AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES FOR SANITARY SEWER MODELING, HYDRAULIC CAPACITY AND DESIGN SERVICES (RFQ NO. 2018-064)

THIS AGREEMENT made and entered into this 23 day of August, 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 Sanitary Sewer Modeling, Hydraulic Capacity and Design Services (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"): Sanitary Sewer Modeling, Hydraulic Capacity and Design Services 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 Hundred and Fifty-One Thousand Three Hundred and Thirty Dollars ($151,330), 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 the Scope of Services 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 Hundred and Fifty-One Thousand Three Hundred and Thirty Dollars ($151,330).

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 the Scope of Services

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
3741 NE Troon Drive
Lee's Summit, MO 64064

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 23 day of August, 20 18.

CITY OF LEE'S SUMMIT

Stephen A. Arbo, City Manager

APPROVED AS TO FORM:

Chief Council Infrastructure and Zoning
Nancy K. Yendes

ENGINEER:

BY: Joseph E. Drimmel
TITLE: Senior Vice President

ATTEST:

Bonnie J. Hudson
Asst. Secretary

City of Lee's Summit
RFQ No. 2018-064
Sanitary Sewer Modeling, Hydraulic Capacity and Design Services
Scope of Services
Phase 1: Sanitary Sewer Study

Project Overview

Portions of the trunk sewers within Cedar Creek Watershed experience significant wet weather peak flows attributed to inflow and infiltration (I/I). High I/I has been attributed to break-in service taps on the public system as well as illicit connections (sump pump, foundation drains, roof drains) on the private side of the system. In addition, the existing sewers have hydraulic impairments including flat or adverse slopes, sharp alignment bends, and multiple sewers joining at locations with limited downstream capacity. As a result, portions of the trunk sewers are over capacity, causing surcharging during heavy rain events. Anticipated multi-family development in the uppermost area of the watershed is projected to add additional flow to the system. In order to meet existing and future capacity needs the hydrologic characteristics within the watershed as well as the physical condition and hydraulic capacity of the trunk sewer within the collection system requires evaluation. This project will evaluate the main trunk sewer from its downstream connection to the Cedar Creek Interceptor (MH 37-001) to the upper reach where it connects to downtown (MH 30-124). In addition, the project will evaluate the affects of the recommended sewer improvements on the downstream Cedar Creek interceptor to the connection to the Little Blue Sewer District at the Vale Meter structure.

Phase 1: Sanitary Sewer Study

Task 1 - Project Management/Administrative

1. Conduct Project Kick-off Meeting with Design Team and City Staff.
2. Perform project phase administrative duties, including supervision and coordination of the project team, preparation and implementation of the safety plan, review of project costs and billings, preparation of invoices using Engineer's standard form, preparation of status reports, and general administrative activities.
3. Conduct four (4) general project meetings to discuss project status, flow and sizing analysis, condition assessment, cost effective analysis, modeling options and alignment, options, coordination efforts, etc. Provide meeting minutes for each meeting held with City Staff.

Task 2 – Collection & Review of Existing Information

1. Review City as-built information, (GIS, sewer, storm, rehabilitation, Cityworks mapping).
2. Review City inspection information (sewer CCTV, manhole inspections, Cityworks maintenance records) and staff institutional knowledge of problems areas and system performance. Identify line segments recommended for system renewal improvements (short term and long term) due to condition.
3. Review City flow meter and rainfall data and final report.

4. Review of current available property and easement information (plats, easements, GIS, limited title reports (10 maximum) included)
5. Contact utilities and obtain available utility information in the vicinity of the trunk sewer alignment (electric, water, gas, telecommunications).
6. Field survey sanitary sewer manholes along the trunk sewer alignment from MH 37-001 to MH 30-124 including the parallel sewer system. Approximately 90 manholes will be included. Survey control and benchmarks within the project area will be set.
7. Perform condition assessment and evaluation of level of surcharging within manholes at the time of invert elevation verification.
8. Conduct field site visits (3 visits included) with the design team and City personnel and evaluate alignments with respect to sewer geometry, local, state, and federal requirements including stream setbacks, stream crossings, and wetlands review of the project alignment.
9. Evaluate temporary easements and potential access easements based on conditions observed in the field. The Engineer will note potential significant private property impacts and any grade-dependent facilities.
10. Evaluate potential permitting issues involved with reconstruction and/or realignment of the sewer including City, FEMA, USACE, MDNR, MoDOT, UPRR, and/or Jackson County.
11. Meet with Water Utilities and Lee's Summit Development Services to determine potential future development/growth within the watershed and anticipated impact on future flow conditions.

Task 3 – Model Development, Capacity Assessment and Alternatives Analysis

1. Conduct a predesign workshop to review available sewer modeling software with City staff and compare and contrast methodology and benefits. The outcome of the workshop is to pick the platform to proceed with development of a hydraulic model for this area that can ultimately be provided to the City at the end of the project for use by City staff.
2. Based on workshop results, the selected modeling software will be utilized to develop a hydraulic model of sewers 10-inch diameter and larger to analyze the service area. 8-inch sewers in the downtown area where two future high density developments are anticipated will also be included in the model. The evaluation will include an analysis of flows for current conditions based on recent flow monitoring and comparison to projected flows based on the Lee's Summit Design Criteria. Models for the current and future loadings will be created.
3. System performance and capacity constraints will be evaluated for current conditions and future capacity conditions. Design criteria peak flows will be compared to flow conditions observed during recent flow monitoring. Design scenarios considering reductions in I&I within the watershed will be analyzed to determine the impact on peak wet weather flow.

4. Conduct a flow and size analysis of the trunk sewer with and without I/I removal. Flow and size analysis will be evaluated with public and private I/I removal, public removal only, and then private removal only. Flows from future high density residential development will be included. Models including the proposed capacity improvements will be created for each scenario. Considerations for peak flow storage within the watershed will be analyzed to determine the effect on trunk sewer sizing. Up to three locations for potential peak flow storage will be reviewed.

5. Evaluate the proposed improvements in comparison to the available inspection data and system renewal needs to inform the extent and scope of recommended capacity improvements. Incorporate system renewal improvements into the recommended improvement project where appropriate.

Task 4 – Preliminary Design Memorandum

1. Summarize flow scenarios considered (City Design Criteria k-factors, flow metering calculated k-factors, and a combined/modified Design Criteria k-factors). Recommend design peak flows for trunk sewer sizing.

2. Establish sizing and design conditions for each gravity line segment within the project limitsbased on recommended alignments and preliminary slopes.

3. Discuss potential insitu repair technologies to existing manholes and sewers to minimize open cut sewer replacement.

4. Prepare preliminary plan and profile sheets utilizing Lee's Summit GIS data and aerial photography as a background. Develop preliminary vertical profiles of the sewer using existing ground surface contours developed from GIS mapping. Identify preliminary manhole locations. From available information collected, existing utilities will be shown on the drawings. The Engineer will show the proposed permanent and temporary easements and property owner information obtained from Jackson County Assessor on the plan and profile sheets.

5. Summarize permitting and property concerns for the recommend improvements.

6. Develop conceptual cost estimates of the removal of typical residential inflow sources from the sewer system including foundation drains, sump pumps, downspouts, and stairwell drains. These typical costs will be extrapolated based on the total number of residential properties and assumed number of illicit connections based on previous priority basin studies.

7. Prepare conceptual cost estimates for the recommended improvements to the public sewer system. These overall cost estimates will be compared to per capita costs for removal of private I/I.

8. Prepare Draft and Final "Basis of Design" memorandum documenting modeling, along with gravity sewer and peak storage pre-design activities. The report will be prepared and provided to the City in hard (3 copies) and electronic (PDF) versions. The system modeling will also be provided electronically to the City.

9. Conduct meeting to review preliminary plan and profile of alignments with City staff.
10. Conduct a presentation to the Public Works committee on the findings of the Preliminary Design Memorandum.

City of Lee's Summit Sanitary Sewer Modeling, Hydraulic Capacity & Design Services
Phase 1: Sanitary Sewer Study Scope and Fee

		Task Start Date	Task End Date	P. Young	S. Tomic	B. Banion	A. Bresette	R. Eisele	A. Bagwell	S. Humphreys	S. Fleckenstein	A. DeGonia	W. Neds	W. Sherman	J. Yakle	T. Green	T. Meyer	J. Jasper	S. Hadley	A. Mynatt	S. Berne	HDR Expenses	Total
	Allowable Billing Rates per Client Contract			Principal	Sr. Technical Specialist/ Model QC	Report QC	Sr. Project Manager	Sr. Project Eng.	Project Eng.	Sr. Tech Specialist / Modeler	Modeler/Project Eng.	Project Eng.	Assistant Project Eng.	Sr. Technician	Survey Mgr.	Survey Chief	Survey Crew	Field Supervisor I	Sr. Support Staff	Admin	Admin		
				250.00	290.00	210.00	210.00	200.00	150.00	210.00	120.00	125.00	105.00	125.00	150.00	105.00	70.00	95.00	85.00	75.00	75.00		
	TASKS																						
	Task 1 - Project Management/Administrative	7/1/2018	12/31/2018																				
1	Conduct Project Kick-off Meeting with Design Team and City Staff			2			4	2	2														$2,040
2	Perform project phase administrative duties, including supervision and coordination of the project team, preparation and implementation of the safety plan, review of project costs and billings, preparation of invoices using Engineer's standard form, preparation of status reports, and general administrative activities			2			8	4											8	8			$4,260
3	Conduct Project Approach and Resourse Review (PARR), Project Management Review, and Project Quality Control Review			4	2	4	2																$2,840
4	Conduct four (4) general project meetings to discuss project status, flow and sizing analysis, condition assessment, cost effective analysis, modeling options and alignment, options, coordination efforts, etc Provide meeting minutes for each meeting held with City Staff			2			8	4	4	4											4	$100	$4,820
	Subtotal Hours			10	2	4	22	10	6	4	0	0	0	0	0	0	0	0	8	8	4		
	Subtotal Dollars			2500	580	840	4620	2000	900	840	0	0	0	0	0	0	0	0	680	600	300	100	$13,960
	Total Task 1																						$13,960
	Task 2 - Collection & Review of Existing Information	7/1/2018	12/31/2018																				
1	Review City as-built information, (GIS, sewer, storm, rehabilitation, Cityworks mapping)						4	4	4	8			8										$4,760
2	Review City inspection information (sewer CCTV, manhole inspections, Cityworks maintenance records) and staff institutional knowledge of problems areas and system performance. Identify line segments recommended for system renewal improvements (short term and long term) due to condition						4	4	8				24										$5,360
3	Review City flow meter and rainfall data and final report						4	4	8	4													$3,680
4	Review of current available property and easement information (plats, easements, GIS, limited title reports (10 max.) included)						4					16			8							$1,500	$5,540
5	Contact utilities and obtain available utility information in the vicinity of the trunk sewer alignment (electric, water, gas, telecommunications)												16										$1,680
6	Field survey sanitary sewer manholes along the trunk sewer alignment from MH 37-001 to MH 30-124 including the parallel sewer system. Approximately 90 manholes will be included. Survey control and benchmarks within the project area will be set														8	48	48	10				$225	$10,775
7	Perform condition assessment and evaluation of surcharge within manholes at the time of invert elevation verification												48									$225	$5,265
8	Conduct field site visits (3 included) with the design team and City personnel and evaluate alignments with respect to sewer geometry, local, state, and federal requirements including stream setbacks, stream crossings, and wetlands review of the project alignment						8	8	4													$150	$4,030
9	Evaluate temporary easements and potential access easements based on conditions observed in the field. The Engineer will note potential significant private property impacts and any grade-dependent facilities						4						8	4									$2,180
10	Evaluate potential permitting issues involved with reconstruction and/or realignment of the sewer including City, FEMA, USACE, MDNR, MoDOT, UPRR, and/or Jackson County						4					8											$1,840
11	Meet with Water Utilities and Lee's Summit Development Services to determine potential future development/growth within the watershed and anticipated impact on future flow conditions						4		4													$50	$1,490
	Subtotal Hours			0	0	0	36	20	28	12	0	24	104	4	16	48	48	10	0	0	0		
	Subtotal Dollars			0	0	0	7560	4000	4200	2520	0	3000	10920	500	2400	5040	3360	950	0	0	0	2150	$46,600
	Total Task 2																						$46,600

City of Lee's Summit Sanitary Sewer Modeling, Hydraulic Capacity & Design Services
Phase 1: Sanitary Sewer Study Scope and Fee

		Task Start Date	Task End Date	P. Young	S. Tomic	B. Banion	A. Bressette	R. Eisele	A. Bagwell	S. Humphreys	S. Fleckenstein	A. DeGonia	W. Neds	W. Sherman	J. Yakle	T. Green	T. Meyer	J. Jasper	S. Hadley	A. Mynatt	S. Berne	HDR Expenses	Total
				Principal	Sr. Technical Specialist/ Model QC	Report QC	Sr. Project Manager	Sr. Project Eng.	Project Eng.	Sr. Tech Specialist / Modeler	Modeler/Project Eng.	Project Eng.	Assistant Project Eng.	Sr. Technician	Survey Mgr.	Survey Crew Chief	Survey Crew	Field Supervisor I	Sr. Support Staff	Admin	Admin		
	Allowable Billing Rates per Client Contract			**250.00**	**290.00**	**210.00**	**210.00**	**200.00**	**150.00**	**210.00**	**120.00**	**125.00**	**105.00**	**125.00**	**150.00**	**105.00**	**70.00**	**95.00**	**85.00**	**75.00**	**75.00**		
	TASKS																						
	Task 3 - Model Dev, Capacity Assmt and Alt. Analysis	7/1/2018	12/31/2018																				
1	Conduct a predesign workshop to review available sewer modeling software with City staff and compare and contrast methodology and benefits. The outcome of the workshop is to pick the platform to proceed with development of a hydraulic model for this area that can ultimately be handed off to the City at the end of the project for use by City staff.						8	8		16												$400	$7,040
2	Based on workshop results, the selected modeling software will be utilized to develop a hydraulic model of sewers 10-inch diameter and larger to analyze the service area. 8-inch sewers in the downtown area where the two future high density developments are anticipated will also be included in the model. The evaluation will include an analysis of flows for current conditions based on recent flow monitoring and comparison to projected flows based on the Lee's Summit Design Criteria. Models for the current and future loadings will be created.				4		4	4		40	60												$18,400
3	System performance and capacity constraints will be evaluated for current conditions and future capacity conditions. Design criteria peak flows will be compared to flow conditions observed during recent flow monitoring. Design scenarios considering reductions in I&I within the watershed will be analyzed to determine the impact on peak wet weather flow.						4	4	24	16													$8,600
4	Conduct a flow and size analysis of the trunk sewer with and without I/I removal. Flow and size analysis will be evaluated with public and private I/I removal, public removal only, and then private removal only. Flows from future high density residential development will be included. Models including the proposed capacity improvements will be created for each scenario. Considerations for peak flow storage within the watershed will be analyzed to determine the effect on trunk sewer sizing. Up to three locations for potential peak flow storage will be reviewed.						8	8		8	16												$6,880
5	Evaluate the proposed improvements in comparison to the available inspection data and system renewal needs to inform the extent and scope of recommended capacity improvements. Incorporate system renewal improvements into the recommended improvement project where appropriate.							8	8			8											$3,800
	Subtotal Hours			**0**	**4**	**0**	**24**	**32**	**32**	**80**	**76**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		
	Subtotal Dollars			**0**	**1160**	**0**	**5040**	**6400**	**4800**	**16800**	**9120**	**1000**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**400**	**$44,720**
	Total Task 3																						**$44,720**
	Task 4 - Preliminary Design Memorandum	7/1/2018	12/31/2018																				
1	Summarize flow scenarios considered and recommended design peak flows.						4	4	8														$2,840
2	Establish sizing and design conditions for each gravity line segment based on recommended alignments and preliminary slopes.								16		8												$3,360
3	Discuss potential insitu repair technologies to existing manholes and sewers to minimize open cut sewer replacement.						6	4															$2,060
4	Prepare preliminary plan and profile sheets utilizing Lee's Summit GIS data and aerial photography as a background. Develop preliminary vertical designs of the sewer using a ground surface profile developed from GIS mapping. Identify preliminary manhole and locations. To the greatest extent possible, the Engineer will show existing facilities (utilities and any known on-site sewage disposal systems) on the drawings. The Engineer will show the proposed permanent and temporary easements and property owner information on the plan and profile sheets.											24		80									$13,000
5	Summarize permitting and property concerns for the recommend improvements.						4		4														$1,440
6	Develop conceptual cost estimates of the removal of typical residential inflow sources from the sewer system including foundation drains, sump pumps, downspouts, and stairwell drains. These typical costs will be extrapolated based on the total number of residential properties and assumed number of illicit connections based on previous priority basin studies.			1			4		8														$2,290
7	Prepare conceptual cost estimates for the recommended improvements to the public sewer system. These overall cost estimates will be compared to per capita costs for removal of private I/I.			1			4	4	8			8											$4,090

City of Lee's Summit Sanitary Sewer Modeling, Hydraulic Capacity & Design Services
Phase 1: Sanitary Sewer Study Scope and Fee

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	TASKS																						
8	Prepare Draft and Final "Basis of Design" memorandum documenting modeling, along with gravity sewer and peak storage pre-design activities. The report will be prepared and provided to the City in hard and electronic copies. The system modeling will also be provided electronically to the City.			2		6	8	4	24			24										$150	$10,990
9	Conduct meeting to review preliminary plan and profile of alignments with City staff.			2			4	4	4														$2,740
10	Conduct a presentation to the Public Works committee on the findings of the Preliminary Design Memorandum.			2			4	4						8								$100	$3,240
	Subtotal Hours			**8**	**0**	**6**	**38**	**24**	**72**	**0**	**8**	**56**	**0**	**88**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		
	Subtotal Dollars			**2000**	**0**	**1260**	**7980**	**4800**	**10800**	**0**	**960**	**7000**	**0**	**11000**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**250**	**$46,050**
	Total Task 4																						**$46,050**
	Total Hours			**18**	**6**	**10**	**120**	**86**	**138**	**96**	**84**	**88**	**104**	**92**	**16**	**48**	**48**	**10**	**8**	**8**	**4**		**984**
	Total Billing Amount			**$4,500**	**$1,740**	**$2,100**	**$25,200**	**$17,200**	**$20,700**	**$20,160**	**$10,080**	**$11,000**	**$10,920**	**$11,500**	**$2,400**	**$5,040**	**$3,360**	**$950**	**$680**	**$600**	**$300**	**$2,900**	**$151,330**

Estimated Project Fee **$151,330**

RATE SCHEDULE

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

ROLE	HOURLY RATE
PROJECT PRINCIPAL/QUALITY CONTROL	$200.00 - $250.00
SENIOR PROJECT MANAGER	$175.00 - $225.00
SENIOR TECHNICAL SPECIALIST	$200.00-$290.00
SENIOR PROJECT ENGINEER	$155.00 - $200.00
PROJECT ENGINEER	$110.00 - $155.00
ASSISTANT PROJECT ENGINEER	$80.00 - $110.00
SENIOR STRUCTURAL ENGINEER	$145.00 - $220.00
STRUCTURAL ENGINEER	$90.00 - $145.00
SENIOR ELECTRICAL ENGINEER	$145.00 - $220.00
ELECTRICAL ENGINEER	$90.00 - $145.00
SENIOR MECHANICAL ENGINEER	$145.00 - $195.00
MECHANICAL ENGINEER	$90.00 - $145.00
SENIOR ENVIRONMENTAL SCIENTIST	$145.00 - $195.00
ENVIRONMENTAL SCIENTIST	$90.00 - $145.00
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 - $150.00
SURVEY CREW	$120.00 - $185.00
SENIOR SUPPORT STAFF	$80.00 - $110.00
ADMINISTRATION PERSONNEL	$ 50.00 - $85.00
REIMBURSABLES:	
PRINTING & REPRODUCTION	COST
TRAVEL	CURRENT IRS RATE
PHONE	COST
MAPPING	COST
SUBCONSULTANTS	COST