



**AGENDA ITEM EXECUTIVE SUMMARY**

Agenda Item:	Facility Plan Update - Engineering Service Contract		
Presenter & Title:	Bob VanGyseghem, Superintendent of Water and Wastewater Dan Dinges, Director of Public Works		
Date: 1/27/14			
<b><i>Please Check Appropriate Box:</i></b>			
<input checked="" type="checkbox"/>	Committee of the Whole Meeting	<input type="checkbox"/>	Special Committee of the Whole Meeting
<input checked="" type="checkbox"/>	City Council Meeting	<input type="checkbox"/>	Special City Council Meeting
<input type="checkbox"/>	Public Hearing	<input type="checkbox"/>	Other -
Estimated Cost: \$139,082		Budgeted?	<b>YES</b> <input checked="" type="checkbox"/> <b>NO</b>
<i>If NO, please explain how the item will be funded: <b>Funds will be used from the Amiad Project to cover the cost.</b></i>			
<b>Executive Summary:</b>			
<p>A Facility Plan for the Wastewater Treatment Plant was last updated in 1998. The new NPDES Permit requires the City of Geneva (Batavia, St. Charles and other Fox River Communities) to comply with new phosphorus limits because the Fox River is deficient in dissolved oxygen. In order to comply with the new phosphorus limits, improvements to the plant will be necessary. The purpose of this Facility Plan Update is to:</p> <ul style="list-style-type: none"> <li>• Evaluate the aeration system and identify improvements.</li> <li>• Evaluate phosphorus removal alternatives.</li> <li>• Evaluate Wastewater Treatment Plant capacity improvements.</li> </ul> <p>The Facility Plan Update will also look at improvements at the Water Treatment Facility. Currently we are unable to recycle water from the washwater basin because iron is not settling. The consultant will evaluate improvements to the washwater basin. The consultant will also evaluate RO reject discharge to the storm sewer. Both of these evaluations are aimed at lowering the daily average flow to the wastewater treatment plant.</p> <p>City staff went through an RFQ process which resulted in seven (7) consultants interested in providing consulting services for the Facility Plan Update. Staff selected four (4) consultants for interviews. Based on the qualifications and interviews staff selected CDM Smith for the project. CDM Smith has assisted in two previous projects for the city and staff has been satisfied with their performance. Staff has negotiated a contract with CDM</p>			

Smith for Facility Plan Update and are requesting approval to proceed.

**Attachments:** *(please list)*

- Engineering Contract
- Resolution

**Recommendation / Suggested Action:** *(briefly explain)*

Respectively recommend that the Geneva City Council award Engineering Services for the Facility Plan Update to CDM Smith at a cost Not-To-Exceed \$139,082 at the February 3, 2014 City Council Meeting.

**STANDARD FORM OF AGREEMENT  
BETWEEN  
OWNER AND ENGINEER**

THIS IS AN AGREEMENT made as of January \_\_\_\_, 2014 between City of Geneva, Illinois ("OWNER") and CDM Smith Inc. ("ENGINEER").

OWNER intends to provide engineering services related to the pilot testing of a new iron filtration system at the City of Geneva Water Treatment Plant (the "Project").

OWNER and ENGINEER in consideration of their mutual covenants herein agree in respect of the performance or furnishing of services by ENGINEER with respect to the Project and the payment for those services by OWNER as set forth below. Execution of this Agreement by ENGINEER and OWNER constitutes OWNER's written authorization to ENGINEER to proceed on the date first above written with the Services described in Article 1 below. This Agreement will become effective on the date first above written.

**ARTICLE 1 – SCOPE OF SERVICES**

- 1.1 ENGINEER agrees to perform for OWNER services as described in Exhibit A (hereinafter referred to as "Services") in accordance with the requirements outlined in this Agreement.

**ARTICLE 2 – TIMES FOR RENDERING SERVICES**

- 2.1 The specific time period for the performance of ENGINEER's Services are set forth in Exhibit A.
- 2.2 If the specific periods of time for rendering services or specific dates by which services are to be completed are changed through no fault of ENGINEER, the rates and amounts of compensation provided for herein shall be subject to equitable adjustment. If OWNER has requested changes in the scope, extent, or character of the Project, the time of performance and compensation for ENGINEER's services shall be adjusted equitably.
- 2.3 If ENGINEER's services are delayed or suspended in whole or in part by OWNER for more than three months through no fault of ENGINEER, ENGINEER shall be entitled to equitable adjustment of rates and amounts of compensation provided for elsewhere in this Agreement to reflect, among other things, reasonable costs incurred by ENGINEER in connection with such delay or suspension and reactivation and the fact that the time for performance under this Agreement has been revised

**ARTICLE 3 – OWNER'S RESPONSIBILITIES**

OWNER shall do the following in a timely manner so as not to delay the services of ENGINEER and shall bear all costs incident thereto:

- 3.1 Pay the ENGINEER in accordance with the terms of this Agreement.
- 3.2 Designate in writing a person to act as OWNER's representative with respect to the services to be performed or furnished by ENGINEER under this Agreement. Such person will have complete authority to transmit instructions, receive information, interpret, and define OWNER's policies and decisions with respect to ENGINEER's services for the Project.
- 3.3 Provide all criteria and full information as to OWNER's requirements for the Project, including, as applicable to the Services, design objectives and constraints, space, capacity and performance

requirements, flexibility and expandability, and furnish copies of all design and construction standards which OWNER will require to be included in the Drawings and Specifications.

- 3.4 Assist ENGINEER by placing at ENGINEER's disposal all available information pertinent to the Project including previous reports and, as applicable to the Services, any other data relative to design or construction of the Project, all of which ENGINEER shall be entitled to rely upon.
- 3.5 Give prompt written notice to ENGINEER whenever OWNER observes or otherwise becomes aware of any development that affects the scope or time of performance or furnishing of ENGINEER's Services or any defect or non conformance in ENGINEER's Services or in the work of any Contractor.
- 3.6 Bear all costs incident to compliance with the requirements of this Article 3.

#### **ARTICLE 4 – PAYMENTS TO ENGINEER FOR SERVICES**

- 4.1 Methods of Payment for Services of ENGINEER.
  - 4.1.1 OWNER shall pay ENGINEER for Services performed or furnished under this Agreement or as described in Exhibit A. The amount of any excise, VAT, or gross receipts tax that may be imposed shall be added to the compensation shown in Exhibit A.
  - 4.1.2 Invoices for Services will be prepared in accordance with ENGINEER's standard invoicing practices and will be submitted to OWNER by ENGINEER at least monthly. Invoices are due and payable on receipt.
  - 4.1.3 If OWNER fails to make any payment due ENGINEER for services and expenses within thirty days after receipt of ENGINEER's invoice therefor, the amounts due ENGINEER will be increased at the rate of 1.0% per month (or the maximum rate of interest permitted by law, if less) from said thirtieth day; and, in addition, ENGINEER may, after giving seven days' written notice to OWNER, suspend services under this Agreement until ENGINEER has been paid in full all amounts due for services, expenses and charges. Payments will be credited first to interest and then to principal. In the event of a disputed or contested billing, only that portion so contested may be withheld from payment, and the undisputed portion will be paid.

OWNER agrees to pay ENGINEER all costs of collection including but not limited to reasonable attorneys' fees, collection fees and court costs incurred by ENGINEER to collect properly due payments.

#### **ARTICLE 5 – GENERAL CONDITIONS**

- 5.1 Standard of Care  
The standard of care for all professional engineering and related services performed or furnished by ENGINEER under this Agreement will be the care and skill ordinarily used by members of ENGINEER's profession practicing under similar conditions at the same time and in the same locality.
- 5.2 Opinions of Probable Construction Cost  
ENGINEER's opinions of probable Construction Cost, as applicable to the Services, provided for herein are to be made on the basis of ENGINEER's experience and qualifications and represent ENGINEER's best judgment as an experienced and qualified professional engineer generally familiar with the construction industry. However, since ENGINEER has no control over the cost of labor, materials, equipment, or services furnished by others, or over the Contractor's methods of determining prices, or over competitive bidding or market conditions, or when the Project will be constructed ENGINEER cannot and does not guarantee that proposals, bids, or actual Construction Cost will not vary from opinions of probable Construction Cost prepared by ENGINEER. If OWNER wishes greater assurance

as to probable Construction Cost, OWNER shall employ an independent cost estimator.

5.3 Termination

The obligation to provide further services under this Agreement may be terminated by either party upon thirty days' written notice in the event of substantial failure by the other party to perform in accordance with the terms thereof through no fault of the terminating party. In the event of any termination, ENGINEER will be paid for all services rendered and reimbursable expenses incurred to the date of termination and, in addition, all reimbursable expenses directly attributable to termination.

5.4 Use of Documents

5.4.1 All Documents are instruments of service in respect to this Project, and ENGINEER shall retain an ownership and property interest therein (including the copyright and the right of reuse at the discretion of the ENGINEER) whether or not the Project is completed.

5.4.2 OWNER may rely upon that data or information set forth on paper (also known as hard copies) that the OWNER receives from the ENGINEER by mail, hand delivery, or facsimile, are the items that the ENGINEER intended to send. Files in electronic media format of text, data, graphics, or other types that are furnished by the ENGINEER to the OWNER are furnished only for convenience, not reliance by the OWNER. Any conclusion or information obtained or derived from such electronic files will be at the OWNER's sole risk. In all cases, the original hard copy of the documents takes precedence over the electronic files.

5.4.3 Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the OWNER agrees that it will perform acceptance tests or procedures within 60 days, after which the OWNER shall be deemed to have accepted the data thus transferred. Any transmittal errors detected within the 60-day acceptance period will be corrected by the ENGINEER.

5.4.4 When transferring documents in electronic media format, the ENGINEER makes no representations as to long-term compatibility, usability, or readability of such documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the ENGINEER.

5.4.5 OWNER may make and retain copies of documents for information and reference in connection with use on the Project by OWNER. ENGINEER grants OWNER a license to use the Documents on the Project, extensions of the Project, and other projects of OWNER, subject to the following limitations: (1) OWNER acknowledges that such Documents are not intended or represented to be suitable for use on the Project unless completed by ENGINEER, or for use or reuse by OWNER or others on extensions of the Project or on any other project without written verification or adaptation by ENGINEER; (2) any such use or reuse, or any modification of the Documents, without written verification, completion, or adaptation by ENGINEER, as appropriate for the specific purpose intended, will be at OWNER's sole risk and without liability or legal exposure to ENGINEER or to ENGINEER's Consultants; (3) OWNER shall indemnify and hold harmless ENGINEER and ENGINEER's Consultants from all claims, damages, losses, and expenses, including attorneys' fees, arising out of or resulting from any use, reuse, or modification without written verification, completion, or adaptation by ENGINEER; (4) such limited license to OWNER shall not create any rights in third parties.

5.4.6 If ENGINEER at OWNER's request verifies or adapts the Documents for extensions of the Project or for any other project, then OWNER shall compensate ENGINEER at rates or in an amount to be agreed upon by OWNER and ENGINEER.

5.5 Controlling Law

This Agreement is to be governed by the law of the principal place of business of ENGINEER.

5.6 Mutual Waiver of Consequential Damages

Notwithstanding any other provision of this Agreement to the contrary, neither party including their officers, agents, servants and employees shall be liable to the other for lost profits or any special, indirect, incidental, or consequential damages in any way arising out of this Agreement however caused under a claim of any type or nature based on any theory of liability (including, but not limited to: contract, tort, or warranty) even if the possibility of such damages has been communicated.

5.7 Limitation of Liability

In no event shall ENGINEER's total liability to OWNER and/or any of the OWNER's officers, employees, agents, contractors or subcontractors for any and all injuries, claims, losses, expenses or damages whatsoever arising out of or in any way related to this agreement from cause or causes, including, but not limited to, ENGINEER's wrongful act, omission, negligence, errors, strict liability, breach of contract, breach of warranty, express or implied, exceed the total amount of fee paid to ENGINEER under this agreement or \$50,000, whichever is greater.

5.8 Successors and Assigns

5.8.1. OWNER and ENGINEER each is hereby bound and the partners, successors, executors, administrators and legal representatives of OWNER and ENGINEER (and to the extent permitted by paragraph 5.8.2 the assigns of OWNER and ENGINEER) are hereby bound to the other party to this Agreement and to the partners, successors, executors, administrators and legal representatives (and said assigns) of such other party, in respect of all covenants, agreements and obligations of this Agreement.

5.8.2. Neither OWNER nor ENGINEER may assign, sublet or transfer any rights under or interest (including, but without limitation, moneys that may become due or moneys that are due) in this Agreement without the written consent of the other, except to the extent that any assignment, subletting or transfer is mandated by law or the effect of this limitation may be restricted by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement.

5.8.3. Unless expressly provided otherwise in this Agreement:

5.8.3.1. Nothing in this Agreement shall be construed to create, impose or give rise to any duty owed by ENGINEER to any Contractor, Subcontractor, Supplier, other person or entity, or to any surety for or employee of any of them, or give any rights in or benefits under this Agreement to anyone other than OWNER and ENGINEER.

5.8.3.2. All duties and responsibilities undertaken pursuant to this Agreement will be for the sole and exclusive benefit of OWNER and ENGINEER and not for the benefit of any other party.

5.9 Notices

Any notice required under this Agreement will be in writing, addressed to the appropriate party at the address which appears on the signature page to this Agreement (as modified in writing from time to time by such party) and given personally, by registered or certified mail, return receipt requested, by facsimile, or by a nationally recognized overnight courier service. All notices shall be effective upon the date of receipt.

5.10 Severability

Any provision or part of the Agreement held to be void or unenforceable under any law or regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and ENGINEER, who agree that the Agreement shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

5.11 Changed Conditions

If concealed or unknown conditions that affect the performance of the Services are encountered, which conditions are not ordinarily found to exist or which differ materially from those generally recognized as inherent in the Services of the character provided for under this Agreement or which could not have reasonably been anticipated, notice by the observing party shall be given promptly to the other party and, if possible, before conditions are disturbed. Upon claim by the ENGINEER, the payment and schedule shall be equitably adjusted for such concealed or unknown condition by change order or amendment to reflect additions that result from such concealed, changed, or unknown conditions.

5.12 Environmental Site Conditions

It is acknowledged by both parties that ENGINEER's scope of services does not include any services related to Constituents of Concern, as defined in Article 6. If ENGINEER or any other party encounters an undisclosed Constituent of Concern, or if investigative or remedial action, or other professional services, are necessary with respect to disclosed or undisclosed Constituents of Concern as defined in Article 6, then ENGINEER may, at its option and without liability for consequential or any other damages, suspend performance of services on the portion of the Project affected thereby until OWNER: (1) retains appropriate specialist consultant(s) or contractor(s) to identify and, as appropriate, abate, remediate, or remove the Constituents of Concern, and (2) warrants that the Site is in full compliance with applicable Laws and Regulations.

If the presence at the Site of undisclosed Constituents of Concern adversely affects the performance of ENGINEER's services under this Agreement, then the ENGINEER shall have the option of (1) accepting an equitable adjustment in its compensation or in the time of completion, or both; or (2) terminating this Agreement for cause on 30 days' notice.

OWNER acknowledges that ENGINEER is performing professional services for OWNER and that ENGINEER is not and shall not be required to become an "arranger," "operator," "generator," or "transporter" of hazardous substances, so defined in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, which are or may be encountered at or near the Site in connection with ENGINEER's activities under this Agreement.

5.13 Insurance

ENGINEER shall procure and maintain insurance for protection from claims under workers' compensation acts, claims for damages because of bodily injury including personal injury, sickness or disease or death of any and all employees or of any person other than such employees, and from claims or damages because of injury to or destruction of property.

5.14 Discovery

ENGINEER shall be entitled to compensation on a time and materials basis when responding to all requests for discovery relating to this Project and to extent that ENGINEER is not a party to the lawsuit.

5.15 Nondiscrimination and Affirmative Action

In connection with its performance under this Agreement, ENGINEER shall not discriminate against any employee or applicant for employment because of race, color, creed, religion, age, sex, marital status,

sexual orientation or affectional preference, national origin, ancestry, citizenship, physical or mental handicap or because he or she is a disabled veteran or veteran of the Vietnam era. ENGINEER shall take affirmative action to ensure that qualified applicants are employed and that employees are treated during employment without regard to their race, color, creed, religion, age, sex, marital status, sexual orientation or affectional preference, national origin, ancestry, citizenship, physical or mental handicap or because he or she is a disabled veteran or veteran of the Vietnam era. Such actions shall include recruiting and hiring, selection for training, promotion, fixing rates or other compensation, benefits, transfers and layoff or termination.

5.16 Force Majeure

Any delays in or failure of performance by ENGINEER shall not constitute a default under this Agreement if such delays or failures of performance are caused by occurrences beyond the reasonable control of ENGINEER including but not limited to: acts of God or the public enemy; expropriation or confiscation; compliance with any order of any governmental authority; changes in law; act of war, rebellion, terrorism or sabotage or damage resulting therefrom; fires, floods, explosions, accidents, riots; strikes or other concerted acts of workmen, whether direct or indirect; delays in permitting; OWNER's failure to provide data in OWNER's possession or provide necessary comments in connection with any required reports prepared by ENGINEER, or any other causes which are beyond the reasonable control of ENGINEER. ENGINEER's scheduled completion date shall be adjusted to account for any force majeure delay and ENGINEER shall be reimbursed by OWNER for all costs incurred in connection with or arising from a force majeure event, including but not limited to those costs incurred in the exercise of reasonable diligence to avoid or mitigate a force majeure event.

5.17 Waiver

Non-enforcement of any provision by either party shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Agreement.

5.18 Headings

The headings used in this Agreement are for general reference only and do not have special significance.

5.19 Subcontractors

ENGINEER may utilize such ENGINEER's Subcontractors as ENGINEER deems necessary to assist in the performance of its Services.

5.20 Coordination with Other Documents

It is the intention of the parties that if the ENGINEER's Services include design then the Standard General Conditions will be used as the General Conditions for the Project and that all amendments thereof and supplements thereto will be generally consistent therewith. Except as otherwise defined herein, the terms which have an initial capital letter in this Agreement and are defined in the Standard General Conditions will be used in this Agreement as defined in the Standard General Conditions. The term "*defective*" will be used in this Agreement as defined in the Standard General Conditions.

5.21 Purchase Order

Notwithstanding anything to the contrary contained in any purchase order or in this Agreement, any purchase order issued by OWNER to ENGINEER shall be only for accounting purposes for OWNER and the pre-printed terms and conditions contained on any such purchase order are not incorporated herein, shall not apply to this Agreement, and shall be void for the purposes of the Services performed by ENGINEER under this Agreement.

5.22 Dispute Resolution

In the event of any dispute between the parties arising out of or in connection with the contract or the services or work contemplated herein; the parties agree to first make a good faith effort to resolve the



dispute informally. Negotiations shall take place between the designated principals of each party. If the parties are unable to resolve the dispute through negotiation within 45 days, then either party may give written notice within 10 days thereafter that it elects to proceed with non-binding mediation pursuant to the commercial mediation rules of the American Arbitration Association. In the event that mediation is not invoked by the parties or that the mediation is unsuccessful in resolving the dispute, then either party may submit the controversy to a court of competent jurisdiction. The foregoing is a condition precedent to the filing of any action other than an action for injunctive relief or if a Statute of Limitations may expire.

Each party shall be responsible for its own costs and expenses including attorneys' fees and court costs incurred in the course of any dispute, mediation, or legal proceeding. The fees of the mediator and any filing fees shall be shared equally by the parties.

## ARTICLE 6 – DEFINITIONS

6.1 Whenever used in this Agreement the following terms have the meanings indicated which are applicable to both the singular and the plural.

6.1.1 Services

The services to be performed for or furnished to OWNER by ENGINEER described in this Agreement.

6.1.2 Agreement

This Agreement between OWNER and ENGINEER for Professional Services including those exhibits listed in Article 7.

6.1.3 Constituent of Concern

Any substance, product, waste, or other material of any nature whatsoever (including, but not limited to, Asbestos, Petroleum, Radioactive Material, and PCBs) which is or becomes listed, regulated, or addressed pursuant to [a] the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); [b] the Hazardous Materials Transportation Act, 49 U.S.C. §§1801 et seq.; [c] the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); [d] the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; [e] the Clean Water Act, 33 U.S.C. §1251 et seq.; [f] the Clean Air Act, 42 U.S.C. §§7401 et seq.; and [g] any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

6.1.4 Construction Cost – ♦

The total cost to OWNER of those portions of the entire Project designed or specified by ENGINEER. Construction Cost does not include ENGINEER's compensation and expenses, the cost of land, rights-of-way, or compensation for or damages to properties, or OWNER's legal, accounting, insurance counseling or auditing services, or interest and financing charges incurred in connection with the Project or the cost of other services to be provided by others to OWNER pursuant to Article 3. Construction Cost is one of the items comprising Total Project Costs.

6.1.5 Documents

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♦ This provision is applicable for projects where ENGINEER provides Design, Bidding and/or Construction Phase Services.

As applicable to the Services, the data, reports, drawings, specifications, record drawings and other deliverables, whether in printed or electronic media format, provided or furnished by ENGINEER to OWNER pursuant to the terms of this Agreement.

6.1.6 Contractor - ♦

The person or entity with whom OWNER enters into a written agreement covering construction work to be performed or furnished with respect to the Project.

6.1.7 ENGINEER's Subcontractor.

A person or entity having a contract with ENGINEER to perform or furnish Services as ENGINEER's independent professional subcontractor engaged directly on the Project.

6.1.8 Reimbursable Expenses.

The expenses incurred directly in connection with the performance or furnishing of Services for the Project for which OWNER shall pay ENGINEER as indicated in Exhibit A.

6.1.9 Resident Project Representative - ♦

The authorized representative of ENGINEER who will be assigned to assist ENGINEER at the site during the Construction Phase. The Resident Project Representative will be ENGINEER's agent or employee and under ENGINEER's supervision. As used herein, the term Resident Project Representative includes any assistants of Resident Project Representative agreed to by OWNER. The duties and responsibilities of the Resident Project Representative are set forth in Exhibit B, "Duties, Responsibilities and Limitations of Authority of Resident Project Representative" ("Exhibit B").

6.1.10 Standard General Conditions - ♦

The Standard General Conditions of the Construction Contract (No. xx) of the Engineers Joint Contract Documents Committee.

6.1.11 Total Project Costs - ♦

The sum of the Construction Cost, allowances for contingencies, the total costs of design professional and related services provided by ENGINEER and (on the basis of information furnished by OWNER) allowances for such other items as charges of all other professionals and consultants, for the cost of land and rights-of-way, for compensation for or damages to properties, for interest and financing charges and for other services to be provided by others to OWNER under Article 3.

## ARTICLE 7 – EXHIBITS AND SPECIAL PROVISIONS

- 7.1 This Agreement is subject to the provisions of the following Exhibits which are attached to and made a part of the Agreement:

Exhibit A - Engineer's Services, Owner's Responsibilities, Time for Performance, Method of Payment, and Special Provisions.

This Agreement (consisting of Pages 1 to 9 inclusive), and the Exhibits identified above constitute the entire agreement between OWNER and ENGINEER and supersede all prior written or oral understandings. This Agreement may only be amended, supplemented, modified, or canceled by a duly executed written instrument.

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♦ This provision is applicable for projects where ENGINEER provides Design, Bidding and/or Construction Phase Services.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement to be effective as of the date first above written.

OWNER:

ENGINEER:

By: \_\_\_\_\_

By: Christopher M. Martel

Title: \_\_\_\_\_

Title: Vice President

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Address for giving notices:

Address for giving notices:

City of Geneva Public Works Department  
1800 South Street  
Geneva, IL 60134

CDM Smith Inc.  
125 S. Wacker Drive - Suite 600  
Chicago, IL 60606

**EXHIBIT A  
TO AGREEMENT BETWEEN  
OWNER AND ENGINEER  
(STUDY AND REPORT)  
012213**

This is an exhibit attached to and made a part of the Agreement dated January \_\_\_\_, 2014, between City of Geneva, Illinois (OWNER) and CDM Smith Inc. (ENGINEER) for professional services.

1.0 ENGINEER'S SERVICES

1.1 Study and Report Phase

Upon this Agreement becoming effective, ENGINEER shall:

- 1.1.1 Consult with OWNER to clarify and define OWNER's requirements for the Project and review available data.
- 1.1.2 Advise OWNER as to the necessity of OWNER's providing or obtaining from others data or services which are not part of ENGINEER's Services, and assist OWNER in obtaining such data and services.
- 1.1.3 Identify and analyze requirements of governmental authorities having jurisdiction to approve the portions of the Project specified by ENGINEER with whom consultation is to be undertaken in connection with the Project.
- 1.1.4 Evaluate various alternate solutions available to OWNER as described herein, and, after consultation with OWNER, recommend to OWNER those solutions which in ENGINEER's judgment best meet OWNER's requirements for the Project.
- 1.1.5 Prepare a report (the "Report") which will contain the statement of OWNER's requirements for the Project and, as appropriate, will contain schematic layouts, sketches and conceptual design criteria with appropriate exhibits to indicate the considerations involved and those alternate solutions available to OWNER which ENGINEER recommends. This Report will be accompanied by ENGINEER's opinion of Total Project Costs for each solution which is so recommended for the Project, including the following: opinion of probable Construction Cost, allowances for contingencies including costs of design professional and related services based on information furnished by OWNER for allowances and other items and services included within the definition of Total Project Costs.
- 1.1.6 Furnish the Report to and review it with OWNER.
- 1.1.7 Revise the Report in response to OWNER's comments, as appropriate, and furnish final copies of the Report in the number set forth herein.
- 1.1.8 Submit the Report within the stipulated period indicated herein.

- 1.1.9 ENGINEER's Services under the Study and Report Phase will be considered complete at the earlier of (1) the date when the Report has been accepted by OWNER or (2) thirty days after the date when such Report is delivered to OWNER for final acceptance, plus in each case such additional time as may be considered reasonable for obtaining approval of governmental authorities having jurisdiction to review the portions of the Project specified by ENGINEER, if such approval is to be obtained during the Study and Report Phase.

The duties and responsibilities of ENGINEER during the Study and Report Phase as set forth in this paragraph 1.1 are amended and supplemented as follows:

See **Exhibit A - Attachment A1** for specific scope of work

## 2.0 OWNER'S RESPONSIBILITIES

- 2.1 Furnish to ENGINEER, as requested by ENGINEER for performance of Services as required by the Contract Documents, the following:
  - 2.1.1 Data prepared by or services of others, including without limitation explorations and tests of subsurface conditions at or contiguous to the site, drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site, or hydrographic surveys;
  - 2.1.2 The services of an independent testing laboratory to perform all inspections, tests and approvals of samples, materials and equipment;
  - 2.1.3 Appropriate professional interpretation of all of the foregoing;
  - 2.1.4 Environmental assessments, audits, investigations and impact statements, and other relevant environmental or cultural studies as to the Project, the site and adjacent areas;
  - 2.1.5 Field surveys for design purposes and property, boundary, easement, right-of-way, topographic and utility surveys or data, including relevant reference points;
  - 2.1.6 Property descriptions;
  - 2.1.7 Zoning, deed and other land use restrictions; and
  - 2.1.8 Other special data or consultations not covered in Article 1.0.

OWNER shall be responsible for, and ENGINEER may rely upon, the accuracy and completeness of all reports, data, and other information furnished pursuant to this paragraph. ENGINEER may use such reports, data, and information in performing or furnishing services under this Agreement.

- 2.2 Provide access to and make all provisions for ENGINEER to enter upon public and private property as required for ENGINEER to perform services under this Agreement.
- 2.3 Provide labor and safety equipment to open and protect manholes and/or to operate valves and hydrants as required by the ENGINEER.
- 2.4 Provide, as may be required for the Project:
  - 2.4.1 Accounting, bond and financial advisory, independent cost estimating and insurance counseling services;

- 2.4.2 Such legal services as OWNER may require or ENGINEER may reasonably request with regard to legal issues pertaining to the Project, including any that may be raised by Contractor; and
- 2.4.3 Such auditing services as OWNER may require to ascertain how or for what purpose Contractor has used the moneys paid on account of the Contract Price.
- 2.5 Bear all costs incident to compliance with the requirements of the OWNER's Responsibilities.

The OWNER's responsibilities as set forth in this paragraph 2.0 are amended and supplemented as follows:

All laboratory costs associated with the study.

### 3.0 TIME PERIOD FOR PERFORMANCE

The time periods for the performance of ENGINEER's Services as set forth in Article 2 of said Agreement are as follows:

Task deliverables to be completed as agreed upon in project schedule mutually agreed upon at project kickoff meeting. Services shall be completed no later than December 31, 2014.

### 4.0 METHOD OF PAYMENT

The method of payment for Services rendered by ENGINEER shall be as set forth below:

For the Basic Services performed under Section 1, the OWNER agrees to pay the ENGINEER the lump sum fee of \$139,082, partial payments to be made on a monthly basis in proportion to the percentage of work completed on each task and the balance of payment made when the Study is complete. See **Exhibit A - Attachment A2** for task breakdown.

### 5.0 SPECIAL PROVISIONS

The following special provisions and/or other considerations or requirements are applicable to their Agreement:

None

# City of Geneva

## Water & Wastewater Facility Plan Update

### Scope of Work

This scope of work is for professional engineering services for the City of Geneva’s Water and Wastewater Facility Plan Update. This project is divided into the following tasks:

- Task 1 – Evaluate Aeration System and Identify Improvements
- Task 2 – Evaluate Phosphorus Removal Alternatives
- Task 3 – Coordinate with Huff & Huff Regarding Local Pretreatment Limits
- Task 4 – Evaluate Radium Removal Alternatives
- Task 5 – Evaluate Filter Backwash Recovery Basin Improvements
- Task 6 – Evaluate RO Reject Discharge to the Storm Sewer
- Task 7 – Evaluate WWTP Capacity Improvements
- Task 8 – Prepare Draft and Final Facility Plan Update
- Task 9 – Project Management and Meetings

#### **Task 1 – Evaluate Aeration System and Identify Improvements**

CDM Smith will complete the following tasks:

##### **Task 1.1: Collect and Review Aeration System Data**

CDM Smith will collect the following data and information:

- Record drawings for the WWTP;
- Shop drawings for the existing air diffuser system;
- Shop drawings for the existing air blowers;
- Provide expected future flows for the WWTP to be used for the design criteria; and
- Operational data related to blower flows and DO levels in the existing aeration tanks.

##### **Task 1.2: Evaluate the Existing Aeration Blowers**

The existing blowers will be evaluated as they are underperforming relative to the original design intent. CDM Smith will contact the blower manufacturer to obtain the performance curves for the blowers, if not available. CDM Smith will perform a blower evaluation of the different applicable technologies for the WWTP including the following options:

- Refurbish the existing blowers and supplement additional air with surface aerators.
- Replace the existing blowers with:
  - High speed turbo units

- Single stage centrifugal units
- Positive Displacement (PD) units.

A life cycle cost evaluation for the different blower alternatives will be performed.

### **Task 1.3: Evaluate the Existing Air Delivery Piping, Air Control Valves, and Air Diffusers**

The air delivery piping supplies air to the aeration basins, the grit removal system, and the sidestream tank. This system will be evaluated for its adequacy to deliver the proper air flows to each process.

The air diffusers for the aeration basin as well as the sidestream tank will be evaluated for the current and future conditions. Alternatives for improving diffuser transfer efficiency may include changes in diffuser density and air header pipes. An evaluation of different process control instruments for air improvements will also be conducted.

This task will be coordinated with Tasks 2, 3, and 7 relative to future air requirements for phosphorus removal and overall plant capacity.

### **Task 1.4: Develop Implementation Plan**

As part of the overall implementation plan for this project, CDM Smith will provide a recommended plan for aeration system improvements. The implementation plan will include preliminary layout for the improvements, a preliminary cost estimate, and discussions of consideration for construction staging and maintaining operations of the WWTP.

#### **Deliverables:**

- Aeration System Assessment and Recommendations Technical Memorandum

#### **Meetings:**

- Aeration System Review Meeting

## **Task 2 – Evaluate Phosphorus Removal Alternatives**

CDM Smith will complete the following tasks:

### **Task 2.1: Collect and Review Data**

CDM Smith will collect the following data and information:

- Existing influent phosphorus levels;
- WWTP operational data regarding phosphorus removal; and
- Other applicable data and information.

CDM Smith will also use the Draft NPDES permit effluent limitations coupled with the flow projections to provide design criteria within the planning period.

### **Task 2.2: Process Modeling to Evaluate Biological and Chemical Phosphorus Removal**

CDM Smith will utilize the BioWin ® process simulation model as well as other capacity evaluation techniques for this task. The model will be developed and calibrated to Level 2 standards, per Methods



for Wastewater Characterization in Activated Sludge- Water Environment Research Foundation (WERF) 2003; for the Geneva WWTP to simulate the existing facilities and then project performance under future design conditions. These simulations will assist in evaluation of process modifications to meet the anticipated future limits.

In order for CDM Smith to calibrate the model to Level 2 standards, a two week sampling campaign is required. CDM Smith will design a two-week intensive sampling effort to more accurately characterize the raw influent and primary effluent. CDM Smith will work with the City to implement the intensive sampling. It is assumed that the City will take the lead in collecting samples and sending them out for analysis, while an outside laboratory would complete the required analyses. In addition, it is recommended that the City start collecting daily (during the weekdays) MLSS and MLVSS data representative in the aeration basin to supplement the existing data as well as TP, OP, and TN data on the influent an effluent.

### **Task 2.3: Chemical Phosphorus Removal Bench-Scale Jar Tests**

Under this task, bench-scale jar tests will be performed in the laboratory to confirm chemical usage and solids production. It is anticipated that a total of 12 jar tests will need to be performed to create a curve relating phosphorus removal versus the metal salt dosage. Jar tests will be performed twice on the influent, mixed liquor and secondary effluent using both alum and ferric chloride. This testing will be done by CDM Smith using equipment and facilities provided or made available by the City at the WWTP. The testing protocol will be provided by CDM Smith. Analytical analysis will be done by an outside lab paid for by the City.

### **Task 2.4: Evaluate Phosphorus Removal Alternatives**

Based on the results of the previous sub-tasks, CDM Smith will evaluate phosphorus removal improvements, specifically:

- Optimize the volume of the aeration basin treatment zone to incorporate Enhanced Biological Phosphorus Removal (EBPR) by creating a pre-anaerobic zone within the reactor (A/O process)
- Provide multiple metal salt feed locations to minimize chemical usage and solids production and achieve phosphorus limits
- Evaluate effects of phosphorus-rich sidestream treatment

CDM Smith will identify chemical phosphorus removal approaches including sidestream treatment alternatives. Alternative combinations of biological process improvements, chemical process improvements, and solids process improvements may be identified as required to achieve the effluent goals.

To meet a lower limit of phosphorus to meet future regulations, CDM Smith will evaluate additional alternatives for phosphorus removal, including:

- Optimize the potentially implemented EBPR process to maximize phosphorus removal.
- Implement a tertiary solids removal process coupled with chemical phosphorus removal.

## **Task 2.5: Develop Implementation Plan**

As part of the overall implementation plan for this project, CDM Smith will provide a recommended plan for meeting the phosphorus limits for the updated NPDES permit and also cost and implementation requirements for meeting a lower limit in the future. The implementation plan will include preliminary layout for the improvements, a preliminary cost estimate, and discussions of consideration for construction staging and maintaining operations of the WWTP.

### **Deliverables:**

- Phosphorus Removal Alternatives Technical Memorandum
- BioWin Model Data
- Phosphorus Removal Alternatives Memorandum of Understanding to Meet NPDES Permit Limit submitted to the Illinois EPA.

### **Meetings:**

- Phosphorus Removal Alternatives Workshop Meeting

## **Task 3 - Coordinate with Huff & Huff Regarding Local Pretreatment Limits**

The City of Geneva will retain Huff & Huff to update the previous study related to local pretreatment limits. Following update of the previous study, the City will provide CDM Smith with an updated copy of this report. CDM Smith will review the report and assess the impacts to the Facility Plan Update, specifically the WWTP Capacity. There are no specific deliverables or meetings as part of this task; however, CDM Smith will coordinate as necessary with Huff & Huff, so both firms can complete their projects as required.

### **Deliverables:**

- CDM Smith Review and Assessment of the Impacts of the Updated Huff & Huff Report

## **Task 4 - Evaluate Radium Removal Alternatives**

CDM Smith will complete the following tasks:

### **Task 4.1: Collect and Review Additional Site Data**

CDM Smith will collect additional site data to support the development of radium removal alternatives. The additional data is expected to include:

- Historical radium levels, on a monthly average basis as available, for the following: all of the deep wells; RO feed, RO reject, and WTP discharge to sewer (where available); WWTP sludge, and field land applications from 5 years prior to the operation of the new WTP to present. Should historical data not be readily available, samples will need to be taken by City of Geneva WTP staff (and analyzed by others where necessary) as part of this project.
- Historical flow data for the WTP including shallow well, deep well, raw water, finished water, reject water sent to wastewater plant, and gallons pumped from backwash recovery basin.
- Historical water quality data from the WTP including but not limited to: uranium, gross alpha, barium, sulfate, iron (total and dissolved), phosphate, strontium, calcium, magnesium, manganese, pH, total dissolved solids (TDS), total suspended solids (TSS), alkalinity, hardness,

pH, turbidity, and temperature. Data is required for the following treatment stages: shallow wells, deep wells, raw water (deep and shallow well blend), RO feed, RO reject, finished water, reject water sent to WWTP and backwash recovery basin effluent. If this historical data is not available, samples will need to be taken by City of Geneva WTP staff and analyzed by others where necessary.

- Historical operating information, as available, regarding operation of deep wells. This would include the frequency of well operation and gallons pumped on a monthly basis from 5 years prior to the new operations of the WTP to the present.
- Annual cost of WWTP sludge disposal

#### **Task 4.2: Develop and Evaluate Radium Removal Alternatives**

CDM Smith will develop a series of radium removal alternatives with the intent of reducing the total amount of radium discharged in the sludge of the WWTP. These alternatives will be discussed at the project kick-off meeting, but are expected to include the following:

- Removal of radium from the RO concentrate using chemical precipitation (see Task 4.3)
- Removal of radium via deep-well injection
- Removal from raw well water by adsorptive ion exchange
- Reduction of radium in WTP raw water by modification of well operations
- Discharge to storm sewer (see Task 6)

CDM Smith will develop a basis of design table suitable for conceptual level cost estimation of each of these alternatives. Cost estimation will be performed on a life cycle basis using goals outlined by CDM Smith and Geneva in the kick-off meeting. CDM Smith will detail a life-cycle cost estimate for the above alternatives to be compared on a life cycle cost basis with the existing means of radium disposal. CDM Smith will then compare life-cycle cost data for each alternative with a qualitative assessment of their ability to meet the project goals of Geneva established as part of the kickoff meeting. CDM Smith will prepare a technical memorandum that summarizes the results from the alternatives evaluation and recommends an alternative for implementation.

#### **Task 4.3: Develop Implementation Plan**

As part of the overall implementation plan for this project, CDM Smith will provide a recommended plan for implementation of the recommended radium removal alternative. The implementation plan will include a preliminary cost estimate and timetable for implementation of improvements.

#### **Deliverables:**

- Radium Removal Alternatives Technical Memorandum

#### **Meetings:**

- Radium Removal Alternatives Review Meeting

### **Task 5 - Evaluate Filter Backwash Recovery Basin Improvements**

CDM Smith will complete the following tasks:

### **Task 5.1: Collect and Review Additional Site Data**

CDM Smith will collect additional site data to support the development of alternative improvement strategies. The additional data is expected to include:

- Record drawings and equipment cutsheets for the existing backwash recovery basin and support facilities.
- Historical operating information, as available, regarding backwash of the greensand filters and operation of the backwash recovery basins. This would include historical data from operation of the backwash recovery basins after initial commissioning of the WTP.
- Additional water quality sampling of the performance of the recovery basin during and after a filter backwash to confirm the results obtained during the April 2013 Amiad filter pilot test. The sampling is proposed to include, at a minimum, iron and SDI testing. Sample analysis is assumed to be conducted by Geneva WTP staff.

### **Task 5.2: Develop and Evaluate Improvement Alternatives**

CDM Smith will develop alternative strategies for improving the operation of the backwash recovery basin. These alternatives will be discussed at the project kick-off meeting, but are expected to include the following:

- New baffle configuration to reduce basin inflow velocities that scour settled iron back into suspension. CDM Smith proposes as an optional task to use computational fluid dynamics (CFD) modeling to optimize configuration of the baffle improvements (See below).
- Reconfiguration of the backwash reclamation basin and addition of new pumps to create separate equalization and settling zones.
- Use of operational strategies, such as “resting” of the reclamation basin following filter backwash, to improve basin operation.
- Discharge to storm sewer (see Task 6)

CDM Smith will develop conceptual level design of these alternatives. CDM Smith will then develop a benefit-cost evaluation to compare the alternatives based upon an estimate of the implementation cost along with a qualitative assessment of their ability to meet the project goals of Geneva established as part of the kickoff meeting. CDM Smith will prepare a technical memorandum that summarizes the results from the alternatives evaluation and recommends an alternative for implementation.

### **Task 5.3: Develop Implementation Plan**

As part of the overall implementation plan for this project, CDM Smith will provide a recommended plan for implementation of the recommended alternative for the improvements to the backwash reclamation basin. The implementation plan will include preliminary layout for the improvements, a preliminary cost estimate, and discussions of consideration for construction staging and maintaining operations of the water treatment process.

#### **Deliverables:**

- Backwash Recovery Basin Improvements Technical Memorandum

#### **Meetings:**

- Backwash Recovery Basin Improvements Review Meeting

## **Task 6 - Evaluate RO Reject and Backwash Water Discharge to Storm Sewer**

CDM Smith will complete the following tasks:

### **Task 6.1: Collect and Review Site Data**

CDM Smith will collect site data to support the development of this alternative. The data is expected to include:

- Water quality data for RO reject and discharge from WTP
- Stormwater quality data, where available
- Sewer collection system map showing discharge network from WTP to Fox River.
- If available, provide storm sewer capacity information
- Provide any storm sewer meter data expressed in total volume per day, where possible and indicate location on above map. Provide data as a total daily volume of discharge to river, where possible.

### **Task 6.2: Evaluate RO Reject and Backwash Water Discharge to Storm Sewer**

Based on the data collected under Task 6.1, CDM Smith will evaluate the discharge of RO reject and filter backwash water to the storm sewer. CDM Smith will contact IEPA to discuss the feasibility of discharge to the storm sewer and will also review applicable rules and regulations and permitting requirements including MS4 discharge permitting requirements. If this option seems feasible, CDM Smith will review next steps with the City of Geneva, including the evaluation of the capacity of the storm sewer. At this point, this task includes no storm sewer modeling effort.

#### **Deliverables:**

- Evaluation of Storm Sewer Discharge of RO Reject and Backwash Water Technical Memorandum
- Radium Removal Alternatives Review Meeting (as described under Task 4)

#### **Meetings:**

- Radium Removal Alternatives and Backwash Recovery Basin Improvements Review Meeting (as described under Task 4 and 5)

## **Task 7 - Evaluate WWTP Capacity Improvements**

CDM Smith will complete the following tasks:

### **Task 7.1: Collect and Review Data**

CDM Smith will collect data on the existing WWTP unit processes and also previous hydraulic capacity assessments and reports completed for the WWTP.

- Record drawing and equipment cutsheets for the unit processes.
- Historical operating information, as available, and previous reports and capacity assessments.

### **Task 7.2: Conduct Site Visit to Review WWTP Unit Processes**

CDM Smith will conduct a site visit to review WWTP unit processes, including liquid and solids trains. During the site visit, CDM Smith will meet with Operations and Maintenance Staff to gather any available information regarding the condition and/or capacity limitations of existing unit processes.

### **Task 7.3: Conduct Unit Processes Capacity Evaluation**

CDM Smith will conduct review available capacity information for each existing unit process. CDM Smith will also compare the loadings and capacity assessments of the liquid treatment and solids handling facilities against industry recommended standards and develop final recommendations regarding capacity.

CDM will develop a technical memorandum identifying the capacity of the unit processes and overall WWTP capacity. The capacity will be compared to projected flows provided by the City. Unit processes that require upgrades to meet the projected flows will be identified. The capacity assessment will not include stress testing, hydraulic modeling, or detailed evaluations. Any additional studies or investigations to determine the capacity of a particular unit or system will be identified as part of this project.

#### **Deliverables:**

- WWTP Capacity Technical Memorandum

#### **Meetings:**

- Site visit to review WWTP processes
- Review Meeting to discuss WWTP capacity

### **Task 8 – Develop Facility Plan Update Report**

CDM Smith will complete the following tasks:

8.1 Develop a Facility Plan Update Report that summarizes the recommended implementation plan for the water and wastewater plant improvements. The report will include the following:

- A summary of recommended improvements at the water and wastewater plants
- Updated process flow diagrams for the water and wastewater plants
- A summary of recommended pilot and bench testing, if applicable
- An implementation plan that summarizes how the recommended improvements could be integrated into the existing facilities with minimal interruption to plant operation
- A summary of phase improvements for priority components
- A preliminary implementation schedule
- A conceptual-level opinion of the probable cost of the recommended improvements with input from CDM Smith's construction subsidiary, CDM Constructors Inc. (CCI)
- Prepare draft Report.

8.2 Plan, schedule, facilitate, and document the results of a meeting with the City to discuss the draft Report.

8.3 Incorporate comments from the City into a final Report.

**Deliverables:**

- Draft Facility Plan Update Report
- Final Facility Plan Update Report

**Meetings:**

- Meeting with City staff to discuss the draft Report

**Task 9 – Project Management and Meetings**

CDM Smith will complete the following tasks:

9.1 Hold kick-off meeting with the City to review project tasks, goals, City expectations, and project schedule.

9.2 Continually assess the expectations of the City and manage the scope, schedule, and budget to meet these expectations.

9.3 Facilitate communications between Project Stakeholders.

9.4 Coordinate and manage the activities of Project Team members.

9.5 Monitor and maintain strict adherence to the established quality assurance standards.

9.6 Implement internal Technical Review Committee review of project components.

9.7 Prepare monthly status reports of Project progress, expenditures to date, cost-to-budget information, and submit in conjunction with monthly service invoice.

9.8 Prepare appropriate meeting materials as necessary to support meetings and document the results in the form of meeting summaries.

9.9 Immediately advise the City project team when established project expectations cannot be met.

9.10 Plan, schedule, facilitate, and document the results of monthly status meetings with the City.

9.11 Identify funding opportunities available to the City, including energy efficiency grants related to aeration improvements as well as IEPA SRF Loan funds available from the state.

**Deliverables:**

- Monthly Progress Report and Service Invoices, including Scope, Schedule, and Cost-to-Budget Updates
- Meeting Summaries
- Funding Opportunities Memorandum

**Meetings:**

- Kickoff Meeting with City Staff
- Status review meetings with City Staff.





**RESOLUTION NO. 2014\_ -\_\_**

**RESOLUTION AUTHORIZING EXECUTION OF  
Contract for Facility Plan Update**

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**BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GENEVA, KANE COUNTY, ILLINOIS**, as follows:

**SECTION 1:** That the City Administrator is hereby authorized to execute, on behalf of the City of Geneva, a contract with CDM Smith, in the form attached hereto as Exhibit "A", relating to the Facility Plan Update.

**SECTION 2:** This Resolution shall become effective from and after its passage as in accordance with law.

**PASSED** by the City Council of the City of Geneva, Kane County, Illinois, this \_\_\_\_ day of \_\_\_\_\_, 2014

**AYES: \_\_ NAYS: \_\_ ABSENT: \_\_ ABSTAINING: \_\_ HOLDING OFFICE: \_\_**

Approved by me this \_\_\_\_ day of \_\_\_\_\_, 2014.

\_\_\_\_\_  
Mayor

ATTEST:

\_\_\_\_\_  
City Clerk