CITY		ENGINEER	
CITY OF JOPLIN **602 S. MAIN STREET** **JOPLIN, MO 64801**		Name: Olsson, Inc. Address: 702 S. Main Street Joplin, MO 64801	
Attention: Chris Parker		Attention: Clayton Cristy, PE	
Department: Public Works		Phone: 417.781.0643	Fax:
Phone: 417.624.0280	Fax:	Glendale Parallel Interceptor Improvements (Phase 1)	

WORK AUTHORIZATION NUMBER OLS-OC20-04-P1
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 Olsson-WW-Glendale Int.-1 exceed the sum of Two HundredThirty-Eight Thousand Seven Hundred Forty 00/100 Dollars ($ 238,740.00).

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 modification or cancellation 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

Such policies 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, 2020, 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 Two Million Nine Hundred Five Thousand Six Hundred Sixty-four and no/100 Dollars ($2,905,664.00 for all claims arising out of a single accident or occurrence and at least Four Hundred Thirty-five Thousand Eight Hundred Forty-Nine and no/100 Dollars ($435,849.00) 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 Nine Hundred Five Thousand Six Hundred Sixty-four and no/100 Dollars ($2,905,664.00 for all claims arising out of a single accident or occurrence and at least Four Hundred Thirty-five Thousand Eight Hundred Forty-Nine and no/100 Dollars ($435,849.00) 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. 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

CITY OF JOPLIN, MISSOURI

By: _____
David Hertzberg, P.E.
Public Works Director

Date: _____

Engineer: Olsson, Inc.

By: Ronald L. Mersch

Printed Name: Ron Mersch

Title: Office Leader

Date: 5/29/2020

By: Clayton Cristy

Printed Name: Clayton Cristy

Title: Team Leader

Date: 5/29/2020

SCOPE AND FEE
FOR PROFESSIONAL SERVICES

June 29, 2020

Chris Parker, P.E.
City of Joplin - Public Works
602 S. Main Street
Joplin, MO 64801

Re: **SCOPE AND FEE FOR PROFESSIONAL SERVICES**
Glendale Interceptor Improvements Phase 1; Joplin, Missouri

Dear Mr. Parker:

It is our understanding that City of Joplin ("Client") requests Olsson to perform the services described herein pursuant to the terms of a formal Agreement to be developed based on this Scope and Fee for Professional Services.

Olsson has acquainted itself with the information provided by Client relative to the Project and based upon such information offers to provide the services described below for the Project. Approximately 2.3 miles of the Glendale Interceptor located between the Twin Equalization Basins and extending near the intersection of 34th St. and Finley Ave, will be replaced according to data from a recent Facility Plan completed by Allgeier, Martin and Associates. The improvements will be divided into two phases roughly splitting the project in half near the Freeman East Campus and Indiana. This scope of services only covers Phase 1 from the Twin Equalization Basins to near the Freeman East Campus.

Olsson shall provide the following services ("Scope of Services") to Client for the Project:

PHASE 100 - PROJECT MANAGEMENT AND COORDINATION

- Overall project management and meetings with internal and external team.
- Attendance at 4 meetings with the client throughout the project.

For Phase 100, Client shall pay to Olsson for the performance of the Scope of Services, the actual time of personnel performing such services, and all actual reimbursable expenses on a time and expense basis not to exceed **$11,130.00**.

PHASE 200 - SURVEY

TASK 201: TOPOGRAPHIC SURVEY DATA - $15,000

- Olsson will collect Topographic Survey data for the Glendale Interceptor Sewer Route, Phase 1. The Topographic Survey data will be the width of the existing easement. The Topographic Survey data shall depict all physical improvements including buildings, driveways, fencing, vegetation, existing storm sewer systems, and visible utilities, as well as underground utilities as located by Missouri One-Call

system. Survey shall be tied vertically to the NAVD 1988 Vertical Datum and horizontally to the Missouri State Plane Coordinate System NAD 83–West Zone-US Survey foot. Olsson's fee does not include preparation of a deliverable survey in paper format. Survey provided will be in AutoCad format only.

- Utility location and mapping is for horizontal location of above ground and underground utilities only. Utility depths will not be obtained or indicated on the topographic survey. Survey of utilities will be based on tracing and marking by One Call and / or a private utility locater. By signing this contract, the client understands and acknowledges that utility mapping is not exact, and it is possible that not all utility lines will be located. Olsson is not responsible for miss-marked or unmarked utilities.

TASK 202: RIGHT OF WAY SURVEY DATA - $30,000

- Olsson will collect right of way/easement location data for Phase 1 of the Glendale Interceptor route, as well as determine enough boundary for each parcel along the route, to prepare descriptions. The survey shall be tied vertically to the NAVD 1988 Vertical Datum and horizontally to the Missouri State Plane Coordinate System NAD 83–West Zone-US Survey foot. Olsson's fee does not include preparation of a deliverable survey in paper format. Survey provided will be in AutoCad format only.

For Phase 200, Client shall pay to Olsson for the performance of the Scope of Services, the actual time of personnel performing such services, and all actual reimbursable expenses on a time and expense basis not to exceed **$45,000.00**.

PHASE 210 – EASEMENT DESCRIPTION AND NEGOTIATIONS

TASK 211: EASEMENT DESCRIPTION AND NEGOTIATIONS - $30,000

- As necessary, Olsson will prepare easement exhibits and descriptions for any easements needed. Olsson shall provide a suitable staff to prepare and acquire easements. Work shall include coordination with appraisal firm(s), drafting and sending letters, and an initial and follow-up meeting with property owners. Olsson anticipates no more than 15 easements for the entire length of the project.

- Olsson cannot guarantee an agreement and/or easement signature acquired from every property owner along the selected route. If additional correspondence/meetings with property owners is necessary beyond what is detailed above, Olsson shall provide these services on an hourly basis, or enter a contract amendment to provide said services. Olsson shall contact the Client and acquire approval prior to performing any additional work.

For Phase 210, Client shall pay to Olsson for the performance of the Scope of Services, the actual time of personnel performing such services, and all actual reimbursable expenses on a time and expense basis not to exceed **$30,000.00**.

PHASE 300 - GRAVITY SANITARY SEWER CONSTRUCTION PLANS

- Develop sanitary sewer construction plans to replace portions of the Glendale Interceptor as described in the Facility Plan for Phase 1 only. Plans will assume branch line connections can connect at the same elevation as the existing system.

- Develop project manual utilizing the City's Standard Construction Agreement and Standard Construction Specifications for each phase of construction.

- Submit 30% and 60% plans to the Owner for review. Any revisions after each milestone, Olsson shall provide these services on an hourly basis, or enter a contract amendment to provide said services.

For Phase 300, Client shall pay to Olsson for the performance of the Scope of Services, the actual time of personnel performing such services, and all actual reimbursable expenses on a time and expense basis not to exceed **$95,950.00**.

PHASE 400 – NEPA COMPLIANCE

- As this project may include federal funding and thus must adhere to the National Environmental Policy Act (NEPA). Olsson will complete a Categorical Exclusion (CE) for the planned improvements consistent with the Council on Environmental Quality (CEQ) NEPA guidance. The CE will be completed in accordance with the lead federal agency's template for CEs. Letters will be sent to the resource agencies including the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Missouri Department of Natural Resources State Historic Preservation Office and Missouri Department of Conservation as needed. Exclusions from the CE proposal include:
    - All field studies specifically including:
        - Wetland Delineation and USACE permitting
        - Threatened and Endangered Species Field Assessment
        - Historic and Cultural Field Assessment
        - Phase 1 Environmental Site Assessment
    - NEPA Environmental Assessment (EA) and Environmental Impact Statement (EIS)

For Phase 400, Client shall pay to Olsson for the performance of the Scope of Services, the actual time of personnel performing such services, and all actual reimbursable expenses on a time and expense basis not to exceed **$7,000.00**.

PHASE 500 – BIDDING PHASE SERVICES

- Olsson shall assist the Owner during bidding by providing the following services.
- Provide Owner with Advertisement for Bids to post on the City's website.
- Attend Pre-Bid Meeting for Phase 1 of work.
- Answer any Bidder questions and provide addenda as required during advertisement period.
- Attend Bid Opening and provide the Owner with a Bid Tabulation of received bids.

For Phase 500, Client shall pay to Olsson for the performance of the Scope of Services, the actual time of personnel performing such services, and all actual reimbursable expenses on a time and expense basis not to exceed **$18,460**.

PHASE 600 – CONSTRUCTION PHASE SERVICES

TASK 601: CONSTRUCTION ADMINISTRATION - $18,700
Olsson shall perform the following construction administration services:

- Attend a pre-construction meeting.
- Receive, log and review contractor submittals (i.e. shop drawings, cut sheets).
- Answer contractors' questions and interpret construction documents. Questions and interpretations will be answered with a written Request for Information (RFI) or similar process.

TASK 602: CONSTRUCTION OBSERVATION - $42,500
Olsson will conduct 80 site visits (Assuming 80 Construction Days at 5 Hours per Day.) to observe construction activities. Olsson will prepare and distribute field reports on a monthly basis.

For Phase 600, Client shall pay to Olsson for the performance of the Scope of Services, the actual time of personnel performing such services, and all actual reimbursable expenses on a time and expense basis not to exceed **$61,200**.

Should Client request work in addition to the Scope of Services, Olsson shall invoice Client for such additional services (Optional Additional Services) at the standard hourly billing labor rate charged for those employees actually performing the work, plus reimbursable expenses if any. Olsson shall not commence work on Optional Additional Services without Client's prior written approval.

Olsson agrees to provide all of its services in a timely, competent and professional manner, in accordance with applicable standards of care, for projects of similar geographic location, quality and scope.

PHASE	NAME	FEE
100	PROJECT MANAGEMENT	$ 11,130
200	SURVEY	$ 45,000
210	ESMT. DESCRIPTION & NEGOTIATION	$ 30,000
300	GRAVITY SEWER CONSTRUCTION PLANS	$ 95,950
400	NEPA COMPLIANCE	$ 7,000
500	BIDDING PHASE SERVICES	$ 18,460
600	CONSTRUCTION PHASE SERVICES	$ 61,200
	TOTAL	**$ 238,740**

SCHEDULE FOR OLSSON'S SERVICES

Unless otherwise agreed, Olsson expects to perform its services under the Agreement as follows:

Anticipated Phase 1 Start Date: July 2020
Anticipated Phase 1 Plans Completion Date: November 2020

Olsson will endeavor to start its services on the Anticipated Start Date and to complete shovel ready plans on the Anticipated Completion Date. However, the Anticipated Start Date, the Anticipated Completion Date, and any milestone dates are approximate only, and Olsson

reserves the right to adjust its schedule and any or all of those dates at its sole discretion, for any reason, including, but not limited to, delays caused by Client or delays caused by third parties.

ASSUMPTIONS

- Budgeted fees can be moved between tasks if funds are available after the completion of certain tasks.
- The following are not included in the above-mentioned Fees:
    - Fees for Title Search, Appraisals and Permitting.
    - Utility relocation plans (if necessary).
    - Preparation of SWPPP document.
    - Services not specifically listed are assumed to be excluded.

Project Name/Description OLS-OC20-04-P1
Consultant Olsson, Inc.

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.

Each invoice must have a cover sheet which summarizes the contract's overall status, showing the following content:

- *original amount; net additions; revised total contract amount; previously invoiced amount; current payment due; balance to finish;*
- *Engineer may choose to utilize the City's or the AIA's Certification for Payment document, or similar approved document.*

Within the pages of the invoice, the Engineer must also include the following information, grouped by project phase or task:

- *For each Staff: name, along with hours worked by date*
- *Sub-totals, as appropriate*

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.~~

~~Pre-Construction Phase – On projects that will require the relocation of existing utilities prior to the award of the construction contract the consultant shall temporarily stake the location of the Right-of-Way and/or easements at points predetermined by Owner. This service will be provided one (1) time as a part of the contract. Any additional staking, if required by utility contractors due to the destruction of the temporary stakes, will be done at the advertised hourly rate and billed back to the utility contractor who is found to be responsible for removing the original stakes.~~

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.

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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.

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.