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**AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES
FOR TRANSMISSION, LARGE DIAMETER SEWERS, AND FORCE MAIN
CONDITION ASSESSMENT AND MANAGEMENT PROGRAM (RFQ NO. 2019-002)**

THIS AGREEMENT made and entered into this 12th day of December, 2018, by and between the City of Lee's Summit, Missouri (hereinafter "City"), and HDR Engineering Inc (hereinafter "Engineer").

WITNESSETH:

WHEREAS, City intends to have engineering services for a Transmission, Large Diameter Sewers, and Force Main Condition Assessment and Management Program (hereinafter "Project"); and

WHEREAS, Engineer has submitted a proposal for the Project and an estimate of engineering costs to perform the Project; and

WHEREAS, the City Manager is authorized and empowered by City to execute contracts providing for professional engineering services; and

WHEREAS, City desires to enter into an agreement with Engineer to perform the Project; and

WHEREAS, Engineer represents that the firm is equipped, competent, and able to undertake such an assignment.

NOW THEREFORE, in consideration of the mutual covenants and considerations herein contained, **IT IS HEREBY AGREED** by the parties hereto as follows:

**ARTICLE I
SCOPE OF BASIC SERVICES TO BE PROVIDED BY ENGINEER**

Engineer shall provide the following professional engineering services to City ("Basic Services"): Transmission, Large Diameter Sewers, and Force Main Condition Assessment and Management Program as described in Exhibit A

**ARTICLE II
SCOPE OF SERVICES TO BE PROVIDED BY CITY**

City shall provide the following services to Engineer: Provide Data and attend meeting as described in exhibit A.

**ARTICLE III
PAYMENTS TO THE ENGINEER**

For the services performed by Engineer pursuant to this Agreement, and as full compensation therefore, and for all expenditures made and all expenses incurred by Engineer in connection with this Agreement, except as otherwise expressly provided herein, subject to and in conformance with all provisions of this Agreement, City will pay Engineer a maximum fee for Basic Services and Optional Services in the sum of One Million Five Hundred and Twenty-Six Thousand Three Hundred and Eighty Dollars (\$1,526,380), according to the following provisions:

- A. The cost of all Basic Services covered under Article I shall be billed hourly at the rates set forth in Exhibit A attached hereto and incorporated herein by reference. Expenses incurred to provide the Basic Services shall be billed as set forth in Exhibit A. The total fees (hourly fees and expenses) for the Basic Services shall not exceed the total sum of One Million Five Hundred and Twenty-Six Thousand Three Hundred and Eighty Dollars (\$1,526,380).
- B. If so requested by Engineer, City will make payment monthly for Basic Services that have been satisfactorily completed. The City shall make payment to Engineer within a period not to exceed thirty (30) days from the date an invoice is received by City. All invoices shall contain the following information:
 - 1. Project Name/Task Name/RFP Number/Description of Agreement.
 - 2. Invoice Number and Date.
 - 3. Itemized statement for the previous month of Labor (including Personnel Description, Title or classification for each person on the Project, Hours Worked, Hourly Rate, and Amount), Itemized Reimbursable Expenses, and Invoice Total.
 - 4. Description of monthly progress detailing the amount of the services completed to date and projected completion time.
 - 5. Project Billing Summary containing the Contract or Agreed Maximum Fee Amount, Cumulative Amount Previously Billed, Billing Amount this Invoice, Contract or Agreed Amount Remaining, and Percent of Maximum Fee Billed to Date.
 - 6. Cost Invoices must be categorized by Phase.

All moneys not paid when due as provided herein shall bear interest at a per annum rate equal to one percent (1%) plus the average *Consumer Price Index for All Urban Consumers (CPI-U)-U.S. City Average* for the time period in which payment is past due; provided, however, that in no event will the amount of interest to be paid by the City exceed 9% per annum.

**ARTICLE IV
COMPLETION TIME**

The Basic Services shall be completed in accordance with the following schedule:

As shown in Exhibit A

The Assistant Director of Water Utilities may, with the mutual consent of the parties, amend the deadlines contained in this Article by written authorization upon a showing of cause for amendment by Engineer.

**ARTICLE V
INSURANCE**

- A. **CERTIFICATE OF INSURANCE:** The Engineer shall secure and maintain, throughout the duration of this contract, insurance of such types and in at least the amounts that are required herein. Engineer shall provide certificate(s) of insurance confirming the required protection on an ACORD 25 (or equivalent form). The City shall be notified by receipt of written notice from the insurer at least thirty (30) days prior to material modification or cancellation of any policy listed on the certificate(s). The City reserves the right to require formal copies of any Additional Insured endorsement, as well as the right to require completed copies of all insuring policies applicable to the project. The cost of such insurance shall be included in the Engineer's contract price.

- B. **NOTICE OF CLAIM:** The Engineer shall upon receipt of notice of any claim in connection with this contract promptly notify the City, providing full details thereof, including an estimate of the amount of loss or liability. The Engineer shall also promptly notify the City of any reduction in limits of protection afforded under any policy listed in the certificate(s) of insurance in excess of \$10,000.00, whether or not such impairment came about as a result of this contract. If the City shall subsequently determine that the Engineer's aggregate limits of protection shall have been impaired or reduced to such extent that they are inadequate for the balance of the project, the Engineer shall, upon notice from the City, promptly reinstate the original limits of liability required hereunder and shall furnish evidence thereof to the City.

- C. **INDUSTRY RATING:** The City will only accept coverage from an insurance carrier who offers proof that it is licensed to do business in the State of Missouri; carries a Best's policyholder rating of "A" or better; carries at least a Class VII financial rating or is a company mutually agreed upon by the City and the Engineer.

D. SUB-CONSULTANT'S INSURANCE: If any part of the contract is to be sublet, the Engineer shall either:

1. Cover all sub-consultants in the Engineer's liability insurance policy or,
2. Require each sub-consultant not so covered to secure insurance in the minimum amounts required of the Engineer and submit such certificates to the City as outlined herein.

E. SELF-INSURED RETENTIONS / DEDUCTIBLES: Any Engineer that maintains a Self-Insured Retention or Deductible (in excess of \$50,000) must be declared on the Certificates provided to the City. Such amounts shall be the sole responsibility of the Engineer. The City reserves the right to approve such self-insured retentions/deductibles and may require guarantees from the Engineer for such assumed limits.

F. PROFESSIONAL LIABILITY: Professional Liability, or Errors and Omissions Insurance protection must be carried by Engineer in the minimum amount of \$1,000,000.

G. COMMERCIAL GENERAL LIABILITY POLICY

Limits:

| | |
|--|-------------|
| Each occurrence: | \$1,000,000 |
| Personal & Advertising Injury: | \$1,000,000 |
| Products/Completed Operations Aggregate: | \$1,000,000 |
| General Aggregate: | \$1,000,000 |

Policy must include the following conditions:

- Bodily Injury and Property Damage
- Insured Contract's Contractual Liability
- Explosion, Collapse & Underground (if risk is present)
- Additional Insured: City of Lee's Summit, Missouri

H. AUTOMOBILE LIABILITY: Policy shall protect the Engineer against claims for bodily injury and/or property damage arising out of the ownership or use of any owned, hired and/or non-owned vehicle and must include protection for either:

1. Any Auto
2. or all Owned Autos; Hired Autos; and Non-Owned Autos

Limits:

| | |
|--|-----------|
| Each Accident, Combined Single Limits, Bodily Injury and Property Damage: | \$500,000 |
| City of Lee's Summit, Missouri does NOT need to be named as additional insured on Automobile Liability | |

I. WORKERS' COMPENSATION: This insurance shall protect the Engineer against all claims under applicable state Workers' Compensation laws. The Engineer shall also be protected against claims for injury, disease or death of employees which, for any

reason, may not fall within the provisions of a Workers' Compensation law and contain a waiver of subrogation against the City. The policy limits shall not be less than the following:

| | |
|----------------------------|-------------------------|
| Workers' Compensation: | Statutory |
| Employer's Liability: | |
| Bodily Injury by Accident: | \$100,000 Each Accident |
| Bodily Injury by Disease: | \$500,000 Policy Limit |
| Bodily Injury by Disease: | \$100,000 Each Employee |

J. GENERAL INSURANCE PROVISIONS

1. The insurance limits outlined above represent the minimum coverage limit and do not infer or place a limit of liability on the Engineer nor has the City assessed the risk that may be applicable to the Engineer.
2. The Engineer's liability program will be primary and any insurance maintained by the City (including self-insurance) will not contribute with the coverage maintained by the Engineer.
3. Coverage limits outlined above may be met by a combination of primary and excess liability insurance programs.
4. Any coverage provided on a Claims Made policy form must contain a 3-year tail option (extended reporting period) or the program must be maintained for 3-years subsequent to completion of the Contract.
5. Any failure on the part of the Engineer with any policy reporting provision shall not affect the coverage provided to the City.
6. When "City" is utilized, this includes its officers, employees and volunteers in respect to their duties for the City.

**ARTICLE VI
MISCELLANEOUS PROVISIONS**

The following miscellaneous provisions are agreed to by both parties to this Agreement:

- A. **COVENANT AGAINST CONTINGENT FEES:** Engineer warrants that Engineer has not employed or retained any company or person, other than a bona fide employee working for the Engineer, to solicit or secure this Agreement, and that Engineer has not paid or agreed to pay any company or person, other than bona fide employee, any fee, commission, percentage, brokerage fee, gifts, or any other consideration contingent upon or resulting from the award or making of this Agreement. For breach or violation of this warranty, the City shall have the right to annul this Agreement without liability or, at its discretion, to deduct from the contract price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.
- B. **OWNERSHIP OF ENGINEERING DOCUMENTS:** Payment by City to Engineer as aforesaid in Article IV shall vest in City title to all drawings, sketches, studies, analyses, reports, models, and other paper, documents, computer files, and material produced by Engineer exclusively for the services performed pursuant to this Agreement up to

the time of such payments, and the right to use the same without other or further compensation, provided that any use for another purpose shall be without liability to the Engineer. Any reuse without written verification or adaptation by Engineer for the specific purpose intended will be at City's risk and without liability or exposure to Engineer, and City shall indemnify and hold harmless, to the extent allowed by the Constitution and Laws of the State of Missouri, Engineer from all claims, damages, losses, expenses, including attorneys' fees arising out of or resulting therefrom.

- C. **MODIFICATIONS TO AGREEMENT:** In the event of any changes in the scope of services contained in this Agreement, prior to commencing the services City and Engineer shall enter into a modification of this Agreement describing the changes in the services to be provided by Engineer and City, providing for compensation for any additional services to be performed by Engineer, and providing completion times for said services.
- D. **EMERGENCY CHANGES IN SERVICES:** The Assistant Director of Water Utilities, with the consent of the City Manager, is authorized to execute on behalf of the City modification agreements as provided for in subsection C. above where there is an emergency and the overall compensation authorized in Article IV above, and any supplements or modifications thereto, is not increased. For purposes of this subsection, an "emergency" shall mean those unforeseen circumstances that present an immediate threat to public health, welfare, or safety; or when immediate response is necessary to prevent further damage to public property, machinery, or equipment; or when delay would result in significant financial impacts to the City as determined by the Assistant Director of Water Utilities and the City Manager.

In the event an emergency change in services is authorized by the Assistant Director of Water Utilities and the City Manager pursuant to this provision, the modification agreement shall be submitted to the City Council for ratification at its next available meeting.

- E. **TERMINATION:** In the event of termination by City, if there are any services hereunder in progress but not completed as of the date of termination, then said Agreement may be extended upon written approval of the City until said services are completed and accepted.
1. Termination for Convenience: The services called for by this Agreement or any supplements thereto may be terminated upon request and for the convenience of City upon thirty (30) days advance written notice. City shall pay Engineer for all services rendered up to the date of termination.
 2. Termination for Cause: This Agreement may also be terminated for cause by City or Engineer. Termination for cause shall be preceded by a fourteen-(14) day correction period effective upon delivery of written notice. City shall pay Engineer for all services rendered up to the date of termination. In the event of termination for cause by City, compensation for services rendered by Engineer up to the date

of termination shall be offset by City's reasonable cost to mitigate or correct the effects of such termination.

3. Termination Due to Unavailability of Funds in Succeeding Fiscal Years: When funds are not appropriated or otherwise made available to support continuation of the Project in a subsequent fiscal year, this Agreement shall be terminated and Engineer shall be reimbursed for the services rendered up to the date of termination plus the reasonable value of any nonrecurring costs incurred by Engineer but not amortized in the price of the services delivered under this Agreement.
- F. **COMPLIANCE WITH LAWS:** Engineer shall comply with all Federal, State, and local laws, ordinances, and regulations applicable to the services. Engineer shall secure all licenses, permits, etc. from public and private sources necessary for the fulfillment of its obligations under this Agreement.
 - G. **SUBLETTING ASSIGNMENT OR TRANSFER:** Engineer shall not sublet, assign, or transfer any interest in the services covered by this Agreement, except as provided for herein and except with the prior written consent of City. The use of subcontractors shall in no way relieve Engineer of his/her primary responsibility for the services. No approval will be necessary for non-professional services such as reproductions, printing, materials, and other services normally performed or provided by others.
 - H. **CONFERENCES, VISITS TO SITE, INSPECTION OF SERVICES:** Upon reasonable advance notice and during normal business hours at Engineer's place of business, representatives of City shall have the privilege of inspecting and reviewing the services being performed by Engineer and consulting with him/her at such time. Conferences are to be held at the request of City or Engineer.
 - I. **ENGINEER'S ENDORSEMENT:** Engineer shall endorse all plans, specifications, estimates, and engineering data furnished by him/her.
 - J. **INSPECTION OF DOCUMENTS:** Engineer shall maintain all records pertaining to its services hereunder for inspection, upon reasonable advance notice and during normal business hours at Engineer's place of business, by a City representative during the contract period and for three (3) years from the date of final payment for each individual project performed pursuant to this Agreement.
 - K. **INDEMNIFICATION AND HOLD HARMLESS:** Engineer shall indemnify and hold harmless City and its officers, employees, elected officials, and attorneys, each in their official and individual capacities, from and against judgments, damages, losses, expenses, including reasonable attorneys' fees, to the extent caused by the negligent acts, errors, omissions, or willful misconduct of Engineer, or its employees, or subcontractors, in the performance of Engineer's duties under this Agreement, or any supplements or amendments thereto.

- L. **LIMITATION OF LIABILITY:** In no event will City be liable to Engineer for indirect or consequential damages, and in no event will City's liability under this Agreement exceed the amount to be paid to Engineer pursuant to Article IV of this Agreement.
- M. **PROFESSIONAL RESPONSIBILITY:** Engineer will exercise reasonable skill, care, and diligence in the performance of its services in accordance with customarily accepted professional engineering practices. If Engineer fails to meet the foregoing standard, Engineer will perform at its own cost, and without reimbursement from City, the professional engineering services necessary to correct errors and omissions that are caused by Engineer's failure to comply with above standard, and that are reported to Engineer within one year from the completion of Engineer's services for each individual project performed pursuant to this Agreement.
- N. **ENTIRE AGREEMENT:** This Agreement constitutes the entire agreement between the parties with respect to its subject matter, and any prior agreements, understandings, or other matters, whether oral or written, are of no further force or effect. This Agreement may be amended, changed, or supplemented only by written agreement executed by both of the parties hereto.
- O. **CONFLICT:** In the event of any conflict, ambiguity, or inconsistency between this Agreement and any other document that may be annexed hereto, the terms of this Agreement shall govern.
- P. **GOVERNING LAW:** This Agreement shall be governed by and construed in accordance with the laws of the State of Missouri.
- Q. **OPINION OF PROBABLE CONSTRUCTION COST AND SCHEDULE:** Since Engineer has no control over the cost of labor, materials, or equipment, or over contractor's(s') methods of determining prices, or over competitive bidding or market conditions, the estimate of construction cost and schedule provided for herein is to be made on the basis of Engineer's experience and qualifications and represents Engineer's best judgment as a professional engineer familiar with the construction industry, but Engineer cannot and does not guarantee that the bids or the Project construction cost or schedule will not vary from the opinion of probable construction cost and schedule prepared by Engineer.
- R. **TAX EXEMPT:** City and its agencies are exempt from State and local sales taxes. Sites of all transactions derived from this Agreement shall be deemed to have been accomplished within the State of Missouri.
- S. **SAFETY:** In the performance of its services, Engineer shall comply with the applicable provisions of the Federal Occupational Safety and Health Act, as well as any pertinent Federal, State and/or local safety or environmental codes.
- T. **ANTI-DISCRIMINATION CLAUSE:** Engineer and its agents, employees, or subcontractors shall not in any way, directly or indirectly, discriminate against any person because of age, race, color, handicap, sex, national origin, or religious creed.

U. DELAY IN PERFORMANCE: Neither City nor Engineer shall be considered in default of this Agreement for delays in performance caused by circumstances beyond the reasonable control of the nonperforming party. For purposes of this Agreement, such circumstances include, but are not limited to, abnormal weather conditions, floods, earthquakes, fire, epidemics, war, riots, and other civil disturbances, strikes, lockouts, work slowdowns, and other labor disturbances, sabotage, judicial restraint, and delay in or inability to procure permits, licenses, or authorizations from any local, State, or Federal agency for any of the supplies, materials, accesses, or services required to be provided by either City or Engineer under this Agreement. Engineer and City shall be granted a reasonable extension of time for any delay in its performance caused by any such circumstances. Should such circumstances occur, the nonperforming party shall within a reasonable time of being prevented from performing, give written notice to the other party describing the circumstances preventing continued performance and the efforts being made to resume performance of the Agreement.

V. NO THIRD-PARTY RIGHTS: The services provided for in this Agreement are for the sole use and benefit of City and Engineer. Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than City and Engineer.

W. NOTICE: Whenever any notice is required by this Agreement to be made, given or transmitted to any party, it shall be enclosed in an envelope with sufficient postage attached to ensure delivery and deposited in the United States Mail, first class, with notices to City addressed to:

City Engineer
City of Lee's Summit
220 SE Green Street
Lee's Summit, MO 64063

Assistant Director of Water Utilities
City of Lee's Summit
200 SE Green Street
Lee's Summit, MO 64063

and notices to Engineer shall be addressed to:

Pat Young, PE
HDR Engineering Inc
10450 Holmes Rd, Suite 600
Kansas City, MO 64131

or such place as either party shall designate by written notice to the other. Said notices may also be personally hand delivered by each party to the other, at the respective addresses listed above. If hand delivered, the date of actual completion of delivery shall be considered the date of receipt. If mailed, the notice shall be considered received the third day after the date of postage.

**ARTICLE VII
ALL OTHER TERMS REMAIN IN EFFECT**

Reserved.

THIS AGREEMENT shall be binding on the parties thereto only after it has been duly executed and approved by City and Engineer.

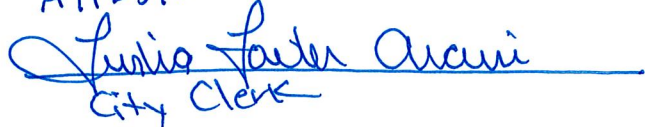
IN WITNESS WHEREOF, the parties have caused this Agreement to be executed on the 12th day of December, 2018

CITY OF LEE'S SUMMIT



Stephen A. Arbo, City Manager

ATTEST:



Lucia Foster Arcini
City Clerk

APPROVED AS TO FORM:



Chief Council Infrastructure and Zoning
Nancy K. Yendes

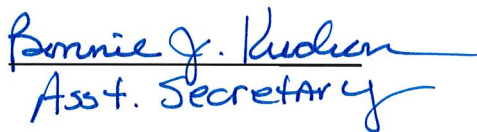
ENGINEER: HDR Engineering Inc



BY: Stan A. Christopher

TITLE: Senior Vice President

ATTEST:



Bonnie J. Kudron
Asst. Secretary

Exhibit A

DRAFT SCOPE (10/31/18) **LEE'S SUMMIT WATER TRANSMISSION, LARGE DIAMETER SEWERS, AND FORCE MAIN CONDITION ASSESSMENT AND MANAGEMENT PROGRAM – PHASE 1 SUPPORT CITY OF LEE'S SUMMIT**

SCOPE OF SERVICES

This scope of services describes the work to be performed by HDR on behalf of the City of Lee's Summit for the Water Transmission, Large Diameter Sewers, and Force Main Condition Assessment and Management Program.

The Lee's Summit Water Utilities Department has identified 45 miles of water and sewer pipelines that could cause significant impacts to the community and existing infrastructure if a failure occurred. The City desires to develop a management program for these pipelines, including assessing the condition of a portion of these pipelines. Condition assessments will focus on the highest consequence of failures lines, and establishing a representative sample of the condition of other pipelines. This program is anticipated to be executed in the following phases:

- Phase 1 (2018 – 2020)
 - Phase 1A – Program Planning and Development (December 2018 – June 2019)
 - Phase 1B – Phase 1 Pipelines Condition Assessment and Evaluation (January 2019 – June 2020)
 - Phase 1C – Phase 1 Final Report and Phase 2 Program Planning (January 2020 – December 2020)
- Phase 2 (2021 – 2022) – Phase 2 Pipelines Condition Assessment & Evaluation, to be completed in 2021 and 2022.
- Phase 3 (After 2022) – Future Pipelines Condition Assessment & Evaluations, to be completed post 2022.

This scope describes HDR's services to be provided for Phase 1A Program Planning and Development (Tasks 1-3) and Phase 1C Final Report and Phase 2 Program Planning (Task 7). This scope also includes portions of the anticipated work to be included in Phase 1B Pipelines Condition Assessment and Evaluation. This condition assessment work in this scope includes:

- Condition assessment services for the Water Transmission Main from Independence
- Condition assessment services for the Tudor Road and Scruggs Road Force Mains
- Condition assessment services for the sewers under Lakewood Lake

This scope of services does not include support for additional condition assessment activities that are anticipated to occur in Phase 1B that are not described in this scope. The scope of these activities will be determined based on the results of the work

Exhibit A

completed in Phase 1A and the results of the initial condition assessment work. The scope of work for these services will be included in separate authorization or an amendment to this authorization.

Assumptions

1. City engineering and operations staff can provide significant time commitments to project during program workshops, field visits in preparation of condition assessment work, and during weeks in which onsite condition assessment activities will occur. It is anticipated that City staff will be asked to perform excavations, confined space entry and trench protection measures, and traffic control.
2. Due to the nature of this work, the schedule and tasks included in this scope of this authorization will remain flexible, and may be modified at the direction of the City.
3. Estimated fees for field services for Phase 1 pipeline condition assessments are included in Tasks 4, 5, and 6. The final scope of these field inspection activities, as well as the access needs, tracking, and operational constraints and logistics during the in-pipe condition assessments will be determined during planning activities. Budgetary estimates are included for these field services; these may be modified as the scope of inspection work is able to be fully defined. Costs may also be reallocated among field services subconsultants.
4. An allowance for support for design and construction phase services is included in Task 4, Task 5, and Task 7 for condition assessment activity preparations and emergency repair support, respectively. The scope of these activities is not yet completely defined. If additional services are needed beyond the estimated allowance, these will be included in future authorizations or an amendment to this authorization. If the allowance is not used, this may be allocated to be used for other program activities at the City's discretion.
5. Additional Phase 1 pipeline condition assessment activities beyond those defined in this scope, as well as future Phase 2 and Phase 3 condition assessments are not included in the scope and fee for these authorizations. These services will be included in future authorizations or an amendment to this authorization.
6. The scope and fee estimate for Task 7 includes the evaluation of additional Phase 1 pipeline condition assessment efforts beyond those included in Tasks 4, 5, and 6.
7. Construction work necessary to support the program is not anticipated to require development of complete design and bid plans and specifications.

Exhibit A

TASK 1 – System Evaluation and Pipeline Prioritization

This task will focus on evaluation of the City’s pipelines and development of a risk-based prioritization of the pipelines. The outcome of this task will be a prioritized ranking of pipelines assets by risk based on consequence and likelihood of failure factors (COF and LOF). The results of the prioritization will be used to help determine the lines included in the upcoming condition assessment efforts and to inform other programmatic efforts. This task will also include a documentation of known problem areas within the system and operational considerations and constraints, as well as a workshop to review the City’s corrosion issues and review potential long term approaches to corrosion management.

Services Provided by HDR:

1. Compile and review City provided pipeline data including GIS mapping, as-built information, and past pipeline break and repair data. Develop inventory of pipe assets to be included in project.
 - a. Review asset data for completeness and identify any significant gaps.
 - b. Develop enhanced GIS project mapping of pipelines included in program.
2. Conduct Project Kickoff Meeting with members of HDR and City management team.
3. Develop preliminary pipeline criticality (COF and LOF) and risk prioritization criteria for City review during workshops.
4. Prepare for and conduct Pipeline Prioritization Workshops with City. The workshops topics are anticipated to include, but not be limited to:
 - a. Known history of each line segment including any past failures or performance issues, part renewal work and other improvement projects.
 - b. System wide and pipeline specific operational concerns and constraints.
 - c. Small diameter pipeline failure “hot spots” which many inform prioritization efforts.
 - d. Consequence and likelihood of failure rating system approaches.
 - e. Data on historical pipeline failure rates that may inform prioritization.
 - f. Available soil data mapping and its potential uses in identifying relative risks of corrosion.
5. Document key workshop findings.
6. Review City standard details and specifications for new pipeline construction and corrosion protection for new and existing pipelines. Document comments and recommendations.
7. Prepare for and conduct Corrosion Management Workshops with City. The workshops topics are anticipated to include, but not be limited to:
 - a. Historical City corrosion issues, and reactive and proactive efforts to address corrosion.
 - b. Corrosive potential of soils based on local soil data.
 - c. Approaches to corrosion protection and corrosion management programs.
8. Update project mapping with enhancements to document known issues, identify system corrosion hot spots, key appurtenances.
9. Finalize pipeline COF and LOF factors and risk-based prioritization.
10. Develop Draft System Evaluation and Pipeline Prioritization Technical Memorandum (TM).

Exhibit A

11. Conduct review meeting with City to gather comments and input on Draft TM.
12. Submit Final System Evaluation and Pipeline Prioritization TM.

Deliverables:

System Evaluation and Pipeline Prioritization TM
Prioritization of Pipelines

Meetings:

Project Kickoff Meeting
Pipeline Prioritization Workshops
Corrosion Management Workshops
TM Review Meeting

TASK 2 – Condition Assessment and Management Program Planning

This task will focus on development of the condition assessment and management program plan. A detailed evaluation of the high priority pipelines that may be included in Phase 1 and Phase 2 of the program will be completed. This will include establishing recommended technology platforms for condition assessment, evaluating access needs and operational constraints, construction needs, and development of planning level costs to complete the condition assessments.

The results of this evaluation will be used to define the pipelines that will be included in Phase 1 of the program. Pipelines anticipated to be included in Phase 2 and Phase 3 will also be determined. A Pipeline Condition Assessment and Management Program Plan will be developed; this plan will be a flexible document that will be updated in Task 4, based on the findings of the Phase 1 condition assessments.

Services Provided by HDR:

1. Provide recommendations to City on pipelines to assess for inclusion in Phase 1 and Phase 2 of the program. After City concurrence, define pipelines to be included in detailed condition assessment planning. Up to 12 pipelines are assumed to be evaluated.
2. Complete detailed evaluation of each Phase 1 and Phase 2 pipeline candidate, including the following:
 - a. Evaluate potential technologies, define advantages/disadvantages and establish preferred technology platform(s).
 - b. Evaluate access constraints and define construction necessary to complete condition assessments.
 - c. Evaluate operational constraints including allowable outage periods, seasonal constraints, and applicable flow and run time data.
 - d. Coordinate with the City to evaluate valve accessibility and condition as necessary.
 - e. Compile available original pipeline specification and laying schedules available from manufacturers.
 - f. Establish recommended and alternate assessment approaches and cost benefit evaluations when warranted.

Exhibit A

- g. Develop planning level costs for condition assessments.
 - h. Complete hydraulic modeling as needed using the City's water system model to investigate system hydraulics as needed to prepare for condition assessment activities.
3. Facilitate up to three (3) meetings or site visits with City operations and/or engineering staff to discuss pipeline specific details.
 4. Prepare for and Facilitate Condition Assessment Plan Development workshops to review findings and recommendations with City. Review advantages/disadvantages of different assessment approaches including cost effectiveness and data collected.
 5. Based on evaluation results and City input, develop condition assessment program plan and preliminary project budgets for Phase 1, 2, and 3 pipelines.
 6. Determine any pipeline management and protection recommendations to be included in initial program plan. These may include operational or pipeline protection improvements identified during program efforts. Recommendations may be programmatic or pipeline specific.
 7. Develop Draft Pipeline Condition Assessment and Management Program Plan TM.
 8. Conduct review meeting with City to gather comments and input on Draft Plan.
 9. Submit Final Pipeline Condition Assessment and Management Program Plan Prioritization TM.

Deliverables:

Pipeline Condition Assessment and Management Program Plan TM
Program Schedule and Preliminary Budgets

Meetings:

Meetings/Site Visits to review specific pipeline details (3)
Condition Assessment Plan Development Workshop
Corrosion Management Plan Development Workshops
Review Meeting on Condition Assessment and Management Plan

TASK 3 – Phase 1 Pipelines Condition Assessment Work Plan Development

This task will focus on development of Condition Assessment Work Plans for Phase 1 pipelines. The information developed during Task 2 will be expanded on and a Work Plan written for each pipeline. Each Work Plan will include the following:

- General schedules for pre-inspection activities – e.g. access construction, valve testing or replacement
- Recommended approach to assessment for each segment of pipeline to be inspected
- Access recommendations and construction requirements, staging areas, easement requirements
- O&M coordination for flow control and shutdowns, and required valve inspections and/or repairs
- Identification of confined space entry requirements, traffic control, and other safety issues

Exhibit A

- Schedule of field activities for inspection week

While the exact line segments included in the condition assessment will be determined over the course of the project, it is anticipated that from 3 to 6 line segments may be included in the Phase 1 condition assessment efforts (with the Lakewood gravity sewers considered as only one). These are likely to include some combination of the following:

- A portion of the PCCP water transmission main from Independence (Work Plan 1)
- Expanded assessment of the gravity sewer mains under Lakewood Lake (Work Plan 2)
- Assessment of a representative sample of metallic sewer force mains (Work Plan 3)
- Assessment of a representative sample of metallic water transmission and distribution mains (Work Plan 3)

For planning purposes, the scope of services for Task 3 assumes four (4) individual condition assessment work plans will be required. It is assumed that similar work plans will be combined into one work plan (i.e. inspection of three segments of the Tudor Road Forcemain will be documented in one Work Plan). The level of effort may vary significantly between Work Plans depending on the technology platforms used and the complexity of preparation activities.

Services Provided by HDR:

1. Develop up to four (4) Draft Condition Assessment Work Plans.
2. Facilitate up to four (4) Work Plan review meetings with the City. Two individual work plans will be reviewed at each meeting.
3. Complete and submit Final Condition Assessment Work Plans.

Deliverables:

Draft and Final Condition Assessment Work Plans

Meetings:

Two Work Plan Review Meetings

TASK 4 – Condition Assessment of Water Transmission Main from Independence

This task includes the in-pipe condition assessment of the section of the PCCP water transmission main that provides City water from Independence, and evaluation of the inspection data. The transmission main is approximately 30,000 linear feet and 30-inches in diameter. An electromagnetic inspection will be completed using the Pipe Diver platform. Additional follow-up inspections may be completed using the LDS 1500 or other in-pipe CCTV/multi-use inspection platform.

Initial planning activities are included in Task 2 and 3, while pre-inspection onsite planning, coordination, and walkthrough activities are included in the scope for Task 4.

Exhibit A

An allowance has been included in Task 4 to provide support for design and construction phase of improvements needed to perform the condition assessment. A similar allowance is included in Task 5. It is anticipated that these allowances may be reallocated between tasks if needed.

Evaluation of condition assessments results and recommendations are included in Task 4. Development of renewal alternatives and corresponding cost estimates for this pipeline are included in Task 7 Final Phase 1 Report.

Services Provided by HDR:

1. Provide design and construction support services for any necessary pipe access or tracking installation that will need to be constructed to facilitate the onsite inspection, and valve replacement or modifications needed for Phase 1 inspections. This may include design of access structure and connections, tracking sensor attachments, design of details, traffic control planning, valve replacements, coordination activities with the City's contractor, shop drawing, resident project representative services, and permit acquisition.
2. Conduct site planning and coordination meetings with City staff and inspection Contractor, including review of Draft and Final Work Planning document and schedule.
3. Conduct pre-condition assessment meeting with City to finalize action plan for inspection. Support the city in any pre-assessment walkthrough activities needed. Finalize inspection day plans and schedules.
4. Contractor Mobilization and Demobilization.
5. Perform internal Pipe Diver inspection to identify wire breaks and provide onsite assistance and coordination during condition assessment activities.
6. Contractor condition assessment findings and reporting.
7. Review and analyze inspection data provided by Contractor. Complete structural evaluation of identified structural defects in comparison to operating conditions of pipe. Develop assessment findings and recommendations.
8. Perform in-pipe CCTV or leak detection follow up inspections at select locations to be determined based on condition assessment findings.
9. Facilitate a workshop to present assessment results, discuss risk tolerance and the City's threshold for initiating rehabilitation or repairs, and other topics to be determined based on the assessment findings.
10. Develop rehabilitation, repair, pipe modification, and operating recommendations based on workshop and assessment data.
11. Prepare Draft Condition Assessment Report summarizing inspection and analysis methods and results, and recommendations to extend the service life of the pipeline.
12. Facilitate a review meeting with City to discuss draft report.
13. Incorporate City comments and finalize the Condition Assessment Report.

Deliverables:

Design and construction phase services, TBD

Field services for condition assessments

Exhibit A

Condition Assessment Report

Meetings:

Condition Assessment Planning Meetings and Walkthrough
Condition Assessment Findings Workshop
Report Review Meeting

TASK 5 – Initial Condition Assessment of Tudor Road and Scruggs Road Force mains

This task will focus on an initial evaluation of the City's high consequence of failure metallic force mains. Condition assessment work will focus on identifying the most likely locations where the pipelines may be experiencing internal and/or external corrosion, thus increasing the likelihood of failure. This will be completed through a combination of the following:

- Desktop analysis of soil mapping records and historical break locations that may indicate areas where corrosion potential is elevated (developed during Task 1 and 2).
- Identification of inoperable or closed air release valves (ARVs), assessed during Task 2.
- Internal gas pocket and leak detection of the Tudor Road and Scruggs Road forcemains.
- External Corrosion Direct Assessment (ECDA) activities, which may include soil sampling, testing using broadband electromagnetic (BEM) ultrasonic (UT) technologies, and/or visual inspections at pipe excavations.

An allowance has been included in Task 6 to provide support for design and construction of improvements needed to perform the condition assessment. A similar allowance is included in Task 4. It is anticipated that these allowances may be reallocated between tasks if needed.

Evaluation of condition assessments results and recommendations are included in Task 5. Development of renewal alternatives and corresponding cost estimates for this pipeline are included in Task 7 Final Phase 1 Report.

Services Provided by HDR:

1. Provide design and construction support services for any necessary pipe access or tracking installation that will need to be constructed to facilitate the onsite inspection, and valve replacement or modifications needed for Phase 1 inspections. This may include design of access structure and connections, tracking sensor attachments, design of details, traffic control planning, valve replacements, coordination activities with the City's contractor, shop drawing, resident project representative services, and permit acquisition.
2. Conduct site planning and coordination meetings with City staff and inspection Contractor for internal Smart Ball assessment.
3. Conduct pre-condition assessment meeting with City to finalize action plan for inspection. Support the city in any pre-assessment walkthrough activities needed. Finalize inspection day plans and schedules.

Exhibit A

4. Contractor Mobilization and Demobilization.
5. Perform internal assessment of the forcemain using Smart to identify leaks and gas pockets. Provide onsite assistance and coordination during condition assessment activities.
6. Contractor condition assessment findings and reporting of gas pocket and leak detection survey.
7. Review and analyze inspection data provided by Contractor. Complete evaluation of internal conditions identified during inspection in comparison to operating conditions of pipe and ARVs. Develop assessment findings and recommendations.
8. Facilitate a workshop to present assessment results, identification of areas at increased risk of failure due to internal corrosion, and other topics to be determined based on the assessment findings.
9. Coordinate with City and identify recommended locations for External Direct Corrosion Assessments prior to mobilization of assessment staff.
10. Perform External Direct Corrosion Assessments field activities
11. Analyze the results of the external assessment activities.
12. Prepare Draft Condition Assessment Report summarizing inspection and analysis methods and results, and recommendations to extend the service life of the pipeline.
13. Facilitate a review meeting with City to discuss draft report.
14. Incorporate City comments and finalize the Condition Assessment Report.

Deliverables:

Design and construction phase services, TBD
Field services for condition assessments
Condition Assessment Report

Meetings:

Condition Assessment Planning Meetings and Walkthrough
Condition Assessment Findings Workshop
Report Review Meeting

TASK 6 – Condition Assessment of Lakewood Sewers

This task will include an expanded condition assessment of the gravity lines under Lakewood, using a Multi-Sensor Inspection Platform (MSI) that can utilize laser profiling, HDCCTV, and sonar technologies concurrently in one inspection. These inspections may utilize all three technologies if warranted; however sonar technologies may not be necessary for all segments inspected. There are approximately seven miles of gravity lines that will be evaluated when planning the condition assessment – it is anticipated that the MIS inspection will be completed on only a portion of those lines. The scope of line segments to be assessed will be developed by the project team in coordination with the City.

Initial planning activities are included in Task 2 and 3. Note that since this is an inspection of gravity mains that are anticipated to be accessed through existing manholes

Exhibit A

remain in service during the inspection, the pre-inspection coordination will not be as extensive as other inspection activities included in this scope.

Evaluation of condition assessments results and recommendations are included in Task 6. Development of renewal alternatives and corresponding cost estimates for this pipeline are included in Task 7 Final Phase 1 Report.

Services Provided by HDR:

1. Conduct task kickoff meeting prior to initiating condition assessment work.
2. Perform MSI platform inspection of Lakewood Sewers.
3. Compile Contractor HDCCTV findings and evaluate inspection findings.
4. Process Laser profiling inspection findings in locations where it is warranted based on the inspection findings.
5. Process Sonar inspection findings.
6. Review and analyze Sonar and Laser profiling data provided by Contractor.
7. Complete structural evaluation of identified structural defects in comparison to operating conditions of pipe. Develop initial assessment findings and recommendations.
8. Facilitate a workshop to present assessment results, discuss risk tolerance and the City's threshold for initiating rehabilitation or repairs, and other topics to be determined based on the assessment findings.
9. Prepare Draft Condition Assessment Report summarizing inspection and analysis methods and results, and recommendations to extend the service life of the pipelines.
10. Facilitate a review meeting with City to discuss draft report.
11. Incorporate City comments and finalize the Condition Assessment Report

Deliverables:

Field services for condition assessments
Condition Assessment Report

Meetings:

Condition Assessment Planning Meeting
Condition Assessment Findings Workshop
Report Review Meeting

Exhibit A

TASK 7 – Phase 1 Final Report and Phase 2 Program Planning

This task will focus on a programmatic assessment of the results of Phase 1 of the program, and refinement of the plan for Phase 2. This will include documenting the overall condition assessment findings and rehab/rehabilitation and management strategy recommendations for those line segments that were assessed during Phase 1. Rehabilitation alternatives will be evaluated, and implementation recommendations and estimated costs will be developed for any improvements identified during Phase 1 so these can be added to the City's CIP.

The long term program strategies documented in the Pipeline Condition Assessment and Management Program Plan will be updated based on the findings of Phase 1. An updated schedule for Phase 2 and Phase 3 will be developed.

Note that evaluations such as structural analysis of pipelines are assumed to be included in the scopes of work for the individual condition assessments included in Phase 1B.

Services Provided by HDR:

1. Develop GIS mapping of relevant condition assessment findings from Phase 1 inspections. Attribute layers and format will be developed in coordination with City staff to ensure mapping data can be integrated into City's GIS and CityWorks applications.
2. Develop pipeline renewal recommendations and identify pipelines where multiple improvement alternatives should be evaluated. Identify any emergency or immediate repair needs that should be immediately implemented.
3. Prepare for and Facilitate Phase 1 Condition Assessment Findings and Renewal Alternative Development Workshop. Review findings and potential renewal alternatives with City staff and obtain initial input on renewal strategies. Review any emergency repair recommendations.
4. Provide support for the City to complete any emergency repairs. This may include location and survey staking of pipeline defects, developing repair details, evaluating and recommending manufacturer products, and resident project representative services.
5. Complete renewal alternatives evaluation for capital improvement projects on pressure pipelines:
 - a. Identify recommended extents of pipeline improvements.
 - b. Develop site exhibits, identify utility conflicts, easement acquisition requirements, and restoration requirements.
 - c. Evaluate renewal alternatives including trenchless vs. open cut repair/replacement/realignment.
 - d. Develop preliminary plan and profile sheets when warranted, using the existing ground contours in the City's GIs.
6. Develop planning level cost estimates for evaluated alternatives and recommended projects.
7. Identify any recommended operational improvements and pipeline protection recommendations.
8. Develop programmatic recommendations for proactive corrosion protection of new pipelines, and management of corrosion issues for existing pipelines.

Exhibit A

9. Develop implementation plan schedule and budgets for recommended capital improvement projects.
10. Develop rehabilitation alternatives for gravity sewer lines under Lakewood Lake.
11. Prepare for and Conduct Phase 1 Recommendations Workshop. Review recommended improvements and alternative evaluation results with City.
12. Finalize recommendations and implementation plan.
13. Update recommended Phase 2 and Phase 3 inspection plan based on Phase 1 findings. Update Phase 2 schedule and budget. Update recommended management strategies.
14. Develop Draft Phase 1 Pipeline Condition Assessment and Management Program Final Report.
15. Update Pipeline Condition Assessment and Management Program Plan.
16. Conduct review meeting with City to review updated Phase 2 and Phase 3 plan, and review City comments on Phase 1 Final Report.
17. Finalize updated Program Plan based on City comments.
18. Finalize Final Report based on City comments.

Deliverables:

GIS Mapping of Condition Assessment Findings
Support for Emergency Repair Work (if needed)
Phase 1 Pipeline Condition Assessment and Management Program – Final Report
Implementation Plan and CIP Budget for Capital Improvement Projects
Updated Pipeline Condition Assessment and Management Program Plan

Meetings:

Phase 1 Condition Assessment Findings and Renewal Alternatives Workshop
Phase 1 Recommendations Workshop
Review Meeting on Final Report, Implementation Plan, and Updated Program Plan

TASK 8 – Project Management

Services Provided by HDR:

1. Project management and administration (project setup)
2. Budget and invoice management
3. Quality Control and Project Approach and Resource Review

Deliverables:

Project invoices

Meetings:

None

Exhibit A

LEE'S SUMMIT WATER TRANSMISSION, LARGE DIAMETER SEWERS, AND FORCE MAIN CONDITION ASSESSMENT AND MANAGEMENT PROGRAM – PHASE 1 SUPPORT
Scope and Fee 10-31-18

| | Pat Young | Ryan Eisele | Aaron Bresette | Michelle Carter | Bagwell/Duckworth/Maschmann/Corey | Graham Bell/Ellison | Jeff Giddings/Luis Leon | | Peter Maynard-Moody | Pat Keyhill | Johnny Yagle | Green/Meyer | Berne/Campbell | Davies | Hopson | Pure Technology | Ace Pipe & Blue Water Solutions | HDR Expenses | Total |
|---|-----------|---------------------|----------------------|----------------------|-----------------------------------|---------------------|---------------------------------|------------------------|---------------------|--------------------|----------------|-------------|-----------------|-------------------|-----------------|-----------------|---------------------------------|--------------|-----------|
| | QC | Sr. Project Manager | Sr. Project Engineer | Sr. Project Engineer | Project Engineer | Sr. Tech Specialist | Condition Assessment Specialist | Asst. Project Eng./GIS | Sr. GIS | Sr. Technician/CAD | Survey Manager | Survey Crew | Admin Personnel | Sr. Support Staff | Structural Eng. | | | | |
| Allowable Billing Rates per Client Contract | 250.00 | 210.00 | 225.00 | 165.00 | 145.00 | 290.00 | 225.00 | 125.00 | 165.00 | 135.00 | 160.00 | 185.00 | 90.00 | 120.00 | 150.00 | | | | |
| TASKS | | | | | | | | | | | | | | | | | | | |
| Task 1 - System Evaluation and Pipeline Prioritization | | | | | | | | | | | | | | | | | | | |
| 1 Compile and review City provided pipeline data. Develop inventory and mapping of pipelines included in 1 project. | | | | | | | | | | | | | | | | | | | |
| 2 Conduct Project Kickoff Meeting. | | 2 | | | 16 | | | | | | | | | | | | | | |
| 3 Develop preliminary pipeline criticality (COF and LOF) and risk prioritization criteria | 2 | 2 | | 2 | 2 | | | 8 | 16 | | | | | | | | | | \$6,380 |
| 4 Prepare for and conduct Pipeline Prioritization Workshops with City | | 2 | | 2 | 4 | | | | | | | | | | | | | | \$1,540 |
| 5 Document key workshop findings. | 2 | 8 | | | 8 | | 2 | 16 | | | | | | | | | 1000 | | \$2,330 |
| 6 Review City standard details and specifications for new pipeline construction and corrosion protection for new and existing pipelines. Document comments and recommendations. | | 2 | | | 4 | | | | | | | | | | | | | \$100 | \$5,890 |
| 7 Prepare for and conduct Corrosion Management Workshops with City. | | 2 | | | | 4 | | | | 4 | | | | | | | | | \$1,000 |
| 8 Update project mapping with enhancements to document known issues, identify system corrosion hot spots, key appurtenances | 2 | 12 | | | 16 | 40 | 24 | 12 | | 4 | | | | | | | | | \$7,520 |
| 9 Finalize pipeline COF and LOF factors and risk-based prioritization. | | 2 | | | 8 | | | 16 | 4 | | | | | | | | | \$1,500 | \$19,940 |
| 10 Develop Draft System Evaluation and Pipeline Prioritization Technical Memorandum (TM). | | 2 | | | 4 | | 2 | 8 | | | | | | | | | | | \$4,240 |
| 11 Conduct review meeting with City to gather comments and input on Draft TM. | 2 | 8 | | | 32 | 2 | | 20 | | | | | | | | | 1000 | | \$3,450 |
| 12 Submit Final System Evaluation and Pipeline Prioritization TM. | | 2 | | | 2 | | | | | | | | 4 | | | | | | \$10,260 |
| Subtotal Hours | 8 | 46 | 0 | 4 | 112 | 46 | 28 | 88 | 20 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | \$710 |
| Subtotal Dollars | 2000 | 9660 | 0 | 660 | 16240 | 13340 | 6300 | 11000 | 3300 | 540 | 0 | 0 | 360 | 0 | 0 | 0 | 0 | 0 | \$3,740 |
| Total Task 1 | | | | | | | | | | | | | | | | | | | \$67,000 |
| Task 2 - Condition Assessment and Management Program Planning | | | | | | | | | | | | | | | | | | | \$67,000 |
| 1 Provide recommendations to City on pipelines to assess for inclusion in Phase 1 and Phase 2 of the 1 program. Up to 12 pipelines are assumed to be evaluated. | | | | | | | | | | | | | | | | | | | |
| 2 Complete detailed evaluation of each Phase 1 and Phase 2 pipeline candidates | | 2 | | 2 | | | | | | | | | | | | | | | |
| 3 Facilitate up to three (3) meetings or site visits with City operations and/or engineering staff to discuss pipeline specific details. | 4 | 12 | 40 | 160 | 120 | 4 | 2 | 40 | | | 8 | 8 | | | | 25000 | 10000 | \$300 | \$750 |
| 4 Prepare for and Facilitate Condition Assessment Plan Development workshops to review findings and recommendations with City. | 2 | 2 | 8 | 8 | 8 | | | | | | | | | | | | | | \$99,990 |
| 5 Based on evaluation results and City input, develop condition assessment program plan and preliminary project budgets for Phase 1, 2, and 3 pipelines. | 2 | 8 | 4 | 12 | | 2 | 2 | 16 | | | | | | | | | | | \$5,700 |
| 6 Determine pipeline management and protection recommendations to be included in initial program plan. | 2 | 4 | 4 | 16 | 16 | | | 8 | | | | | | | | | | | \$8,090 |
| 7 Develop Draft Pipeline Condition Assessment and Management Program Plan TM. | | 4 | 4 | | | 8 | 20 | | | | | | | | | | | | \$8,200 |
| 8 Conduct review meeting with City to gather comments and input on Draft Plan. | 2 | 8 | | 16 | 40 | 2 | 2 | 40 | | | | | 4 | | | | | | \$8,920 |
| 9 Submit Final Pipeline Condition Assessment and Management Program Plan Prioritization TM. | | 2 | | 2 | | | | | | | | | | | | | | \$100 | \$16,250 |
| Subtotal Hours | 10 | 2 | 8 | 16 | 16 | | | 8 | | | | | | | | | | | \$1,250 |
| Subtotal Dollars | 2500 | 44 | 60 | 224 | 200 | 16 | 26 | 112 | 0 | 0 | 8 | 8 | 4 | 0 | 0 | 0 | 0 | 0 | \$5,060 |
| Total Task 2 | | 9240 | 13500 | 36960 | 29000 | 4640 | 5850 | 14000 | 0 | 0 | 1280 | 1480 | 360 | 0 | 0 | 25000 | 10000 | 400 | \$154,210 |
| Task 3 - Phase 1 Pipelines Condition Assessment Work Plan Development | | | | | | | | | | | | | | | | | | | \$154,210 |
| 1 Develop four (4) Draft Condition Assessment Work Plans. | 4 | 16 | | 40 | 80 | 2 | 8 | 40 | | | | | | | | | | | |
| 2 Facilitate Work Plan review meetings with the City. | | 4 | | 8 | | | | | | | | | | | | | | | |
| 3 Complete and submit Final Condition Assessment Work Plans. | 2 | 2 | | 4 | | | | | | | | | | | | 18000 | 5000 | | \$52,940 |
| Subtotal Hours | 6 | 22 | 0 | 52 | 80 | 2 | 8 | 40 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 2000 | 1000 | \$100 | \$5,260 |
| Subtotal Dollars | 1500 | 4620 | 0 | 8580 | 11600 | 580 | 1800 | 5000 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 5000 | 500 | | \$7,440 |
| Total Task 3 | | | | | | | | | | | | | 360 | 0 | 0 | 0 | 0 | \$0 | \$65,640 |
| Task 4 - Condition Assessment of Transmission Main from Independence | | | | | | | | | | | | | | | | | | | \$65,640 |
| 1 Provide design and construction support services for Phase 1 pipeline inspections. | | 2 | 13 | | 40 | | | 40 | | 40 | 6 | 12 | | | | | | | |
| 2 Conduct site planning and coordination meetings with City staff and inspection Contractor. | | 2 | | 4 | | | | | | | | | | | | | | | |
| 3 Conduct pre-condition assessment meeting with City to finalize action plan for inspection. Support the city in any pre-assessment walkthrough activities needed. Finalize inspection day plans and schedules. | | | | 8 | | | | | | | | | | | | | | \$180 | \$25,005 |
| 4 Contractor Mobilization and Demobilization | | 2 | | | | | | | | | | | | | | | | | \$1,080 |
| 5 Perform internal Pipe Diver inspection | | | | | | | | | | | | | | | | | | | |
| 6 Contractor condition assessment findings and reporting | | | | 16 | | | | | | | | | | | | | | | \$1,740 |
| 7 Review and analyze inspection data, complete structural evaluation, and develop recommendations | | | | | | | | | | | | | | | | 75000 | | | \$75,000 |
| 8 Perform in-pipe CCTV or leak detection follow up inspections | | | | | 100 | | 24 | | | | | | | | | 420000 | | \$200 | \$422,840 |
| 9 Facilitate a workshop to present assessment results | | | | 8 | | | | | | | | | | | | 15000 | | | \$15,000 |
| 10 Develop recommendations based on workshop and assessment data. | 2 | 4 | | 8 | 20 | | 8 | | | | | | | | | | | | \$23,380 |
| | | 2 | 4 | 8 | 8 | | 2 | | | | | | | | | | 60000 | | \$61,320 |
| | | | | | | | | | | | | | | | | | | | \$7,360 |
| | | | | | | | | | | | | | | | | | | | \$4,250 |

Exhibit A

LEE'S SUMMIT WATER TRANSMISSION, LARGE DIAMETER SEWERS, AND FORCE MAIN CONDITION ASSESSMENT AND MANAGEMENT PROGRAM – PHASE 1 SUPPORT
Scope and Fee 10-31-18

| | Pat Young | Ryan Eisele | Aaron Bresette | Michelle Carter | Bagwell/Duckworth/Maschmann/ Corey | Graham Bell/Ellison | Jeff Giddings/Luis Leon | | Peter Maynard-Moody | Pat Keyhill | Johnny Yagle | Green/Meyer | Berne/Campbell | Davies | Hopson | Pure Technology | Ace Pipe & Blue Water Solutions | HDR Expenses | Total |
|--|-----------|---------------------|----------------------|----------------------|------------------------------------|---------------------|---------------------------------|------------------------|---------------------|--------------------|----------------|-------------|-----------------|-------------------|-----------------|-----------------|---------------------------------|--------------|-----------|
| | QC | Sr. Project Manager | Sr. Project Engineer | Sr. Project Engineer | Project Engineer | Sr. Tech Specialist | Condition Assessment Specialist | Asst. Project Eng./GIS | Sr. GIS | Sr. Technician/CAD | Survey Manager | Survey Crew | Admin Personnel | Sr. Support Staff | Structural Eng. | | | | |
| Allowable Billing Rates per Client Contract | 250.00 | 210.00 | 225.00 | 165.00 | 145.00 | 290.00 | 225.00 | 125.00 | 165.00 | 135.00 | 160.00 | 185.00 | 90.00 | 120.00 | 150.00 | | | | |
| TASKS | | | | | | | | | | | | | | | | | | | |
| 11 Prepare Draft Condition Assessment Report | 2 | 8 | | 16 | 32 | | 4 | 16 | | | | | 4 | | | | | | \$12,720 |
| 12 Facilitate a review meeting with City to discuss draft report. | | 2 | | 2 | | | 2 | | | | | | | | | | | | \$1,200 |
| 13 Finalize the Condition Assessment Report. | | 4 | | 8 | 16 | | 2 | | | | | | | | | | | | \$4,930 |
| Subtotal Hours | 4 | 30 | 17 | 94 | 216 | 0 | 42 | 56 | 0 | 40 | 6 | 12 | 4 | 0 | 14 | 0 | 0 | \$0 | \$655,825 |
| Subtotal Dollars | 1000 | 6300 | 3825 | 15510 | 31320 | 0 | 9450 | 7000 | 0 | 5400 | 960 | 2220 | 360 | 0 | 2100 | 510000 | 60000 | 380 | \$655,825 |
| Total Task 4 | | | | | | | | | | | | | | | | | | | |
| Task 5 - Condition Assessment of Tudor Road Force mains and Scruggs Road Force main | | | | | | | | | | | | | | | | | | | |
| 1 Provide design and construction support services for Phase 1 pipeline inspections. | | 2 | 13 | | 40 | | | 40 | | 40 | 6 | 12 | | | 14 | | | \$180 | \$25,005 |
| 2 Conduct site planning and coordination meetings with City staff and inspection Contractor for internal Smart Ball assessment. | | 2 | | 4 | | | | | | | | | | | | | | | \$1,080 |
| 3 Conduct pre-condition assessment meeting with City to finalize action plan for inspection. Support the city in any pre-assessment walkthrough activities needed. | | 2 | | 2 | | | | | | | | | | | | 20000 | | | \$750 |
| 4 Contractor Mobilization and Demobilization | | | | | | | | | | | | | | | | 95000 | | \$100 | \$20,000 |
| 5 Perform internal assessment of the force main using Smart to identify leaks and gas pockets. | | | | 16 | | | | | | | | | | | | | | | \$97,740 |
| 6 Contractor condition assessment findings and reporting of gas pocket and leak detection survey. | | | | | | | | | | | | | | | | 20000 | | | \$20,000 |
| 7 Review and analyze inspection data, internal conditions versus operating conditions, and develop recommendations | | 2 | | 8 | 16 | 2 | 2 | | | | | | | | | | | | \$20,000 |
| 8 Facilitate a workshop to present assessment results | | 2 | | 2 | | | | | | | | | | | | | | | \$750 |
| 9 Coordinate with City and identify recommended locations for External Direct Corrosion Assessments prior to mobilization of assessment staff. | | 2 | | 4 | | | 8 | | | | | | | | | | 45000 | \$3,000 | \$2,880 |
| 10 Perform External Direct Corrosion Assessment (EDCA) field activities | | 4 | | 8 | 40 | | 60 | 80 | | | | | | | | | | | \$79,460 |
| 11 Analyze the results of EDCA analysis | | 4 | | 12 | 40 | | 20 | | | | | | | | | | | | \$13,120 |
| 12 Prepare Draft Condition Assessment Report | | 4 | | 16 | 32 | | 8 | 16 | | | | | | | | | | | \$11,920 |
| 13 Facilitate a review meeting with City to discuss draft report. | | 2 | | 2 | | | 2 | | | | | | | | | | | | \$1,200 |
| 14 Finalize the Condition Assessment Report. | | 2 | | 4 | 8 | | | 8 | | | | | | | 14 | 135000 | 45000 | | \$3,240 |
| Subtotal Hours | 0 | 28 | 13 | 78 | 176 | 2 | 100 | 144 | 0 | 40 | 6 | 12 | 0 | 0 | 14 | 135000 | 45000 | 3100 | \$282,055 |
| Subtotal Dollars | 0 | 5880 | 2925 | 12870 | 25520 | 580 | 22500 | 18000 | 0 | 5400 | 960 | 2220 | 0 | 0 | 2100 | 135000 | 45000 | 3100 | \$282,235 |
| Total Task 5 | | | | | | | | | | | | | | | | | | | |
| Task 6 - Condition Assessment of Lakewood Sewers | | | | | | | | | | | | | | | | | | | |
| 1 Conduct task kickoff meeting prior to initiating condition assessment work. | | 2 | | 2 | | | 2 | | | | | | | | | | 150000 | | \$1,200 |
| 2 Perform MSI platform inspection of Lakewood Sewers. | | | | | | | | | | | | | | | | | | | \$150,000 |
| 3 Compile Contractor HDCCCTV findings and evaluate inspection findings. Process Laser profiling inspection and sonar inspection where warranted | | 4 | | 8 | | | 2 | 16 | | | | | | | | | | | \$4,610 |
| 4 Review and analyze Sonar and Laser Profiling data provided by Contractor. | | 2 | | 4 | | | 4 | | | | | | | | | | | | \$1,980 |
| 5 Complete structural evaluation of identified structural defects in comparison to operating conditions of pipe. Develop initial assessment findings and recommendations. | | 2 | | 16 | 16 | | 4 | | | | | | | | | | | | \$6,280 |
| 6 Facilitate a workshop to present assessment results, discuss risk tolerance and the City's threshold for initiating rehabilitation or repairs, and other topics to be determined based on the assessment findings. | | 2 | | 4 | | | 4 | | | | | | | | | | | \$200 | \$2,180 |
| 7 Prepare Draft Condition Assessment Report summarizing inspection and analysis methods and results, and recommendations to extend the service life of the pipeline. | | 4 | | 8 | 16 | | 4 | 16 | | | | | 4 | | | | | | \$7,740 |
| 8 Facilitate a review meeting with City to discuss draft report. | | 2 | | 2 | | | | | | | | | | | | | | | \$750 |
| 9 Incorporate City comments and finalize the Condition Assessment Report | | 2 | | 4 | 8 | | | | | | | | 4 | 0 | 0 | 0 | 0 | | \$2,240 |
| Subtotal Hours | 0 | 20 | 0 | 48 | 40 | 0 | 20 | 32 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | \$176,980 |
| Subtotal Dollars | 0 | 4200 | 0 | 7920 | 5800 | 0 | 4500 | 4000 | 0 | 0 | 0 | 0 | 360 | 0 | 0 | 0 | 150000 | 200 | \$176,980 |
| Total Task 6 | | | | | | | | | | | | | | | | | | | |
| Task 7 - Phase 1 Final Report and Phase 2 Program Planning | | | | | | | | | | | | | | | | | | | |
| 1 Develop GIS mapping of condition assessment findings from Phase 1 inspections. | | | | 4 | | | | 40 | 16 | | | | | | | | | | \$8,300 |
| 2 Develop pipeline renewal recommendations and identify any emergency or immediate repair needs. | | 4 | 8 | 20 | 20 | | 8 | | | | | | | | | | | | \$10,640 |
| 3 Prepare for and Facilitate Phase 1 Condition Assessment Findings and Renewal Alternative Development Workshop. | | 4 | 4 | 8 | | | | | | | | | | | | | | \$100 | \$3,160 |
| 4 Provide support for the City to complete any emergency repairs. | | | 4 | 16 | 40 | | | 16 | | | 8 | 16 | | | | | | | \$15,580 |
| 5 Complete renewal alternatives evaluation for capital improvement projects on pressure pipelines | 2 | | 8 | 24 | 20 | | | 16 | | 16 | 4 | | | | | | | | \$13,960 |

Exhibit A

LEE'S SUMMIT WATER TRANSMISSION, LARGE DIAMETER SEWERS, AND FORCE MAIN CONDITION ASSESSMENT AND MANAGEMENT PROGRAM – PHASE 1 SUPPORT
Scope and Fee 10-31-18

| | Pat Young | Ryan Eisele | Aaron Bresette | Michelle Carter | Bagwell/Duckworth/Maschmann/Corey | Graham Bell/Ellson | Jeff Giddings/Luis Leon | | Peter Maynard-Moody | Pat Keyhill | Johnny Yakle | Green/Meyer | Berne/Campbell | Davies | Hopson | Pure Technology | Ace Pipe & Blue Water Solutions | HDR Expenses | Total |
|---|----------------|---------------------|----------------------|----------------------|-----------------------------------|---------------------|---------------------------------|------------------------|---------------------|--------------------|----------------|----------------|-----------------|-------------------|-----------------|------------------|---------------------------------|----------------|--------------------|
| | QC | Sr. Project Manager | Sr. Project Engineer | Sr. Project Engineer | Project Engineer | Sr. Tech Specialist | Condition Assessment Specialist | Asst. Project Eng./GIS | Sr. GIS | Sr. Technician/CAD | Survey Manager | Survey Crew | Admin Personnel | Sr. Support Staff | Structural Eng. | | | | |
| Allowable Billing Rates per Client Contract | 250.00 | 210.00 | 225.00 | 165.00 | 145.00 | 290.00 | 225.00 | 125.00 | 165.00 | 135.00 | 160.00 | 185.00 | 90.00 | 120.00 | 150.00 | | | | |
| TASKS | | | | | | | | | | | | | | | | | | | |
| 6 Develop planning level cost estimates for evaluated alternatives and recommended projects. | | | 4 | 8 | 16 | | | | | | | | | | | | | | \$4,540 |
| 7 Identify any recommended operational improvements and pipeline protection recommendations. Develop programmatic recommendations for proactive corrosion protection of new pipelines, and management of corrosion issues for existing pipelines. | 2 | 4 | | 16 | 8 | | | | | | | | | | | | | | \$5,140 |
| 8 | 2 | 4 | | | 24 | 12 | 8 | | | | | | | | | | | | \$10,100 |
| 9 Develop implementation plan schedule and budgets for recommended capital improvement projects. | | 2 | | 8 | | | | | | | | | | | | | | | \$1,740 |
| 10 Develop rehabilitation alternatives for gravity sewer lines under Lakewood Lake. | | 4 | | 24 | | | 16 | | | | | | | | | | | | \$8,400 |
| 11 Prepare for and Conduct Phase 1 Recommendations Workshop. | | 4 | 4 | 8 | | | | | | | | | | | | | | | \$3,060 |
| 12 Finalize recommendations and implementation plan. | | 2 | | 4 | | | | | | | | | | | | | | | \$1,080 |
| 13 Update recommended Phase 2 and Phase 3 inspection plan based on Phase 1 findings. | | 4 | | 4 | | 2 | 2 | | | | | | | | | | 2000 | | \$4,530 |
| 14 Develop Draft Phase 1 Pipeline Condition Assessment and Management Program Final Report. | 2 | 8 | | 24 | 40 | | | 20 | | | | | 4 | | | | | | \$14,800 |
| 15 Update Pipeline Condition Assessment and Management Program Plan. | | 4 | | 8 | | | | 8 | | | | | | | | | | | \$3,160 |
| 16 Conduct review meeting with City to review updated Phase 2 and Phase 3 plan, and review City comments on Phase 1 Final Report. | | 2 | | 4 | | | | | | | | | | | | | | | \$1,080 |
| 17 Finalize updated Program Plan based on City comments. | | 2 | | 4 | 8 | | | | | | | | | | | | | | \$2,240 |
| 18 Finalize Final Report based on City comments. | | 2 | | 4 | 16 | | | 8 | | | | | | | | | | | \$4,400 |
| Subtotal Hours | 8 | 50 | 32 | 188 | 192 | 14 | 34 | 108 | 16 | 16 | 12 | 16 | 4 | 0 | 0 | 0 | 0 | 0 | |
| Subtotal Dollars | 2000 | 10500 | 7200 | 31020 | 27840 | 4060 | 7650 | 13500 | 2640 | 2160 | 1920 | 2960 | 360 | 0 | 0 | 0 | 2000 | 100 | \$115,910 |
| Total Task 7 | | | | | | | | | | | | | | | | | | | \$115,910 |
| Task 8 - Project Management | | | | | | | | | | | | | | | | | | | |
| 1 Project Management and Administration | 2 | 4 | | | | | | | | | | | 8 | | | | | | \$2,060 |
| 2 Budget and Invoice Management | | 12 | | | | | | | | | | | | 16 | | | | | \$4,440 |
| 3 Quality Control and Project Approach and Resource Review | | 2 | | | | 6 | | | | | | | | | | | | | \$2,160 |
| Subtotal Hours | 2 | 18 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 16 | 0 | 0 | 0 | 0 | |
| Subtotal Dollars | 500 | 3780 | 0 | 0 | 0 | 1740 | 0 | 0 | 0 | 0 | 0 | 0 | 720 | 1920 | 0 | 0 | 0 | 100 | \$8,760 |
| Total Task 8 | | | | | | | | | | | | | | | | | | | \$8,660 |
| Total Hours | 38 | 258 | 122 | 688 | 1,016 | 86 | 258 | 580 | 36 | 100 | 32 | 48 | 32 | 16 | 28 | 135,000 | 45,000 | | 183,338 |
| Total Billing Amount | \$9,500 | \$54,180 | \$27,450 | \$113,520 | \$147,320 | \$24,940 | \$58,050 | \$72,500 | \$5,940 | \$13,500 | \$5,120 | \$8,880 | \$2,880 | \$1,920 | \$4,200 | \$695,000 | \$275,500 | \$5,980 | \$1,526,380 |

Project Estimate

\$1,526,380

Exhibit A



RATE SCHEDULE

(Rates shall be in effect for one (1) year beginning on the execution date of the agreement)

| ROLE | HOURLY RATE |
|--|---------------------|
| QUALITY CONTROL/ SR. CORROSION-CONDITION ASSESSMENT SPECIALIST | \$200.00 - \$250.00 |
| SENIOR PROJECT MANAGER | \$175.00 - \$225.00 |
| SENIOR TECHNICAL SPECIALIST | \$200.00-\$290.00 |
| SENIOR PROJECT ENGINEER | \$155.00 - \$225.00 |
| PROJECT ENGINEER | \$110.00 - \$155.00 |
| ASSISTANT PROJECT ENGINEER | \$80.00 - \$130.00 |
| SENIOR GIS | \$135.00 - \$170.00 |
| SENIOR STRUCTURAL ENGINEER | \$150.00 - \$220.00 |
| STRUCTURAL ENGINEER | \$90.00 - \$150.00 |
| SENIOR ELECTRICAL ENGINEER | \$150.00 - \$220.00 |
| ELECTRICAL ENGINEER | \$90.00 - \$150.00 |
| SENIOR MECHANICAL ENGINEER | \$150.00 - \$195.00 |
| MECHANICAL ENGINEER | \$90.00 - \$150.00 |
| SENIOR ENVIRONMENTAL SCIENTIST | \$150.00 - \$195.00 |
| ENVIRONMENTAL SCIENTIST | \$90.00 - \$150.00 |
| SENIOR TECHNICIAN | \$115.00 - \$140.00 |
| TECHNICIAN | \$70.00 - \$125.00 |
| FIELD MANAGER | \$70.00 - \$155.00 |
| FIELD SUPERVISOR II | \$65.00 - \$100.00 |
| FIELD SUPERVISOR I | \$50.00 - \$95.00 |
| FIELD TECHNICIAN II | \$55.00 - \$80.00 |
| FIELD TECHNICIAN I | \$45.00 - \$65.00 |
| SURVEY MANAGER | \$110.00 - \$160.00 |
| SURVEY CREW | \$120.00 - \$185.00 |
| SENIOR SUPPORT STAFF | \$80.00 - \$120.00 |
| ADMINISTRATION PERSONNEL | \$70.00 - \$95.00 |

REIMBURSABLES:

| | |
|-------------------------|------------------|
| PRINTING & REPRODUCTION | COST |
| TRAVEL | CURRENT IRS RATE |
| PHONE | COST |
| MAPPING | COST |
| SUBCONSULTANTS | COST |