AGREEMENT # 13228 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

> DesPlaines River Water Reclamation Facility Improvements Phase 2B, 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 335 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 not to exceed $ 903,800 .

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. WARRANTS
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:

RuthAnne Hall
Purchasing Agent
Lake County Purchasing

Date:_____

Applied Technologies Inc. .

James Smith P.E.,
President

Date: 8/21/13

ATTACHMENT A - SCOPE OF SERVICES
DES PLAINES RIVER WRF IMPROVEMENTS PHASE 2B, PW#2013.034
AGREEMENT #13228 – PLANT AND PROCESS IMPROVEMENTS
LAKE COUNTY PUBLIC WORKS DEPARTMENT

The proposed scope of services for this project (see attached project summary sheet) includes Project Management, Preliminary Design, Value Engineering, Final Design, Water Pollution Control Loan Program Administration, Bidding 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
    - Agency contacts
    - Surveying and design standards
    - Schedule
    - Budgets
    - Quality control procedures

2. Develop project goals and objectives by conducting a kick-off meeting with the LCPWD. The meeting will include such items as; review of the recommendations from previous studies, review scope of services and schedule, review the LCPWD's objectives for the project, identify key project personnel, discuss project issues, and a tour of the Des Plains River WRF.

3. Provide design coordination and management of all project team members including subconsultants.

4. Prepare information and attend LCPWD review meetings to address work progress, changes, regulatory and agency updates, schedule, and budget.

Preliminary Design

1. Coordinate and furnish survey personnel and equipment required to obtain field information necessary to prepare Contract Documents for the Project. Obtain property deeds, right-of-way plats, and other information to establish right-of-way lines, property lines and survey control.

2. Coordinate and furnish personnel to prepare a wetlands delineation report and a wetlands assessment and mitigation report. This will include field investigation and identification of wetlands boundaries and survey of these boundaries. The wetland delineation report will be submitted to the Army Corps of Engineers for a jurisdictional boundary concurrence. A wetland assessment and mitigation report will be prepared outlining the requirements needed to address the anticipated wetland impacts.

3. Meet with Lake County SMC and determine the floodplain boundaries of the project site and discuss options for constructing in the floodplain and addressing stormwater management. Identify and evaluate options for floodplain and stormwater management. Prepare a monetary and non-monetary analysis of the viable options. Prepare a preliminary design memo summarizing the findings for addressing floodplain and stormwater management issues.

4. Coordinate and furnish geotechnical services for subsurface investigation including soil borings and report.

5. Evaluate the physical condition including structural, mechanical, electrical and instrumentation and control components of the existing plant facilities that are to be reused or modified as part of this project.

6. Work with the Illinois Environmental Protection Agency (IEPA) to obtain the agency's approval of the proposed biosolids drying system. Provide the IEPA with copies of pertinent studies and reports on the subject, as well as copies of USEPA regulations and guidance. Meet with the IEPA to discuss the biosolids drying issues. Coordinate with equipment vendors as a source of useful information for the IEPA.

7. Visit plants with LCPWD staff to see biological nutrient removal systems and sludge drying equipment that are being planned for the Des Plaines River WRF. Visits will be organized to provide adequate time to see the facilities in operation and interview the staff regarding equipment and operation. The objectives of the plant visits will be:

    - Observe the operation of the equipment and related facilities.
    - Note the positive and negative aspects of the equipment and facilities.
    - Form opinions regarding features desired in the design of the facilities for the Des Plaines River WRF.

8. Make arrangements for on-site pilot testing of a biosolids drying system:

    - Prepare a test protocol
    - Test period of one week
    - Lab testing services to be provided by LCPWD
    - Pilot test report prepared by equipment supplier

- Incorporate pilot test results into the preliminary design memo for biosolids drying

9. Prepare preliminary design memos for each of the following facilities and unit processes:

   - Wetlands Delineation and Impacts
   - Floodplain and Storm Water Management
   - Plant Building Improvements
   - Grit Removal Improvements
   - Biological Nutrient Removal / Aeration Tank Modifications
   - Emergency Power Generator
   - Battery B Filter Building Improvements
   - Battery A Control Building
   - Biosolids Drying Facilities
     - Dust control/hazard mitigation
     - WAS dewatering considerations
   - De-chlorination Improvements
   - Plant Site Work
   - Plant SCADA System Improvements

   Each preliminary design memo will include, as appropriate:
   - Description and Background
   - Basis of Design
   - Identification and Selection of Equipment
   - Preliminary process and instrumentation diagram (P&ID)
   - General Description of Control Strategy
   - Preliminary Layout or Building Floor Plan
   - Architectural Finishes
   - Odor Control Requirements
   - Equipment Data Sheets with Utility Requirements
   - Equipment Catalog Cuts

10. After each draft preliminary design memo is completed, they will be sent to LCPWD, followed by a review meeting

11. Prepare an opinion of probable construction cost based on the preliminary design information.

12. Prepare a draft preliminary design report incorporating the draft design memos, comments from LCPWD on the draft design memos, and the opinion of probable construction cost. Submit 10 copies to the LCPWD for their review.

13. Meet with the LCPWD to review the draft preliminary design report and obtain comments.

14. Prepare a final preliminary design report, including revisions based on comments from the LCPWD. Submit 10 copies of the final report to the LCPWD.

Value Engineering

1. Assist the LCPWD in selecting an independent Value Engineering (VE) team.

2. Schedule the VE activity after the preliminary design is complete.

3. Present the Des Plaines River design information to the VE team. Include the facilities plan, preliminary design information, cost estimates, memorandum, drawings and reports.

4. Respond to requests for information from the VE team.

5. Assist the LCPWD in establishing a VE review team (LCPWD and ATI). The VE review team will receive and evaluate the recommendations from the VE team.

6. Attend the VE team report to the VE review team. Assist the VE review team in accepting, modifying or rejecting VE report recommendations.

7. Implement VE review team decisions.

Final Design

1. Prepare drawings and specifications for incorporation into Contract Documents. Contract Documents shall be submitted to the LCPWD for review at the 90% completion point. The drawings will show the general scope, extent and character of the work to be furnished and preformed by a Contractor. The specifications will be prepared in conformance with the sixteen-division format of the Construction Specifications Institute.

2. Table 1 presents a preliminary list of drawings that were used to estimate the engineering level of effort and compensation for this project. The design work is based on a single prime construction contract.

3. Prepare for review and approval by the LCPWD, its legal counsel and other advisors, contract agreement forms, general conditions, supplementary conditions, bid forms, invitations to bid and instructions to bidders. All of these documents shall be consistent with the forms and pertinent guide sheets prepared by the Engineers Joint Contract Documents Committee.

4. Furnish 10 copies of the Contract Documents for review and approval by the LCPWD and for obtaining Project approval by government agencies having jurisdiction.

5. Assist the LCPWD in processing the Contract Documents with the appropriate regulatory agencies. The LCPWD shall pay the costs for all permits and inspection fees.

   - IEPA
   - LCSMC
   - Army Corps of Engineers
   - Lake County building permit application

6. Meet with representatives of the LCPWD and appropriate regulatory agencies when requested and necessary for consultation or conferences in regard to design of the Project.

7. Prepare an opinion of probable construction cost at the 90% completion point.

8. Meet with the LCPWD to present a summary of the project and the estimated construction cost at the 90% completion point.

Water Pollution Control Loan Program Administration

1. Assist the LCPWD in completing and submitting a Pre-Application for Loan Assistance for Wastewater Loan Projects.

2. Assist the LCPWD in completing, assembling and submitting the applications and information for a low interest loan from the IEPA Wastewater State Revolving Fund, also called the Water Pollution Control Loan Program.

3. Submit the Facility Plan and a Facility Plan Submittal Checklist to the IEPA.

4. Submit plans and specifications and the IEPA - WPCLP Loan Applicant's Certification of Plans/Specifications Compliance with Loan Rules. The loan rules include a detailed checklist and requirements for bidding, contract award, an equal opportunity clause, DBE provisions, Prevailing Wage Rates, and other provisions.

5. Assist the LCPWD in executing the WPCLP Loan Application Form along with all accompanying forms, certifications and authorizations.

6. Assist the LCPWD in executing the WPCLP Financial Information Checklist, along with all accompanying forms, certifications and authorizations. The financial submittal will include information demonstrating the financial capability of the LCDPW, information

showing a dedicated source of revenue for making the loan payments, and information on the user charge system.

7. Assist LCPWD in submitting copies of legal agreements and intergovernmental agreements as needed.

8. Assist the LCPWD in submitting contractor bids and an executed WPCLP Bid Certification Form and supporting documentation.

9. Answer questions and assist with the LCPWD's Bond Counsel during the Water Pollution Control Loan Program application process.

10. Provide coordination and monthly disbursement requests to the IEPA Water Pollution Control Loan Program. Assist in preparing project "close-out" documentation.

Bidding Services

1. Assist the LCPWD in obtaining construction bids for a single prime construction contract. Bidding Documents distribution, maintaining a list of plan holders, and receiving and processing payments for the Bidding Documents will be managed by Lake County.

2. Answer questions during bidding and issue addenda as appropriate to interpret or clarify the Bidding Documents.

3. Conduct a Pre-bid Conference for prospective bidders.

4. Prepare a bid tabulation sheet and attend the bid opening.

5. Evaluate the bids and prepare a recommendation to the LCPWD for award of the Contract.

6. Contract award will be managed by Lake County.

Construction Related Services

Construction related services including contract administration, construction inspection, O&M Manual preparation, and start-up services will be determined following the design services. The scope of services for construction-related services will be incorporated into the Agreement by Addendum.

DES PLAINES RIVER WRF IMPROVEMENTS PHASE 2B, PW#2013.034
PROJECT SUMMARY
August 9, 2013 (Revision 05)

AGREEMENT #13228 – PLANT AND PROCESS IMPROVEMENTS

EMERGENCY POWER GENERATOR - Group 38
- Provide a new 1500 kW standby diesel generator in an outdoor enclosure

GRIT FACILITIES – Group 25
- Replace worn equipment (screw auger and paddle wheel)

BIOLOGICAL NUTRIENT REMOVAL AND AERATION BASIN MODIFICATIONS – Group 30
- Mixers
- Recycle pumps
- Baffle walls
- Aeration modifications
- Hydraulic gate replacement
- Fermenter(s) – Aerobic digester conversion (Group 80)

BATTERY B TERTIARY FILTRATION IMPROVEMENTS – Group 50
- Install two disc filters into existing filter bays
- W3 pumping system improvements

BATTERY A CONTROL BUILDING – Group 15
- Elevator and stair improvements
- Records storage room and workshop storage room
- Restroom and shower improvements
- Front entry improvements
- Replace roof
- Exterior improvements

DECHLORINATION IMPROVEMENTS – Group 75
- Replace bisulfite mixer

BUILDING AND SITE REHABILITATION
- Replace existing roofing (Buildings 10, 15, 20, 22, 25, 35, 45, 50, 55, 75, 80, 90)
- Tuck-pointing and masonry repair
- HVAC equipment replacement (Buildings 10, 15, 20, 25, 35, 45, 50, 80, 90)
- Resurfacing roads and parking areas
- Repair influent junction box – Group 93

SCADA IMPROVEMENTS – Group 9
- PLC network replacement
- Add controls for Battery A screw pumps – Group 22

TABLE 1

PRELIMINARY DRAWING LIST

Des Plaines River WRF Improvements

Lake County Public Works Department

NO.	DRAWING	SCALE	TITLE
			GROUP 01 - GENERAL
1	01-G-1		Title Sheet/Project Location
2	01-G-2		Index to Drawings
3	01-G-3		Abbreviations and Detail Legend
4	01-G-4		Civil Legend
5	01-G-5		HVAC, Plumbing & Architectural Legend
6	01-G-6		Mechanical Legend
7	01-G-7		Electrical Legend
8	01-G-8		Instrumentation & Control Legend
9	01-G-9		Instrumentation & Control Legend
			GROUP 02 - SITE WORK
10	02-G-1	1"=100'	Overall Site Plan and Index
11	02-G-2	1"=100'	Facility and Soil Boring Locations
12	02-EC-1	1"=100'	Overall Site Erosion Control Plan and notes
13	02-R-1	1"=100'	Overall Site Removal Plan and notes
14	02-R-2	1"=20'	Removal Plan
15	02-R-3	1"=20'	Removal Plan
16	02-R-4	1"=20'	Removal Plan
17	02-R-5	1"=20'	Removal Plan
18	02-R-6	1"=20'	Removal Plan
19	02-R-7	1"=20'	Removal Plan
20	02-C-1	1"=20'	Civil Site Plan
21	02-C-2	1"=20'	Civil Site Plan
22	02-C-3	1"=20'	Civil Site Plan
23	02-C-4	1"=20'	Civil Site Plan
24	02-C-5	1"=20'	Civil Site Plan
25	02-C-6	1"=20'	Civil Site Plan
26	02-C-7	1"=20'	Civil Site Plan
27	02-C-8	1"=20'	Civil Site Plan
28	02-C-9	1"=20'	Civil Site Plan
29	02-C-10	1"=20'	Civil Site Plan
30	02-C-11	1"=20'	Civil Site Plan
31	02-C-12	1"=20'	Civil Site Plan
32	02-C-13	-	Civil Site Details
33	02-C-14	-	Civil Site Details
34	02-M-1	1"=20'	Yard Piping Plan
35	02-M-2	1"=20'	Yard Piping Plan
36	02-M-3	1"=20'	Yard Piping Plan
37	02-M-4	1"=20'	Yard Piping Plan
38	02-M-5	1"=20'	Yard Piping Plan
39	02-M-6	1"=20'	Yard Piping Plan
40	02-M-7	1"=20'	Yard Piping Plan
41	02-M-8	1"=20'	Yard Piping Plan
42	02-M-9	1"=20'	Yard Piping Plan

TABLE 1

PRELIMINARY DRAWING LIST

Des Plaines River WRF Improvements

Lake County Public Works Department

NO.	DRAWING	SCALE	TITLE
43	02-M-10	1"=20'	Yard Piping Plan
44	02-M-11	1"=20'	Yard Piping Plan
45	02-M-12	1"=20'	Yard Piping Plan
46	02-M-13	-	Yard Piping Details
47	02-E-1	1"=20'	Electrical Site Plan
48	02-E-2	1"=20'	Electrical Site Plan
49	02-E-3	1"=20'	Electrical Site Plan
50	02-E-4	1"=20'	Electrical Site Plan
51	02-E-5	1"=20'	Electrical Site Plan
52	02-E-6	1"=20'	Electrical Site Plan
53	02-E-7	1"=20'	Electrical Site Plan
54	02-E-8	1"=20'	Electrical Site Plan
55	02-E-9	1"=20'	Electrical Site Plan
56	02-E-10	1"=20'	Electrical Site Plan
57	02-E-11	1"=20'	Electrical Site Plan
58	02-E-12	1"=20'	Electrical Site Plan
59	02-E-13	-	Electrical Site One-line Diagram
60	02-E-14	-	Electrical Site Details
61	02-E-15	-	Electrical Site Details
			GROUP 09 INSTRUMENTATION AND CONTROL
62	09-I-1		Unit Process Interface
63	09-I-2		Grit Removal P&ID
64	09-I-3		Aeration Tanks P&ID
65	09-I-4		Aeration Tanks P&ID
66	09-I-5		Emergency Power Generator P&ID
67	09-I-6		Effluent Filters P&ID
68	09-I-7		W3 System P&ID
69	09-I-8		Biosolids Receiving Station P&ID
70	09-I-9		Biosolids Feed System P&ID
71	09-I-10		Biosolids Drying P&ID
72	09-I-11		Dry Product Conveyance P&ID
73	09-I-12		Dry Product Storage P&ID
74	09-I-13		Dry Product Truck Loading P&ID
75	09-I-14		Biosolds Drying Off-gas P&ID
76	09-I-15		Dechlorination P&ID
77	09-I-16		Fermenter System P&ID
78	09-I-17		Biosolids Dewatering P&ID
79	09-I-18		Miscellaneous Systems P&ID
80	09-I-19		Miscellaneous Systems P&ID
81	09-I-20		Control System Network P & ID
			GROUP 10 - ADMINISTRATION BUILDING MODIFICATIONS
82	10-R-1	1/4"	Arch/Struct Removal Plan
83	10-R-2	1/4"	Arch/Struct Removal Sections and Details
84	10-R-5	1/4"	HVAC Removal Plan and Details

TABLE 1

PRELIMINARY DRAWING LIST

Des Plaines River WRF Improvements

Lake County Public Works Department

NO.	DRAWING	SCALE	TITLE
85	10-R-3	1/4"	Electrical Removal Plan and Details
86	10-AS-1	1/4"	Building Plan
87	10-AS-2	1/4"	Roof Plan, Sections, Details
88	10-AS-3	1/4"	Sections, Details
89	10-H-1	1/4"	HVAC Plan, Sections, Details
90	10-E-1	1/4"	Lighting Plan
91	10-E-2	1/4"	Power Plan
			GROUP 15 - BATTERY A CONTROL BUILDING MODIFICATIONS
92	15-R-1	1/4"	Arch/Struct Removal Plan
93	15-R-2	1/4"	Arch/Struct Removal Sections and Details
94	15-R-3	1/4"	HVAC Removal Plan and Details
95	15-R-4	1/4"	Electrical Removal Plan and Details
96	15-AS-1	1/4"	Building Plan
97	15-AS-2	1/4"	Roof Plan, Sections, Details
98	15-AS-3	1/4"	Sections, Details
99	15-H-1	1/4"	HVAC Plan, Sections, Details
100	15-P-1	1/4"	Plumbing Plan, Sections, Details
101	15-E-1	1/4"	Lighting Plan
102	15-E-2	1/4"	Power Plan
			GROUP 20 - RAW WASTEWATER PUMP STATION
103	20-R-1	1/4"	Arch/Struct Removal Plans, Sections, Details
104	20-R-2	1/4"	HVAC Removal Plans, Sections, Details
105	20-AS-1	1/4"	Roof Plans
106	20-AS-2	1/4"	Plans, Sections, Details
107	20-H-1	1/4"	HVAC Plan, Sections, Details
108	20-H-2	1/4"	Sections and Details
109	20-E-1	1/4"	Lighting Plan
110	20-E-2	1/4"	Power Plan
			GROUP 22 - BATTERY A RAW WASTEWATER PUMP STATION
111	22-R-1	1/4"	Arch/Struct Removal Plans, Sections, Details
112	22-AS-1	1/4"	Roof Plans
113	22-AS-2	1/4"	Plans, Sections, Details
114	22-E-1	1/4"	Power Plan
			GROUP 25 - GRIT REMOVAL BUILDING
115	25-R-1	1/4"	Arch/Struct Removal Plans, Sections, Details
116	25-R-2	1/4"	Mech Removal Plans, Sections, Details
117	25-R-3	1/4"	HVAC Removal Plans, Sections, Details
118	25-AS-1	1/4"	Roof Plans
119	25-AS-2	1/4"	Plans, Sections, Details
120	25-M-1	1/4"	Mech Plans, Sections, Details
121	25-H-1	1/4"	HVAC Plan, Sections, Details
122	25-E-1	1/4"	Lighting Plan

TABLE 1

PRELIMINARY DRAWING LIST

Des Plaines River WRF Improvements

Lake County Public Works Department

NO.	DRAWING	SCALE	TITLE
123	25-E-2	1/4"	Power Plan
			GROUP 30 - AERATION TANK MODIFICATIONS
124	30-R-1	1/8"	Mech Removal Plan
125	30-R-2	1/8"	Mech Removal Sections, Details
126	30-S-1	1/8"	Plans
127	30-S-2	1/8"	Sections and Details
128	30-M-1	1/8"	Lower Plan
129	30-M-2	1/8"	Upper Plan
130	30-M-3	1/4"	Sections and Details
131	30-E-1	1/8"	Plans and Details
			GROUP 35 - BLOWER BUILDING
132	35-R-1	1/4"	Arch/Struct Removal Plans, Sections, Details
133	35-R-2	1/4"	HVAC Removal Plans, Sections, Details
134	35-AS-1	1/4"	Roof Plans
135	35-AS-2	1/4"	Plans, Sections, Details
136	35-H-1	1/4"	HVAC Plan, Sections, Details
137	35-H-2	1/4"	Sections and Details
138	35-E-1	1/4"	Lighting Plan
139	35-E-2	1/4"	Power Plan
			GROUP 38 - EMERGENCY POWER GENERATOR
140	38-SM-1	1/4"	Plan, Sections
141	38-SM-2	1/4"	Details
142	38-E-1	-	One Line Diagram
143	38-E-2	1/4"	Plans, Details
			GROUP 45 - RAS/WAS BUILDING
144	45-R-1	1/4"	Arch/Struct Removal Plans, Sections, Details
145	45-R-2	1/4"	HVAC Removal Plans, Sections, Details
146	45-AS-1	1/4"	Roof Plans
147	45-AS-2	1/4"	Plans, Sections, Details
148	45-H-1	1/4"	HVAC Plan, Sections, Details
149	45-H-2	1/4"	Sections and Details
150	45-E-1	1/4"	Lighting Plan
151	45-E-2	1/4"	Power Plan
			GROUP 50 - BATTERY B FILTER BUILDING
152	50-R-1	1/4"	Arch/Struct Removal Plans, Sections, Details
153	50-R-2	1/4"	Mech Removal Plans, Sections, Details
154	50-AS-1	1/4"	Roof Plans
155	50-AS-2	1/4"	Plans, Sections, Details
156	50-M-1	1/4"	Mech Plans
157	50-M-2	1/4"	Mech Sections, Details
158	50-M-3	1/4"	Mech Sections, Details

TABLE 1

PRELIMINARY DRAWING LIST

Des Plaines River WRF Improvements

Lake County Public Works Department

NO.	DRAWING	SCALE	TITLE
159	50-H-1	1/4"	HVAC Plan, Sections, Details
160	50-E-1	1/4"	Lighting Plan
161	50-E-2	1/4"	Power Plan
			GROUP 55 - BATTERY A FILTER BUILDING
162	55-R-1	1/4"	Arch/Struct Removal Plans, Sections, Details
163	55-AS-1	1/4"	Roof Plans
164	55-AS-2	1/4"	Plans, Sections, Details
			GROUP 60 - BIOSOLIDS DRYING BUILDING
165	60-AS-1	1/8"	Elevations and Roof Drainage Plan
166	60-S-1	1/4"	Foundation Plan
167	60-S-2	1/4"	Ground Floor Plan
168	60-S-3	1/4"	Upper Floor Plan
169	60-S-4	1/4"	Roof Framing Plan
170	60-AS-5	1/4"	Sections
171	60-AS-6	1/4"	Sections and Details
172	60-M-1	1/4"	Lower Level Plan
173	60-M-2	1/4"	Ground Floor Plan
174	60-M-3	1/4"	Upper Floor Plan
175	60-M-4	1/4"	Sections, Details
176	60-M-5	1/4"	Sections, Details
177	60-P-1	1/4"	Lower Level Plan
178	60-P-2	1/4"	Ground Floor Plan
179	60-P-3	1/4"	Upper Floor Plan
180	60-P-4	-	Riser Diagrams
181	60-H-1	1/4"	Lower Level Plan
182	60-H-2	1/4"	Ground Floor Plan
183	60-H-3	1/4"	Upper Floor Plan
184	60-H-4	1/4"	Sections, Details
185	60-E-1	-	One Line Diagrams
186	60-E-2	-	Control Diagrams
187	60-E-3	1/4"	Lower Level Power Plan
188	60-E-4	1/4"	Lower Level Lighting Plan
189	60-E-5	1/4"	Ground Floor Power Plan
190	60-E-6	1/4"	Ground Floor Lighting Plan
191	60-E-7	1/4"	Upper Floor Power Plan
192	60-E-8	1/4"	Upper Floor Lighting Plan
			GROUP 65 - BIOSOLIDS STORAGE BUILDING
193	65-AS-1	1/8"	Elevations and Roof Drainage Plan
194	65-AS-2	1/4"	Foundation/Floor Plans & Details
195	65-AS-3	1/4"	Roof Framing Plan
196	65-AS-4	1/4"	Building Sections and Details
197	65-AS-5	1/4"	Details
198	65-M-1	1/4"	Mech/Plumbing/HVAC Plan

TABLE 1

PRELIMINARY DRAWING LIST

Des Plaines River WRF Improvements

Lake County Public Works Department

NO.	DRAWING	SCALE	TITLE
199	65-E-1	1/4"	Power & Lighting Plan
			GROUP 75 - DECHLORINATION BUILDING
200	75-R-1	1/4"	Arch/Struct Removal Plans, Sections, Details
201	75-R-2	1/4"	Mech Removal Plans, Sections, Details
202	75-AS-1	1/4"	Roof Plans
203	75-AS-2	1/4"	Plans, Sections, Details
204	75-M-1	1/4"	Mech Plans, Sections, Details
205	75-E-1	1/4"	Lighting Plan
206	75-E-2	1/4"	Power Plan
			GROUP 80 - AEROBIC DIGESTERS & SLUDGE STORAGE
207	80-R-1	1/4"	Arch/Struct Removal Plans, Sections, Details
208	80-R-2	1/8"	Mech Removal Plan
209	80-R-3	1/8"	Mech Removal Sections, Details
210	80-R-4	1/4"	HVAC Removal Plans, Sections, Details
211	80-AS-1	1/4"	Roof Plans
212	80-S-1	1/8"	Plans and Details
213	80-S-2	1/8"	Sections and Details
214	80-M-1	1/8"	Lower Plan
215	80-M-2	1/8"	Upper Plan
216	80-M-3	1/4"	Sections and Details
217	80-H-1	1/4"	HVAC Plan, Sections, Details
218	80-E-1	1/8"	Plans and Details
			GROUP 90 - SLUDGE DEWATERING BUILDING
219	90-R-1	1/4"	Arch/Struct Removal Plans, Sections, Details
220	90-R-2	1/4"	Mech Removal Plans, Sections, Details
221	90-R-3	1/4"	HVAC Removal Plans, Sections, Details
222	90-AS-1	1/4"	Roof Plans
223	90-AS-2	1/4"	Plans, Sections, Details
224	90-M-1	1/4"	Mech Plans, Sections, Details
225	90-H-1	1/4"	HVAC Plan, Sections, Details
226	90-E-1	1/4"	Lighting Plan
227	90-E-2	1/4"	Power Plan
			GROUP 93 - INFLUENT JUNCTION BOX
228	93-R-1	1/4"	Struct/Mech Removal Plan
229	93-R-2	1/4"	Struct/Mech Removal Sections, Details
230	93-SM-1	1/4"	Plans
231	93-SM-2	1/4"	Sections and Details
			GROUP 99 SCHEDULES/STANDARD DETAILS
232	99-A-1		Door Schedules
233	99-A-2		Window and Finish Schedules
234	99-M-1		Mechanical Pipe Schedule

TABLE 1

PRELIMINARY DRAWING LIST

Des Plaines River WRF Improvements

Lake County Public Works Department

NO.	DRAWING	SCALE	TITLE
235	99-M-2		Mechanical Gate Schedule
236	99-H-1		Ventilation and HVAC Equipment Schedules
237	99-H-2		Louver and HVAC Equipment Schedules
238	99-P-1		Plumbing Fixture Schedule
239	99-E-1		Light Fixture Schedule
240	99-D-1		Civil Standard Details
241	99-D-2		Civil Standard Details
242	99-D-3		Civil Standard Details
243	99-D-4		Architectural/Structural Standard Details
244	99-D-5		Architectural/Structural Standard Details
245	99-D-6		Architectural/Structural Standard Details
246	99-D-7		Architectural/Structural Standard Details
247	99-D-8		Architectural/Structural Standard Details
248	99-D-9		Architectural/Structural Standard Details
249	99-D-10		Architectural/Structural Standard Details
250	99-D-11		Architectural/Structural Standard Details
251	99-D-12		Architectural/Structural Standard Details
252	99-D-13		Instrumentation & Control Standard Details
253	99-D-14		Instrumentation & Control Standard Details
254	99-D-13		HVAC Standard Details
255	99-D-14		Mechanical Standard Details
256	99-D-15		Mechanical Standard Details
257	99-D-16		Mechanical Standard Details
258	99-D-16		Mechanical Standard Details
259	99-D-16		Mechanical Standard Details
260	99-D-17		Electrical Standard Details
261	99-D-18		Electrical Standard Details
262	99-D-18		Electrical Standard Details
262	**Total Drawings**		

Legend

A	Architectural
C	Civil
E	Electrical
G	General
H	HVAC
I	Instrumentation & Control
M	Mechanical (Process)
P	Plumbing
S	Structural

SUMMARY OF ENGINEERING DESIGN FEES
Des Plaines River WRF Improvements
Lake County PWD

		Totals	Contract Phase 2B	Contract Phase 3
Project Management	$	65,700	$49,300	$16,400
Preliminary Design	$	311,900	$311,900	
Final Design	$	1,042,300	$420,600	$621,700
Total Design (Plans and Specifications)	$	1,419,900		
Construction Cost	$	22,707,000		
Total Design (% of Construction)		6.3%		
IEPA Allowable Design Fee				
Percent of Construction		7.0%		
Allowable Design Fee	$	1,589,000		
Additional Services				
Wetlands Study		$25,000	$25,000	
Floodplain/stormwater Study		$20,000	$20,000	
Soils Exploration Report		$7,500	$7,500	
Value Engineering		$15,000	$15,000	
Bidding Services		$27,500	$27,500	
Loan Program Administration		$12,000	$12,000	
Pilot Test Dryer Rental		$15,000	$15,000	
Total Not to Exceed Budget		$1,541,900	$903,800	$638,100

8/9/2013

Table 1-1 Phasing and Implementation Schedule Des Plaines River Water Reclamation Facility	
Facilities Planning	
Submit IEPA Loan Pre-Application	March 2013
Submit Facilities Plan Amendment to IEPA	July 2013
IEPA Approval of Facilities Plan	September 2013
Phase IIB - Design and Construction	
Begin Phase IIB Design	September 2013
Submit Phase IIB Plans and Specifications to the IEPA	March 2014
Submit IEPA Loan Application	March 2014
IEPA Approval of Phase IIB Plans and Specifications	June 2014
Bidding and Award of Phase IIB Contract	August 2014
IEPA Loan Approval	September 2014
Begin Phase IIB Construction	November 2014
Complete Phase IIB Substantial Completion	November 2016
Phase IIB Notice of Operational Compliance	June 2017
Phase III - Design and Construction	
Submit IEPA Loan Pre-Application	March 2013
Begin Phase III Design	December 2013
Submit Phase III Plans and Specifications to the IEPA	March 2014
Submit IEPA Loan Application	March 2014
IEPA Approval of Phase III Plans and Specifications	June 2014
Bidding and Award of Phase III Contract	August 2014
IEPA Loan Approval	September 2014
Begin Phase III Construction	November 2014
Complete Phase III Construction/Startup	November 2016

Table 1-1 - Continued Phasing and Implementation Schedule Des Plaines River Water Reclamation Facility	
Phase IV - Design and Construction	
Submit IEPA Loan Pre-Application	March 2013
Begin Phase IV Design	November 2013
Submit Phase IV Plans and Specifications to the IEPA	March 2014
Submit IEPA Loan Application	March 2014
IEPA Approval of Phase IV Plans and Specifications	June 2014
Bidding and Award of Phase IV Contract	August 2014
IEAP Loan Approval	September 2014
Begin Phase IV Construction	November 2014
Complete Phase IV Construction/Startup	November 2016
Phase V - Design and Construction	
Estimated Design and Construction Period	2029 through 2032

DES PLAINES RIVER WRF IMPROVEMENTS PHASE 2B
LAKE COUNTY DEPT OF PUBLIC WORKS
DESIGN ENGINEERING LEVEL OF EFFORT AND COSTS
August 21, 2013

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	Prepare project instructions	2	32										34	$ 5,312	$ 266	$ 5,578	
2	Prepare for and conduct the project kick-off meeting	8	12										20	$ 3,152	$ 158	$ 3,310	
3	Design coordination and management	12	24										36	$ 5,664	$ 283	$ 5,947	
4	Prepare for and attend LCPWD review meetings	72	136										208	$ 32,736	$ 1,730	$ 34,466	
	TOTAL	94	204	0	0	0	0	0	0	0	0	0	**298**	**$ 46,864**	**$ 2,436**	**$ 49,300**	
	PRELIMINARY DESIGN																
1	Coordinate and furnish surveying services												0	$ -	$ 15,000	$ 15,000	surveying allowance
2	Coordinate and furnish wetlands delineations and reports												0	$ -	$ 25,000	$ 25,000	wetlands study allowance
3	Floodplain boundaries and stormwater management												0	$ -	$ 20,000	$ 20,000	floodplain/stormwater allowance
4	Coordinate and furnish geotechnical services												0	$ -	$ 7,500	$ 7,500	soils exploration allowance
5	Evaluate existing physical conditions			40	40	24		8	24	24			160	$ 18,696	$ 935	$ 19,631	
6	IEPA approval of the biosolids drying system	12	24	24									60	$ 8,784	$ 439	$ 9,223	
7	Plant visits regarding EBNR and biosolids drying	16	24	24	24								88	$ 11,776	$ 589	$ 12,365	
8	Manage on-site biosolids drying pilot test			16									16	$ 2,080	$ 15,104	$ 17,184	pilot rental allowance $15k
9	Prepare preliminary design memos			48	96	192	36		24	96	52		544	$ 63,216	$ 3,161	$ 66,377	
10	Review meetings for the preliminary design memos	8	16	16	16								56	$ 7,424	$ 371	$ 7,795	
11	Prepare an opinion of probable construction costs		12	24	48								84	$ 9,696	$ 485	$ 10,181	
12	Prepare a draft preliminary design report		32	80	120	8		8	24	12	1225	40	1549	$ 146,034	$ 7,260	$ 153,294	
13	Review meeting for the draft preliminary design report	8	12	16	16								52	$ 6,800	$ 340	$ 7,140	
14	Finalized and distribute the preliminary design report		8	16	24						12	24	84	$ 8,296	$ 415	$ 8,711	
	TOTAL	44	176	352	480	68	0	40	144	88	1237	64	**2,693**	**$ 282,802**	**$ 96,598**	**$ 379,400**	
	VALUE ENGINEERING																
1	Assist LCPWD in selecting a VE team												0	$ -	$ -	$ -	
2	Schedule VE activity												0	$ -	$ -	$ -	
3	Present design information to VE team		12										12	$ 1,872	$ 94	$ 1,966	
4	Respond to requests for information from the VE team		8	8	8								24	$ 3,072	$ 154	$ 3,226	
5	Assist LCPWD in establishing a VE review team												0	$ -	$ -	$ -	
6	Attend report of VE team to VE review team		8	8	8								24	$ 3,072	$ 154	$ 3,226	
7	Implement VE review team decisions		8	12	16	4		4	4	4			52	$ 6,252	$ 332	$ 6,584	
	TOTAL	0	36	28	32	4	0	4	4	4	0	0	**112**	**$ 14,268**	**$ 732**	**$ 15,000**	
	FINAL DESIGN PHASE																
1	Prepare drawings and specifications			194	362	615	364	105	232	242	1465	160	3739	$ 388,593	$ 18,525	$ 407,118	
2	Prepare contract forms		16										16	$ 2,496	$ 125	$ 2,621	
3	Furnish copies of documents for LCPWD review and approval												0	$ -	$ -	$ -	
4	Assist LCPWD in approvals from regulatory agencies	6	6										12	$ 1,896	$ 95	$ 1,991	
5	Prepare for and attend meetings with agencies	6	6										12	$ 1,896	$ 95	$ 1,991	
6	Prepare an opinion of probable construction costs		6	10	20								36	$ 4,196	$ 210	$ 4,406	
7	Review meeting with LCPWD	4	6	6									16	$ 2,356	$ 118	$ 2,474	
	TOTAL	16	40	210	382	615	364	105	232	242	1465	160	**3,831**	**$ 401,433**	**$ 19,167**	**$ 420,600**	
	WATER POLLUTION CONTROL LOAN PROGRAM ADMINISTRATION																
1	Assist LCPWD in pre-application		4	4									8	$ 1,144	$ 57	$ 1,201	
2	Assist LCPWD in completing the loan application		8	8									16	$ 2,288	$ 114	$ 2,402	
3	Submit Facilities Plan and checklist to IEPA		4	4									8	$ 1,144	$ 57	$ 1,201	
4	Submit plans, specifications, and related documentation to the IEPA		4	4									8	$ 1,144	$ 57	$ 1,201	
5	Assist LCPWD in executing the application form and related documents		2	2									4	$ 572	$ 29	$ 601	
6	Assist LCPWD in executing the financial information checklist, etc.		2	2									4	$ 572	$ 29	$ 601	
7	Assist LCPWD in submitting legal agreements as needed		2	2									4	$ 572	$ 29	$ 601	
8	Assist LCPWD in submitting Contractor Bids and related documents		2	2									4	$ 572	$ 29	$ 601	
9	Answer questions from bond counsel		2	2									4	$ 572	$ 29	$ 601	
10	Coordinate monthly disbursement request and close-out documentation		8	12									20	$ 2,808	$ 182	$ 2,990	
	TOTAL	0	38	42	0	0	0	0	0	0	0	0	**80**	**$ 11,388**	**$ 611**	**$ 12,000**	
	BIDDING SERVICES																
1	Assist LCPWD in obtaining construtuion bids		8										8	$ 1,248	$ 62	$ 1,310	
2	Answer bidder questions and issue addenda		36	40	40	16		12	12	16	8	4	184	$ 22,324	$ 1,127	$ 23,451	
3	Evaluate bids and prepare recommendation for award	2	8	8									18	$ 2,608	$ 130	$ 2,738	
4	Contract award by LCPWDD												0	$ -	$ -	$ -	
	TOTAL	2	52	48	40	16	0	12	12	16	8	4	**210**	**$ 26,180**	**$ 1,320**	**$ 27,500**	
	LABOR HOURS	156	546	680	934	703	364	161	392	350	2710	228	**7,224**				
	2013 - 2014 Average Rates	$ 160	$ 156	$ 130	$ 98	$ 138	$ 100	$ 105	$ 118	$ 108	$ 90	$ 64					
	TOTAL COST	$ 24,960	$ 85,176	$ 88,400	$ 91,532	$ 97,014	$ 36,400	$ 16,905	$ 46,256	$ 37,800	$ 243,900	$ 14,592		**$ 782,935**	**$ 120,865**	**$ 903,800**	