

PUBLIC WORKS & UTILITIES COMMITTEE

14-0159R

RESOLUTION AUTHORIZING AN AGREEMENT WITH MSA PROFESSIONAL SERVICES, INC., FOR PROFESSIONAL SERVICES IN THE PHASE I MECHANICAL SYSTEMS EVALUATION OF THE HVAC SYSTEM AT LAKEWOOD WATER TREATMENT FACILITY FOR AN AMOUNT NOT TO EXCEED \$49,900.

CITY PROPOSAL:

RESOLVED, that the proper city officials are hereby authorized to enter into an agreement with MSA Professional Services, Inc., substantially in the form of that on file in the office of the city clerk as Public Document No. \_\_\_\_\_, for professional services in the Phase I mechanical systems evaluation of the HVAC (heating, ventilation, and air conditioning) system as the city's Lakewood water treatment facility, located at 8130 Congdon Boulevard, for an amount not to exceed \$49,900, payable from the Water Fund 510, Public Works and Utilities 500, Capital 1905, Capital Improvements-Revenue 5533, Project Util-1340.

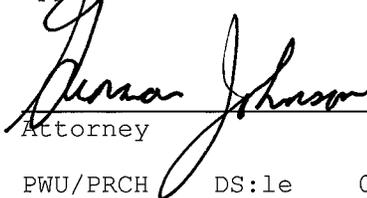
Approved:

  
Department Director  
  
Purchasing Agent

Approved for presentation to council:

  
Chief Administrative Officer

Approved as to form:

  
Attorney

Approved:

  
Auditor

PWU/PRCH DS:le 04/03/2014

STATEMENT OF PURPOSE: This resolution will authorize a contract with MSA Professional Services, Inc., in the amount of \$49,900 for professional services

to evaluate the HVAC mechanical systems at the Lakewood water treatment plant. Services will include a site investigation and review of existing systems and development of proposed recommendations and constructions costs to implement.

It is imperative that a properly engineered HVAC system be utilized to prevent further structural damage to the 37-year-old water treatment plant structure. The need to adequately control the interior environment of the water plant has become increasingly essential, as upgrades to critical process equipment have been implemented to maintain the stringent state and federal drinking water standards.

In addition to water plant employees dealing with temperature and humidity fluctuations in their work environment, there are safety concerns with the heating system itself. Portions of the climate control system have failed throughout the building causing damage to new electrical and chemical feed equipment. While damaged equipment can be repaired or replaced, the cost effectiveness of continually repairing or replacing such equipment would be mitigated if the root problem were addressed. The life span and reliability of critical equipment has decreased and the longevity of the facility itself is in question if the proper environment is not maintained throughout the water plant.

Requisition 14-0268

**PROFESSIONAL ENGINEERING SERVICES AGREEMENT**

**ENGINEER & CITY OF DULUTH**

This agreement is made this \_\_\_\_\_ day of \_\_\_\_\_, 2014, by and between the City of Duluth, Minnesota hereinafter referred to as the "City" and:

Name: **MSA Professional Services, Inc.**  
Address: 408 Board of Trade Building  
301 West First Street  
Duluth, MN 55802

hereinafter referred to as the "Engineer," in consideration of the mutual promises contained herein. This agreement consists of seven sections, a total of (insert number of pages) pages including two exhibits A and B, and any Addendum attached.

Payments hereunder, in the estimated amount of **Forty-Nine and Nine-Hundred Dollars (\$49,900)** shall be made from the Water Fund 510, Public Works & Utilities 500, Capital 1905, Capital Improvements-Revenue 5533, Vendor Code 2012, and Requisition Number 14-0268.

The professional engineering services obtained by the City under this agreement concern the following described project hereinafter referred to as the "Project":

File Number            14-0268  
Project Number        1340  
Project Name           **Lakewood Water Treatment HVAC System Improvements**  
Project                 Phase I Mechanical Systems Evaluation for HVAC (Heating-Ventilation-Air Conditioning)  
Description            system at Lakewood Water Treatment Facility, located at 8130 Congdon Boulevard in  
Duluth, Minnesota.

The professional engineering services to be provided under this agreement consist of those phases A through I checked below. A more particular description of each phase is contained in Section II, "Basic Services," of the agreement.

Phase	Description	Status
<input checked="" type="checkbox"/> A	Study and Report Phase	Applicable
<input type="checkbox"/> B	Preliminary Survey Phase	N/A at this time
<input type="checkbox"/> C	Preliminary Design Phase	N/A at this time
<input type="checkbox"/> D	Final Design Phase	N/A at this time
<input type="checkbox"/> E	Bidding Phase	N/A at this time
<input type="checkbox"/> F	Construction Survey and Layout Phase	N/A at this time
<input type="checkbox"/> G	Construction Inspection Phase	N/A at this time
<input type="checkbox"/> H	Additional Services	N/A at this time

**SECTION I. GENERAL**

**A) ENGINEER**

The Engineer shall provide professional engineering services for the City in all phases of the Project to which this agreement applies, serve as the City's professional engineering representative for the Project as set forth below and shall give professional engineering consultation and advice to the City during the performance of services hereunder. All services provided hereunder shall be performed by the Engineer in accordance with generally accepted Engineering standards to the satisfaction of the City.

**B) NOTICE TO PROCEED**

The Engineer shall only begin performance of each Phase of work required hereunder upon receipt of a written Notice to Proceed by City representative with that Phase.

- C) **TIME**  
The Engineer shall begin work on each successive phase promptly after receipt of the Notice to Proceed and shall devote such personnel and materials to the Project so as to complete each phase in an expeditious manner within the time limits set forth in Section II. Time is of the essence to this agreement.
- D) **CITY'S REPRESENTATIVE**  
The City's representative to the Engineer shall be the City Engineer or his or her designees assigned in writing.
- E) **ENGINEERING GUIDELINES**  
All work performed as part of this project shall conform to the most current edition of the Engineering Guidelines for Professional Engineering Services and Developments as approved by the City Engineer and on file in the office of the City Engineer.

**SECTION II. BASIC SERVICES**

A) **STUDY AND REPORT PHASE**

- Included in this agreement
- Not included in this agreement

The Engineer shall:

- 1) City's Requirements  
Review available data and consult with the City to clarify and define the City's requirements for the Project.
- 2) Advise regarding Additional Data  
Advise the City as to the necessity of the City's providing or obtaining from others data or services of the types described in Section IV.C, in order to evaluate or complete the Project and, if directed by the City's representative, act on behalf of the City in obtaining other data or services.
- 3) Technical Analysis  
Provide analysis of the City's needs, planning surveys, site evaluations, and comparative studies of prospective sites and solutions.
- 4) Economic Analysis  
Provide a general economic analysis of various alternatives based on economic parameters and assumptions provided by the City.
- 5) Report Preparation  
Prepare a report containing schematic layouts, sketches and conceptual design criteria with appropriate exhibits to indicate clearly the considerations involved and the alternative solutions available to the City and setting forth the Engineer's findings and recommendations with opinions of probable total costs for the Project, including construction cost, contingencies, allowances for charges of all professionals and consultants, allowances for the cost of land and rights-of-way, compensation for or damages to properties and interest and financing charges (all of which are hereinafter called "Project Costs").
- 6) Report Presentation  
Furnish three copies of the report and present and review the report in person with the City as the City Representative shall direct. The cost of report reproduction shall be considered a reimbursable expense and paid in accordance with Section VI.C of this agreement.
- 7) Supplementary Duties  
The duties and responsibilities of Engineer during the Study and Report Phase shall also include any additional duties and responsibilities to be provided pursuant to the Engineer's proposal attached as Exhibit B.
- 8) Completion Time  
The Study and Report Phase shall be completed and report submitted six weeks after the execution date of this contract.

B) **PRELIMINARY SURVEY PHASE – Not applicable in Phase I Services**

- Included in this agreement  
 Not included in this agreement

After written authorization by the City's representative to proceed with the preliminary survey phase, the Engineer shall:

- 1) General  
Perform topographic survey as necessary to prepare the design and provide Construction Survey and Layout as described in Section II.F
- 2)  Boundary Survey  
Perform boundary survey if checked.
- 3) Document Presentation  
Furnish a CADD file of the survey base map to the City. Files shall be in the software specified in the Engineering Guidelines for Professional Engineering Services and Developments described in Section I.E.
- 4) Supplementary Duties  
The duties-responsibilities of the Engineer during the preliminary survey phase shall also include any additional duties and responsibilities to be provided pursuant to the Engineer's proposal attached as Exhibit B.
- 5) Completion Time  
The preliminary survey phase shall be completed and submitted by **N/A**.

C) **PRELIMINARY DESIGN PHASE – Not applicable in Phase I services.**

- Included in this agreement  
 Not included in this agreement

After written authorization by the City's Representative to proceed with the Preliminary Design Phase, the Engineer shall:

- 1) Preliminary Design Documents  
Prepare preliminary design documents consisting of final design criteria, preliminary drawings and outline specifications.
- 2) Revised Project Costs  
Based on the information contained in the preliminary design documents, submit a revised opinion of probable Project costs.
- 3) Document Presentation  
Furnish three copies of the above preliminary design documents and present and review such documents in person with the City as the City Engineer may direct. The cost of document reproduction shall be considered to be a reimbursable expense and paid in accordance with Section VI.C of this agreement.
- 4) Supplementary Duties  
The duties and responsibilities of the Engineer during the Preliminary Design Phase shall also include any additional duties and responsibilities to be provided pursuant to the Engineer's proposal attached as Exhibit B.
- 5) Completion Time  
The Preliminary Design Phase shall be completed and report or plan submitted by **N/A**.

D) **FINAL DESIGN PHASE - Not applicable in Phase I services**

- Included in this agreement  
 Not included in this agreement

- 1) Drawings and Specifications  
On the basis of the accepted preliminary design documents and the revised opinion of probable Project costs, prepare for incorporation in the contract documents Construction Plans to show the character and extent of the Project and specifications.
- 2) Approvals of Governmental Entities

Furnish to the City such documents and design data as may be required for, and prepare the required documents so that the City may apply for approvals and permits of such governmental authorities as have jurisdiction over design criteria applicable to the Project, and assist in obtaining such approvals by participating in submissions to and negotiations with appropriate authorities.

3) Adjusted Project Costs

Advise the City of any adjustments to the latest opinion of probable Project costs, identify cause of change and furnish a revised opinion of probable Project cost based on the drawings and specifications.

4) Contract Document Preparation

Prepare for review and approval by the City, its Attorney and other advisors, contract agreement forms, general conditions and supplementary conditions and (where requested) bid forms, invitations to bid and instructions to bidder, including for federally funded Projects, all documentation, including wage determinations, in order to comply with Davis-Bacon Act or City code requirements, and assist in the preparation of other related contract documents. To the extent possible, the Engineer will follow the document format supplied by the City and use the standard terms and conditions supplied by the City in preparation of these documents.

5) Document Presentation

Furnish three copies of the above documents and present and review them in person with the City. The cost of document reproduction shall be considered to be a reimbursable expense and paid in accordance with Section VI.C of this agreement.

6) Supplementary Duties

The duties and responsibilities of the Engineer during the Final Design Phase shall also include any additional duties and responsibilities to be provided pursuant to the Engineer's proposal attached as Exhibit B.

7) Completion Time

The Final Design Phase shall be completed and contract documents submitted by **N/A**.

E) **BIDDING PHASE – Not applicable in Phase I services**

Included in this agreement

Not included in this agreement

The Engineer shall:

1) Assist in Bidding

Assist the City in obtaining bids for each separate City contract for construction, materials, equipment and services.

2) Advise Regarding Contractors and Subcontractors

Consult with and advise the City as to the acceptability of subcontractors and other persons and organizations proposed by the City's contractor(s) (hereinafter called "Contractor(s)" for those portions of the work as to which such acceptability is required by the bidding documents).

3) Consult regarding Substitutes

Consult with and advise the City as to the acceptability of substitute materials and equipment proposed by the contractor(s) when substitution prior to the award of contracts is allowed by the bidding documents.

4) Evaluation of Bids

Assist the City in evaluating bids or proposals and in assembling and awarding contracts.

5) Supplementary Duties

The duties and responsibilities of the Engineer during the Bidding Phase shall also include any additional duties and responsibilities to be provided pursuant to the Engineer's proposal attached as Exhibit B.

6) Completion Time

The bidding phase shall be completed by **N/A**.

F) **CONSTRUCTION SURVEY AND LAYOUT PHASE – Not applicable in Phase I services**

Included in this agreement

Not included in this agreement

1) General

This phase of work may or may not be performed in conjunction with Phase G, "Construction Inspection Phase" of this agreement. Inclusion of this phase in the agreement does not imply that services identified under Phase G are to be provided unless specifically indicated in this agreement.

2) Duties

The Engineer shall provide horizontal and vertical control line and grade to enable construction of the improvement as depicted in the Project plans. The number of control points to be established by the Engineer shall be sufficient to permit the construction contractor to construct the improvement within the construction tolerances established in the Project specifications. In addition, the number of control points shall be consistent with standard engineering practice.

3) Accuracy

The Engineer shall provide the horizontal and vertical control points within the same measurement tolerances as the construction tolerances established in the Project specifications. The Engineer shall be responsible for the accuracy of the control points which are established. The Engineer shall be responsible for costs which may result from errors in placement of control points. The Engineer shall be required to establish control points at Engineer's costs only one time. Control points which are lost, damaged, removed or otherwise moved by the Contractor or others shall be promptly replaced by the Engineer and costs for such replacement shall be computed on a time and materials basis, and reimbursed by the City.

The Engineer shall take all reasonable and customary actions to protect the control points established by the Engineer.

4) Supplementary Duties

The duties and responsibilities of the Engineer during the construction survey and layout phase shall also include any additional duties and responsibilities to be provided pursuant to the Engineer's proposal attached as Exhibit B.

5) Completion Time

The construction survey & layout phase shall be completed by **N/A**

G) **CONSTRUCTION INSPECTION PHASE – Not applicable in Phase I services**

Included in this agreement

Not included in this agreement

1) General Duties

Consult with and advise the City and act as its representative as provided herein and in the General Conditions of the construction contract for the Project.

This phase of the work may or may not be performed in conjunction with Phase F "Construction Survey and Layout Phase" of this agreement. Inclusion of this phase in the agreement does not imply that services identified under Phase F are to be provided unless specifically indicated in this agreement.

2) Construction Inspection and Reporting

Make visits to the site with sufficient frequency at the various stages of construction to observe as an experienced and qualified design professional the progress and quality of the executed work of the contractor(s) and to insure that such work is proceeding in accordance with the contract documents. During such visits and on the basis of on-site observations, the Engineer shall keep the City informed of the progress of the work, shall endeavor to guard the City against defects and deficiencies in such work and may disapprove or reject work failing to conform to the contract documents.

3) Warranty Inspection

Eleven months following construction completion, conduct an inspection to document any items to be repaired by the contractor under the conditions of the construction contract warranty. Submit work to be corrected to the Contractor and the City.

4) Review of Technical and Procedural Aspects

Review and approve (or take other appropriate action in respect to Shop Drawings), the results of tests and inspections and other data which each contractor is required to submit, determine the acceptability of substitute materials and equipment proposed by the contractor(s), and receive and review (for general content as required by the specifications) maintenance and operating instructions, schedules, guarantees, bonds and certificates of inspection which are to be assembled by the contractor(s).

- 5) Contract Documents  
Receive from each contractor and review for compliance with contract documents all required document submissions including but not limited to performance and payment bonds, certificates of insurance report forms required by any City, State or Federal law or rule or regulation and submit the forms to the City for final approval.
- 6) Conferences and Meetings  
Attend meetings with the contractor, such as preconstruction conferences, progress meetings, job conferences and other Project-related meetings, and prepare and circulate copies of the minutes thereof including to the City.
- 7) Records
  - a) Maintain orderly files for correspondence, reports of job conferences, shop drawings and samples, reproductions of original contract documents, including all work directive changes, addenda, change orders, field orders, additional drawings issued subsequent to the execution of the contract, the Engineer's clarifications and interpretations of the contract documents, progress reports, and other Project-related documents.
  - b) Keep a diary or log book, recording the contractor's hours on the job site, weather conditions, data relative to questions of work directive changes, change orders, or changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail, as in the case of observing test procedures and send copies to the City. Take multiple photographs of the Work and keep a log and file of the photos. Specifically maintain records of acceptance and rejection of materials and workmanship.
  - c) Record names, addresses and telephone numbers of all the contractors, subcontractors, and major suppliers of materials and equipment.
- 8) Reports
  - a) Furnish the City periodic reports, as required, on progress of the work and of the contractor's compliance with the progress schedule and schedule of shop drawings and sample submittals.
  - b) Consult with the City, in advance of scheduled major tests, inspections, or start of important phases of the Work.
  - c) Draft proposed change orders and work directive changes, obtaining back-up material from the contractor, and make recommendations to the City regarding change orders, work directive changes and field orders.
  - d) Report immediately to the City upon the occurrence of any accident.
- 9) Contract Interpretation, Review of Quality of Work  
Issue all instruction of the City to the contractor(s); issue necessary interpretations and clarifications of the contract Documents and in connection therewith prepare change orders as required, subject to the City's approval; have authority, as the City's representative, to require special inspection or testing of the work; act as initial interpreter of the requirements of the contract documents and judge of the acceptability of the work there under and make decisions on all claims of the contractor(s) relating to the acceptability of the work or the interpretation of the requirements of the contract documents pertaining to the execution and progress of the work.
- 10) Change Orders and Revisions  
Prepare change orders to reflect changes in the Project requested or approved by the City, evaluate substitutions proposed by the contractor(s) and make revisions to drawings and specifications occasioned thereby, and provide any additional services necessary as the result of significant delays, changes or price increases occurring as a direct or indirect result of material, equipment or energy shortages.
- 11) Review of Applications for Payment  
Based on the Engineer's on-site observations as an experienced and qualified design professional and on review of applications for payment and the accompanying data and schedules, determine the amount owing to the contractor(s) and recommend in writing payments to the contractor(s) in such amounts; such recommendations of payment will constitute a representation to the City, based on such observations and review, that the work has progressed to the point indicated, that, to the best of the Engineer's knowledge, information and belief, the quality of such work is in accordance with the contract documents (subject to an evaluation of such work as a functioning Project upon substantial completion, to the results of any subsequent tests called for in the contract documents, and to any qualifications stated in his recommendation), and that payment of the amount recommended is due the contractor(s).
- 12) Determination of Substantial Completion

Conduct an inspection to determine if the Project is substantially complete and a final inspection to determine if the work has been completed in accordance with the contract documents and if each contractor has fulfilled all of his obligations there under so that the Engineer may recommend, in writing, final payment to each contractor and may give written notice to the City and the contractor(s) that the work is acceptable (subject to any conditions therein expressed).

13) Authority and Responsibility

The Engineer shall not guarantee the work of any contractor or subcontractor, shall have no supervision or control as to the work or persons doing the work, shall not have charge of the work, shall not be responsible for safety in, on, or about the job-site or have any control of the safety or adequacy of any equipment, building component, scaffolding, supports, forms or other work aids. If the Engineer determines that there are deficiencies in materials or workmanship on the Project, or otherwise deems it to be in the best interest of the City to do so, the Engineer shall be responsible to stop any contractor or subcontractor from performing work on the Project, until conditions giving rise to this need, therefore, are rectified.

14) Engineer Not Responsible for Acts of Contractor

The Engineer shall not be responsible for the supervision or control of the acts or omissions or construction means, methods or techniques of any contractor, or subcontractor, or any of the contractor(s)' or subcontractors' or employees or any other person (except the Engineer's own employees and agents) at the site or otherwise performing any of the contractor(s) work; however, nothing contained in this paragraph shall be construed to release the Engineer from liability for failure to properly perform duties undertaken by him in these contract documents or this agreement.

15) Preparation of Record Drawings

The Engineer shall prepare a set of record drawings in accordance with the Engineering Guidelines for Professional Engineering Services and Development described in Section I.E. The cost of document reproduction shall be considered to be a reimbursable expense and paid in accordance with Section VI.C of this agreement.

16) Supplementary Duties

The duties and responsibilities of the Engineer during the construction inspection phase shall also include any additional duties and responsibilities to be provided pursuant to the Engineer's proposal attached as Exhibit B.

17) Completion Time

The construction inspection phase shall be completed by **N/A**.

H. **ADDITIONAL SERVICES – N/A in Phase I services**

Included in this agreement

Not included in this agreement

If authorized in writing by the City, the Engineer shall furnish or obtain other additional services of the following types which are not considered normal or customary basic services except to the extent specifically provided in Section II; these will be paid for by the City as indicated in Section VI.

1) Preparation of Grants; Environmental Statements

Preparation of applications and supporting documents for governmental grants, loans or advances in connection with the Project, preparation or review of environmental assessments and impact statements; review and evaluation of the effect on the design requirements of the Project of any such statements and documentation prepared by others; and assistance in obtaining approvals of authorities having jurisdiction over the anticipated environmental impact of the Project.

2) Significant Changes

Services resulting from significant changes in extent of the Project or its design including, but not limited to, changes in size, complexity, City's schedule or character of construction or method of financing; and revising previously accepted studies, reports, design documents or contract documents when such revisions are due to causes beyond the Engineer's control.

3) Real Estate Acquisition: Legal Description

Based on preliminary design documents, furnish a legal description and recordable reproducible 8-1/2" X 11" plat of each parcel of real estate in which the City must acquire an interest in order to proceed with construction of the Project.

4) Renderings and Models

- Providing renderings or models for the City's use.
- 5) Alternate Bid Documents  
Preparing documents for alternate bids requested by the City for contractor(s)' work which is not executed or documents for out-of-sequence work.
  - 6) Economic Analysis  
Investigations involving detailed consideration of operations, maintenance and overhead expenses; providing value engineering during the course of design; the preparation of feasibility studies, cash flow and economic evaluations, rate schedules and appraisals; assistance in obtaining financing for the Project; evaluating processes available for licensing and assisting the City in obtaining licensing; detailed quantity surveys of material, equipment and labor; and audits of inventories required in connection with construction performed by the City.
  - 7) Services Resulting from Acts beyond Engineer's Control  
Additional or extended services during construction made necessary by (1) work damaged by fire or other cause during construction, (2) a significant amount of defective or neglected work of the contractor(s) as determined by the city representative, (3) prolongation of the contract time due to delays by the contractor, (4) acceleration of the progress schedule involving services beyond normal working hours, and (5) default by the contractor.
  - 8) Manuals  
Preparation of operating and maintenance manuals; protracted or extensive assistance in the utilization of any equipment or system (such as initial start-up, testing, and adjusting and balancing); and training personnel for operation and maintenance.
  - 9) Services after Construction Phase  
Services after completion of the construction phase excluding the warranty inspection.
  - 10) Legal Proceedings  
Preparing to serve or serving as a consultant or witness for the City in any litigation, public hearing or other legal or administrative proceeding involving the Project (except as agreed to under Basic Services).
  - 11) Services Not Otherwise Provided  
Additional services in connection with the Project, including services normally furnished by the City and services not otherwise provided for implicitly or by fair implication of this agreement.
  - 12) Supplementary Duties  
The following additional services have been identified and are included in the Additional Services Phase any additional duties and responsibilities to be provided pursuant to the Engineer's proposal attached as Exhibit B.
  - 13) Completion Time  
The time limit to complete additional services cannot be fully specified in this agreement because the full nature and full extent of additional services are unknown.

**SECTION III. (Reserved for future use)**

**SECTION IV. CITY'S RESPONSIBILITIES**

- A) **FURNISH REQUIREMENTS AND LIMITATIONS**  
Provide all criteria and full information as to the City's requirements for the Project, including design objectives and constraints, space, capacity and performance requirements, flexibility and expendability, economic parameters and any budgetary limitations; and furnish copies of all design and construction standards which the City will require to be included in the Drawings and Specifications.
- B) **FURNISH INFORMATION**  
Assist the Engineer by placing at the Engineer's disposal all available information reasonably known to and in possession of the City.
- C) **REVIEW DOCUMENTS**  
Examine all studies, reports, sketches, drawings, specifications, proposals and other documents presented by the Engineer.
- D) **OBTAIN APPROVALS AND PERMITS**

Furnish approvals and permits from all governmental authorities having jurisdiction over the Project and such approvals and consents from others as may be necessary for completion of the Project.

- E) **ACCOUNTING, LEGAL AND INSURANCE SERVICE**  
Provide such accounting, independent cost estimating and insurance counseling services as may be required for the Project, such auditing service as the City may require to ascertain how or for what purpose any contractor has used the monies paid to him under the construction contract, and such inspection services as the City may require to ascertain that the contractor(s) are complying with any law, rule or regulation applicable to their performance of the work except as otherwise provided in Section II.
- F) **NOTIFY THE ENGINEER OF DEFECTS OR DEVELOPMENT**  
Give prompt written notice to the Engineer whenever the City observes or otherwise becomes aware of any development that affects the scope or timing of the Engineer's services, or any defect in the work of the contractor(s).
- G) **COSTS OF THE CITY'S RESPONSIBILITIES**  
Bear all costs incident to compliance with the requirements of this Section IV.

## **SECTION V. GENERAL CONSIDERATIONS**

- A) **SUCCESSORS AND ASSIGNS**  
The City and the Engineer each binds their respective partners, successors, executors, administrators and assigns to the other party of this agreement and to the partners, successors, executors, administrators, and assigns of such other party, in respect to all covenants of this agreement; the Engineer shall not assign, sublet, or transfer their respective interests in this agreement without the written consent of the City. Nothing herein shall be construed as creating any personal liability on the part of any officer or agent of any public body which may be a party hereto, nor shall it be construed as giving any rights or benefits hereunder to anyone other than the City and the Engineer.
- B) **OWNERSHIP OF DOCUMENTS**  
All drawings, specifications, reports, records, and other work product developed by the Engineer in connection with this Project shall remain the property of the City whether the Project is completed or not. Reuse of any of the work product of the Engineer by the City on extensions of this Project or any other Project without written permission of the Engineer shall be at the City's risk and the City agrees to defend, indemnify and hold harmless the Engineer from all damages and costs including attorney fees arising out of such reuse by the City or others acting through the City.
- C) **ESTIMATES OF COST (COST OPINION)**  
Estimates of construction cost provided are to be made on the basis of the Engineer's experience, qualifications and the best of their professional judgment, but the Engineer does not guarantee the accuracy of such estimates as compared to the contractor's bids or the Project construction cost.
- D) **INSURANCE**
  - 1) Engineer shall provide the following minimum amounts of insurance from insurance companies authorized to do business in the state of Minnesota unless Engineer shall have successfully demonstrated to the City Attorney, in the reasonable exercise of his or her discretion that such insurance is not reasonably available in the market. If the Engineer demonstrates to the reasonable satisfaction of the City Attorney that such insurance requires hereunder is not reasonably available in the market, the City Attorney may approve an alternative form of insurance which is reasonably available in the market which he or she deems to provide the highest level of insurance protection to the city which is reasonably available.
    - (a) Workers' compensation insurance in accordance with the laws of the State of Minnesota.
    - (b) Public Liability and Automobile Liability Insurance with limits not less than **\$1,500,000** Single Limit, and twice the limits provided when a claim arises out of the release or threatened release of a hazardous substance; shall be in a company approved by the city of Duluth; and shall provide for the following: Liability for Premises, Operations, Completed Operations,

Independent Contractors, and Contractual Liability.

- (c) Professional Liability Insurance in an amount not less than **\$1,500,000** Single Limit; provided further that in the event the professional malpractice insurance is in the form of "claims made," insurance, 60 days notice prior to any cancellation or modification shall be required; and in such event, Engineer agrees to provide the City with either evidence of new insurance coverage conforming to the provisions of this paragraph which will provide unbroken protection to the City, or, in the alternative, to purchase at its cost, extended coverage under the old policy for the period the state of repose runs; the protection to be provided by said "claims made" insurance shall remain in place until the running of the statute of repose for claims related to this Agreement.
  - (d) **City of Duluth shall be named as Additional Insured** under the Public Liability and Automobile Liability, or as an alternate, Engineer may provide Owners-Contractors Protective policy, naming himself and City of Duluth. Engineer shall also provide evidence of Statutory Minnesota Workers' Compensation Insurance. Engineer to provide Certificate of Insurance evidencing such coverage with 30-days notice of cancellation, non-renewal or material change provisions included. The City of Duluth does not represent or guarantee that these types or limits of coverage are adequate to protect the Engineer's interests and liabilities.
  - (e) If a certificate of insurance is provided, the form of the certificate shall contain an unconditional requirement that the insurer notify the City without fail not less than 30 days prior to any cancellation, non-renewal or modification of the policy or coverage's evidenced by said certificate and shall further provide that failure to give such notice to City will render any such change or changes in said policy or coverage's ineffective as against the City.
  - (f) **The use of an "Accord" form as a certificate of insurance shall be accompanied by two forms – 1) ISO Additional Insured Endorsement (CG-2010 pre-2004) and 2) Notice of Cancellation Endorsement (IL 7002) or equivalent, as approved by the Duluth City Attorney's Office.**
- 2) The insurance required herein shall be maintained in full force and effect during the life of this Agreement and shall protect Engineer, its employees, agents and representatives from claims and damages including but not limited to personal injury and death and any act or failure to act by Engineer, its employees, agents and representatives in the performance of work covered by this Agreement.
  - 3) Certificates showing that Engineer is carrying the above described insurance in the specified amounts shall be furnished to the City prior to the execution of this Agreement and a certificate showing continued maintenance of such insurance shall be on file with the City during the term of this Agreement.
  - 4) The City shall be named as an additional insured on each liability policy other than the professional liability and the workers' compensation policies of the Engineer.
  - 5) The certificates shall provide that the policies shall not be changed or canceled during the life of this Agreement without at least 30 days advanced notice being given to the City.
- 2). Laws, Rules and Regulations.  
Engineer agrees to observe and comply with all laws, ordinances, rules and regulations of the United States of America, the State of Minnesota and the City with respect to their respective agencies which are applicable to its activities under this Agreement.

#### E) TERMINATION

- 1) This agreement may be terminated in whole or in part in writing by either party in the event of substantial failure by the other party to fulfill its obligation under this agreement through no fault of the terminating party; provided that no such termination may be affected unless the other party is given not less than fifteen (15) calendar days prior written notice (delivered by certified mail, return receipt requested) of intent to terminate.
- 2) This agreement may be terminated in whole or in part in writing by the City for its convenience; provided that the Engineer is given (1) not less than fifteen (15) calendar days prior written notice (delivered by certified mail, return receipt requested) of intent to terminate and (2) an opportunity for consultation with the City prior to termination.
- 3) Upon receipt of a notice of intent to terminate from the City pursuant to this agreement, the Engineer shall (1) promptly discontinue all services affected (unless the notice directs otherwise), and (2) make available to the City at any reasonable time at a location specified by the City all data, drawings,

specifications, reports, estimates, summaries, and such other information and materials as may have accumulated by the Engineer in performing this agreement, whether completed or in process.

- 4) Upon termination pursuant to this agreement, the City may take over the work and prosecute the same to completion by agreement with another party or otherwise.

F) LAWS, RULES AND REGULATIONS

The Engineer agrees to observe and comply with all laws, ordinances, rules and regulations of the United States of America, State of Minnesota, the City of Duluth and their respective agencies and instrumentalities which are applicable to the work and services to be performed hereunder.

G) INDEPENDENT CONTRACTOR STATUS

Nothing contained in this agreement shall be construed to make the Engineer an employee or partner of the City. The Engineer shall at all times hereunder be construed to be an independent contractor.

H) FEDERAL FUNDING

If Federal Funds (HUD, Revenue Sharing or otherwise) are utilized as a source of Project funding, the Engineer shall abide by the terms of all Federal requirements in the performance of duties hereunder.

I) AMENDMENT OF AGREEMENT

This agreement shall be amended or supplemented only in writing and executed by both parties hereto.

J) HOLD HARMLESS

The Engineer agrees that it shall defend, indemnify and hold harmless the City of Duluth and its officers, agents, servants and employees from any and all claims including claims for contribution or indemnity, demands, suits, judgments, costs and expenses asserted by any person or persons including agents or employees of the City of Duluth or the Engineer by reason of death or injury to person or persons or the loss or damage to property arising out of, or by reason of, any act, omission, operation or work of the Engineer or its employees while engaged in the execution or performance of services under this Agreement except to the extent that such indemnification is specifically prohibited by Minnesota Statutes Chapter 337. Engineer shall not be required to indemnify City for claims of liability arising out of the sole negligent or intentional acts or omission of the City but shall be specifically required to and agrees to defend and indemnify City in all cases where claims of liability against the City arise out of acts or omissions which are passive or derivative of the negligent or intentional acts or omissions of Engineer, such as, but including but not limited to, the failure of the City to supervise, the failure to warn, the failure to prevent such acts or omission by Engineer and any other such source of liability. On ten days written notice from the City of Duluth, the Engineer shall appear and defend all lawsuits against the City of Duluth growing out of such injuries or damages.

## SECTION VI. PAYMENT

A) BASIS OF BILLING

City shall pay the Engineer for all services rendered under Section II Phases A through I an amount based on:

1. Hourly rates, not to exceed \$ **49,900**  
 2. Lump sum

For the purposes of this agreement, the principals and employees of the Engineer and their hourly rates are set forth in Exhibit A hereto.

B) REIMBURSABLE EXPENSES

In addition to payments provided for in paragraphs A and B of this Section, the City shall pay the Engineer the actual costs of all reimbursable expenses incurred in connection with all basic and additional services. Reimbursable expenses means the actual expenses incurred directly in connection with the Project for transportation costs on the basis of actual cost if public transportation is used or **the applicable standard IRS mileage rate per mile** if Engineer's vehicle is used, for travel outside City of Duluth, required hotel and meal expenses as per City policy, toll telephone calls, reproduction of reports, drawings, specifications and

similar Project-related items in addition to those required under Section II.

C) PAYMENT FOR WORK COMPLETED

- 1) Monthly progress payments may be requested by the Engineer for work satisfactorily completed and shall be made by the City to the Engineer as soon as practicable upon submission of statements requesting payment by the Engineer to the City. Each statement shall be accompanied by an Invoice Data Sheet as shown in Exhibit A. When such progress payments are made, the City may withhold up to five percent (5%) of the vouchered amount until satisfactory completion by the Engineer of all work and services within a phase called for under this agreement. When the City determines that the work under this agreement for any specified phase hereunder is substantially complete, it shall release to the Engineer any retainage held for that phase.
- 2) No payment request made pursuant to subparagraph 1 of this Section VI shall exceed the estimated maximum total amount and value of the total work and services to be performed by the Engineer under this agreement for that phase or additional service without the prior authorization of the City. These estimates have been prepared by the Engineer and supplemented or accompanied by such supporting data as may be required by the City.
- 3) Upon satisfactory completion of the work performed hereunder, and prior to final payment under this agreement, and as a condition precedent thereto, the Engineer shall execute and deliver to the City a release of all claims against the City arising under or by virtue of this agreement.
- 4) In the event of termination by City under Section V.E., upon the completion of any phase of the Basic Services, progress payments due Engineer for services rendered through such phase shall constitute total payment for such services. In the event of such termination by City during any phase of the Basic Services, Engineer also will be reimbursed for the charges of independent professional associates and consultants employed by Engineer to render Basic Services, and paid for services rendered during that phase on the basis of hourly rates defined in Section VI.A of this agreement for services rendered during that phase to date of termination by Engineer's principals and employees engaged directly on the Project. In the event of any such termination, Engineer will be paid for all unpaid additional services and unpaid reimbursable expenses, plus all termination expenses. Termination expenses mean additional reimbursable expenses directly attributable to termination, which, if termination is at City's convenience, shall include an amount computed as a percentage of total compensation for basic services earned by Engineer to the date of termination as follows: 10% of the difference between the amount which the Engineer has earned computed as described in paragraphs A, B and C of this section and the maximum payment amount described in paragraph E of this section. The above applies only if termination is for reasons other than the fault of the Engineer.

D) STANDARD PAYMENT

The Engineer shall complete all services described in Section II.A through G including all attachments to Section II for an amount including direct expenses not to exceed the amount shown hereunder:

<u>Section II</u>	<u>Description</u>	<u>Maximum Compensation</u>
A.	Study and Report Phase	\$ 49,900
B.	Preliminary Survey Phase	\$ N/A
C.	Preliminary Design Phase	\$ N/A
D.	Final Design Phase	\$ N/A
E.	Bidding Phase	\$ N/A
F.	Construction Survey and Layout Phase	\$ N/A
G.	Construction Inspection Phase	\$ N/A
H.	Additional Services	\$ N/A
I.	Reimbursable Expenses	\$ N/A

**TOTAL \$ 49,900**

The maximum compensation for all phases A through I shall not exceed:

**Forty-nine-thousand-nine-hundred) Dollars and 00/100th.**

E) **PAYMENT FOR ADDITIONAL SERVICES**

City shall pay the Engineer for all additional services rendered under Section II.H an amount based on hourly rates shown in Section VI.A for services rendered by principals and employees assigned to the Project. For the purposes of this agreement, the principals and employees of the Engineer and their hourly rates are set forth in Exhibit A hereto. The maximum payment described in Section VI.E shall not apply to additional services.

The Engineer and City agree that the full extent of additional services may be unknown. Those additional services which have been identified are described in Section II.H, and that payment for those additional services is estimated to be **\$ N/A**.

This agreement is made between the City and the Engineer entered into on the last date below written. In witness, the parties have executed this agreement.

F) **TOTAL NOT TO EXCEED:**

All payments under this Contract not to exceed **\$49,900**, payable under Water Fund 510, Dept. /Agency 500 (Public Works and Utilities), Div. 1905 (Capital), Object 5533 (Capital Improvements-Revenue), Project Util-1346, Requisition 14-0268, Vendor Code 2012.

**SECTION VII SPECIAL PROVISIONS**

The following exhibits are attached to and made part of this agreement:

- 1) Exhibit A, Engineer's Hourly Rates
- 2) Exhibit B, Engineer's Proposal

In the event of a conflict between the agreement and any Exhibit, the terms of the Agreement will be controlling.

IN WITNESS WHEREOF, the parties to these presents have hereunto caused these presents to be executed the day and year first above written.

**CITY OF DULUTH**

**MSA PROFESSIONAL SERVICES, INC.**

By

\_\_\_\_\_  
Mayor

\_\_\_\_\_  
Company Representative

Attest:  
City Clerk \_\_\_\_\_

Its  
\_\_\_\_\_  
Title of Representative

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

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

Approved as to form:

\_\_\_\_\_  
City Attorney

Countersigned:

\_\_\_\_\_  
City Auditor

\_\_\_\_\_  
Department Director

\_\_\_\_\_  
Purchasing Agent



More ideas. Better solutions.®

**MSA**

PROFESSIONAL SERVICES

PROPOSAL TO PROVIDE  
**HVAC IMPROVEMENTS -  
LAKEWOOD WATER TREATMENT FACILITY**

*Prepared for the City of Duluth, MN  
January 31, 2014*

**More ideas. Better solutions.®**

MSA Professional Services, Inc. is a multi-disciplinary consulting firm serving public and private clients throughout the Midwest. Our planning, engineering and architectural professionals meet the needs of a diverse client base with an emphasis on creativity and results. We provide our clients with more ideas and better solutions.

**Proposal contact**

Scott Chilson, PE

Project Manager

Phone: (608) 355-8868

Email: schilson@msa-ps.com

The information contained within this proposal is of proprietary nature and is submitted in confidence for use by the clients of MSA Professional Services, Inc. only. The information contained herein is and remains property of MSA Professional Services, Inc. Receipt or possession of this information confers no right or license to use or disclose to others the subject matter contained herein for any uses but authorized purposes.

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January 31, 2014

Joe Miller  
City of Duluth  
411 West 1<sup>st</sup> Street  
Duluth, MN 55802

Re: Lakewood Water Treatment Facility – HVAC Improvements

Dear Joe:

MSA Professional Services, Inc. (MSA) appreciates the opportunity to present a proposal for the feasibility and evaluation of the HVAC System at the Lakewood Water Treatment Facility. Based on our conversations we agreed the first phase for improving the HVAC system would be to evaluate the existing and provide possible alternatives for system upgrades. The evaluation phase is critical because the existing system is nearly 40 years old, and the building structure has been damaged as a result of a poorly operating HVAC system. For this reason, it is necessary to identify the cause of why the existing system is not providing the expected service and the extent the building has been compromised.

Our proposal provides a complete evaluation study of the existing boiler and ventilation system in the primary treatment building at the Lakewood Water Treatment Plant (WTP). The engineering team will spend two days at the WTP reviewing the system and meeting with City staff. Using this information we will generate a report that will document the system and causes for poor performance. The report will provide recommendations and cost estimates to correct and improve the system. At the close of the planning phase, we will present the report and make recommendations to you and City staff.

The planning phase of a project is important, especially when replacing existing systems that have not met operational expectations. The cost to operate a system is a critical factor in the construction of new state-of-the-art mechanical systems. The existing boiler and HVAC system are aged technology and the efficiency of the new equipment technology can vary. For example, the capital cost of a new system could be lower than another viable option. But the long-term operational cost between the systems may justify higher initial capital investment. The study will estimate annual operational cost and projected pay back on the sensible alternative systems.



MSA's familiarity with the City of Duluth water and waste water facilities is possibly unmatched. To our knowledge, MSA is one of the only consultants that has worked at the Lakewood WTP since it was constructed. The proposed project team is a group of highly specialized experts with municipal water and wastewater facilities. To benchmark the level of experience of this expert team, the combined years of experience of the four member team is 102 years.

This proposal is based on a time and material not-to-exceed estimated fee. The proposal is for feasibility planning study of the boiler and HVAC system of the treatment building at the Lakewood Water Treatment Plant. The deliverable of the study will provide alternatives and recommendations that will streamline design, construction, and operation of the existing and proposed HVAC system.

We look forward to working with you to update the HVAC equipment at the Lakewood WTP. If you have any questions about our proposal, please give me a call at (608) 355-8868 or on my cell phone at (608) 963-6527.

Sincerely,  
MSA Professional Services, Inc.

A handwritten signature in black ink that reads "Scott R. Chilson".

Scott Chilson, PE  
Project Manager

A handwritten signature in black ink that reads "Mark D. Wallis".

Mark Wallis, PE  
Duluth Office Manager

cc: Eric Shaffer, City of Duluth / Chief Engineer of Utilities  
Howard Jacobson, City of Duluth  
Mark Proulx, City of Duluth

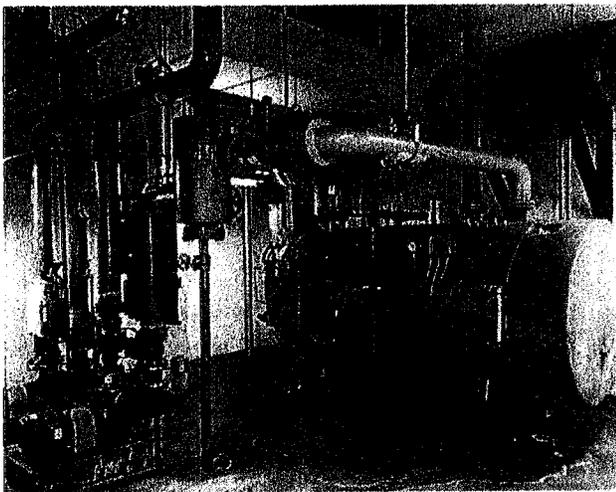
# PROJECT UNDERSTANDING

## PROJECT DESCRIPTION

The original facility is a two level building and was constructed in 1976 with a filter expansion addition in 1991. The lower level consisting of piping gallery spaces, toilet/locker rooms, chemical feed and storage, garage and a chlorine room. The upper level consists of administration spaces, laboratory, chemical storage and filter bays.

Our understanding of the current mechanical system problems being experienced are as follows:

- The existing heating, ventilation and air conditioning (HVAC) systems are original and have not be upgraded or replaced since the building was constructed. These systems appear to no longer be working well to maintain the desired interior environment.
- The existing hot water boiler is approximately 38 years old and is the only means of providing heat to the facility. Currently there is only one large boiler with no redundancy.
- The existing dehumidification systems are not working adequately and causing significant deterioration of the various building components and process piping systems.



## PROJECT PHASES

To address the existing system problems and provide the City the best solutions to fit into the desired operations and costs, and are constructible in a timely manner, the project should be broken into three separate phases as follows:

### PHASE I -- MECHANICAL SYSTEMS EVALUATION.

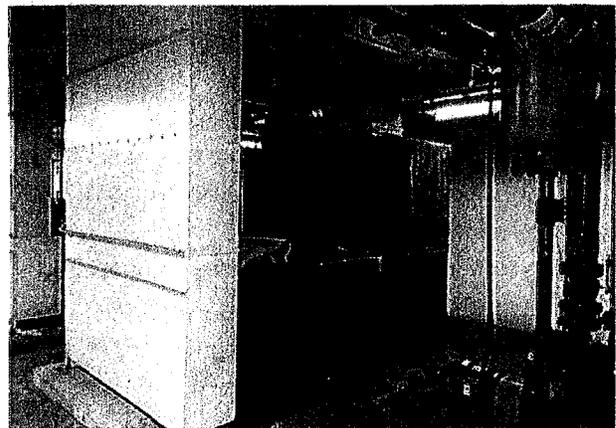
This phase will consist of a site investigation and review of existing systems and development of proposed recommendations and construction costs to implement.

### PHASE II -- BOILER SYSTEM REPLACEMENT DESIGN

In order to get a boiler replaced prior to the next heating season (roughly October) it is recommended to focus any initial replacement/upgrade decisions and design on the replacement of this system so that it could be bid and constructed in a timely fashion.

### PHASE III - HVAC AND DEHUMIDIFICATION SYSTEMS REPLACEMENT DESIGN

The remainder of the HVAC systems and equipment replacement/upgrade and subsequent design and construction efforts that result from the initial Phase I evaluation could be deferred to a construction schedule during the fall and winter. Most of the existing equipment is located inside the building and any new dehumidification systems would not be required until the spring of 2015.



# SCOPE OF SERVICES

## PHASE 1 - MECHANICAL SYSTEMS EVALUATION

Based on our discussions and our knowledge of the issues, we will provide engineering services with the following scope of work:

1. We will conduct a site investigation of all the existing mechanical heating, ventilation and air conditioning (HVAC) systems, boiler and dehumidification systems and confirm the existing systems sequences of operation. This site investigation will likely be a two day event. We will determine the condition and the operation of the existing systems.
  - The primary focus of our site investigation will be with respect to the Boiler and HVAC systems. However, if we observe other system components and equipment, such as plumbing and compressed air, which are in poor condition, we will note them for the City's future consideration.
  - The secondary focus of this site visit will be to document the electrical, plumbing and building systems that directly pertain to the HVAC systems.
2. We will verify required ventilation rates based on "current code" requirements and standards that may have changed from when the facility was originally constructed in 1976.
3. We will verify the operation of the existing HVAC and dehumidification systems with the treatment plant staff to obtain opinions and preferences on the various mechanical systems.
4. We will verify the heating and cooling requirements of the various building spaces which have in the past, experienced a lack of comfort.
5. We will coordinate our investigation with the other disciplines, in an effort to come up with cost effective options that they might be involved with implementing.
6. We will offer recommendations and proposed options to upgrade and replace existing HVAC and boiler systems in a report that will include the following:
  - Provide a summary of our findings along with our recommendations.
  - Develop "Good/Better/Best" options for the replacement of major pieces of mechanical equipment.
  - Provide order of magnitude construction costs for implementing these recommendations.
  - Provide estimated energy savings for implementing the recommendations of the major pieces of equipment.
  - Provide a simple payback analysis for comparing the various recommendations.
7. We will review the facilities existing temperature control systems and offer recommendations on potential options and upgrades along with order of magnitude construction costs for implementing the options.
  - Our understanding is that the Duluth Facilities Department currently utilizes a current Building Automation System (BAS) in some of their other facilities and it might be advantages to incorporate this system into the Lakewood WTP.
  - This will entail meeting with the current BAS provider and developing options and costs for incorporating a new system into this facility.
8. We will participate in a follow-up meeting with the treatment plant staff to review our findings and recommendations and answer questions to help develop a direction for mechanical systems upgrades for the facility.
9. The study does not include the preparation of construction documents for the implementation of the recommendations. The results of the study will dictate the level and quantity of replacements or improvements that might be considered. Upon the review of our study, the findings and recommendations, we can provide fees for engineering services for proceeding with the construction documents phase II and III once the preferred direction for corrective work is determined.



# SCHEDULE AND FEE

## PROPOSED TENTATIVE SCHEDULE

DATE	MILESTONE
March 15, 2014	Phase I site visit.
April 30, 2014	Phase I evaluation report completed. (6 weeks)
May 10, 2014	Meeting with Staff to review evaluation report. (1 week)
May 15, 2014	Start Phase II and/or III design. (1 week)
June 30, 2014	Phase II design completed. (6 weeks)
July 21, 2014	Phase II bids. (3 weeks) (August – September Construction period of 8 weeks)
August 15, 2014	Phase III design completed. (12 weeks)
September 15, 2014	Phase III bids. (4 weeks) (October– January Construction period of 16 weeks)

## PROPOSED FEES

MSA proposes to provide the described services on a lump sum basis as follows:

PHASE	COST
Phase I - Mechanical Systems Evaluation	\$49,900
Phase II – Boiler Systems Replacement Design/Bid/Construction	Future Contract
Phase III - Mechanical Systems Replacement Design/Bid/Construction	Future Contract

Engineering services will be invoiced monthly and shall be paid monthly in proportion to the service completed. Payment is due within thirty (30) days of the invoice date. Unpaid balance shall bear interest at 1% per month.

The above amounts include outside reimbursable expenses such as printing, mileage, postage and messenger service which will be invoiced at cost.

Please provide any specific project billing requirements as required by your accounting department. We will begin work after receipt of a fully executed Consultant Service Authorization.

## RATE SCHEDULE

EMPLOYEE	RATE
Scott Chilson, PE	\$118/hr.
Allen Szymanski, AIA, PE	\$140/hr.
Mark Wallis, PE	\$140/hr.
Tom Wentz, PE	\$160/hr.



# PROJECT TEAM

## TEAM PERSONNEL

The project team for this project consists of a group of experienced professionals who are used to working on large, multidisciplinary projects. Their familiarity with each other and your project will enable them to meet the workload and timeline requirements set by the City of Duluth. A summary of each team member is included below followed by their detailed resume.

**PROJECT MANAGER:** Scott Chilson, PE will serve as the project manager and electrical designer for this project and has more than a 15 years of experience. Mr. Chilson is very familiar with the City having worked on many projects including the Westgate Boulevard Flood Repairs, several water booster station projects, the comprehensive Lakewood Water Treatment Plant Study and several lift station utility SCADA system projects within the City. He has a diverse background related to project management, technical design, and implementation of complex systems and facilities.

**STRUCTURAL ENGINEER/ARCHITECT:** Allen Szymanski, AIA, PE has more than 30 years of diversified experience in the architectural and structural design of municipal buildings, water and wastewater facility buildings, libraries, fire and EMS stations, police stations, public works garages, county highway garages, park structures, schools, churches, industrial, and commercial projects consisting of new construction, additions, and remodeling. He was the architect on the Canal Park Restroom building and wastewater utility garage.

**CLIENT LIAISON:** Mark Wallis, PE has more than 25 years of experience with a variety of multi-discipline water projects, including water system supply and distribution plans, wells, water booster stations, water towers, and water conservation and emergency preparedness plans.



### SUBCONSULTANTS

#### WENTZ ASSOCIATES, INC.

Wentz Associates, Inc., Consulting Engineers, was founded in 1977. They are dedicated to provide responsible, quality mechanical engineering services. They do so with a spirit of cooperation and a sense of purpose.

**MECHANICAL/PLUMBING DESIGNER:** Tom Wentz, PE has more than 32 years of experience designing many mechanical building systems. His experience includes the coordination of the mechanical design with the other design disciplines and with the building owner.





**Scott Chilson, PE**

Project Manager

**EDUCATION:**

*B.S., Civil Engineering  
University of Wisconsin,  
Platteville*

*B.S., Environmental Engineering  
University of Wisconsin,  
Platteville*

**REGISTRATIONS:**

*Professional Engineer, MN, WI, IA, IL*

Mr. Chilson will serve as the project manager for this project and has more than a decade of experience. He works closely with municipal governments to provide planning, design, and construction management services for municipal infrastructure projects and related facilities. Mr. Chilson has a diverse background related to the technical design and implementation of complex pumping and mechanical systems and facilities.

Prior to joining MSA, Mr. Chilson spent several years working with Muermann Engineering, where he designed electrical power systems, and process and instrumentation controls for municipal projects. His expertise includes low and medium voltage facility power distribution, stand-by power alternatives, SCADA network design and I&C design.

**EXPERTISE:**

- Project Management
- Process Power System Planning and Implementation
- Process Control System Planning and Implementation
- Water System Distribution and Supply Analysis, Planning and Design
- Water System Planning, Design and Construction
- Water Resource Engineering
- Water Distribution System Facility
- Water System and Feasibility Studies

**PROJECT EXPERIENCE:**

**Highland Elevated Water Reservoir and Booster Station, Duluth, MN, Senior Project Engineer**

*Provided planning, design and construction services for the construction of a 1,000,000-gallon elevated spheroid reservoir.*

**Park Point Radio Tower Replacement, Duluth, MN, Senior Project Engineer**

**Lakewood Water Treatment Plant and Pump Station Study, Duluth, MN, Senior Project Engineer**

**SCADA System, Duluth, MN, Senior Project Engineer**

**Lift Stations #2,6, 8, 29, 38, 45, 50 and 53, Duluth, MN, Senior Project Engineer**

**West Duluth, Arlington, Highland, Lakewood Water Booster Stations, Duluth, MN, Senior Project Engineer**





## Allen Szymanski, AIA, PE

Structural Engineer/Architect

### EDUCATION:

*B.S., Architectural Engineering  
Milwaukee School of Engineering*

### REGISTRATIONS:

*Professional Engineer, MN, WI, IA  
Architect, MN, WI*

Mr. Szymanski has diversified experience in the architectural and structural design of municipal buildings, libraries, fire and EMS stations, police stations, public works garages, county highway garages, water and wastewater facility buildings, park structures, schools, churches, industrial, and commercial projects consisting of new construction, additions, and remodeling.

As architect, he serves as creator, coordinator, and communicator of the project design in overall concept and in all parts. As architect, he has the prime responsibility for all phases of design, preparation of construction documents, and construction administration. His experience extends for thirty years in the building design industry.

### EXPERTISE:

- Structural Engineering
- Architectural Design
- Programming and Space Needs Studies
- Project Administration
- Feasibility Studies

### PROJECT EXPERIENCE:

**Water Treatment Plant and Booster Station Improvements, Two Harbors, MN, Architect**  
*Lead architect in charge of the existing building improvement design.*

**Water Treatment Plant Upgrades, Silver Bay, MN, Architect**  
*Lead architect in charge of the existing building improvement design.*

**Highland Pump Station Improvements, Duluth, MN, Architect**  
*Lead architect in charge of the rebuild design of an existing water pump station building.*

**Arlington Pump Station, Duluth, MN, Architect**  
*Lead architect responsible for the new pump station building design.*

**Wastewater Utility Garage, Duluth, MN, Architect**  
*Lead architect responsible for the design of the new maintenance garage, bidding and construction phase services.*

**Canal Park Restroom Building, Duluth, MN, Architect**  
*Lead architect responsible for the design of the new restroom building, bidding and construction phase services.*





## Mark Wallis, PE

Client Liaison | Duluth Office Manager

### EDUCATION:

*B.S., Civil Engineering  
University of Wisconsin-Platteville*

### REGISTRATIONS:

*Professional Engineer, MN, WI, IA*

Mr. Wallis has over 25 years of experience with a variety of multi-discipline water projects, including water system supply and distribution plans, wells, water booster stations, water towers, and water conservation and emergency preparedness plans. Over the years, Mark has prepared comprehensive water supply and distribution plans for more than 20 Minnesota cities and townships. Mark is proficient in using Water CAD software to perform computer hydraulic analysis for water distribution systems, lift station and pump house design.

### EXPERTISE:

- Project Management
- Water Distribution Systems
- Lift Stations

### PROJECT EXPERIENCE:

#### Highland Water Tower and Pump Station, Duluth, MN

*Designed and prepared construction documents for new 1.0 million gallon elevated water tower and complete renovation of water pumping station. Manage multi-disciplinary project team including mechanical, electrical, process piping, civil, structural, and architectural staff.*

#### Water Treatment Facility Upgrades, Two Harbors, MN

*Designed and prepared construction documents for water treatment plant renovation. Manage multi-disciplinary project team including mechanical, architectural, electrical, process piping and pumping, civil/site and structural.*

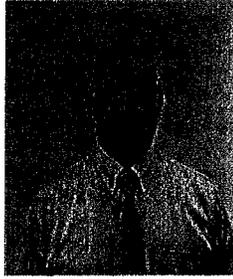
#### Hwy 210 Watermain Improvements, Twin Lakes Township, MN

*Planned, designed, and prepared construction documents for 24,000 feet of water main, installed by directional drilling, open cut, and pipe jacking methods.*

#### 2012 Flood Response, Duluth, Carlton, Thomson, MN

*Coordinate disaster mitigation and response plan for street and utility repairs, including FEMA documentation, design, and construction oversight.*





**Thomas Wentz, PE**

Mechanical Engineer - Wentz Associates, Inc.

**EDUCATION:**

*B.S., Mechanical Engineering  
University of Minnesota*

Responsibilities include design of mechanical building systems, coordinating the mechanical design with the other design disciplines and with the building owner, overseeing the preparation of the mechanical construction drawings, preparing the mechanical construction specifications and observing the mechanical construction.

**REGISTRATIONS:**

*Professional Engineer, MN,WI, IA, ND, SD*

**EXPERTISE:**

- Mechanical Building Design
- Mechanical Construction
- Construction Inspection

**PROJECT EXPERIENCE:**

**Water Treatment Plant, Saint Peter, Fairmont, Eagan, MN and Watertown, Washburn, Williston, ND**

*Plumbing, dehumidification, heating and ventilation design.*

**Water Treatment Plant Remodel, Bismark, ND**

*Plumbing, dehumidification, heating and ventilation design.*

**Water Treatment Plant, Knoxville, Storm Lake, IA and Baxter, Savage, Buffalo, MN**

*Plumbing, HVAC, and dehumidification design.*

**Water Treatment Plant, Watertown, SD, Marshalltown, IA**

*Plumbing, heating and ventilation systems design.*

**Feasibility Studies/Master Planning,**

*New Richmond WWTF – New Richmond, WI*

*Eagan South WTF – Eagan, MN*

*Mandan WTF – Mandan, ND*

*Austin WWTF - Austin, MN*

*Owatonna WWTF, Owatonna, MN*

*Chamberlain WTF, Chamberlain, SD*

*Andover WTF, Andover, MN*

*Bismarck WTF, Bismarck, ND*

**Power Generator,**

*Municipal Engineering Experiences - Miscellaneous Projects*



## CITY OF DULUTH PROJECT EXPERIENCE

Over the years, MSA has had the privilege of working with the City of Duluth on the successful completion of many projects. Our local and dedicated staff have developed a keen and complete understanding of the City's infrastructure. Below is a list of our City of Duluth project experience.

Morgan Park Utility
Lift Station No. 6 Storage Tank
Lakeside SSO Storage Facility Phase 2
Lift Station 6 Pump Replacement
Highland Booster Station Refurb
East Interceptor SSO Facility
Lakewood Water Treatment Plant Upgrade
Brewery Creek Sample Collection
Highland Pump Station Improvements
2010 Rehab/Reconstruct Sanitary Sewer
Highland 1.0 MG Elevated Water
Lakewood Water Plant O & N Study
Park Point Tower and RTU Building
SCADA Phase III
Lift Station 45
Communications Coordination
Great Lakes Boarder Station Upgrade
SCADA Gas Site Reorganization
Lakewood Filter Control Improvements
Lakewood Water Treatment Plant - RMP
Lakewood WTP Pond Solids Removal
2012 Flood Repair Project
Westgate Boulevard Flood Repair Project
2012 Flood Street Repair
Lift Station No.39/Zoo 2012 Flood Repair
Olney Street Reconstruction CS245
Woodland Avenue Excavation
5 <sup>th</sup> Avenue Reconstruction CS 158
Merritt Creek Flood Repairs CS 68
Plymouth and Hillcrest Flood Repairs
Street Flood Repairs CS 230,256,2
Natural Gas Regulator Station Building
Lakewood WTP 2013 Power Use Study
LS 14 Force Main Relocation at Goodwill

Dump No. 1 Air Sampling
SIP 2000 Construction
Duluth Heights Storm Sewer Survey
SIP 2001 N Cody Survey, Design, Bidding
Dump 1 Site Restoration/Remediation
SIP 2002 Lakeside Central
Lakeside San. Sewer Modeling Study
Street Improvement Project 03
2004 SIP Lakeside SW 1
2006 Norton Park SIP
Lift Stations 10, 11, 12, and 18
1997 I/I Reduction Program
Analysis-Flow Monitoring Data
Report Preparation
98-SIP Additional Work on Skyline Blvd
Dump #1 Remediation
Arrowhead/Columbus Sanitary Sewer
99-SIP Duluth Hgts Lower- Surv, Design,
Dump #2 - Site Inventory and Feasibility Study
Dump #1 Sampling and Monitoring Wells
Dump #1 Closure Construction Phase
Bayhill/Pulaski Intersection Modification
SIP - 99/Duluth Heights
Bayhill Drive Construction Phase Services
SIP 2000 Denfeld West Area
Dump No. 1 Stockpile Quantity
Additional Services/Litigation Testimony
Bayfront Festival Park Existing Conditio
Cold Storage Building
Lift Station Fall Protection
Cold Storage Building Construction
Highland Water Modeling
Morgan Park Water and Sewer Rehabilitation
Morgan Park Phase 1 Water Main Construct



# CITY OF DULUTH PROJECT EXPERIENCE

Morgan Park Phase 1 Sewer Construction
Woodland Water Model
Morgan Park Phase 2 Design Water Sewer and SIP
Morgan Park Phase 2 Water Construction
Phase 2 Sewer/SIP
Lakeside Sanitary Sewer Overflow Facility
Highland/Woodland Water Model
Morgan Park Phase III Sewer Design
Lift Station No. 1 SSO
Lift Station Design
Morgan Park Phase III Construction

Radio Study
Morgan Park Phase IV
Morgan Park Construction Phase IV
Model for Middle, Highland and Woodland
Duluth SCADA Design and Construction
West End Booster Station
Lakeside Interceptor SSO Storage Facility
Lakeside Interceptor SSO Construction
Arlington Pump Station
Highland Water System-16" Watermain Design

