CITY		ENGINEER	
CITY OF JOPLIN **602 S. MAIN STREET** **JOPLIN, MO 64801**		Name: Olsson Associates Address: 714 South Main Street Joplin, MO 64801	
Attention: Troy Bolander/Nick Heatherly		Attention: Jack Schaller	
Department: Public Works		Phone: (417) 206-9000	Fax: (417) 206-9002
Phone: 417-624-0820	Fax:		

WORK AUTHORIZATION NUMBER ___
TO AGREEMENT FOR PROFESSIONAL ENGINEERING CONSULTING SERVICES

City and Engineer agree to amend their Agreement for Professional Engineering Consulting Services to include a scope of work and fees for engineering services, by adding the following terms to their Agreement.

1. **Services**. The City agrees to engage the services of the Engineer and the Engineer agrees to perform the services hereinafter set forth in connection with projects described in ***Exhibit A***.

2. **Addition to Services**. The City may add to the Engineer services or delete therefrom activities of a similar nature to those set forth in ***Exhibit A***, provided that the total cost of such work does not exceed the total cost allowance as specified in Paragraph 5 hereof. The Engineer shall undertake such changed activities only upon the direction of the City. All such directives and changes shall be in written form and prepared and approved by the City and shall be accepted and countersigned by the Engineer.

3. **Term**. The services of the Engineer shall commence as soon as practicable after the execution of this contract, unless otherwise directed in writing, and shall be undertaken and completed in such sequence as to assure their expeditious completion in the light of the purposes of the contract, but in any event, all of the services required hereunder shall be completed as set forth in the schedule for the project which is attached hereto as ***Exhibit A***.

4. **Costs not to Exceed**. The City of Joplin is limited by law with respect to the amount of money it can pay. Therefore, the City has established a fixed sum for this contract, which cannot be exceeded unless this contract is amended. The Engineer providing services hereunder shall be required to keep track of the amount of hours billable under this contract at all times; and any work in excess of the fixed sum shall not be eligible for payment. The Engineer shall notify the City if Engineer anticipates that the contract amount may be exceeded, in order to determine whether or not the City is prepared to increase the total compensation. The Engineer shall establish a billing system showing the amount of money remaining on the contract, which shall be shown in each monthly billing.

5. **Payment**.

a. **Conditioned upon acceptable performance**. The City agrees to pay the Engineer in accordance with the terms set forth in ***Exhibit A***, which shall constitute complete compensation for all services to be rendered under this contract; provided, that where payments are to be made periodically to Engineer for services rendered under this contract, the City expressly reserves the right to disapprove in whole or in part a request for payment where the services rendered during the period for which payment is claimed are not performed in a timely and satisfactory manner in accordance with the schedule and description of services set forth in ***Exhibit A***.

b. **Total compensation not to exceed**. It is expressly understood that in no event will the total compensation and reimbursement to be paid to the Engineer under the terms of this work Authorization Number ___ exceed the sum of Eight hundred, nine hundred ninety-nine thousand Dollars ($899,000).

6. **Insurance**. Without limiting any of the other obligations or liabilities of the Engineer, the Engineer shall secure and maintain at its own cost and expense, throughout the duration of this Contract and until the work is completed and accepted by the City of Joplin, insurance of such types and in such amounts as may be necessary to protect it and the interests of the City of Joplin against all hazards or risks of loss as hereunder specified or which may arise out of the performance of the Contract Documents. The form and limits of such insurance, together with the underwriter thereof in each case, are subject to approval by the City of Joplin. Regardless

of such approval, it shall be the responsibility of the Engineer to maintain adequate insurance coverage at all times during the term of the Contract. Failure of the Engineer to maintain coverage shall not relieve it of any contractual responsibility or obligation or liability under the Contract Documents.

The certificates of insurance, including evidence of the required endorsements hereunder or the policies, shall be filed with the City at the time that this contract is signed by the Engineer. All insurance policies shall provide thirty (30) days written notice to be given by the insurance company in question prior to cancellation or non-renewal of such insurance. Such notices shall be mailed, certified mail, return receipt requested, to:

City of Joplin - Public Works, 602 S. Main, Joplin, MO 64801; and

All policies except for the professional liability policy shall name the City as an additional insured with limits of liability not less than the sovereign immunity limits for Missouri public entities calculated by the Missouri Department of Insurance as of January 1 each calendar year and published annually in the Missouri Register pursuant to Section 537.610, RSMo.
(See, http://insurance.mo.gov/industry/sovimmunity.php).

As of January 1, 2015, the minimum coverage for the insurance referred to herein shall be as set out below:

a. Workers' Compensation….Statutory coverage per RSMo 287.010 et seq.
Employer's Liability……. $1,000,000.00

b. Commercial General Liability Insurance, including coverage for Contractual Liability and Independent Contractors Liability. Such coverage shall apply to bodily injury and property damage on an "Occurrence Form Basis" with limits of at least Two Million Seven Hundred Twenty-Seven Thousand Four Hundred Eighty-Nine and no/100 Dollars ($2,727,489.00) for all claims arising out of a single accident or occurrence and at least Four Hundred Nine Thousand One Hundred Twenty-Three and no/100 Dollars ($409,123.00) with respect to injuries and/or death of any one person in a single occurrence and an amount not less than at least $1,000,000 for all claims to property arising out of a single occurrence and at least $100,000 to any one owner with respect to damages to property. Engineer agrees that the proceeds of such insurance policy shall first be used to pay any award, damages, costs, and/or attorneys' fees incurred by or assessed against City, its employees, officers and agents, before payment of any award, damages, costs or attorneys fees of Engineer, its employees, officers or agents. Engineer agrees to cause its insurer to name City as an additional insured on such insurance policy, including the City as an additional insured for coverage under its products-completed operations hazard, and said policy shall be primary and noncontributory.

c. Automobile Liability Insurance covering bodily injury and property damage for owned, non-owned and hired vehicles, with limits of at least Two Million Seven Hundred Twenty-Seven Thousand Four Hundred Eighty-Nine and no/100 Dollars ($2,727,489.00) for all claims arising out of a single accident or occurrence and at least Four Hundred Nine Thousand One Hundred Twenty-Three and no/100 Dollars ($409,123.00) with respect to injuries and/or death of any one person in a single accident or occurrence.

d. Errors and Omissions Insurance. The Engineer shall maintain a professional liability insurance policy in the amount of $1,000,000.00 on both a per-claim and an aggregate basis. This policy shall remain in full force and effect for a period of one year after completion and acceptance by the City of the construction of the project.

e. Subcontracts. In case any or all of this work is sublet, the Engineer shall require the subcontractor to procure and maintain all insurance required in subparagraphs (A), (B) and (C) hereof and in like amounts. Engineer shall require any and all subcontractors with whom it enters into a contract to perform work on this project to protect the City of Joplin through insurance against applicable hazards or risks and shall, upon request of the City, provide evidence of such insurance.

f. Notice. The Engineer and/or subcontractor shall furnish the City prior to beginning the work satisfactory proof of carriage of all the insurance required by this contract, with the provision that policies shall not be canceled, modified or non-renewed without thirty (30) days written notice to the City of Joplin.

g. Legislative or Judicial Changes. In the event the scope or extent of the City's tort liability as a governmental entity as described in Section 537.600 through 537.650 RSMo is broadened or increased during the term of this agreement by legislative or judicial action, the City may require Engineer, upon 10 days written notice, to execute a contract addendum whereby the Engineer agrees to provide, at a price not exceeding Engineer's actual increased premium cost, additional liability insurance coverage as the City may require to protect the City from increased tort liability exposure as the result of such legislative or judicial action. Any such

additional insurance coverage shall be evidenced by an appropriate certificate of insurance and shall take effect within the time set forth in the addendum.

7. All other terms and conditions of the original Agreement shall remain in effect.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals on the day and year herein stated.

REVIEWED FOR APPROVAL

Name & Title of Staff Project Manager

CERTIFICATE OF DIRECTOR OF FINANCE

I certify that the expenditure contemplated by this document is within the purpose of the appropriation to which it is to be charged and that there is an unencumbered balance of appropriated and available funds to pay therefore.

Leslie Haase, Director of Finance

APPROVED AS TO FORM

Peter Edwards, City Attorney

Engineer: Olsson Associates

By: Jeffrey S. Jenkins

Printed Name: Jeffrey S. Jenkins

Title: CFO

Date: 9-14-15

CITY OF JOPLIN, MISSOURI

By: Nicholas A. Heatherly, P.E.
Public Works Director

Date: 9/18/15

Engineering Services Agreement

Article 1 of the Agreement is supplemented to include the following agreement of the parties.

Engineer shall provide Basic and Additional Services as set forth below.

PART 1 – BASIC SERVICES: *All deliverables referred to in the agreement shall also be provided in an electronic format to be specified by the City.*

A1.01 *Conceptual Phase*

A. Engineer shall:

1. Consult with Owner to define and clarify Owner's requirements for the Project, including design objectives and constraints, space, capacity and performance requirements, flexibility, and expandability, and any budgetary limitations, and identify available data, information, reports, facilities plans, and site evaluations.

~~If Owner has already identified one or more potential solutions to meet its Project requirements, then proceed with the study and evaluation of such potential solutions. Options will be discussed and agreed to by Engineer at scoping meeting.~~

2. Identify potential solution(s) to meet Owner's Project requirements, as needed.

3. Study and evaluate the potential solution(s) to meet Owner's Project requirements.

4. Visit the Site, or potential Project sites, to review existing conditions and facilities, unless such visits are not necessary or applicable to meeting the objectives of the Study and Report Phase.

5. Advise Owner of any need for Owner to obtain, furnish, or otherwise make available to Engineer additional Project-related data and information, for Engineer's use in the study and evaluation of potential solution(s) to Owner's Project requirements, and preparation of a related report.

6. After consultation with Owner, recommend to Owner the solution(s) which in Engineer's judgment meet Owner's requirements for the Project.

7. Identify, consult with, and analyze requirements of governmental authorities having jurisdiction to approve the portions of the Project to be designed or specified by Engineer, including but not limited to mitigating measures identified in an environmental assessment for the Project.

8. Prepare a conceptual report (the "Report") which will, as appropriate, contain schematic layouts, sketches, and conceptual design criteria with appropriate exhibits to indicate the agreed-to requirements, considerations involved, and Engineer's recommended solution(s). For each recommended solution Engineer

will provide the following, which will be separately itemized: opinion of probable Construction Cost; proposed allowances for contingencies; the estimated total costs of design, professional, and related services to be provided by Engineer and its Consultants; and, on the basis of information furnished by Owner, a tabulation of other items and services included within the definition of Total Project Costs.

9. Advise Owner of any need for Owner to provide data or services of the types described in Exhibit B, for use in Project design, or in preparation for Contractor selection and construction.

10. When mutually agreed, assist Owner in evaluating the possible use of building information modeling; civil integrated management; geotechnical baselining of subsurface site conditions; innovative design, contracting, or procurement strategies; or other strategies, technologies, or techniques for assisting in the design, construction, and operation of Owner's facilities. The subject matter of this paragraph shall be referred to in Exhibit A and B as "Project Strategies, Technologies, and Techniques."

11. If requested to do so by Owner, assist Owner in identifying opportunities for enhancing the sustainability of the Project, and pursuant to Owner's instructions plan for the inclusion of sustainable features in the design.

12. Develop a scope of work and survey limits for any topographic and other surveys necessary for design.

13. Perform or provide the following other Study and Report Phase tasks or deliverables:

14. Furnish 6 review copies of the Report and any other Study and Report Phase deliverables to Owner by the due date and review by phone or in person with Owner.

15. Revise the Report and any other Study and Report Phase deliverables in response to Owner's comments, as appropriate, and furnish 6 copies of the revised Report and any other Study and Report Phase deliverables to the Owner by the agreed upon due date.

B. Engineer's services under the Study and Report Phase will be considered complete on the date when Engineer has delivered to Owner the revised Report and any other Study and Report Phase deliverables.

C. Billing/Payment Processing Options

1. Request for payment may be submitted at appropriate intervals during the contract. Application for payment must include a detailed breakdown of deliverables completed as well as specific tasks or percentages of specific tasks completed. Payment schedule will be at the approval of the city.

2. Deliverables option as determined by engineering staff on a project by project basis. Example: 30 percent – Preliminary plans, 60 percent Right of Way plans, 90 percent Final plans and bid documents, 100 percent project completion.

A1.02 Preliminary Design Phase - (30 percent plans)

A. Proceed with Preliminary Design Phase after the completion of the Conceptual phase which includes: Acceptance by Owner of the Conceptual Report and any other Study and Report Phase deliverables; selection by Owner of a recommended solution; issuance by Owner of any instructions for use of Project Strategies, Technologies, and Techniques, or for inclusion of sustainable features in the design, and Indication by Owner of any specific modifications or changes in the scope, extent, character, or design requirements of the Project desired by Owner.

1. Prepare Preliminary Design Phase documents consisting of final design criteria, preliminary drawings, outline specifications, and written descriptions of the Project.

2. Include on plans, property lines, structure locations, ownership names and contact information.

3. In preparing the Preliminary Design Phase documents, use any specific applicable Project Strategies, Technologies, and Techniques authorized by Owner during or following the Study and Conceptual Phase, and include sustainable features, as appropriate, pursuant to Owner's instructions.

4. Provide necessary field surveys, topographic and utility mapping for Engineer's design purposes. Comply with the scope of work and procedure for the identification and mapping of existing utilities as defined by Section A1.03 "Utility Requirements" and Section A1.04 "Survey Services"

5. Visit the Site as needed to prepare the Preliminary Design Phase documents.

6. Advise Owner if additional reports, data, information, or services of the types described are necessary and assist Owner in obtaining such reports, data, information, or services.

7. Continue to assist Owner with Project Strategies, Technologies, and Techniques that Owner has chosen to implement.

8. Based on the information contained in the Preliminary Design Phase documents, prepare a revised opinion of probable Construction Cost, and assist Owner in tabulating the various cost categories which comprise Total Project Costs.

9. Obtain and review Owner's instructions regarding Owner's procurement of construction services (including instructions regarding advertisements for bids, instructions to bidders, and requests for proposals, as applicable), Owner's construction contract practices and requirements, insurance and bonding requirements, electronic transmittals during construction, and other information necessary for the finalization of Owner's bidding-related documents (or requests for proposals or other construction procurement documents), and Construction Contract Documents. Also obtain and review copies of Owner's design and construction standards, Owner's standard forms, general conditions, supplementary conditions, text, and related documents or content for Engineer

to include in the draft bidding-related documents (or requests for proposals or other construction procurement documents), and in the draft Construction Contract Documents, when applicable.

10. Development communication plan for project: considering the use of door hangers, letters, public meetings, changeable message boards.

11. Furnish 6 review copies of the Preliminary Design Phase documents, opinion of probable Construction Cost, and any other Preliminary Design Phase deliverables to Owner by established due date, and review them with Owner. Owner shall submit to Engineer any comments regarding the furnished items.

12. Revise the Preliminary Design Phase documents, opinion of probable Construction Cost, and any other Preliminary Design Phase deliverables in response to Owner's comments, as appropriate, and furnish to Owner 6 copies of the revised Preliminary Design Phase documents, revised opinion of probable Construction Cost, and any other deliverables by the specified due date.

13. Engineer's services under the Preliminary Design Phase will be considered complete on the date when Engineer has delivered to Owner the revised Preliminary Design Phase documents, revised opinion of probable Construction Cost, and any other Preliminary Design Phase deliverables.

A1.03 *Utility Requirements*

A. Make notification to utilities during conceptual phase of preliminary design process. Communication to be made in a specific, documented format. (As detailed in item D).

B. Based on specific utility feedback, and field observation, identify potential high expense utility relocation issues.

C. Prepare and present plan for city review, detailing significant utility conflicts, proposed pothole locations, and associated costs for verifying existing utilities. Potholing process to include horizontal and vertical alignment and depth details. Details will be included in 30 percent plan completion, final right of way plans, and final construction plans. Necessary corrective action to address incomplete or inaccurate details may be subject to errors and omissions insurance claim.

D. Submit utility report at 30 percent submittal and close out of project. Utility report to include representatives contacted, meeting dates, and a summary of discussions, requests, observations and/or concerns. (See City of Joplin utility notification form)

A1.04 Surveying Services – General

A. Control Survey

All horizontal control for the project will be based on the Missouri State Plane Coordinate System of 1983, West Zone.

All vertical control for the project will be based on the North American Vertical Datum of 1988 (NAVD 88) provided by NOAA's National Geodetic Survey (NGS).

Control points and temporary bench marks will be set inter-visible and in strategic locations along the project route so as to be conveniently used during all phases of the project, including construction.

B. Engineering Survey

Provide topographic engineering survey for the length of the project to facilitate design. Provide a survey of all existing surface and sub-surface utilities in the project corridor.

C. Property Boundary Survey/Right-of-way Survey/Easements

Provide a boundary survey or surveys to locate the existing Right-of-Way/Easements for the length of the project, the adjacent property lines of the parcels along the project, and all existing easements of record encumbering each property that will affect the project. Consultant will be responsible for ordering title work for each parcel along the project route and procuring existing right-of-way documents and/or right-of-way plans.

D. Right-of-way and Easement Description Preparation

Upon final approval of the Right-of-Way/Project Plans consultant will provide descriptions and exhibit drawings for all property right acquisitions including, but not limited to: right-of-way takings, permanent easements and temporary easements.

E. Right-of-way and Easement Staking

During the property negotiation phase of the project it may be necessary to stake the proposed right-of-way and/or easement locations to assist the right-of-way agent. Upon request, the consultant will temporarily stake the proposed right-of-way/easement locations with wooden lathe to allow the property owner to visually inspect the location of such.

F. Existing United States Public Land Survey System Corners

All existing USPLSS corners that may/will be removed or altered as a result of this project must be referenced and re-established according to 20 CSR 2030-17.020 and 20 CSR 2030-17.030.

G. Survey Records

Consultant shall provide to Owner originals or copies of all survey records relevant to the project. These records shall include, but are not limited to: survey notes, research records, computations, calculations and drawings.

H. Other Services

Services not covered by A through F that are determined in the scoping meeting to be necessary for completion of the project.

A1.05 Right of Way Plan Phase – 60 percent plans

A. Determine parcels and parcel ownership information to be included on right of way plans.

B. Determine parcel size.

C. Prepare R.O.W. plan tabulation sheet.

D. Prepare R.O.W. plan sheets showing easement and right of way takings.

E. Furnish 6 review copies of the Right of Way Plan Phase documents, opinion of probable Right of Way Cost, and any other Right of Way Plan Phase deliverables to Owner by established due date, and review them with Owner. Owner shall submit to Engineer any comments regarding the furnished items.

F. Revise the Right of Way Plan Phase documents, opinion of probable Right of Way Cost, and any other Right of Way Plan Phase deliverables in response to Owner's comments, as appropriate, and furnish to Owner 6 copies of the revised Right of Way Plan Phase documents, revised opinion of probable Right of Way Cost, and any other deliverables by the specified due date.

G. Engineer's services under the Right of Way Plan Phase will be considered complete on the date when Engineer has delivered to Owner the revised Right of Way Plan Phase documents, revised opinion of probable Right of Way Cost, and any other Right of Way Plan Phase deliverables.

A1.06 Final Design Phase

A. After acceptance by Owner of the Preliminary Design Phase documents, revised opinion of probable Construction Cost as determined in the Preliminary Design Phase, and/or any other Right of Way plan documents, subject to any Owner-directed modifications or changes in the scope, extent, character, or design requirements of or for the Project, and upon written authorization from Owner, Engineer shall:

1. Prepare final Drawings and Specifications indicating the scope, extent, and character of the Work to be performed and furnished by Contractor.

2. Visit the Site as needed to assist in preparing the final Drawings and Specifications.

3. Provide technical criteria, written descriptions, and design data for Owner's use in filing applications for permits from or approvals of governmental authorities having jurisdiction to review or approve the final design; assist Owner in consultations with such authorities; and revise the Drawings and Specifications in response to directives from such authorities, as appropriate.

4. Advise Owner of any recommended adjustments to the opinion of probable Construction Cost.

5. After consultation with Owner, include in the Construction Contract Documents any specific protocols for the transmittal of Project-related correspondence, documents, text, data, drawings, information, and graphics, in electronic media or digital format, either directly, or through access to a secure Project website. Any such protocols shall be applicable to transmittals between and among Owner, Engineer, and Contractor during the Construction Phase and Post-Construction Phase, and unless agreed otherwise shall supersede any conflicting protocols previously established for transmittals between Owner and Engineer.

6. Assist Owner in assembling known reports and drawings of Site conditions, and in identifying the technical data contained in such reports and drawings upon which bidders or other prospective contractors may rely.

7. In addition to preparing the final Drawings and Specifications, assemble drafts of other Construction Contract Documents based on specific instructions and contract forms, text, or content received from Owner.

8. Prepare or assemble draft bidding-related documents (or requests for proposals or other construction procurement documents), based on the specific bidding or procurement-related instructions and forms, text, or content received from Owner.

9. Contract shall include contractor provided changeable message signs to communication construction information.

10. Furnish for review by Owner, its legal counsel, and other advisors, 6 copies of the final drawings and Specifications, assembled drafts of other construction Contract Documents, the draft bidding-related documents (or requests for proposals or other construction procurement documents), and any other final design Phase deliverables, by the established due date, with the Final Design Phase, and review them with Owner. Owner shall submit to Engineer any comments regarding the furnished items, and any instructions for revisions.

B. Engineer's services under the Final Design Phase will be considered complete on the date when Engineer has delivered to Owner the final Drawings and Specifications, other assembled Construction Contract Documents, bidding-related documents (or requests for proposals or other construction procurement documents), and any other Final Design Phase deliverables.

C. In the event that the Work designed or specified by Engineer is to be performed or furnished under more than one prime contract, or if Engineer's services are to be separately sequenced with the work of one or more prime Contractors (such as in the case of fast-tracking), Owner and Engineer shall, prior to commencement of the Final Design Phase, develop a schedule for performance of Engineer's services during the Final Design, Bidding or Negotiating, Construction, and Post-Construction Phases in order to sequence and coordinate properly such services as are applicable to the work under such separate prime contracts.

A1.07 Bidding Phase

A. After acceptance by Owner of the final Drawings and Specifications, other Construction Contract Documents, bidding-related documents (or requests for proposals or other construction procurement documents), and the most recent opinion of probable Construction Cost as determined in the Final Design Phase, and upon written authorization by Owner to proceed, Engineer shall:

1. Advertise for and obtain bids or proposals for the Work, assist Owner in issuing assembled design, contract, and bidding-related documents (or requests for proposals or other construction procurement documents) to prospective contractors, and where applicable, maintain a record of prospective contractors to which documents have been issued, attend pre-bid conferences, if any, and receive and process contractor deposits or charges for the issued documents.

2. Prepare and issue Addenda as appropriate to clarify, correct, or change the issued documents.

3. Provide information or assistance needed by Owner in the course of any review of proposals with prospective contractors.

4. If Federal funding is involved, set up prequalification's for contractor. This includes researching all applicable debarment & qualified contractor's lists & providing this documentation in the project file

5. Consult with Owner as to the qualifications of subcontractors, suppliers, and other individuals and entities proposed by prospective contractors, for those portions of the Work as to which review of qualifications is required by the issued documents.

6. If the issued documents require, the Engineer shall evaluate and determine the acceptability of "or equals" and substitute materials and equipment proposed by prospective contractors, provided that such proposals are allowed by the bidding-related documents

7. Attend the bid opening, prepare bid tabulation sheets to meet Owner's schedule, and assist Owner in evaluating bids, assembling final contracts for the Work for execution by Owner and Contractor, and in issuing notices of award of such contracts.

B. The Bidding Phase will be considered complete upon commencement of the Construction Phase.

A1.08 Construction Phase

A. Upon successful completion of the Bidding and Negotiating Phase, and upon written authorization from Owner, Engineer shall:

1. *General Administration of Construction Contract:* Consult with Owner and act as Owner's representative as provided in the Construction Contract. The extent and limitations of the duties, responsibilities, and authority of Engineer shall be as assigned below. All of Owner's instructions to Contractor will be issued through Engineer, which shall have authority to act on behalf of Owner in dealings with Contractor to the extent provided in this Agreement and the Construction Contract except as otherwise provided in writing.

2. *Resident Project Representative (RPR):* Provide the services of an RPR at the Site to assist the Engineer (unless provided by the city), and to provide more extensive observation of Contractor's work. Duties, responsibilities, and authority of the RPR are as set forth. The furnishing of such RPR's services will not limit, extend, or modify Engineer's responsibilities or authority except as expressly set forth

3. *Selection of Independent Testing Laboratory:* Assist Owner in the selection of an independent testing laboratory to perform the services identified.

4. *Pre-Construction Conference:* Participate in a pre-construction conference prior to commencement of Work at the Site.

5. *Electronic Transmittal Protocols:* Consultant shall follow City of Joplin protocols shown below.

6. *Original Documents:* If requested by Owner to do so, maintain and safeguard during the Construction Phase at least one original printed record version of the Construction Contract Documents, including Drawings and Specifications signed and sealed by Engineer and other design professionals in accordance with applicable Laws and Regulations. Throughout the Construction Phase, make such original printed record version of the Construction Contract Documents available to Contractor and Owner for review.

7. *Schedules:* Receive, review, and determine the acceptability of any and all schedules that Contractor is required to submit to Engineer, including the Progress Schedule, Schedule of Submittals, and Schedule of Values.

8. *Baselines and Benchmarks:* As appropriate, establish baselines and benchmarks for locating the Work which in Engineer's judgment are necessary to enable Contractor to proceed.

9. *Visits to Site and Observation of Construction:* In connection with observations of Contractor's Work while it is in progress:

a) Make visits to the Site at intervals appropriate to the various stages of construction, as Engineer deems necessary, to observe as an experienced and qualified design professional the progress of Contractor's executed Work. Such visits and observations by Engineer, and the Resident Project Representative, if any, are not intended to be exhaustive or to extend to every aspect of the Work or to involve detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in this Agreement and the Construction Contract Documents, but rather are to be limited to spot checking, selective sampling, and similar methods of general observation of the Work based on Engineer's exercise of professional judgment, as assisted by the Resident Project Representative, if any. Based on information obtained during such visits and observations, Engineer will determine in general if the Work is proceeding in accordance with the Construction Contract Documents, and Engineer shall keep Owner informed of the progress of the Work.

b) The purpose of Engineer's visits to the Site, and representation by the Resident Project Representative, if any, at the Site, will be to enable Engineer to better carry out the duties and responsibilities assigned to and undertaken by Engineer during the Construction Phase, and, in addition, by the exercise of Engineer's efforts as an experienced and qualified design professional, to provide for Owner a greater degree of confidence that the completed Work will conform in general to the Construction Contract Documents and that Contractor has implemented and maintained the integrity of the design concept of the completed Project as a functioning whole as indicated in the Construction Contract Documents. Engineer shall not, during such visits or as a result of such observations of the Work, supervise, direct, or have control over the Work, nor shall Engineer have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected or used by any Constructor, for security or safety at the Site, for safety precautions and programs incident to any Constructor's work in progress, for the coordination of the Constructors' work or schedules, nor for any failure of any Constructor to comply with Laws and Regulations applicable to furnishing and performing of its work. Accordingly, Engineer neither guarantees the performance of any Constructor nor assumes responsibility for any Constructor's failure to furnish or perform the Work, or any portion of the Work, in accordance with the Construction Contract Documents.

10. *Defective Work:* Reject Work if, on the basis of Engineer's observations, Engineer believes that such Work is defective under the terms and standards set forth in the Construction Contract Documents. Provide recommendations to Owner regarding whether Contractor should correct such Work or remove and replace such Work, or whether Owner should consider accepting such Work as provided in the Construction Contract Documents.

11. *Compatibility with Design Concept:* If Engineer has express knowledge that a specific part of the Work that is not defective under the terms and standards set forth in the Construction Contract Documents is nonetheless not compatible with the design concept of the completed Project as a functioning whole, then inform Owner of such incompatibility, and provide recommendations for addressing such Work.

12. *Clarifications and Interpretations:* Accept from Contractor and Owner submittal of all matters in question concerning the requirements of the Construction Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Construction Contract Documents. With reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Construction Contract Documents.

13. *Field Orders:* Subject to any limitations in the Construction Contract Documents, Engineer may prepare and issue Field Orders requiring minor changes in the Work.

14. *Change Orders and Work Change Directives:* Recommend Change Orders and Work Change Directives to Owner, as appropriate, and prepare Change Orders and Work Change Directives as required.

    a) Identify discrepancy
    b) Contractor submits pricing
    c) Cost analysis by Project Manager
    d) Submit Conceptual Plan to MoDOT and FHWA, if applicable
    e) Receive conceptual approval from both agencies and give contract Notice to Proceed
    f) Change in work complete, submit official change Order with Justification and copy of conceptual to MoDOT and FHWA if applicable (justification provided by City Project Manager)
    g) After signatures on Change order are complete, notify the contractor.

15. *Differing Site Conditions:* Respond to any notice from Contractor of differing site conditions, including conditions relating to underground facilities such as utilities, and hazardous environmental conditions. Promptly conduct reviews and prepare findings, conclusions, and recommendations for Owner's use.

16. *Shop Drawings, Samples, and Other Submittals:* Review and approve or take other appropriate action with respect to Shop Drawings, Samples, and other required Contractor submittals, but only for conformance with the information given in the Construction Contract Documents and compatibility with the design concept of the completed Project as a functioning whole as indicated by the Construction Contract Documents. Such reviews and approvals or other action will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions and programs incident thereto. Engineer shall meet any Contractor's submittal schedule that Engineer has accepted.

17. *Substitutes and "Or-equal":* Evaluate and determine the acceptability of substitute or "or-equal" materials and equipment proposed by Contractor.

18. *Inspections and Tests:*

    a) Receive and review all certificates of inspections, tests, and approvals required by Laws and Regulations or the Construction Contract Documents. Engineer's review of such certificates will be for the purpose of determining that the results certified indicate compliance with the Construction Contract Documents and will not constitute an independent evaluation that the content or procedures of such inspections, tests, or approvals comply with

the requirements of the Construction Contract Documents. Engineer shall be entitled to rely on the results of such inspections and tests.

b) As deemed reasonably necessary, request that Contractor uncover Work that is to be inspected, tested, or approved.

c) Pursuant to the terms of the Construction Contract, require special inspections or testing of the Work, whether or not the Work is fabricated, installed, or completed.

19. *Change Proposals and Claims:*

a) Review and respond to Change Proposals. Review each duly submitted Change Proposal from Contractor and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer will not resolve the Change Proposal.

b) Provide information or data to Owner regarding engineering or technical matters pertaining to Claims.

20. *Applications for Payment:* Based on Engineer's observations as an experienced and qualified design professional and on review of Applications for Payment and accompanying supporting documentation:

a) Determine the amounts that Engineer recommends Contractor be paid. Recommend reductions in payment (set-offs) based on the provisions for set-offs stated in the Construction Contract. Such recommendations of payment will be in writing and will constitute Engineer's representation to Owner, based on such observations and review, that, to the best of Engineer's knowledge, information and belief, Contractor's Work has progressed to the point indicated, the Work is generally in accordance with the Construction Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Construction Contract Documents, and to any other qualifications stated in the recommendation), and the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work. In the case of unit price Work, Engineer's recommendations of payment will include final determinations of quantities and classifications of the Work (subject to any subsequent adjustments allowed by the Construction Contract Documents).

b) By recommending payment, Engineer shall not thereby be deemed to have represented that observations made by Engineer to check the quality or quantity of Contractor's Work as it is performed and furnished have been exhaustive, extended to every aspect of Contractor's Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in this Agreement.

21. *Contractor's Completion Documents:* Receive from Contractor, review, and transmit to Owner maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance required by the Construction Contract Documents, certificates of inspection, tests and approvals, and Shop Drawings, Samples, and other data. Receive from Contractor, review, and transmit to Owner the annotated record documents which are to be assembled by Contractor in accordance with the Construction Contract Documents to obtain final payment. The extent of Engineer's review of record documents shall be to check that Contractor has submitted all pages.

22. *Substantial Completion:* Promptly after notice from Contractor that Contractor considers the entire Work ready for its intended use, in company with Owner and Contractor, visit the Site to review the Work and determine the status of completion. Follow the procedures in the Construction Contract regarding the preliminary certificate of Substantial Completion, punch list of items to be completed, Owner's objections, notice to Contractor, and issuance of a final certificate of Substantial Completion. Assist Owner regarding any remaining engineering or technical matters affecting Owner's use or occupancy of the Work following Substantial Completion.

~~23. *Other Tasks:* Perform or provide the following other Construction Phase tasks or deliverables:~~

24. *Final Notice of Acceptability of the Work:* Conduct a final visit to the Project to determine if the Work is complete and acceptable so that Engineer may recommend, in writing, final payment to Contractor. Accompanying the recommendation for final payment, Engineer shall also provide a notice to Owner and Contractor in the form of the acceptance identified in MoDOT's LPA Manual, that the Work is acceptable (subject to the provisions of the Notice and Paragraph A1.05.A.21.b) to the best of Engineer's knowledge, information, and belief, and based on the extent of the services provided by Engineer under this Agreement.

25. *Standards for Certain Construction-Phase Decisions:* Engineer will render decisions regarding the requirements of the Construction Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth in the Construction Contract for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

B. *Duration of Construction Phase:* The Construction Phase will commence with the execution of the first Construction Contract for the Project or any part thereof and will terminate upon written recommendation by Engineer for final payment to Contractors. If the Project involves more than one prime contract, then Construction Phase services may be rendered at different times in respect to the separate contracts. Engineer shall be entitled to an equitable increase in compensation if Construction Phase services (including Resident Project Representative services, if any) are required after the original date for completion and readiness for final payment of Contractor as set forth in the Construction Contract.

A1.09 Post-Construction Phase

A. Upon written authorization from Owner during the Post-Construction Phase, Engineer shall:

1. Together with Owner, visit the Project to observe any apparent defects in the Work, make recommendations as to replacement or correction of defective Work, if any, or the need to repair of any damage to the Site or adjacent areas, and assist Owner in consultations and discussions with Contractor concerning correction of any such defective Work and any needed repairs.

2. Together with Owner, visit the Project within one month before the end of the Construction Contract's correction period to ascertain whether any portion of the Work or the repair of any damage to the Site or adjacent areas is defective and therefore subject to correction by Contractor.

3. Full payment of the final invoice will not be considered until the consultant has electronically furnished the following documents:

a) The city's semi-final inspection letter stating the date of semi-final inspection and listing those who were present.
b) The city's final acceptance letter showing the number of working days or calendar days charged, completion date and the amount of liquidated damages, if any.
c) A final list of acceptance testers used on the project and a certification stating:

"The results of the tests or acceptance samples indicate that material incorporated in the construction work and the construction operations controlled by sampling and testing were in reasonably close conformity with the approved plans and specifications, and such results compare favorably with the results of independent assurance sampling and testing." Any deviations from the specifications must be explained along with the reason for acceptance.

"All field tests were performed in conformity with the governing specifications and the results were in reasonably close conformity with the specifications." Explain any deviations and why the work was accepted.

"The project was constructed substantially in conformity with the plans and specifications for the project."

d) Contractor certification and city recommendation:

Showing the final DBE participation on the project including the DBEs used, the type of work performed, and the dollar amount paid to each DBE.

The city's recommendation regarding the contractor's fulfillment of the DBE requirements. The consultant shall also provide written documentation from each DBE that they were paid in full for the work identified in the Contractor DBE Certification. Examples of documentation

from DBEs may include a letter, e-mail, lien waiver or copies of reimbursement checks. If DBE goals were not met, include documentation as to why.

e) Final Invoice

f) Final Detailed Estimate of Quantities

g) Contractor's Affidavit Regarding Settlement of Claims

h) Final Change Order (if needed)

i) Affidavit (Compliance with Prevailing Wage Law)

j) These documents are to be received within 60 days of the Final Inspection date. Final Reimbursement will be processed once all close out documentation has been reviewed and accepted.

B. The Post-Construction Phase services may commence during the Construction Phase and, if not otherwise modified, will terminate twelve months after the commencement of the Construction Contract's correction period.

PART 2 – ADDITIONAL SERVICES

A2.01 *Additional Services Requiring Owner's Written Authorization*

A. If authorized in writing by Owner, Engineer shall provide Additional Services of the types listed below. These services are not included as part of Basic Services and will be paid for by Owner as indicated.

1. Preparation of applications and supporting documents (in addition to those furnished under Basic Services) for private or governmental grants, loans, or advances in connection with the Project; preparation or review of environmental assessments and impact statements; review and evaluation of the effects on the design requirements for the Project of any such statements and documents prepared by others; and assistance in obtaining approvals of authorities having jurisdiction over the anticipated environmental impact of the Project.

2. Undertaking investigations and studies including, but not limited to:

a. Detailed consideration of operations, maintenance, and overhead expenses.

PART 3 – Exclusions and Assumptions

A3.01 *Exclusions and Assumptions*

A. Exclusions:

1. Waterline design is not included in this Contract
2. Right of way services including property appraisals, negotiations, and acquisitions will be handled by others and are not included in the Contract.
3. Environmental services other than those explicitly defined in the scope and beyond the normal services to fulfill the requirements of a Categorical Exclusion II (CE2) are not included in the Contract. This includes, but is not limited to, the exclusion of a traffic noise study.
4. Stormwater detention and water quality design services are not included in the Contract.
5. Temporary traffic signal design.
6. CLOMR or LOMRs are not included in the Contract.
7. Construction administration services other than those explicitly defined in the scope are not included in the Contract.
8. As-built drawing preparation is not included in the Contract.
9. Mobile LIDAR is not included in the Contract.

B. Assumptions:

1. A total of two (2) concepts will be investigated as part of this scope.
2. Right of way services including property appraisals, negotiations, and acquisitions will be handled by the city.
3. Waterline relocation will be handled by Missouri American.
4. Plans and contractual documents assume 1 bid package and construction duration of 1 year. If project is constructed in multiple phases requiring a longer duration, a supplement will be required.
5. Right of Way Revisions after approved Right of Way plans shall be considered additional services.
6. Survey monument access boxes shall be an additional fee.
7. Revisions to any stage of plans shall be considered additional services after approval by owner.
8. Survey deed review and description includes easement preparation (assume 46 temp easements & 20 permanent easements) and review of all property descriptions.
9. Survey Title Search information assumes 46 properties for title search.

PART 4 - Geotechnical Investigation and Evaluation

A. Field Exploration
   1. We will arrange to have public utilities located through the Missouri One-Call system.
   2. We will coordinate traffic control at each boring location, if required. We anticipate that traffic control will consist of two signs and traffic cones that will be placed around the drill rig.
   3. We propose to drill a total of 6 borings along the proposed roadway alignment. Each boring will be drilled to a maximum depth of 5 feet below the existing ground surface or to practical auger refusal, whichever occurs first.
   4. We propose to obtain pavement core samples at each of the boring locations to help evaluate the pavement thicknesses and composition. In addition, soil samples will be obtained at each boring location using thin walled tube or split barrel sampling techniques.
   5. We will document the thickness of the existing pavement section at each boring location, as well as the thickness of any sub-base material. We will also obtain water level readings in each boring during drilling and immediately upon completion of drilling operations. Upon completion, the borings will be backfilled and the pavement patched with an asphaltic concrete cold mix or a grout.
   6. We propose to perform a visual pavement condition survey to help in identifying the areas of pavement distress.

B. Laboratory Services
   1. Soil samples obtained from the borings will be returned to our laboratory for testing and visual classification. Testing will include moisture content and dry unit weight on thin walled tube samples, moisture content on split barrel samples, and Atterberg limit tests to aid in classifying the soils using the Uniform Soil Classification System (USCS).

C. Engineering Analysis and Report
   1. Upon completion of the laboratory testing services, we will prepare a geotechnical engineering report.
   2. The report will provide typed boring logs and the results of the laboratory testing program. The report will also provide geotechnical recommendations regarding:
      i. Mill and overlay options for the existing pavement section including pictures of each location.
      ii. If mill and overlay is not feasible, based on the findings from the borings and engineer site visit, new pavement section thicknesses based on anticipated traffic volumes (provided by others).
      iii. As applicable, pavement subgrade recommendations.

DESIGN FEE

Appendix A
Total Project Fee

20th Street Streetscape
Based on 2016 Rates

Task No.	Task Description	Fee Estimate
1	Project Management	$ 68,000
2	Public Involvement / Communication Plan	$ 64,000
3	Conceptual Phase	$ 47,000
4	Survey	$ 80,000
5	Geotechnical Investigation	$ 16,000
6	Utility Coordination	$ 40,000
7	Environmental/Historical Review	$ 25,000
8	Preliminary Design Phase (30 percent plans)	$ 64,000
9	Right of Way Plan Phase (60 percent plans)	$ 80,000
10	Permits	$ 16,000
11	Final Design Phase (100 percent plans)	$ 147,000
12	Bidding Phase	$ 20,000
13	Construction Administration	$ 32,000
14	Construction Inspection	$ 195,000
	Expenses	$ 5,000
	Total Project Cost (Not Including Construction Inspection)	**$ 704,000**
	Total Project Cost (Including Construction Inspection)	**$ 899,000**

MAN-HOUR ESTIMATE - 20TH STREET STREETSCAPE FROM MAIN STREET TO CONNECTICUT AVENUE

Task No.	Description of Work Items / Tasks	Olsson Associates									TSE						Total Manhours	Total Labor Fee	Total Olsson Fee	Total CJW Fee	Total TranSystems Fee	Total TSE Fee
		Project Manager	Client Manager	Senior Engineer	Project Engineer	Assistant Engineer	Senior Surveyor	Surveyor	Associate Surveyor	Design Technician	2 Person Survey Crew	Project Manager	Designer	Senior Engineer	Assistant Engineer	Surveyor						
		$ 175.05	$ 159.14	$ 181.41	$ 128.37	$ 90.18	$ 100.79	$ 90.18	$ 68.96	$ 83.81	$ 144.00	$ 160.00	$ 90.00	$ 139.00	$ 119.00	$ 144.00						
1	**Project Management**																					
	Overall Project Management	80	16														96	$ 16,550	$ 16,550	$ -	$ -	$ -
	Internal Project Management	40	8									20		16	16	8	108	$ 16,755	$ 8,275	$ -	$ -	$ 8,480
	Coordination with Others		24												16		40	$ 5,723	$ 3,819	$ -	$ -	$ 1,904
	Design Memorandum	16			40							8	8		8		80	$ 10,888	$ 7,936	$ -	$ -	$ 2,952
	Monthly Progress Meetings (12 meetings)	24	24		24							24			24		120	$ 17,797	$ 11,101	$ -	$ -	$ 6,696
2	**Public Involvement / Communication Plan**																					
	Develop and Implement Communication Plan	40	8		80							6		4	4		142	$ 20,537	$ 18,545	$ -	$ -	$ 1,992
	Develop and Update Project Website	40	8		80							2	24				154	$ 21,025	$ 18,545	$ -	$ -	$ 2,480
	Prepare Public Meeting Exhibits	24			40							2	16				82	$ 11,096	$ 9,336	$ -	$ -	$ 1,760
	Public Meetings/ Meetings with Coordinating Agencies	8	8		8							6		4	4		38	$ 5,692	$ 3,700	$ -	$ -	$ 1,992
	Attend Meetings w/Commission and Provide Exhibits	8	8		8							5		3	4		36	$ 5,393	$ 3,700	$ -	$ -	$ 1,693
3	**Conceptual Phase**																					
	Prepare Alternatives	20			60							16	64	22	8	8	198	$ 24,685	$ 11,203	$ -	$ -	$ 13,482
	Prepare Report	16			40							16		16	56		144	$ 19,384	$ 7,936	$ -	$ -	$ 11,448
	QA/QC	16															16	$ 2,801	$ 2,801	$ -	$ -	$ -
4	**Survey**																					
	Topographical Survey						24	40	80								144	$ 11,543	$ 11,543	$ -	$ -	$ -
	Base Map Preparation						24	8	8	96							136	$ 11,738	$ 11,738	$ -	$ -	$ -
	Horizontal Control						24	16	60								100	$ 7,999	$ 7,999	$ -	$ -	$ -
	Deed Review, Descriptions						40	8	16	160							224	$ 19,266	$ 19,266	$ -	$ -	$ -
	Locate Section Corners						8		24								32	$ 2,461	$ 2,461	$ -	$ -	$ -
	Bench Level Run						8	24	24								56	$ 4,626	$ 4,626	$ -	$ -	$ -
	Utility Locates						8	16	40								64	$ 5,008	$ 5,008	$ -	$ -	$ -
	Title Search Information																0	$ 10,350	$ 10,350	$ -	$ -	$ -
	Create TIN file						8	4		16							28	$ 2,508	$ 2,508	$ -	$ -	$ -
	QA/QC - Field Check of Survey						16		32								48	$ 3,819	$ 3,819	$ -	$ -	$ -
5	**Geotechnical Investigation**																					
	Geotechnical Data Research				8												8	$ 1,027	$ 1,027	$ -	$ -	$ -
	Perform Borings																0	$ 10,000	$ 10,000	$ -	$ -	$ -
	Geotechnical Design Recommendations				20												20	$ 2,567	$ 2,567	$ -	$ -	$ -
	Geotechnical Report				10												10	$ 1,284	$ 1,284	$ -	$ -	$ -
	QA/QC			6													6	$ 1,088	$ 1,088	$ -	$ -	$ -
6	**Utility Coordination**																					
	Utility Location / Verification										12	8	40				60	$ 6,608	$ -	$ -	$ -	$ 6,608
	Potholing																	$ 22,500	$ -	$ -	$ -	$ 22,500
	Utility Plan Submittal											4	32				36	$ 3,520	$ -	$ -	$ -	$ 3,520
	Utility Review Meetings / Coordination											6	6				12	$ 1,500	$ -	$ -	$ -	$ 1,500
	QA/QC	10			20							4	4				38	$ 5,318	$ 4,318	$ -	$ -	$ 1,000
7	**Environmental/Historical Review**																					
	NEPA Environmental Review											6			8		14	$ 1,912	$ -	$ -	$ -	$ 1,912
	Compile Data											4	32		4		40	$ 3,996	$ -	$ -	$ -	$ 3,996
	Hazardous Material Review (Lead and Metals Only)											6			8		14	$ 1,912	$ -	$ -	$ -	$ 1,912
	Wetlands and Habitat Investigation (Document Only No Field Investigation)											6			8		14	$ 1,912	$ -	$ -	$ -	$ 1,912
	Wetland Permitting											6			8		14	$ 1,912	$ -	$ -	$ -	$ 1,912
	Historical / Archeological Investigation											6			8		14	$ 1,912	$ -	$ -	$ -	$ 1,912
	Impacts to Misc. Environmental Resources											6			8		14	$ 1,912	$ -	$ -	$ -	$ 1,912
	Farmland Impact											6			8		14	$ 1,912	$ -	$ -	$ -	$ 1,912
	Endangered Species Review											6			8		14	$ 1,912	$ -	$ -	$ -	$ 1,912
	Public Land Impacts (4F or 6F)											6			8		14	$ 1,912	$ -	$ -	$ -	$ 1,912
	Mine Remediation Plans/Report (Document Review)											6			6		12	$ 1,674	$ -	$ -	$ -	$ 1,674
	QA/QC											6			6		12	$ 1,674	$ -	$ -	$ -	$ 1,674

MAN-HOUR ESTIMATE - 20TH STREET STREETSCAPE FROM MAIN STREET TO CONNECTICUT AVENUE

Task No.	Description of Work Items / Tasks	Olsson Associates									TSE						Total Manhours	Total Labor Fee	Total Olsson Fee	Total CJW Fee	Total TranSystems Fee	Total TSE Fee
		Project Manager	Client Manager	Senior Engineer	Project Engineer	Assistant Engineer	Senior Surveyor	Surveyor	Associate Surveyor	Design Technician	2 Person Survey Crew	Project Manager	Designer	Senior Engineer	Assistant Engineer	Surveyor						
		$ 175.05	$ 159.14	$ 181.41	$ 128.37	$ 90.18	$ 100.79	$ 90.18	$ 68.96	$ 83.81	$ 144.00	$ 160.00	$ 90.00	$ 139.00	$ 119.00	$ 144.00						
8	**Preliminary Design Phase (30 percent plans)**																					
	Review Preliminary Design											16	4				20	$ 2,920	$ -	$ -	$ -	$ 2,920
	Identify any Variances to Design Criteria											4			4		8	$ 1,116	$ -	$ -	$ -	$ 1,116
	Preliminary Estimates and Construction Costs											8	16				24	$ 2,720	$ -	$ -	$ -	$ 2,720
	Hydrologic studies and Drainage Plans												4		40		44	$ 5,120	$ -	$ -	$ -	$ 5,120
	Conceptual Traffic Control Plan												4				4	$ 360	$ -	$ -	$ -	$ 360
	Preliminary Design											10	20		8		38	$ 4,352	$ -	$ -	$ -	$ 4,352
	Title Sheet												4				4	$ 360	$ -	$ -	$ -	$ 360
	Typical Sheet												20				20	$ 1,800	$ -	$ -	$ -	$ 1,800
	Plan Sheets												60				60	$ 5,400	$ -	$ -	$ -	$ 5,400
	Profile Sheets												40				40	$ 3,600	$ -	$ -	$ -	$ 3,600
	Special Sheets												8				8	$ 720	$ -	$ -	$ -	$ 720
	Traffic Control and Staging Concept												8				8	$ 720	$ -	$ -	$ -	$ 720
	Preliminary Culvert Sections												12		8		20	$ 2,032	$ -	$ -	$ -	$ 2,032
	Preliminary Cross Sections at 25 foot intervals	8			40												48	$ 6,535	$ 6,535	$ -	$ -	$ -
	Tentative Easements and Right of Way Limits												20				20	$ 1,800	$ -	$ -	$ -	$ 1,800
	QA/QC	40			80							24	10	8	8		170	$ 24,076	$ 17,272	$ -	$ -	$ 6,804
9	**Right of Way Plan Phase (60 percent plans)**																					
	R.O.W Design											24	24				48	$ 6,000	$ -	$ -	$ -	$ 6,000
	Title Sheet												4				4	$ 360	$ -	$ -	$ -	$ 360
	Typical Sheet												4				4	$ 360	$ -	$ -	$ -	$ 360
	Plan/Profile Sheets												60				60	$ 5,400	$ -	$ -	$ -	$ 5,400
	Special Sheets												40				40	$ 3,600	$ -	$ -	$ -	$ 3,600
	R.O.W. and Easement Plan Sheets												50				50	$ 4,500	$ -	$ -	$ -	$ 4,500
	Cross Sections	16			80												96	$ 13,070	$ 13,070	$ -	$ -	$ -
	Construction Limits	2			32												34	$ 4,458	$ 4,458	$ -	$ -	$ -
	Design Field Check and R.O.W Revisions	8			24							8	24			16	80	$ 10,225	$ 4,481	$ -	$ -	$ 5,744
	R.O.W Revisions due to Owner Negotiations											12	40			16	68	$ 7,824	$ -	$ -	$ -	$ 7,824
	Construction Cost Estimate											8	16				24	$ 2,720	$ -	$ -	$ -	$ 2,720
	QA/QC	24			64							40	12		8		148	$ 20,849	$ 12,417	$ -	$ -	$ 8,432
10	**Permits**																					
	404 Permit											2		8	8		18	$ 2,384	$ -	$ -	$ -	$ 2,384
	Floodplain Permit											8		2	8		18	$ 2,510	$ -	$ -	$ -	$ 2,510
	SWPPP											2		24	24		50	$ 6,512	$ -	$ -	$ -	$ 6,512
	Land Disturbance Permit											2		6	12		20	$ 2,582	$ -	$ -	$ -	$ 2,582
	NPDES Permit													4	4		8	$ 1,032	$ -	$ -	$ -	$ 1,032

MAN-HOUR ESTIMATE - 20TH STREET STREETSCAPE FROM MAIN STREET TO CONNECTICUT AVENUE

Task No.	Description of Work Items / Tasks	Olsson Associates									TSE						Total Manhours	Total Labor Fee	Total Olsson Fee	Total CJW Fee	Total TranSystems Fee	Total TSE Fee
		Project Manager	Client Manager	Senior Engineer	Project Engineer	Assistant Engineer	Senior Surveyor	Surveyor	Associate Surveyor	Design Technician	2 Person Survey Crew	Project Manager	Designer	Senior Engineer	Assistant Engineer	Surveyor						
		$ 175.05	$ 159.14	$ 181.41	$ 128.37	$ 90.18	$ 100.79	$ 90.18	$ 68.96	$ 83.81	$ 144.00	$ 160.00	$ 90.00	$ 139.00	$ 119.00	$ 144.00						
11	**Final Design Phase (100 percent plans)**																					
	Cover Sheet	1			5												6	$ 817	$ 817	$ -	$ -	$ -
	Summary of Quantities Sheet	4			20								16				40	$ 4,708	$ 3,268	$ -	$ -	$ 1,440
	Typical Section Sheets	4			20												24	$ 3,268	$ 3,268	$ -	$ -	$ -
	General Notes Sheet	2			10												12	$ 1,634	$ 1,634	$ -	$ -	$ -
	Detail Sheets	5			20												25	$ 3,443	$ 3,443	$ -	$ -	$ -
	Horizontal/Vertical Control Sheets	2			20												22	$ 2,918	$ 2,918	$ -	$ -	$ -
	Construction Phasing												8				8	$ 720	$ -	$ -	$ -	$ 720
	Traffic Control Sheets	10			40								8				58	$ 7,605	$ 6,885	$ -	$ -	$ 720
	Geometric Sheets	5			40												45	$ 6,010	$ 6,010	$ -	$ -	$ -
	Joints and Grades Sheets	10			40												50	$ 6,885	$ 6,885	$ -	$ -	$ -
	Roadway Plan and Profile Sheets	10			40												50	$ 6,885	$ 6,885	$ -	$ -	$ -
	Construction Sheets / Grading Plans	10			40								32				82	$ 9,765	$ 6,885	$ -	$ -	$ 2,880
	Removal Sheets												16				16	$ 1,440	$ -	$ -	$ -	$ 1,440
	Retaining Wall Plan and Profile Sheets	0			0												0	$ -	$ -	$ -	$ -	$ -
	Retaining Wall Details	0			0												0	$ -	$ -	$ -	$ -	$ -
	Storm Drainage Plan and Profile Sheets					100											100	$ 9,018	$ 9,018	$ -	$ -	$ -
	Culvert/Channel Cross-Section Sheets					40											40	$ 3,607	$ 3,607	$ -	$ -	$ -
	Sediment and Erosion Control Sheets												16				16	$ 1,440	$ -	$ -	$ -	$ 1,440
	Sanitary Sewer Plan and Profile Sheets												16				16	$ 1,440	$ -	$ -	$ -	$ 1,440
	Traffic Signal Plan Sheets	10			40												50	$ 6,885	$ 6,885	$ -	$ -	$ -
	Pavement Marking & Signing Sheets	10			40												50	$ 6,885	$ 6,885	$ -	$ -	$ -
	Lighting Plan Sheets												32				32	$ 2,880	$ -	$ -	$ -	$ 2,880
	Landscaping Sheets	8			40												48	$ 6,535	$ 6,535	$ -	$ -	$ -
	Right-of-Way Sheets												16				16	$ 1,440	$ -	$ -	$ -	$ 1,440
	Roadway Cross-Section Sheets	8			80												88	$ 11,670	$ 11,670	$ -	$ -	$ -
	Finalize H&H Report and Floodplain Development Permit				40										4		44	$ 5,611	$ 5,135	$ -	$ -	$ 476
	Cost Estimates	8			40							15	16				79	$ 10,375	$ 6,535	$ -	$ -	$ 3,840
	Special Provisions	8			24							8	8				48	$ 6,481	$ 4,481	$ -	$ -	$ 2,000
	QA/QC	40			40							20	12				112	$ 16,417	$ 12,137	$ -	$ -	$ 4,280
12	**Bidding Phase**																					
	Advertise for and obtain bids for the proposed work	4			8												12	$ 1,727	$ 1,727	$ -	$ -	$ -
	Attend Pre-Bid Meeting	2	2		2							2	2		2		12	$ 1,663	$ 925	$ -	$ -	$ 738
	Answer Design Questions	8			30							8	12		4		62	$ 8,088	$ 5,252	$ -	$ -	$ 2,836
	Prepare Addenda	8			30							2	4				44	$ 5,932	$ 5,252	$ -	$ -	$ 680
	Attend Bid Opening	2	2		2							2	2		2		12	$ 1,663	$ 925	$ -	$ -	$ 738
13	**Construction Administration**																					
	Attend Pre-Construction Meeting	2	2		2							2	2		2		12	$ 1,663	$ 925	$ -	$ -	$ 738
	Review Shop Drawings	4			32								8		8		52	$ 6,480	$ 4,808	$ -	$ -	$ 1,672
	Prepare Change Orders	4			24							8	8				44	$ 5,781	$ 3,781	$ -	$ -	$ 2,000
	Prepare Revision Sheets	4			24								4				32	$ 4,141	$ 3,781	$ -	$ -	$ 360
	Answer Design Questions	2			8								4				14	$ 1,737	$ 1,377	$ -	$ -	$ 360
	Evaluate substitute "or equal" bids	1			8								2				11	$ 1,382	$ 1,202	$ -	$ -	$ 180
	Conduct Site Visits	8			16							16	16				56	$ 7,454	$ 3,454	$ -	$ -	$ 4,000
	Review and Certify Pay Requests	4			8							4					16	$ 2,367	$ 1,727	$ -	$ -	$ 640
14	**Construction Inspection**																					
	Construction Inspection																0	$ 195,000	$ 78,000	$ 39,000	$ 39,000	$ 39,000
	Total Manhours	648	110	6	1591	140	160	116	284	272	12	452	990	117	382	48	5328					
	Total Labor	$ 113,432	$ 17,505	$ 1,088	$ 204,237	$ 12,625	$ 16,126	$ 10,461	$ 19,585	$ 22,796	$ 1,728	$ 72,320	$ 89,100	$ 16,263	$ 45,458	$ 6,912		$ 887,487	$ 516,206	$ 39,000	$ 39,000	$ 293,281
	Total Labor and Expenses																	$ 892,162				

TOTAL EXPENSES					
Expenses	**Amount**		**$ Ea.**		**Cost**
Design					
Travel, mile (car)	5000	MILES	0.56		$2,800.00
Travel, mile (survey vehicle)	2500	MILES	0.75		$1,875.00
			Total		**$4,675.00**

Other travel or lodging cost	Actual Cost
Meals	Actual Cost
Printing and Duplication including mylars and linens	
In-house	Actual Cost
Outside	Actual Cost + 10%
Postage & Shipping Charges for Project Related Materials including	Actual Cost
Film and Photo Developing	Actual Cost + 10%
Miscellaneous Materials & Supplies Applicable to this Project	Actual Cost + 10%
Copies of deeds, easements, or other project related documents	Actual Cost + 10%
Fees for applications or permits	Actual Cost + 10%
Sub-consultants	Actual Cost + 3%

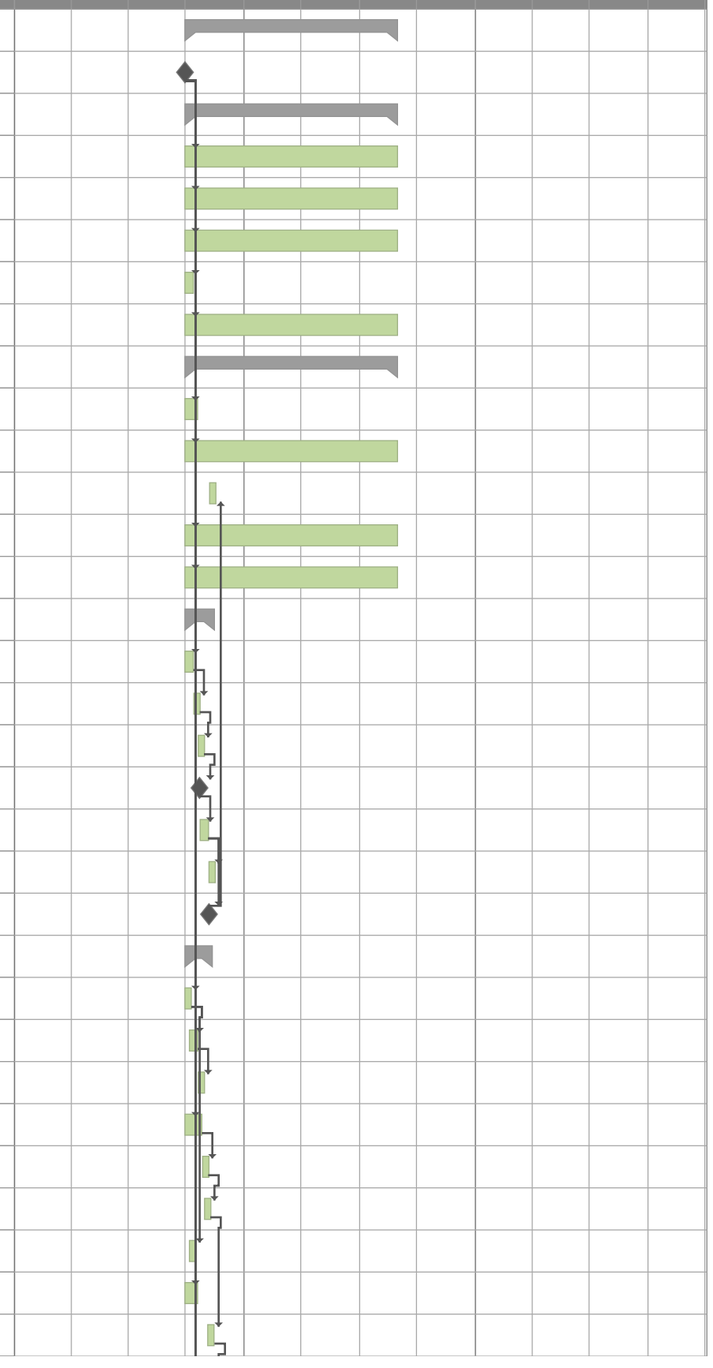
Assumptions

1. Construction Phase Services other than General Administration of Construction Contract are shown as an estimate for this project. Based on typical projects, the typical fee for these services is approximately 6% of the project cost.
2. Storm sewer shall be designed using StormCAD, Pipe Networks, or Hydraflow
3. All CAD files shall be created using AutoCAD 2015
4. Conceptual phase will consist of 2 alternatives.
5. ROW services including property appraisals, negotiations, and acquisitions will be handled by the city.
6. Waterline relocation will be handled by Missouri American.
7. Assume 1 bid package and construction duration of 1 year.
8. Right of Way Revisions after approved Right of Way plans shall be considered additional services.
9. Survey monument access boxes shall be an additional fee (Estimated 6 monuments $9,000).
10. Revisions to any stage of plans shall be considered additional services after approval by owner.
11. Fee proposal includes 15 pothole locations at $1500 per location.
12. Fee proposal does not include mobile LIDAR.
13. Survey deed review and description includes easement preparation (assume 46 temp easements & 20 permanent easements) and review of all property descriptions
14. Survey Title Search information assumes 46 properties for title search @ $225 each

DESIGN SCHEDULE

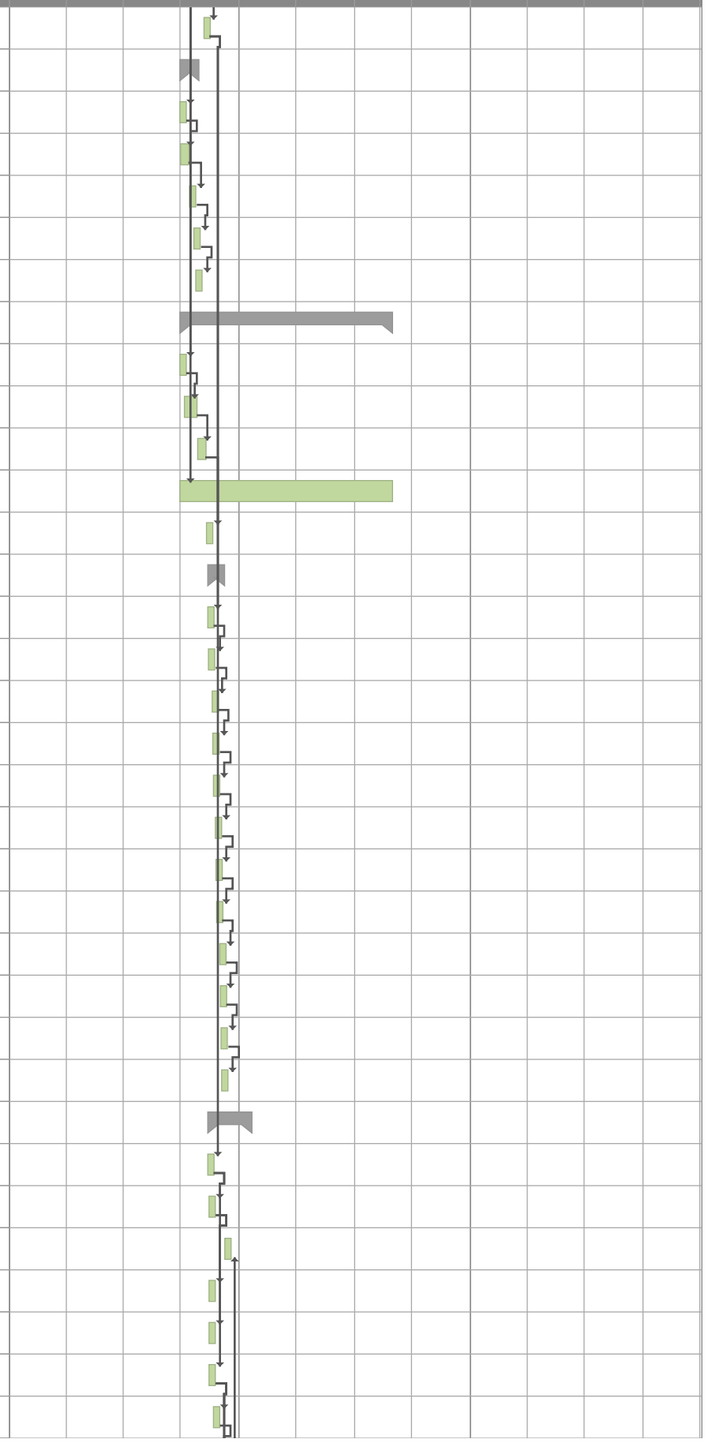
20th Street Streetscape

	Task Name	Duration	Start	Finish
1	20th Street Streetscape Design Phase	234d	09/28/15	08/30/16
2	Notice to Proceed	0	09/28/15	09/28/15
3	Project Management	234d	09/28/15	08/30/16
4	Overall Project Management	234d	09/28/15	08/30/16
5	Internal Project Management	234d	09/28/15	08/30/16
6	Coordination with Others	234d	09/28/15	08/30/16
7	Design Memorandum	10d	09/28/15	10/09/15
8	Monthly Progress Meetings (12 meetings)	234d	09/28/15	08/30/16
9	Public Involvement / Communication Plan	234d	09/28/15	08/30/16
10	Develop and Implement Communication Plan	15d	09/28/15	10/16/15
11	Develop and Update Project Website	234d	09/28/15	08/30/16
12	Prepare Public Meeting Exhibits	5d	11/06/15	11/12/15
13	Public Meetings/ Meetings with Coordinating Agencies	234d	09/28/15	08/30/16
14	Attend Meetings w/Commission and Provide Exhibits	234d	09/28/15	08/30/16
15	Conceptual Phase	33d	09/28/15	11/11/15
16	Prepare Alternatives	10d	09/28/15	10/09/15
17	Prepare Report	5d	10/12/15	10/16/15
18	QA/QC	2d	10/19/15	10/20/15
19	Submit Report to City	0	10/21/15	10/21/15
20	City Review Period	10d	10/22/15	11/04/15
21	Address City Comments	5d	11/05/15	11/11/15
22	Submit Final Report and Recommendation	0	11/05/15	11/05/15
23	Survey	32d	09/28/15	11/10/15
24	Topographical Survey	5d	09/28/15	10/02/15
25	Base Map Preparation	10d	10/05/15	10/16/15
26	Horizontal Control	5d	10/19/15	10/23/15
27	Deed Review, Descriptions	20d	09/28/15	10/23/15
28	Locate Section Corners	3d	10/26/15	10/28/15
29	Bench Level Run	3d	10/29/15	11/02/15
30	Utility Locates	5d	10/05/15	10/09/15
31	Title Search Information	15d	09/28/15	10/16/15
32	Create TIN file	2d	11/03/15	11/04/15

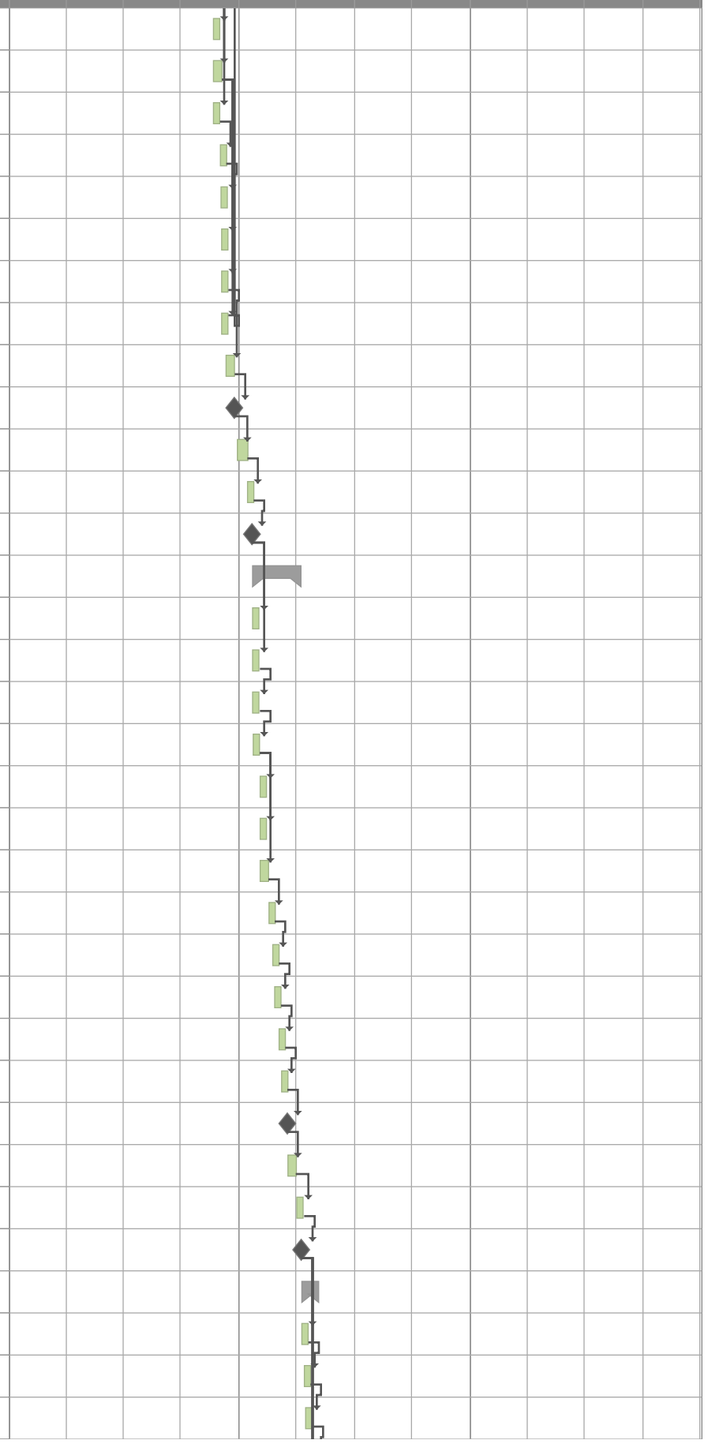


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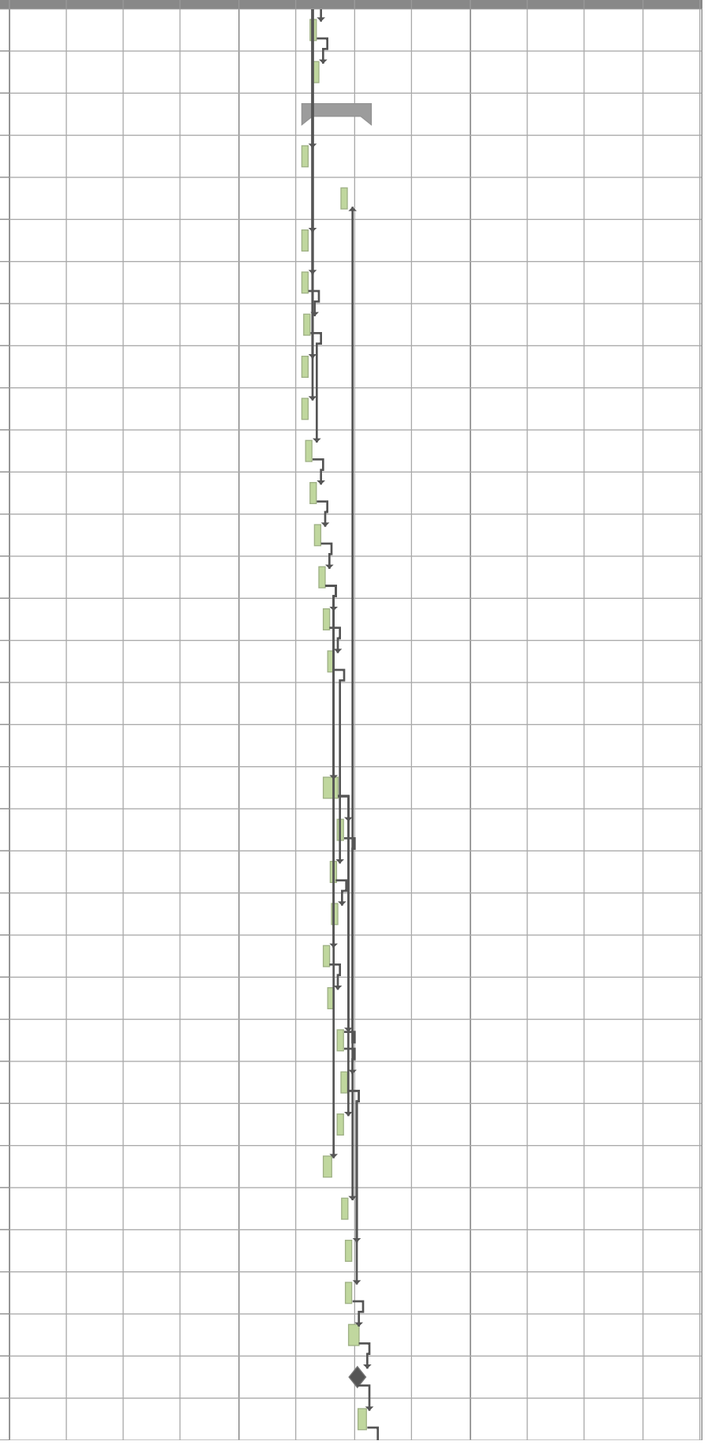
	Task Name	Duration	Start	Finish
33	QA/QC - Field Check of Survey	4d	11/05/15	11/10/15
34	**Geotechnical Investigation**	21d	09/28/15	10/26/15
35	Geotechnical Data Research	1d	09/28/15	09/28/15
36	Perform Borings	10d	09/29/15	10/12/15
37	Geotechnical Design Recommendations	5d	10/13/15	10/19/15
38	Geotechnical Report	3d	10/20/15	10/22/15
39	QA/QC	2d	10/23/15	10/26/15
40	**Utility Coordination**	234d	09/28/15	08/30/16
41	Utility Location / Verification	5d	09/28/15	10/02/15
42	Potholing	15d	10/05/15	10/23/15
43	Utility Plan Submittal	10d	10/26/15	11/06/15
44	Utility Review Meetings / Coordination	234d	09/28/15	08/30/16
45	QA/QC	5d	11/09/15	11/13/15
46	**Environmental/Historical Review**	15d	11/11/15	12/03/15
47	NEPA Environmental Review	1d	11/11/15	11/11/15
48	Compile Data	4d	11/12/15	11/17/15
49	Hazardous Material Review (Lead and Metals Only)	1d	11/18/15	11/18/15
50	Wetlands and Habitat Investigation (Document Only No Field Investigation)	1d	11/19/15	11/19/15
51	Wetland Permitting	1d	11/20/15	11/20/15
52	Historical / Archeological Investigation	1d	11/23/15	11/23/15
53	Impacts to Misc. Environmental Resources	1d	11/24/15	11/24/15
54	Farmland Impact	1d	11/25/15	11/25/15
55	Endangered Species Review	1d	11/30/15	11/30/15
56	Public Land Impacts (4F or 6F)	1d	12/01/15	12/01/15
57	Mine Remediation Plans/Report (Document Review)	1d	12/02/15	12/02/15
58	QA/QC	1d	12/03/15	12/03/15
59	**Preliminary Design Phase (30 percent plans)**	45d	11/11/15	01/20/16
60	Review Preliminary Design	2d	11/11/15	11/12/15
61	Identify any Variances to Design Criteria	0.5d	11/13/15	11/13/15
62	Preliminary Estimates and Construction Costs	2d	12/08/15	12/09/15
63	Hydrologic studies and Drainage Plans	5d	11/13/15	11/20/15
64	Conceptual Traffic Control Plan	0.5d	11/13/15	11/13/15
65	Preliminary Design	5d	11/13/15	11/19/15
66	Title Sheet	0.5d	11/20/15	11/20/15



	Task Name	Duration	Start	Finish
67	Typical Sheet	3d	11/20/15	11/25/15
68	Plan Sheets	7d	11/20/15	12/02/15
69	Profile Sheets	5d	11/20/15	11/30/15
70	Special Sheets	1d	12/01/15	12/01/15
71	Traffic Control and Staging Concept	1d	12/02/15	12/02/15
72	Preliminary Culvert Sections	2d	12/03/15	12/04/15
73	Preliminary Cross Sections at 25 foot intervals	5d	12/03/15	12/09/15
74	Tentative Easements and Right of Way Limits	3d	12/03/15	12/07/15
75	QA/QC	10d	12/10/15	12/23/15
76	Submit Preliminary Design Phase Documents to City	0	12/23/15	12/23/15
77	City Review Period	10d	12/28/15	01/12/16
78	Address City Comments	5d	01/13/16	01/19/16
79	Submit Revised Preliminary Design Phase Documents to City	0	01/20/16	01/20/16
80	**Right of Way Plan Phase (60 percent plans)**	56d	01/21/16	04/07/16
81	R.O.W Design	3d	01/21/16	01/25/16
82	Title Sheet	0.5d	01/21/16	01/21/16
83	Typical Sheet	0.5d	01/21/16	01/21/16
84	Plan/Profile Sheets	7d	01/22/16	02/01/16
85	Special Sheets	5d	02/02/16	02/08/16
86	R.O.W. and Easement Plan Sheets	7d	02/02/16	02/10/16
87	Cross Sections	10d	02/02/16	02/15/16
88	Construction Limits	4d	02/16/16	02/19/16
89	Design Field Check and R.O.W Revisions	3d	02/22/16	02/24/16
90	R.O.W Revisions due to Owner Negotiations	5d	02/25/16	03/02/16
91	Construction Cost Estimate	2d	03/03/16	03/04/16
92	QA/QC	8d	03/07/16	03/16/16
93	Submit Right of Way Plan Phase Documents to City	0	03/16/16	03/16/16
94	City Review Period	10d	03/17/16	03/30/16
95	Address City Comments	5d	03/31/16	04/06/16
96	Submit Revised Right of Way Plan Phase Documents to City	0	04/07/16	04/07/16
97	**Permits**	12d	04/08/16	04/25/16
98	404 Permit	2d	04/08/16	04/11/16
99	Floodplain Permit	2d	04/12/16	04/13/16
100	SWPPP	5d	04/14/16	04/20/16



	Task Name	Duration	Start	Finish
101	Land Disturbance Permit	2d	04/21/16	04/22/16
102	NPDES Permit	1d	04/25/16	04/25/16
103	**Final Design Phase (100 percent plans)**	77d	04/08/16	07/27/16
104	Cover Sheet	1d	04/08/16	04/08/16
105	Summary of Quantities Sheet	3d	06/09/16	06/13/16
106	Typical Section Sheets	3d	04/08/16	04/12/16
107	General Notes Sheet	1d	04/08/16	04/08/16
108	Detail Sheets	3d	04/11/16	04/13/16
109	Horizontal/Vertical Control Sheets	3d	04/08/16	04/12/16
110	Construction Phasing	1d	04/08/16	04/08/16
111	Traffic Control Sheets	5d	04/14/16	04/20/16
112	Geometric Sheets	5d	04/21/16	04/27/16
113	Joints and Grades Sheets	5d	04/28/16	05/04/16
114	Roadway Plan and Profile Sheets	5d	05/05/16	05/11/16
115	Construction Sheets / Grading Plans	5d	05/12/16	05/18/16
116	Removal Sheets	2d	05/19/16	05/20/16
117	Retaining Wall Plan and Profile Sheets			
118	Retaining Wall Details			
119	Storm Drainage Plan and Profile Sheets	15d	05/12/16	06/02/16
120	Culvert/Channel Cross-Section Sheets	5d	06/03/16	06/09/16
121	Sediment and Erosion Control Sheets	2d	05/23/16	05/24/16
122	Sanitary Sewer Plan and Profile Sheets	2d	05/25/16	05/26/16
123	Traffic Signal Plan Sheets	5d	05/12/16	05/18/16
124	Pavement Marking & Signing Sheets	5d	05/19/16	05/25/16
125	Lighting Plan Sheets	4d	06/03/16	06/08/16
126	Landscaping Sheets	5d	06/09/16	06/15/16
127	Right-of-Way Sheets	2d	06/03/16	06/06/16
128	Roadway Cross-Section Sheets	10d	05/12/16	05/25/16
129	Finalize H&H Report and Floodplain Development Permit	5d	06/10/16	06/16/16
130	Cost Estimates	5d	06/16/16	06/22/16
131	Special Provisions	3d	06/16/16	06/20/16
132	QA/QC	10d	06/21/16	07/05/16
133	Submit Final Design Phase Documents to City	0	07/05/16	07/05/16
134	City Review Period	10d	07/06/16	07/19/16



	Task Name	Duration	Start	Finish
135	Address City Comments	5d	07/20/16	07/26/16
136	Submit Revised Final Design Phase Documents to City	0	07/27/16	07/27/16
137	**Bidding Phase**	14d	08/01/16	08/18/16
138	Advertise for and obtain bids for the proposed work	1d	08/01/16	08/01/16
139	Attend Pre-Bid Meeting	1d	08/02/16	08/02/16
140	Answer Design Questions	10d	08/03/16	08/16/16
141	Prepare Addenda	10d	08/02/16	08/15/16
142	Attend Bid Opening	1d	08/18/16	08/18/16
143	**20th Street Streetscape Construction Phase**	275d	09/12/16	10/10/17
144	**Construction Administration**	275d	09/12/16	10/10/17
145	Attend Pre-Construction Meeting	1d	09/12/16	09/12/16
146	Review Shop Drawings	274d	09/13/16	10/10/17
147	Prepare Change Orders	274d	09/13/16	10/10/17
148	Prepare Revision Sheets	274d	09/13/16	10/10/17
149	Answer Design Questions	274d	09/13/16	10/10/17
150	Evaluate substitute "or equal" bids	274d	09/13/16	10/10/17
151	Conduct Site Visits	274d	09/13/16	10/10/17
152	Review and Certify Pay Requests	274d	09/13/16	10/10/17
153	**Construction Inspection**	274d	09/13/16	10/10/17
154	Construction Inspection	274d	09/13/16	10/10/17

