

AGREEMENT # 15121 FOR ENGINEERING SERVICES

This AGREEMENT is entered into by and between Lake County (County) and Applied Technologies, 468 Park Avenue, Lake Villa, IL 60046 (hereafter "Engineer").

RECITALS

WHEREAS, Lake County is seeking an Engineer to provide Engineering services for

Construction Related Services for the DesPlaines River WRF Phase 2B and 3 Improvements PW# 2013.034 as described in Attachment "A"; and

WHEREAS, the Engineer is a professional provider of Engineering services; and

NOW, THEREFORE, Lake County and the Engineer AGREE AS FOLLOWS:

SECTION 1. AGREEMENT DOCUMENTS

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

SECTION 2. SCOPE OF SERVICES

The Engineer shall provide engineering services described in Attachment "A"

SECTION 3. DURATION

The works shall be completed within 730 days after execution of this Agreement.

SECTION 4. INDEMNIFICATION

The Engineer agrees to indemnify, save harmless and defend the County, their agents, servants, and employees, and each of them against and hold it and them harmless from any and all lawsuits, claims, demands, liabilities, losses and expenses, including court costs and attorney's fees, for or on account of any injury to any person, or any death at any time resulting from such injury, or any damage to property, which may arise or which may be alleged to have arisen out of Engineer's negligent acts in connection with the services covered by this Agreement. The foregoing indemnity shall apply except if such injury, death or damage is caused directly by the willful and wanton conduct of the County, their agents, servants, or employees or any other person indemnified hereunder.

SECTION 5. INSURANCE

The Engineer 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 and provide the County with evidence of insurance. Insurance in the following types and amounts is necessary:

- **Worker's Compensation Insurance** covering all liability of the Engineer arising under the Worker's Compensation Act and Worker's Occupational Disease Act at statutory limits.
- **Professional Liability** to include, but not be limited to, coverage for Errors and Omissions to respond to claims for loss there from.
 - **General Aggregate Limit** \$3,000,000
 - **Each Occurrence Limit** \$1,000,000
- **Automobile Liability:**
 - **Bodily Injury, Property Damage (Each Occurrence Limit)** \$1,000,000

Engineer agrees that with respect to the above required Automobile Liability insurance, Lake County shall:

- Be named as additional insured by endorsement to the extent of the negligence of the Engineer;
- Be provided with thirty (30) days notice, in writing, of cancellation of material change;
- Be provided with Certificates of Insurance evidencing the above required insurance, prior to commencement of this Contract and thereafter with certificates evidencing renewals or replacements of said policies of insurance at least fifteen (15) days prior to the expiration of cancellation of any such policies. Forward Notices and Certificates of Insurance to: Lake County Central Services, 18 N. County St, Waukegan, IL 60085-4350.

SECTION 6. AGREEMENT PRICE

Lake County will pay to the Engineer the amount on a time and material basis not to exceed \$ 2,164,713.00 .

SECTION 7. INVOICES & PAYMENT

Invoices may be submitted for work performed on a monthly basis based upon the percent of work completed in the amount not-to-exceed in Section 6. Submit invoice(s) detailing the services provided. Payments shall be made in accordance with the Local Government Prompt Payment Act.

Engineer will address Invoices to:

Lake County Department of Public Works
650 Winchester Road
Libertyville, IL 60048-1391
Attn: Charles DeGrave

County will make Payments to:

Applied Technologies Inc.
468 Park Avenue
Lake Villa, IL 60046

SECTION 8. STATEMENT OF OWNERSHIP

The drawings, specifications and other documents prepared by the Engineer for this Project are the property of the County, and Engineer may not use the drawings and specifications for any purpose not relating to the Project without the County's consent, except for the Engineer's services related to this Project. All such documents shall be the property of the County who may use them without Engineer's permission for any current or future Lake County project; provided, however, any use except for the specific purpose intended by this Agreement will be at the County's sole risk and without liability or legal exposure to the Engineer.

The Engineer shall retain its copyright and ownership rights in its design, drawing details, specifications, data bases, computer software, and other proprietary property. Intellectual property developed, utilized, or modified in the performance of the services shall remain the property of the Engineer.

SECTION 9. TERMINATION

The County reserves the right to terminate this Agreement, or any part of this Agreement, upon thirty(30) days written notice. In case of such termination, the Engineer shall be entitled to receive payment from the County for work completed to date in accordance with terms and conditions of this Agreement. In the event that this Agreement is terminated due to Engineer's default, the County shall be entitled to contract for consulting services elsewhere and charge the Engineer with any or all losses incurred, including attorney's fees and expenses.

SECTION 10. JURISDICTION, VENUE, CHOICE OF LAW

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, State of Illinois.

SECTION 11. INDEPENDENT CONTRACTOR

The Engineer is an independent contractor and no employee or agent of the Engineer shall be deemed for any reason to be an employee or agent of the County.

SECTION 12. WARRANTIES

The Engineer represents and warrants to the County that none of the work included in this contract will in any way infringe upon the property rights of others. The Engineer shall defend all suits or claims for Engineer's infringement of any patent, copyright or trademark rights and shall hold the County harmless from loss on account thereof.

SECTION 13. ASSIGNMENT

Neither the Engineer nor the County shall assign any duties of performance under this Agreement without the express prior written consent of the other.

SECTION 14. MODIFICATION

This Agreement may be amended or supplemented only by an instrument in writing executed by the party against whom enforcement is sought.

SECTION 15. DISPUTE RESOLUTION

All issues, claims, or disputes arising out of this Agreement shall be resolved in accordance with the Appeals and Remedies Provisions in Article 9 of the Lake County Purchasing Ordinance.

SECTION 16. NO IMPLIED WAIVERS

The failure of either party at any time to require performance by the other party of any provision of this Agreement shall not affect in any way the full right to require such performance at any time thereafter. Nor shall the waiver by either party of a breach of any provision of this Agreement be taken or held to be a waiver of the provision itself.

SECTION 17. SEVERABILITY

If any part of this Agreement shall be held to be invalid for any reason, the remainder of this Agreement shall be valid to the fullest extent permitted by law.

SECTION 18. CHANGE IN STATUS

The Engineer shall notify the County promptly of any change in its status resulting from any of the following: (a) vendor is acquired by another party; (b) vendor becomes insolvent; (c) vendor, voluntary or by operation law, becomes subject to the provisions of any chapter of the Bankruptcy Act; (d) vendor ceases to conduct its operations in normal course of business. The County shall have the option to terminate this Agreement with the Engineer immediately on written notice based on any such change in status.

SECTION 19. DELIVERABLES

The Engineer shall provide deliverables as identified in Attachment A.

IN WITNESS HEREOF, the undersigned have caused this Agreement to be executed in their respective names on the dates hereinafter enumerated.

Lake County:

Applied Technologies Inc.

RuthAnne Hall
Purchasing Agent
Lake County Purchasing

James J. Smith
James Smith P.E.,
President

Date: _____

Date: 5/22/15

**ATTACHMENT A - SCOPE OF SERVICES
DES PLAINES RIVER WRF IMPROVEMENTS PHASES 2B & 3, PW#2013.034
SERVICES DURING CONSTRUCTION
AGREEMENT #15121
LAKE COUNTY PUBLIC WORKS DEPARTMENT (LCPWD)**

The Des Plaines River WRF Improvements project consists of the following main elements, as described in the Contract Documents for Construction dated January 2015:

- Modifications of the aeration tanks for biological nutrient removal
- Installation of two new disk filter units in the existing effluent filtration building
- Construction of a new biosolids drying process in a new building
- Modifications to the existing aerobic digesters
- Modifications to the existing sludge dewatering process
- Installation of a new emergency power generator
- Replacement of existing building HVAC systems
- Replacement of existing roofs on plant buildings
- Miscellaneous process equipment modifications
- Modifications / additions to the existing plant process control system
- Related site improvements including repaving plant roadways

The proposed scope of services for this project includes Project Management, Construction Related Services, Construction Observation, Operation and Maintenance Manual, Startup and Training Services and includes the following specific tasks:

Project Management

1. Prepare project instructions after the notice to proceed is received from the LCPWD. The project instructions will include the following items:
 - Project team
 - LCPWD contacts and other agency contacts
 - Schedule
 - Budgets
 - Quality control procedures

Construction Related Services

1. Issue a "Notice to Proceed" to the Contractor to begin the construction work.
2. Meet with the Contractor and the LCPWD for a preconstruction conference.
3. Provide field-surveying services that will include establishing a baseline and benchmark for the construction. Additional survey services will be billed to the Contractor.
4. Make periodic visits to the project site to observe the progress and quality of the work

and to determine, in general, if the work is proceeding in accordance with the intent of the Contract Documents. We have assumed 24 site visits during the monthly construction progress meetings.

5. Review shop drawings, diagrams, illustrations, catalog data, schedules and samples, the results of test and inspections, and other data that the Contractor is required to submit. Provide LCPWD a summary of submittal status on a weekly basis.
6. Consult with and advise the LCPWD and act as the LCPWD's representative during construction as provided in the General Conditions of the Contract Documents.
7. Meet with the Contractor and the LCPWD for construction progress meetings. We have assumed 24 monthly construction progress meetings.
8. Review the Contractor's monthly applications for payment and make recommendations to the LCPWD for payment to the Contractor.
9. Provide technical clarifications and interpretations of the Contract Documents and evaluate requested deviations.
10. Authorize minor variations in the work (field orders) from the requirements of the Contract Documents that do not involve an adjustment in the contract price or contract time and are consistent with the overall intent of the Contract Document.
11. Assist the LCPWD in negotiating with the Contractor the scope and cost of any necessary contract change orders. Prepare such change orders as may be required and submit them to the LCPWD for approval.
12. Provide coordination for monthly disbursement requests to the IEPA Water Pollution Loan Program. Assist in preparing project close-out documentation.
13. Prepare a set of reproducible record drawings including significant changes made during construction. Record drawings shall be based upon the drawings in the Contract Documents, with modifications based upon marked-up prints, drawings, and other data furnished by the Contractor. Provide the LCPWD with a set of reproducible record drawings, two sets of prints of the record drawings, and an electronic copy of the record drawings. Provide the LCPWD with an electronic copy of shop drawings, test records, and inspection records.

Construction Observation

1. Provide the services of part-time Resident Project Representative (RPR) for on-site observation of the work during the 24-month construction period. The duties and responsibilities of the RPR are described in Attachment C, "A Listing of the Duties, Responsibilities and Limitations of Authority of the Resident Project Representative."

Operation and Maintenance Manual

1. Prepare an operation and maintenance manual for the new facilities in accordance with the requirements of the Illinois Environmental Protection Agency (IEPA).
2. Amend the existing O&M manual (Volumes 1, 2, 3) to include all new construction and processes, formatted to match the existing manual. LCPWD will provide an electronic version of the existing manual for modification.
3. Submit hard copies of draft manual to the LCPWD and the IEPA for review, including the IEPA checklist.
4. Revise the manual as appropriate and deliver one hard copy of the final manual to the IEPA, and provide four (4) hard copies and one electronic version to LCPWD.
 - a) Electronic O&M manual will be based on hard copy manual and will be produced using a browser-based format (HTML).
 - b) Manual will be updated online through internet access and have the capability to link graphic images and other HTML files.
 - c) Electronic format will allow for convenient editing, future updates for new control descriptions and equipment additions, and inclusion of modified operating procedures.
 - d) Manual will include electronic links to equipment manufacturer's websites, record drawings, project specifications, preliminary design report, discharge permit, training videos, and manufacturer's O&M data submittals for new equipment in this project.
5. Review manufacturers' O&M manual submittals / data for conformance to contract requirements.
6. Assemble manufacturers' O&M manual submittals / data in an organized system of electronic (PDF) files.
7. Attend one onsite meeting to demonstrate use of electronic O&M manual to LCPWD.

Startup and Training Services

1. Prepare a Plan of Operation for startup of the new facilities, which includes a description of the proposed end use of the dried biosolids product. The Plan of Operation will contain a white paper policy statement regarding LCPWD's uses of the Class A biosolids product.
2. Submit Plan of Operation to IEPA for review and approval.
3. Review the Plan of Operation with the LCPWD and Contractor. Revise the plan as appropriate.
4. Assist the LCPWD in startup of the new facilities. Coordinate with the Contractor and equipment suppliers.
5. Assist the LCPWD in scheduling training sessions for the LCPWD's personnel from equipment suppliers.

Additional Services

1. Provide design assistance for modifications during construction as directed by the LCPWD. The scope of work for design assistance will be determined at the time of LCPWD's request, prior to providing additional services.
2. Provide aerial photography of the completed plant work for display purposes and for inclusion in an updated brochure.
3. Provide an updated plant brochure in electronic format and 200 color hard copies.

**ATTACHMENT B – COMPENSATION SUMMARY
DES PLAINES RIVER WRF IMPROVEMENTS
SERVICES DURING CONSTRUCTION
LAKE COUNTY PUBLIC WORKS DEPARTMENT**

Professional Service	Budget
Project Management	\$246,570
Construction Related Services	\$922,312
Construction Observation	\$704,800
Operation and Maintenance Manual	\$156,403
Startup and Training Services	\$78,302
Additional Services	\$56,326
TOTAL BUDGET	\$2,164,713

Note: The subtotal budgets are estimates. The actual distribution of costs under the Agreement may vary from the amounts shown, but the total will be within the total budget, unless the Agreement is amended.

ATTACHMENT C
A LISTING OF THE DUTIES, RESPONSIBILITIES AND
LIMITATIONS OF AUTHORITY OF THE RESIDENT
PROJECT REPRESENTATIVE

Engineer shall furnish a Resident Project Representative (RPR), assistants and other field staff to assist Engineer in observing performance of the Work of the Contractor.

Through more extensive on-site observations of the Work in progress and field checks of materials and equipment by the RPR and assistants, Engineer shall endeavor to provide further protection for Owner against defects and deficiencies in the Work; but, the furnishing of such services will not make Engineer responsible for or give Engineer control over construction means, methods, techniques, sequences or procedures or for safety precautions or programs, or responsibility for Contractor's failure to perform the Work in accordance with the Contract Documents.

The duties and responsibilities of the RPR are limited to those of Engineer in Engineer's agreement with the Owner and in the construction Contract Documents, and are further limited and described as follows:

A. GENERAL

RPR is Engineer's agent at the site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions. RPR's dealings in matters pertaining to the on-site work shall in general be with Engineer and Contractor keeping Owner advised as necessary. RPR's dealings with subcontractors shall only be through or with the full knowledge and approval of Contractor. RPR shall generally communicate with Owner with the knowledge of and under the direction of Engineer.

B. DUTIES AND RESPONSIBILITIES OF RPR

1. Schedules: Review the progress schedule, schedule of Shop Drawing submittals and schedule of values prepared by Contractor and consult with Engineer concerning acceptability.
2. Conferences and Meetings: Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings.
3. Liaison:
 - a) Serve as Engineer's liaison with Contractor, working principally through Contractor's superintendent and assist in understanding the intent of the Contract Documents; and assist Engineer in serving as Owner's liaison with Contractor.
 - b) Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.
4. Review of Work, Rejection of Defective Work, Inspections and Tests:
 - a) Conduct on-site observations of the Work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
 - b) Report to Engineer whenever RPR believes that any Work is unsatisfactory, faulty or defective or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of Work that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
 - c) Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections and report to Engineer.

5. Interpretation of Contract Documents: Report to Engineer when clarifications and interpretations of the Contract Documents are needed.
6. Modifications: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report with RPR's recommendations to Engineer.
7. Records:
 - a) Maintain at the job site orderly files for correspondence, reports of job conferences, Shop Drawings and samples, reproductions of original Contract Documents including Work Directive Changes, Addenda, Change Orders, Field Orders, additional Drawings issued subsequent to the execution of the Contract, Engineer's clarifications and interpretations of the Contract Documents, progress reports, and other Project related documents.
 - b) Keep a diary or log book and send copies to Engineer.
 - c) Record names, addresses and telephone numbers of all Contractors, subcontractors and major suppliers of materials and equipment.
8. Reports:
 - a) Furnish Engineer periodic reports as required of progress of the Work.
 - b) Consult with Engineer in advance of scheduled major tests, inspections or start of important phases of the Work.
9. Payment Requests: Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the schedule of values, lien waivers and other documentation attached to the pay request, Work completed and materials and equipment delivered at the site but not incorporated in the Work.
10. Completion:
 - a) Before Engineer issues a Certificate of Substantial Completion, submit to Contractor a list of observed items requiring completion or correction.
 - b) Conduct final inspection in the company of Engineer, Owner and Contractor and prepare a final list of items to be completed or corrected.
 - c) Observe that items on final list have been completed or corrected and make recommendations to Engineer concerning acceptance.

C. LIMITATIONS OF AUTHORITY

Resident Project Representative:

1. Shall not authorize any deviation from the Contract Documents or substitution of materials or equipment, unless authorized by Engineer.
2. Shall not exceed limitations of Engineer's authority as set forth in the Contract Documents.
3. Shall not undertake any of the responsibilities of Contractor, subcontractors or Contractor's superintendent.
4. Shall not advise on, issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction unless such advice or directions are specifically required by the Contract Documents.

5. Shall not advise on, issue directions regarding or assume control over safety precautions and programs in connection with the Work.
6. Shall not accept Shop Drawing or sample submittals from anyone other than Contractor.
7. Shall not authorize Owner to occupy the Project in whole or in part.
8. Shall not participate in specialized field or laboratory tests or inspections conducted by others except as specifically authorized by Engineer.

DES PLAINES RIVER WRF IMPROVEMENTS PHASES 2B & 3
LAKE COUNTY DEPT OF PUBLIC WORKS
SERVICES DURING CONSTRUCTION ENGINEERING LEVEL OF EFFORT AND COSTS - TOTALS
May 1, 2015

NO.	TASK/ACTIVITY	PRINCIPAL QUALITY CONTROL	PROJECT MANAGER / RPR	SENIOR PROCESS ENGINEER	PROCESS ENGINEER	ELECTRICAL ENGINEER	STRUCTURAL ENGINEER	I & C ENGINEER	ARCHITECT	MECHANICAL ENGINEER	TECH	CLERICAL	LABOR HOURS	LABOR COST	EXPENSES	TOTAL COST	BASIS OF ESTIMATE
	PROJECT MANAGEMENT																
1	Project Management / QC	160	1256	0	0	0	0	0	0	0	0	0	1416	\$234,828	\$11,741	\$246,570	
													0	\$0	\$0	\$0	
													0	\$0	\$0	\$0	
	TOTAL	160	1256	0	0	0	0	0	0	0	0	0	1416	\$234,828	\$11,741	\$246,570	
	CONSTRUCTION RELATED SERVICES																
1	Site visits / meetings	96	192	192	192	120	120	120	120	192	0	0	1344	\$175,053	\$8,753	\$183,805	
2	Submittal review	0	0	480	480	300	280	200	280	360	0	32	2412	\$290,236	\$27,512	\$317,748	
3	Contract administration	0	0	480	544	300	240	184	240	360	200	32	2580	\$304,941	\$15,247	\$320,188	
4	Record drawings	0	0	80	80	40	0	0	0	0	740	0	940	\$95,782	\$4,789	\$100,571	
	TOTAL	96	192	1232	1296	760	640	504	640	912	940	64	7276	\$866,012	\$56,301	\$922,312	
	CONSTRUCTION OBSERVATION																
1	Resident project representative	0	4160	0	0	0	0	0	0	0	0	0	4160	\$644,800	\$60,000	\$704,800	
	TOTAL	0	4160	0	0	0	0	0	0	0	0	0	4160	\$644,800	\$60,000	\$704,800	
	OPERATION & MAINTENANCE MANUAL																
1	Operation & maintenance manual	0	24	386	386	64	0	28	0	138	200	64	1290	\$148,955	\$7,448	\$156,403	
	TOTAL	0	24	386	386	64	0	28	0	138	200	64	1290	\$148,955	\$7,448	\$156,403	
	STARTUP & TRAINING SERVICES																
1	Startup & training services	0	0	136	136	40	0	64	0	120	0	0	496	\$59,580	\$2,979	\$62,560	
2	Plan of operation	0	24	80	0	0	0	0	0	0	0	0	104	\$14,993	\$750	\$15,742	
	TOTAL	0	24	216	136	40	0	64	0	120	0	0	600	\$74,573	\$3,729	\$78,302	
	ADDITIONAL SERVICES																
1	Design assistance for modifications	0	24	192	0	40	0	40	0	0	72	0	368	\$47,598	\$2,380	\$49,978	
2	Plant photography	0	0	0	0	0	0	0	0	0	0	8	8	\$543	\$1,677	\$2,220	
3	Plant brochure	0	4	0	6	0	0	0	0	0	0	32	42	\$3,456	\$673	\$4,128	
	TOTAL	0	28	192	6	40	0	40	0	0	72	40	418	\$51,597	\$4,730	\$56,326	
	LABOR HOURS	256	5684	2026	1824	904	640	636	640	1170	1212	168	15160				
	TOTAL COST	\$43,418	\$896,809	\$279,183	\$189,477	\$132,237	\$67,840	\$70,787	\$80,051	\$133,942	\$115,625	\$11,397		\$2,020,765	\$143,948	\$2,164,713	

DES PLAINES RIVER WRF IMPROVEMENTS PHASES 2B & 3
LAKE COUNTY DEPT OF PUBLIC WORKS
SERVICES DURING CONSTRUCTION ENGINEERING LEVEL OF EFFORT AND COSTS - CONSTRUCTION RELATED SERVICES
May 1, 2015

NO.	TASK/ACTIVITY	PRINCIPAL QUALITY CONTROL	PROJECT MANAGER	SENIOR PROCESS ENGINEER	PROCESS ENGINEER	ELECTRICAL ENGINEER	STRUCTURAL ENGINEER	I & C ENGINEER	ARCHITECT	MECHANICAL ENGINEER	TECH	CLERICAL	LABOR HOURS	LABOR COST	EXPENSES	TOTAL COST	BASIS OF ESTIMATE
	PROJECT MANAGEMENT																
1	Project Management / QC	160	1256										1416	\$ 234,828	\$ 11,741	\$ 246,570	
	TOTAL	160	1256	0	0	0	0	0	0	0	0	0	1,416	\$ 234,828	\$ 11,741	\$ 246,570	
	CONSTRUCTION RELATED SERVICES																
1	Site visits / meetings	96	192	192	192	120	120	120	120	192			1344	\$ 175,053	\$ 8,753	\$ 183,805	
2	Submittal reiew			480	480	300	280	200	280	360		32	2412	\$ 290,236	\$ 27,512	\$ 317,748	
3	Contract administration			480	544	300	240	184	240	360	200	32	2580	\$ 304,941	\$ 15,247	\$ 320,188	
4	Record drawings			80	80	40					740		940	\$ 95,782	\$ 4,789	\$ 100,571	
	TOTAL	96	192	1232	1296	760	640	504	640	912	940	64	7,276	\$ 866,012	\$ 56,301	\$ 922,312	
	CONSTRUCTION OBSERVATION																
1	Resident project representative												0	\$ -	\$ -	\$ -	
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	-	\$ -	\$ -	\$ -	
	OPERATION & MAINTENANCE MANUAL																
1	Operation & maintenance manual		24	386	386	64		28		138	200	64	1290	\$ 148,955	\$ 7,448	\$ 156,403	
	TOTAL	0	24	386	386	64	0	28	0	138	200	64	1,290	\$ 148,955	\$ 7,448	\$ 156,403	
	STARTUP & TRAINING SERVICES																
1	Startup & training services			136	136	40		64		120			496	\$ 59,580	\$ 2,979	\$ 62,560	
2	Plan of operation		24	80									104	\$ 14,993	\$ 750	\$ 15,742	
	TOTAL	0	24	216	136	40	0	64	0	120	0	0	600	\$ 74,573	\$ 3,729	\$ 78,302	
	ADDITIONAL SERVICES																
1	Design assistance for modifications		24	192		40		40			72		368	\$ 47,598	\$ 2,380	\$ 49,978	
2	Plant photography											8	8	\$ 543	\$ 1,677	\$ 2,220	
3	Plant brochure		4		6							32	42	\$ 3,456	\$ 673	\$ 4,128	
	TOTAL	0	28	192	6	40	0	40	0	0	72	40	418	\$ 51,597	\$ 4,730	\$ 56,326	
	LABOR HOURS	256	1524	2026	1824	904	640	636	640	1170	1212	168	11,000				
	2015 - 2017 Average Rates	\$ 170	\$ 165	\$ 138	\$ 104	\$ 146	\$ 106	\$ 111	\$ 125	\$ 114	\$ 95	\$ 68					
	TOTAL COST	\$43,418	\$252,009	\$279,183	\$189,477	\$132,237	\$67,840	\$70,787	\$80,051	\$133,942	\$115,625	\$11,397		\$ 1,375,965	\$ 83,948	\$ 1,469,913	

DES PLAINES RIVER WRF IMPROVEMENTS PHASES 2B & 3
LAKE COUNTY DEPT OF PUBLIC WORKS
SERVICES DURING CONSTRUCTION ENGINEERING LEVEL OF EFFORT AND COSTS - CONSTRUCTION OBSERVATION
May 1, 2016

NO.	TASK/ACTIVITY	PRINCIPAL QUALITY CONTROL	RESIDENT PROJECT REP	SENIOR PROCESS ENGINEER	PROCESS ENGINEER	ELECTRICAL ENGINEER	STRUCTURAL ENGINEER	I & C ENGINEER	ARCHITECT	MECHANICAL ENGINEER	TECH	CLERICAL	LABOR HOURS	LABOR COST	EXPENSES	TOTAL COST	BASIS OF ESTIMATE
	PROJECT MANAGEMENT																
1	Project Management / QC												0	\$ -	\$ -	\$ -	
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	-	\$ -	\$ -	\$ -	
	CONSTRUCTION RELATED SERVICES																
1	Site visits / meetings												0	\$ -		\$ -	
2	Submittal review												0	\$ -		\$ -	
3	Contract administration												0	\$ -		\$ -	
4	Record drawings												0	\$ -		\$ -	
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	-	\$ -	\$ -	\$ -	
	CONSTRUCTION OBSERVATION																
1	Resident project representative		4160										4160	\$ 644,800	\$ 60,000	\$ 704,800	
	TOTAL	0	4160	0	0	0	0	0	0	0	0	0	4,160	\$ 644,800	\$ 60,000	\$ 704,800	
	OPERATION & MAINTENANCE MANUAL																
1	Operation & maintenance manual												0	\$ -	\$ -	\$ -	
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	-	\$ -	\$ -	\$ -	
	STARTUP & TRAINING SERVICES																
1	Startup & training services												0	\$ -	\$ -	\$ -	
2	Plan of operation												0	\$ -	\$ -	\$ -	
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	-	\$ -	\$ -	\$ -	
	ADDITIONAL SERVICES																
1	Design assistance for modifications												0	\$ -	\$ -	\$ -	
2	Plant photography												0	\$ -	\$ -	\$ -	
3	Plant brochure												0	\$ -	\$ -	\$ -	
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	-	\$ -	\$ -	\$ -	
	LABOR HOURS	0	4160	0	0	0	0	0	0	0	0	0	4,160				
	2015 - 2017 Average Rates	\$ 170	\$ 155	\$ 138	\$ 104	\$ 146	\$ 106	\$ 111	\$ 125	\$ 114	\$ 95	\$ 68					
	TOTAL COST	\$0	\$644,800	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		\$ 644,800	\$ 60,000	\$ 704,800	