

AGREEMENT #90184 FOR ENGINEERING SERVICES

This AGREEMENT is entered into by and between Lake County (hereafter sometimes "County") and AECOM Technical Services, Inc., 4135 Technology Parkway, Sheboygan, Wisconsin, 53083 (hereafter "Engineer").

RECITALS

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

Project Name: Construction Related Services for Mill Creek Water Reclamation Facility Expansion

As described in Attachment A (the "Project"); and

WHEREAS, the Engineer is a professional provider of engineering services and desires to perform the services described in Attachment A pursuant to the terms and conditions of this Agreement.

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 (the "Services.")* Services shall be performed in accordance with the standard of care customarily observed by professional consulting firms performing similar services at the same time and location.

SECTION 3. DURATION AND DELAYS

The Services shall be completed within 730 days after execution of this Agreement. Notwithstanding the foregoing, Engineer shall not be liable for delays in or failure to perform the Services caused directly or indirectly by circumstances beyond Engineer's control, including but not limited to acts of God, fire, flood, war, sabotage, accident, labor dispute, shortage, government action including regulatory requirements, changed conditions, delays resulting from actions or inactions of Lake County or third parties, site inaccessibility or inability of others to obtain material, labor, equipment, or transportation. Should any of the above occur, then the date for completion shall be extended for a period of time equal to such delay, provided that Engineer reports the delay to Lake County within a reasonable time of its discovery.

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 results from Engineer's negligent acts in the performance of the Services. The foregoing indemnity shall apply except to the extent such injury, death or damage is caused by the willful, wanton or negligent conduct of Lake County, its agents, servants, or employees or any other person indemnified hereunder. Notwithstanding any other provision of this Agreement, (1) Engineer's liability under this Agreement for the performance of the Services shall be limited to the amount of Engineer's compensation under this

Agreement; and (2) neither party shall be liable to the other party for consequential, incidental, indirect, special and punitive damages, regardless of whether it is advised of the possibility of such damages.

SECTION 5. INSURANCE

The Engineer must obtain, for the term of the Agreement 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:

- Workers' Compensation Insurance** covering all liability of the Engineer arising under the Workers' Compensation Act and Workers' Occupational Diseases Act at statutory limits.
- Professional Liability** to include, but not be limited to, coverage for Errors and Omissions to respond to claims for loss therefrom.

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 or 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 an amount on a time and materials basis not to exceed \$994,447.

SECTION 7. INVOICES & PAYMENT

Invoices may be submitted for work performed on a monthly basis based upon the Services completed. Invoice(s) detailing the services provided shall be submitted as provided below. Payments shall be made within the time periods specified in the Illinois Local Government Prompt Payment Act, 50 ILCS 505/1 et seq.

Engineer will address Invoices to:

Lake County Department of Public Works
650 Winchester Road
Libertyville, IL 60048 – 1391
Attn: Peter E. Kolb, P.E.

County will make Payments to
AECOM Technical Services, Inc.
Department CH 10285
Palatine, IL 60055-0285

SECTION 8. STATEMENT OF OWNERSHIP

The drawings, specifications and other documents prepared by the Engineer in the performance of the Services shall become the property of the County upon payment of the Engineer as provided herein, 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 Lake 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. For purposes of the foregoing sentence, "default" shall mean Engineer's breach of its obligations under this Agreement and Engineer's failure to cure the breach within 30 days after receipt of written notice thereof from the County.

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 drawings, specifications, other documents prepared and other work performed by the Engineer in the performance of its obligations under Attachment A to this Agreement 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 with respect to such documents 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 Lake County promptly of any change in its status resulting from any of the following: (a) Engineer is acquired by another party; (b) Engineer becomes insolvent; (c) Engineer, by voluntary petition or by operation of law, becomes subject to the provisions of any chapter of the Bankruptcy Code; (d) Engineer ceases to conduct its operations in the 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:

AECOM Technical Services, Inc.:

GARY L. REIS
Lake County Purchasing Agent
Lake County
Date _____

Christopher N. Yamaya, P.E.
Midwest Water Regional Manager
AECOM Technical Services, Inc.
Date _____

Attest:

ATTACHMENT A
SCOPE OF SERVICES
CONSTRUCTION RELATED SERVICES FOR
MILL CREEK WRF EXPANSION PROJECT

PART I
AECOM RESPONSIBILITIES

A. PROJECT DESCRIPTION

The project consists of construction related services described herein provided by AECOM (ENGINEER) for the County of Lake (OWNER).

The project is for construction of an expansion to the OWNER's Mill Creek Water Reclamation Facility (WRF) as shown in bidding documents dated August 2009 prepared by ENGINEER.

The scope of services is based on the following:

- Project as shown on the bidding documents prepared by ENGINEER.
- Project substantially completed 600 days after Contractor's contract times start to run and project complete and ready for final payment 630 days after Contractor's contract times start to run.
- Notice to Proceed issued to Contractor in January 2010.
- The following major project components:
 1. Raw Wastewater Pumping:
 - a. Replace three existing raw wastewater pumps with larger pumps. Replace pump variable frequency drives and pump control panel.
 - b. New discharge pipe from the Wastewater Pumping Building to the Preliminary Treatment Building.
 - c. Provide connection in discharge pipe for portable pump connection.
 2. Splitter Box:
 - a. New raw wastewater and return activated sludge splitter box to split flows to the aeration tanks.
 3. Aeration Facilities:
 - a. Increase aeration tank size by expanding the two existing aeration tanks.
 - b. Biological phosphorus removal through the use of segregated basins within the aeration tanks and floating mixers.
 - c. One new high efficiency aeration blower.
 4. Return Activated Sludge Facilities:
 - a. Replace impellers in three existing return activated sludge pumps to increase capacity and add one new pump with variable speed drive.
 - b. New parallel return activated sludge pipe from the Secondary Control Building to the new return activated sludge splitter box.

5. Filter Bypass:
 - a. New filter bypass structure to bypass peak flow around the filters.
6. Ultraviolet Disinfection:
 - a. Install additional modules in the existing ultraviolet disinfection system.
 - b. Modify spare UV channel so it can receive UV effluent and be used as a reservoir for effluent use as irrigation water.
7. Solids Handling:
 - a. Two new digesters same size as existing.
 - b. Two new digester blowers.
 - c. One new belt press feed pump with variable speed drive.
8. Electrical System:
 - a. Electrical system improvements for new and modified facilities.
 - b. Modify the electrical and generator systems in the Wastewater Pumping Building and the Filter Building so that additional equipment can be powered from generators.
9. General and Miscellaneous Improvements:
 - a. Alum Feed Building including chemical storage tanks, pumping, and piping systems.
 - b. Extend non-potable water system into the digesters to provide more permanent wash down capabilities.
 - c. Two new drying beds for collection and dewatering of sewer jetting materials discharged from trucks.
 - d. New piping and channel systems for new design flows.
 - e. New plant access roads or walkways as required for access to and around new structures.
 - f. Stormwater improvements to meet regulatory requirements.
 - g. Modify existing effluent swale that carries plant effluent from the UV structure to Mill Creek.
 - h. New Septage Receiving Station.
 - i. New Secondary Effluent Access Vault.
 - j. Other miscellaneous improvements as shown on the drawings.
10. Instrumentation and Monitoring System:
 - a. Instrumentation and monitoring system for new process equipment. System will include operation through local panels with PLCs networked to bring data back to new central monitoring system and control system.
 - b. Control system for automatic and remote manual control of existing and new major plant equipment and processes.

B. SCOPE OF SERVICES

Services to be provided for the project are as follows:

1. Project Administration & Construction Observation

- a. Project Initiation:
 - 1) Establish project files and develop an appropriate monitoring and reporting system.

- 2) Assist the OWNER in assembling the contract documents for execution by the OWNER and the Contractor. Submit copies of the executed contract documents to the OWNER, ENGINEER, and the Contractor. (OWNER will furnish copies of contract documents for execution.)
 - 3) Assist OWNER in preparation of Notice of Award.
- b. Pre-Construction Conference:
- 1) Develop pre-construction conference agenda.
 - 2) Identify and notify participants.
 - 3) Conduct meeting.
 - 4) Prepare minutes and provide follow-up to questions.
 - 5) Assist OWNER in issuing "Notice to Proceed".
- c. Design Transfer Conference:
- 1) Conduct a design transfer conference at ENGINEER'S office between ENGINEER's design team members, construction observation team members, and OWNER. Develop a conference agenda.
 - 2) Identify and notify participants.
 - 3) Conduct meeting.
 - 4) Prepare a summary of conference and provide follow-up to questions.
- d. Construction Observation Services:
- 1) Provide resident project representation during construction. Resident project representation shall consist of observation of the work by qualified person(s) to observe and record construction progress. Resident project representation shall include the following:
 - a) A resident project representative (RPR) will be provided during the construction period. Each day of the service will include 8 hours on-site.
 - b) RPR services are based on construction work substantially completed 600 days (86 weeks) after Contractor's contract times start to run and project complete and ready for final payment 630 days (90 weeks) after Contractor's contract times start to run. If these time periods are exceeded, or if the Contractor works overtime and the RPR is needed on site during overtime periods, additional RPR services can be provided for an additional fee.
 - c) OWNER will provide full time inspector during the construction period. See PART II, OWNER'S RESPONSIBILITIES.
 - d) Supervisor project coordination of construction observation services is provided. These services include job construction observation quality control and assistance in managing construction observation services.

e) For the purpose of this Agreement, the following hours are included:

RPR	3080 hours
Supervisor Coordination	24 hours
Clerical assistance for RPR	172 hours

2) The services to be provided are as follows:

- a) Assist in reviewing Contractor's applications for payment by providing information to OWNER, noting particularly their relation to the schedule of values, work completed, and materials and equipment delivered at the site but not incorporated in the work.
- b) Provide input to Contractor questions relating to contract interpretation.
- c) Review the progress schedule, schedule of shop drawing submissions, and schedule of values prepared by Contractor and consult with OWNER and ENGINEER concerning their acceptability.
- d) Monitor status of shop drawing submissions.
- e) Prepare Contractor Contract close-out documents, resolution of problems, and final Payment.
- f) Attend the pre-construction conference, Contractor's monthly progress meetings, weekly foreman's meetings, other job conferences as required in consultation with OWNER.
- g) Serve as ENGINEER'S liaison with OWNER and Contractor, and assist them in understanding the intent of the contract documents.
- h) Monitor receipt of submittals and samples, and notify OWNER and ENGINEER of their availability for examination.
- i) Direct visiting personnel representing the public or agencies having jurisdiction over the project to the OWNER'S representative who will be responsible for such visits.
- j) Transmit to Contractor and OWNER, ENGINEER'S clarifications and interpretations of the contract documents.
- k) Prepare necessary field modifications and change orders in accordance with instructions of the OWNER and ENGINEER. Prepare independent cost evaluations of work to be covered by the change order and conduct negotiations with the Contractor. Field modifications are conditions that require no adjustment in the contract cost or time of completion. Change orders require modification of cost and/or time of completion.
- l) Coordinate discussions at the periodic site meetings between Contractor and OWNER on any Contractor activity that may affect plant operation. Consider and evaluate Contractor's suggestions for modifications in the drawings or specifications and report these with recommendations to OWNER and ENGINEER.
- m) Maintain at the job site, files for correspondence, reports of job conferences, shop drawings and sample submissions, reproductions of original contract documents including all addenda, change orders, field orders, additional drawings issued sub-sequent to the execution of the contract, ENGINEER'S clarifications and

interpretations of the contract documents, progress reports, and other project related documents.

- n) Record names, addresses, and telephone numbers of the Contractor, subcontractors, and major suppliers of materials and equipment.
- o) Furnish OWNER and ENGINEER with monthly reports of progress of the work and the Contractor's compliance with the approved progress schedule. Attend monthly progress meetings at the jobsite with OWNER and ENGINEER'S project manager to discuss progress of work. Keep OWNER and ENGINEER informed of any expected delays in progress schedule.
- p) Assist in obtaining from OWNER additional details or information, when required at the job site for proper and expedient execution of the work.
- q) Conduct on-site observations of the work in progress to assist ENGINEER in determining if the work is generally proceeding in accordance with the contract documents and that completed work appears to conform to the contract documents. Take digital photos of work in progress. Submit photos to OWNER in digital format.
- r) Report to ENGINEER whenever RPR believes that any work is unsatisfactory, faulty, or defective or does not conform to the Contract Documents, and advise ENGINEER when RPR believes work should be corrected or rejected.
- s) Verify that all material and other tests, as well as equipment and system startups are conducted, and operating and maintenance instructions as required by contract documents are provided.
- t) Keep a diary or log book, recording hours on the job site, weather conditions, data relative to questions of extras or deductions, list of visiting officials, and representatives or manufacturers, fabricators, suppliers and distributors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures. Prepare daily report.
- u) Consult with OWNER and ENGINEER in advance of scheduled major tests, inspections, or initiation of important phases of the work.
- v) Notwithstanding the Contractor's sole responsibility for job site safety, report immediately to OWNER and ENGINEER upon the occurrence of any accident.
- w) Before Certificate of Substantial Completion is issued, submit to OWNER a list of observed items requiring completion or correction by the Contractor.
- x) Conduct a final inspection in the company of ENGINEER, OWNER, and Contractor, and prepare a final list of items to be completed or corrected.
- y) Provide Material testing (sampling, compaction testing, etc.) observation as required in contract documents.

e. SURVEY SERVICES:

- 1) Provide base lines and reference elevations to be used by the Contractor during the construction of the facilities. Property staking or land surveys are not included.

2. Engineering Support

a. Administration:

- 1) Provide Gary Greenway as project manager to coordinate services provided by ENGINEER's design discipline personnel.

- 2) Consult with OWNER regarding progress schedule, schedule of shop drawing submittals, and schedule of values prepared by the Contractor concerning their acceptability.
 - 3) ENGINEER'S project manager will attend **six** monthly progress meetings at jobsite with OWNER and RPR to discuss progress of the work.
- b. Shop Drawing/Submittal Review:
- 1) Administration and Management
 - a) Establish project files with a separate file for each specification section which requires a submittal.
 - b) Establish a shop drawing submittal log subdivided by specification section.
 - c) Prepare a shop drawing routing (control) list identifying design personnel that will be providing the technical review.
 - d) Prepare a shop drawing transmittal form for the Contractor's use.
 - e) Explain and discuss shop drawing processing procedure to Contractors at the pre-construction conference.
 - f) Log and route each shop drawing as submitted.
 - g) Review designer's technical review comments on each submittal.
 - h) Prepare reviewed submittals for distribution to Contractor, OWNER, and RPR.
 - i) Provide OWNER a summary of submittal review status once per month through project duration.
 - 2) Perform Designer Technical Reviews. The design disciplines (process, electrical, instrumentation, HVAC, plumbing, structural, architecture, and civil) will review shop drawings and provide the following services:
 - a) Review for conformance with the intent of the contract documents.
 - b) State the submittal's exceptions and deficiencies determined during the review process.
 - c) Determine the status of the submittal. ("Approved", "Approved as Noted", "Not Approved", "Revise and Resubmit")
- c. Designer Technical Input:
- 1) Attend the Design Transfer Conference and provide an over view of design considerations and constraints. Respond to questions and follow up with responses.
 - 2) Answer design interpretation and clarification requests from the OWNER, Contractor, and RPR. All responses to be documented by either e-mail or memo to the RPR. Provide technical input into contract change orders and field modifications.
 - a) For purposes of this Agreement, **520 hours** are included for input.
 - 3) Conduct site visits by appropriate design discipline personnel at appropriate stages of construction to review the quality of the work and to determine, in general, whether the work conforms with the contract documents.
 - a) For the purposes of this Agreement, **15 mandays** of site visits plus travel expenses are included.

- 4) Attend meetings with Contractor to resolve disputes on the acceptability of proposed equipment and/or modifications required thereto.

3. Instrumentation and Control Graphics Configuration and Programming:

a. Wonderware Configuration and Programming:

- 1) Provide Wonderware graphics configuration and application programming of the WRF's personal computers (PC's). (Contractor will provide PC's and Wonderware programming software.) Prepare screens to graphically display information represented on the Process and Instrumentation Diagrams (P&IDs) included in the Project bidding documents. Screens will display current status of plant and historical trend data and allow for control of equipment identified on P&IDs as having control.
- 2) The existing Wonderware graphic screens will be used as a starting point for development of the new screens.
- 3) Services are based on preparation of graphics screens for 124 new input and output (I/O) points, 102 existing I/O points, and 90 I/O points from manufacturer's panels as shown on the P&IDs.

b. PLC Panel Configuration and Programming:

- 1) Develop graphic screens depicting the process and provide programming services for the Building PLC's as listed below. (Contractor will provide the PLC's). Prepare screens to graphically display information represented on the P&IDs included in the Project bidding documents. Services are based on the PLC panels below:

PLC Tag No.
10-PLC-1
25-PLC-1
45-PLC-1
50-PLC-1
70-PLC-1
75-PLC-1

c. LCP Configuration and Programming:

- 1) Develop graphic screens depicting the process and provide programming services for the local control panels (LCP's) as listed below. (Contractor will provide the LCP's and will also provide graphic screens and programming services for some LCP's not listed below). Prepare screens to graphically display information represented on the P&IDs included in the Project bidding documents. Services are based on the control panels below:

LCP Tag No.
45-LCP-3-3 RAS/WAS Panel
70-LCP-6-1 Digester Blower Panel
70-LCP-7-1 Belt Press Feed Panel

d. Owner Review:

- 1) Prepare five sample graphic screens for OWNER review.
- 2) Conduct a **one day workshop** meeting with OWNER to review preliminary sample screen formats and overall concept for screens. Discuss and agree on final requirements for all screens, trended information, and reports.

- 3) Incorporate OWNER review comments and prepare final screens, trended information, and reports.

e. Database:

- 1) Prepare an XL database for up to 20 operating and 120 manually entered laboratory data points. Prepare daily, monthly, and annual summary spreadsheet reports of the database. Include periodic archiving of reports.
- 2) Provide 10 additional trends.

f. Support and Training:

- 1) Provide 20 days of on-site support to field test software and work with Contractor.
- 2) Provide 2 days of on-site system training for OWNER's personnel. Training includes full re-installation of Wonderware in case of system crash.
- 3) Provide on-call engineering office support, at OWNER's request, to address questions that develop following system start-up. Provide 8 hours of on-call telephone assistance.
- 4) Provide documentation to OWNER consisting of Microsoft Word document of screen displays on CD and facility monitoring and control system as installed, including the database on CD. Provide two copies of each CD.

4. Start-Up and Operations Services:

- a. Receive equipment manufacturer's and vendor's operation and maintenance (O&M) data from the Contractor. Review submittals for compliance with Contract Documents. Catalog and file O&M data for distribution to OWNER and for use in preparation of the Operations Manual.

Three sets of vendor data will be received from the Contractor for each item of equipment. Once the data are approved, two copies will be mailed to the OWNER, and one copy will be maintained by ENGINEER. After completion of the Operations Manual, the OWNER will be given the ENGINEER'S copy.

- b. Provide an operations specialist who will provide leadership in the start-up of the new facilities. The specialist will be an experienced wastewater treatment professional and will have at least 20 years of experience as a wastewater treatment plant operator. The specialist will be well versed and experienced in the unique challenges accompanying facility startup.

1) Vendor Instruction Services:

- a) Coordinate presentation and scheduling of vendor O&M training sessions and notify OWNER's operating personnel when sessions will occur.
- b) Attend vendor's training on-site for 4 days to assist OWNER's operating personnel with presentation of design aspects of equipment discussed.

2) General Training Sessions:

- a) Provide four days of on-site general training sessions to orient OWNER's operating personnel in the operation of facility.
- b) Prepare training materials based on the Operations Manual prepared by ENGINEER. Provide five copies of training materials for each on-site training session.

c) The training sessions will cover new wastewater treatment processes, process equipment, electrical power distribution, and HVAC systems for new buildings.

3) On-Site Start-Up Assistance:

a) Provide on-site assistance to assist OWNER's operating personnel with the start-up of facility and to observe some of the Contractor's System Demonstration Tests.

b) For purposes of this Agreement, the following time is included which includes travel time to site:

Start-Up Assistance **40 hours**

Systems Demonstration Tests **24 hours**

4) Telephone Assistance:

a) Provide assistance by telephone to help OWNER address questions during start-up and operation.

b) The number of hours provided will be based on OWNER request. For purposes of this Agreement, **16 hours** are included:

5. Paper Operations Manual:

a. Prepare a "paper" Operations Manual for the facility. The new manual will be prepared by revising and updating the existing manual to include new processes as well as revisions to existing processes and equipment. The manual will address the major processes involved in operation of the facility. The manual will consist of a single volume that will focus on:

- 1) Functional Description of Process and Equipment
- 2) Start-up procedures
- 3) Normal operation procedures
- 4) Alternate operation procedures
- 5) Shutdown procedures
- 6) Controls
- 7) Alarms and Emergency Procedures

b. The manual will cover both new and existing equipment and facilities. Information on existing equipment and facilities will be taken from the existing manual. The manual will include information collected from vendors, designers, and engineers. Graphics will include overall process flow and component layout diagrams. The manual will include figures, tables, graphs, and photographs of all major equipment

- 1) Provide three copies of draft manual to OWNER for review.
- 2) Attend one on-site meeting with OWNER to review draft and obtain OWNER comments.
- 3) Provide three copies of final manual incorporating OWNER comments and CD containing text files in Microsoft Word.

6. Electronic Operations Manual:

- a. Prepare a computerized, electronic Operations Manual for the facility based on the paper manual.
 - 1) Manual will be produced using a browser-based format using software such as Microsoft Internet Explorer and Microsoft FrontPage.
 - 2) Electronic format will include capabilities for convenient editing and future updates to include new control parameters, equipment additions, or for inclusion of modified operating procedures.
 - 3) Manual will be able to be updated on-line and have the capability to link graphic images and other HTML files.
 - 4) Provide electronic copy of final manual to Owner.
 - 5) Attend one on-site meeting to demonstrate use of manual to OWNER.
 - 6) Manual will include electronic links to: equipment suppliers websites, record drawings, project specifications, design memo, discharge permit, training videos, and manufacturer's O&M data submittals for existing and new equipment. To provide electronic format for OWNER'S existing training videos, up to 30 existing VHS training videotapes will be converted to digital format. To provide electronic format for existing paper O&M data up to 28 manuals at 200 pages each will be scanned in black and white and pdf files created. Color scanning can be provided at an additional cost. The OWNER will furnish the existing VHS training videos and paper O&M data. It is assumed the new O&M data submittals will be received from Contractor in electronic format for inclusion in the electronic O&M manual.

7. Aerial Photograph:

- a. Provide two original color aerial photographs of facility after construction completion in frame for wall mounting.

8. Brochure:

- a. Provide 6-page (maximum) color brochure describing plant.
 - 1) Prepare draft of brochure for OWNER review.
 - 2) Attend up to two meetings with OWNER to review brochure drafts.
 - 3) Print 250 copies of final brochure and provide to OWNER.

9. Record Drawings:

- a. Receive "as-built" markup drawings prepared by Contractor. The as-built markup drawings submitted to ENGINEER shall be in accordance with the Contract Documents.
- b. Prepare record drawings based on Contractor's as-built markup drawings. Field verification is not included.
- c. Provide two sets of 11x17 draft prints of record drawings to OWNER for review. Incorporate OWNER comments into record drawings.
- d. Provide OWNER with one set of 11 x 17 paper prints and one set of 22 X 34 paper prints of final record drawings.
- e. Provide OWNER electronic copy of final record drawings in PDF format on CD disc.

**PART II
OWNER'S RESPONSIBILITIES**

OWNER shall do the following in a timely manner so as not to delay the Services of the ENGINEER:

A. OWNER'S PROJECT MANAGER (PM)

Provide OWNER's PM for the Project, who shall have the authority to transmit instructions, receive information, interpret and define OWNER's policies, and make decisions with respect to ENGINEER's services under this Agreement. The services to be provided by the OWNER's PM are as follows:

1. Review the progress schedule, schedule of shop drawing submissions, and schedule of values prepared by Contractor and consult with ENGINEER concerning their acceptability.
2. Attend and participate in a preconstruction conference.
3. Submit change orders prepared by ENGINEER to OWNER for approval.
4. Attend and participate in Contractor conducted weekly and monthly progress meetings to discuss construction progress and areas of concern.
5. Attend and participate in monthly progress meetings with RPR and ENGINEER's project manager.
6. Review and process applications for payment submitted by the Contractor for compliance with the established procedure for their submission, noting particularly their relation to the schedule of values, work completed, and materials and equipment delivered at the site but not incorporated in the work.
7. Prepare and submit to Contractor a list of items requiring completion or correction before issuing a Certificate of Substantial Completion. Issue Certificate of Substantial Completion.

B. OWNER'S INSPECTOR

1. OWNER will provide a full time inspector during the construction period.
2. Inspector will work under the direction of the RPR.

C. OTHER OWNER RESPONSIBILITIES

1. Provide such legal, accounting and insurance services as may be required for the Project.
2. Require that the Contractor performing the Work in connection with the Project hold harmless, indemnify, and defend the OWNER and ENGINEER, their consultants, and each of their officers, agents, and employees from any and all liability claims, losses or damages arising out of or alleged to arise from the Contractor's (or subcontractor's) negligence in the performance of the Work described in the construction Contract Documents, but not including liability that may be due to the sole negligence of the OWNER, ENGINEER, their consultants or their officers, agents and employees.
3. Before commencement of the Work, require that the Contractor submit written evidence that he has obtained the specified insurance coverage for the entire Project which is the subject of the construction contract. Such insurance shall include the OWNER and ENGINEER as additional named insureds. Provide copy of written evidence to ENGINEER.
4. Record vendor's training sessions if the OWNER wants them included in electronic O&M manual. Record in digital format compatible with electronic O&M manual.
5. Provide copies of Contract Documents required by Contractor during construction and as required for execution of Contract Documents.

**PART III
COMPENSATION, BILLING AND PAYMENT**

A. COMPENSATION

Compensation for the services set forth in Part I are as shown in the Agreement. A breakdown of engineering hours and costs is included in Attachment B.

B. INVOICE

The invoice will include identification of staff that charged to the project by name of individual and hours charged by that individual. The invoice will also include a summary of charges by the major scope items shown in Attachment B so that project charges versus budget can be compared.

C. ADDITIONAL SERVICES

Compensation for additional services will be negotiated between the OWNER and ENGINEER on an individual task basis.

ATTACHMENT B
Estimate of Engineering Hours and Costs
Construction Related Services for Mill Creek WRF Expansion
Lake County Department of Public Works

Scope No.	2010/2011 Hourly Charge Out Rate	Labor													Expenses			Sub Consultant	Total						
		PM	RPR	RPR	RPR	Proc	Struct	Arch	Elec	I&C	I&C	Chil	Mech	Plumb	Survey	O&M	CADD			Admin	Priting/	Travel	Misc/	Hours	\$
		\$172	\$134	\$145	\$126	\$126	\$126	\$126	\$126	\$126	\$126	\$126	\$126	\$126	\$126	\$126	\$126	\$126	\$126	\$126	\$126	\$126	\$126	\$	
1. PROJECT ADMIN & CONSTRUCTION OBSERVATION																									
1a	Project Initiation		40																						
1b	Prepare for Preconstruction Conference	8	16																						
1c	Attend Precon Conf. Followup & Mtg Minutes	16	24																						
1d	Design Transfer Conference & Followup	16	8																						
1e	Resident Project Representation		3080	24																					
1f	Survey Base Lines & Reference Elevations	2																							
2. ENGINEERING SUPPORT																									
2a1)	Project Manager	294																							
2a2)	Review Schedules	8																							
2a3)	Attend monthly progress meetings	48																							
2b)	Shop Drawing Submittal Reviews	99																							
2c2)	Contract Clarifications & Change Orders	80																							
2c3)	Designer Site Visits																								
3. I&C GRAPHICS CONFIGURATION & PROGRAMMING																									
3a,b,c,e	Configuration, Programming, & Database																								
3d	Owner Review Workshop	8																							
3f)	Field Test Software																								
3g)	Owner Training	8																							
3h)	On-Call Telephone Support																								
4. STARTUP AND OPERATIONS SERVICES																									
4a	Vendor O&M Material Review	16																							
4b1)	Vendor Instruction Services Training																								
4b2)	General Training Sessions																								
4b3)	Start-Up Assistance																								
4b3)	Systems Demonstration Assistance																								
4b4)	Telephone Assistance																								
5. PAPER OPERATIONS MANUAL																									
5	Operations Manual Preparation(paper version)	16																							
5b2)	Operations Manual Meetings with Client	8																							
6. ELECTRONIC OPERATIONS MANUAL																									
6	Operations Manual Preparation(electronic version)	8																							
6a4)	Operations Manual Meetings with Client																								
7. AERIAL PHOTOGRAPHS																									
7		4																							
8. BROCHURE																									
8a1)	Brochure Draft	16																							
8a2)	Brochure Review Meetings With Client	16																							
8A3)	Brochure Final and Printing	4																							
9. RECORD DRAWINGS																									
9a&b	Prepare Draft Record Drawings	16																							
9c	Draft Prints and Incorporate Owner Comments	8																							
9d	Final Prints	1																							
9e	Prepare pdf CD																								
TOTAL		700	3,168	24	228	253	90	182	278	1,048	70	64	62	32	746	223	339	339	9,458	7,795	8,785	3,500	7,512	994,447	

15-Nov-09