EXHIBIT A

PROFESSIONAL ENGINEERING SERVICES AGREEMENT

ENGINEER & CITY OF DULUTH

THIS AGREEMENT, effective as of the date of attestation by the City Clerk, is made by and between the City of Duluth, Minnesota hereinafter referred to as the "City" and:

Name: MSA Professional Services, Inc.
Address: 332 W. Superior St., Ste 600, Duluth, MN 55802

hereinafter referred to as the "Engineer", in consideration of the mutual promises contained herein.

Payments as described in Section V shall be made from Funding 440-038-5530; Project # sip2019-1851; and Resolution No. 19-0609R, passed on September 9, 2019.

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

Project Number: 1851
Project Name: Second Street Reconstruction (6th Ave E to 12th Ave E)
Project Description: Professional engineering services for the reconstruction of Second Street East from 6th Ave East to 12th Ave East

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

	Phase	Description
☐	A.	Study and Report Phase
☒	B.	Preliminary Survey Phase
☒	C.	Preliminary Design Phase
☒	D.	Final Design Phase
☒	E.	Bidding Phase
☒	F.	Construction Survey and Layout Phase
☒	G.	Construction Administration and Inspection Phase

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.

F. SUBCONSULTANTS

Engineer may contract for the services of sub-consultants to assist Engineer in the performance of the services to be provided by Engineer hereunder but the selection of any sub-consultant to perform such services shall be subject to the prior written approval of the City Engineer. Engineer shall remain responsible for all aspects of any services provided by such sub-consultants to City under this Agreement. City shall reimburse Engineer for sub-consultant services under the categories of services to be provided by Engineer under Phases A through G, as applicable.

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 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.

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 by n/a.

B. PRELIMINARY SURVEY PHASE

☒ 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 November 1, 2019.

C. PRELIMINARY DESIGN PHASE

☒ 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) 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.

4) Renderings and Models
Providing renderings or models for the City's use.

5) 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.

6) 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.

7) 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.

8) Completion Time
The Preliminary Design Phase shall be completed and report or plan submitted by November 1, 2019.

D. FINAL DESIGN PHASE

☒ 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) 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.

6) Document Presentation
Furnish three copies of the above documents and present and review them in person with the City.

7) 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.

8) Completion Time
The Final Design Phase shall be completed and contract documents submitted by February 1, 2020.

E. BIDDING PHASE

☒ 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 March 1, 2020.

F. CONSTRUCTION SURVEY AND LAYOUT PHASE

☒ 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 Administration and 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 October 30, 2021.

G. CONSTRUCTION ADMINISTRATION AND INSPECTION PHASE

☒ 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.

16) Manuals
The Engineer shall furnish 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.

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

18) Completion Time
The construction administration and inspection phase shall be completed by October 30, 2021.

SECTION III. 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 incidental to compliance with the requirements of this Section III.

SECTION IV. 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 Insurance 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, Engineer hereby commits to provide at least 60 days' notice prior to any change to the Professional Liability Insurance policy or coverage ; and in event of any change, 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 notice to City of cancellation in accordance with the provisions of the underlying insurance policy 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 the notice provisions contained in the underlying insurance policy or policies. In addition, Engineer commits to provide to City notice to City at least 30 days prior to any change of the policy or coverages.

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 cancelled during the life of this Agreement without advanced notice being given to the City at least equal to that provided for in the underlying policy of insurance.

6) Except as provided for in Section IV.D.1.d) above, Engineer hereby commits to provide notice to City at least 30 days in advance of any change in the insurance provided pursuant to this Section IV or in advance of that provided for in the underlying insurance policy or policies whichever is longer. For the purposes of Section IV.D of this Agreement, the term, "changed", shall include cancellation of a policy of insurance provided hereunder and any modification of such policy which reduces the amount of any coverage provided thereunder below the amounts required to be provided hereunder or otherwise reduces the protections provided under such policy to City.

E. 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 or Section 604.21. 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, 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.

F. 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.

G. 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.

H. 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.

I. FEDERAL FUNDING

If Federal Funds (i.e. HUD, FEMA, Revenue Sharing) 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.

J. AMENDMENT OF AGREEMENT

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

SECTION V. PAYMENT

A. BASIS OF BILLING

City shall pay the Engineer based on hourly rates for all services rendered under Section II Phases A through G, an amount not to exceed the amount in Section V.C, including any and all Project-related expenses such as travel, reproduction of reports and drawings, tolls, mileage, etc. For the purposes of this agreement, the principals and employees of the Engineer and their hourly rates are set forth in Exhibit A.

B. 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. 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 V shall exceed the estimated maximum total amount and value of the total work and services to be performed by the Engineer under this agreement 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 IV.F., 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 Exhibit 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 plus all termination expenses. Termination expenses mean additional 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 and B of this section and the maximum payment amount described in paragraph C of this section. The above applies only if termination is for reasons other than the fault of the Engineer.

C. TOTAL NOT TO EXCEED:
All payments under this Contract are not to exceed Six Hundred Ten Thousand Four Hundred Nine and 68/100ths Dollars ($610,409.68).

SECTION VI. 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.

SECTION VII. COUNTERPARTS

This Agreement may be executed in two or more counterparts, each of which shall be deemed to be an original as against any party whose signature appears thereon, but all of which together shall constitute but one and the same instrument. Signatures to this Agreement transmitted by facsimile, by electronic mail in "portable document format" (".pdf"), or by any other electronic means which preserves the original graphic and pictorial appearance of the Agreement, shall have the same effect as physical delivery of the paper document bearing the original signature.

[Remainder of this page intentionally left blank. Signature page to follow.]

IN WITNESS WHEREOF, the parties have hereunto set their hands on the date of attestation shown below.

CITY OF DULUTH-Client

By:_____
Mayor

Attest:

By:_____
City Clerk

Date: _____

Countersigned:

_____
City Auditor

Approved as to Form:

_____
City Attorney

MSA PROFESSIONAL SERVICES, INC.

By:_____

Its: _____
Title of Representative

Date: _____

ATTACHMENT A:
RATE SCHEDULE

CLASSIFICATION	LABOR RATE
Architects	$111 – $170/hr.
Clerical	$ 55 – $110/hr.
CAD Technician	$ 65 – $125/hr.
Geographic Information Systems (GIS)	$ 94 – $138/hr.
Housing Administration	$ 68 – $115/hr.
Hydrogeologists	$114 – $147/hr.
Planners	$ 89 – $160/hr.
Principals	$180 – $250/hr.
Professional Engineers	$ 85 – $153/hr.
Project Manager	$ 85 – $180/hr.
Professional Land Surveyors	$ 79 – $160/hr.
Staff Engineers	$ 74 – $144/hr.
Technicians	$ 65 – $125/hr.
Wastewater Treatment Plant Operator	$ 72 – $ 92/hr.

REIMBURSABLE EXPENSES	
Copies/Prints	Rate based on volume
Fax	$1.00/page
GPS Equipment	$40/hour
Mailing/UPS	At cost
Mileage – Automobile (currently $0.545/mile)	Rate set by Fed. Gov.
Mileage – MSA Truck	$0.70/mile
Nuclear Density Testing	$25.00/day + $10/test
Organic Vapor Field Meter	$100/day
PC/CADD Machine	Included in labor rates
Stakes/Lath/Rods	At cost
Total Station	Included in labor rates
Travel Expenses, Lodging, & Meals	At cost
Traffic Counting Equipment & Data Processing	At cost
Trimble Geodimeter	$30/hour

* Labor rates represent an average or range for a particular job classification. These rates are in effect until January 1, 2020.

EXHIBIT B

PROPOSAL TO PROVIDE DESIGN AND CONSTRUCTION PHASE SERVICES FOR:

East Second Street

From Sixth Avenue East to Twelfth Avenue East
City of Duluth Project No. 1851

Prepared for:
The City of Duluth, MN
August 26, 2019

MSA

Table of Contents

MSA
332 W. Superior Street, Suite 600
Duluth, MN 55802
P: (218) 722-3915 | TF: (800) 777-7380 | F: (218) 722-4548

August 26, 2019

Eric Shaffer, PE | Chief Engineer
City of Duluth - Engineering Division
411 W. 1st Street, Room 211 City Hall
Duluth, Minnesota 55802

Re: Proposal to Provide Design and Construction Phase Services for East Second Street from Sixth Avenue East to Twelfth Avenue East

Dear Eric and Selection Committee,

For a transportation engineer, there is nothing quite like seeing that last stripe of paint go down and watching the final barricade get pulled on a brand new urban street reconstruction. It always seems like a fresh start for the neighborhood and you look forward to all the improvements that will follow, which feels like a pat on the back for a job well done. Getting to this point for the East Second Street project will take good planning, a great team, and focus on the project's goals and objectives. I have enjoyed working with you all as we reviewed these goals and objectives, and appreciate your time since then. The enclosed proposal provides you with the plan, team and focus that will make this project a success.

Urban street reconstructions are a core service project for MSA Professional Services, Inc. (MSA) and the team we have assembled for this project. These projects require attention to detail and you can rely on our project team to both recognize and excel at those details. The individuals we have built the team around are urban street and utility design veterans. "Learning on the fly" is not required; we are ready to get started on this project today.

As you review the proposal, please also know that MSA is a full-service firm with services not represented in this proposal, but available when needed. We have in-house structure designers for retaining wall designs, environmental scientists and geologists to handle contaminated soils issues, lighting designers for any street lighting needs, and landscape architects to enhance the final design. What this provides you is the ability to quickly adapt to changing project needs, with limited coordination and staffing issues. This can save multiple weeks in a project design schedule that only starts with twenty-two.

Thank you for the opportunity to present our qualifications and work plan. We look forward to continuing our work with the City and making a positive impact on our community through this important project. Please give me a call at (218) 499-3179 or email at jdipiazza@msa-ps.com to discuss our qualifications or ask any questions regarding our proposal.

Sincerely,
MSA Professional Services, Inc.

Jason DiPiazza, PE
Project Manager

Goals and Objectives

Reconstruction of East Second Street is a highly visible and important project for the City of Duluth. The Second Street corridor is a primary east-west traffic corridor across the city, connecting downtown to the eastern neighborhoods. It also serves the hospital district, home of the two regional medical centers based in Duluth. The medical district is the center of a major redevelopment project and a new vision for the Central and East Hillside Neighborhoods. The importance of this transportation and redevelopment activity makes this a high profile project, with attention reaching all the way to the Minnesota State Capitol in St. Paul.

OBJECTIVES

We have reviewed the project site and discussed project objectives with City staff and project stakeholders. We understand the project purpose to be:

- Replace City-owned utilities within the corridor that have reached the end of their service life. This includes the water main system and some of the sanitary sewer, storm sewer, and hot water system.
- Reconstruct the street and sidewalk infrastructure to provide a durable transportation corridor that will continue to serve its planned purpose, with reduced maintenance, and improved safety for all users by meeting ADA requirements and including infrastructure improvements for all multi-modal users.

Review of the proposed project has confirmed these general objectives and identified detailed issues within the corridor that should be addressed. These are included in the Corridor Issues Exhibit found at the end of the proposal material. Discussion of how these issues will be addressed is included in the Work Plan narrative and Work Plan spreadsheet of the proposal.

GOALS

Our understanding of the City's goals for the project and the engineering team who will deliver them are:

- ***Turnkey Project Delivery*** – Experienced engineers, designers, surveyors and specialists will lead project delivery from project survey and scoping to completion of construction, working collaboratively with City staff throughout the process.
- ***Active (but efficient) Involvement by City staff*** – City staff will be actively involved in decision making and have an understanding of the project status for reporting to City leaders at any given time. City staff are depending on an experienced Project Manager to make this involvement efficient to reduce time demands on City staff.
- ***Informed and Engaged Project Stakeholders*** – Project stakeholders including residents and businesses along the corridor as well as the leadership team at St. Luke's hospital will be informed and supportive of the final project design and understand the impacts and short-term inconveniences expected during the construction phase.

MSA's plan to meet these goals and objectives breaks down the project into five key components:

- Utility Design
- Stormwater Design
- Street Design
- Construction Administration and Inspection
- Project Communication

Experienced MSA staff are assigned to lead each component, under the guidance and management from MSA's project manager. These individuals were selected based on their experience with similar work types and current availability to dedicate their time to this important project. The team has the support of the entire MSA organization, which provides the City with decades of experience meeting the challenges of an urban street reconstruction project. Our experience delivering complex and highly visible projects is detailed on the following pages.

EXPERIENCE

DOWNTOWN URBAN & MULTI-PHASE PROJECTS

State Street

Madison, WI

PROJECT HIGHLIGHTS

- Multi-Phase (100, 200, 500 & 600, 700 & 800 Blocks)
- Urban Street, ADA Design, Vaults, Entrances
- Stakeholders and Communication - UW
- Utilities and Stormwater
- Transit Coordination

PROJECT TEAM MEMBERS

- Jason DiPiazza – Project Manager
- Jaime Kurten – Roadway Designer
- Uriah Monday – Stormwater Designer

State Street is a heavily utilized pedestrian and transit street corridor in the heart of the City of Madison, and is a main multimodal thoroughfare between the University of Wisconsin, south Lake Mendota shoreline, and the Capitol Square. The street and utility infrastructure were outdated and in need of improvement to support planned redevelopment along the corridor. This City-led reconstruction project included a team of innovators from the City planning and engineering departments, the University of Wisconsin-Madison, and the MSA-led project team of engineers and landscape architects.

At the onset of project development, the City of Madison established core design principles to meet the essence of sustainable guidelines. These principles resulted in a project that is timeless, flexible, durable and easy to maintain. MSA worked with project partners to develop a project plan designed to provide a safe environment for the thousands of pedestrians, cyclists, transit buses, delivery trucks, and maintenance vehicles that traverse the space on a daily basis.

The project was **designed and constructed over five construction seasons, requiring phased design for sidewalk/ street infrastructure and utilities.** Infrastructure design challenges included many familiar tight urban design issues, including: utility design and conflict resolution, building entrance & ADA sidewalk design; urban drainage; construction staging and maintenance of traffic; sub-sidewalk basement vaults; and stakeholder coordination.

Stakeholder coordination on this project included University of Wisconsin-Madison, State Historical Society, area business owners and commerce groups, residents, and a major redevelopment of the Overture Center for the Arts. **This range of stakeholder types required varying forms of involvement strategies,** which included a stakeholder committee, door-to-door visits, public meetings, and individual meetings.

Additional Multi-Phase Project Experience

CTH M | Madison, WI

- 2.5 year construction, urban reconstruct w/ staged construction
- Staff: DiPiazza (PM), Watters (ADA), Kurten (Roadway Designer)

TH 82, USH 12 | Mauston, WI

- Phased urban reconstruction, hospital coordination
- Staff: DiPiazza (QA/QC), Monday (Stormwater)

TH 114, Green Bay Road | Neenah , WI

- Phased urban reconstruction

DOWNTOWN URBAN & MULTI-PHASE PROJECTS

North Grandview Avenue | Grace Street | Delhi Street Intersection Analysis

Dubuque, IA

The intersection of North Grandview Avenue, Grace Street and Delhi Street was a five-way stop controlled intersection with poor operations. Due to the unique existing geometry and poor operations, a history of crashes occurred at the intersection.

Recent changes to surrounding properties caused more congestion at the intersection. MSA staff conducted a traffic study to determine what improvement would best serve this intersection and completed a conceptual roundabout layout for the City of Dubuque in order to apply for a TSIP grant. MSA staff then designed a five-legged roundabout with minimal right of way impacts. The design took trucks and large vehicles into consideration as an integral part of the process.

PROJECT HIGHLIGHTS

- Multi-phase Project
- Urban Street, ADA Design
- Staged Construction to Accommodate Access
- Hospital and Emergency Room Coordination
- Transit Coordination

STAKEHOLDER INVOLVEMENT

The Finley Hospital occupies one of the quadrants of the intersection with access points on two intersection legs. The hospital was also completing redevelopment efforts on its own. MSA staff coordinated with hospital staff to discuss project impacts and access during construction. **A phased construction approach was developed to maintain hospital and emergency room access throughout construction.** MSA staff also met with local officials and landowners to help win support for the project and then conducted an extensive public involvement campaign to educate the community. Our team assisted during the construction process by providing extensive on-site construction observation, contractor coordination, community relations and weekly project updates for City staff and impacted residents and business owners.

Additional Downtown Urban Project Experience

Packers Ave/Northport Drive | Madison, WI

- Urban resurface
- Staff: DiPiazza (PM), Kurten (Design Engineer)

N. Main Street | Oshkosh, WI

- Urban reconstruct
- Staff: DiPiazza (PM), Kurten (Design Engineer)

N. Main Street | Fond du Lac, WI

- Urban reconstruct
- Staff: DiPiazza (PM), Kurten (Design Engineer)

Lincoln Avenue | Two Rivers, WI

- Urban reconstruct
- Staff: DiPiazza (Design Engineer), Monday (Stormwater Engineer)

S. Central Avenue | Marshfield, WI

- Urban reconstruct
- Staff: DiPiazza (PM), Kurten (Roadway Engineer), Monday (Stormwater Engineer)

8th Street | DePere, WI

- Urban reconstruct
- Staff: Kurten (PM), DiPiazza (Design Engineer), Monday (Stormwater Engineer)

Wisconsin Avenue | Oconomowoc, WI

- Multi-phased urban reconstruct

River Street | Janesville, WI

- Urban reconstruct
- Staff: DiPiazza (PM), Kurten (Roadway Engineer), Monday (Stormwater Engineer)

MINNESOTA STATE AID PROJECTS

River West Drive

Duluth, MN

PROJECT HIGHLIGHTS

- State Aid, Urban Design
- Utility Design, including HDPE Water Main and Storm Sewer
- ADA Design

PROJECT TEAM MEMBERS

- Jason DiPiazza – Project Manager
- James Watters – Roadway and ADA design
- Joe Jurewicz – Utility design review
- Uriah Monday – Stormwater design review
- Erik Cooper - Utility Design

River West Drive, formerly referred to as Kayak Bay Drive during project planning, is a proposed new city street that provides access to mixed-use residential and commercial development between the St. Louis River and Minnesota Trunk Highway 23 (Grand Avenue) on the west side of Duluth. The new street provides public access to the St. Louis River and supports the development of an accessible river access point within a shallow, sheltered bay considered ideal for recreational water use by paddlers of all skill levels. River West Drive is located directly across Grand Avenue from Spirit Mountain Recreation Area, which is a year-round recreational destination for downhill and Nordic skiing, mountain biking, and hiking. A multi-use path adjacent to River West Drive will connect at least four regional recreational trails, including the Willard R. Munger State Trail and the Superior Hiking Trail.

The project features a new signalized intersection at Grand Avenue (TH 23) and an at-grade crossing of the Munger Trail. Railroad coordination was required to complete a new, at-grade crossing of an active BNSF rail spur. Additionally, the project includes construction of **new sewer, HDPE water, gas utility facilities as well as a new storm sewer system for the urban street section.** A rain garden basin constructed at the end of the park loop road provides stormwater quality improvement prior to draining into the St. Louis River outlet.

The project is funded through a wide range of sources, including State Park Road Account funds, Transportation Economic Development funds, and City of Duluth funding. These funding sources required plan review coordination and approval through the City of Duluth Engineering and Parks Departments, as well as ultimate **approval by St. Louis County and the MnDOT State Aid office.** Coordination with MnDNR was also required for project permitting and approval of the at-grade Munger Trail crossing.

Additional State Aid Project Experience

CSAH 17 | Cook County, MN

- State Aid Standards
- Staff: DiPiazza (PM), Watters (Design Engineer)

Chicago Avenue | Rice Lake, MN

- Urban Reconstruct
- Staff: Jurewicz (PM), Watters (Design Engineer)

Typo Creek Drive NE Isanti County, MN

- Highway Realignment
- Staff: Watters (Design Engineer)

217th Avenue NW | Oak Grove, MN

- Street Reconstruct
- Staff: Watters (Construction Engineer), Schley (Surveyor)

Nightingale Street NW | Oak Grove, MN

- Street Reconstruct
- Staff: Watters (Construction Engineer), Schley (Surveyor)

HDPE PIPE PROJECTS

East Calvary Water main Replacement and Looping

Rice Lake, MN

The City of Rice Lake's water main connection to the City of Duluth is in the Woodland neighborhood on East Calvary and Kolstad Roads. The pipes were constructed of ductile iron and installed on piles in poor soils. Over the years, mains were installed down side streets by private residents and taken over by the City. The City has for years had issues with main breaks in the area, due mostly to issues caused by the ductile iron pipes installed in peat soils. MSA designed a replacement **HDPE water main** to be installed along the roads, replacing services, adding fire hydrants and looping the neighborhood to provide better water quality to the residents. The main was directionally drilled to reduce the number of joints as well as minimize impact to the residents and reduce the need to excavate in poor soil conditions.

MSA staff worked alongside the City, packaging the entire water main loop into a large **bid package with St. Louis County and the City of Duluth for letting.** This packaged project, currently under construction, requires substantial coordination with the general contractor, utility subcontractor, City of Rice Lake and Duluth staff, as well as St. Louis County staff. MSA worked with the contractor to resolve multiple conditions where the locations of existing mains and services were unknown, and the project required sections of **temporary water service** to residents in order to accommodate detour routing for other portions of the package. In addition, the utility corridor for East Calvary is exceptionally crowded, with two existing water mains, newly installed fiber optic, storm sewer and culverts, as well as a large pump station for sanitary sewer with effluent piping to WLSSD.

PROJECT HIGHLIGHTS

- HDPE Water main
- State Aid Review

PROJECT TEAM MEMBERS

- Joe Jurewicz - Project Manager
- Erik Cooper - Construction Inspection
- Phillip Lockett - Construction Inspection

Additional HDPE Project Experience 12" or Larger

LOCATION	PIPE SIZE	MATERIAL	WATER/SEWER
New Lisbon, WI	12"	HDPE	Water
Richland Center, WI	14"	HDPE	Water
Lowell, WI	14"	HDPE	Sewer
Horicon, WI	14"	HDPE	Water
Lake Elmo, MN	16"	HDPE	Water
Hillsboro, WI	14"	HDPE	Sewer
West Baraboo, WI	12"/14"	HDPE	Sewer
Shafer, MN	12"	HDPE	Water
Rice Lake, WI	12"	HDPE	Water
Raymond, IA	12"	HDPE	Water
Rice Lake, MN	12"	HDPE	Water

Organizational Chart

THE CITY OF DULUTH MINNESOTA

St. Luke's Construction Team

St. Luke's Staff and Directors

Residents Neighborhood Businesses

Jason DiPiazza, PE
Project Manager

Jill Holmen
Project Communication Specialist

Erik Cooper, EIT
Designer
Construction Inspection

Jaime Kurten, PE
Project Engineer
Roadway Design

Joe Jurewicz, PE
Project Engineer
Utilities

Uriah Monday, PE
Project Engineer
Stormwater

Phillip Lockett
Lead Inspector
Construction Administration

Support Staff

Matt Morrow, PE
Design Engineer | Utilities

Kyle Busch, PE
Design Engineer | Structures

James Watters, PE
Design Engineer | ADA

Marissa Wacker, EIT
Designer | Construction Inspection

Jim Solberg
Senior Engineering Technician

Curt Schley, PLS
Senior Project Surveyor

Charlie Thannum
Survey Technician

Materials Engineering
Environmental
Geotechnical
EPC
Engineering & Testing

EPC Engineering & Testing
Geotech Subconsultant

Jason DiPiazza, PE

Project Manager

Jason has experience both designing and constructing urban and rural highways, streets and municipal transportation projects that meet state and federal standards and requirements. His expertise extends across all phases of these projects from project scoping, through preliminary and final design, and into construction. His project management experience includes developing other technical aspects of these transportation projects, including stormwater infrastructure, municipal utilities, bridges, traffic analysis and real estate.

EDUCATION

B.S., Civil and Environmental Engineering
University of Wisconsin Madison

REGISTRATION

Professional Engineer, MN, WI

SELECTED PROJECT EXPERIENCE

- River West Drive, Duluth, MN
- CSAH 17, Cook County, MN
- State Street, Madison, WI
- CTH M, Madison, WI
- TH 82 /USH 12, Mauston, WI
- S. Central Avenue, Marshfield, WI
- River Street, Janesville, WI
- Packers Avenue | Northport Drive, Madison, WI
- N. Main Street, Oshkosh, WI
- 8th Street, De Pere, WI

Jaime Kurten, PE

Project Engineer | Roadway Design

Jaime is experienced in project management and design engineering for urban and rural transportation projects. Her skills extend to many facets of these projects including stormwater, pavement, intersection geometrics, lighting, erosion control and right of way. Jaime has also worked on utility coordination, agency coordination, reporting, estimate preparation, and public involvement. Jaime has been the design lead on a variety of project types that have included bridge replacements to roadway reconstruction projects.

EDUCATION

B.S., Civil Engineering
University of Wisconsin Madison

REGISTRATION

Professional Engineer, WI

SELECTED PROJECT EXPERIENCE

- State Street, Madison, WI
- River Street, Janesville, WI
- CTH M, Madison, WI
- Atwood Avenue, Madison, WI
- TH 114, Green Bay Rd, Neenah, WI
- S. Central Avenue, Marshfield, WI
- McKinley Street Reconstruction, Beaver Dam, WI
- North Spring Street Improvements, Beaver Dam, WI
- 8th Street, De Pere, WI
- Wood Road, Darlington, WI
- Main Street, Janesville, WI
- WIS 32 Corridor Study, De Pere, WI

Joe Jurewicz, PE

Project Engineer
Water and Sewer Utilities

Joe has been involved in a variety of municipal infrastructure projects from conception to completion. He serves several communities surrounding Duluth and helps them both manage their existing infrastructure as a municipal engineer and serves private clients looking to develop within local communities. His team is familiar with Duluth requirements and is well versed in utilization of large mains and the challenges in utility corridors with them.

EDUCATION

B.S., Civil and Environmental Engineering
University of Wisconsin Madison

REGISTRATION

Professional Engineer, MN, WI, FL

SELECTED PROJECT EXPERIENCE

- East Calvary Watermain Replacement and Looping, Rice Lake, MN
- River West Drive, Duluth, MN
- Chicago Avenue, Rice Lake, MN
- Merritt Creek Flood Reconstruction, Duluth, MN
- Westgate Boulevard Flood Repairs, Duluth, MN
- Munger Trail Spur Trail Planning, Hermantown and Proctor, MN

Phillip Lockett

Lead Inspector
Construction Administration

Phil has provided onsite management and oversight for placement of large water lines and storm sewers. Phil has supervised a lot of feet of HDPE pipe ranging in size from one inch to 48 inches. He maintains quality control on projects and ensures proper construction methods are implemented. He brings his expertise in the collection of topographic data for the completion of design surveys and surveys for construction stacking projects.

EDUCATION

B.S., Geology and Environmental Hydrogeology
University of Minnesota Duluth

REGISTRATION | CERTIFICATION

HDPE Pipe Fusion Certified
MnDOT Bituminous Street Level I &II
MnDOT Concrete Field Level I & II
Mn/DOT Grading and Base Level I & II
MnDOT Aggregate Production

SELECTED PROJECT EXPERIENCE

- Lift Station No. 8, Duluth, MN
- East Interceptor SSO, Duluth, MN
- East Calvary Watermain Replacement & Looping, Rice Lake, MN
- Chicago Avenue, Rice Lake, MN
- Merritt Creek Flood Reconstruction, Duluth, MN

Jill Holmen

Project Communications Specialist

Jill has experience with communications, brand marketing and content generation for a broad range of platforms and industries. Her expertise includes editorial strategy and implementation, community management, media relations and social media engagement.

EDUCATION

B.A., English
University of Minnesota Morris

Uriah Monday, PE

Project Engineer | Stormwater

Uriah prepares reports, plans, specifications, and construction cost estimates for stormwater management projects for both municipal and private clients. He also assists many other MSA teams in evaluating solutions for stormwater-related aspects of their projects.

EDUCATION

B.S., Civil Engineering
Bradley University

REGISTRATION

Professional Engineer, WI, IL

SELECTED PROJECT EXPERIENCE

- St. Louis County Culvert Hydraulic Design, MN
- 8th Street, De Pere, WI
- River West Drive, Duluth, MN
- State Street, Madison, WI
- S. Central Avenue Reconstruction, Marshfield, WI

Erik Cooper, EIT

Design
Construction Inspection

Erik has experience in a variety of municipal engineering projects. Prior to MSA, he worked on the survey crew for the City of Duluth.

EDUCATION

B.S., Civil Engineering, University of Minnesota Duluth

REGISTRATION | CERTIFICATION

Enigneer in Training, MN
HDPE Pipe Fusion Certified
MnDOT Bituminous Street Level I &II
MnDOT Concrete Field Level I
Mn/DOT Grading and Base Level I & II

SELECTED PROJECT EXPERIENCE

- Road Overlay, Thomson, MN
- Birch Point Wastewater Collection System, Grand Lake Township, MN
- School Avenue, Carlton, MN
- PLAWCS Lift Station Rehabilitation, Duluth, MN

Knowledge of Duluth Requirements

Project design and construction will be led and managed by MSA Duluth staff, who know the Construction Standards and the requirements of the Engineering Guidelines for Professional Engineering Services and Developments. MSA has been located in Duluth and designing, developing plans, inspecting, and documenting infrastructure improvement projects here for more than 20 years. This knowledge is based on experience across a range of project types within the city, including the following:.

- *River West Drive – New urban street, sewer, water, storm, and gas*
- *Thunderbird Wren – Housing development project*
- *Duluth Flood Repairs – Westgate Boulevard, Plymouth Avenue, Olney Street & Hillcrest Drive, Lift Station 39, Merritt Creek*
- *Morgan Park Development – Phases II, III, & IV – New street and Utilities*
- *Duluth Stream Flood Repairs – Merritt, Amity, Miller and Chester Creeks*
- *Lift Station No. 15 Relocation*
- *Middle Booster Station Needs Study*
- *Lift Station Rehab, Repair and Reconstruction (No. 3,8, 9, 14, 17, 23, 26, 39, 45)*
- *Lakeside & East Interceptor Sanitary Sewer Overflow Storage Facility*

MSA's proposed lead construction inspector and administrator, Phillip Lockett, has been a key member of the MSA Duluth team throughout this time period. We will utilize this experience and know-how by involving Phillip in the project early and through survey and preliminary street and utility plan development. Phillip's role is to assure that the plans and specs are biddable, buildable, and meet the City's expectations for plan content and format per the requirements of the Construction Standards, Engineering Guidelines, and general practices expected by the Engineering Department.

Work Plan - Scope of Services

The following work plan narrative and spreadsheet follows the required Scope of Services outlined in the RFP and identifies the work tasks planned for project coordination and communication, roadway and utility design, and project deliverables. The work plan narrative details assumptions, concepts considered, and level of effort anticipated for MSA tasks, along with project-specific details discovered during our review of the project site. Detail and support of identified work plan hours for each task are not included in this narrative, rather are included only in the work plan spreadsheet. The work plan spreadsheet estimates and assigns staff hours for each task, subtask, and deliverable. Items identified as City tasks or City-provided deliverables are identified in the narrative.

PHASE 100 – INITIAL SITE VISIT AND CONSULTATIONS

Task 101: Kickoff Meeting

Meet with City staff to review the project schedule, scope, design criteria, deliverables and procedures. This meeting will also establish the expectations and responsibilities for coordinating with St. Luke's and other stakeholders.

Task Deliverables:

- Meeting materials and minutes

City Tasks/Deliverables

- Provide key staff attendance and meeting facility

Task 102: Project Site Review & Research

Review City-provided materials such as as-built plans, record drawings, development agreements, and utility televising reports and compare these against topo survey and an on-site review of current conditions. Any discrepancies will be summarized and shared with the City for discussion. It may be necessary to pothole and field locate some utilities, critical water main or storm sewer crossings. Hydro excavation work is not included and anticipated to be City-provided work. MSA will coordinate and observe field measurements of these locates and incorporate them into the models.

Subtasks include:

- **Field inspection of Brewery Creek Tunnel:** The field inspection will provide documentation of general tunnel condition, including photos, measurements, and recommendations for minor repairs, if applicable. Physical or chemical testing of the tunnel structure is not included. Access to the tunnel has been reviewed with City staff and may require two separate access points due to the large drop in the system along the south side of the E. Second Street ROW. Results of the field inspection will be summarized in a report for City review. The inspection will serve as a basis

for confirming that the structure can remain and will support new utility infrastructure over the top, as well as additional loading and disturbance due to construction activity. It is recommended that a follow-up inspection be performed after construction, which is considered additional services.

- **Sidewalk Vault Review:** Review the site and City-provided materials for possible sub-sidewalk building vaults. One possible vault has been identified in front of 808 E. Second Street and a vault likely exists in front of the Hollywood building at 710 E. Second Street (evidence: sidewalk surface spalling over the top of the vault roof). Door-to-door investigations in basements to confirm vault locations and dimensions will be performed as Additional Services. Plan details and bid item specifications are included in the work plan hours for removing and filling abandoned vaults. Structural analysis of the vaults and structural design and plans for load bearing walls or roof sections is not included.

Anticipated sidewalk vault at the 710 E. Second Street.

Task Deliverables:

- Summary report for the Brewery Creek Tunnel inspection.
- Vault abandonment details and specifications (not including structural designs).

City Tasks/Deliverables

- As-built or record drawings for street and utility infrastructure.
- Development agreements.
- Televising reports of sanitary sewer within the project limits and the Gray's Creek storm pipe.
- Utility service cards.
- Property owner coordination for required vault removals.
- Hydro excavation for utility locates.

Additional Services (If Authorized)

- Door to door basement investigation for sidewalk vaults.
- Post construction tunnel inspection.

Task 103: Project Meetings and Status Updates

Coordinate schedules, provide materials, attend and lead the following meetings. Meeting materials include letter or postcard invitations; meeting rosters, agendas, handouts, and exhibits; and meeting summaries.

- Public meetings (Design phase: 3 meetings, Construction phase: 2 meetings, Total: 5).
- St. Luke's coordination meetings (3 meetings)
- Status Meetings – City staff and stakeholders (3 meetings)

St. Luke's Coordination: MSA's Communications Specialist, Jill Holmen, is included on the project team to coordinate meetings and provide a point of contact for project stakeholders, particularly the St Luke's leadership team. This division of duties for communication will allow project design staff to maintain focus on project deliverables without losing touch with project stakeholders.

We plan on holding a kickoff meeting with St. Luke's early in project development to establish lines of communication and an understanding of project goals and requirements. Follow up meetings will focus on project status updates and project details, including hospital utility identification, construction staging, and final design elements. We have Jill identified as the point person for this coordination, but are flexible in utilizing our project manager in this role if that is more efficient due to limited St. Luke's involvement after the initial kickoff meeting.

Public Meetings: Jill will also coordinate and organize the planned public meetings. We anticipate up to three public meetings during the design phase of the project. The first meeting will be a project kickoff meeting, introducing the project and gathering feedback. The second meeting will share preliminary plans with the public and gather feedback on the design. The third meeting will focus on final design plans and the anticipated construction and traffic impacts to neighbors and commuters. The remaining two public meetings in the scope of work will be construction focused and held prior to the construction season each year. The contractor should attend and participate in these meetings to discuss construction operations, work schedules, and access mitigation plans.

Status Meetings: Lead three project status meetings with City of Duluth Staff, scheduled around key project deliverables to review

plans and project status. We expect that additional coordination and consultation with City staff will be critical to individual design elements and have included this effort as part of the design process in Phase 300 – Plans & Specifications. Specifically:

- Stormwater design kick-off meeting with Tom Johnson.
- Review of interim utility design and plan development with Eric Shaffer.
- Street design concept review with Cari, Patrick and Taren.

Monthly Status Updates: Provide monthly project progress status updates for the City's Project Manager, Patrick Loomis, by email and/or phone conversation.

Tasks Deliverables

- Meeting materials and meeting summaries.
- Monthly project status updates.

City Tasks/Deliverables

- Meeting facilities, if necessary.
- Press releases/public notices and communication with local media.

PHASE 200 – RECONNAISSANCE, FIELD SURVEYS, & GEOTECHNICAL EXPLORATION

Task 201: Topographic and ROW Survey

Perform a full topographic survey of the E. Second Street Right of Way (ROW) and beyond to adjacent building corners, building faces, entrances, steps, walls and slopes within 10-15 feet of the ROW. Survey cross-section intervals will be set at 50', with additional sections at driveways and crosswalk locations. Survey limits on E. Second Street will include sufficient distance into the Sixth Avenue E. and Twelfth Avenue E. intersections to design the grades for project end tie in. Locate survey monuments to establish and layout street ROW and to preserve or reset these monuments during construction. Coordinate a Gopher State One Call ticket to get field locates of utilities and private utility system maps and coordinate utility locates for City facilities directly with City staff. MSA requests assistance from the City in posting and enforcing temporary no parking limits for topographic and utility surveys.

Identify curb and sidewalk replacement needs based on physical condition. Initial project review indicates that the west end of the project requires complete sidewalk replacement, and 50% curb replacement, on average. Curb and sidewalk conditions improve on the east end, particularly within the St. Luke's campus area. A detailed ADA survey is included to determine the extent of ramp improvement; however, it is assumed that most curb ramps, other than Tenth Avenue, require replacement.

Perform a detailed utility structure survey for storm sewer, sanitary sewer, and water valves within the project limits. Complete utility structure record forms for use in design and the project file.

Existing watermain below south lanes.

Task Deliverables

- Topo base map and existing surface model.
- ROW layout and survey monument tie sheets.
- ADA survey.
- Utility structure survey.

City Tasks/Deliverables

- City utility system maps and field locates.
- Posting and enforcing temporary no parking for survey effort.

Task 202: Agency Coordination

Develop preliminary agency coordination with MnDNR and MPCA regarding permit requirements for construction stormwater discharge and construction site stormwater permitting. Brewery Creek and Gray's Creek are not public waters; however, we will want to confirm outlet and tributary conditions and verify any permitting requirements with MnDNR.

Task 203: Geotechnical Exploration

EPC Engineering & Testing will perform the geotechnical exploration work for the project. The work plan includes six (6) subsurface soil samples, one per block, to determine subgrade soil properties for pavement design and utility installation

consideration. Twelve (12) rock probes are included to establish an estimate of the bedrock elevation profile for utility installation. Additional rock probes can be performed as additional services, pending the results of the initial borings.

Task Deliverables

- Geotechnical report and estimated bedrock elevation profiles for utility installations.
- Pavement design and utility construction recommendations.

PHASE 300 – PLANS AND SPECIFICATIONS

Task 301: Base Condition Modeling

Model the existing corridor in 3D, including subsurface utilities, to better understand potential conflict locations and manage the risk of utility conflicts in the field. The model will be built on survey data, utility structure investigations, record drawings, televising, and utility service cards.

Task 302: General Plans

Develop the front-end section of the preliminary and final plans. Preliminary Plan submittal (50%) will include the title sheet as well as a list of standard details to be included. Complete the remainder of the general plan section for final plan submittal (90%).

Task 303: Road & Sidewalk Plans

E. Second Street is a two lane, one-way urban street, functionally classified as a major collector, and supports up to 5,700 vehicles per day (2012 data) within the project limits. The Duluth Superior Metropolitan Interstate Council (DSMIC), identifies Second Street as a primary vehicle thoroughfare for east-west traffic across the hill and critical link in the regional transportation network. Second Street is a DTA bus route (routes 6 & 7) within the project limits and will be the direct access point for St. Luke's emergency room.

Roadway Alignment and Profile: No change to the alignment is anticipated. Coordinate vertical profile updates at the Sixth Avenue intersection with the lowered roadway planned as part of the West Hospital District projects. MSA assumes the parking lot retaining wall for the St. Luke's Hillside Clinic along the north side of Second Street will not be affected by the grade lowering. Minor profile adjustments may be needed to meet ADA grade requirements and to match building entrances, walkways, and steps adjacent to the ROW corridor. Like many urban reconstructs, MSA will design the roadway profile "outside in" to match these existing elevations and provide ADA-compliant intersection curb ramps. The slope of the sidewalk boulevards will be adjusted using reasonable slopes to minimize roadway centerline profile deflections and cross slope adjustments needed to match the outside existing elevations and assure proper roadway slopes for drainage.

Roadway Typical Section: The existing street width is 42 feet from curb face to curb face, with two 12-foot travel lanes and two 9-foot parking lanes. It is our understanding that there is no plan or desire to reduce the number of travel lanes (which is not permissible for a one-way MSAS street), nor convert the street to two-way traffic as is under consideration for nearby First Street. Given these base conditions, we assume that only small modifications to typical section dimensions may be desired to achieve complete street design goals. Any change to the typical section should be weighed against the cost of curb and gutter replacement and consideration given for snow storage and winter maintenance.

Building entrances require elevation matching – "outside-in" design.

Parking: General site observation indicates that the parking lanes are well utilized, with higher parking concentrations in the center of the project limits near the St. Luke's hospital campus and higher density residential developments. The existing, roughly 9-foot parking lane width exceeds minimum standards of 7-8 feet for MSAS streets. The parking lane widths could be reduced to 8 feet, which would provide approximately two additional feet to use elsewhere in the corridor. The south side parking lane is also used for DTA bus stops, so any typical section narrowing may have to be adjusted at bus stop locations. Further parking lane width reduction to 7 feet would meet minimum standards, but it is not recommended for this street due to traffic volumes. St. Luke's desires to eliminate on-street parking on the lower side of Second Street between Tenth Avenue and Eleventh Avenue to reduce conflict points and improve sight lines for their new emergency room entrance, currently under construction. MSA will work with City staff to obtain stakeholder input on additional parking modifications, such as loading zones or other restrictions, and the potential for additional parking lane removal where prudent.

DTA route 7 – Stop utilizes parking lane but still blocks traffic.

Complete Street and Traffic Calming Design: There have been concerns raised by area residents and neighbors about traffic speed and difficulties crossing E. Second Street at uncontrolled intersections, particularly at the Eighth Avenue intersection. The project corridor is also within an identified Complete Streets Priority Zone in the DSMIC bikeways plan. Considering this background, traffic calming, pedestrian infrastructure improvements, and consideration for bicycle accommodations are planned for project development. MSA will further develop and vet the following list of design elements to concept level for review with City officials and project stakeholders during preliminary design.

- *Intersection Corner Curb Bump Outs* – Corner bump outs will be considered at each intersection. This design feature improves sight lines for pedestrians, shortens on-street crossing distances, and creates a visual narrowing effect that tends to lower traffic speeds. Trial bump outs (painted) are in place at the Eighth Avenue intersection and had limited success during a brief study of their implementation. DSMIC staff noted improved driver yield rates for crossing pedestrians after the bump out paint lines were placed. Bump out corners also provide additional space for constructing ADA-compliant ramps, especially at corners with limited opportunity for grading due to building corners, entrances, or retaining walls. Some corners may not be appropriate for bump outs because of DTA bus stops, utilities, or other site restrictions.
- *Mid-Block Crossings* – Mid-block crossings are not an appropriate tool for this corridor given the short block lengths and limited mid-block pedestrian destinations. However, crossing improvements at Eleventh Avenue, which could be perceived as a mid-block crossing, should be considered as it will blend well with St. Luke's planned improvements to provide an on-campus, direct pedestrian connection between E. Second Street and Superior Street.
- *Bicycle Accommodations* - The Second Street corridor is not identified as a bikeway or future bikeway in DSMIC's recently completed Duluth Superior Bikeways Plan; however, the complete streets priority zone designation suggests consideration of bicycle accommodation at some level. Narrowing travel and parking lanes could provide sufficient width within the street for bike accommodation; however, a dedicated lane is not expected to have connectivity at either end of the project and is not consistent with the adopted bikeways plan. A striped shoulder/buffer along one of the parking lanes (similar to E. Third Street) could be considered, although this extra lane width may have a negative effect on the goal of traffic calming by encouraging higher speeds. Narrowing of the existing lanes, or full utilization of the street ROW would provide room for a wide sidewalk with marking and texture designations separating bicycle and pedestrian traffic. Placing this facility on either the upper or lower side of the street would provide room for bicycles coming from the avenues and the dedicated bike facilities on Fourth Street and future facilities along First or Superior Street. The upper side of E. Second Street has few driveways and no bus stops, limiting conflict points, and could be considered for this facility.

Off-Street Bicycle Accommodation Location: S. Minneapolis, MN – Photo Credit, James Gittemeier, DSMIC

- *Retaining Walls* – There are a minimum of five retaining walls within the project corridor that may be affected by utility service or sidewalk reconstruction. The wall on the northwest quadrant of the Eighth Avenue intersection has failed and is encroaching on the sidewalk. This wall will require reconstruction for ADA ramp reconstruction. Design and plan development for a Pre-fabricated Modular Block Wall (PMBW) is included as Additional Services. The other walls on the upper side of the street may not require reconstruction, but can be completed as Additional Services. The wall adjacent to 808 E. Second Street, appears to be an old building foundation that still supports the sidewalk. It is assumed that this wall will not have to be reconstructed, but if necessary, MSA can develop plans for a cast-in-place concrete wall as Additional Services. A detailed estimate of hours is not included but will be provided during design, if necessary.

Failed retaining wall at Eighth Avenue E.

Task Deliverables

- Preliminary concept drawings (typical sections and plan layouts) for roadway modifications and traffic calming improvements.
- Preliminary and final roadway plans (See details in work plan spreadsheet).

Additional Services

- PMBW and CIP concrete retaining wall design, plans, and specs.

Task 304: Utility Design & Plans

Key components to the design and development for utility work on this project are as follows:

Utility Design Process: Utility reconstruction in this tight urban environment requires careful attention to the identification and coordination of conflicts between the utilities in the corridor. MSA will develop 3D pipe modeling of existing and proposed utility and storm sewer infrastructure in order to evaluate potential conflicts and determine a preferred corridor for new utilities. We also understand the City's desire to be actively involved in design development and plan to review design and plan development in a smaller step approach with City Engineering staff, as opposed to a simple plan submittal and review process. Plan development will be reviewed after:

- Base model development – verify the model matches the City's understanding of the utility networks.
- Preliminary network layout – horizontal and vertical concept designs.
- Preliminary plans and cost estimate.
- Final plans, cost estimate.

Due to the importance of conflict avoidance, MSA recommends utilizing hydro excavation during design to locate utilities in key areas, such that utilities can be confidently designed around these potential conflicts.

Water Main: The project scope includes replacement of the existing 12-inch cast iron main with a new 20-inch HDPE main. Design for a main of this size precludes simple field adjustments for unknown utilities, hence the importance of identifying potential conflicts during design. Our design strategy will reduce or eliminate fittings to the extent possible to reduce long term maintenance risk and costs due to leaks and failures. Bedrock is expected in this area, so locating mains to minimize rock excavation is also desired. Finally, MSA will also consider construction staging, maintaining service, and temporary connections due to the project's 2-year construction phasing in developing the water main design.

Sanitary Sewer: The project scope includes replacement of clay tile or cast iron sewer laterals within the project limits. It is understood that the existing sewer mains are deemed adequately sized and have been CIPP lined. MSA assumes that manholes will require only replacement of casting assemblies in accordance with City standards. Sewer laterals may require adjustment to avoid conflicts with the new, larger water main and MSA understands the City will provide available service cards and inspection data in the form of sewer main (and/or lateral) video inspection and reports for examination. It is MSA's plan to address these sewer connections by cutting in new service wyes and replacing the services to the property line.

Task Deliverables

- Concept utility design layouts.
- Preliminary and final utility plans (including profile), construction details and cost estimate.

Task 305: Stormwater Design & Plans

Upgrades to the storm sewer system will be based on the results of proposed utility conflict analysis, urban hydraulic study (pipe and inlet capacity), roadway design modifications (i.e. modified curb lines, curb bump outs, and ADA ramp improvements), or general catch basin and junction structure conditions. Storm sewer connections will be made at existing pipe network junctions, where possible. The storm sewer capacity will be based on the catchment area and topography – additional capacity for inlets and pipe to accommodate overflow upstream can be added by applying a capacity safety factor as directed by City staff. The plans will include up to three stormwater quality structures, similar to those included on previous projects. Stormwater quality calculations are not included for these structures.

Task Deliverables

- Preliminary and final storm sewer plans (including profile), construction details, and cost estimate.
- Stormwater report.

Task 306: SWPPP & Erosion Control

Task Deliverables

- Erosion control plan sheets.
- SWPP narrative and overview.

Task 307: Traffic Control

Our preliminary analysis of a preferred construction approach is to close E. Second Street to vehicle traffic to reduce cost and construction duration. Maintaining traffic on E. Second Street will cut the working room available to the contractor by at least thirty percent and require staged construction of utilities and the roadway structure. There are tradeoffs to a closure, including rerouting DTA routes 6 and 7 and access to St. Luke's emergency room. Closing the street will also require rerouting all of the nearly 6,000 vehicles per day that use E Second Street. The most convenient detour would be Fourth Street via Sixth Avenue E., which would nearly double the eastbound traffic volume on E. Fourth Street, pushing this movement near capacity. This will likely force traffic to other neighborhood streets, negatively affecting more of the neighborhood than just the work zone area. Considering these impacts, maintaining traffic on E. Second Street may be a more prudent option. One of the early status and stakeholder meetings will focus on traffic and the decision on staged construction or detour. St. Louis County will be asked to participate, as use of Fourth Street will require St. Louis County approval. Regardless of the option selected, parking will have to be prohibited on E. Second Street and local access to parking lots will have to be maintained, or replaced with alternate parking options, which could include a closed avenue adjacent to the project.

We also recognize the need for closures or traffic control on some of the avenues across the project. We will develop staging plans for coordination with City staff and project stakeholders, particularly the DTA and St. Luke's. Avenues such as Seventh, Ninth, and Eleventh can likely be closed for much of the project, whereas Eighth and particularly Tenth will require some form of staging or limited-term closures.

Finally, pedestrian traffic will have to be considered, including cross traffic up the avenues and access to homes and businesses along E. Second Street which should be maintained throughout construction. Special bid items and details are anticipated.

Task Deliverables

- Preliminary traffic control concepts and meeting materials.
- Preliminary and final traffic control plans and construction details (or detour route).

Task 308: Signing & Marking Plans

Task Deliverables

- Preliminary and final signing & marking plans (permanent).

Task 309: Utility Coordination

Coordinate project designs, preliminary plans, and final plans with utilities located within the project corridor. Coordination will be required for the City of Duluth (natural gas), Minnesota Power (underground and OH electric), Centurylink Telecom (underground and OH electric), and likely Spectrum (Charter) telecom. St. Luke's also has utility crossings within the right of way for their power, oxygen, and other gases. Coordinate design plans with Evergreen Energy and Duluth Energy Systems for the new hot water supply and return for St. Luke's hospital. Evergreen Energy will develop and provide the construction drawings and special provisions for inclusion in the plan. MSA will review these plans for consistency with the overall plan and design and incorporate the bid items into the bidding documents.

Due to the urban corridor and the many utility stakeholders in the right of way, MSA is suggesting holding two utility coordination meetings. The first would be an introduction to the project, discussing goals and needs from each utility. A second coordination meeting would be completed after substantial design review to allow the various utilities to comment and coordinate in

person. Individual meetings may be needed to coordinate with specific utilities, but this strategy allows for a stakeholder group to be formed and encourage a group vision to complete this project in a challenging timeframe.

Task Deliverables

- Utility coordination, including correspondence documentation.
- Existing utility conflict review.
- Review of utility relocation plans for compatibility with final design.
- Two utility meetings.

Task 310: Project Specifications

Complete project specifications, including general requirements for maintenance of traffic, erosion control, or environmental protection; special bid items; and modified standard specifications. The project will reference City of Duluth 2019 Standard Construction Specifications.

Task Deliverables

- Draft and final project specifications.

City Tasks/Deliverables

- Current template special provisions.

Task 311: Submittals

Submit 50% plans and cost estimate for City staff review. Review comments will be provided within three weeks. Submit 100% plans, specifications, and updated estimate for City staff review. Review comments will be provided within one week of submittal to meet the proposed letting schedule in the RFP.

Task Deliverables

- 50% and 100% plan submittals.

City Tasks/Deliverables

- Plan review comments.

Task 312: Permitting

Wetland permitting, MnDNR permits, and WLSSD permits are not anticipated.

Task Deliverables

- NPDES stormwater permit (MPCA).
- City Erosion and Sediment Control permit (City of Duluth).

PHASE 400 – COST ESTIMATES

Phase Deliverables

- 50% and 100% plan submittal construction cost estimates.

City Provided Tasks/Deliverables

- Recent bid results for City and State Aid street and utility projects.

PHASE 500 – BIDDING

Phase Deliverables

- Completed bid documents for inclusion in the city's electronic bidding package.
- Attend a pre-bid conference to answer contractor questions. Provide meeting materials, to include plan overview exhibits and meeting rosters.

City Provided Tasks/Deliverables

- Template and standard bidding documents.

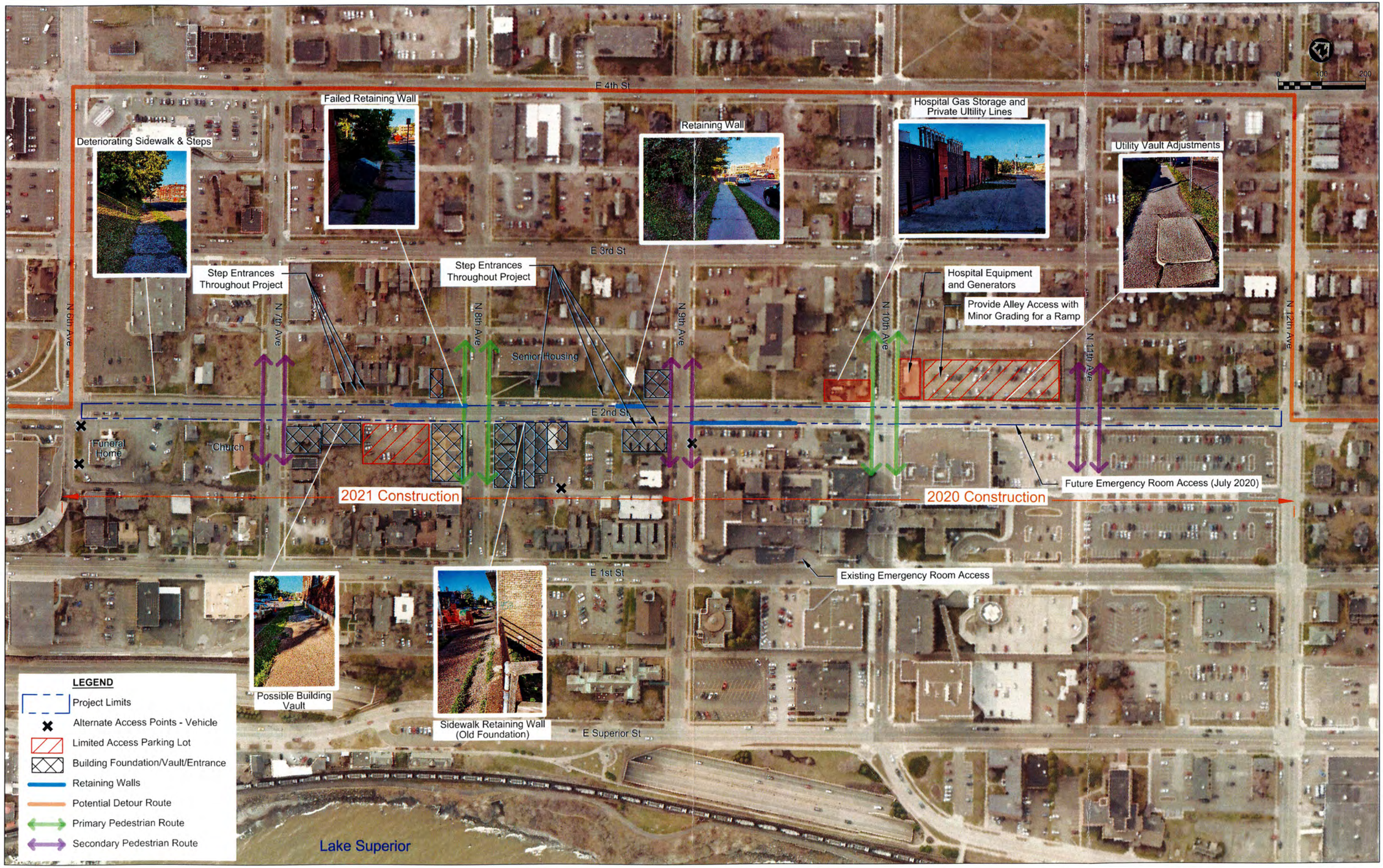
PHASES 600 & 800: CONSTRUCTION ADMINISTRATION

Provide construction administration services to include contract management, weekly construction meetings, weekly project progress reports, shop drawing review, materials testing, construction staking/layout, and project close out. Materials testing will be performed in accordance to the City of Duluth Standard Construction Specifications- 2019 Edition Appendix B – Schedule for Materials Testing. Construction staking includes one-time staking – additional staking due to contractor scheduling or operations will be performed as Additional Services on a time and materials basis. Project close will be completed at the end of each construction season, except in the overlap areas where temporary transitions are in place for the winter, and in accordance to the engineering guidelines.

PHASES 700 & 900: CONSTRUCTION INSPECTION

Provide construction inspection services. For the purposes of this proposal, the RFP is followed. Experienced construction inspectors are included due to the complexity of the project – additional inspectors may be warranted pending contractor schedule and operations. Additional inspection time can be negotiated prior to begin construction, or additional inspection services can be provided by the City as needed.

Weekly construction project status update publications for media release or City website and email updates can be provided to continue the project stakeholder coordination effort. This work is included as Additional Services.



NO.	DATE	REVISION	BY

PROJECT DATE
DRAWN BY: INIT
DESIGNED BY: INIT
CHECKED BY: INIT

PLOT DATE: Thursday, August 22, 2019 10:42:14 AM G:\00\00616\00616148\CADD\E2nd5thProposal.dwg

MSA
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332 W Superior Street, Duluth MN 55802
(218) 722-3915 www.msa-ps.com

E 2ND STREET
FROM 6TH AVE TO 12TH AVE
DULUTH, MINNESOTA

CORRIDOR ISSUES EXHIBIT

PROJECT NO.
00616148

WORK PLAN

East Second Street - Design & Construction - City Project 1851 (Bid Number 19-99516)

			Project Management		Project Engineers			Design & Construction Engineers				Engineering Technicians		Surveyors		Communications		
			Project Principal	Project Manager	Utility	Roadway	Stormwater	ADA	Utilities	Roadway	Utility	Design	Construction	PLS	Technician	Lead	Clerical	TOTAL HOURS
Phase No.	Task / Deliverable	Task No.	Miller/Ruhland	DiPiazza	Jurewicz	Kurten	Monday	Watters	Morrow	Wacker	Cooper	Solberg	Lockett	Schley	Thannum	Holmen	Seczko	
(Notes)	*Subtasks/Task notes & details*																	
100	**Initial Site Visit & Consultations**		**4**	**59**	**8**	**5**	**7**	**-**	**11**	**3**	**40**	**12**	**12**	**-**	**-**	**52**	**6**	**215**
M	**Project Kickoff Meeting**	101	1	8	2	-	-	-	-	-	-	-	-	-	-	5	-	15
	Review & confirm project schedule, scope, design criteria, deliverables, & procedures - gather city data/reports																	
	Project Site Review & Research	102	1	7	3	2	4	-	11	-	40	-	12	-	-	1	-	80
	Review project records, conduct site review, take photos, review televising and identify utilities. Inspect Brewery Creek Tunnel.																	
M	**Project Meetings & Status Updates**	103	2	44	3	3	3	-	-	3	-	12	-	-	-	46	6	120
	Project Status Meetings (3) Public Meetings (5) St Lukes Meetings (3) Project Status Updates -Design Phase (email-monthly)																	
200	**Reconnaissance, Field Surveys & Geotechnical Exploration**		**-**	**17**	**1**	**1**	**-**	**2**	**3**	**9**	**29**	**18**	**24**	**28**	**86**	**-**	**-**	**218**
	Topographic & ROW Survey	201	-	8	-	-	-	2	-	9	29	14	24	28	86	-	-	200
	Topo & ROW survey		-	8	-	-	-	-	-	3	5	14	-	28	86	-	-	
	ADA & sidewalk condition survey		-	-	-	-	-	2	-	6	-	-	-	-	-	-	-	
	Utility structure survey		-	-	-	-	-	-	-	-	24	-	24	-	-	-	-	
	Agency Coordination	202	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	6
	Pre-permit application coordination with MNDNR & MPCA																	
	Geotechnical Exploration	203	-	3	1	1	-	-	3	-	-	4	-	-	-	-	-	12
	Subsurface soil sampling and rock probes; Geotechnical Report; bedrock elevation profile																	
300	**Plans & Specifications**		**13**	**149**	**50**	**230**	**69**	**41**	**96**	**270**	**83**	**610**	**31**	**-**	**-**	**-**	**17**	**1646**
	Base Condition Modeling	301	-	2	2	6	2	-	2	-	4	32	-	-	-	-	-	50
	Model existing roadway, utility infrastructure & pipe networks																	
	General Plans	302	-	6	3	4	1	2	2	18	24	24	-	-	-	-	-	84
	Title		-	1	-	-	-	-	-	-	-	4	-	-	-	-	-	
	Alignment Sheet		-	-	-	1	-	-	-	-	-	4	-	-	-	-	-	
	Statement of Estimated Quantities (3 sheets)		-	1	-	-	-	-	-	-	-	6	-	-	-	-	-	
	Tabulations & Notes (12 sheets)		-	3	2	3	1	1	2	18	24	4	-	-	-	-	-	
	Standard plan sheets		-	-	-	-	-	1	-	-	-	2	-	-	-	-	-	
	Standard City detail sheets		-	1	1	-	-	-	-	-	-	4	-	-	-	-	-	
	Road & Sidewalk Plans	303	4	64	-	202	-	32	-	234	-	158	-	-	-	-	-	690
	Roadway design		4	44	-	146	-	12	-	204	-	-	-	-	-	-	-	
	ADA ramp design & Plans (5 intersections/sheets)		-	1	-	-	-	20	-	-	-	20	-	-	-	-	-	
	Typical section sheets (2)		-	1	-	8	-	-	-	-	-	16	-	-	-	-	-	
	Construction detail sheets (step tie ins, vaults, misc.) - (15)		-	8	-	12	-	-	-	-	-	60	-	-	-	-	-	
	Construction detail sheets - paving details (6)		-	4	-	12	-	-	-	18	-	12	-	-	-	-	-	
	Construction plan and profile sheets (6)		-	4	-	12	-	-	-	-	-	18	-	-	-	-	-	
	Cross section sheets		-	2	-	12	-	-	-	12	-	32	-	-	-	-	-	
	City Utility Design & Plans	304	2	12	32	-	-	-	72	-	28	156	16	-	-	-	-	316
	Watermain design and conflict resolution		2	4	16	-	-	-	24	-	4	-	6	-	-	-	-	
	Watermain plan & profile sheets (9)		-	-	6	-	-	-	18	-	9	60	4	-	-	-	-	
	Sewer lateral design		-	4	2	-	-	-	18	-	9	-	-	-	-	-	-	
	Sewer plan & profile sheets (6)		-	-	6	-	-	-	6	-	6	48	3	-	-	-	-	
	Sewer/Water Construction Details		-	4	2	-	-	-	6	-	-	48	3	-	-	-	-	
	Stormwater Design & Plans	305	1	11	-	-	53	-	-	-	-	120	7	-	-	-	4	195
	Watershed modeling		-	1	-	-	3	-	-	-	-	12	-	-	-	-	-	
	Pipe network layout		-	3	-	-	12	-	-	-	-	12	-	-	-	-	-	
	Pipe & inlet calculations		1	-	-	-	12	-	-	-	-	0	-	-	-	-	-	
	Storm sewer plan and profile sheets (10)		-	5	-	-	10	-	-	-	-	60	5	-	-	-	-	
	Storm sewer detail sheets (6)		-	1	-	-	4	-	-	-	-	36	2	-	-	-	-	
	Stormwater report/summary		-	1	-	-	12	-	-	-	-		-	-	-	-	4	
	SWPP & Erosion Control Plans	306	-	2	-	-	2	-	-	-	8	24	-	-	-	-	-	36
	Erosion control plan sheets and SWPP Narrative (8 sheets)																	
	Traffic Control	307	2	12	4	12	4	6	4	12	-	48	4	-	-	-	-	106
	Closed with Detour on 4th Street - OR - 1-lane of traffic with parking restrictions, 2 stages. Plans will include typical sections and plan view traffic control layout. (12 plan sheets)																	
	Pavement Marking & Signing	308	-	2	3	-	-	-	-	6	-	18	-	-	-	-	-	29
	6 plan sheets																	
	Utility Coordination	309	-	21	2	2	2	-	-	-	15	22	-	-	-	-	3	67
	Utility Coordination Meetings (3)		9	9	2	2	2	-	-	-	-	18	-	-	-	-	3	
	Gas main coordination/relocations		3	3	-	-	-	-	-	-	6	-	-	-	-	-	-	
	Duluth Energy - hot water system conflict review & plan coord.		6	6	-	-	-	-	-	-	3	4	-	-	-	-	-	
	MnPower & telecom coordination/plan labels (3 utilities)		3	3	-	-	-	-	-	-	6	-	-	-	-	-	-	
	Project Specifications	310	2	8	2	2	2	1	16	-	-	-	4	-	-	-	8	43
	General, bidding, bonding, agreements and special provisions																	
	Submittals	311	2	8	2	2	2	-	-	-	-	8	-	-	-	-	-	22
	50% & 90% Plan Reviews																	
	Permitting	312	-	1	-	-	1	-	-	-	4	-	-	-	-	-	2	8
	Permits: Construction Stormwater, Stormwater Discharge (MPCA), City Erosion Control																	

East Second Street - Design & Construction - City Project 1851 (Bid Number 19-99516)

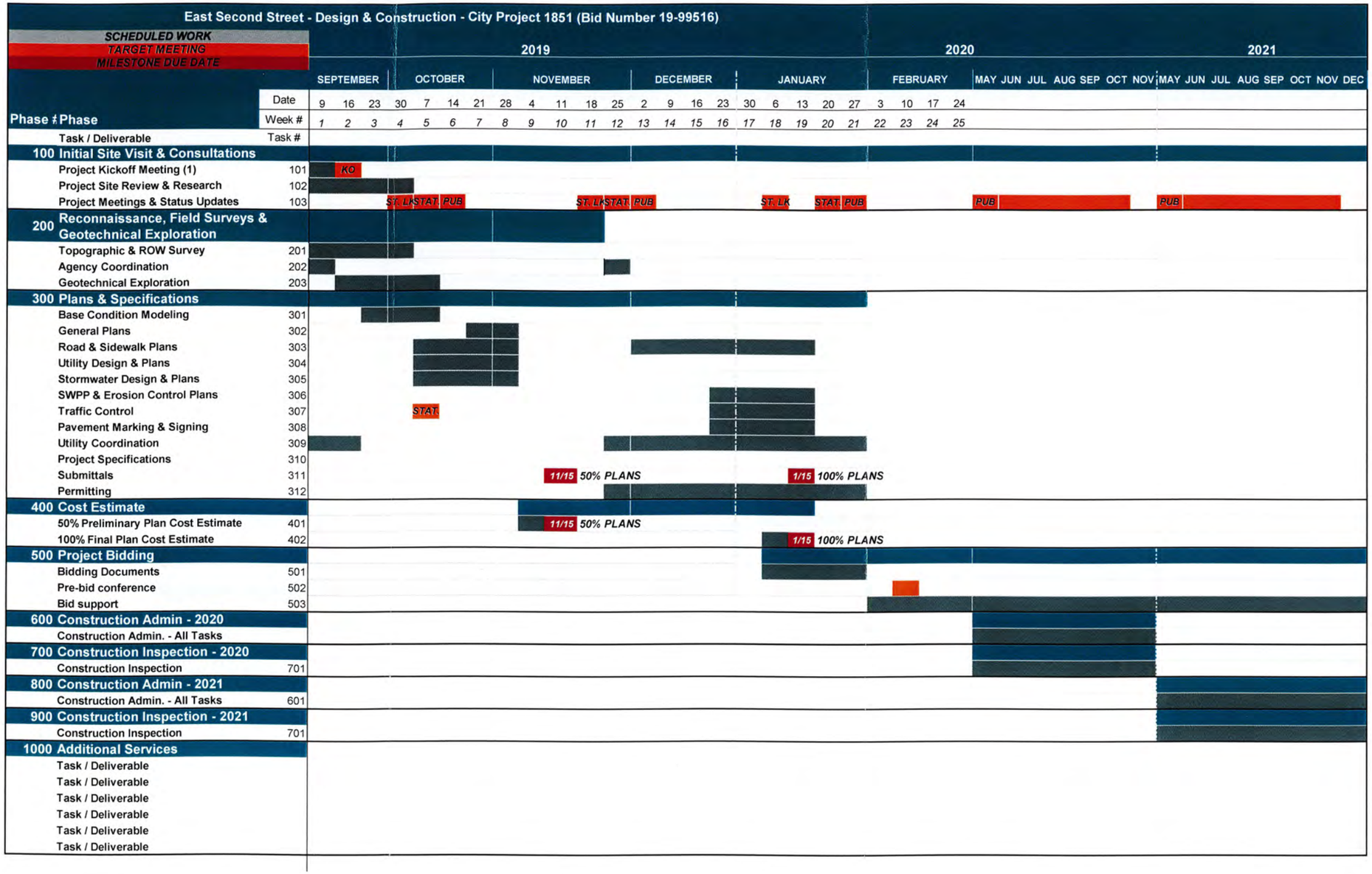
Phase No. / (Notes)	Task / Deliverable / Subtasks/Task notes & details	Task No.	Project Management: Project Principal Miller/Ruhland	Project Management: Project Manager DiPiazza	Project Engineers: Utility Jurewicz	Project Engineers: Roadway Kurten	Project Engineers: Stormwater Monday	Design & Construction Engineers: ADA Watters	Design & Construction Engineers: Utilities Morrow	Design & Construction Engineers: Roadway Wacker	Design & Construction Engineers: Utility Cooper	Engineering Technicians: Design Solberg	Engineering Technicians: Construction Lockett	Surveyors: PLS Schley	Surveyors: Technician Thannum	Communications: Lead Holmen	Communications: Clerical Seczko	TOTAL HOURS
	400 Cost Estimate		-	6	3	3	3	-	6	12	12	-	-	-	-	-	-	45
	50% Preliminary Plan Cost Estimate	401	-	2	2	2	2	-	2	4	4	-	-	-	-	-	-	18
	100% Final Plan Cost Estimate	402	-	4	1	1	1	-	4	8	8	-	-	-	-	-	-	27
	500 Project Bidding		1	12	3	1	1	-	4	-	-	4	1	-	-	-	4	30
	Bidding Documents	501	1	4	-	-	-	-	-	-	-	-	-	-	-	-	4	8
	Pre-bid conference Attend meeting (City Hall)	502	-	4	2	-	-	-	-	-	-	4	-	-	-	-	-	10
B	**Bid support** Answer bidder questions.	503	-	4	1	1	1	-	4	-	-	-	1	-	-	-	-	12
	DESIGN SUBTOTAL		18	243	65	240	80	43	120	294	164	644	68	28	86	52	27	2154
	600 Construction Administration - 2020		6	63	-	5	4	6	-	1	-	28	74	20	117	4	2	318
M	**Public Meetings - Preconstruction** Meeting #4	601	-	3	-	-	-	-	-	1	-	4	2	-	-	4	2	10
	Construction contract management Process change orders, review submittals, prepare for and attend precon	602	6	12	-	-	-	-	-	-	-	-	-	-	-	-	-	12
	Progress reports Weekly - 24 weeks, includes schedule management	603	-	12	-	-	-	-	-	-	-	-	24	-	-	-	-	36
	Shop drawing review	604	-	1	-	4	4	-	-	-	-	-	12	-	-	-	-	21
	Materials testing (Sub-Consultant) Scheduling, materials acceptance forms, subconsultant management	605	-	3	-	-	-	-	-	-	-	-	6	-	-	-	-	9
M	**Weekly Construction Meetings** 24 Weeks	606	-	24	-	-	-	-	-	-	-	-	24	-	-	-	-	48
	Survey & layout (Staking) Utilities, storm sewer, subgrade, curb, sidewalk/ada	607	-	6	-	-	-	-	-	-	-	-	-	20	117	-	-	143
	Project close out Punchlist, acceptance review, record drawings, reports, final payments	608	-	2	-	1	-	6	-	-	-	24	6	-	0	-	-	39
	700 Construction Inspection - 2020		-	-	-	-	-	-	-	600	600	-	240	-	-	-	-	1440
	Construction inspection 24 weeks, 60 hours per week	701	-	-	-	-	-	-	-	600	600	-	240	-	-	-	-	1440
	CONSTRUCTION 2020 SUBTOTAL		6	63	-	5	4	6	-	601	600	28	314	20	117	4	2	1758
	800 Construction Administration - 2021		8	63	-	5	4	6	-	1	-	28	72	20	130	4	2	329
M	**Public Meetings - Preconstruction** Meeting #5	801	-	3	-	-	-	-	-	1	-	4	-	-	-	4	2	8
	Construction contract management Process change orders, review submittals, prepare for and attend precon	802	6	12	-	-	-	-	-	-	-	-	-	-	-	-	-	12
	Progress reports Weekly - 24 weeks, includes schedule management	803	-	12	-	-	-	-	-	-	-	-	24	-	-	-	-	36
	Shop drawing review	804	-	1	-	4	4	-	-	-	-	-	12	-	-	-	-	21
	Materials testing (Sub-Consultant) Scheduling, materials acceptance forms, subconsultant management	805	-	3	-	-	-	-	-	-	-	-	6	-	-	-	-	9
M	**Weekly Construction Meetings** 24 Weeks	806	-	24	-	-	-	-	-	-	-	-	24	-	-	-	-	48
	Survey & layout (Staking) Utilities, storm sewer, subgrade, curb, sidewalk/ada	807	-	6	-	-	-	-	-	-	-	-	-	20	130	-	-	156
	Project close out Punchlist, acceptance review, record drawings, reports, final payments	808	2	2	-	1	-	6	-	-	-	24	6	-	0	-	-	39
	900 Construction Inspection - 2021		0	0	0	0	0	0	0	600	600	0	240	0	0			1440
	Construction inspection 24 weeks, 60 hours per week	901	-	-	-	-	-	-	-	600	600	-	240	-	-	-	-	1440
	CONSTRUCTION 2021 SUBTOTAL		8	63	-	5	4	6	-	601	600	28	312	20	130	4	2	1769
	GRAND TOTAL		32	369	65	250	88	55	120	1496	1364	700	694	68	333	60	31	5681

Additional Notes

M Meeting Deliverables include: Coordinate meeting schedules, prepare meeting materials (agendas, handouts, exhibits), and document meeting minutes.
Assumed meeting location is on project site or at City Hall unless otherwise noted

B City will advertise and manage bid submittals and bid opening.

WORK SCHEDULE



REFERENCES

References

City of Superior, WI
Todd Janigo
Public Works Director
51 E. First Street
Superior, WI 54880
(715) 395-7373
janigot@ci.superior.wi.us

City of Oak Grove, MN
Tim Smith
Public Works Director
19900 Nightingale Street NW
Oak Grove, MN 55011
(763) 753-1920
tsmith@ci.oak-grove.mn.us

Thomson Township, MN
Rhonda Peleski
Clerk/Treasurer
25 E. Harney Road
Esko, MN 55733
(218) 879-9719
ttwp-r.peleski@qwestoffice.net

City of Dubuque, IA
Jon Dienst
Project Manager
50 West 13th Street
Dubuque, IA 52001
(563) 589-4270
jdienst@cityofdubuque.org

CITY OF DULUTH
PURCHASING DIVISION
Room 120 City Hall
411 West First Street
Duluth, Minnesota 55802-1199
218/730-5340
purchasing@duluthmn.gov

Addendum # 1
RFP 19-99516
Engineering Services for E 2nd Street Reconstruction

This addendum serves to notify all bidders of the following changes to the solicitation documents:

CLARIFICATIONS

1. The limits of the project are from the easterly side of the 6th Avenue East right of way to the westerly side of the 12th Avenue East right of way. It is anticipated that the grades within the 6th Avenue East right of way will be lowered as part of a separate design project. The Consultant shall plan to coordinate their design with the 6th Avenue East design. If the 6th Avenue East design is not complete prior to this design, then coordination will occur during construction of this project.
2. The City assumes the construction schedule will include construction from 9th Avenue East to 12th Avenue East in 2020 and from 6th Avenue East to 9th Avenue East in 2021.
3. The Consultant shall include in the design traffic calming measures.
4. A traffic study is not required for the project.
5. No traffic signal work is included in the project.
6. Where sidewalk replacement takes place, it is anticipated that a boulevard will be included in the new design.

ADDITIONS

1. The Consultant shall review parking and loading zones within the project area.
2. Paragraph 1.d within the Scope of Services shall be modified to change the quantity of public meetings from three to five. The paragraph shall further be modified to clarify that the Consultant shall plan on three separate meetings with St. Luke's Hospital.

Please acknowledge receipt of this Addendum by returning a copy of it with your proposal.

Posted: August 1, 2019

DESIGN AND CONSTRUCTION PHASE SERVICES FOR:

East Second Street From Sixth Avenue East to Twelfth Avenue East
City of Duluth Project No. 1851

COST PROPOSAL

Prepared for:
The City of Duluth, MN
August 26, 2019

MSA

August 26, 2019

Eric Shaffer, PE | Chief Engineer
City of Duluth - Engineering Division
411 W. 1st Street, Room 211 City Hall
Duluth, Minnesota 55802

RE: Cost Proposal to Provide Design and Construction Phase Services for East Second Street from Sixth Avenue East to Twelfth Avenue East

Dear Eric and Selection Committee,

Enclosed is the cost proposal from MSA Professional Services, Inc. (MSA) for design and construction services for the reconstruction of East Second Street from Sixth Avenue East to Twelfth Avenue East. The cost proposal is based on the following:

- The breakdown of hours by task and employee, which matches the Work Plan included in the project proposal.
- Direct expense estimates and unit cost rates, summarized in the cost proposal and broken out with cost rates on a separate detail page.
- Design service fees are based on 2019 billing rates.
- Construction services fees are based on 2020 and 2021 billing rates.

MSA will sub-consult geotechnical exploration and engineering to EPC Engineering & Testing of Duluth, MN. EPC will be responsible for performing the subsurface borings and developing a geotechnical report summarizing the findings and recommending any corrective action or pavement structure requirements. Included as a separate line item are estimated costs for EPC to perform construction materials testing. The City may utilize a different materials testing firm based on existing master service agreements. This will not affect MSA's proposed fee for construction administration or inspection services.

The labor rates included in this proposal will remain in effect through project completion, which is expected before December 31, 2021.

COST PROPOSAL		
Design Phase: MSA Professional Services, Inc.		$225,949.68
2020 Construction: MSA Professional Services, Inc.		$165,609.00
2021 Construction: MSA Professional Services, Inc.		$172,588.00
	SUBTOTAL	**$564,146.68**
Geotechnical Engineering – Design Phase: EPC Engineering & Testing		$14,992.00
	GRAND TOTAL	**$579,138.68**
2020 Material Testing – Design Phase: EPC Engineering & Testing (estimate)		$8,000.00
2021 Material Testing – Design Phase: EPC Engineering & Testing (estimate)		$9,000.00

Sincerely,
MSA Professional Services, Inc.

Joe Jurewicz, PE
Team Leader - Minnesota Program

Jason DiPiazza, PE
Project Manager

East Second Street - Design & Construction - City Project 1851 (Bid Number 19-99516)																				
			Project Management		Project Engineers			Design & Construction Engineers				Engineering Technicians		Surveyors		Communications		TOTAL HOURS	COST PROPOSAL		
			Project Principal	Project Manager	Utility	Roadway	Stormwater	ADA	Utilities	Roadway	Utility	Design	Construction	PLS	Technician	Lead	Clerical		LABOR	EXPENSES	TOTAL
			Miller/ Ruhland	DiPiazza	Jurewicz	Kurten	Monday	Watters	Morrow	Wacker	Cooper	Solberg	Lockett	Schley	Thannum	Holmen	Seczko				
		2019 Billing Rate	$180.00	$130.00	$130.00	$125.00	$125.00	$105.00	$130.00	$80.00	$85.00	$85.00	$95.00	$115.00	$65.00	$85.00	$60.00				
100	**Initial Site Visit & Consultations**		4	59	8	5	7	0	11	3	40	12	12	0	0	52	6	215	$22,940.00	$ 1,663.20	$24,603.20
M	Project Kickoff Meeting	101	1	8	2	-	-	-	-	-	-	-	-	-	-	5	-	15			
	Project Site Review & Research	102	1	7	3	2	4	-	11	-	40	-	12	-	-	1	-	80			
M	Project Meetings & Status Updates	103	2	44	3	3	3	-	-	3	-	12	-	-	-	46	6	120			
200	**Reconnaissance, Field Surveys & Geotechnical Exploration**		-	17	1	1	-	2	3	9	29	18	24	28	86	-	-	218	$18,870.00	$ 7,121.48	$25,991.48
	Topographic & ROW Survey	201	-	8	-	-	-	2	-	9	29	14	24	28	86	-	-	200			
	Agency Coordination	202	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	6			
	Geotechnical Exploration	203	-	3	1	1	-	-	3	-	-	4	-	-	-	-	-	12			
300	**Plans & Specifications**		13	149	50	230	69	41	96	270	83	610	31	0	0	0	17	1646	$166,840.00	$ 260.00	$167,100.00
	Base Condition Modeling	301	-	2	2	6	2	-	2	-	4	32	-	-	-	-	-	50			
	General Plans	302	-	6	3	4	1	2	2	18	24	24	-	-	-	-	-	84			
	Road & Sidewalk Plans	303	4	64	-	202	-	32	-	234	-	158	-	-	-	-	-	690			
	City Utility Design & Plans	304	2	12	32	-	-	-	72	-	28	156	16	-	-	-	-	316			
	Stormwater Design & Plans	305	1	11	-	-	53	-	-	-	-	120	7	-	-	-	4	195			
	SWPP & Erosion Control Plans	306	-	2	-	-	2	-	-	-	8	24	-	-	-	-	-	36			
	Traffic Control	307	2	12	4	12	4	6	4	12	-	48	4	-	-	-	-	106			
	Pavement Marking & Signing	308	-	2	3	-	-	-	-	6	-	18	-	-	-	-	-	29			
	Utility Coordination	309	-	21	2	2	2	-	-	-	15	22	-	-	-	-	3	67			
	Project Specifications	310	2	8	2	2	2	1	16	-	-	-	4	-	-	-	8	43			
	Submittals	311	2	8	2	2	2	-	-	-	-	8	-	-	-	-	-	22			
	Permitting	312	-	1	-	-	1	-	-	-	4	-	-	-	-	-	2	8			
400	**Cost Estimate**		-	6	3	3	3	-	6	12	12	-	-	-	-	-	-	45	$4,680.00	$ -	$4,680.00
	50% Preliminary Plan Cost Estimate	401	-	2	2	2	2	-	2	4	4	-	-	-	-	-	-	18			
	100% Final Plan Cost Estimate	402	-	4	1	1	1	-	4	8	8	-	-	-	-	-	-	27			
500	**Project Bidding**		1	12	3	1	1	-	4	-	-	4	1	-	-	-	4	30	$3,575.00	$ -	$3,575.00
	Bidding Documents	501	1	4	-	-	-	-	-	-	-	-	-	-	-	-	4	8			
	Pre-bid conference	502	-	4	2	-	-	-	-	-	-	4	-	-	-	-	-	10			
	Bid support	503	-	4	1	1	1	-	4	-	-	-	1	-	-	-	-	12			
	DESIGN SUBTOTAL		18	243	65	240	80	43	120	294	164	644	68	28	86	52	27	2154	$216,905.00	$ 9,044.68	$225,949.68

East Second Street - Design & Construction - City Project 1851 (Bid Number 19-99516)																				
		Project Management		Project Engineers			Design & Construction Engineers				Engineering Technicians		Surveyors		Communications		TOTAL HOURS	COST PROPOSAL		
		Project Principal	Project Manager	Utility	Roadway	Stormwater	ADA	Utilities	Roadway	Utility	Design	Construction	PLS	Technician	Lead	Clerical		LABOR	EXPENSES	TOTAL
		Miller/ Ruhland	DiPiazza	Jurewicz	Kurten	Monday	Watters	Morrow	Wacker	Cooper	Solberg	Lockett	Schley	Thannum	Holmen	Seczko				
	2020 Billing Rate	$186.00	$134.00	$134.00	$129.00	$129.00	$109.00	$134.00	$83.00	$88.00	$88.00	$98.00	$119.00	$67.00	$88.00	$62.00				
600	**Construction Administration - 2020**	6	63	-	5	4	6	-	1	-	28	74	20	117	4	2	318	$31,867.00	$ 4,100.00	$35,967.00
M	Public Meetings - Preconstruction 601	-	3	-	-	-	-	-	1	-	4	2	-	-	4	2	10			
	Construction contract management 602	6	12	-	-	-	-	-	-	-	-	-	-	-	-	-	12			
	Progress reports 603	-	12	-	-	-	-	-	-	-	-	24	-	-	-	-	36			
	Shop drawing review 604	-	1	-	4	4	-	-	-	-	-	12	-	-	-	-	21			
	Materials testing (Sub-Consultant) 605	-	3	-	-	-	-	-	-	-	-	6	-	-	-	-	9			
M	Weekly Construction Meetings 606	-	24	-	-	-	-	-	-	-	-	24	-	-	-	-	48			
	Survey & layout (Staking) 607	-	6	-	-	-	-	-	-	-	-	-	20	117	-	-	143			
	Project close out 608	0	2	-	1	-	6	-	-	-	24	6	-	0	-	-	39			
700	**Construction Inspection - 2020**	-	-	-	-	-	-	-	600	600	-	240	-	-	-	-	1440	$126,120.00	$ 3,522.00	$129,642.00
	Construction inspection 701	-	-	-	-	-	-	-	600	600	-	240	-	-	-	-	1440			
	CONSTRUCTION 2020 SUBTOTAL	6	63	-	5	4	6	-	601	600	28	314	20	117	4	2	1758	$157,987.00	$ 7,622.00	$165,609.00

		Project Management		Project Engineers			Design & Construction Engineers				Engineering Technicians		Surveyors		Communications		TOTAL HOURS	COST PROPOSAL		
		Project Principal	Project Manager	Utility	Roadway	Stormwater	ADA	Utilities	Roadway	Utility	Design	Construction	PLS	Technician	Lead	Clerical		LABOR	EXPENSES	TOTAL
		Miller/ Ruhland	DiPiazza	Jurewicz	Kurten	Monday	Watters	Morrow	Wacker	Cooper	Solberg	Lockett	Schley	Thannum	Holmen	Seczko				
	2021 Billing Rate	$192.00	$139.00	$139.00	$133.00	$133.00	$113.00	$139.00	$86.00	$91.00	$91.00	$101.00	$123.00	$70.00	$91.00	$64.00				
800	**Construction Administration - 2021**	8	63	-	5	4	6	-	1	-	28	72	20	130	4	2	329	$34,126.00	$ 4,500.00	$38,626.00
M	Public Meetings - Preconstruction 801	-	3	-	-	-	-	-	1	-	4	-	-	-	4	2	8			
	Construction contract management 802	6	12	-	-	-	-	-	-	-	-	-	-	-	-	-	12			
	Progress reports 803	-	12	-	-	-	-	-	-	-	-	24	-	-	-	-	36			
	Shop drawing review 804	-	1	-	4	4	-	-	-	-	-	12	-	-	-	-	21			
	Materials testing (Sub-Consultant) 805	-	3	-	-	-	-	-	-	-	-	6	-	-	-	-	9			
M	Weekly Construction Meetings 806	-	24	-	-	-	-	-	-	-	-	24	-	-	-	-	48			
	Survey & layout (Staking) 807	-	6	-	-	-	-	-	-	-	-	-	20	130	-	-	156			
	Project close out 808	2	2	-	1	-	6	-	-	-	24	6	-	0	-	-	39			
900	**Construction Inspection - 2021**	-	-	-	-	-	-	-	600	600	-	240	-	-	-	-	1440	$130,440.00	$ 3,522.00	$133,962.00
	Construction inspection 901	-	-	-	-	-	-	-	600	600	-	240	-	-	-	-	1440			
	CONSTRUCTION 2021 SUBTOTAL	8	63	-	5	4	6	-	601	600	28	312	20	130	4	2	1769	$164,566.00	$ 8,022.00	$172,588.00
	GRAND TOTAL	32	369	65	250	88	55	120	1496	1364	700	694	68	333	60	31	5681	$539,458.00	$24,688.68	$564,146.68

East Second Street - Design & Construction - City Project 1851 (Bid Number 19-99516)

			Prints / Copies	Mileage	Plots	Postage	Survey GPS	Survey Truck	MISC. EQUIP	TOTAL EXPENSES
			EACH	MILE	EACH	DOL	HR	MILE	DOL	
		2019 Billing Rate	$0.10	$0.58	$10.00	$1.00	$40.00	$70.00	$1.00	
100	**Initial Site Visit & Consultations**		2100	40	21	150	-	11	300	$ 1,663.20
M	Project Kickoff Meeting	101	200	-	1	-	-	-	-	
	Project Site Review & Research	102	100	20	-	-	-	11	300	
M	Project Meetings & Status Updates	103	1800	20	20	150	-	-	-	
200	**Reconnaissance, Field Surveys & Geotechnical Exploration**		9	1	1	-	50	73	-	$ 7,121.48
	Topographic & ROW Survey	201	-	-	-	-	50	70	-	
	Agency Coordination	202	6	-	-	-	-	-	-	
	Geotechnical Exploration	203	3	1	1	-	-	3	-	
300	**Plans & Specifications**		2600	-	-	-	-	-	-	$ 260.00
	Base Condition Modeling	301	-	-	-	-	-	-	-	
	General Plans	302	100	-	-	-	-	-	-	
	Road & Sidewalk Plans	303	500	-	-	-	-	-	-	
	City Utility Design & Plans	304	500	-	-	-	-	-	-	
	Stormwater Design & Plans	305	200	-	-	-	-	-	-	
	SWPP & Erosion Control Plans	306	100	-	-	-	-	-	-	
	Traffic Control	307	200	-	-	-	-	-	-	
	Pavement Marking & Signing	308	100	-	-	-	-	-	-	
	Utility Coordination	309	200	-	-	-	-	-	-	
	Project Specifications	310	100	-	-	-	-	-	-	
	Submittals	311	500	-	-	-	-	-	-	
	Permitting	312	100	-	-	-	-	-	-	
400	**Cost Estimate**		-	-	-	-	-	-	-	$ -
	50% Preliminary Plan Cost Estimate	401	-	-	-	-	-	-	-	
	100% Final Plan Cost Estimate	402	-	-	-	-	-	-	-	
500	**Project Bidding**		-	-	-	-	-	-	-	$ -
	Bidding Documents	501	-	-	-	-	-	-	-	
	Pre-bid conference	502	-	-	-	-	-	-	-	
	Bid support	503	-	-	-	-	-	-	-	

East Second Street - Design & Construction - City Project 1851 (Bid Number 19-99516)

			Prints / Copies	Mileage	Plots	Postage	Survey GPS	Survey Truck	MISC. EQUIP	TOTAL EXPENSES
			EACH	MILE	EACH	DOL	HR	MILE	DOL	
		2020 Billing Rate	$0.10	$0.58	$10.00	$1.00	$40.00	$70.00	$1.00	
600	**Construction Administration - 2020**		1000	-	-	-	100	-	-	$ 4,100.00
M	Public Meetings - Preconstruction	601	100	-	-	-	-	-	-	
	Construction contract management	602	100	-	-	-	-	-	-	
	Progress reports	603	-	-	-	-	-	-	-	
	Shop drawing review	604	200	-	-	-	-	-	-	
	Materials testing (Sub-Consultant)	605	-	-	-	-	-	-	-	
M	Weekly Construction Meetings	606	500	-	-	-	-	-	-	
	Survey & layout (Staking)	607	-	-	-	-	100	-	-	
	Project close out	608	100	-	-	-	-	-	-	
700	**Construction Inspection - 2020**		-	900	-	-	60	-	600	$ 3,522.00
	Construction inspection	701	-	900	-	-	60	-	600	
		2021 Billing Rate	$0.10	$0.58	$10.00	$1.00	$40.00	$70.00	$1.00	
800	**Construction Administration - 2021**		1000	-	-	-	110	-	-	$ 4,500.00
M	Public Meetings - Preconstruction	801	100	-	-	-	-	-	-	
	Construction contract management	802	100	-	-	-	-	-	-	
	Progress reports	803	-	-	-	-	-	-	-	
	Shop drawing review	804	200	-	-	-	-	-	-	
	Materials testing (Sub-Consultant)	805	-	-	-	-	-	-	-	
M	Weekly Construction Meetings	806	500	-	-	-	-	-	-	
	Survey & layout (Staking)	807	-	-	-	-	110	-	-	
	Project close out	808	100	-	-	-	-	-	-	
900	**Construction Inspection - 2021**		-	900	-	-	60	-	600	$ 3,522.00
	Construction inspection	901	-	900	-	-	60	-	600	
	GRAND TOTAL		369	65	250	88	55	120	1496	$24,688.68

Additional Notes

M Meeting Deliverables include: Coordinate meeting schedules, prepare meeting materials (agendas, handouts, exhibits), and document meeting minutes. Assumed meeting location is on project site or at City Hall unless otherwise noted

B City will advertise and manage bid submittals and bid opening.

East Second Street - Design & Construction - City Project 1851 (Bid Number 19-99516)

ADDITIONAL SERVICES

			Project Management		Project Engineers					Design & Construction Engineers				Engineering Technicians		Surveyors		Communications			COST PROPOSAL		
			Project Principal	Project Manager	Utility	Roadway	Stormwater	Structures	Utilities	Roadway	Construction	Design	Construction	PLS	Technician	Lead	Clerical	TOTAL HOURS	LABOR	EXPENSES	TOTAL
			Miller/ Ruhland	DiPiazza	Jurewicz	Kurten	Monday	Busch	Morrow	Wacker	Cooper	Solberg	Lockett	Schley	Thannum	Holmen	Szecko				
		2019 Billing Rate	$180.00	$130.00	$130.00	$125.00	$125.00	$105.00	$130.00	$80.00	$85.00	$85.00	$95.00	$115.00	$65.00	$85.00	$60.00				
		2020 Billing Rate	$186.00	$134.00	$134.00	$129.00	$129.00	$109.00	$134.00	$83.00	$88.00	$88.00	$98.00	$119.00	$67.00	$88.00	$62.00				
		2021 Billing Rate	$192.00	$139.00	$139.00	$133.00	$133.00	$113.00	$139.00	$86.00	$91.00	$91.00	$101.00	$123.00	$70.00	$91.00	$64.00				
Phase No.	Task / Deliverable	Task No.																			
(Notes)	*Subtasks/Task notes & details*																				
100	**Initial Site Visit & Consultations**		-	10	-	-	-	-	-	-	10	4	-	-	-	-	-	24	$2,490.00	$ -	$2,490.00
	Project Site Review & Research	150	-	10	-	-	-	-	-	-	10	4	-	-	-	-	-	24			
	Conduct door to door basement vault investigations (2019)																				
300	**Plans & Specifications**		-	2	0	5	0	10	0	0	0	20	0	0	3			40	$3,830.00	$ -	$3,830.00
	Retaining Wall Design & Plans	350	-	2	-	5	-	10	-	-	-	20	-	-	3	-	-	40			
	Develop plans and specifications for retaining walls. Cost estimate provided is for one wall, Prefabricated Modular Block Wall design with less than 5' exposed height and less than 100' in length																				
600	**Construction Administration**		-	3	-	-	-	-	-	-	-	-	-	-	-	24	-	27	$2,514.00	$ 400.00	$2,914.00
	Weekly Project Status Publications	650	-	3	-	-	-	-	-	-	-	-	-	-	-	24	-	27			
	Provide weekly project status update doucments for city use on website, media release, or email list serve publication																				
800	**Construction Administration**		-	5	-	-	-	-	-	-	6	-	12	-	-	24	-	20	$4,637.00	$ 400.00	$5,037.00
	Weekly Project Status Publications	850	-	3	-	-	-	-	-	-	-	-	-	-	-	24	-	27			
	Provide weekly project status update doucments for city use on website, media release, or email list serve publication																				
	Additional Tunnel Inspection	851	-	2	-	-	-	-	-	-	6	-	12	-	-	-	-	20			
	Brewery Creek stormwater tunnel - post construction. (2021)																				