Staff recommends approval of a professional engineering services agreement with Black & Veatch Corporation in an amount not to exceed $83,691.00 for a water audit and water loss plan.

### Budget Impact:

<table>
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<tr>
<th>Account Number</th>
<th>Project Number</th>
<th>Budgeted Item?</th>
<th>Does item have a cost?</th>
<th>Budget Adjustment Attached?</th>
<th>Item Cost</th>
<th>Budget Adjustment</th>
<th>Remaining Budget</th>
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<tr>
<td>Water and Sewer</td>
<td>Water System Rehabilitation/Replacement</td>
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<th>Funds Obligated</th>
<th>Current Balance</th>
<th>Item Cost</th>
<th>Budget Adjustment</th>
<th>Remaining Budget</th>
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<td>-</td>
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**City of Fayetteville Staff Review Form**

**2018-0286**

Legistar File ID

**6/19/2018**

City Council Meeting Date - Agenda Item Only

N/A for Non-Agenda Item

---

Tim Nyander

5/17/2018

WATER SEWER (720)

Submitted By

Submitted Date

Division / Department

---

Action Recommendation:

Staff recommends approval of a professional engineering services agreement with Black & Veatch Corporation in an amount not to exceed $83,691.00 for a water audit and water loss plan.

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### Comments:

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Purchase Order Number: ____________________________

Previous Ordinance or Resolution # ____________________________

Change Order Number: ____________________________

Approval Date: ____________________________

Original Contract Number: ____________________________

Comments: ____________________________
MEETING OF JUNE 19, 2018

TO: Mayor and City Council

THRU: Don Marr, Chief of Staff
       Water & Sewer Committee

FROM: Tim Nyander, Utilities Director

DATE: May 17, 2018

SUBJECT: Engineering Services Contract – Water Audit and Loss Plan – Black & Veatch Corporation

RECOMMENDATION:
Staff recommends approval of the engineering services contract with Black & Veatch Corporation in the not to exceed amount of $83,691.00 for the Water Audit and Water Loss Plan using the AWWA M36 methodology.

BACKGROUND:
This project will develop a standard Water Audit and Water Loss Plan using AWWA M36 methodology outlining the City of Fayetteville’s non-revenue water and recommendations to reduce non-revenue water (i.e. reduce water loss).

DISCUSSION:
On March 1, 2018, the City of Fayetteville conducted a formal Engineering Selection meeting RFQ 18-01. At this meeting the firm of Black & Veatch Corporation was selected for the proposed study and engineering report. The proposed contract has been reviewed by City staff.

BUDGET/STAFF IMPACT:
Funds are available in the Water System Rehabilitation/Replacement project.

Attachments:
Proposed Agreement
Copy of Black & Veatch PowerPoint Presentation
AGREEMENT
For
PROFESSIONAL ENGINEERING SERVICES
Between
CITY OF FAYETTEVILLE, ARKANSAS
And

BLACK & VEATCH CORPORATION

Water Audit and Water Loss Plan

THIS AGREEMENT is made as of ________________, 20__, by and between City of Fayetteville, Arkansas, acting by and through its Mayor (hereinafter called CITY OF FAYETTEVILLE) and Black & Veatch Corporation with offices located in Kansas City, Missouri (hereinafter called ENGINEER).

CITY OF FAYETTEVILLE from time to time requires professional engineering services in connection with the evaluation, planning, design, and/or construction administration of capital improvement projects. Therefore, CITY OF FAYETTEVILLE and ENGINEER in consideration of their mutual covenants agree as follows:

ENGINEER shall serve as CITY OF FAYETTEVILLE’s professional engineering consultant in those assignments to which this Agreement applies, and shall give consultation and advice to CITY OF FAYETTEVILLE during the performance of ENGINEER’s services. All services shall be performed under the direction of a professional engineer registered in the State of Arkansas and qualified in the particular field. If Construction Phase Services are to be provided by ENGINEER under this Agreement, the construction shall be executed under the observation of a professional engineer registered in the State of Arkansas in accordance with Arkansas Code Amended §22-9-101.
SECTION 1 - AUTHORIZATION OF SERVICES

1.1 Services on any assignment shall be undertaken only upon written Authorization of CITY OF FAYETTEVILLE and agreement of ENGINEER.

1.2 Assignments from CITY OF FAYETTEVILLE to ENGINEER may include services described hereafter as Basic Services or as Additional Services of ENGINEER.

1.3 Changes, modifications or amendments in scope, price or fees to this contract shall not be allowed without a formal contract amendment approved by the Mayor and the City Council in advance of the change in scope, costs, fees, or delivery schedule.

SECTION 2 - BASIC SERVICES OF

2.1 Perform professional design services in connection with the Project as hereinafter stated.

2.1.1 The Scope of Services to be furnished by ENGINEER during this project is included in Appendix A attached hereto and made part of this Agreement.

2.2 ENGINEER shall coordinate their activities and services with the CITY OF FAYETTEVILLE. ENGINEER and CITY OF FAYETTEVILLE agree that ENGINEER has full responsibility for the engineering services.

SECTION 3 - RESPONSIBILITIES OF CITY OF FAYETTEVILLE

3.1 CITY OF FAYETTEVILLE shall, within a reasonable time, so as not to delay the services of ENGINEER:

3.1.1 Provide full information as to CITY OF FAYETTEVILLE’s requirements for the Project.

3.1.2 Assist ENGINEER by placing at ENGINEER’s disposal all available information pertinent to the assignment including previous reports and any other data relative thereto.
3.1.3 Assist ENGINEER in obtaining access to property reasonably necessary for
ENGINEER to perform its services under this Agreement.

3.1.4 Examine all studies, reports, cost opinions, Bid Documents, Drawings, proposals, and
other documents presented by ENGINEER and render in writing decisions pertaining
thereto.

3.1.5 The Utilities Director is the CITY OF FAYETTEVILLE’s project representative with
respect to the services to be performed under this Agreement. Such person shall have
complete authority to transmit instructions, receive information, interpret and define
CITY OF FAYETTEVILLE’s policies and decisions with respect to materials,
equipment, elements and systems to be used in the Project, and other matters
pertinent to the services covered by this Agreement.

3.1.6 CITY OF FAYETTEVILLE will review all documents and provide written comments
to ENGINEER in a timely manner.

SECTION 4 - PERIOD OF SERVICE

4.1 This Agreement will become effective upon the first written notice by CITY OF
FAYETTEVILLE authorizing services hereunder.

4.2 The provisions of this Agreement have been agreed to in anticipation of the orderly
progress of the Project through completion of the services stated in the Agreement.
ENGINEER will proceed with providing the authorized services immediately upon
receipt of written authorization from CITY OF FAYETTEVILLE. Said authorization
shall include the scope of the services authorized and the time in which the services
are to be completed.
4.3 ENGINEER shall provide a schedule of its services and include such schedule with the scope in Appendix A.

SECTION 5 - PAYMENTS TO

5.1 The maximum not-to-exceed amount authorized for this Agreement is $83,691.

5.2 The CITY OF FAYETTEVILLE shall compensate ENGINEER based upon a unit price or lump sum basis as described in Appendix A.

5.2.1 The maximum not-to-exceed amount authorized for this Agreement is based upon the estimated fee scope, hours, costs and expenses per phase. The estimated fee spreadsheets shall be included in Appendix A. The amount for any phase may be more or less than the estimate, however the maximum not-to-exceed amount shall not be exceed without a formal contract amendment.

5.3 Statements

5.3.1 Monthly statements for each calendar month shall be submitted to CITY OF FAYETTEVILLE consistent with ENGINEER’s normal billing schedule. Once established, the billing schedule shall be maintained throughout the duration of the Project. Applications for payment shall be made in accordance with a format to be developed by ENGINEER and approved by CITY OF FAYETTEVILLE. Applications for payment shall be accompanied each month by the updated project schedule. Final payment for professional services shall be made upon CITY OF FAYETTEVILLE’s approval and acceptance with the satisfactory completion of the professional engineering services.

5.4 Payments

5.4.1 All statements are payable upon receipt and generally due within thirty (30) days. If a portion of ENGINEER’s statement is disputed by CITY OF FAYETTEVILLE, the undisputed portion shall be paid by CITY OF FAYETTEVILLE by the due date. CITY OF FAYETTEVILLE shall advise ENGINEER in writing of the basis for any
disputed portion of any statement. CITY OF FAYETTEVILLE will make reasonable effort to pay invoices within 30 days of date the invoice is approved, however, payment within 30 days is not guaranteed.

5.5 Final Payment

5.5.1 Upon satisfactory completion of the work performed under this Agreement, as a condition before final payment under this Agreement, or as a termination settlement under this Agreement, ENGINEER shall execute and deliver to CITY OF FAYETTEVILLE a release of all claims against CITY OF FAYETTEVILLE arising under or by virtue of this Agreement, except claims which are specifically exempted by ENGINEER to be set forth therein. Unless otherwise provided in this Agreement or by State law or otherwise expressly agreed to by the parties to this Agreement, final payment under this Agreement or settlement upon termination of this Agreement shall not constitute a waiver of CITY OF FAYETTEVILLE’s claims against ENGINEER or ENGINEER’s sureties under this Agreement or applicable performance and payment bonds, if any.

SECTION 6 - GENERAL CONSIDERATIONS

6.1 Insurance

6.1.1 During the course of performance of these services, ENGINEER will maintain (in United States Dollars) the following minimum insurance coverages:
<table>
<thead>
<tr>
<th>Type of Coverage</th>
<th>Limits of Liability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workmen's Compensation</td>
<td>Statutory</td>
</tr>
<tr>
<td>Employers' Liability</td>
<td>$500,000 Each Accident</td>
</tr>
<tr>
<td>Commercial General Liability</td>
<td>$1,000,000 Combined Single Limit</td>
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<tr>
<td>Bodily Injury and Property Damage</td>
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</tr>
<tr>
<td>Automobile Liability:</td>
<td>$1,000,000 Combined Single Limit</td>
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<tr>
<td>Bodily Injury and Property Damage</td>
<td></td>
</tr>
<tr>
<td>Professional Liability Insurance</td>
<td>$1,000,000 Each Claim</td>
</tr>
</tbody>
</table>

ENGINEER will provide to CITY OF FAYETTEVILLE certificates as evidence of the specified insurance within ten days of the date of this Agreement and upon each renewal of coverage.

6.1.2 CITY IF FAYETTEVILLE and ENGINEER waive all rights against each other and their officers, directors, agents, or employees for damage covered by property insurance during and after the completion of ENGINEER's services.

6.2 Professional Responsibility

6.2.1 ENGINEER will exercise reasonable skill, care, and diligence in the performance of ENGINEER's services and will carry out its responsibilities in accordance with customarily accepted professional engineering practices, CITY OF FAYETTEVILLE Standards, Arkansas State Law and the Rules and regulations of the Arkansas Board of Licensure For Professional Engineers and Professional Surveyors. CITY OF FAYETTEVILLE will promptly report to ENGINEER any defects or suspected defects in ENGINEER's services of which CITY OF FAYETTEVILLE becomes aware, so that ENGINEER can take measures to minimize the consequent of such defect. ENGINEER agrees not to seek or accept any compensation or reimbursements from the CITY OF FAYETTEVILLE for engineering work it performs to correct any errors, omissions or other deficiencies caused by
ENGINEER’s failure to meet customarily accepted professional engineering practices. CITY OF FAYETTEVILLE retains all other remedies to recover for its damages caused by any negligence of ENGINEER.

6.2.2 In addition ENGINEER will be responsible to CITY OF FAYETTEVILLE for damages caused by its negligent conduct during its activities at the Project Site to the extent covered by ENGINEER’S’s Commercial General Liability and Automobile Liability Insurance policies.

6.3 Cost Opinions and Projections

6.3.1 Cost opinions and projections prepared by ENGINEER relating to construction costs and schedules, operation and maintenance costs, equipment characteristics and performance, and operating results are based on ENGINEER’s experience, qualifications, and judgment as a design professional. Since ENGINEER has no control over weather, cost and availability of labor, material and equipment, labor productivity, construction Contractors’ procedures and methods, unavoidable delays, construction Contractors’ methods of determining prices, economic conditions, competitive bidding or market conditions, and other factors affecting such cost opinions or projections, ENGINEER does not guarantee that actual rates, costs, performance, schedules, and related items will not vary from cost opinions and projections prepared by ENGINEER.

6.4 Changes

6.4.1 CITY OF FAYETTEVILLE shall have the right to make changes within the general scope of ENGINEER’s services, with an appropriate change in compensation and schedule only after Fayetteville City Council approval of such proposed changes and, upon execution of a mutually acceptable amendment or change order signed by the Mayor of the CITY OF FAYETTEVILLE and the duly authorized officer of ENGINEER.
6.5 Termination

6.5.1 This Agreement may be terminated in whole or in part in writing by either party in the event of substantial failure by the other party to fulfill its obligations under this Agreement through no fault of the terminating party, provided that no termination may be effected unless the other party is given:

6.5.1.1 Not less than ten (10) calendar days written notice (delivered by certified mail, return receipt requested) of intent to terminate,

6.5.1.2 An opportunity for consultation with the terminating party prior to termination.

6.5.2 This Agreement may be terminated in whole or in part in writing by CITY OF FAYETTEVILLE for its convenience, provided that ENGINEER is given:

6.5.2.1 Not less than ten (10) calendar days written notice (delivered by certified mail, return receipt requested) of intent to terminate,

6.5.2.2 An opportunity for consultation with the terminating party prior to termination.

6.5.3 If termination for default is effected by CITY OF FAYETTEVILLE, an equitable adjustment in the price provided for in this Agreement shall be made, but

6.5.3.1 No amount shall be allowed for anticipated profit on unperformed services or other work,

6.5.3.2 Any payment due to ENGINEER at the time of termination may be adjusted to cover any additional costs to CITY OF FAYETTEVILLE because of ENGINEER’s default.

6.5.4 If termination for default is effected by ENGINEER, or if termination for convenience is effected by CITY OF FAYETTEVILLE, the equitable adjustment shall include a reasonable profit for services or other work performed. The equitable adjustment for any termination shall provide for payment to ENGINEER for services rendered and expenses incurred prior to the termination, in addition to termination
settlement costs reasonably incurred by ENGINEER relating to commitments which had become firm prior to the termination.

6.5.5 Upon receipt of a termination action under Paragraphs 6.5.1 or 6.5.2 above, ENGINEER shall:

6.5.5.1 Promptly discontinue all affected work (unless the notice directs otherwise),

6.5.5.2 Deliver or otherwise make available to CITY OF FAYETTEVILLE all data, drawings, specifications, reports, estimates, summaries and such other information and materials as may have been accumulated by ENGINEER in performing this Agreement, whether completed or in process.

6.5.6 Upon termination under Paragraphs 6.5.1 or 6.5.2 above CITY OF FAYETTEVILLE may take over the work and may award another party an agreement to complete the work under this Agreement.

6.5.7 If, after termination for failure of ENGINEER to fulfill contractual obligations, it is determined that ENGINEER had not failed to fulfill contractual obligations, the termination shall be deemed to have been for the convenience of CITY OF FAYETTEVILLE. In such event, adjustments of the agreement price shall be made as provided in Paragraph 6.5.4 of this clause.

6.6 Delays

6.6.1 In the event the services of ENGINEER are suspended or delayed by CITY OF FAYETTEVILLE or by other events beyond ENGINEER’s reasonable control, ENGINEER shall be entitled to additional compensation and time for reasonable costs incurred by ENGINEER in temporarily closing down or delaying the Project.

6.7 Rights and Benefits

6.7.1 ENGINEER’S services will be performed solely for the benefit of CITY OF FAYETTEVILLE and not for the benefit of any other persons or entities.
6.8 Dispute Resolution

6.8.1 Scope of Paragraph: The procedures of this Paragraph shall apply to any and all disputes between CITY OF FAYETTEVILLE and ENGINEER which arise from, or in any way are related to, this Agreement, including, but not limited to the interpretation of this Agreement, the enforcement of its terms, any acts, errors, or omissions of CITY OF FAYETTEVILLE or ENGINEER in the performance of this Agreement, and disputes concerning payment.

6.8.2 Exhaustion of Remedies Required: No action may be filed unless the parties first negotiate. If timely Notice is given under Paragraph 6.8.3, but an action is initiated prior to exhaustion of these procedures, such action shall be stayed, upon application by either party to a court of proper jurisdiction, until the procedures in Paragraphs 6.8.3 and 6.8.4 have been complied with.

6.8.3 Notice of Dispute

6.8.3.1 For disputes arising prior to the making of final payment promptly after the occurrence of any incident, action, or failure to act upon which a claim is based, the party seeking relief shall serve the other party with a written Notice;

6.8.3.2 For disputes arising within one year after the making of final payment, CITY OF FAYETTEVILLE shall give ENGINEER written Notice at the address listed in Paragraph 6.14 within thirty (30) days after occurrence of any incident, accident, or first observance of defect or damage. In both instances, the Notice shall specify the nature and amount of relief sought, the reason relief should be granted, and the appropriate portions of this Agreement that authorize the relief requested.

6.8.4 Negotiation: Within seven days of receipt of the Notice, the Project Managers for CITY OF FAYETTEVILLE and ENGINEER shall confer in an effort to resolve the dispute. If the dispute cannot be resolved at that level, then, upon written request of either side, the matter shall be referred to the President of ENGINEER and the Mayor of CITY OF FAYETTEVILLE or his designee. These officers shall meet at the
Project Site or such other location as is agreed upon within 30 days of the written request to resolve the dispute.

6.9 CITY OF FAYETTEVILLE represents that it has sufficient funds or the means of obtaining funds to remit payment to ENGINEER for services rendered by ENGINEER.

6.10 Publications

6.10.1 Recognizing the importance of professional development on the part of ENGINEER’s employees and the importance of ENGINEER’s public relations, ENGINEER may prepare publications, such as technical papers, articles for periodicals, and press releases, pertaining to ENGINEER’s services for the Project. Such publications will be provided to CITY OF FAYETTEVILLE in draft form for CITY OF FAYETTEVILLE’s advance review. CITY OF FAYETTEVILLE shall review such drafts promptly and provide CITY OF FAYETTEVILLE’s comments to ENGINEER. CITY OF FAYETTEVILLE may require deletion of proprietary data or confidential information from such publications, but otherwise CITY OF FAYETTEVILLE will not unreasonably withhold approval. The cost of ENGINEER’s activities pertaining to any such publication shall be for ENGINEER’s account.

6.11 Indemnification

6.11.1 CITY OF FAYETTEVILLE agrees that it will require all construction Contractors to indemnify, defend, and hold harmless CITY OF FAYETTEVILLE and ENGINEER from and against any and all loss where loss is caused or incurred or alleged to be caused or incurred in whole or in part as a result of the negligence or other actionable fault of the Contractors, or their employees, agents, Subcontractors, and Suppliers.

6.12 Ownership of Documents

6.12.1 All documents provided by CITY OF FAYETTEVILLE including original drawings, disks of CADD drawings and cross sections, estimates, specification field notes, and
data are and remain the property of CITY OF FAYETTEVILLE. ENGINEER may retain reproduced copies of drawings and copies of other documents.

6.12.2 The CITY OF FAYETTEVILLE acknowledges the ENGINEER’s plans and specifications, including documents on electronic media ("delivered documents"), as instruments of professional services. Nevertheless, the delivered documents prepared under this Agreement shall be delivered to and become the property of the CITY OF FAYETTEVILLE upon completion of the services and payment in full of all monies due to ENGINEER. Except for the ENGINEER’s services provided for by this Agreement as related to the construction and completion of the Project, the ENGINEER accepts no liability arising from any reuse of the delivered documents by the CITY OF FAYETTEVILLE, unless ENGINEER is retained by CITY OF FAYETTEVILLE to make modifications or otherwise reuse the delivered documents. Except where the CITY OF FAYETTEVILLE reuses the delivered documents subsequent to the completion of the Project, nothing contained in this paragraph shall alter the ENGINEER’s responsibilities and obligations under this Agreement.

6.12.3 Any files delivered in electronic medium may not work on systems and software different than those with which they were originally produced. ENGINEER makes no warranty as to the compatibility of these files with any other system or software. Because of the potential degradation of electronic medium over time, in the event of a conflict between the sealed original drawings/hard copies and the electronic files, the sealed drawings/hard copies will govern.

6.13 Notices

6.13.1 Any Notice required under this Agreement will be in writing, addressed to the appropriate party at the following addresses:

CITY OF FAYETTEVILLE’s address:
113 West Mountain
Fayetteville, AR 72701
ENGINEER’s address:

8400 Ward Parkway
Kansas City, MO 64114

6.14 Successor and Assigns

6.14.1 CITY OF FAYETTEVILLE and ENGINEER each binds himself and his successors, executors, administrators, and assigns to the other party of this Agreement and to the successors, executors, administrators, and assigns of such other party, in respect to all covenants of this Agreement; except as above, neither CITY OF FAYETTEVILLE nor ENGINEER shall assign, sublet, or transfer his interest in the Agreement without the written consent of the other.

6.15 Controlling Law

6.15.1 This Agreement shall be subject to, interpreted and enforced according to the laws of the State of Arkansas without regard to any conflicts of law provisions.

6.16 Entire Agreement

6.16.1 This Agreement represents the entire Agreement between ENGINEER and CITY OF FAYETTEVILLE relative to the Scope of Services herein. Since terms contained in purchase orders do not generally apply to professional services, in the event CITY OF FAYETTEVILLE issues to ENGINEER a purchase order, no preprinted terms thereon shall become a part of this Agreement. Said purchase order document, whether or not signed by ENGINEER, shall be considered as a document for CITY OF FAYETTEVILLE’s internal management of its operations.
SECTION 7 - SPECIAL CONDITIONS

7.1 Additional Responsibilities of ENGINEER:

7.1.1 CITY OF FAYETTEVILLE’s or any Federal or State Agency’s review, approval, or acceptance of design drawings, specifications, reports and other services furnished hereunder shall not in any way relieve ENGINEER of responsibility for the technical adequacy of the work. Neither CITY OF FAYETTEVILLE’s nor any Federal or State Agency’s review, approval or acceptance of, nor payment for any of the services shall be construed as a waiver of any rights under this Agreement or of any cause of action arising out of the performance of this Agreement.

7.1.2 ENGINEER shall be and shall remain liable, in accordance with applicable law, for all damages to CITY OF FAYETTEVILLE caused by ENGINEER’s negligent performance of any of the services furnished under this Agreement except for errors, omissions or other deficiencies to the extent attributable to CITY OF FAYETTEVILLE or CITY OF FAYETTEVILLE-furnished data.

7.1.3 ENGINEER’s obligations under this clause are in addition to ENGINEER’s other express or implied assurances under this Agreement or State law and in no way diminish any other rights that CITY OF FAYETTEVILLE may have against ENGINEER for faulty materials, equipment, or work.

7.2 Remedies

7.2.1 Except as may be otherwise provided in this Agreement, all claims, counter-claims, disputes and other matters in question between CITY OF FAYETTEVILLE and ENGINEER arising out of or relating to this Agreement or the breach thereof will be decided in a court of competent jurisdiction within Arkansas.

7.3 Audit: Access to Records

7.3.1 ENGINEER shall maintain books, records, documents and other evidence directly pertinent to performance on work under this Agreement in accordance with generally accepted accounting principles and practices consistently applied in effect on the date
of execution of this Agreement. ENGINEER shall also maintain the financial information and data used by ENGINEER in the preparation of support of the cost submission required for any negotiated agreement or change order and send to CITY OF FAYETTEVILLE a copy of the cost summary submitted. CITY OF FAYETTEVILLE, the State or any of their authorized representatives shall have access to all such books, records, documents and other evidence for the purpose of inspection, audit and copying during normal business hours. ENGINEER will provide proper facilities for such access and inspection.

7.3.2 Records under Paragraph 7.3.1 above, shall be maintained and made available during performance on assisted work under this Agreement and until three years from the date of final payment for the project. In addition, those records which relate to any controversy arising out of such performance, or to costs or items to which an audit exception has been taken, shall be maintained and made available until three years after the date of resolution of such appeal, litigation, claim or exception.

7.3.3 This right of access clause (with respect to financial records) applies to:

7.3.3.1 Negotiated prime agreements:

7.3.3.2 Negotiated change orders or agreement amendments in excess of $10,000 affecting the price of any formally advertised, competitively awarded, fixed price agreement:

7.3.3.3 Agreements or purchase orders under any agreement other than a formally advertised, competitively awarded, fixed price agreement. However, this right of access does not apply to a prime agreement, lower tier subagreement or purchase order awarded after effective price competition, except:

7.3.3.1 With respect to record pertaining directly to subagreement performance, excluding any financial records of ENGINEER;

7.3.3.2 If there is any indication that fraud, gross abuse or corrupt practices may be involved;
7.3.3.3 If the subagreement is terminated for default or for convenience.

7.4 Covenant Against Contingent Fees

7.4.1 ENGINEER warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon an agreement of understanding for a commission, percentage, brokerage or continent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by ENGINEER for the purpose of securing business. For breach or violation of this warranty, CITY OF FAYETTEVILLE 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 commission, percentage, brokerage, or contingent fee.

7.5 Gratuities

7.5.1 If CITY OF FAYETTEVILLE finds after a notice and hearing that ENGINEER or any of ENGINEER’s agents or representatives, offered or gave gratuities (in the form of entertainment, gifts or otherwise) to any official, employee or agent of CITY OF FAYETTEVILLE, in an attempt to secure an agreement or favorable treatment in awarding, amending or making any determinations related to the performance of this Agreement, CITY OF FAYETTEVILLE may, by written notice to ENGINEER terminate this Agreement. CITY OF FAYETTEVILLE may also pursue other rights and remedies that the law or this Agreement provides. However, the existence of the facts on which CITY OF FAYETTEVILLE bases such finding shall be in issue and may be reviewed in proceedings under the Remedies clause of this Agreement.

7.5.2 In the event this Agreement is terminated as provided in Paragraph 7.5.1, CITY OF FAYETTEVILLE may pursue the same remedies against ENGINEER as it could pursue in the event of a breach of the Agreement by ENGINEER. As a penalty, in addition to any other damages to which it may be entitled by law, CITY OF FAYETTEVILLE may pursue exemplary damages in an amount (as determined by CITY OF FAYETTEVILLE) which shall be not less than three nor more than ten
times the costs ENGINEER incurs in providing any such gratuities to any such officer or employee.

7.6 Arkansas Freedom of Information Act

7.6.1 City contracts and documents, including internal documents and documents of subcontractors and sub-consultants, prepared while performing City contractual work are subject to the Arkansas Freedom of Information Act (FOIA). If a Freedom of Information Act request is presented to the CITY OF FAYETTEVILLE, ENGINEER will provide the documents in a prompt and timely manner as prescribed in the Arkansas Freedom of Information Act (A.C.A. §25-19-101 et seq.). Only legally authorized photocopying costs pursuant to the FOIA may be assessed for this compliance.

7.6.2 Pursuant to Arkansas Code Ann. § 25-19-105(b)(20), the personal information of CITY OF FAYETTEVILLE water system customers must be treated as confidential information and shall not be made available for inspection except by ENGINEER’s employees as required to fulfill the terms of this Agreement. Upon completion of ENGINEER’s contractual duties and after approval of ENGINEER’s documents, the ENGINEER agrees to destroy or return to CITY OF FAYETTEVILLE any copies of records containing information about CITY OF FAYETTEVILLE water system customers.

IN WITNESS WHEREOF, CITY OF FAYETTEVILLE, ARKANSAS by and through its Mayor, and ENGINEER, by its authorized officer have made and executed this Agreement as of the day and year first above written.
CITY OF FAYETTEVILLE, ARKANSAS

By: __________________________________________
Mayor, Lioneld Jordan

ATTEST:
By: __________________________________________
City Clerk

Black & Veatch Corporation
By: [Signature]

Title: [Associate Vice President]

END OF AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES
ATTACHMENT A – SCOPE OF SERVICES AND COMPENSATION

PROJECT OBJECTIVES
This project will develop a standard Water Audit and Water Loss Plan using the AWWA M36 methodology outlining the City of Fayetteville’s (City’s) non-revenue water (NRW) and recommendations to reduce NRW. This will involve initial evaluation of the quantity and cost of both real and apparent water loss. The Plan will include the validation of existing data; evaluation of the metering infrastructure and billing system; a review of leakage detection practices; and development of metrics to benchmark water losses.

- Validation of the internal AWWA water balance data including all water audit data inputs for the most recent year of data
- Evaluation of Apparent Losses
- Evaluation of Real Losses
- Reporting of the water balance using the AWWA M36 methodology
- Development of a Water Loss Plan

SCOPE OF SERVICES
Proposed subtasks are described below. This scope details Task 1.

TASK 1
This scope of services is designed to construct and validate a water audit for the most recent calendar year with available data for the city of Fayetteville. This will involve evaluation of the quantity of both real and apparent water losses.

Task 1A. Project Management
Black & Veatch will provide overall management for the project. Prepare budget, schedule, and review ongoing activities as well as monitoring schedule and budget. Manage technical resources, and coordinate with the City. Prepare monthly invoices, including a status report covering work completed during the current billing period and work anticipated for the upcoming period. Review progress with the City on a regular basis.

Conduct monthly review meetings to discuss current project status and to solicit input from City staff regarding current work activities. Provide meeting notes including key decisions and action items of each meeting.

Deliverables: Project Management;

- Monthly invoice and status report
- Project Work Plan
- Project Schedule
- Meeting Notes

**Task 1B. Water Loss Data Development and Validation Using AWWA M36 Methodology**

In Task 1B the system evaluation will be focused on the collecting, recording and analyzing the basic data inputs to the AWWA M36 water audit and the validation of this data. This task will include the completion of a two to three day site visit, including interviews with appropriate staff to review data sources, consolidation of data, and validation of data. This will include interviews with all relevant City Departments, to facilitate analyses and reporting and will include at a minimum:

- Executive Leadership
- Engineering
- Operations
- Meter Services
- Customer Service / Billing
- Finance

Confirmation of purchased, imported water from Beaver Water District will be assessed. Billed Metered consumption volumes will be conducted by analyzing retail customer billing records. Authorized Consumption includes all the metered and billed volumes, but also items such as system flushing, fire-fighting, fire hydrant testing, new water main filling, and flushing, street cleaning and water treatment plant uses which are authorized uses [not losses]. These items will be evaluated in this Task.

**Deliverables:** Initial data evaluation and validation;

- Collection and recording of all data to be input into the AWWA Water Audit Software for analysis. List of data sources.
- Validation of datasets through analysis and meetings with City (and relevant outside Agencies) staff to discuss the data. Expect up to three days of meetings with various staff members.
- Imported water meter inventory listing meter type, size, location, and physical condition and calibration/accuracy evaluation
- Tech memo outlining recommendations of best testing and calibration technologies and practices for import and retail metering systems

**Task 1C: University of Arkansas Analysis**

The University of Arkansas is supplied through a small number of master retail meters. The University also manages the distribution system within the campus (even though these
distribution pipes are before the meters in some cases). This task is designed to evaluate the University system in more detail and will include:

- Evaluation of the input metering points to the University
- Review of meter accuracy and calibration practices
- Review of University uses in collaboration with University staff
  - Unbilled (authorized) activities such as flushing
  - Breaks and leaks dealt with by University operations
  - Other operational uses of the distribution network within the University boundaries

**Deliverables:** Memo summarizing the following;

- Accuracy of the metering systems to the University
- Estimation of University Unbilled Authorized uses
- Review of water losses within the University boundaries

**Task 1D: Reporting**

Black & Veatch will develop a desktop water audit and associated report utilizing the methodologies described in the AWWA Manual M36 (Water Audits and Loss Control Programs) for the most recent audit year of available data. This will include the following information in a report format.

**Deliverables:** Report including the following:

- Report upon the work conducted and data sources.
- Develop initial performance indicators, estimates of associated costs, and benchmark against national utilities.
- Provide completed AWWA Water Audit Software for the audit year.
- Develop recommendations for water loss control implementation activities.
- Develop recommendations for data validation improvements.
- Workshop/Presentation on Final Report and findings

**SCHEDULE**

It is anticipated that the draft report will be issued within four months from receiving the Notice to Proceed, with the final report being issued within six months. This schedule is contingent upon receipt of requested data within two weeks from request.
COMPENSATION
Task 1 will be executed on a time and materials basis to a not to exceed fee of $63,691, including expenses. An additional allowance of $20,000 is also requested. This will be billed monthly on time and materials basis. The total not to exceed is $83,691.00.

BILLING RATES

<table>
<thead>
<tr>
<th>PROJECT DIRECTOR</th>
<th>HOURLY RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Manager</td>
<td>$214.6</td>
</tr>
<tr>
<td>Water Loss Subject Matter Expert</td>
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<tr>
<td>Water Audit Analyst</td>
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</tr>
<tr>
<td>Utility Operations Specialist</td>
<td>$183.0</td>
</tr>
<tr>
<td>Project Data and Cost Accounting</td>
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</tr>
<tr>
<td>Metering Specialist</td>
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<td>Project Staff</td>
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<tr>
<td>Project Finance</td>
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</table>

INFORMATION TO BE PROVIDED BY THE CITY
A data request list will be provided to the City upon notice to proceed.
## Cost Profile
### Water Loss Investigation & Reduction

<table>
<thead>
<tr>
<th>Position</th>
<th>Task No.1A Project Management</th>
<th>Task No.1B R/W/A Water Audit (M3A)</th>
<th>Task No.1C University of Arkansas Analysis</th>
<th>Task No.1D Reporting</th>
<th>Total Labor</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hrs</td>
<td>$</td>
<td>Hrs</td>
<td>$</td>
<td>Hrs</td>
<td>$</td>
</tr>
<tr>
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<td>14</td>
<td>$ 3,004.40</td>
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<td>15</td>
<td>$ 4,408.00</td>
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<td>$ 3,206.00</td>
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<td>$ -</td>
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<tr>
<td>Modelling Specialist</td>
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<td>$ 2,720.00</td>
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<tr>
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<td>$ 3,348.00</td>
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**Sub-totals**: 30 $11,081.20 150 $24,770.40 60 $11,693.60 90 $14,685.20 350 $62,238

---

## Summary of Direct Expenses

<table>
<thead>
<tr>
<th>Units</th>
<th>No. of</th>
<th>Unit Description</th>
<th>Rate</th>
<th>Total</th>
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<tbody>
<tr>
<td></td>
<td>2</td>
<td>Coach class - From DFW to XNA</td>
<td>$30.00</td>
<td>$60.00</td>
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<tr>
<td></td>
<td>1</td>
<td>Lodging (by days) - See Attached Maximum Daily Lodging Rates</td>
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<td>$140.00</td>
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<tr>
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<td>3</td>
<td>Car Rental (by days) - $65.00/day (BASED ON 2013 GSA DOMESTIC RENTAL CAR CEILING RA)</td>
<td>$65.00</td>
<td>$195.00</td>
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<tr>
<td></td>
<td>60</td>
<td>Gas (for rental cars only) - $3.50/gallon</td>
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<td>$210.00</td>
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<td>4</td>
<td>Breakfast - $11.00 (when travel begins before 6 a.m. and extends beyond 6 p.m.)</td>
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<td>$44.00</td>
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<td>4</td>
<td>Lunch - $16.00 (when travel begins before 12 noon and extends beyond 2 p.m.)</td>
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<td>$64.00</td>
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<tr>
<td></td>
<td>4</td>
<td>Dinner - $3.00 (when travel begins before 6 p.m. and extends beyond 8 p.m.)</td>
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<td>$12.00</td>
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<tr>
<td></td>
<td>4</td>
<td>Mileage - $0.565/mile (for use of personal vehicle)</td>
<td>$0.565</td>
<td>$1.46</td>
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</tbody>
</table>

**As directed by Owner**: 200000

**Total Labor and Direct Expenses**: $3,991

---

**Notes**:
1. For invoices billed on an hourly basis, receipt for all expenses will be submitted. Travel expenses will be accompanied by a statement explaining the purpose of the expense and the parties involved.
Black & Veatch Management Consulting, LLC
Water Loss Audit & Revenue Enhancement Programs

4 December 2016

Introductions
AWWA Water Audits and the M36 Methodology
Case Examples
Fayetteville Needs and Discussion
Actions
Introductions

Andrew Chastain-Howley, Black & Veatch
Aaron Robison, Black & Veatch
Jeff Henson, Black & Veatch

Water Audit

AWWA Water Audit
Accounting Proactively

Water Imported

Own Sources

Total System Input

Water Exported

Water Supplied

Authorized Consumption

Unbilled Authorized Consumption

Water Losses

Apparent Losses

Real Losses

Non-Revenue Water

System Input (allow for known errors)

Revenue Water

Billed Water Exported

Billed Metered Consumption

Billed Unmetered Consumption

Unbilled Metered Consumption

Unbilled Unmetered Consumption

Unauthorized Consumption

Customer Metering Inaccuracies

Systematic Data Handling Error

Leakage on Mains

Leakage on Service Lines

Leakage & Overflows at Storage

IWA/AWWA WATER AUDIT HISTORY

Water Loss Standard Methods

AWWA Standard Water Audit

First AWWA Audit in Texas

AWWA Water Audit Software (1981)

AWWA Water Audit Software (1984)

Texas Water Audit Manual

Texas Water Audit Software

AWWA Water Audit Software (1987)

AWWA Water Audit Software (1997)


American Water Association Water Audit Manual (2022)
TWDB versus AWWA Methodology

Water Audit Data Request

- B&V provides data request
- Provide data files / reports / documents / emails
- Responses tracked during project lifecycle
- 32 items / areas
- GIS / Geodatabase
- Onsite meetings
- Process discussions
- Field visits

20 Water Audit Inputs (AWWA Audit)
The Water Audit Cycle

- Annual Audit Completion
- Data Validation
- Performance Review
- Recommendations
- Action Plan

Data Review & Analysis

AWWA Water Audit
Validation Audit
Level 1 Validation: Top Down Review

- Examination of summary level records in support of audit inputs and data grades
- Confirms application of M36 method to input derivation and data grading selection
- Initial assessment of metrics alignment as guidance for advanced validation

Level 2 Validation: Data Mining & Analysis

- Supply, consumption & metering system data mining & analysis for anomalies, gaps, and redundancies in raw data that affect water balance accuracy
- Statistical confidence assessment on water balance components

Level 3 Validation: Field Investigations

- Verification of supply meter(s) accuracy and fidelity of signal conversion/data chain
- Customer meter testing & accuracy analysis
- Night flow analyses and pilot leak detection to corroborate Real Loss volumes
Water Audit Results

Detailed worksheet showing water audit results.

4 December 2016

Water Audit Results

Detailed worksheet showing water audit results.

4 December 2016
Water Audit Results

All Parts of Utility Involved

a) Drinking Water Operations and System Maintenance
   i. Production for Water Distribution (Water Supplied)
   ii. Leakage Water Losses

b) Customer Services
   i. Metered and Unmetered Consumption (Authorized Consumption)
   ii. Apparent Water Losses (Billing, theft and meter accuracy)
   iii. System Data (line lengths and connections)

c) Financial Management
   i. Cost Data

d) Data Management (across all Divisions)
e) Prioritization (all Divisions)
Apparent Losses

Cause un-captured revenue and distorts the integrity of customer consumption data.

- Customer Metering Inaccuracies
  - Assemble meter demographics from records
  - Conduct regular meter accuracy testing
- Unauthorized Consumption
  - Theft of service
- Systematic Data Handling Errors
  - Billing system forensic analysis
  - Meter reading anomalies that should have been caught by the billing system

REAL LOSSES - ACTIVE LEAKAGE CONTROL MEASURES

Active leakage is defined as an active effort to locate and repair unreported leaks.

TIME & TOOLS

- Sonic Survey
- Correlation Surveys
- Noise Logging Surveys
- Step Testing
- Transmission Main Surveys
- Night Flow Sector Analysis
- Temporary or Permanent District Metered Area
Automated Water Audits
Automated Data Management & Analysis
Automated Data Management & Analysis
Building a world of difference.