding system, SCADA modifications, valving and piping modifications.

Rehabilitation of the 1,000,000 Gallon Legged High Tank and 2,000,000 Gallon Ground Storage Reservoir, Chicago Heights: Project Manager for the painting and rehabilitation of two water storage tanks in the City of Chicago Heights.

Ridge Drive 1,000,000 Gallon Legged High Tank Rehabilitation, Chicago Ridge: Project Manager for the painting and rehabilitation of the high tank including ROV inspections, cellular equipment removal and replacement, Preliminary Design Memo, contract documents, bidding, construction observation, project documentation and closeout.

1,500,000 Gallon Spheroid Water Tower, Shorewood: Project Manager for the design, permitting and construction of a new 112' tall spheroid water tank including SCADA system, altitude valve in vault, emergency standby generator, utility coordination, site grading and antenna mounting brackets.

Glenwood School for Boys & Girls Painting of 150,000 Gallon High Tank, St. Charles: Project Manager for painting 150,000 gallon elevated water tank. Coordinated use of temporary hydropneumatic tanks for water supply during time tank was out of service.

500,000 Gallon Elevated Water Storage Tank Painting, Rosemont: Assisted in preparation of contract documents and administration of bid process. This tank was awarded the 2006 Tank of the Year by the Tnemec Paint Company.

Painting of 2 Million Gallon Standpipe, Darien: Assisted in preparation of bidding plans and contract documents.

SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA) SYSTEM DESIGN

Village of Forest Park SCADA System: Design and project management of SCADA system including 2 elevated tanks, 2 pump stations, meter station, emergency interconnection and lift station. Construction cost $100,000.

Village of Chicago Ridge SCADA System: Design, contract document preparation and contract administration of a SCADA system incorporating a main potable water pump station, booster pump station, 1MG elevated water storage tank and three sanitary lift station sites. Construction cost $100,000.

Village of Willowbrook SCADA System: Design, contract document preparation and contract administration of a SCADA system. System included 2 elevated storage tanks and a 3MG standpipe and booster pump station. Construction cost $70,000.

WATER MODEL STUDIES

Water Distribution Study, Bensenville: Developed & calibrated a water distribution model (MWH Soft Info Water) and established user demands for water distribution system. Identified impacts on system from the removal of the existing piping and water supply demand within the O'Hare Modernization Program expansion area.

Residences at the Grove, Downers Grove: Water model constructed for a proposed 15 acre development to determine available fire flows for multi-family development.

Apple Creek Estates, Woodstock: Constructed water model for proposed 540 acre development, including single family, multi-family, commercial & a school. Fire flows, resultant pressures were analyzed along with sizing watermains and future elevated tank.

Oak Grove Business Park, Waukegan: Performed water model for industrial park including five flow demands for most distant building and sizing watermain. Model was basis for construction of 16" watermain extension to supplement park's watermain.

Village of Palos Park: Three, million dollar construction contracts for more than 10 miles of watermain and sanitary sewer. Through the use of CYBERNET, AutoCAD and KYPIPE, a water model was constructed and analyzed to size booster pump stations and watermain throughout selected portions of the Village.

DuPage Technology Park, West Chicago: Analyzed fire flow and water demands of Technology Park being connected to existing City of West Chicago water supply system.

City of Rolling Meadows: Review of an existing water model to determine effects of potable water pump station upgrades and pump selection.

ROADWAY LIGHTING DESIGN

Roadway and Bridge Reconstruction (I-294) Mile Long Bridge, Willow Springs/Hodgkins/Countryside: Project included approximately 11,000' of interstate widening (5000' of which were on a bridge). Project consisted of removal 81 light poles, 114 temporary wood light poles, 131 proposed light poles, 24 underpass luminaires, 3 lighting controllers and waterway navigation lighting. Also included was coordination with pole manufacture for design of 21 custom temporary 60' steel poles attached to bridge pier caps. Project was permitted thru IDOT and the US Coast Guard. Project was Tollway let. Duties included master plan design options, photometric calculations, electrical design, creation of contract drawings and specifications, summary of quantities, engineer's cost estimate, and new electric service coordination.

Uptown Redevelopment, Park Ridge: Project Manager for $1.5 million roadway lighting project near Northwest Highway and Touhy Avenue. Project included both City and IDOT roadways. Roadway lighting submittals and permit applications were submitted to IDOT for approval. Coordination with 7 intersections including traffic signal replacement at all intersections. Electrical included tree lighting, electrical feeds for kiosks and convenience receptacles.

I-294 at IL Route 137, Lake County: Project consisted of design of 5,500 LF of a new continuous freeway lighting system in each direction for widening I-294 and intersection lighting design for 4 signalized exit and entrance ramps. The project utilized approx. 75 lighting units with 400W HPS roadway luminaries mounted on 50' mounting height aluminum poles on 15' truss mast arms along with 150W HPS Wall Pak Type Lighting Units for Underpass Lighting. The Main Line lighting is controlled by centrally located Radio Controlled Lighting controller and the intersection transition lighting is controlled out of the traffic signal controller Transfer Cabinets. Project also included design and installation of 1,500 LF of duct bank for the installation of fiber optic network cable for Illinois Tollway Communications, Surveillance and Lighting Control.

88th Avenue Street Lighting Design, Palos Hills: Project Manager/ Resident Engineer for 1 mile of roadway lighting design using ornamental type street lighting. Construction cost $700,000. Project was redesigned using standard cobra head type luminaries and spun aluminum poles.

Congdon Avenue Roadway Lighting, Elgin: Project Manager for roadway lighting design of 1.2 miles. Coordination with CCHD plans for reconstruction of Congdon Avenue.

McLean Boulevard Roadway Lighting, Elgin: Project Manager/ Resident Engineer for 1 mile of roadway lighting on 4 lane collector road in Elgin. Additional 7 'mid-block' sites at various residential streets also included. Construction cost $220,000.

71 South Lower Wacker Lighting, Chicago: Design of intersection roadway lighting at proposed signalized intersection on Lower Wacker Drive for existing building loading dock. Reviewed & Permitted by City of Chicago and IDOT.

Balmoral Avenue Extension, Rosemont: Design of $600,000 roadway lighting improvements. Incorporated the use of over 140 lighting units in the design of multiple lighting systems. The project's close proximity to O'Hare Airport restricted overall mounting height to 17'. Temporary lighting was installed on Mannheim Road for construction operations. Other entities consisted of bridge lighting mounted to parapet walls, underpass lighting, and upgrades to existing Village, City of Chicago and IDOT lighting systems. Construction cost $10 million.

Randall Road Intersection/Transition Lighting, MCDOT: Design of lighting at 4 intersections using 61 light poles and 3 new lighting controllers. Upgraded existing lighting controllers and expanded the system. Incorporated existing luminaries on combination lighting/ traffic signal poles into new lighting system.

DuPage Technology Park Phase I, West Chicago: Designed lighting using 42-40' light poles and 2 lighting controllers which illuminated approx. 4,400' of roadway including 2 roundabouts. Also aerated 7 ponds using air compressors and diffusers regulated by 2 aeration electric controllers. Duties included photometric design, plan design, and cost estimate.

Meijer Store #182, St. Charles: Design of roadway lighting for intersection and transition lighting along IL 38, Randall Rd and Bricher Rd. Project included 67 new light standards and removal of 18 existing light standards, lighting 3 intersections, installing 2 lighting controllers and modifying an existing controller. Coordination with Kane County, IDOT, St. Charles and Geneva was required.

SITE LIGHTING DESIGN

DuPage County Courtyard, Wheaton: Project Manager for installation of 11 ornamental roadway light poles, 35 ornamental walkway light poles, 8 ornamental parking lot light poles and a remote receptacle for events. Existing electrical panels were upgraded to accommodate new lighting. Designed a site irrigation system including a submersible pump drawing water from an adjacent pond via a concrete structure.

National Street Metra Station, Elgin: Project Manager for installation of 50 parking lot light standards in which 13 were located on the train platform deck. Also, included one lighting controller and 12 ornamental poles along the Fox River.

Prairie Crossing Site Lighting, Metra: Project Manager for installation of 80 ornamental parking lot lighting standards in which 15 were located on a train platform deck. Tasks included photometric design and preparation of plans.

ROADWAY LIGHTING STUDY

Elgin Street Lighting Inventory and Effectiveness Study: Survey of approx. 6,000 street lighting units with hand held GPS unit. Presented results to City in PowerPoint presentation including recommendations for additional lighting in residential areas.

Street Lighting Study, Lombard: Project Manager for locating, identifying, assessing, and organizing data for all street lighting within the Village. There were 2170 light poles controlled by 91 lighting controllers, and 81 light poles were directly connected to ComEd with 357 light poles owned by ComEd. The lighting ordinance was revised, street lighting atlases were revised, and a 10-year street lighting capital improvement plan was designed.

RECREATIONAL FACILITIES

Lincoln Park Zoo South Pond Renovation, Chicago: Project consisted of draining/dredging the existing pond and removing/replacing/upgrading all adjacent amenities, improvements including lighted boardwalk and path around pond, 2 waterside pavilions with lighting, electric and communication ports, ticket and toilet kiosks, receptacles throughout, a wind turbine, central electrical controller, pond aeration and an automated pond water refill system watermain.

Concessions/Washroom Building, St. Charles Park District: Designed a 2,100 SF restroom and concession building . Amenities included 3" water service from existing water well for domestic supply and fire protection, 480 volt electrical service, grinder sewage lift station and 1,200' of 2" force main, restrooms, concessions storage and picnic area.

Prairie Lakes Park Expansion, Des Plaines: Project Manager for lighting design for skate park and lighting/electrical for 6 batting cages. Also included were electrical provisions for a well and irrigation pump, a shelter building, vending machines and a tent for events.

Redmond Park, Bensenville: Design, contract documents, and construction observation of a multi-use recreational 70 acre site. Project included a 1,200 seat covered grandstand with press box, 1,200 SF washroom/concession building, 1,000 SF maintenance building, 2 lighted baseball fields with scoreboards, playground with play equipment and washrooms, soccer field, walking trails, 2 pedestrian bridges over concrete spillways, and irrigation in the ball fields. CECI 1998 Engineering Excellence Merit Award Winning Project. Construction cost $5 million.

Campton Hills Park District, St. Charles: Project Manager for design of upgrades to existing electrical well house building, electric for 2 scoreboards, a sanitary lift station, and irrigation of 7 soccer fields with provisions to irrigate 6 more.

The Morton Arboretum Children's Garden, Lisle: Project Manager for design of path/area lighting and receptacles. Power was provided for 5 water feature pumps including a granite ball rotating on a cushion of water.

East Side Sports Complex, St. Charles Park District: Designed site lighting and softball field lighting; including two 1,200 amp electrical systems for two cartwheel style quad softball fields, 2 soccer fields, tennis, basketball, skate park, and parking lot. Also, included was the site electrical for a providing shallow (30') well to the site and irrigation system, and maintenance of the building's electrical systems. Construction cost $4 million.

Veteran's Memorial Park, Glendale Heights: Project Manager for design of park lighting including 12 ornamental poles with receptacles, 11 recessed wall lights, 5 ingrade monument lights, 2 sign flood lights, 2 flag floodlights, and 4 low voltage ingrade lights for a 48" rotating granite ball. Also, there were 6 remote quad GFI receptacles and provisions for connecting portable power receptacles for events. Duties included photometric calculations, plan design and preparation, and cost estimate.

The Legends Golf Course, Bensenville: Design included architectural site lighting and sports lighting for golf course and driving range along with all related power and control.

Fredenhagen Park, Naperville: This $1.7 million project included a concession building, an illuminated water fountain controlled from a below grade vault, an illuminated ornamental clock tower, 13 ornamental light poles, ground mounted light fixtures, well pump and exterior site receptacles. Duties included fountain design, electrical design, and cost estimate.

Town Center Project, Carol Stream: Design and contract documents including construction cost estimates, acquisition of IEPA water and sewer permits, Health Department permits, and construction observation of 25 acre park. Project included 1,200 SF visitors center with restrooms, concession and storage area, 30' diameter gazebo/pavilion with stage, 100' diameter architectural concrete fountain, 65' pedestrian bridge, brick paver walkways, site lighting, site irrigation, 1,300' sanitary sewer, and 300' watermain. CECI 1999 Engineering Merit Award Winning Project. Construction cost $4 million.

RESIDENT ENGINEERING

DMS Replacement, Illinois Tollway: Replacement of 5 dynamic message signs for Tollway including LED DMS signs, CCTV camera installation, fiber optic cable communications, and digital communications network equipment. Construction cost $1.1 million.

Lift Station Upgrades, Lombard: Resident Engineer for upgrades to 8 sewage lift stations and 2 stormwater pump stations over a three year period. Construction cost $3,000,000.

Westwood Creek Dam and Pump Station, Addison: Resident Engineer for construction of a stormwater dam and pump station consisting of three 300hp submersible tube type propeller pumps, three 6'x8' motor operated sluice gates, and associated level sensing and control devices. Pump station rated at 500cfs and provided with 800kw diesel-electric generator for standby power. Responsibilities included RE for 2 years during construction, contract administration, and preparation of O&M manual. Performed annual dam inspection report for submission. CECI 1995 Engineering Excellence Achievement Award Winning Project. Construction cost $2 million.

MISCELLANEOUS PROJECTS

Ramp Plaza Widening at 63rd Street and Ogden Avenue, I-355, Illinois Tollway: Design and contract document preparation of ramp toll collection equipment, canopy lighting and alarm videotaping for Tollway ramps along I-355. Prepared contract plans and specifications using Tollway guide drawings and specifications.

Louis Reservoir, Addison: Coordinated with water resource engineers to design a method of dewatering a 200 acre-feet stormwater storage reservoir along Salt Creek. Implementation of check valves, level sensing transducers, control devices, motor operated gate valve, and electrical power supply to facilitated the dewatering process. Provided Resident Engineer services for 2 years during construction including construction observation, contract administration and preparation of O&M manual. Construction cost $3 million.

Booster Station #2 Building Upgrades and Generator Upgrades, Northlake: Project Manager for design and construction observation of a 400 SF building addition to a house; a new 230kw standby power generator, including upgraded ComEd transformer; installation of a new 400 amp ATS, variable frequency drive, heating and ventilation system and controls.

Electrical and Ventilation Upgrades, Forest Park Fire Station: Project Manager for a study of an existing fire station to provide a complete survey of total power consumption of the building and recommendations of ventilation needs.

Illinois Tollway: Project Manager for design and rehabilitation of electrical and camera surveillance systems for control buildings at the 63rd Street and Ogden Avenue toll plazas.

Elevated Water Storage Tank Evaluations: Assisted in review of water storage tank inspections and evaluations for tanks ranging from

100,000 gallons to 3,000,000 gallons for various municipalities such as Chicago Ridge, Elmwood Park, Northlake, and Willowbrook.

Review of Electrical, Mechanical, Plumbing and Fire Protection Drawings: Review of electrical, mechanical, plumbing and fire protection contract drawings for code compliance for commercial/ office/hotel developments in the municipalities of Chicago Ridge, Elmwood Park, Rolling Meadows, Rosemont, Wayne, and Willowbrook.

Mark Emory, PE

Pumping Applications Group Lead

YEARS EXPERIENCE: 47
YEARS WITH CBBEL: 27

EDUCATION
Bachelor of Science, 1975
Civil Engineering
University of Illinois at Urbana-Champaign

PROFESSIONAL REGISTRATION
Professional Engineer, IL, 062.038850, 1979

CERTIFICATIONS
AWWA Utility Risk and Resilience Certificate Program

PROFESSIONAL DEVELOPMENT
Ethics in City Government, Ethics Training for CDA/OMP Contractors, Vendors and Employees

PROFESSIONAL AFFILIATIONS
American Water Works Association (AWWA)

Professional Engineer within the Mechanical Engineering Department experienced in engineering projects in water supply and distribution, wastewater collection and treatment, and stormwater fields. Experienced in civil, mechanical and electrical engineering disciplines. Overall experience includes field investigations and troubleshooting, water supply and planning studies, water system evaluations with distribution network hydraulic modeling, preliminary engineering, and preparation of final design, including bidding and contract documents. Construction experience includes assistance during bidding, services during construction, including construction observation, and shop drawing review. Qualified Project Liaison drawing from the experience of these many engineering projects.

Responsibilities encompass engineering activities for potable water and wastewater projects. Responsible for conceptual planning, preliminary engineering, final design, cost estimating, contract document preparation, permit and regulatory submittal preparation, bidding, and services during construction including construction observation. Duties include client contact and representation, responsible charge for overseeing the work of other project team members, and liaison for the coordination, presentation and delivery of the project.

Proficient in Microsoft Word, Excel, Power Point, Microsoft Project, Bentley MicroStation, Haestad Methods Sewer CAD, WaterGEMS and EPANET Software.

Lake Michigan Water Project, Village of Bartlett: Project manager for all four engineering phases of Bartlett's five-year conversion to a Lake Michigan Water Supply from the DuPage Water Commission (DWC). Engineering for the project included Alternative Selection, Planning, Design Engineering and Construction Observation Engineering. The Alternatives Study through construction occurred between 2014 and the Spring of 2019. The project was operational before the end of Bartlett's 35-year water supply contract with its previous water provider. The initial Alternatives Study assessed five alternatives available to Bartlett for its potential water supply. The comparison of alternatives included identifying the available alternatives, projecting capital and financing costs, water purchase cost, operating and maintenance cost, soft cost, and Bartlett's projected water rate for each alternative. As the Alternative selection phase moved forward to Board's final selection of DWC, the available alternatives and their costs continually evolved. Multiple presentations were made at public Board meetings to update the status of the current alternatives under consideration. Bartlett's Board made its selection of DWC to be its future water supplier approximately 2 ½ - years after the presentation of the initial study. Engineering of the project moved forward into Planning and securing a Lake Michigan Water Allocation from IDNR-OWR. Bartlett utilized an IEPA low interest loan to finance the Receiving Station component of the project which required obtaining all Agency required planning approvals. Comprehensive water modeling was performed of the system serving 41,000 people using WaterGEMS software. The water modeling essential for making pump selections for the Receiving Station and determining the extent of internal water main improvements needed to facilitate the new Lake Michigan Water supply. Future capital improvements were evaluated as well. Upon the completion of the IEPA planning and receipt of the IDNR Lake Michigan Water Allocation, detailed bidding and contract documents were prepared for the Receiving Station which featured a 60-foot by 80-foot aesthetically treated metal building housing pressure adjustment and flow control of the DWC supply, 7-variable speed pumps, chlorination equipment, and full standby power. The Receiving Station also featured 2 - 1.5-million-gallon bolted steel ground storage tanks, and a new system wide SCADA system with seven cellular based sites. Engineering duties included responsibility for construction observation of the $8.0 facility which was constructed to substantial completion in 10 – months through the winter season. The project was coordinated throughout with DWC, IEPA and IDNR. The project was completed on-time and under budget. The Village's enacted water rate was under the rates that were projected in the Alternatives Study five years before completion of construction.

East Main Pump Station, Lake County Public Works Department: Project manager for the $2.3 million rehabilitation Lake County's Regional East Main Pump Station originally placed in service in 1980. The East Main Pump Station has an average daily flow of 4 million gallons per day (MGD) with peak flow rates over 20 MGD. The pre-improvement station was a wet well / dry well station with four 100 horsepower pumps with two mechanical bar screens prior to the renovation. The project included replacing 2 of the vertical style non-clog pumps with 125 horsepower submersible style pumps that will allow the station to continue operations should the dry well ever flood in the future. The mechanical bar screens were replaced with mechanical shredders, thereby eliminating disposal of the screenings and significantly reducing odors and gases created in the screen room, which are treated by an existing forced air carbon scrubber. Two new stainless steel slide gates and new stainless steel grates and plates were added to the screen channels. The 1200 amp main electrical service entrances (2 ComEd feeds) were replaced with new switchgear which includes an automatic transfer switch between the ComEd feeds. A Kirk key operated generator receptacle was added to allow the County to power the station with one of two 500 KW portable generators they maintain in their fleet. New variable frequency drives (VFD's) were added

for each pump and the existing cone valves were modified to utilize individual REXA hydraulic units in lieu of the original Parco compressed air/hydraulic system. New PLC based controls and new level and flow instrumentation were included as well as new station LED lighting, a fresh coat of paint and new TPO roof. CBBEL worked with the Contractor and the County to implement the improvements with utilizing handful of limited duration shutdowns and staged construction rather than the originally planned 6 week full station by-pass pumping period.

Lift Station No. 1 Rehabilitation, Crystal Lake: Project manager for the rehabilitation of Crystal Lake's Lift Station No. 1. The pre-improvement lift station was a wet well / dry well type station with older Gorman Rupp pumps in a tube access dry pit. The $525,000 improvements included installing new submersible pumps in the existing wet well with new valve vault and piping to connect to the station's existing forcemain. The pumps were 2,000 gpm, 35 horsepower. New PLC based controls and instrumentation were housed in and a new stainless steel control cabinet. Variable frequency drives were included for the pumps. A new 100 KW natural gas generator in a weather enclosure was included to replace the existing generator that was housed in a "shed" in the front parkway of the office building on the adjacent site (the lift station is on ROW and easements on the office property). The wet well was coated during the by-pass pumping operations to reduce existing I/I to the wet well. The landscaping, new layout of the control panel and generator and demolition of the "shed" greatly enhanced the aesthetics of the property. The project required IDNR flood plain and IEPA construction permitting.

Raupp Lift Station Rehabilitation, Buffalo Grove: Project manager for the Raupp Lift Station rehabilitation project. The Raupp Lift Station is a Smith Loveless wet pit / dry pit lift station with two 50 horsepower pumps. The pump station dates from the 1970's and many components were past their useful life. The Village operates the Raupp Lift Station under an MWRDGC permit and wanted to keep the existing pumps to simplify the permitting process with MWRD. The $313,000 rehabilitation included new valves, control panel, generator to update the station. New controls and instrumentation were included using PLC based controls. By-pass pumping was performed during construction of the improvements. The improvements also included new electrical service from the existing transformers for the station. The station was linked to the Village's existing SCADA system through Comcast interface. The station is located on the banks of Buffalo Creek and adjacent to Park District property.

Old Treatment Plant and Cambridge on the Lake Lift Station Rehabilitation, Buffalo Grove: Project Manager for a $400,000 rehabilitation project for 2 Smith Loveless wet well / dry well lift stations dating from the 1970's in Buffalo Grove. The Village operates these lift station under MWRDGC permits and wanted to keep the existing pumps to simplify the permitting process with MWRD. The design of the proposed improvements was prepared by another consultant and the project was funded through an IEPA SRF loan. The project required getting approvals needed from IEPA for the loan, bidding and construction observation. The improvements consisted of new stainless steel control panels with PLC based controls and communication interlinks with the Village's existing SCADA system. New generators were included along with new valves. By-pass pumping was required during construction.

Arlington Club Forcemain, Wheeling: Project manager for the design and construction engineering for a $760,000 replacement of a 3,000 foot long forcemain servicing the Arlington Club subdivision in Wheeling. The alignment traversed a quiet residential area with mature landscaping, ran parallel to Dundee Road in the ROW parkway occupied with multiple existing utilities, and required crossing Dundee Road at a signalized intersection close by two schools. Directional drilling installation method was selected to minimize impacts to existing utilities, minimize traffic disruption, allow latitude for installation parallel to existing utilities, and minimize disturbance to existing trees and landscaping. The hydraulics of the HDPE pipe material was analyzed to assure that the existing lift station pumps would operate acceptably with the new smoother pipe material. The design included preparing a detailed maintenance of traffic plan. Permitting was required for Cook County DOT, IDOT (crossing), IDOT parallel to pavement, and from MWRDGC. The project was coordinated to have the signalized construction work installed during summer session to minimize impact to the schools.

Metra Tower B-17 Lift Station, Bensenville: Project manager for a lift station to provide sanitary service for a single bathroom for the Metra Tower B-17. Some of the unique challenges for this project included that it is part of the O'Hare Modernization Program and underwent the same review procedures and process as multi-million dollar Modernization projects. The project had multiple multi-party reviews. Other unique aspects included addressing the very small sanitary flow that had to be conveyed through 600-feet of forcemain on or parallel to two different railroad right-of-way's that merge at the Tower location. Grinder pumps were utilized and forcemain cleaning velocities were provided in the small diameter forcemain which was also provided with cleanout stations to address the design constraints and maintenance concerns. Permitting was coordinated with two railroads and the Village of Bensenville, who receives the sanitary flow from the Metra Tower.

Water Transmission Main Project, Hillside Berkeley Water Commission: Project Manager overseeing the design of new water transmission mains. Over 20,000' of new 16" water transmission mains were designed to replace and upsize the Commission's aging transmission mains that provide drinking water for the Villages of Hillside and Berkeley. Recent higher occurrences of breaks on the 50 year old mains coupled with re-development potential for higher water demand were major driving factors leading to replacing the transmission mains. The alignment of the mains is almost entirely on the Village of Bellwood's public ROW. Selection of alignment was closely coordinated with Bellwood to use streets scheduled for roadway improvements, streets with minimal utility conflicts and streets with low impact on Bellwood's residents. The $5 million project nearly doubled the Commission's flow conveyance capacity without modifying the existing pumping facilities and at the same time reduced electrical consumption.

Midlothian Corridor Sanitary Sewer, Hawthorn Woods: Planning and design of new arterial sewer facilities to provide wastewater service to unsewered areas. The new facilities are tributary to an adjacent municipal system and a County managed regional wastewater treatment plant. An FPA change was processed for the service area. Funding was through the formation of a SSA. Design included upgrades to receiving municipal system and new facilities for Village system. The $3 million project included 3 lift stations, forcemains, and gravity sewers.

Northwest Interceptor Sewer Facility Plan, Lake County Public Works Department: Prepared a facilities plan for a 30 year old regional interceptor sewer serving 6 communities and 3 sewer districts in Northwest Lake County. The system historically experiences high peak flows during wet weather events. Study included evaluating and modeling the existing sewer facilities, projecting flows for a 20-year planning period and evaluating alternatives to provide for projected flow requirements. Project included participation in coordination meetings with representatives from the regional treatment plant and the member communities.

South Booster Station and Transmission Main, Lombard: Project Manager overseeing the design of a $2.5 million new inter-zone pumping station and transmission main. Pump station featured 3 split case pumps at 60 horsepower, emergency generator and full incorporation into the Village's SCADA system. A pressure reducing station was also built to allow flow in either direction between the Village's pressure zones. The pump station building was designed and constructed to blend in with the adjacent property by providing the building with an exterior façade similar to the school next door. Project included design of nearly 4,000' of 20" water transmission main. After completion of a detailed alignment study, an alignment was selected under the pavement of a high traffic, 4 lane County highway. Traffic control and final alignment selection were closely coordinated with the Village and the County.

Facilities Planning Area Amendment, Minooka: Oversaw the preparation of a Facilities Plan and a FPA Amendment Application for the successful addition of 10,000 acres to Minooka's Facility Planning Area. The initial phase was the preparation of a Facilities Plan showing how the amendment would be provided with sanitary service. Flows were projected for a 20 year planning period and alternatives were evaluated for arterial interceptor sewers and treatment facilities. After completion, FPA Amendment Application for the 10,000 acre area was prepared for submittal and review at NIPC and IEPA. Work included coordinating with NIPC staff and preparing presentations for public hearings held as part of the application process. The Village was successful in adding the entire requested amendment area to its FPA.

Water Rate Study, Forest Park: Conducted a Water System Review Study with recommendations for planning capital improvements. Prepared opinions of cost for the recommended improvements. Reviewed Village's current Water Fund and Water Rates. Prepared projections for water consumption and water system expenditures. Water Rate Spreadsheet provided input parameters to allow the Village to review future expenditures related to proposed capital improvements and effect on Water Fund. Spreadsheet also allowed the Village to input rate increases to determine the rates needed to fund various levels of capital improvements.

Eisenhower Lane Reservoir Facility, Lombard: Prepared preliminary design for 2 million gallon cast-in-place water storage reservoir, pump station and DuPage Water Commission Receiving Metering Station. Summarized preliminary design in report including station layout and identification of major equipment needed for facility. Prepared a preliminary opinion of cost.

Selbourne Road Sewer Lining, Riverside: Oversaw preparation of construction documents for approx. 1,000' of sewer lining in residential area. Design included addressing a point repair under a 36" diameter tree and near 2 sewer laterals.

Northeastern Illinois Planning Commission Application, New Lenox: Oversaw the preparation of a NIPC application to add 3,400 acres of non-FPA land to the New Lenox FPA. Project required coordination with Village Staff and other Village consultants as well as attendance at a Public Hearing for FPA amendment application.

Portwine Road Lift Station, Lake County: Performed an engineering study to determine low capital cost improvements to increase the capacity. Study included investigating the feasibility of using an abandoned sewer as a conduit for a new 11,000' long forcemain. Additional assignments included reviewing corrosive conditions found on a 20 year-old ductile iron forcemain.

Wastewater Planning, Hawthorn Woods: Conducted a study to determine means of connecting development property to an adjacent municipal system. Participated in engineering and administrative meetings needed to establish agreements and details of connection point to establish service. Performed engineering review of a Wastewater Spray Irrigation System provided to serve a golf course community as well as adjacent future development areas of the Village. Was an active participant in establishing the service area for the Wastewater Spray Irrigation System during the NIPC approval process. Reviewed recapture agreements for the Wastewater Spray Irrigation System as well as for the Potable Water System constructed by a large developer.

Potable Water Supply Facility, Hawthorn Woods: Planning, design and construction observation of a new water supply facility including two deep sandstone wells, cast-in-place concrete Ground Storage Reservoir, variable high service and fire flow pumping; hydropneumatic tank, ion exchange softening and automated supervising controls. Project was done on an accelerated schedule with water available within 4 months of initial facility concept. Site and building aesthetics also played a key role because the facility is at a marquise park-like intersection. Aesthetics were addressed through coordination with Engineer, Village Architect and Village Planner by locating utilitarian facilities below grade with a small stone cottage structure above grade.

DuPage County Rate Study: Project Manager overseeing the preparation of a User Charge Rate Study Report for the DuPage County Public Works Department Water and Wastewater Systems. The study reviewed and made recommendations for user rates for DCPWD county wide potable water and wastewater service areas.

Woodridge Green Valley (WWTP), DuPage County: Designed a 30 MGD excess flow clarifier for the WWTP. The clarifier is 150' in diameter with a 15 ½' wall height. Design provided for the use of the clarifier as an equalization tank during non-excess flow periods. Provided construction observation services during construction of the clarifier. Construction is complete and the facility is in operation.

Gregg's Landing Ground Storage Reservoir and Pump Station, Lake County: Design and construction observation for a cast-in-place concrete ground storage reservoir and pump station. Facility was funded by a private developer and dedicated to the Lake County Public Works Department. The facility was designed for a low profile, low impact appearance in order to blend into a future upscale housing development on one side and a high profile commercial area on another side. Project included controls and valves necessary to fill the reservoir from the distribution system as well as full integration of controls with the LCPWD existing supervisory controls.

Water System Evaluation Study, Hillside-Berkeley Water Commission: Conducted a water system evaluation study to review pumping performance and winter operating characteristics for the Commissions potable water facilities. The facilities include a 4.4 MG ground storage facility, a 3 MGD pumping station, a 500,000 gallon elevated tank and water transmission mains. The evaluation included pipe distribution system modeling. Much of the original construction dates back to the 1950's.

Pump Modifications, Hillside-Berkeley Water Commission: Design and construction observation of a Pump Modifications project that upsized pump horsepower and flow capacity. Project included adding Variable Frequency Drives. The Pump Station maintained in-service throughout the construction of the improvements. Construction is complete and the station is in operation.

Elevated Tank Repainting, Hillside-Berkeley Water Commission: Prepared contract documents including bidding documents and specifications. The elevated tank was built in the 1950's and supports telecommunications equipment for two vendors. Construction is complete and the tank is in operation.

Pump Gallery Piping Improvement, Hillside-Berkeley Water Commission: Design and construction observation. Undersized and out of date piping, valve headers, and manifolds were upsized and modernized. Pump Station maintained in-service throughout construction phase with 3 out of 4 pumps always available. Construction is complete and the station is in operation.

Potable Water Facilities Capital Improvement Master Plan, Riverside: Updated a Master Plan for Village Potable Water Facilities Capital Improvement Program. Assignment included reviewing and incorporating components of earlier plans and reports prepared by previous Village consultants with the objective of not duplicating work already performed and established. Planning work included making recommendations for rehabilitating a central pump station and decommissioning other out of date facilities. Recommended improvements also included new electrical service and distribution facilities for the Village's downtown campus area containing a national historical landmark structure. Distribution system modeling was performed and used for evaluating the pump station's performance & establishing a water main replacement program.

63 Pine Pump Station and Reservoir Rehabilitation, Riverside: Performed design and construction observation of rehabilitation project. Design included upgrading the station pumping capacity, providing standby power and construction of a new pump building on top of an existing buried concrete reservoir. New pump building was designed to architecturally blend with the surrounding area. Design also included VFD's and sophisticated supervisory controls needed to allow the Village to convert from a floating overhead system to a closed system. Construction is complete and in operation.

Water and Wastewater Projects, Hawthorn Woods: Provided water and wastewater engineering associated with CBBEL being the Village Engineer. Duties included development plan reviews, Village representation at Public Hearings, and coordinating with potable water and wastewater providers serving the Village. Represented the Village at NIPC hearings that resulted in a support recommendation for creation of a Land Application Service Area overlying 4 FPA's existing within the Village.

Lift Stations, Lombard: Designed 4 new lift stations to replace 4 existing out of date lift stations. Each project was tight quartered and required special attention to constructibility issues. The old stations were maintained in-service throughout the construction of the new stations. Project included linking each station to the Village's sophisticated SCADA system. The stations are built and are in operation.

Milwaukee Avenue Lift Station, Lake County: Final design and construction observation for modifications. Project entailed the addition of a new wet well and a 3,000 gallon per minute pump station adjacent to an existing lift station. The facility is deep, in excess of 37', and in poor soils. Site is tight quartered constricted by a 5-lane IDOT highway, heavy concentrations of utilities, new construction of adjacent site development and the existing lift station. The station houses two variable speed, 150 horsepower, submersible sewage pumps. Included in the project is over 2,000' of 16" forcemain.

Delivery Structure and Water Transmission Main, Lake County: Final Design and Construction Observation of Central Lake County Joint Action Water Agency Delivery Structure and Water Transmission Mains. Project included the design of a new Delivery Structure and approx. 3,000' of 20" diameter transmission main. The main is routed along private property in easements, under two railroads, along a county highway and through congested Village Streets.

Wastewater System Evaluation Study and Report: Performed data collection and evaluation of wastewater facilities for a private residential and commercial development. Report addressed design, current build-out and available capacity for the wastewater collection system, 2 lift stations and spray irrigation systems. The report also contained evaluation of the system performance and operating characteristics.

Elevated Reservoir, Vernon Hills: Periodic construction observation for the construction of a 500,000 gallon elevated reservoir. The reservoir is constructed in tight quarters on the corner of the Prairie Material Vernon Hills Yard. Work included 360 LF of bored and jacked watermain crossing of two railroads and wetland. The base of the tower houses pressure adjusting and rate of flow control equipment which receives and regulates water from a regional Lake Michigan water supply facility. Project is to be dedicated to the Lake County of Public Works who closely reviewed the tank design.

500,000 Gallon High Tank, Hillside-Berkeley Water Commission: Project Manager for repainting of Hillside-Berkeley Water Commission's 500,000 gallon high tank located in Bellwood. Duties included review of tank condition report, field reconnaissance of tank, preparation of contract documents, bidding services and coordination of construction observation and third party inspectors. The tank is on a relatively small site and adjacent to residential areas. Communications equipment was removed from the tank and temporary communications equipment was utilized by the communications vendors during construction. Containment was provided. The tank has a cathodic protection system installed.

City Acres 1,250,000 Gallon High Tank, Plano: Project Manager for planning and design of a new high tank. Tank was designed to provide service for Lakewood Homes City Acres Subdivision. Design was coordinated with the Village and their consulting engineer. Services also included shop drawing review during the construction phase.

Enterprise Drive 2 Million Gallon Fluted Column High Tank Painting, Westchester: Participated in the repainting project for a 2 million gallon fluted column tank. Served as Project Engineer performing QA/QC duties.

Tyler Kudla

Mechanical Engineer

YEARS EXPERIENCE: 2
YEARS WITH CBBEL: 2

EDUCATION
Bachelor of Science, 2020
Mechanical Engineering
Iowa State University

Mechanical Engineer experienced in mechanical, electrical, and civil engineering design. Duties include preparation of design plans, calculations, specifications, field observation and contractor shop drawing review of construction projects. Performs electrical and mechanical site plan review for several municipalities as well as preparation of CAD design drawings for mechanical and electrical engineering design projects.

Software Experience: Microstation, CAD, AGI32

Demolition of Altenheim Site Buildings D, G, Cafeteria, & Chapel, Forest Park: Mechanical Engineer. Responsible for the coordination to remove existing utilities, contract documents, construction observation, and project documentation. The project includes systematic decommissioning and selected demolition of four buildings at Altenheim site.

Metra Warming Shelter, Woodstock: Mechanical Engineer. Responsible for designing new warming shelter power, lighting, plumbing plans and coordination with ComEd for new electrical service. Project includes the design of new warming shelter for Woodstock Metra Station.

Police Station/Fire Station Roof Replacement, Lincolnwood: Mechanical Engineer. Responsible for the preparation of contract documents, bidding, construction observation, and project documentation. The project includes removal and replacement of existing EPDM roofing materials and insulation, existing asphalt shingled roofing, of deteriorated roof decking, and existing fascia. Project includes installation of new 6" aluminum gutters and downspouts and fascia cover and installation of new 60 mil EPDM roofing system.

500,000 Gallon Legged High Tank Rehabilitation, Forest Park: Mechanical Engineer. Responsible for construction observation and project documentation. Project includes coordination of remotely operated vehicle (ROV) inspections, cellular equipment removal and replacement, preparation of Preliminary Design Memorandum, contract documents, bidding, construction observation, project documentation, and closeout.

1 Million Gallon Ground Storage Reservoir Rehabilitation, Northlake: Mechanical Engineer. Responsible for construction observation and project documentation. Project includes coordination of ROV inspections, preparation of Preliminary Design Memorandum, contract documents, bidding, construction observation, project documentation, and closeout.

750,000 Gallon Spheroid High Tank Rehabilitation, Orland Park: Responsible for construction observation and project documentation. Project includes coordination of remotely operated vehicle (ROV) inspections, cellular equipment removal and replacement, preparation of Preliminary Design Memorandum, contract documents, bidding, construction observation, project documentation, and closeout.

300,000 Gallon Spheroid High Tank Rehabilitation, Orland Park: Responsible for construction observation and project documentation. Project includes coordination of remotely operated vehicle (ROV) inspections, cellular equipment removal and replacement, preparation of Preliminary Design Memorandum, contract documents, bidding, construction observation, project documentation, and closeout.

Wireless Facility Reviews, Oak Lawn: Project consists of performing structural and electrical reviews for all new cellular equipment installations on stand alone small wireless facilities (SWF) and collocated installation on antenna masts and water towers.

Wireless Facility Reviews, Lincolnwood: Project consists of performing structural and electrical reviews for all new cellular equipment installations on stand alone small wireless facilities (SWF) and collocated installation on antenna masts and water towers.

Church Street Lighting Improvements, Huntley: Project included design of roadway lighting, photometric design, electrical design, utility coordination and assistance during construction.

Devon Avenue TIF District Lighting Improvements, Lincolnwood: Project included design of roadway lighting, photometric design, electrical design, utility coordination and assistance during construction.

IAMAW Union Hall HVAC System Rehabilitation, Aurora: Project included design of a new HVAC system for Mechanics Local 701 Union Hall.

Public Works Generator Replacement Study, Glendale Heights: Project included identifying critical loads and full loads for public works facility, sizing generators for critical loads and full loads, and creating a report detailing the replacement of the standby generator.

2 Million Gallon Legged High Tank Rehabilitation, Downers Grove: Mechanical Engineer. Responsible for construction observation and project documentation. Project includes coordination of ROV inspections, preparation of Preliminary Design Memorandum, contract documents, bidding, construction observation, project documentation, and closeout.

1 Million Gallon Standpipe Rehabilitation, Niles: Mechanical Engineer. Responsible for construction observation and project documentation. Project includes coordination of ROV inspections, preparation of Preliminary Design Memorandum, contract documents, bidding, construction observation, project documentation, and closeout.

Wolf Road Lighting Improvements, Northlake: Project included design of roadway lighting, photometric design, electrical design, utility coordination and assistance during construction.

Harrison Street Dry Utility Relocation, Algonquin: Responsible for designing conduit runs and coordinating with utility companies for overhead utilities to be relocated underground. Project includes coordination with affected utility companies, contract documents, bidding, construction observation, project documentation, and closeout.

Fire Training Facility Helipad Dry Utility Relocation, Tinley Park: Responsible for designing conduit runs and coordinating with utility companies for overhead utilities to be relocated underground. Project includes coordination with affected utility companies, contract documents, bidding, construction observation, project documentation, and closeout.