



ARKANSAS
Department of Environmental Quality

Hand Delivered Mail Receipt

Date	1-22-19
Division	Water
Sender	ANRC - Cave Springs
Received By	RDS 3:50 pm

Project Summary

Applicant: Cave Springs **Engineer:** Barnes; McClelland Consulting Engineers

WWAC Number: 3869 **WPC Number** 2019 01 14 - 001

Filing Date: 01/14/2019 **County:** Benton **Project Type:** S

Number of Existing Customers: 869 **Number of New Customers:** 0

Water Source: _____

Initial Costs		Revised Costs	
<u>Funding Source:</u>	CDBG	<u>Funding Source:</u>	CDBG
	ANRC		ANRC
	CRG		CRG
	RD		RD
	Other		Other
	Local		Local
	<hr/>		<hr/>
	TOTAL		\$ 0
	\$5,683,500		

Description: This project is designed to conduct a thorough inspection of the existing sewer collection and treatment facilities along with the options available to the city to accommodate projected growth for the city.

Revisions to Project: _____

Administrative

Fee Collected: Yes No Amount: \$ _____ Publication Receipt: Yes No

Hearing Required: Yes No Staff Recommendation: Approval Disapproval

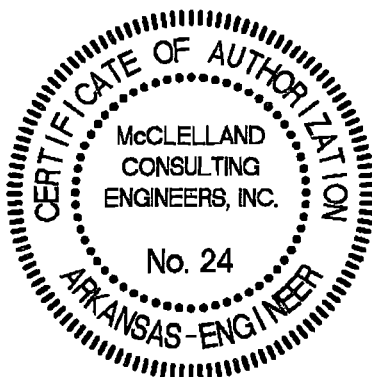
WWAC Review: _____ Approval: _____

Preliminary Engineering Report
Wastewater Treatment and Disposal

Project Number 18-2139



City of Cave Springs, Arkansas



01/10/2019



WATER / WASTEWATER ADVISORY COMMITTEE

R 6/2005

**WASTEWATER PRE-APPLICATION
COVER PAGE**

WWAC ID #: 3869

1. Applicant / Owner:	City of Cave Springs	2. CDBG Grantee:	
Representative & Title:	Mayor Randall Noblett	Representative & Title:	
Address:	134 North Main Street	Address:	
City & Zip Code:	Cave Springs, 72718	City & Zip Code:	
County:		County:	
Phone:	479-248-1040	Phone:	
FAX:		FAX:	
E-Mail Address:	Randall.noblett@cavespringsar.gov	E-Mail Address:	
3. Engineering Firm:	McClelland Consulting Engineers, Inc.	4. Application Type: (Mark all that apply) <input type="checkbox"/> LMI Service Hookups <input checked="" type="checkbox"/> New Collection System or Extension <input type="checkbox"/> Rehab Existing Collection System <input checked="" type="checkbox"/> New Treatment Plant <input checked="" type="checkbox"/> Rehab Existing Treatment Plant <input type="checkbox"/> Other _____	
Project Engineer:	Daniel Barnes		
Address:	1810 North College Ave		
City & Zip Code:	Fayetteville, 72702		
Phone:	479-443-2377		
FAX:	479-443-9241		
E-Mail Address:	dbarnes@mce.us.com		

5. Number of Existing Customers:	869	Number of New Customers:		Projected Number of Customers:	7000
6. Arkansas Senate District	1	Arkansas House District	90	U. S. House District	AR3

7. Provide a brief description of the project:

The City retained McClelland Consulting Engineers, Inc. to coordinate a thorough inspection of the existing sewer collection and treatment facilities along with the options available to the City to accommodate projected growth for the city.

8. Indicate the Agencies and Dollar Amounts you plan to use for this project:

\$ _____	Community Development Block Grant Program
\$ _____	Arkansas Natural Resources Commission
\$ _____	Community Resource Group
\$ _____	USDA, Rural Development
\$ _____	Other Funding Source: _____
\$ 5,683,500	Total Funds Requested

9. I, the undersigned representative of the applicant or grant recipient, certify that the information contained herein and the attached statements, exhibits and reports are true, correct and complete to the best of my knowledge and belief.

Applicant's Signature: Randall J. Noblett Date: 1-9-19

Application Preparer's Signature: _____ Date: _____

Application for Federal Assistance SF-424

* 1. Type of Submission:

- Preapplication
- Application
- Changed/Corrected Application

* 2. Type of Application:

- New
- Continuation
- Revision

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received:

4. Applicant Identifier:

5a. Federal Entity Identifier:

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name:

City of Cave Springs

* b. Employer/Taxpayer Identification Number (EIN/TIN):

* c. Organizational DUNS:

d. Address:

* Street1:

134 North Main Street

Street2:

* City:

Cave Springs

County/Parish:

* State:

AR: Arkansas

Province:

* Country:

USA: UNITED STATES

* Zip / Postal Code:

72718-0001

e. Organizational Unit:

Department Name:

Cave Springs Water & Sewer

Division Name:

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:

Mr.

* First Name:

Randall

Middle Name:

* Last Name:

Noblett

Suffix:

Title:

Mayor

Organizational Affiliation:

* Telephone Number:

479-248-1040

Fax Number:

* Email:

randall.noblett@cavespringsar.gov

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

C: City or Township Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

11. Catalog of Federal Domestic Assistance Number:

CFDA Title:

*** 12. Funding Opportunity Number:**

* Title:

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment

Delete Attachment

View Attachment

*** 15. Descriptive Title of Applicant's Project:**

Wastewater Treatment and Disposal

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant

* b. Program/Project

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment

Delete Attachment

View Attachment

17. Proposed Project:

* a. Start Date:

* b. End Date:

18. Estimated Funding (\$):

* a. Federal	<input type="text" value="5,683,500.00"/>
* b. Applicant	<input type="text"/>
* c. State	<input type="text"/>
* d. Local	<input type="text"/>
* e. Other	<input type="text"/>
* f. Program Income	<input type="text"/>
* g. TOTAL	<input type="text" value="5,683,500.00"/>

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

- a. This application was made available to the State under the Executive Order 12372 Process for review on
- b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

Yes No

If "Yes", provide explanation and attach

Add Attachment

Delete Attachment

View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix:

* First Name:

Middle Name:

* Last Name:

Suffix:

* Title:

* Telephone Number:

Fax Number:

* Email:

* Signature of Authorized Representative:

Randall J. Noblett

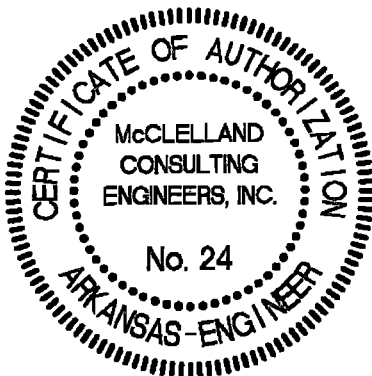
* Date Signed:

Preliminary Engineering Report
Wastewater Treatment and Disposal

Project Number 18-2139



City of Cave Springs, Arkansas



01/10/2019



Table of Contents

Table of Contents	2
List of Figures	5
List of Tables	5
1.0 Executive Summary	7
2.0 Background Information	7
2.1 Location	7
2.2 Summary of Historical Wastewater Treatment System Performance.....	7
2.3 Existing Treatment System	10
2.3.1 Age	12
2.3.2 Design Capacity	12
2.3.3 Current Performance.....	13
2.4 Existing Permits.....	13
2.5 Present Wastewater Flows and Characteristics	13
2.5.1 Existing Effluent Limits	14
2.6 Water Use and Rate Structure	15
3.0 Future Conditions	16
3.1 20-Year Population Projection	16
3.2 Available Land for Growth	17
3.3 20-Year Wastewater Projections.....	20
3.4 Design Effluent Limits.....	24
3.4.1 Alternative 1	24
3.4.2 Alternative 2 & 3	25
4.0 Design Criteria	25
4.1 Population Density.....	25
4.2 System Demand	25
4.3 Effluent Disposal	25
4.4 Soil Loading Rate	25
5.0 Alternatives	26
5.1 Alternative 1.....	26
5.1.1 Expand/Renovate Existing Treatment System	26
5.1.2 Land Requirements.....	26
5.1.3 Map	27



5.1.4	Environmental Impacts.....	29
5.2	Alternative 2	29
5.2.1	Pipe All Sewage to Springdale.....	29
5.2.2	Land Requirements.....	29
5.2.3	Map	29
5.2.4	Environmental Impacts.....	31
5.3	Alternative 3	31
5.3.1	Pipe All Sewage to NACA via Bentonville’s Sewage Main	31
5.3.2	Land Requirements.....	31
5.3.3	Map	31
5.3.4	Environmental Impacts.....	33
6.0	Cost Effective Analysis.....	33
6.1	Alternative 1 – Expand Existing Treatment System	33
6.2	Alternative 2 – Pipe all Sewage to Springdale.....	35
6.3	Alternative 3 – Pipe all Sewage to NACA via Bentonville’s Sewage Main	38
6.4	Present Worth Analysis.....	41
6.5	Pros and Cons	41
7.0	Selected Alternative.....	44
7.1	General	44
7.2	Detailed Map.....	44
7.3	Land Requirements	46
7.4	O&M Staff Requirements.....	46
7.5	Wetlands and/or Navigable Streams	46
7.6	Additional Site Data.....	46
7.7	Possible Construction Obstacles.....	48
7.8	OM&R Budget	48
7.9	Capital Financing Plan	48
7.10	Water and Sewer Rate Information.....	49
7.11	Implementation Schedule	50
7.12	Preliminary Design Criteria.....	51
7.12.1	Flow and Strength	51
7.12.2	Population Density.....	51
7.12.3	System Demand.....	51
8.0	Conclusion and Recommendations.....	52
9.0	Appendix 1 – Cave Springs Current No Discharge Permit	53



9.1 Permit No. 4893-WR-3 53

10.0 Appendix 2 – Cave Springs Financial Statements 54

10.1 Water Audits 2015-2017 54

10.2 Sewer Audits 2015-2017 54

11.0 Appendix 3 – Cave Springs Corrective Action Plan April 2017..... 55

12.0 Appendix 4 – Elm Springs Service Contract..... 56

13.0 Appendix 5 – Preliminary NPDES Discharge Limits..... 57

14.0 Appendix 6 – Memorandum of Agreement..... 58



List of Figures

Figure 1 Cave Springs Vicinity Map.....	8
Figure 2 City of Cave Springs Topographic Map	9
Figure 3 Existing Wastewater Treatment System	11
Figure 4 Population Projection	19
Figure 5 Historical Population and Sewer Connections	21
Figure 6 Population and Sewer Connection Projections	22
Figure 7 Projections and Limits Based on System Capacity	23
Figure 8 Alternative 1	28
Figure 9 Alternative 2.....	30
Figure 10 Alternative 3	32
Figure 11 Gravity Line Feasibility	43
Figure 12 Selected Alternative	45
Figure 13 Flood Plain	47

List of Tables

Table 1 Active Sewer Connections.....	12
Table 2 Cave Springs Sewer Monthly Operating Reports.....	14
Table 3 Effluent Limits	15
Table 4 Existing Water Rate Schedule for Cave Springs	16
Table 5 Tabulation of Water Usage 2016-2018	16
Table 6 Annual Growth Rates.....	18
Table 7 Land Classifications	18
Table 8 20-Year Connection Projection	20
Table 9 Effluent Limits	24
Table 10 Construction Costs	34
Table 11 Project Costs	34
Table 12 Annual O&M Costs.....	35
Table 13 Construction Costs.....	36
Table 14 Project Costs	37



Table 15 Annual O&M Costs..... 37
Table 16 Construction Costs 39
Table 17 Project Costs..... 40
Table 18 Annual O&M Costs..... 40
Table 19 Present Worth Analysis 41
Table 20 Annual O&M Costs 48
Table 21 Project Costs..... 49
Table 22 Existing Water Rate Schedule for Cave Springs.....50
Table 23 Tentative Project Schedule.....51



1.0 Executive Summary

Cave Springs is located in the Northwest Arkansas region. This area is ideal for people that want to work in the city, but live away from the noise. Most of the NWA region has experienced high growth in the past 10 years. The population of Benton County in 2010 was 221,339 people, with 1,729 people residing in Cave Springs as reported by the U.S. Census Bureau. From 2010 to 2016, Cave Springs experienced a significant increase in population. In November 2016 Mayor Travis Lee released census figures from a special population census indicating that the city's population had more than doubled in about six years jumping from 1,729 to 3,811.

The City retained McClelland Consulting Engineers, Inc. to coordinate a thorough inspection of the existing sewer collection and treatment facilities along with the options available to the City to accommodate projected growth for the city. This report outlines a formal investigating towards a long term solution.

2.0 Background Information

2.1 Location

The City of Cave Springs is located in southern central Benton County, Arkansas in the valley of Osage Creek. Cave Springs and Benton County are part of the Northwest Arkansas: Fayetteville-Springdale-Rogers-Bentonville urbanized area, see Figure 1.

The Cave Springs area includes a creek valley, steep hillsides and hill tops, see Figure 2.

2.2 Summary of Historical Wastewater Treatment System Performance

MCE supplied Cave Springs with a corrective action plan on April 27th, 2017 related to wastewater treatment plant improvements. An excerpt from that plan is below and details some of the difficulties the city has faced. The entire report can be found in Appendix 3 – Cave Springs Corrective Action Plan April 2017.

Over the past five-years during the permitting cycle of Permit 4893-WR-2, the City of Cave Springs has recorded 22 instances of exceeding their permit limits, 20 of which were for exceedances of Total Suspended Solids (TSS) limits. The City of Cave Springs is committed to complying with environmental laws and regulations and therefore is determined to identify and address their wastewater treatment plant's performance.



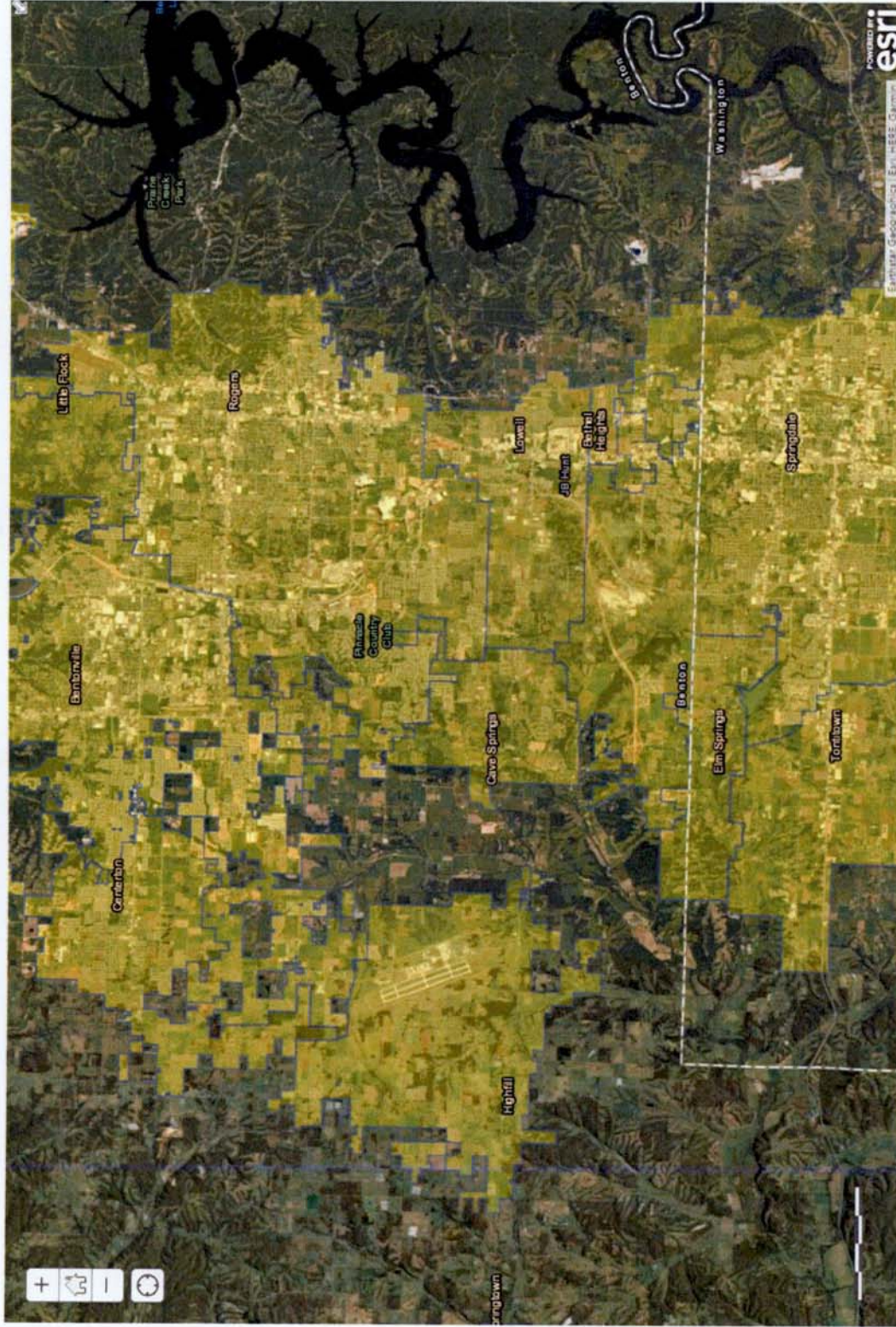


Figure 1 Cave Springs Vicinity Map





Figure 2 City of Cave Springs Topographic Map



The existing plant is adequately sized to handle the influent flowrates and loadings received from the sewer system. However, excess TSS accumulation has led to numerous discharge violations over the previous permitting cycle. It was realized by Plant staff that the cartridge filters used in the system were regularly clogging up. This was leading to sludge accumulation in the subsurface irrigation dosing tanks.

After a thorough system investigation, it was determined that the filters were not at fault and were only clogging up due to excess solids carryover. The true cause of the WWTP's accumulation of excess TSS was due to the Waste Activated Sludge (WAS) system pumps. The operators were turning on the pumps every day and assuming that they were operating correctly, but did not realize that the pumps had become worn and were no longer adequately pumping the sludge. Repairing and replacing the WAS pumps was a simple fix for the treatment plant and did not require any additional system redesign. By replacing the WAS pumps, solids inventories are maintained to provide adequate and efficient operation. By wasting sludge as designed, treatment will improve, and TSS will no longer carryover to the dosing tanks and into the subsurface disposal fields.

Originally, during the first permitting cycle, only Plant 1 was utilized for treatment and Plant 2 was kept on standby. During the last permitting cycle, only Plant 2 was used for treatment while Plant 1 was kept on standby; this will remain the same for the next permitting under Permit 4893-WR-3.

Unfortunately instances of MMR exceedances of TSS have persisted and therefore an ongoing operations and maintenance program is in effect to identify and resolve issues.

2.3 Existing Treatment System

The existing collection system consists of gravity lines, one pump station and force main. Raw sewage is conveyed to two package wastewater treatment plants. Treated effluent is then discharged to 31 low pressure drip zones located on The Creeks Golf Course, which is located in the Southwestern sector of the City. Table 1 summarizes the historical number of sewer connections to the treatment system. See Figure 3 for an overlay of the existing record drawings for the treatment system and aerial photograph of the area.





Table 1 Active Sewer Connections

Historical Sewer Connections	
Year	Active Connections
2010	78
2011	98
2012	121
2013	183
2014	285
2015	420
2016	572
2017	730

2.3.1 Age

The existing system was constructed in 2006. The system is approaching 12 years of use and little maintenance has left the existing system in much need of repairs and upgrades.

2.3.2 Design Capacity

WWTP #1 has a design capacity of 92,000 gpd. WWTP #2 has a design capacity of 320,000 gpd. The combined treatment capacity is 412,000 gpd.

The city is currently permitted to process a total flow of 356,463 gpd based on a summation of flows to the 31 disposal drip zones. Each drip zone has a loading rate (flow/area) limitation based on the soil characteristics and is expected to be reported individually; however, for the purposes of determining the capacity of the entire system, we will focus on the total flow capacity of 356,463 gpd. For a detailed breakdown of the individual drip zone limitations see Appendix 1 – Cave Springs Current No Discharge Permit.

Ten-State Standards recommends using a flow per capita of 100 GPD. The estimate of persons per connection for Cave Springs is two persons; therefore, a flow per connection of 200 GPD has been used to determine the demand for the treatment system. Based on the permitted capacity of the treatment system approximately 1,780 connections or an additional 1,050 connections to what was recorded in 2017 can be treated.



2.3.3 Current Performance

The WWTP's are treating effluent to the specifications to which they were designed. Low pressure drip zones can be susceptible to higher solids loading because of the small diameter exits in each line. Loading or treatment disturbances at the WWTP's can subsequently cause clogged and burst lines in the drip zones. Severe cases of ponding/flooding have been reported at the Cave Springs disposal sites. The drip zones are located on a golf course and often in the public's eye.

The total treatment capacity of the drip zones is theoretically enough to handle what the city is sending to them; however, each drip zone can be located in different soils. Thereby, having a different loading rate associated with the soil and requiring specific limitations on how much effluent is sent to it.

Treatment disturbances combined with clogged and burst drip lines are the culprit for the reported ponding/flooding that occurs.

2.4 Existing Permits

The existing wastewater treatment system utilizes sub-surface discharge of treated effluent via low pressure drip zones does and therefore does not have a USEPA NPDES permit, but rather an ADEQ No-Discharge Permit. For a copy of the existing permit see Appendix 1 – Cave Springs Current No Discharge Permit.

2.5 Present Wastewater Flows and Characteristics

Wastewater monthly operating reports from January 2017 through October 2018 indicate an average monthly flow of 2.35 million gallons or 67,697 gpd. See Table 2 for a summary of the MORs. No significant infiltration and inflow problems have been identified. No record of repeat system overflows have been identified. The wastewater characteristics follow that of typical residential sewage as the community is largely residential users. There are no large industrial or other major wastewater contributors to this system.



Table 2 Cave Springs Sewer Monthly Operating Reports

Sewer MOR Data	
2017	Flow (MG)
January	1.87
February	1.85
March	2.25
April	2.56
May	1.31
June	2.07
July	2.22
August	2.39
September	1.81
October	2.25
November*	--
December*	--
2018	Flow (MG)
January	3.98
February	1.94
March	2.79
April	2.38
May*	--
June	2.33
July	2.74
August	2.75
September	2.64
October	2.55
*Staffing challenges prevented certain months from being recorded.	

2.5.1 Existing Effluent Limits

The Cave Springs wastewater treatment system utilized sub-surface discharge through a distributed network of pipes and emitters. The nutrient limits and sampling frequency requirements of the existing ADEQ permit reflect this discharge type.



Specific existing effluent limits, monitoring frequency and reporting requirements are summarized in Table 3. See no discharge permit 4893-WR-3 in Appendix 1 – Cave Springs Current No Discharge Permit for further details regarding permit conditions.

Table 3 Effluent Limits

Existing Effluent Limits, Monitoring, and Reporting Requirements			
Parameter	Limit	Units	Monitoring
Carbonaceous Biochemical Oxygen Demand (CBOD5)	30	mg/L	Grab sample once per month
Total Suspended Solids (TSS)	45	mg/L	
Fecal Coliform Bacteria (FCB)	10,000	Colonies/100mL	
pH	6.0 – 9.30	s.u.	
Total Phosphorus (TP)	Report	mg/L	Grab sample once per quarter
Total Kjeldahal Nitrogen (TKN)	Report	mg/L	
Ammonia Nitrogen (NH3-N)	Report	mg/L	
Nitrate Nitrogen (NO3-N) + Nitrate Nitrogen (NO2-N)	Report	mg/L	
Plant Available Nitrogen (PAN)	Report	mg/L	

2.6 Water Use and Rate Structure

Table 4 shows the existing rate structure plan established by the City of Cave Springs city ordinance for water rates. The city does not plan on changing the existing water rate schedule.

The water system currently services about 1,955 customers. Of the total amount of customers, 1,830 residential, 19 commercial, 98 builders, and 8 public government offices. Table 5 shows the tabulation of water usage for 2016 through 2018. The average water demand over the three years presented was 232,268 gpd.



Table 4 Existing Water Rate Schedule for Cave Springs

Existing Rates	
Description	Cost
Residential Use	
Base Amount	\$19.80
Flat Rate (per 1,000 gallons)	\$7.80
Commercial Use	
Base Amount	\$21.58
Flat Rate (per 1,000 gallons)	\$8.58
Outside City Limits Use	
Base Amount	\$23.36
Flat Rate (per 1,000 gallons)	\$12.36

Table 5 Tabulation of Water Usage 2016-2018

Water Usage (gallons/year)				
Category	2016	2017	2018	Portion of Total Use
Builder	5,202	89,497	1,461,448	0.6%
Commercial	2,134,808	3,821,195	2,732,747	3.4%
Government	2,459,093	1,396,163	1,057,377	1.9%
Residential	69,508,231	77,998,913	91,669,588	94.0%
Total	74,107,334	83,305,768	96,921,160	
Average	203,033	228,234	265,537	

3.0 Future Conditions

3.1 20-Year Population Projection

Population trend data from the U.S. Census Bureau for the past 50 years are summarized in Table 6.

In November 2016 Mayor Travis Lee released census figures from a special population census indicating that the city's population had more than doubled in about six years jumping from 1,729 to 3,811. The report released by the city went on to say that the population will exceed 5,000 persons by 2020.



Figure 4 depicts the known population data and projects forward 20 years to 2038. The estimated population of Cave Springs in 2038 is 8,944 – 13,525 persons based on a growth rate of 5% to 10% per year.

3.2 Available Land for Growth

Population growth in Cave Springs will be limited by the amount of appropriate land available for development and imposed limits on population density.

The estimated area of Cave Springs that is already developed combined with the population projection figures equates to an average existing population density of 3.4 persons/acre.

The city of Cave Springs currently encompasses approximately 5,000 acres of total area. Table 7 summarizes a breakdown of how this land is classified. These classifications help identify available land appropriate for potential development if population growth is sustained.

Estimating the population capacity based on the area within current city limits yields a capacity of 12,937 persons. The upper limit of projected population growth would be restricted by physical barriers unless the city were to acquire more land or by increasing the population density of its residents.

The North, South, and East boundaries of Cave Springs are abutted by other cities which leaves expansion to the West as the only option. If we split the difference between Cave Springs and Highfill (the nearest city to the West) there is an additional 2,240 acres of land to potentially acquire.

To determine the area that could be developed we used the same ratio of developable area vs total area within the current city limits. This yields an additional 1,705 acres potentially viable to develop which gives room for 1,359 persons based on the current population density of developed areas. This brings the total population capacity based on expanding the city limits to 14,296 persons.



Table 6 Annual Growth Rates

U.S. Census Bureau Annual Growth Rates		
Year	Population	Annual Growth Rate (%/yr)
1960 – 1970		+5.26
1970 – 1980		-0.89
1980 – 1990		+7.09
1990 – 2000		+2.66
2000 – 2005		+5.07
2005 – 2010	1,729	+4.07
2010 – 2016	3,811	+9.16
2038	8,944 – 13,525	+5.00 – +10.00

Table 7 Land Classifications

Cave Springs Land Classifications		
Description	Area (acres)	Percent of Total (%)
Total Area	5,003	
Water Area	49.3	1.0
Flood Plain Area	589.4	11.8
Area Unsuitable for Construction Outside Flood Plain	132.9	2.7
Reserved Industrial Area	423.2	8.5
Estimated Developed Area	1304.9	26.1
Estimated Area Available to Develop	2504.0	50.0



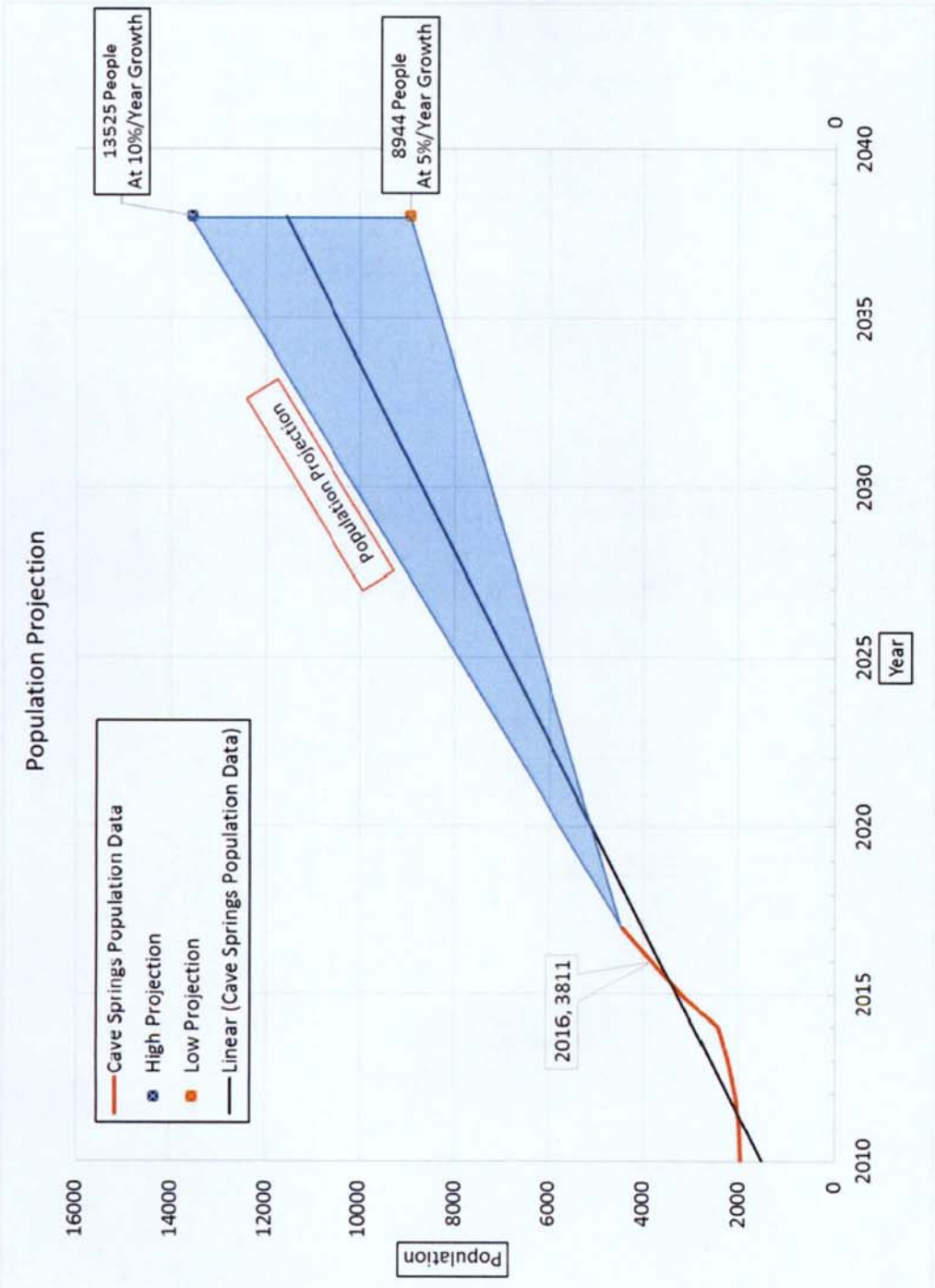


Figure 4 Population Projection



3.3 20-Year Wastewater Projections

The city has recently experienced an explosive boost in population growth and the number of active sewer connections is expected to increase with the population. Based on the current treatment system capacity, action must be taken as soon as possible to prevent throttling the growth of the city. If the system remains in its current state without improvements or taking a new direction to be further discussed in the Section 5.0 Alternatives, the city will have to slow development in 2020, potentially missing out on 8,440 additional residents. This estimation comes from a continued 10%/year growth in population and expanding city limits to allow further growth as discussed in Section 2.1 Location.

The 2038 projection for sewer connections was determined by taking a median of projected new residents and assuming that all of them attach to the sewer system. See Figure 6 for a graphical representation of the projected population growth and sewer connections.

By the city's projection for population in 2020 which matches our trends, the current treatment capacity will be reached in 2020. See Figure 5 for a graphical representation of the historical population and active sewer connections data. See Figure 6 for a depiction of where the trends cross the maximum capacity of the existing system and how it relates to population growth.

Table 8 20-Year Connection Projection

Historical Sewer Connections	
Year	Active Connections
2010	78
2011	98
2012	121
2013	183
2014	285
2015	420
2016	572
2017	730
2038	7000



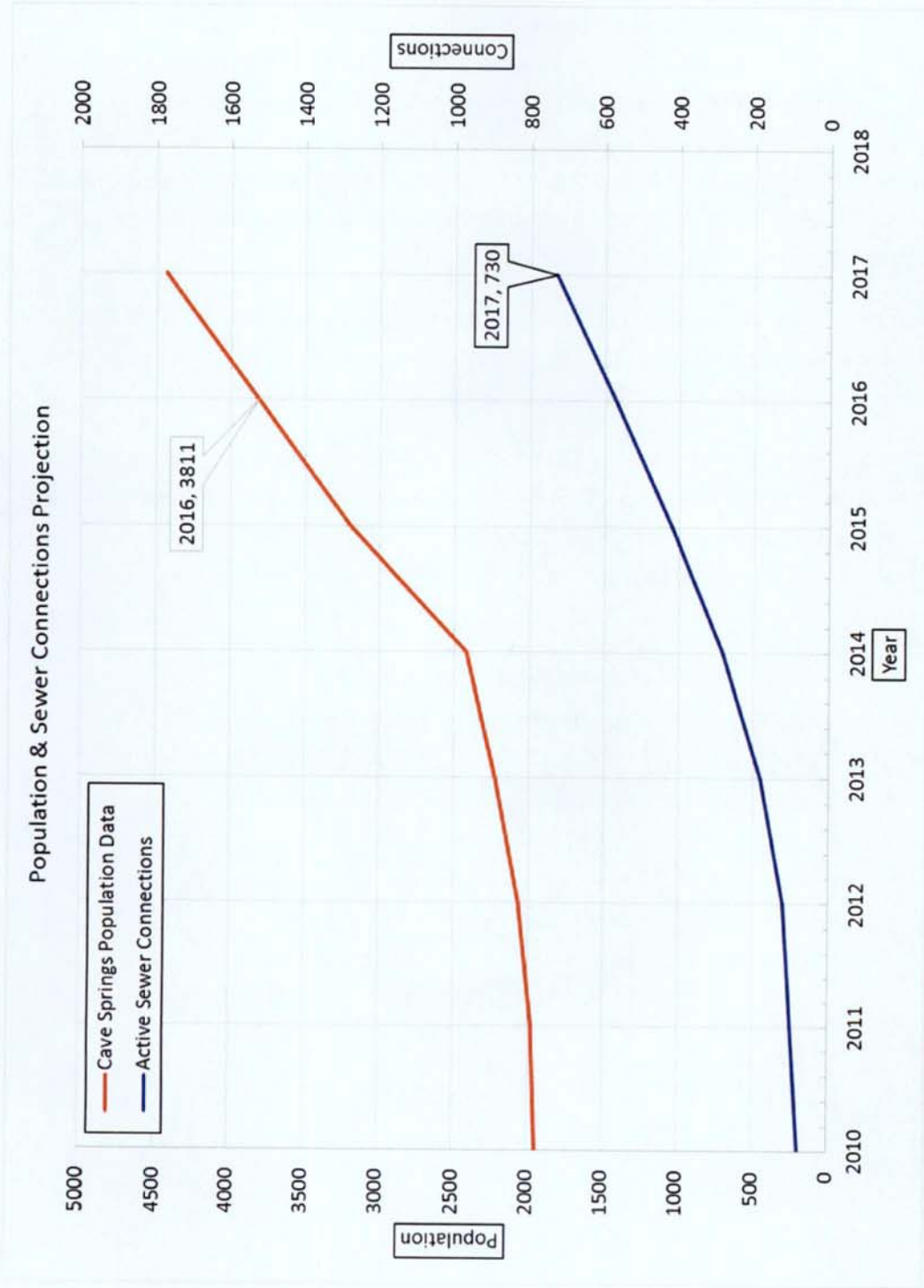


Figure 5 Historical Population and Sewer Connections



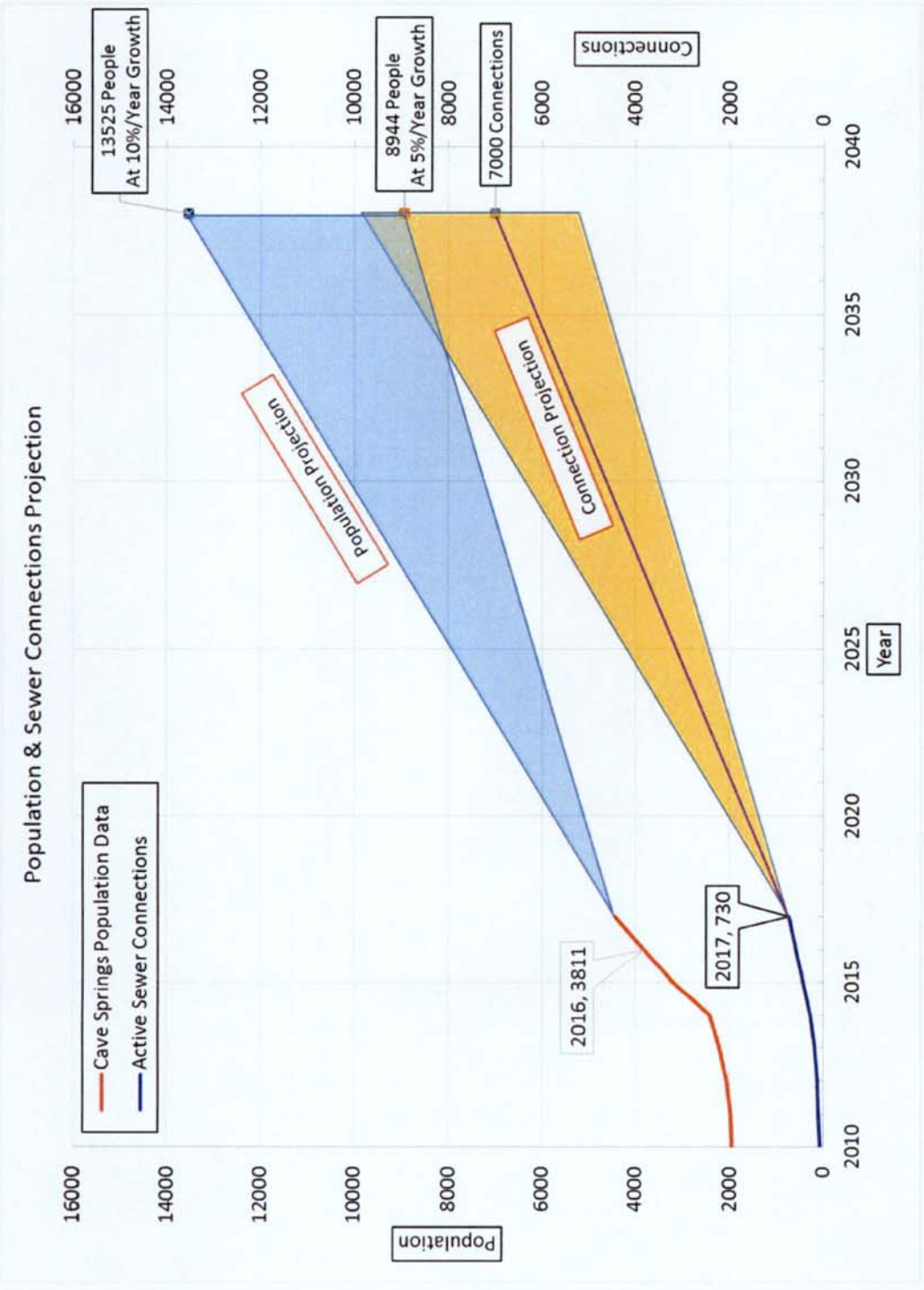


Figure 6 Population and Sewer Connection Projections



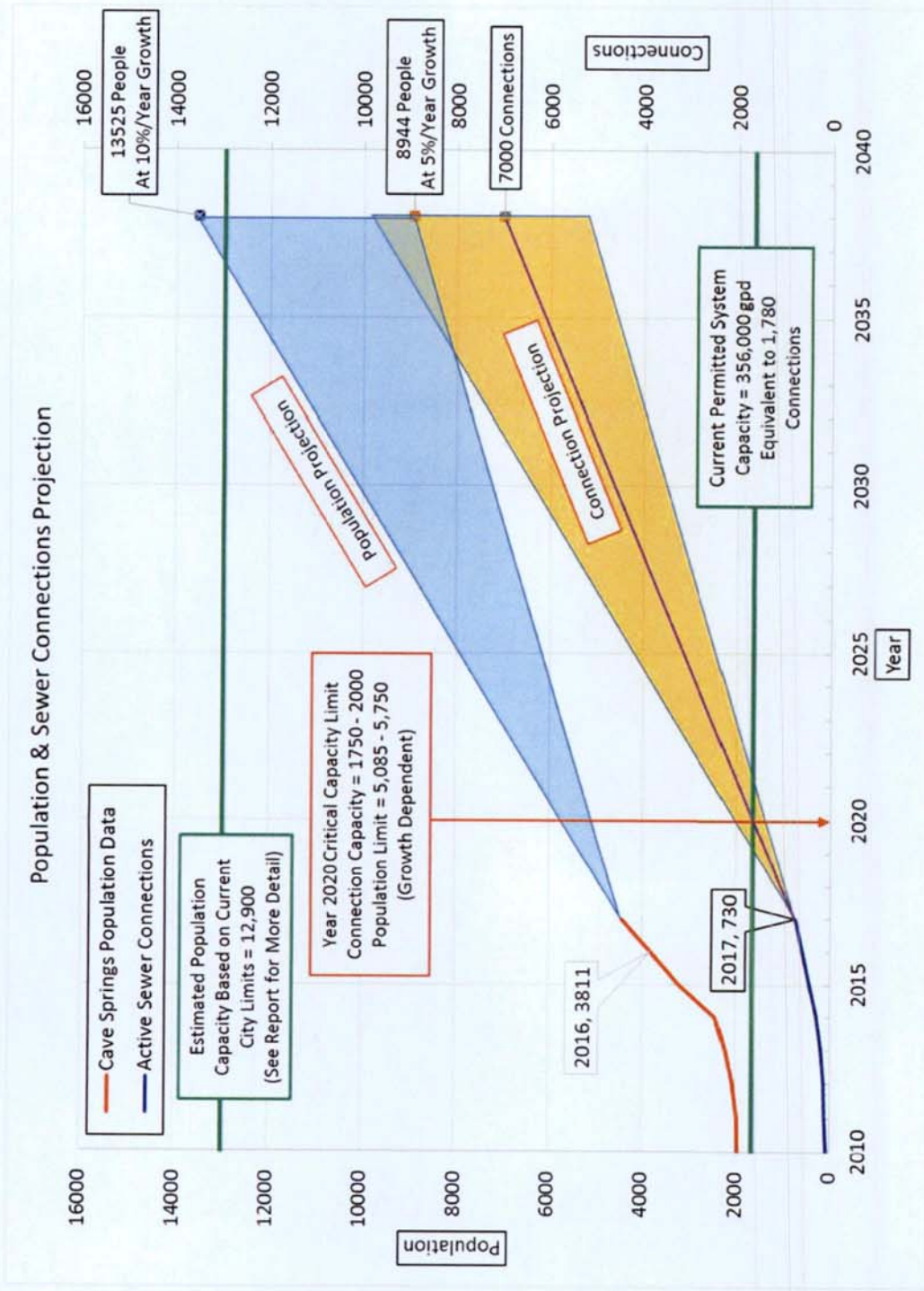


Figure 7 Projections and Limits Based on System Capacity



3.4 Design Effluent Limits

3.4.1 Alternative 1

Alternative 1 includes expansion/renovation of the Cave Springs wastewater treatment system. Maintaining treatment within the City could be accomplished by either adding new sub-surface drip disposal areas as needed, or converting to a point source surface discharge type facility.

For the purposes of evaluating options ADEQ was contacted to discuss possible conditions of a future point source surface discharge permit. Table 9 includes a summary of the proposed design effluent limits, monitoring frequency and reporting requirements provided by ADEQ. See Appendix 5 – Preliminary NPDES Discharge Limits for a copy of the full correspondence from ADEQ.

Table 9 Effluent Limits

Effluent Limits, Monitoring, and Reporting Requirements Discharge to Osage Creek		
Parameter	Monthly Average	7-Day Average
Carbonaceous Biochemical Oxygen Demand (CBOD5) (year-round)	20.0 mg/L	30.0 mg/L
Total Suspended Solids (TSS) (year-round)	20.0 mg/L	30.0 mg/L
Fecal Coliform Bacteria (FCB)		
(May-September)	200 col/100 mL	400 col/100 mL
(October-April)	1,000 col/100 mL	2,000 col/100 mL
pH (year-round)	6.0 - 9.0 s.u.	
Total Phosphorus (TP)	0.1 mg/L	0.15 mg/L
Ammonia-Nitrogen (NH ₃ -N)		
(May-October)	5.0 mg/L	7.5 mg/L
(November-April)	10.0 mg/L	15.0 mg/L
Dissolved Oxygen (DO)		
(May-October)	5.0 mg/L (Instantaneous Minimum)	
(November-April)	6.0 mg/L (Instantaneous Minimum)	
Total Residual Chlorine (TRC) (year-round)	0.011 mg/L (Inst. Max.)	

These proposed permit conditions can be met with an extensive expansion/renovation of the Cave Springs wastewater treatment system.



However, ADEQ notes that due to Cave Springs' location within a designated nutrient surplus area, no new surface discharge permits will be issued at this time. It is unclear if/when this will change. ADEQ has been contacted and will provide an update to this situation

Therefore, establishing new and expanded sub-surface disposal areas appears to be the only way that wastewater treatment disposal can be expanded within Cave Springs. For the purposes of this report it is assumed that new and expanded sub-surface disposal areas can be permitted with ADEQ and would include the same permit conditions currently in place.

3.4.2 Alternative 2 & 3

To establish conservative design proposals and life cycle costs, alternative 2 and 3 are assumed to no longer utilize the existing wastewater treatment plants the city currently operates. We will assume typical wastewater characteristics primarily composed of residential waste.

The city will have the option available to treat a portion of their sewer production with the existing WWTP's and subsurface disposal zones throughout the rest of its useful life.

4.0 Design Criteria

4.1 Population Density

The estimated population density of the developed area within city limits is 3.4 persons/acre. More detail on how this number was obtained can be found in in Section 2.1 Location. This population density was carried through the 20 year projections.

4.2 System Demand

The current system has a capacity of 356,463 gpd which we equated to approximately 1,780 active sewer connections. 20 year projections for growth yields an additional 5,220 connections that will need to be treated in a manner other than the existing treatment system. That number of connections equates to approximately 1.044 MGD.

4.3 Effluent Disposal

Alternative 1 will utilize expanded sub-surface disposal areas. Alternatives 2 and 3 will connect to existing infrastructure connecting to NACA or Springdale.

4.4 Soil Loading Rate

Loading rates are dependent on local soil characteristics. The typical units of a loading rate are gallon/square foot/day. The existing 31 drip zones have a range of loading rates from 0.2 –



0.8 g/sf/d. For the sake of predicting how much land the city will need to acquire in order to accommodate the anticipated loading, we will use a conservative average of these loading rates of 0.4 g/sf/d.

5.0 Alternatives

This section discusses the alternatives considered to bolster the growth of Cave Springs. One option increases the capacity and longevity of the City's existing sewer system. The additional alternatives will include disposal to the City of Springdale and disposal to NACA via one of Bentonville's sewage mains. Each alternative will allow additional treatment capacity to the City which will allow growth opportunities for the City.

The following alternatives were evaluated for this report:

- 1) Expand/Renovate Existing Treatment System
- 2) Pipe All Sewage to Springdale
- 3) Pipe All Sewage to NACA via Bentonville's Sewage Main

An in-depth analysis of each design alternative was performed and is detailed below.

5.1 Alternative 1

5.1.1 Expand/Renovate Existing Treatment System

For this alternative, land for a new effluent drainage zone and new treatment plant site would need to be acquired. As treatment capacities are triggered at the existing treatment plants, a new treatment plant would need to be constructed to handle the increased flow. Similarly, as volume limits are reached in the drip zones, new drip zones will need to be constructed. A phased approach would be the most economical approach for reaching full build-out of the new treatment plant and associated drip zones that coincides with population growth.

5.1.2 Land Requirements

The estimated land acquisition for treatment disposal sites is 60 acres. Regulating agencies will require an alternative site be set aside for each planned drip zone. Therefore, the land acquisition required to satisfy the disposal site requirements is 120 acres. An additional acre of land should be planned for a new treatment plant.



5.1.3 Map

The location of new drip zones will need to be localized due to the nature of how these systems operate. A proposed location is North of the existing drip zones and West of the creek. These drip zones must meet a 100-foot setback from any named tributary.

See Figure 8.





PROPOSED SEWAGE PUMP STATION
AND HOLDING TANK

5.1.4 Environmental Impacts

There will always be an impact on the environment when land is required to be graded or fill is to be transported. This alternative will require excavation and earthwork during the construction.

Limiting erosion and preventing particulate runoff is necessary to prevent environmental degradation during construction. Waste generated during construction will be cleaned up prior to completion of construction. Sodding and seeding of the land cover over disturbed areas will also be done prior to completion of construction. The project will not impact any floodplains or wetlands. There is a list of threatened or endangered species that may occur at the proposed project location. This list can be found in the Environmental Report. Additional maps and letters from various state departments can be found in the Environmental Report as well.

Required permits include;

- ADEQ Construction Stormwater Discharge Permit
- ADEQ Short Term Activity Authorization Permit
- USACOE 404 Permit
- ADH subsurface disposal permit/ADEQ NPDES Discharge Permit
- ADH wastewater treatment facility Permit

5.2 Alternative 2

5.2.1 Pipe All Sewage to Springdale

For this alternative land will be purchased for construction of additional collection, transmission and pumping facilities to convey all waste discharges into the City of Springdale sanitary sewer collection system. The City of Springdale will sell the City of Cave Springs an agreed upon set of criteria for this agreement including flow rate, nutrient concentrations, duration, etc.

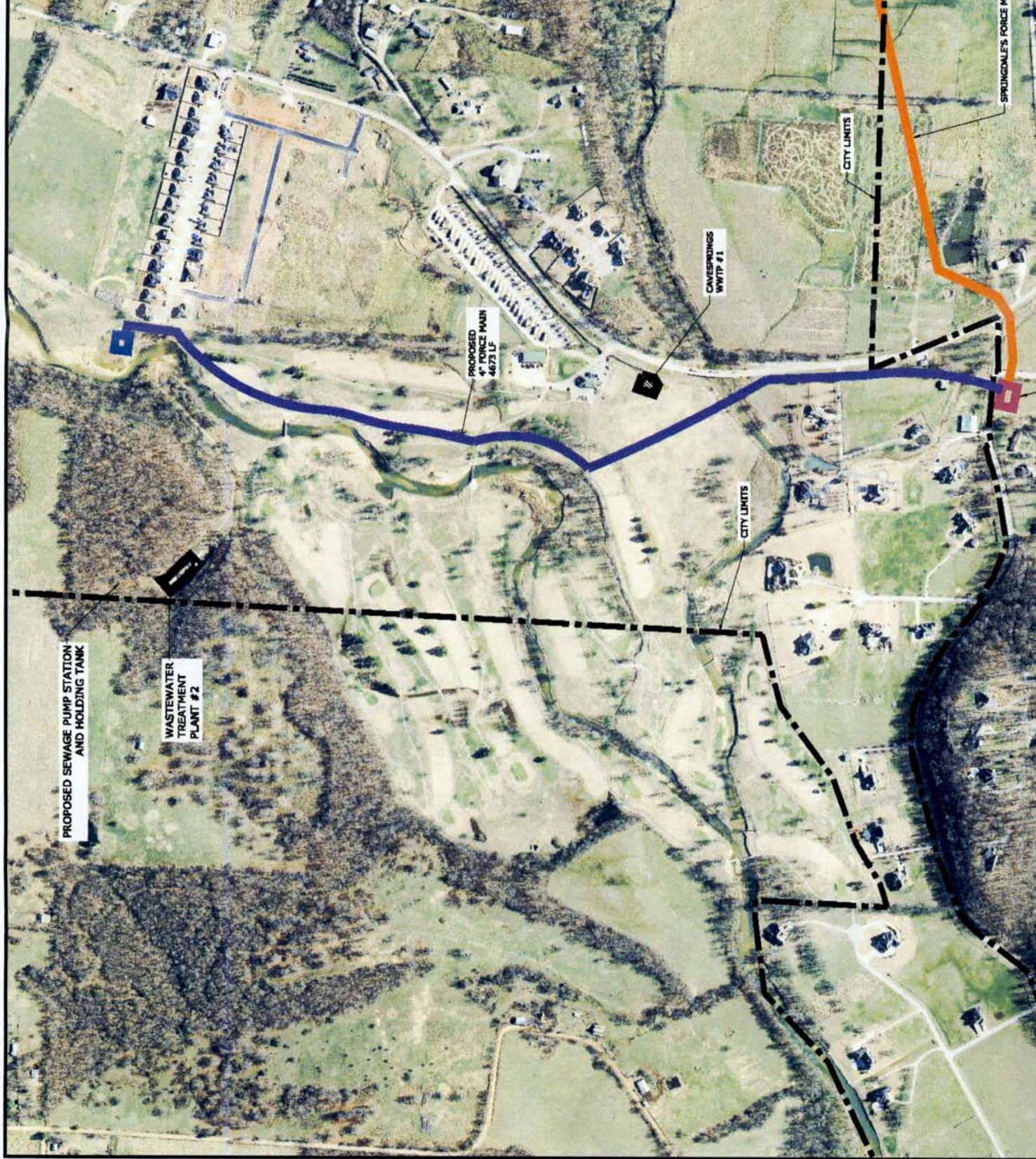
5.2.2 Land Requirements

Rights-of-way and easements for new collection, transmission and pumping facilities will be required.

5.2.3 Map

See Figure 9.





PROPOSED SEWAGE PUMP STATION AND HOLDING TANK

WASTEWATER TREATMENT PLANT #2

PROPOSED 4" FORCE MAIN 4673 LF

CAVESPRINGS WWTP #1

CITY LIMITS

CITY LIMITS

SPRINGDALE'S FORCE MAIN

5.2.4 Environmental Impacts

There will always be an impact on the environment when land is required to be graded or fill is to be transported. This alternative will require excavation and earthwork during the construction.

Limiting erosion and preventing particulate runoff is necessary to prevent environmental degradation during construction. Waste generated during construction will be cleaned up prior to completion of construction. Sodding and seeding of the land cover over disturbed areas will also be done prior to completion of construction. The project will not impact any floodplains or wetlands. There is a list of threatened or endangered species that may occur at the proposed project location. This list can be found in the Environmental Report. Additional maps and letters from various state departments can be found in the Environmental Report as well.

Required permits include;

- ADEQ Construction Stormwater Discharge Permit
- ADEQ Short Term Activity Authorization Permit
- USACOE 404 Permit

5.3 Alternative 3

5.3.1 Pipe All Sewage to NACA via Bentonville's Sewage Main

For this alternative land will be purchased for construction of additional collection, transmission and pumping facilities to convey all waste discharges into the City of Springdale sanitary sewer collection system. The City of Springdale will sell the City of Cave Springs an agreed upon set of criteria for this agreement including flow rate, nutrient concentrations, duration, etc.

5.3.2 Land Requirements

Rights-of-way and easements for new collection, transmission and pumping facilities will be required.

5.3.3 Map

See Figure 10.





5.3.4 Environmental Impacts

There will always be an impact on the environment when land is required to be graded or fill is to be transported. This alternative will require excavation and earthwork during the construction.

Limiting erosion and preventing particulate runoff is necessary to prevent environmental degradation during construction. Waste generated during construction will be cleaned up prior to completion of construction. Sodding and seeding of the land cover over disturbed areas will also be done prior to completion of construction. The project will not impact any floodplains or wetlands. There is a list of threatened or endangered species that may occur at the proposed project location. This list can be found in the Environmental Report. Additional maps and letters from various state departments can be found in the Environmental Report as well.

Required permits include;

- ADEQ Construction Stormwater Discharge Permit
- ADEQ Short Term Activity Authorization Permit
- USACOE 404 Permit

6.0 Cost Effective Analysis

Each alternative is broken out into construction costs, project costs, and annual O&M costs. A present worth analysis has been performed for a 20-year planning period detailed in Section 6.4 Present Worth Analysis with the following assumptions: inflation rate of 2.2%, real discount rate of 4%, and a bond rate of 4.5%.

6.1 Alternative 1 – Expand Existing Treatment System

Table 10, Table 11, and Table 12 present the capital costs, project costs, and annual O&M costs respectively associated with this alternative.



Table 10 Construction Costs

TOTAL ESTIMATED CONSTRUCTION COST				
Item	Unit	Estimated Unit Cost	Estimated Quantity	Total Cost
AeroMod Package Treatment Plant	LS	\$1,250,000.00	1	\$1,250,000.00
Pump Station	LS	\$1,250,000.00	1	\$1,250,000.00
Sewer Lines	LS	\$150,000.00	1	\$150,000.00
Drip Zones	Sq. Ft	\$1.00	2,610,000	\$2,610,000.00
<i>Total Estimated Construction Cost</i>				<i>\$5,260,000.00</i>

Table 11 Project Costs

TOTAL PROBABLE PROJECT COST	
Description	Estimated Cost
Total Estimated Construction Cost	\$5,260,000.00
Land Acquisition (120 acre x \$15,000/acre)	\$1,800,000.00
Construction Contingencies, 20%	\$1,052,000.00
Design Engineering, 8%	\$420,800.00
Construction Observation, 5%	\$263,000.00
Topographic Surveys, Boundary Surveys, and Easement Prep	\$25,000.00
Environmental Report / PER	\$25,000.00
Geotechnical Report	\$25,000.00
Interim Financing	\$15,000.00
Administrative/Legal, 1%	\$52,600.00
<i>Total Estimated Non-Construction Cost</i>	
<i>\$3,678,400.00</i>	
TOTAL PROBABLE PROJECT COST	\$8,938,400.00



Table 12 Annual O&M Costs

ANNUAL O&M COSTS	
Description	Estimated Cost
Plant O&M Costs	\$200,000.00
Insurance, Materials and Chemicals Costs	\$120,000.00
Laboratory Testing Costs	\$30,000.00
Gravity Sewer Maintenance Costs	\$25,000.00
O&M Costs Lift Station	\$20,000.00
Plant Operator Labor/Benefits/Training	\$180,000.00
TOTAL O&M COST	\$575,000.00

6.2 Alternative 2 – Pipe all Sewage to Springdale

Table 13, Table 14, and Table 15 present the capital costs, project costs, and annual O&M costs respectively associated with this alternative.

MCE has coordinated with the city of Springdale to determine the costs associated with taking on the wastewater from Cave Springs. The final costs will be a rate structure that is dependent on the utilization of the Spring Creek lift station and Benton Farm lift station’s capacities respectively. Our 20-year wastewater projections were applied to the capacity of each lift station to determine Cave Springs’ utilization and the costs for each year were worked into the present worth analysis presented in Section 6.4 Present Worth Analysis.



Table 13 Construction Costs

TOTAL ESTIMATED CONSTRUCTION COST				
Item	Unit	Estimated Unit Cost	Estimated Quantity	Total Cost
Clear and Grub	LS	\$15,000.00	1	\$15,000.00
Excavation and Backfill 4' trench, 6' deep	LF	\$25.00	2,850	\$71,250.00
Excavation and Backfill 6' trench, 10' deep	LF	\$52.00	1,188	\$61,750.00
Excavation and Backfill 6' trench, 15' deep	LF	\$80.00	713	\$57,000.00
16" Bore Casing Assume 50' per creek crossing	LF	\$500.00	50	\$25,000.00
Rock Excavation (Assume 1% of excavation)	CY	\$100.00	377	\$37,736.11
Select Fill	LF	\$8.00	340	\$2,717.00
Pump Station	LS	\$1,250,000.00	1	\$1,250,000.00
Electrical Service	EA	\$20,000.00	1	\$20,000.00
8" Force Main Line	LF	\$60.00	4,750	\$285,000.00
Driveway Repair Asphalt (25 SY per DW)	SY	\$17.00	200	\$3,400.00
Driveway Repair Concrete (25 SY per DW)	SY	\$20.00	100	\$2,000.00
Pasture Seeding	AC	\$3,000.00	1	\$3,357.44
Yard Sod (500 SY per yard)	SY	\$4.00	2,500	\$10,000.00
Manholes	EA	\$2,500.00	20	\$50,000.00
Traffic Control	LS	\$15,000.00	1	\$15,000.00
Erosion Control	LS	\$4,750.00	1	\$4,750.00
Trench Safety	EA	\$25,000.00	1	\$25,000.00
Mobilization & Insurance	10%	\$127,618.82	1	\$60,118.82
Total Estimated Construction Cost:				\$1,996,679.57



Table 14 Project Costs

TOTAL PROBABLE PROJECT COST	
Description	Estimated Cost
Total Estimated Construction Cost	\$2,079,079.37
Land Acquisition	\$76,331.50
Treatment and Conveyance Fee Buy-in	\$2,287,237.83
Construction Contingencies, 20%	\$399,335.87
Design Engineering, 8%	\$99,833.97
Construction Observation, 5%	\$10,363.64
Topographic Surveys, Boundary Surveys, and Easement Prep	\$10,363.64
Environmental Report / PER	\$25,000.00
Geotechnical Report	\$10,000.00
Interim Financing	\$15,000.00
Administrative/Legal, 1%	\$19,966.79
Total Estimated Non-Construction Cost	\$3,102,802.95
TOTAL PROBABLE PROJECT COST	\$5,099,000.00

Table 15 Annual O&M Costs

ANNUAL O&M COSTS	
Description	Estimated Cost
Insurance, Materials and Chemicals Costs	\$10,000.00
Laboratory Testing Costs	\$10,000.00
Gravity Sewer Maintenance Costs	\$6,000.00
O&M Costs Lift Station	\$7,500.00
Springdale Service Fee ¹	\$100,000.00
Conveyance Fee	\$10,000.00
3 rd Party O&M Staff	\$12,000.00
TOTAL O&M COST	\$155,500.00
¹ Service Fee presented for year 2018. The value escalates proportionally to system demand and population growth.	



6.3 Alternative 3 – Pipe all Sewage to NACA via Bentonville's Sewage Main

Table 16, Table 17, and Table 18 present the capital costs, project costs, and annual O&M costs respectively associated with this alternative.

NACA will negotiate with the city of Cave Springs for an initial treatment and conveyance buy-in fee and sewer treatment rates based on flow and waste strength. Preliminary estimates for the buy-in fee and treatment rates have been inferred from the contract recently completed between the city of Elm Springs and NACA. See Appendix 4 – Elm Springs Service Contract for the complete contract.



Table 16 Construction Costs

TOTAL ESTIMATED CONSTRUCTION COST				
Item	Unit	Estimated Unit Cost	Estimated Quantity	Total Cost
Clear and Grub	LS	\$15,000.00	1	\$15,000.00
18" PVC Sanitary Sewer Pipe	LF	\$90.00	7,200	\$648,000.00
Excavation and Backfill 4' trench, 6' deep	LF	\$25.00	10,920	\$273,000.00
Excavation and Backfill 6' trench, 10' deep	LF	\$52.00	4,550	\$236,600.00
Excavation and Backfill 6' trench, 15' deep	LF	\$80.00	2,730	\$218,400.00
16" Bore Casing Assume 50' per creek crossing	LF	\$500.00	50	\$25,000.00
Rock Excavation (Assume 1% of excavation)	CY	\$100.00	1,446	\$144,588.89
Select Fill	LF	\$8.00	1,301	\$10,410.40
Pump Station	LS	\$1,250,000.00	1	\$1,250,000.00
Electrical Service	EA	\$20,000.00	1	\$20,000.00
8" Force Main Line	LF	\$60.00	11,000	\$660,000.00
Driveway Repair Asphalt (25 SY per DW)	SY	\$17.00	200	\$3,400.00
Driveway Repair Concrete (25 SY per DW)	SY	\$20.00	100	\$2,000.00
Pasture Seeding	AC	\$3,000.00	6	\$17,252.07
Yard Sod (500 SY per yard)	SY	\$4.00	2,500	\$10,000.00
Convert tank to MH at Rogers	LS	\$5,000.00	1	\$5,000.00
Manholes	EA	\$2,500.00	50	\$125,000.00
Traffic Control	LS	\$15,000.00	1	\$15,000.00
Erosion Control	LS	\$18,200.00	1	\$18,200.00
Trench Safety	EA	\$25,000.00	1	\$25,000.00
Mobilization & Insurance	10%	\$178,705.54	1	\$111,205.54
Total Estimated Construction Cost				\$3,833,056.90



Table 17 Project Costs

TOTAL PROBABLE PROJECT COST	
Description	Estimated Cost
Total Estimated Construction Cost	\$3,833,056.90
Land Acquisition	\$292,470.16
Treatment and Conveyance Fee Buy-in	\$150,000.00
Construction Contingencies, 20%	\$766,611.38
Design Engineering, 8%	\$306,644.55
Construction Observation, 5%	\$191,652.84
Topographic Surveys, Boundary Surveys, and Easement Prep	\$39,709.09
Environmental Report / PER	\$25,000.00
Geotechnical Report	\$25,000.00
Interim Financing	\$15,000.00
Administrative/Legal, 1%	\$38,330.57
Total Estimated Non-Construction Cost	\$1,850,418.59
TOTAL PROBABLE PROJECT COST	\$5,683,500.00

Table 18 Annual O&M Costs

ANNUAL O&M COSTS	
Description	Estimated Cost
Insurance, Materials and Chemicals Costs	\$10,000.00
Laboratory Testing Costs	\$10,000.00
Gravity Sewer Maintenance Costs	\$6,000.00
O&M Costs Lift Station	\$7,500.00
NACA Service Fees ¹	\$60,000.00
Bentonville Conveyance Fee	\$10,000.00
3 rd Party O&M Staff	\$12,000.00
TOTAL O&M COST	\$115,500.00
¹ Service Fee presented for year 2018. The value escalates proportionally to system demand and population growth.	



6.4 Present Worth Analysis

The following assumptions apply to the 20-year present worth analysis: inflation rate of 2.2%, real discount rate of 4%, and a bond rate of 4.5%. The data for each alternative is presented in Table 19.

Table 19 Present Worth Analysis

Present Worth Analysis	
Description	20-Year Present Worth
Alternative 1 - Expand	
Capital Costs	\$8,938,000.00
Annual O&M Costs	\$575,000.00
Alternative 1 20-Year Present Worth	\$16,528,000.00
Alternative 2 - Springdale	
Capital Costs	\$5,099,000.00
Annual O&M Costs	\$155,500.00
Alternative 2 20-Year Present Worth	\$6,912,000.00
Alternative 3 - NACA	
Capital Costs	\$5,683,000.00
Annual O&M Costs	\$115,500.00
Alternative 3 20-Year Present Worth	\$6,860,000.00

Based on a 20-year planning horizon and the expected population growth presented in Section 3.0 Future Conditions, alternative 2 – piping all sewage to Springdale is the most cost effective solution.

6.5 Pros and Cons

One of the challenges associated with alternative 1 – expanding the current treatment system is the large land area required for subsurface disposal. There has been an ongoing study of the Illinois River that, when completed, would allow Cave Springs to apply for a direct discharge permit. However, the prediction is for very strict phosphorous discharge limits which would require a more expensive treatment plant to meet those limits. We assume the cost of land and drip zones required for this alternative is approximately equal to the increase in cost for a treatment plant to reach the lower phosphorous limits. Either way, the 20-year present worth of alternative 1 exceeds alternative 3 by a large margin.



Advantages of alternative 1: The city would have ultimate control of their own facilities. The challenge with alternative 2 – piping all sewage to Springdale is that Cave Springs would essentially be double paying to convey their wastewater to its final destination. Fees will be paid through the Spring Creek Lift Station as well as the Benton Farm Lift Station. In addition, there is a good chance that the final destination; though, for now would be Springdale, ultimately will be NACA as the goal for the NACA project is to regionalize Northwest Arkansas' wastewater treatment.

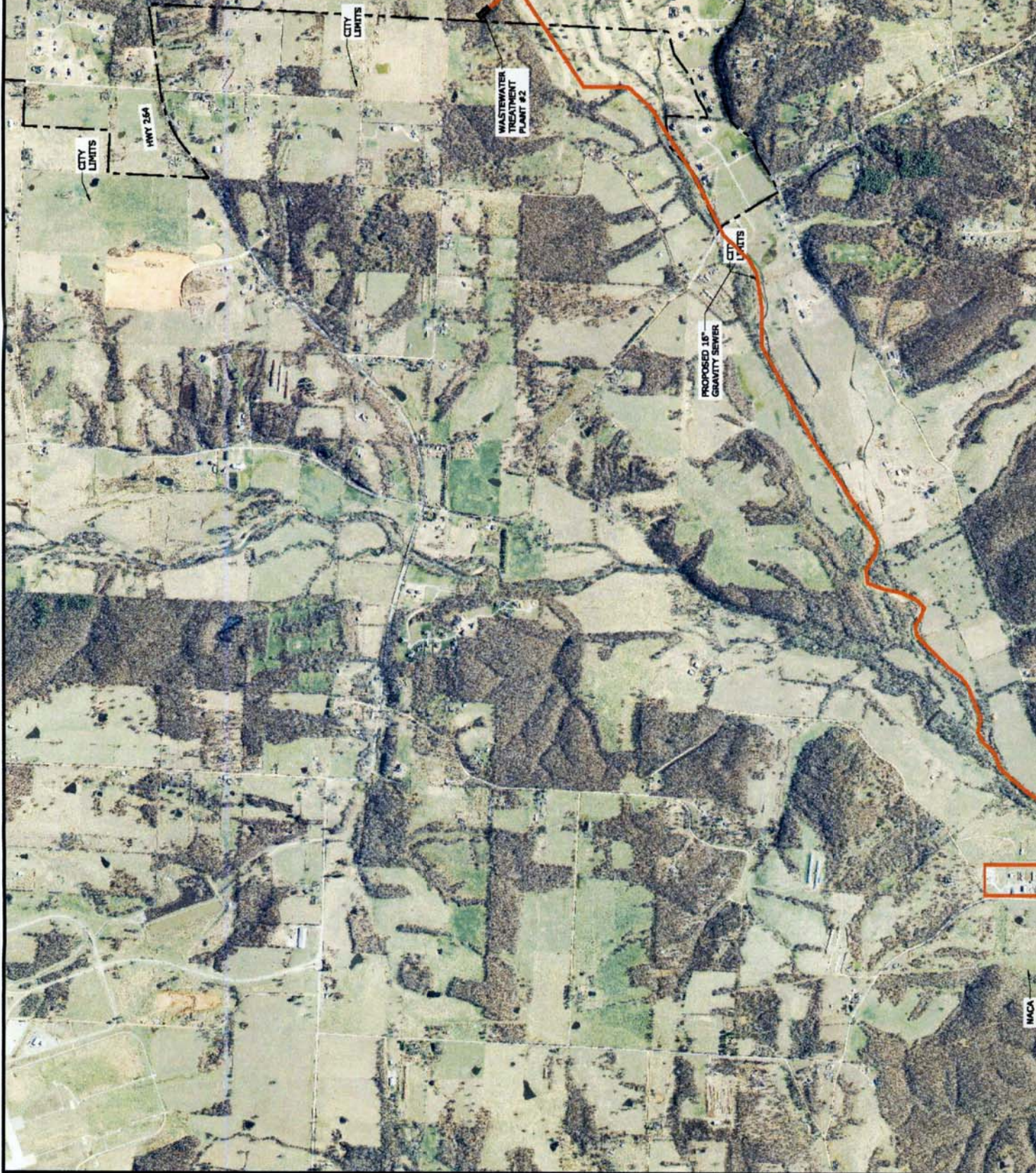
Potentially the largest disadvantage of alternative 2 is that the conveyance line from Cave Springs to Springdale will have to be a force main. This means that adding additional connections would be cost prohibitive due to the nature of tapping a force main and required lift stations thereof. If the city plans on continued growth, we anticipate some of this growth to the West; therefore, alternative 2 risks missing out on capturing revenue as the city expands. There will be additional costs associated with lift stations to get flow back to the city's main collection system.

Advantages of alternative 2: It is the shortest routing; therefore, the cheapest capital cost alternative from a short term perspective. The city would no longer have to maintain a treatment plant or disposal drip zones.

Alternative 3 reduces the payees to Bentonville and NACA by utilizing the final leg of Bentonville's gravity sewer line to NACA. A direct gravity line to NACA was investigated for its feasibility. The line would have to follow the creek, but this option would not allow as many potential connections for the expansion westward. See Figure 11 for the proposed gravity line we evaluated. The alignment we have proposed in alternative 3 was chosen to include the connection opportunity for as many potential residents as the city of Cave Springs expands its city limits.

Advantages of alternative 3: Lowest annual O&M costs for any alternative. Allows for potential connections to the collection system as the city expands westward. The city would no longer have to maintain a treatment plant or disposal drip zones.





7.0 Selected Alternative

7.1 General

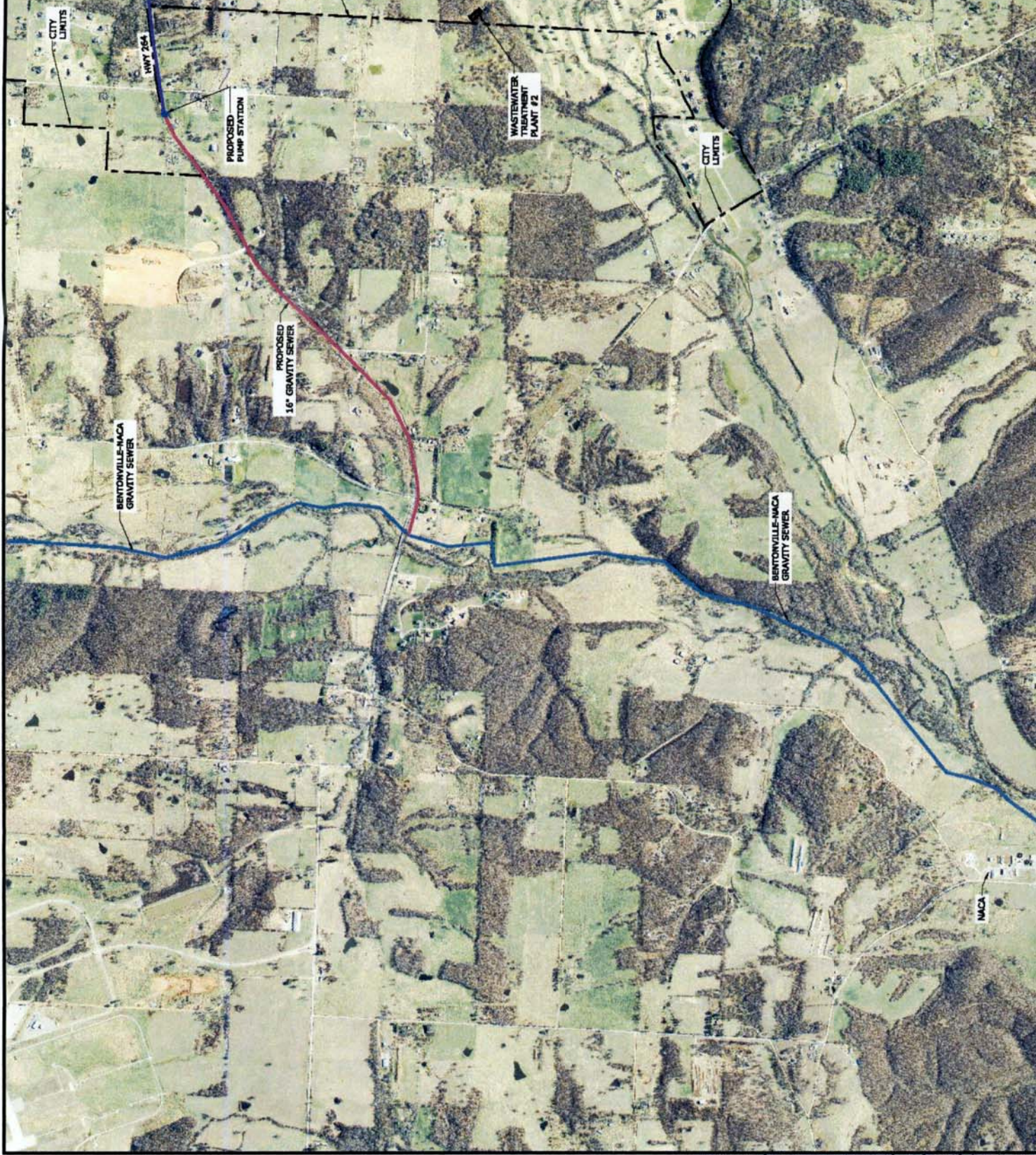
Alternative 3 – Pipe All Sewage to NACA via Bentonville’s Sewage Main has been selected because it presents the most cost effective solution for the treatment and disposal of Cave Springs’ wastewater. Alternative 3 was chosen to include the connection opportunity for as many potential residents as the city of Cave Springs expands its city limits. In addition, alternative 3 falls in line with the overall regionalization of wastewater treatment for the Northwest Arkansas region.

For this alternative land will be purchased for construction of additional collection, transmission and pumping facilities to convey all waste discharges into the City of Bentonville’s gravity sanitary sewer main to NACA. NACA and the City of Bentonville will sell the City of Cave Springs an agreed upon set of criteria for this agreement including flow rate, nutrient concentrations, duration, etc.

7.2 Detailed Map

See Figure 12.





W:\AC PER. Case Study - Arkansas Drawings\Sheet\ALTERNATIVE EXHIBITS.dwg 12/7/18 10:10 am

7.3 Land Requirements

Rights-of-way and easements for new collection, transmission and pumping facilities will be required. Estimated acquisition costs have been budgeted at \$35,000/acre. The total land projected for the proposed alignment was calculated utilizing a permanent 20-foot easement. An additional 10-foot temporary easement may be required in some areas for equipment access.

7.4 O&M Staff Requirements

The city of Cave Springs will have difficulty supporting a highly licensed operator to maintain and service a wastewater treatment plant; however, for the selected alternative, the city will only need to service the lift stations and conveyance infrastructure. We have assumed that the city will contract out required services for their proposed system to a 3rd party entity. We have budgeted a proposed \$12,000/year for these services.

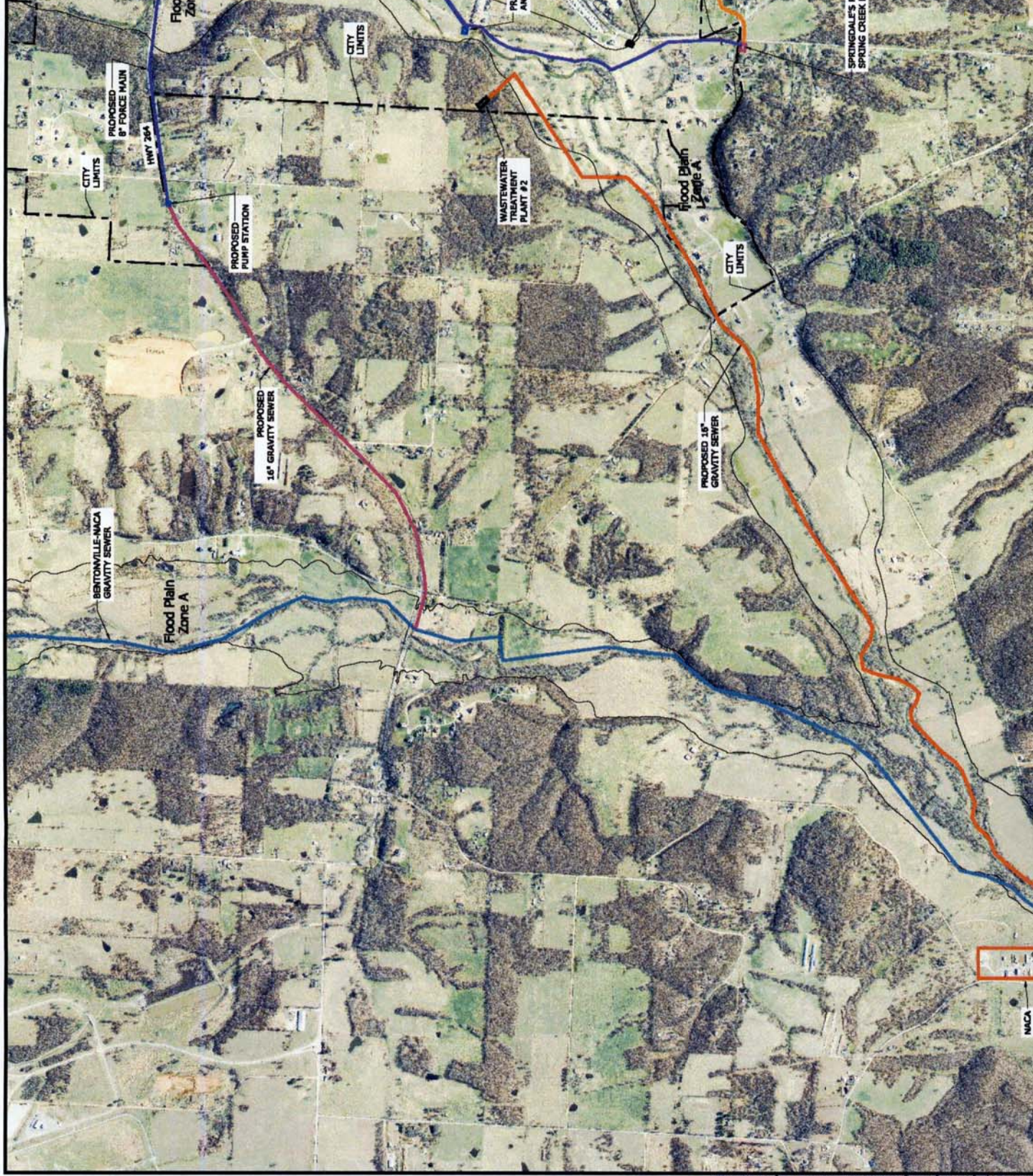
7.5 Wetlands and/or Navigable Streams

The selected alternative will require a USACOE 404 permit.

7.6 Additional Site Data

See Figure 13 for an overlay of the 100-year floodplain and each alternative proposed. There is a list of threatened or endangered species that may occur at the proposed project location. This list can be found in the Environmental Report. Additional maps and letters from various state departments can be found in the Environmental Report as well.





PER: C:\proj\Springdale\Drawings\Sheet\TERNATIVE EXHIBITS.dwg 12/7/18 @ 11:02am

7.7 Possible Construction Obstacles

There will be creek crossings associated with this project. Sewer line to be bored and encased. Installing sewer lines under city and residential roads will lead to complications involving traffic flow. Direct bury crossings may be conducted at intersections of less traveled roadways. Some areas offering restricted access may require additional temporary access easements. Upon further progression of this project, access issues will be identified and solutions offered.

7.8 OM&R Budget

Annual O&M costs associated with alternative 3 are detailed in Table 20 below. The city has provided MCE with a draft 2017 audit which identifies current sewer revenue of \$730,647 with sewer expenses for the year of \$584,772. More specifically, the sewer maintenance fees equate to \$117,675. See Appendix 2 – Cave Springs Financial Statements for 2015-2017 audits.

Table 20 Annual O&M Costs

ANNUAL O&M COSTS	
Description	Estimated Cost
Insurance, Materials and Chemicals Costs	\$10,000.00
Laboratory Testing Costs	\$10,000.00
Gravity Sewer Maintenance Costs	\$6,000.00
O&M Costs Lift Station	\$7,500.00
NACA Service Fees ¹	\$60,000.00
Bentonville Conveyance Fee	\$10,000.00
3 rd Party O&M Staff	\$12,000.00
TOTAL O&M COST	\$115,500.00
¹ Service Fee presented for year 2018. The value escalates proportionally to system demand and population growth.	

7.9 Capital Financing Plan

An itemized budget listing all project costs is listed in Table 21.

The total loan amount to cover the total probable project costs for alternative 3 is \$5,683,475. Monthly debt service requirements equate to \$23,681.15/month based on a 20 year loan



repayment. It is assumed that debt service will be paid by a combination of user charges and sales taxes.

Table 21 Project Costs

TOTAL PROBABLE PROJECT COST	
Description	Estimated Cost
Total Estimated Construction Cost	
	\$3,833,056.90
Land Acquisition	\$292,470.16
Treatment and Conveyance Fee Buy-in	\$150,000.00
Construction Contingencies, 20%	\$766,611.38
Design Engineering, 8%	\$306,644.55
Construction Observation, 5%	\$191,652.84
Topographic Surveys, Boundary Surveys, and Easement Prep	\$39,709.09
Environmental Report / PER	\$25,000.00
Geotechnical Report	\$25,000.00
Interim Financing	\$15,000.00
Administrative/Legal, 1%	\$38,330.57
Total Estimated Non-Construction Cost	
	\$1,850,418.59
TOTAL PROBABLE PROJECT COST	
	\$5,683,500.00

7.10 Water and Sewer Rate Information

The minimum water bill for Cave Springs is \$19.80 for residential users with a flat rate per 1,000 gallons of \$7.80. The detailed breakdown of the water rate schedule can be found in Table 22. The bill for 4000 gallons of water use per a residential user would equate to \$51.00.

In the year 2016 where a special census indicated 3,811 residents, the city's water usage reports indicated billing 1,633 residential, 9 public government, 19 commercial, and 1 builder. The 2016 audit indicated a water revenue of \$711,407.00 with 1,662 customers; therefore, the average water bill in 2016 was \$35.67/month. The 2016 audit indicated a sewer revenue of \$497,291 with an estimated 600 customers which equates to an average sewer bill of \$69.09. Pending negotiations between NACA and Cave Springs, as well as how Cave Springs intends to distribute debt repayment to its customers, the discounted average annualized costs (Present value of total costs divided by number of years of analysis) of alternative 3 is \$343,009.00 which equates to an average sewer bill increase of \$25 to \$35 per month per active user less



annual costs associated with O&M of the current wastewater treatment plants and disposal fields.

Table 22 Existing Water Rate Schedule for Cave Springs

Existing Rates	
Description	Cost
Residential Use	
Base Amount	\$19.80
Flat Rate (per 1,000 gallons)	\$7.80
Commercial Use	
Base Amount	\$21.58
Flat Rate (per 1,000 gallons)	\$8.58
Outside City Limits Use	
Base Amount	\$23.36
Flat Rate (per 1,000 gallons)	\$12.36

7.11 Implementation Schedule

Applicants for government grants and loans in Arkansas must comply with the requirements of the Arkansas Water and Wastewater Advisory Committee (WWAC). Early in the project, the city enters into a Memorandum of Agreement (MOA) which sets out the project schedule. The deadlines are incorporated in the MOA, and these deadlines are typically determined by the Owner and Engineer. From the time a decision is made, the whole process can take about 6 months to go through WWAC's approval process, before getting advertised for construction. Table 23 gives a tentative project timeline, from initiation of design through operation of the new plant.



Table 23 Tentative Project Schedule

Implementation Schedule	
Item	Time
Design Documents	6 months after Project Funding
Permit Applications	Concurrent with Design Documents
Advertising for Bids	1 month after Design Documents
Loan Closing	3 months after Advertising
Contract Award	Concurrent with Loan Closing
Initiation of Construction	1 month after Loan Closing
Substantial Completion	12 months after Initiation of Construction
Final Completion	2 months after Substantial Completion
Initiation of Operation	At Substantial Completion

7.12 Preliminary Design Criteria

7.12.1 Flow and Strength

Ten-State Standards recommends using a flow per capita of 100 GPD for sewer production. Typical wastewater strength characteristics of residential discharge were assumed for alternative 3 due to a contribution from residential users exceeding 90% of the current wastewater production. A production of 0.1 MGD max month, and a 0.35 MGD instantaneous peak were used to size applicable pumps, wet wells, gravity, and force main pipe sizing.

7.12.2 Population Density

The estimated population density of the developed area within city limits is 3.4 persons/acre. More detail on how this number was obtained can be found in in Section 2.1 Location. This population density was carried through the 20 year projections.

7.12.3 System Demand

The current system has a capacity of 356,463 gpd which we equated to approximately 1,780 active sewer connections. 20 year projections for growth yields an additional 5,220 connections that will need to be treated in a manner other than the existing treatment system. That number of connections equates to approximately 1.044 MGD.



8.0 Conclusion and Recommendations

In November 2016 Mayor Travis Lee released census figures from a special population census indicating that the city's population had more than doubled in about six years jumping from 1,729 to 3,811. The report released by the city went on to say that the population will exceed 5,000 persons by 2020.

The city of Cave Springs currently encompasses approximately 5,000 acres of total area. We estimate that there is an additional 2,240 acres of land to potentially acquire splitting the area between Highfill and Cave Springs. The total population capacity continuing with current population densities yields available space for a total of 14,296 persons.

The capital costs and required land for disposal zones associated with alternative 1 make it the least desirable option. The yearly sewer fees for alternative 2 make it prohibitively expensive compared to alternative 3.

We recommend selecting alternative 3 – Pipe all Sewage to NACA via Bentonville's Sewage Main. The proposed alignment of gravity and force main has been identified to allow the most potential for future growth to attach to the collection system with minimal investments in supporting lift stations. In addition, alternative 3 falls in line with the overall regionalization of wastewater treatment for the Northwest Arkansas region.



9.0 Appendix 1 – Cave Springs Current No Discharge Permit

9.1 Permit No. 4893-WR-3



ADEQ

ARKANSAS
Department of Environmental Quality

CERTIFIED MAIL RETURN RECEIPT REQUESTED: (9489 0090 0027 6060 6343 59)

Honorable Travis Lee
Mayor, City of Cave Springs
P.O. Box 5
Cave Springs, AR 72718

RE: AFIN: 04-01642; Permit No.: 4893-WR-3

Dear Mayor Lee:

This letter constitutes notice of the Department's final no-discharge permit decision and a copy of the final permit is enclosed.

All persons submitting written comments during the thirty (30) day public comment period, and all other persons entitled to do so, may request an adjudicatory hearing and Commission review on whether the decision of the Director should be reversed or modified. Such a request shall be in the form and manner required by Regulation 8.603, including filing a written Request for Hearing with the APC&E Commission Secretary at 101 E. Capitol Ave., Suite 205, Little Rock, Arkansas 72201 within thirty (30) calendar days of the date of issuance of this final permit decision as provided in Reg. 8.211(B)(1). If you have any questions about filing the request, please call the Commission at 501-682-7890.

I, Amy Deardoff, hereby certify that a copy of this permit has been mailed by first class mail to Mayor Travis Lee, P.O. Box 5, Cave Springs, AR 72718.



Amy Deardoff
Administrative Specialist, Office of Water Quality

November 28, 2018

Date Mailed

cc: Barret Knutson
McClelland Consulting Engineers, Inc.
1810 N. College Ave.
Fayetteville, AR 72702
bknutson@mce.us.com

Permit No. 4893-WR-3
AFIN 04-01642

**AUTHORIZATION FOR A NO-DISCHARGE WATER PERMIT UNDER THE
ARKANSAS WATER AND AIR POLLUTION CONTROL ACT**

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.) and Arkansas Pollution Control and Ecology Commission (APC&EC) and Regulation No. 17 Arkansas Underground Injection Control (UIC) Code.

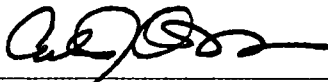
City of Cave Springs - Cave Springs Wastewater Treatment Plant

is authorized to operate the decentralized wastewater treatment system with drip irrigation dispersal of the treated wastewater from the facility located at 134 N. Main St. Cave Springs, AR 72718 in Benton County.

Operation shall be in accordance with all conditions set forth in this permit.

Effective Date: December 1, 2018

Expiration Date: November 30, 2023



Caleb J. Osborne
Associate Director, Office of Water Quality
Arkansas Department of Environmental Quality

11.27.18

Issue Date

PART I
Permit Requirements

LIMITATIONS AND MONITORING REQUIREMENTS:

The following tables detail the constituent limits, monitoring frequencies and the requirements for reporting results to ADEQ for each respective parameter listed in the table heading.

Table I: Effluent Limits, Monitoring, and Reporting Requirements			
Parameter	Limit	Units	Monitoring
Carbonaceous Biochemical Oxygen Demand (CBOD5)	30	mg/l	Grab sample once per month ^A
Total Suspended Solids (TSS)	45	mg/l	
Fecal Coliform Bacteria (FCB)	10,000	colonies/100ml	
pH	6.0 – 9.0	s.u.	
Total Phosphorus (TP)	Report	mg/l	
Total Kjeldahl Nitrogen (TKN)	Report	mg/l	Grab sample once per quarter ^A
Ammonia Nitrogen (NH ₃ -N)	Report	mg/l	
Nitrate Nitrogen (NO ₃ -N) + Nitrite Nitrogen (NO ₂ -N)	Report	mg/l	
Plant Available Nitrogen (PAN) ^B	Report	mg/l	

^A Refer to Condition No. 18 of Part II of the permit.

^B Refer to Condition No. 7 of Part II of the permit.

Table II					
Drip Zones Loading Rate Limits, Monitoring, and Report Requirements					
Zone Identification	Loading Rate Limit ^A	Units	Maximum Volume Limit ^B	Units	Monitoring
Leach Field 1	0.55	gpd/ft ²	26,000	gpd	Daily
Zone 1	0.42		19,524		
Zone 2	0.45		19,309		
Zone 3	0.40		16,424		
Zone 4	0.46		10,811		
Zone 5	0.2		13,059		
Zone 6	0.2		7,723		
Zone 7	0.2		10,910		
Zone 8	0.3		7,081		
Zone 9	0.4		18,291		
Zone 10	0.3		9,450		
Zone 11	0.2		4,110		
Zone 12	0.4		7,522		
Zone 13	0.25		5,717		
Zone 14	0.15		6,097		
Zone 15	0.2		8,378		
Zone 16	0.4		9,427		
Zone 17	0.23		3,694		
Zone 19	0.35		13,778		
Zone 20	0.2		5,766		
Zone 21	0.4		17,040		
Zone 22	0.5		28,113		
Zone 23	0.25		15,640		
Zone 24	0.25		9,547		
Zone 25	0.2		4,436		
Zone 26	0.3		9,334		
Zone 27	0.31		16,511		
Zone 28	0.31		13,018		
Zone 29	0.2		3,923		
Zone 30	0.55		10,116		
Zone 31	0.3		5,714		

^A. Loading Rates for each zone shall not be exceeded.

^B. All monitoring records shall be maintained onsite and made available upon request. The volume for each zone shall be monitor and recorded daily. The maximum volume for each zone shall be reported on the No-Discharge Monitoring Report (NMR).

Part II
Specific Conditions

1. This permit is for the operation of a decentralized wastewater treatment system with drip irrigation dispersal of the treated wastewater for residential subdivisions located in the City of Cave Springs. This type of systems is also classified as a Class V shallow injection wells under the provisions of Regulation No. 17.
2. The drip irrigation operation shall be managed in accordance with the October 2018 Waste Management Plan (WMP). If the WMP is inconsistent with this permit, the drip irrigation operation shall be managed in accordance with the terms of the permit and the WMP shall be revised to conform to the permit conditions.
3. Under the provisions of Regulation No. 17 and Title 40 of the Federal Code of Regulations (CFR) Parts 144 and 146, promulgated under Part C of the Safe Drinking Water Act (SDWA), no owner or operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that may allow the movement of fluid containing any contaminant into an underground source of drinking water.
4. The waste disposal system shall be operated by a minimum of a licensed Class II wastewater treatment plant operator by the State of Arkansas in accordance with Ark. Code Ann. § 8-5-205 et seq. and APC&EC Regulation No. 3.
5. Wastewater shall not be discharged from this operation to the waters of the State or dispersed to the land in any manner that may result in pooling, ponding, or runoff to the waters of the State. If any of the above conditions occur, dispersal shall cease immediately. Resumption of application activities cannot occur until all conditions of the permit are met. *Note: Any evidence of runoff must be reported within 24-hours to the Enforcement Branch of the Office of Water Quality in accordance with Standard Condition No. 13 of Part III.*
6. Bypassing the disposal system is prohibited and may result in the revocation of this permit and other appropriate enforcement actions by the Department.
7. Plant Available Nitrogen (PAN) shall be calculated using the following equations:

PAN Equations	
For Subsurface applied or Incorporated waste, PAN (mg/l)	$0.3(\text{TKN} - \text{NH}_3) + \text{NH}_3 + \text{NO}_3 + \text{NO}_2$
Conversion from PAN(mg/l) to PAN(lbs/1000 gal)	$0.00834 * \text{PAN}(\text{mg/l})$

The waste must be applied at a rate (calculated in units of 1000 gallons/acre) that provides a quantity of PAN (lbs N/acre) that is equal to or less than the nitrogen uptake rate of the cover crop (lbs/acre). See the table below for a list of Nitrogen uptakes for crops mentioned in the waste management plan. Any crop not listed in the following table may be added to the permit as an update to the WMP.

Nitrogen Uptake of Cover Crops	
Crop Name	Uptake (lbs/acre)
Bermuda	300
Fescue	138
Rye	50

8. The permittee must maintain current records of all activities related to the removal of solid materials, oil, grease, wastewater, etc., from the operation. The following information must be recorded and made available to ADEQ personnel on request: date of the activity, volume, or weight of material removed, type of material removed, interim or final destination of the material discarded, and complete identification of the carrier(s) transporting the material. If the waste is to be recycled or reused, document the name and address of the receiving entity or firm.
9. The drip irrigation field shall be maintained with 100% vegetative cover with a minimum 80% density for additional treatment, minimize erosion and to ensure the nitrogen uptake rate of the cover crop used to calculate the limit in Condition No. 7 or Part I.
10. When the vegetative cover is mowed, clippings shall be removed from the drip field and managed in accordance with applicable disposal regulations.
11. Any invasive vegetation that would impact the integrity of the drip lines, such as tree and shrub growth, shall be removed. The drip field shall be protected from any activity that might damage the irrigation system.
12. The drip field shall be inspected for damage with 24 hours after mowing or other activities that may damage the field have ceased. Damaged lines or other system components shall be repaired as soon as possible. Records of inspections and any required repairs shall be kept on-site for review and shall be submitted to the Department upon request.
13. Signs shall be posted around the disposal area indicating that the area is irrigated with treated wastewater effluent.
14. The reserve drip irrigation field shall be maintained in a condition to be used should the reserve area need to be brought into service upon failure of the primary drip irrigation field.
15. A complete "Operations and Maintenance (O&M) Manual" of the wastewater treatment system shall be maintained and followed.
16. Sanitary Sewer Overflow (SSO) Reporting Requirements:
 - A. A sanitary sewer overflow is any spill, release or diversion of wastewater from a sanitary sewer collection system including:
 1. Any overflow, whether it discharges to the waters of the state or not.
 2. An overflow of wastewater, including a wastewater backup into a building (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building lateral), even if that overflow does not reach waters of the state.

B. 24-hour Reporting

Overflows that endanger health or the environment shall be orally reported to the Enforcement Branch of the Office of Water Quality by telephone (501-682-0638) or by email, waterenfssso@adeq.state.ar.us within 24 hours from the time the permittee becomes aware of the circumstance. At a minimum, the following information shall be reported:

1. Permit number and AFIN
2. The location(s) of overflow.
3. The receiving water (If there is one).
4. Cause of overflow.
5. The estimated volume of overflow (gal)

C. 5-day Follow-Up Written web Reporting:

A web written report of overflows shall be provided to ADEQ within 5 days of the 24 hours oral report.

A 5-day follow-up written report can be filled-in or downloaded from the ADEQ Office of Water Quality/Enforcement Branch Web page at

http://www.adeq.state.ar.us/water/branch_enforcement/forms/sso_report.asp

D. 24-hour and 5 days reporting:

24-hour reporting can be filled-in or downloaded from the ADEQ Office of Water Quality/Enforcement Branch Web page at address above if all information are available and 5 days follow up reporting is not required.

E. All SSOs shall be reported on the No-Discharge Monitoring Report

Total the daily occurrences and volumes from all locations on your system and report this number. For counting occurrences, each location on the sanitary sewer system where there is an overflow, spill, release, or diversion of wastewater on a given day is counted as one occurrence. For example, if on a given day overflows occur from a manhole at one location and from a damaged pipe at another location then you should record two occurrences for that day.

17. Should the facility under this permit cease operations, the permittee shall submit to the Department, for approval, a closure plan for the system's storage and treatment structures within sixty (60) days of the final day of operation.
18. The treated effluent shall be sampled in accordance with the monitoring frequencies listed in Table 1 of Part I. The treated effluent sample shall be representative of the effluent to be dispersed to the drip fields. The monthly monitoring reports shall be submitted to the Department prior to the 15th of the following month. If the permittee monitors any pollutant more frequently than required by this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the No-Discharge Monitoring Report (NMR). Such increased frequency shall also be indicated on the NMR.

19. The permittee shall not add connections outside of the described service area, or connections that cause an exceedance of the treatment works design flow, without approval from the ADEQ and the Arkansas Department of Health (ADH).

Part III
Standard Conditions

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Arkansas Water and Air Pollution Control Act and is grounds for civil and administrative enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

2. Penalties for Violations of Permit Conditions

The Arkansas Water and Air Pollution Control Act provides that any person who violates any provisions of a permit issued under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year, or a fine of not more than twenty-five thousand dollars (\$25,000) or both for each day of such violation. Any person who violates any provision of a permit issued under the Act may also be subject to civil penalty in such amount as the court shall find appropriate, not to exceed ten thousand dollars (\$10,000) for each day of such violation. The fact that any such violation may constitute a misdemeanor shall not be a bar to the maintenance of such civil action.

3. Permit Actions

A. This permit may be modified; revoked and reissued; or terminated for cause including, but not limited to the following:

- i. Violation of any terms or conditions of this permit;
- ii. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
- iii. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
- iv. Failure of the permittee to comply with the provisions of Arkansas Pollution Control and Ecology Commission (APC&EC) Regulation No. 9 (Permit fees).

B. The filing of a request by the permittee for a permit modification; revocation and reissuance; termination; or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

4. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of this permit or applicable state statutes or regulations which defeats the regulatory purposes of the permit may subject the permittee to criminal enforcement pursuant to the Arkansas Water and Air Pollution Control Act.

5. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act and Section 106 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

6. **State Laws**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation.

7. **Property Rights**

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

8. **Severability**

The provisions of this permit are severable, and if any provision of this permit, or the application of any provisions of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

9. **Permit Fees**

The permittee shall comply with all applicable permit fee requirements (i.e., including annual permit fees following the initial permit fee that will be invoiced every year the permit is active) for No-Discharge permits as described in APC&EC Regulation No. 9 (Regulation for the Fee System for Environmental Permits). Failure to promptly remit all required fees shall be grounds for the Director to initiate action to revoke this permit.

10. **Proper Operation and Maintenance**

A. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

B. The permittee shall provide an adequate and trained operating staff which is duly qualified to carry out operation, maintenance, and testing functions required to insure compliance with the conditions of this permit.

11. **Duty to Mitigate**

The permittee shall take all reasonable steps to prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health, the environment, or the water receiving the discharge.

12. **Removed Substances**

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of waste waters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the waters of the State.

13. Reporting of Violations and Unauthorized Discharges

- A. Any violations to this permit must be reported to the Enforcement Branch of the Department immediately. Any leaks or seeps shall be reported to the Department and appropriately corrected. Any discharge from the fluids storage system such as an overflow, a broken pipe, etc., shall be immediately reported to the Department.
- B. The operator shall visually monitor and report immediately (within 24 hours) to the Enforcement Branch any unauthorized discharge from any facility caused by dike or structural failure; equipment breakdown; human error; etc., and shall follow up with a written report within five (5) days of such occurrence. The written report shall contain the following:
- i. A description of the permit violation and its cause;
 - ii. The period of the violation, including exact times and dates;
 - iii. If the violation has not been corrected, the anticipated time expected to correct the violation; and
 - iv. Steps taken or planned to reduce, eliminate, and prevent the recurrence of the violation.
- C. Reports shall be submitted to the Enforcement Branch at the following address:

Arkansas Department of Environmental Quality
Office of Water Quality, Enforcement Branch
5301 Northshore Dr.
North Little Rock, Arkansas 72118
Fax (501) 682-0880

Or

Water-enforcement-report@adeq.state.ar.us

14. Penalties for Tampering

The Arkansas Water and Air Pollution Control Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year or a fine of not more than ten thousand dollars (\$10,000) or by both such fine and imprisonment.

15. Laboratory Analysis

All laboratory analyses submitted to the Department shall be completed by a laboratory certified by ADEQ under Ark. Code Ann. § 8-2-201 *et seq.* Analyses for the permittee's internal quality control or process control do not need to be performed by an ADEQ certified laboratory.

16. Retention of Records

The permittee shall retain records of all monitoring information, copies of all reports required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time.

17. Record Contents

Records and monitoring information shall include:

- A. The date, exact place, time, and methods of sampling or measurements, and preservatives used, if any;
- B. The individuals(s) who performed the sampling or measurements;
- C. The date(s) the analyses were performed;
- D. The individual(s) who performed the analyses;
- E. The analytical techniques or methods used; and
- F. The measurements and results of such analyses.

18. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- A. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit,
- D. Sample, inspect, or monitor at reasonable times, for the purposes of assuring permit compliance any substances or parameters at any location.

19. Planned Changes

The permittee shall give notice and provide the necessary information to the Director for review and approval prior to any planned physical alterations or additions to the permitted facility.

20. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

21. Transfers

The permit is nontransferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.

22. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying; revoking and reissuing; terminating this permit; or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit. Information shall be submitted in the form, manner, and time frame requested by the Director.

23. Duty to reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The complete application shall be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Conditions of this permit will continue in effect past the expiration date pending issuance of a new permit, if:

- A. The permittee has submitted a timely and complete application; and
- B. The Director, through no fault of the permittee, does not issue a new permit prior to the expiration date of the previous permit.

24. Signatory Requirements

A. All applications, reports, or information submitted to the Director shall be signed and certified. All permit applications shall be signed as follows:

- i. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - a. A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
 - b. The manager of one or more manufacturing, production, or operation facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including: having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- ii. For a partnership or sole proprietorship: by a general partner or proprietor, respectively; or
- iii. For a municipality, State, Federal, or other public agency; by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
 - a. The chief executive officer of the agency, or
 - b. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

B. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- i. The authorization is made in writing by a person described above.
- ii. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent

responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
iii. The written authorization is submitted to the Director.

- C. Any person signing a document under this section shall make the following certification: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

25. Availability of Reports

Except for data determined to be confidential under the Arkansas Trade Secrets Act (Ark. Code Ann. § 4-75-601 *et seq.*), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department of Environmental Quality. As required by the Regulations, the name and address of any permit applicant or permittee, permit applications, permits, and effluent data shall not be considered confidential.

26. Penalties for Falsification of Reports

The Arkansas Air and Water Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this permit shall be subject to civil penalties and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act.

27. Applicable Federal, State, or Local Requirements

Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable Federal, State, or local statute, ordinance policy, or regulation.

Part IV
Definitions

“**Act**” means the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.)

“**APC&EC**” means the Arkansas Pollution Control and Ecology Commission.

“**Available Acreage**” means total acreage minus buffer zones

“**Daily Maximum**” means the highest allowable “daily discharge” during the calendar month.

“**Department**” means the Arkansas Department of Environmental Quality (ADEQ).

“**Director**” means the Director of the Arkansas Department of Environmental Quality.

“**Grab sample**” means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.

“**MGD**” means million gallons per day.

“**mg/l**” means milligrams per liter or parts per million (ppm).

“**NH₃**” means Ammonia Nitrogen.

“**NO₃ + NO₂**” means Nitrate + Nitrite Nitrogen.

“**PAN**” means Plant Available Nitrogen.

“**ppm**” means parts per million.

“**Sewage sludge**” means the solids, residues, and precipitate separated from or created in sewage by the unit processes a publicly-owned treatment works. Sewage as used in this definition means any wastes, including wastes from humans, households, commercial establishments, industries, and storm water runoff that are discharged to or otherwise enter a publicly-owned treatment works.

“**s.u.**” means standard units.

“**TKN**” means Total Kjeldahl Nitrogen.

Monitoring and Reporting:

When a permit becomes effective, monitoring requirements are of the immediate period of the permit effective date. Where the monitoring requirement for an effluent characteristic is monthly or more frequently, the No-Discharge Monitoring Report (NMR) shall be submitted by the 15th of the month following the sampling. Monthly is defined as a calendar month or any portion of a calendar month for monitoring requirement frequency of once/month or more frequently.

STATEMENT OF BASIS

This Statement of Basis is for information and justification of the permit limits only and is not enforceable. This permit decision is for renewal of a No-Discharge operation under permit number 4893-WR-3 and AFIN 04-01642.

1. Permitting Authority

Arkansas Department of Environmental Quality
Office of Water Quality, Permits Branch
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. Applicant

Cave Springs Wastewater Treatment Plant
P.O. Box 5
Cave Springs, AR 72718

3. Facility Location

The facility located as follows: The Creeks Golf Course near U.S. Hwy 112 in Cave Springs to nearest City of Cave Springs in Section 12, Township 18 North, Range 31 West, in Benton County, Arkansas. The facility is located at the following coordinates:

Latitude: 36° 15' 2" N Longitude: 94° 14' 30" W

4. Waterbody Evaluation

The decentralized wastewater treatment system is located in Stream Segment 3J of the Arkansas River Basin, which is in the Nutrient Surplus Area. Surrounding areas were evaluated to determine if any Extraordinary Resource Waters (ERWs), Ecologically Sensitive Waterbodies (ESWs), Natural or Scenic Rivers, or waterbodies in the 2016 ADEQ 303(d) list of impaired waterbodies in the State of Arkansas are near the decentralized wastewater treatment system. The facility is approximately three miles from the stream segment of Osage Creek, which is listed as an ESW. The system is for subsurface disposal and runoff is not permitted; therefore, no additional requirements are necessary at this time.

5. Previous Permit Activity

Previous Permit No.: 4893-WR-2
Effective Date: July 1, 2012
Expiration Date: June 17, 2017

The permittee submitted a permit renewal application which was received on November 10, 2016, with additional information received up to October 4, 2018. It is proposed that the current water No-Discharge permit be reissued for a 5-year term.

No-Discharge Monitoring Report Review:

The previous five (5) years of No-Discharge Monitoring Report data were reviewed during the permit renewal process. The facility has exceeded Carbonaceous Biochemical Oxygen Demand, Total Suspended Solids, and Fecal Coliform Bacteria multiple times. The facility is in process of providing a corrective action plan to the Enforcement Branch of the Office of Water Quality.

Legal Order Review:

There are currently no active Consent Administrative Orders (CAOs) or Notice of Violations (NOVs) for this facility.

Site Visits/Inspections:

A compliance inspection was performed on November 30, 2012. It was noted at the time of the inspection that waste treatment had not commenced at Waste Treatment Plant 2.

6. Changes From the Previously Issued Permit

- A. Revised the limits, monitoring and reporting requirements for daily maximum flow and loading rate. See Table II of Part I and Statement of Basis Nos. 11.A.ii.g and 11.A.ii.h.
- B. Removed requirement for reporting total monthly flow since the facility is required to monitor loading rate and maximum volume limit for each zone daily.
- C. Revised limits for CBOD5 and TSS. See Table I of Part I and Statement of Basis Nos. 11.A.ii.a and 11.A.ii.b.
- D. Revised monitoring requirements for the nitrogen component. See Table I of Part I and Statement of Basis No. 11.A.ii.e.
- E. Condition No. 2 of Part II was revised based on the revisions submitted with the renewal application.
- F. Condition No. 5 of Part II was revised. See Statement of Basis No. 11.B.ii.
- G. Condition No. 7 of Part II was revised. See Statement of Basis No. 11.B.i.
- H. Condition No. 8 of Part II was revised to clarify that current and complete records need to be maintained for all activities related to the removal of solid materials, oil, grease, wastewater, etc., from the operation.
- I. Condition No. 9, 10, and 11 of Part II were revised. See Statement of Basis Nos. 11.B.vi, 11.B.vii., and 11.B.viii.
- J. Condition No. 12 of Part II was added. See Statement of Basis No. 11.B.ix.
- K. Condition No. 15 of Part II was revised.
- L. Condition No. 16 of Part II was added. See Statement of Basis No. 11.B.xi.
- M. Condition No. 18 of Part II was added. See Statement of Basis No. 11.B.iv.
- N. Condition Nos. 7 and 15 of Part II of the previous permit was removed.

7. Changes From the Previously Drafted Permit

- A. Revised Table II of Part I to reflect the loading rates, daily maximum flow, and number of zones in the revised Waste Management Plan.
- B. Revised Condition No. 11 of Part II of the permit. See Statement of Basis 11.B.vii.
- C. Added Condition No. 19 of Part II of the permit to clarify that the permittee must not add connections to the system that have not been previously approved.

D. Revised Statement of Basis No. 10 to reflect the description of the Waste Treatment System in the revised Waste Management Plan.

8. Applicant Activity

Under the standard industrial classification (SIC) code 4952 or North American Industry Classification System (NAICS) code 221320, the applicant activities are for a sewage treatment facility.

9. Consultant for this Facility

Barret Knutson
McClelland Consulting Engineers, Inc.
1810 N. College Ave.
Fayetteville, AR 72702

10. Waste Treatment System

The wastewater treatment system consists of two separate package treatment plants which dispose of effluent via subsurface drip irrigation. The system is designed for 1,774 lots to be connected to the system. As of August 2018, 831 lots are connected to the system currently. Treatment Plant 1 is designed to treat a maximum of 97,000 gallons per day. Treatment Plant 2 is designed to treat a maximum of 320,000 gallons per day.

A Septic Tank Effluent Pumping (STEP) system collects septic tank effluent from individual lots. Lift stations pump the septic tank effluent to the treatment plants through a sanitary sewer force main. Wastewater is sent through a biological treatment unit, which is comprised of two 19,000 gallon parallel Lotus aerobic moving bed biofilm reactors. Flow then is sent through a splitter and routed to two 26-foot diameter secondary clarifiers. The clarifiers allow for flow equalization and separation of liquid and sludge during retention. A chemical feed station is available for the addition of chemicals during the treatment process for pH control or solids settling aids. The effluent from the clarifiers is sent to separate dosing tanks and then pumped to the underground leach field piping system for subsurface disposal. Sludge removed from the clarifiers is sent to a concrete sludge holding tank.

Effluent from Treatment Plant 1 is sent Drip Fields 1 and 2. The drip fields have a storage tank, which holds effluent prior to subsurface discharge through the leach lines. Effluent is pumped from the holding tank to the leach fields at regular time intervals.

Effluent from Treatment Plant 2 is sent to Drip Fields 3 through 5. Drip Field 3 contains Zones 5 through 12. Drip Field 4 contains Zones 13 through 24, except for Zone 18 which was not utilized. Drip Field 5 contains Zones 25 through 31. Treatment Plant 2 has three separate drip fields supplying effluent to a total of 27 zones. Alternate fields are available.

11. Basis for Permit Conditions

The Arkansas Department of Environmental Quality has made a tentative determination to issue a permit for the No-Discharge facility as described in the application and waste management plan. Permit requirements and conditions are based on the Arkansas Water and Air Pollution Control Act

(Ark. Code Ann. 8-4-101 *et seq.* and Ark. Code Ann. § 8-4-201 *et seq.*) and regulations promulgated there to and Regulation No. 17 Arkansas Underground Injection Control (UIC) Code.

Specific permit conditions and limits and their sources are listed as follows:

A. Part I – Permit Requirements

i. Monitoring Frequency

This decentralized wastewater treatment system treats domestic wastewater from residential subdivisions located in the City of Cave Springs. The waste cannot be sampled prior to every application as waste is constantly being applied. Therefore, frequent monitoring of the effluent is required to ensure the effluent is meeting the requirements of the permit.

ii. Effluent Conditions

a. Limit for Carbonaceous Biochemical Oxygen Demand (CBOD5)

This limit is intended to prevent taste and odor problem in groundwater and prevent leaching of metals to groundwater. According to the Onsite Wastewater Treatment Systems Manual, Drip Irrigation systems are capable of meeting CBOD5 concentrations as low as 5 mg/l. The Department has determined that a concentration of 30 mg/l is a consistently achievable limit and appropriate because treated effluent is receiving additional treatment by the soil.

b. Limit for Total Suspended Solids (TSS)

This limit is required to prevent the small diameter spray emitters within the drip system from becoming clogged with suspended solids or algae growth within the wastewater. According to the Onsite Wastewater Treatment Systems Manual, Drip Irrigation systems are capable of meeting TSS concentrations as low as 5 mg/l. The Department has determined that a concentration of 45 mg/l is a consistently achievable limit and appropriate because treated effluent is receiving additional treatment by the soil.

c. Limit for Fecal Coliform Bacteria (FCB)

According to the Onsite Wastewater Treatment Systems Manual, Drip Irrigation systems are capable of meeting low levels of Fecal Coliform. The Department has determined that bacteria concentration of 10,000 col/100ml is a consistently achievable limit and appropriate where treated effluent is being dispersed in a non-public area and is receiving additional treatment by the soil. Since the depth of the groundwater table is five feet, there is sufficient soil to treat the fecal coliform bacteria before entering waters of the State.

d. Minimum and maximum pH

The allowable pH range of 6.0-9.0 is adopted from APC&EC Regulation No. 2 because this range also supports bacteria and plant growth in the drip irrigation field.

e. Reporting requirements for all nitrogen compounds in the waste

These concentrations are required to calculate the plant available nitrogen to comply with Condition No. 7 of Part II of the permit. The plant available nitrogen dispersed to the irrigation field should not exceed the nitrogen uptake of the vegetation in the drip irrigation area, otherwise nitrogen compounds could migrate to waters of the State. Since the wastewater receives treatment prior to dispersal to the soil, secondary treatment from the soil and the nitrogen parameters results were consistent in the wastewater, the monitoring frequency of the nitrogen parameters will be quarterly. The quarterly monitoring frequency will be identical to the NPDES monitoring requirement for municipal wastewater.

f. Reporting requirements for Total Phosphorus (TP)

Monitoring and reporting requirements for Total Phosphorus are required to evaluate the amount of phosphorus being added to the drip irrigation field. Phosphorus has been determined to cause eutrophication in surface waters, which may be reached due to drip irrigation activities or heavy rains.

g. Reporting requirements for daily maximum flow

The daily maximum flow are required to be monitored and reported to assess whether the system is being operated at or below the design flow rates.

h. Drip field loading rates

The drip irrigation field soil loading rates are determined by a Professional Soil Classifier registered in the state of Arkansas to ensure that the drip field zones are not hydraulically overloaded. Loading rates by the system should not exceed the soil loading rates to avoid hydraulically overloading the soil. Effluent flow to a zone can be used to calculate the loading rate of the specified zone. If the calculated loading rate exceeds the design soil loading rate, or visual observation of surfacing effluent, the zone is hydraulically overloaded should be removed from the dosing rotation or dose volume reduced until sufficient time has passed for the zone to dry out.

B. Part II – Specific Conditions

i. Plant Available Nitrogen Requirement

The Office of Water Quality has provided the proper Plant Available Nitrogen (PAN) equation in order to ensure the permittee does not exceed the nitrogen uptake of the cover crop. The previously submitted monthly monitoring reports showed that the facility has exceeded or was close to exceeding the PAN limit. Therefore, the Department left the

PAN limit in this permit in order to provide the amount of nitrogen needed by the crop or vegetation and reduce the risk of nutrients running off into the waters of the State.

If the PAN of the effluent exceeds the nitrogen uptake of the cover crop, the facility may be required to adjust their treatment system at the next permit renewal to reduce the PAN of the effluent so that it does not exceed the nitrogen uptake rate of the cover crop.

ii. No pooling, no ponding, no discharge

Any activity occurring under this permit shall not discharge to the waters of the State. A discharge from this site may result in pollutants entering the waters of the State, which is a violation of Ark. Code Ann. § 8-4-217. In order to prevent a discharge from the permitted operation, the facility shall control the rate of application to prevent pooling, ponding, overland flow, or runoff.

iii. Bypassing Treatment

In order for the wastewater to received adequate treatment, the wastewater shall be properly treated prior to drip dispersal. Bypassing treatment would be a violation of this permit.

iv. Reporting requirements and monitoring frequency

In order to ensure the facility is being proper maintained and operated the Department will require the facility to submit monthly monitoring reports.

v. Record keeping of liquids or solids leaving the facility

In order to maintain complete records of the disposal of the treated leachate or solids associated with the leachate system, the facility shall maintain records of any type of material that is shipped from the facility.

vi. Vegetation Cover Requirement

In order to ensure proper treatment from the soil and to prevent erosion, the drip fields shall maintain 100% vegetative coverage with a minimum of 80% density. Furthermore, the vegetative coverage and density is also used for stabilization purposes to reduce the risk of soil erosion and runoff.

vii. Removal of grass clippings

The drip irrigation system disperses effluent to the root zone of the cover crop for additional treatment from the uptake from the cover crop and from the soil. In order to obtain the appropriate treatment from the cover crop the grass clippings shall be removed. All clippings must be removed from the drip field to prevent accumulation of nutrients in the field. The materials may be beneficially reused at a location outside the drip field (e.g. compost or mulch reuse) or otherwise managed according to state and local solid waste regulations.

viii. Removal of invasive vegetation

This condition was added to the permit in order to prevent damage to the drip dispersal lines or equipment from invasive vegetation.

ix. Inspection of drip fields

This type of system has a history of damaged drip field lines or system components occurring during activities such as disking or mowing the field; therefore, the drip field should be inspected after any activity that may cause damage to the field is completed. Because surfacing of effluent from damaged lines will take time, inspections of the drip field should occur 24 hours after activity has ceased in that area of the drip field. Any damaged lines or other system components should be repaired immediately. The Department requires that records be kept on-site for review of inspections and when repairs are begun and completed.

x. Requirements for maintaining a reserve drip irrigation field

A reserve drip irrigation field is required in the event that the drip irrigation field becomes hydraulically overloaded and no longer absorbs the volume of treated effluent at the soil loading rates for the associated zone.

xi. Sanitary Sewer Overflow (SSO) Reporting

Any overflow of sanitary waste can be harmful to human health or the environment; therefore, all SSOs shall be reported.

xii. Requirements for a closure plan

This condition is required to ensure that the permittee takes all of the necessary means to adequately close this type of system, which includes removal of all the waste from the system and properly filling or collapsing the septic systems.

C. Part III – Standard Conditions

Standard Conditions have been included in this permit based on generally accepted scientific knowledge, engineering practices and the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

D. Part IV – Definitions

All definitions in Part IV of the permit are self-explanatory.

12. Point of Contact

For additional information, contact

Katherine McWilliams
Engineer
Permits Branch, Office of Water Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317
501-682-0651
E-mail: mcwilliamsk@adeq.state.ar.us

Technical review

Jamal Solaimanian, Ph.D., P.E.
Engineer Supervisor
Permits Branch, Office of Water Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317
501-682-0620
E-mail: jamal@adeq.state.ar.us

13. Annual Fee

In accordance with APC&EC Regulation No. 9, the annual fee for this permit is \$500.

14. Sources

The following Sources were used to draft the permit:

- A. APC&EC Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas.
- B. APC&EC Regulation No. 3, Licensing of Wastewater Treatment Plant Operators.
- C. APC&EC Regulation No. 8, Administrative Procedures.
- D. APC&EC Regulation No. 9, Permit Fee Regulations.
- E. APC&EC Regulation No. 17, Arkansas Underground Injection Control Code.
- F. Integrated Water Quality and Assessment Report (305(b) Report).
- G. Ark. Code Ann. § 8-4-101 et seq., Arkansas Water and Air Pollution Control Act.
- H. 40 CFR Parts 144 and 146.
- I. Ark. Code Ann. § 8-4-203, as amended.
- J. Arkansas Department of Health, "Rules and Regulations Pertaining to Onsite Wastewater Systems."
- K. Application No. 4893-WR-3 received November 10, 2016.
- L. Waste Management Plan dated October 4, 2018.
- M. Additional Information received up to October 4, 2018.

15. Response to Comments from the Public Notice for the 1st Draft Permit

The Department originally drafted a permit for the operation of a decentralized wastewater treatment system with drip irrigation dispersal of the treated wastewater that was public noticed on August 24, 2017. Based on the revised Waste Management Plan received on October 4, 2018, and the changes listed in No. 7 of the Statement of Basis, this permit had to be redrafted and sent to another public notice period in accordance with APC&EC Regulation 8.103(V). Below are the comments submitted from the 1st public notice of the permit with the Department response.

Comment 1 The City has determined that they would like to bring TP1 back online and the work to do so is nearly complete. It is therefore requested that Dripfield 2, which is connected to TP1 and contains treatment zones 1-4, be added to the permit.

Response: The Department received additional correspondence on December 28, 2017 stating that Treatment Plant 1 would be added to the permit at a later date as a permit modification. On October 4, 2018, a revised Waste Management Plan was submitted that included Treatment Plant 1. The draft permit has been revised to include Treatment Plant 1 as described in the October 2018 Waste Management Plan.

Comment 2 The design calculations used in the initial waste management plan (WMP) do not match actual parameters of the constructed system. The original WMP also provides design calculations which do match actual system parameters, while also providing design calculations for multiple zones which do not exist in the constructed system. Since the WMP is used to draft the permit, a new WMP will need to be developed.

Response: The Department received a revised Waste Management Plan on January 22, 2018 and Addendum on February 1, 2018. A revised Waste Management Plan was received on October 4, 2018 that included Treatment Plant 1. The draft permit was revised in accordance with the October 2018 Waste Management Plan.

16. Public Notice

The draft permit was public noticed on October 24, 2018. No comments were received.

10.0 Appendix 2 – Cave Springs Financial Statements

10.1 Water Audits 2015-2017

10.2 Sewer Audits 2015-2017



**CITY OF CAVE SPRINGS
WATER AND SEWER DEPARTMENT
Cave Springs, Arkansas
FINANCIAL STATEMENTS
and
SUPPLEMENTARY INFORMATION
For the Years Ended
December 31, 2015 and 2014
and
INDEPENDENT AUDITOR'S REPORT**

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
Cave Springs, Arkansas
FINANCIAL STATEMENTS AND SUPPLEMENTARY INFORMATION
For the Years Ended December 31, 2015 and 2014

<u>Contents</u>	<u>Page</u>
Independent Auditor's Report	1-2
Statements of Net Position	3
Statements of Revenues, Expenses, and Changes in Net Position	4-5
Statements of Cash Flows.....	6
Notes to Financial Statements	
Note 1 - Summary of Significant Accounting Policies	7-8
Note 2 - Deposits with Financial Institutions.....	9
Note 3 - Capital Assets	9
Note 4 - Long-Term Debt	10-11
Note 5 - Subsequent Events.....	12
Note 6 - Restricted Assets.....	12
Note 7 - Risk Management	12
Note 8 - Commitments.....	12
Note 9 - Pension Plan	13
Note 10 - Prior Period Adjustment	13
Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed In Accordance with <i>Government Auditing Standards</i>	14-15
Schedule of Findings and Responses.....	16-17

BERRY & ASSOCIATES, P.A.

Certified Public Accountants

American Institute of CPAs

Arkansas Society of CPAs

Texas Society of CPAs

Page 1

INDEPENDENT AUDITOR'S REPORT

**Honorable Travis Lee, Mayor
and Members of the City Council
City of Cave Springs Water and Sewer Department
Cave Springs, Arkansas**

Report on the Financial Statements

We have audited the accompanying financial statements of the Water and Sewer Department of the City of Cave Springs, Arkansas, as of and for the years ended December 31, 2015 and 2014, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit includes performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinion on the 2015 Financial Statements

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the City of Cave Springs Water and Sewer Department as of December 31, 2015, and the respective changes in financial position, and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Qualified Opinion on 2014 Financial Statements

Because of the inadequacy of accounting records for the year ended December 31, 2014, we were unable to obtain sufficient appropriate audit evidence regarding the amounts at which transfers are recorded in the accompanying Statement of Revenues, Expenses, and Changes in Net Position at December 31, 2014 (stated at \$69,559).

*2 Office Park Drive • Little Rock, AR 72211 • 501-227-9044 • Fax 501-227-8791 • jberrycpa@gmail.com
2911 Turtle Creek Blvd., Suite 300 • Dallas, TX 75219 • 972-437-2919*

Honorable Travis Lee, Mayor
and Members of the City Council
City of Cave Springs

Qualified Opinion on the 2014 Financial Statements

In our opinion, except for the possible effects of the matter discussed in the Basis for Qualified Opinion paragraph, the financial statements referred to in the first paragraph present fairly, in all material respects, the respective financial position of the City of Cave Springs Water and Sewer Department as of December 31, 2014, and the respective changes in financial position, and cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated February 5, 2018 on our consideration of the Water and Sewer Department of the City of Cave Springs, Arkansas's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Water and Sewer Department of the City of Cave Springs, Arkansas's internal control over financial reporting and compliance.

Emphasis of Matter

As discussed in Note 1, the financial statements present only the Water Department and do not purport to, and do not, present fairly the financial position of the City of Cave Springs, Arkansas, as of December 31, 2015 and 2014, the changes in its financial position, or, where applicable, its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Berry & Associates

BERRY & ASSOCIATES, P.A.
Little Rock, Arkansas
February 5, 2018

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
STATEMENTS OF NET POSITION
December 31, 2015 and 2014**

ASSETS		
	2015	2014
CURRENT ASSETS		
Cash and cash equivalents	\$ 756,402	\$ 752,834
Accounts receivable	82,061	62,249
Total current assets	838,463	815,083
NON-CURRENT ASSETS		
Restricted assets		
Cash and cash equivalents	959,116	698,058
Capital assets		
Capital assets, net of accumulated depreciation	11,471,767	10,166,058
Other assets		
Construction in progress	167,105	624,053
TOTAL ASSETS	\$ 13,436,451	\$ 12,303,252
LIABILITIES AND NET POSITION		
CURRENT LIABILITIES		
Accounts payable	\$ 139,390	\$ 104,987
Retainage payable	-	31,097
Sales tax payable	4,776	3,206
Current portion of long-term debt	77,300	49,800
Accrued interest payable	41,400	17,600
Total current liabilities	262,866	206,690
CURRENT LIABILITIES PAYABLE FROM RESTRICTED ASSETS		
Meter deposits	100,465	67,165
NON-CURRENT LIABILITIES		
Long-term debt, net of current portion	1,689,159	1,593,004
TOTAL LIABILITIES	2,052,490	1,866,859
NET POSITION		
Net investment in capital assets	9,841,409	9,147,309
Temporarily restricted	131,664	114,819
Unrestricted	1,410,888	1,174,265
Total net position	11,383,961	10,436,393
TOTAL LIABILITIES AND NET POSITION	\$ 13,436,451	\$ 12,303,252

The accompanying notes to the financial statements are an integral part of these statements.

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
STATEMENTS OF REVENUES, EXPENSES, AND CHANGE IN NET POSITION
For the Years Ended December 31, 2015 and 2014

	<u>2015</u>	<u>2014</u>
OPERATING REVENUES		
Water revenue	\$ 821,009	\$ 629,824
Sewer revenue	225,095	151,215
Water & sewer tapping/connection fees	164,498	153,850
Pump package sales	76,118	213,707
Sewer tank sales	45,000	210,203
Penalties	12,727	11,217
Miscellaneous	30,928	26,698
Total operating revenues	<u>1,375,375</u>	<u>1,396,714</u>
OPERATING EXPENSES		
Water:		
Water purchases	142,489	142,260
Depreciation	65,924	61,968
Salaries & wages	118,897	156,854
Dues and subscriptions	7,222	7,219
Software fees	5,106	278
Bank fees	3,237	2,967
Office supplies	9,648	4,827
Professional fees	62,327	14,389
Repairs and maintenance	112,477	69,480
Fuel	2,857	3,621
Insurance	880	235
Miscellaneous	7,112	844
Taxes and licenses	115	-
Training	1,084	380
Travel	52	211
Utility permits and locates	4,498	4,673
Utilities	14,068	69
Total Water Expenses	<u>557,993</u>	<u>470,275</u>
Sewer:		
Depreciation	153,291	132,590
Dues, permits, & licenses	-	1,578
Salaries & wages	-	11,587
Office supplies	628	1,257
Professional fees	-	5,722
Repairs and maintenance	79,260	39,615
Sewer maintenance fees	69,465	42,405
Telephone & utilities	-	6,909
Travel	-	98
Sewer pumps	71,375	233,102
Sewer tanks	99,937	170,893
Total sewer expenses	<u>473,956</u>	<u>645,756</u>
Total operating expenses	<u>1,031,949</u>	<u>1,116,031</u>
OPERATING INCOME	<u>\$ 343,426</u>	<u>\$ 280,683</u>

The accompanying notes to the financial statements are an integral part of these statements.

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
STATEMENTS OF REVENUES, EXPENSES, AND CHANGE IN NET POSITION, Continued
For the Years Ended December 31, 2015 and 2014

NON-OPERATING REVENUE (EXPENSES)	<u>2015</u>	<u>2014</u>
Interest income	\$ 1,272	\$ 835
Interest expense	(75,448)	(72,424)
Grant income	<u>651,029</u>	<u>431,089</u>
Net non-operating income	<u>576,853</u>	<u>359,500</u>
OTHER FINANCING SOURCES		
Transfers In	<u>27,289</u>	<u>69,559</u>
CHANGE IN NET POSITION	<u>947,568</u>	<u>709,742</u>
NET POSITION - BEGINNING OF YEAR, ORIGINALLY STATED	10,436,393	9,625,221
PRIOR PERIOD ADJUSTMENT	<u>-</u>	<u>101,430</u>
NET POSITION - BEGINNING OF YEAR, RESTATED	<u>10,436,393</u>	<u>9,726,651</u>
NET POSITION - END OF YEAR	<u>\$ 11,383,961</u>	<u>\$ 10,436,393</u>

The accompanying notes to the financial statements are an integral part of these statements.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
STATEMENTS OF CASH FLOWS
For the Years Ended December 31, 2015 and 2014**

	<u>2015</u>	<u>2014</u>
CASH FLOWS FROM OPERATING ACTIVITIES:		
Cash received from customers	\$ 1,355,563	\$ 1,444,163
Cash payments to suppliers	(655,660)	(642,201)
Cash payments to employees	(118,897)	(168,471)
Net cash provided by operating activities	<u>581,006</u>	<u>633,491</u>
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES:		
Grant proceeds	651,029	431,089
Loan proceeds	154,500	-
Purchases of capital assets	(900,872)	(25,133)
Costs paid on construction in progress	(167,105)	(606,770)
Principal payments on long-term debt	(30,845)	(47,612)
Interest payments on long-term debt	(51,648)	(75,191)
Net cash used by capital and related financing activities	<u>(344,941)</u>	<u>(323,617)</u>
CASH FLOWS FROM NON-CAPITAL FINANCING ACTIVITIES:		
Transfers in	<u>27,289</u>	<u>69,559</u>
CASH FLOWS FROM INVESTING ACTIVITIES:		
Net activity of restricted cash	(261,058)	(245,040)
Interest received	1,272	835
Net cash used by investing activities	<u>(259,786)</u>	<u>(244,205)</u>
NET INCREASE IN CASH AND CASH EQUIVALENTS	3,568	135,228
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR	<u>752,834</u>	<u>617,606</u>
CASH AND CASH EQUIVALENTS AT END OF YEAR	<u>\$ 756,402</u>	<u>\$ 752,834</u>
Reconciliation of operating income to net cash provided by operating activities:		
Operating income	\$ 343,426	\$ 280,683
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation and amortization	219,215	194,558
(Increase) Decrease in:		
Accounts receivable	(19,812)	(9,757)
Increase (Decrease) in:		
Accounts payable	34,404	92,239
Retainage payable	(31,097)	31,097
Sales tax payable	1,570	297
Customer deposits	33,300	44,374
	<u>237,580</u>	<u>352,808</u>
Net cash provided by operating activities	<u>\$ 581,006</u>	<u>\$ 633,491</u>

The accompanying notes to the financial statements are an integral part of these statements.

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2015 and 2014

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

Organization

The City of Cave Springs, Arkansas, Water and Sewer Department is an enterprise fund. Enterprise funds are proprietary funds used to account for business-like activities provided to the general public. These activities are financed primarily by user charges and the measurement of financial activity focuses on net income measurement similar to the private sector. The fund is used to record the revenues and expenses from the operation of the water and sewer system.

Basis of Presentation and Accounting

The accounts of the Department are organized on the basis of a proprietary fund type, specifically an enterprise fund. The activities of this fund are accounted for with a separate set of self-balancing accounts that comprise the Department's assets, liabilities, net position, revenues and expenses. Enterprise Funds account for activities (i) that are financed with debt that is secured solely by a pledge of the net revenues from fees and charges of the activity; or (ii) that are required by laws or regulations that the activity's costs of providing services, including capital costs (such as depreciation or debt service), be recovered with fees and charges, rather than with taxes or similar revenues; or (iii) that the pricing policies of the activity establish fees and charges designed to recover its costs, including capital costs (such as depreciation or debt service).

The accounting and financial reporting treatment applied to the Department is determined by its measurement focus. The transactions of the Department are accounted for on a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operations are included on the statement of net position. Net position (i.e., total assets net of total liabilities) are segregated into net investment in capital assets, restricted for debt service; and unrestricted components.

Estimates

Management of the Department has made certain estimates and assumptions relating to the reporting of assets and liabilities and revenues and expenses to prepare these financial statements in conformity with generally accepted accounting principles. Actual results may differ from those estimates.

Cash and Cash Equivalents

The Department considers all highly liquid investments (including restricted cash and investments) with maturities of three months or less when purchased to be cash equivalents. Certificate of deposits are presented at fair value. Short-term investments generally mature or are otherwise available for withdrawal in less than one year.

Allowance for Bad Debts

The Department has elected to record bad debts using the direct write-off method. Generally accepted accounting principles require that the allowance method be used to recognize bad debts; however as of December 31, 2015 management had determined that no additional accounts needed to be written off. Bad debt expense for the year ended December 31, 2015 was \$0.

Budgets and Budgetary Accounting

Prior to the beginning of the new fiscal year, the Council Members adopt an annual budget for the Department. The budget of the Department is adopted under a basis consistent with GAAP, except that depreciation, certain capital expenses, and nonoperation income and expense items are not considered. All annual appropriations lapse at the fiscal year-end.

Reclassification

Certain amounts reported in 2014 have been reclassified to conform to the presentation at December 31, 2015.

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2015 and 2014

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued):

Capital Assets

The cost of additions and major replacements of retired units of property are capitalized. The Department defines capital assets as assets with an initial, individual cost of more than \$1,000 and an estimated useful life in excess of two years. Cost includes direct labor, outside services, materials and transportation, employee fringe benefits, overhead, and interest on funds borrowed to finance construction. The cost and accumulated depreciation of property sold or retired is deducted from capital assets and any profit or loss resulting from the disposal is credited or charged in the nonoperating section of the statements of revenues, expenses and changes in net position. The cost of current repairs, maintenance, and minor replacements is charged to expense. Construction in progress primarily relates to upgrades of existing facilities.

Depreciation has been provided over estimated useful lives of the assets using the straight-line method. The estimated useful lives are as follows:

Asset	Years
Water & Sewer System	25-40
Office Equipment	3-7
Equipment	5-15
Vehicles	5

Long-Term Debt and Costs

Long-term debt is reported at face value, net of applicable discounts and deferred loss on refunding. Costs related to the issuance of debt are deferred and amortized over the lives of the various debt issues. Losses occurring from advance refundings of debt are deferred and amortized as interest expense over the remaining life of the old bonds, or the life of the new bonds, whichever is shorter.

Operating Revenues and Expenses

Operating revenues and expenses consist of those revenues that result from the ongoing principal operations of the Department. Operating revenues consist primarily of charges for services. Nonoperating revenues and expenses consist of those revenues and expenses that are related to financing and investing type of activities and result from nonexchange transactions or ancillary activities. When an expense is incurred for purposes for which there are both restricted and unrestricted net position available, it is the Department's policy to apply those expenses to restricted net position to the extent such are available and then to unrestricted net position.

Equity Classification

Net position comprises the various net earnings from operating income, nonoperating revenues and expenses, and capital contributions. Net position is classified in the following three components:

Net Investment in Capital Assets-This component of net position consists of capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes or other borrowings that are attributable to the acquisition, construction or improvements of those assets. If there are significant unspent related debt proceeds at year-end, the portion of the debt attributable to the unspent proceeds is not included in the calculation of net investment in capital assets. Rather, that portion of debt is included in the same net position component as the unspent proceeds.

Temporarily Restricted- This component of net position consists of constraints imposed by creditors (such as through debt covenants), grantors, contributors, or laws or regulations of other governments, or constraints imposed by law through constitutional provisions or enabling legislation.

Unrestricted - This component of net position consists of net position that does not meet the definition of "restricted."

Capitalized Interest

Interest costs are capitalized when incurred on debt where proceeds were used to finance the construction of assets. Interest earned on proceeds of tax-exempt borrowing arrangements restricted to the acquisition of qualifying assets is offset against interest costs in determining the amount to be capitalized.

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2015 and 2014

NOTE 2 – DEPOSITS WITH FINANCIAL INSTITUTIONS:

All funds are deposited in approved banks. The deposited funds are insured by the Federal Deposit Insurance Corporation (“FDIC”) or collateralized by securities held by the banks in the Department’s name. The deposited funds were adequately insured at December 31, 2015.

NOTE 3 – CAPITAL ASSETS:

Capital asset activity for the years ended December 31, 2015 and 2014 was as follows:

	Balance 12/31/14	Additions	Retirements and transfers	Balance 12/31/15
Land & Easements	\$ 642,500	\$ -	\$ -	\$ 642,500
Sewer System	8,608,864	1,234,756	-	9,843,620
Water System	2,224,781	184,599	-	2,409,380
Equipment - Water	94,961	50,869	-	145,830
Equipment - Sewer	2,124	-	-	2,124
Office Equipment	3,029	-	-	3,029
Vehicles	14,291	54,700	-	68,991
	<u>11,590,550</u>	<u>\$ 1,524,924</u>	<u>\$ -</u>	<u>13,115,474</u>
Less Accumulated Depreciation	(1,424,492)			(1,643,707)
Total Net Capital Assets	<u>\$ 10,166,058</u>			<u>\$ 11,471,767</u>

	Balance 12/31/13	Additions	Retirements and transfers	Balance 12/31/14
Land & Easements	\$ 642,500	\$ -	\$ -	\$ 642,500
Sewer System	8,608,864	-	-	8,608,864
Water System	2,215,016	9,765	-	2,224,781
Equipment - Water	80,707	14,254	-	94,961
Equipment - Sewer	1,010	1,114	-	2,124
Office Equipment	3,029	-	-	3,029
Vehicles	14,291	-	-	14,291
	<u>11,565,417</u>	<u>\$ 25,133</u>	<u>\$ -</u>	<u>11,590,550</u>
Less Accumulated Depreciation	(1,229,934)			(1,424,492)
Total Net Capital Assets	<u>\$ 10,335,483</u>			<u>\$ 10,166,058</u>

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2015 and 2014

NOTE 4 – LONG-TERM DEBT:

Long-term debt consists of the following:

	<u>2015</u>	<u>2014</u>
Water System Revenue Bond, serviced by First Security Bank and payable to Arkansas Natural Resources Commission, due in annual installments of \$24,795, including interest at 5.0%, beginning December 2010 through December 2029. The bond is secured by revenues of the Department. (1)	\$ 257,363	\$ 257,363
Arkansas Natural Resources Commission loan, due in annual installments of \$42,449 including interest at 5.0%, beginning June 2013 through June 2032. The bond is secured by property and equipment revenues of the system. (2)	478,579	496,218
Arkansas Natural Resources Commission water revenue bond, due in semi- annual installments of \$15,515 including interest at 5.0%, beginning June 2004 through December 2033. The bond is secured by property and equipment revenues of the system. (3)	393,159	400,072
USDA Department of Rural Development loan, due in monthly installments of \$2,044 including interest at 3.75%, beginning June 2011 through December 2051. The bond is secured by property and equipment revenues of the system. (2)	482,858	489,151
Arkansas Natural Resources Commission loan, due in annual installments of \$10,786 including interest at 3.0%, beginning December 2016 through December 2034. The bond is secured by property and equipment revenues of the system. (2)	154,500	-
	<u>1,766,459</u>	<u>1,642,804</u>
Less Current Portion	<u>(77,300)</u>	<u>(49,800)</u>
Long-Term Debt, Net	<u>\$ 1,689,159</u>	<u>\$ 1,593,004</u>

- (1) The bond agreement with Arkansas Natural Resources Commission contains a provision which requires the Department to maintain their water rates at an amount sufficient to (1) pay all operation, repair and maintenance expenses, (2) leave a balance equal to the debt service requirements to which the system revenues are pledged, and (3) maintain a depreciation reserve that accumulates at a rate of 3% of revenues each month for the life of the bond. For the year ended December 31, 2015, the Department did not satisfy this requirement of the rate covenant.
- (2) This debt has no restrictive covenant.
- (3) The bond agreement with Arkansas Natural Resources Commission contains a provision which requires the Department to maintain their water rates at an amount sufficient to (1) pay all operation, repair and maintenance expenses, (2) leave a balance equal to the debt service requirements to which the system revenues are pledged, and (3) maintain a depreciation reserve that accumulates at a rate of \$120 a month for the life of the bond. For the year ended December 31, 2015, the Department did not satisfy this requirement of the rate covenant.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2015 and 2014**

NOTE 4 – LONG-TERM DEBT (continued):

The annual maturities of long-term debt at December 31, 2015, are as follows:

	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2016	\$ 77,248	\$ 96,650	\$ 173,898
2017	60,978	72,660	133,638
2018	63,668	69,920	133,588
2019	66,533	67,055	133,588
2020	69,483	64,105	133,588
2021-2025	397,614	270,317	667,931
2026-2030	471,398	172,018	643,416
2031-2035	267,177	76,556	343,733
2036-2040	74,413	48,227	122,640
2041-2045	89,775	32,865	122,640
2046-2050	108,266	14,374	122,640
2051	19,905	335	20,240
	<u>\$ 1,766,459</u>	<u>\$ 985,081</u>	<u>\$ 2,751,540</u>

Long-term liability activity for the years ended December 31, 2015 and 2014 is as follows:

	<u>Balance</u> <u>12/31/14</u>	<u>Additions</u>	<u>Retirements</u>	<u>Balance</u> <u>12/31/15</u>	<u>Due Within</u> <u>One Year</u>
Long Term Debt					
Loans	\$ 746,514	\$ 154,500	\$ (6,293)	\$ 894,721	\$ 37,200
Water Revenue Bonds	896,290	-	(24,552)	871,738	40,100
Total	<u>\$ 1,642,804</u>	<u>\$ 154,500</u>	<u>\$ (30,845)</u>	<u>\$ 1,766,459</u>	<u>\$ 77,300</u>

	<u>Balance</u> <u>12/31/13</u>	<u>Additions</u>	<u>Retirements</u>	<u>Balance</u> <u>12/31/14</u>	<u>Due Within</u> <u>One Year</u>
Long Term Debt					
Loans	\$ 763,935	\$ -	\$ (17,421)	\$ 746,514	\$ 18,200
Water Revenue Bonds	926,481	-	(30,191)	896,290	31,600
Total	<u>\$ 1,690,416</u>	<u>\$ -</u>	<u>\$ (47,612)</u>	<u>\$ 1,642,804</u>	<u>\$ 49,800</u>

The Department has pledged future water customer revenues, net of specified operating expenses, to repay \$1,766,459 in revenue bonds. Proceeds from the bonds were used for building of the Department's water and sewer system. Principal and interest on the bonds are payable through 2051, solely from the water customer net revenues. Principal and interest paid in the year ended December 31, 2015 were \$30,845 and \$51,648, respectively. Principal and interest paid in the year ended December 31, 2014 were \$47,612 and \$75,191 respectively.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2015 and 2014**

NOTE 5 – SUBSEQUENT EVENTS:

Management has evaluated all the activities of the Department through February 5, 2018 (the date the financial statements were available to be issued) and concluded that no subsequent events have occurred that would require recognition in the financial statements or disclosure in the notes to the financial statements as of December 31, 2015.

NOTE 6 – RESTRICTED ASSETS:

Restricted assets consist of cash reserves restricted for specific use and cash deposits for meters by customers.

The following is a list of the restricted cash at December 31:

	<u>2015</u>	<u>2014</u>
Customer Meter Deposits	\$ 233,134	\$ 173,517
Construction Fund	594,318	409,722
Debt Service Reserves	131,664	114,819
	<u>\$ 959,116</u>	<u>\$ 698,058</u>

NOTE 7 – RISK MANAGEMENT:

The Department is exposed to various levels of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions, injuries to employees; and natural disasters. The Department carries property, vehicle insurance and workers compensation insurance.

There has been no significant reduction in the Department's insurance coverage from the previous year. In addition, there have been no settlements in excess of the Department's coverage in any of the prior three fiscal years.

NOTE 8 – COMMITMENTS:

The Department leases the right to discharge treated effluent from its sewage treatment facilities under a Drip Field operating lease. The 50-year lease term began February 11, 2008 and provides rents of \$15 for every connected residence and \$15 for every 208 gallons of commercial effluent discharged through the drip field irrigation system per month. Payment of the rent is subject to the collection of user fees charged to the system's customers by the Department. The lease requires the City of Cave Springs, Arkansas to provide \$1,000,000 of public liability insurance, and \$1,000,000 environmental insurance once volume reaches a certain level.

The Department started a construction project to extend and improve the water system during the year ended December 31, 2015. The Department has entered into contracts with an engineering firm for the oversight of water system rehabilitation project and has incurred costs of \$22,843 as of December 31, 2015.

The Department is the recipient of a \$1,100,000 grant from the Arkansas Economic Development Commission, dated March 20, 2013. The Department has received proceeds of the grant of \$651,029 and \$448,372 as of December 31, 2015 and 2014, respectively.

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2015 and 2014

NOTE 9 – PENSION PLAN:

Plan Description. The Department contributes to the Arkansas Public Employees Retirement System (APERS), a cost-sharing multiple-employer defined benefit pension plan that covers municipal employees whose municipalities have elected coverage under this System. APERS provides retirement and disability benefits, annual cost-of-living adjustments, and death benefits to plan members and beneficiaries. Benefit provisions are established by State law and can be amended only by the Arkansas General Assembly. The Arkansas Public Employees Retirement System issues a publicly available financial report that includes financial statements and required supplementary information for APERS. That report may be obtained by writing to Arkansas Public Employees Retirement System, One Union National Plaza, 124 W. Capitol, Little Rock, AR 72201 or by calling 1-800-682-7377.

Funding Policy. APERS has contributory and non-contributory plans. Contributory members are required by code to contribute 5% of their salary. Each participating employer is required by code to contribute at a rate established by the Board of Trustees of the system based on the annual actuarial valuation. The current employer rate is 14.5% for January 1 to June 30 and 14.76% for July 1 to December 31 of 2015 annual covered payroll. The Water and Sewer Department's contributions to APERS for the year ending December 31, 2015 were \$14,225, equal to the required contributions for the year.

Implementation of GASB 68

In June 2012, GASB issued Statement No. 68, Accounting and Financial Reporting for Pensions – an Amendment of GASB Statement No. 27, which became effective with fiscal year ending June 15, 2014. The Statement establishes standards for public pension plan obligations for participating employers. Under the new statement, a cost-sharing employer whose employees receive pensions through a trust will report in the financial statements a net pension liability, deferred outflows or inflows of resources related to pensions, and pension expense based on its proportionate share of the collective net pension liability of all employers in the plan. A net pension liability can be volatile due to changes in actuarial estimates and the actual investment return. These financial statements do not include the disclosure related to this accounting principal, but would be included in the government wide financial statements and not the individual fund financial statements.

NOTE 10 – PRIOR PERIOD ADJUSTMENT:

A prior period adjustment was made to reduce prior accrued expenses of \$38,064, to eliminate deferred revenues of \$47,691, and to correct an overstatement of meter deposits of \$15,675. The net effect of these adjustments resulted in an understatement of net position at December 31, 2014.

BERRY & ASSOCIATES, P.A.

Certified Public Accountants

American Institute of CPAs

Arkansas Society of CPAs

Texas Society of CPAs

Page 14

REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

Honorable Travis Lee, Mayor
and Members of the City Council
City of Cave Springs Water and Sewer Department
Cave Springs, Arkansas

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Water and Sewer Department of the City of Cave Springs, Arkansas, as of and for the year ended December 31, 2015, and the related notes to the financial statements, which collectively comprise the Water and Sewer Department of the City of Cave Springs, Arkansas's financial statements and have issued our report thereon dated February 5, 2018.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Department's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Department's internal control. Accordingly, we do not express an opinion on the effectiveness of the Department's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected in a timely basis.

A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that were not identified. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified. We did identify certain deficiencies in internal control, described in the accompanying schedule of findings as items 2015-001, 2015-002, and 2015-003 that we consider to be significant deficiencies.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Department's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards* and which are described in the accompanying schedule of findings and responses as item 2015-004.

Honorable Travis Lee, Mayor
and Members of the City Council
City of Cave Springs
Page 2

Response to Findings

The Water and Sewer Department of the City of Cave Springs, Arkansas' responses to the findings identified in our audit are described in the accompanying schedule of findings. The Department's responses were not subjected to the auditing procedures applied in the audit of the financial statements and, accordingly, we express no opinion on it.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Berry & Associates

Berry & Associates, P.A.
Little Rock, Arkansas
February 5, 2018

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
SCHEDULE OF FINDINGS AND RESPONSES
For the Year Ended December 31, 2015**

2015-001 Internal Control – Segregation of Duties

Criteria: The segregation of duties and responsibilities between different individuals for custody of assets, recordkeeping and those assets and reconciliation of those asset accounts is an important control activity needed to adequately protect the entity's assets and ensure accurate financial reporting.

Condition: Presently the same individual who is responsible for customer billing and adjustment, receives customer payments, and posts payments to subsidiary accounts receivable ledger. Also, the same individual who is responsible for general ledger activity, including posting and writing checks, also reconciles the bank statement. In addition, only limited oversight is provided over this individual in the conduct of their daily functions. This finding was also noted in 2014.

Cause: The Department's limited size and staffing resources have made it difficult for management to provide sufficient staffing to fully segregate incompatible duties in a cost-effective manner.

Effect or Potential Effect: Without sufficient segregation of duties, the risk significantly increases that errors and fraud related to utility billing and collection activities, including misappropriation of assets, could occur and not be detected within a timely basis.

Recommendation: We recommend that management of the Department should consider a formal evaluation of their risks associated with this lack of duty segregation over utility cash and receivables. In response to the identified risks, consideration should be given to identifying and implementing controls that could help mitigate the risks associated with lack of segregation of duties, such as providing increased management oversight. For example, the Department might consider soliciting the assistance of an independent volunteer to perform certain functions including to act as compensating procedures where applicable.

Responsible Official's Response: The Department concurs with the recommendation, although, the cost to correct this condition might exceed the benefit, the Department has made certain changes in procedures that will improve the overall lack of segregation of duties and has implemented compensating procedures as applicable.

2015-002 Internal Control – Review and approval of adjustments to customer accounts

Criteria: Adjustments to customer accounts should be approved by a party independent of the person who enters transactions to the accounts receivable subsidiary ledger.

Condition: Adjustments in aggregate reduced or credited the amounts billed to customer accounts. This finding was also noted in 2014.

Cause: The Department's limited size and staffing resources have made it difficult for management to provide sufficient oversight to properly supervise this necessary function.

Effect or Potential Effect: Without proper approval of adjustments posted to customer accounts by a party independent of the person recording transactions to the customer accounts receivable subsidiary ledger, the Department faces exposure to irregularities or unusual items that may require investigation on a timely basis.

Recommendation: We recommend that the management of the Department approve all monthly adjustments posted to the customer accounts receivable subsidiary ledger by someone other than the one who posts the original entry to the accounts receivable subsidiary ledger.

Responsible Official's Response: The Department concurs with the recommendation.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
SCHEDULE OF FINDINGS AND RESPONSES
For the Year Ended December 31, 2015**

2015-003 Internal Control – Duplicate accounting entries

Criteria: The Department is responsible for the proper recording and documentation of transactions to enable management and City Council oversight of the recording process according to generally accepted accounting principles in the United States of America.

Condition: Entries in the accounting records were duplicated regarding the sewer fund transfers. These duplicate entries overstated water revenues and an expense account titled drip field lease by the same amount of \$174,390. Although the effect to net operating income was zero, the balances of these accounts were distorted on the internal financial statements and may affect the user of the financial statement to misinterpret water revenues and an expense account titled drip field lease. This finding was also noted in 2014.

Cause: The Department did not properly record the respective transactions.

Effect or Potential Effect: Management was unable to detect or prevent entries that were coded incorrectly, thus not permitting the preparation of accurate and reliable financial statements.

Recommendation: We recommend that management of the Department properly record all transactions and appropriately maintain all accounting records in a timely manner.

Responsible Official's Response: The Department concurs with the recommendation.

2015-004 Compliance –Revenue Bond Agreements

Criteria: The Department was not in compliance with the revenue bond agreements established by Arkansas Natural Resources Commission regarding depreciation cash reserve requirements, and the filing of annual audits with the Division of Legislative Audit as required by Arkansas Code 14-234-119 through 122.

Conditions: Revenue Bond 00824-WSSW-L with the Arkansas Natural Resources Commission requires a depreciation reserve to be accumulated at a rate of 3% of the gross revenue monthly while the bond is outstanding.

Revenue Bond 00105-WSSW-D with the Arkansas Natural Resources Commission requires a depreciation reserve to be accumulated at a rate of \$120 a month while the bond is outstanding.

Annual audit reports are required to be submitted to Arkansas Natural Resources Commission no later than 120 days following the period covered by the audit for obligation ANRC00105-WSSW-D, and obligation ANRC 00824-WSSW-L. All Annual audits are to be also filed with the Division of Legislative Audit as required by Arkansas Code 14-234-1198 through 122, in a timely manner, within one year of the period covered by the audit. This finding was also noted in 2014.

Cause: The Department has not maintained a depreciation cash reserve account adequate to be in compliance with the requirements set for in the revenue bond agreement. The Department has not filed timely annual audit reports with Arkansas Natural Resources Commission or Division of Legislative Audit.

Effect or Potential Effect: Non-compliance with the terms of the agreements may make the Department ineligible for further financial assistance from the state, and may be subject to an assessed penalty.

Recommendation: We recommend that the Department make the required monthly transfers to the depreciation cash reserve accounts and file future annual audit reports in a timely manner.

Responsible Official's Response: The Department concurs with the recommendation.

**CITY OF CAVE SPRINGS
WATER AND SEWER DEPARTMENT
Cave Springs, Arkansas
FINANCIAL STATEMENTS
and
SUPPLEMENTARY INFORMATION
For the Years Ended
December 31, 2016 and 2015
and
INDEPENDENT AUDITOR'S REPORT**

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
Cave Springs, Arkansas
FINANCIAL STATEMENTS AND SUPPLEMENTARY INFORMATION
For the Years Ended December 31, 2016 and 2015

<u>Contents</u>	<u>Page</u>
Independent Auditor's Report	1-2
Statements of Net Position.....	3
Statements of Revenues, Expenses, and Changes in Net Position	4-5
Statements of Cash Flows.....	6
Notes to Financial Statements	
Note 1 - Summary of Significant Accounting Policies.....	7-8
Note 2 - Deposits with Financial Institutions	9
Note 3 - Capital Assets.....	9
Note 4 - Long-Term Debt	10-11
Note 5 - Subsequent Events	12
Note 6 - Restricted Assets	12
Note 7 - Risk Management	12
Note 8 - Commitments.....	12-13
Note 9 - Pension Plan.....	13
 Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed In Accordance with <i>Government Auditing Standards</i>	14-15
 Schedule of Findings and Responses.....	16-18

BERRY & ASSOCIATES, P.A.

Certified Public Accountants

American Institute of CPAs

Arkansas Society of CPAs

Texas Society of CPAs

Page 1

INDEPENDENT AUDITOR'S REPORT

**Honorable Travis Lee, Mayor
and Members of the City Council
City of Cave Springs Water and Sewer Department
Cave Springs, Arkansas**

Report on the Financial Statements

We have audited the accompanying financial statements of the Water and Sewer Department of the City of Cave Springs, Arkansas, as of and for the years ended December 31, 2016 and 2015, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit includes performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinion on the 2015 Financial Statements

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the City of Cave Springs Water and Sewer Department as of December 31, 2015, and the respective changes in financial position, and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Qualified Opinion on 2016 Financial Statements

Because of the inadequacy of accounting records for the year ended December 31, 2016, we were unable to obtain sufficient appropriate audit evidence regarding the amounts at which other transfers are recorded in the accompanying Statement of Revenues, Expenses, and Changes in Net Position at December 31, 2016 (stated at \$71,405).



Honorable Travis Lee, Mayor
and Members of the City Council
City of Cave Springs

Qualified Opinion on the 2016 Financial Statements

In our opinion, except for the possible effects of the matter discussed in the Basis for Qualified Opinion paragraph, the financial statements referred to in the first paragraph present fairly, in all material respects, the respective financial position of the City of Cave Springs Water and Sewer Department as of December 31, 2016, and the respective changes in financial position, and cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated June 21, 2018 on our consideration of the Water and Sewer Department of the City of Cave Springs, Arkansas's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Water and Sewer Department of the City of Cave Springs, Arkansas's internal control over financial reporting and compliance.

Emphasis of Matter

As discussed in Note 1, the financial statements present only the Water Department and do not purport to, and do not, present fairly the financial position of the City of Cave Springs, Arkansas, as of December 31, 2016 and 2015, the changes in its financial position, or, where applicable, its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Berry & Associates

BERRY & ASSOCIATES, P.A.
Little Rock, Arkansas
June 21, 2018

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
STATEMENTS OF NET POSITION
December 31, 2016 and 2015

ASSETS		
	2016	2015
CURRENT ASSETS		
Cash and cash equivalents	\$ 607,458	\$ 756,402
Accounts receivable	110,488	82,061
Total current assets	717,946	838,463
NON-CURRENT ASSETS		
Restricted assets		
Cash and cash equivalents	1,048,575	959,116
Capital assets		
Capital assets, net of accumulated depreciation	11,247,926	11,471,767
Other assets		
Construction in progress	890,912	167,105
TOTAL ASSETS	\$ 13,905,359	\$ 13,436,451
LIABILITIES AND NET POSITION		
CURRENT LIABILITIES		
Accounts payable	\$ 32,346	\$ 139,390
Retainage payable	25,231	-
Sales tax payable	4,583	4,776
Current portion of long-term debt	60,900	77,300
Accrued interest payable	16,724	41,400
Total current liabilities	139,784	262,866
CURRENT LIABILITIES PAYABLE FROM RESTRICTED ASSETS		
Meter deposits	130,724	100,465
NON-CURRENT LIABILITIES		
Long-term debt, net of current portion	1,628,260	1,689,159
TOTAL LIABILITIES	1,898,768	2,052,490
NET POSITION		
Net investment in capital assets	10,399,217	9,841,409
Temporarily restricted	131,839	131,664
Unrestricted	1,475,535	1,410,888
Total net position	12,006,591	11,383,961
TOTAL LIABILITIES AND NET POSITION	\$ 13,905,359	\$ 13,436,451

The accompanying notes to the financial statements are an integral part of these statements.

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
STATEMENTS OF REVENUES, EXPENSES, AND CHANGE IN NET POSITION
For the Years Ended December 31, 2016 and 2015

	2016	2015
OPERATING REVENUES		
Water revenue	\$ 711,407	\$ 821,009
Sewer revenue	497,291	225,095
Water & sewer tapping/connection fees	33,306	164,498
Pump package sales	-	76,118
Sewer tank sales	206,976	45,000
Penalties	17,636	12,727
Miscellaneous	73,419	30,928
Total operating revenues	1,540,035	1,375,375
OPERATING EXPENSES		
Water:		
Water purchases	137,281	142,489
Depreciation	74,893	65,924
Salaries & wages	228,472	118,897
Dues and subscriptions	8,176	7,222
Software fees	-	5,106
Bank fees	547	3,237
Office supplies	12,658	9,648
Professional fees	89,166	62,327
Repairs and maintenance	85,512	112,477
Fuel	9,039	2,857
Insurance	2,485	880
Miscellaneous	12,161	7,112
Taxes and licenses	-	115
Training	8,736	1,084
Travel	169	52
Utility permits and locates	1,866	4,498
Utilities	62,711	14,068
Total Water Expenses	733,872	557,993
Sewer:		
Depreciation	194,388	153,291
Office supplies	4,407	628
Professional fees	12,982	-
Repairs and maintenance	23,602	79,260
Sewer maintenance fees	91,935	69,465
Telephone & utilities	16,675	-
Travel	117	-
Sewer pumps	-	71,375
Sewer tanks	-	99,937
Miscellaneous	7,873	-
Total sewer expenses	351,979	473,956
Total operating expenses	1,085,851	1,031,949
OPERATING INCOME	\$ 454,184	\$ 343,426

The accompanying notes to the financial statements are an integral part of these statements.

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
STATEMENTS OF REVENUES, EXPENSES, AND CHANGE IN NET POSITION, Continued
For the Years Ended December 31, 2016 and 2015

NON-OPERATING REVENUE (EXPENSES)	<u>2016</u>	<u>2015</u>
Interest income	\$ 1,152	\$ 1,272
Interest expense	(74,628)	(75,448)
Grant income	-	651,029
Other Income	262,997	-
Net non-operating income	<u>189,521</u>	<u>576,853</u>
OTHER FINANCING SOURCES (USES)		
Transfers (to) from other funds	(92,480)	27,289
Other transfers	71,405	-
Total other financing sources (uses)	<u>(21,075)</u>	<u>27,289</u>
CHANGE IN NET POSITION	622,630	947,568
NET POSITION - BEGINNING OF YEAR	<u>11,383,961</u>	<u>10,436,393</u>
NET POSITION - END OF YEAR	<u>\$ 12,006,591</u>	<u>\$ 11,383,961</u>

The accompanying notes to the financial statements are an integral part of these statements.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
STATEMENTS OF CASH FLOWS
For the Years Ended December 31, 2016 and 2015**

	<u>2016</u>	<u>2015</u>
CASH FLOWS FROM OPERATING ACTIVITIES:		
Cash received from customers	\$ 1,511,608	\$ 1,355,563
Cash payments to suppliers	(673,745)	(655,660)
Cash payments to employees	(194,572)	(118,897)
Net cash provided by operating activities	<u>643,291</u>	<u>581,006</u>
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES:		
Grant proceeds	262,997	651,029
Loan proceeds	-	154,500
Purchases of capital assets	(45,439)	(900,872)
Costs paid on construction in progress	(723,807)	(167,105)
Principal payments on long-term debt	(77,299)	(30,845)
Interest payments on long-term debt	(99,303)	(51,648)
Net cash used by capital and related financing activities	<u>(682,851)</u>	<u>(344,941)</u>
CASH FLOWS FROM NON-CAPITAL FINANCING ACTIVITIES:		
Transfers (to) from to other funds	(92,480)	27,289
Other transfers	71,405	-
Net cash provided (used) by non-capital financing activities	<u>(21,075)</u>	<u>27,289</u>
CASH FLOWS FROM INVESTING ACTIVITIES:		
Net activity of restricted cash	(89,461)	(261,058)
Interest received	1,152	1,272
Net cash used by investing activities	<u>(88,309)</u>	<u>(259,786)</u>
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	(148,944)	3,568
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR	756,402	752,834
CASH AND CASH EQUIVALENTS AT END OF YEAR	<u>\$ 607,458</u>	<u>\$ 756,402</u>
Reconciliation of operating income to net cash provided by operating activities:		
Operating income	\$ 454,184	\$ 343,426
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation and amortization	269,281	219,215
(Increase) Decrease in:		
Accounts receivable	(28,427)	(19,812)
Increase (Decrease) in:		
Accounts payable	(107,044)	34,404
Retainage payable	25,231	(31,097)
Sales tax payable	(193)	1,570
Customer deposits	30,259	33,300
	<u>189,107</u>	<u>237,580</u>
Net cash provided by operating activities	<u>\$ 643,291</u>	<u>\$ 581,006</u>

The accompanying notes to the financial statements are an integral part of these statements.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2016 and 2015**

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

Organization

The City of Cave Springs, Arkansas, Water and Sewer Department is an enterprise fund. Enterprise funds are proprietary funds used to account for business-like activities provided to the general public. These activities are financed primarily by user charges and the measurement of financial activity focuses on net income measurement similar to the private sector. The fund is used to record the revenues and expenses from the operation of the water and sewer system.

Basis of Presentation and Accounting

The accounts of the Department are organized on the basis of a proprietary fund type, specifically an enterprise fund. The activities of this fund are accounted for with a separate set of self-balancing accounts that comprise the Department's assets, liabilities, net position, revenues and expenses. Enterprise Funds account for activities (i) that are financed with debt that is secured solely by a pledge of the net revenues from fees and charges of the activity; or (ii) that are required by laws or regulations that the activity's costs of providing services, including capital costs (such as depreciation or debt service), be recovered with fees and charges, rather than with taxes or similar revenues; or (iii) that the pricing policies of the activity establish fees and charges designed to recover its costs, including capital costs (such as depreciation or debt service).

The accounting and financial reporting treatment applied to the Department is determined by its measurement focus. The transactions of the Department are accounted for on a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operations are included on the statement of net position. Net position (i.e., total assets net of total liabilities) are segregated into net investment in capital assets, restricted for debt service; and unrestricted components.

Estimates

Management of the Department has made certain estimates and assumptions relating to the reporting of assets and liabilities and revenues and expenses to prepare these financial statements in conformity with generally accepted accounting principles. Actual results may differ from those estimates.

Cash and Cash Equivalents

The Department considers all highly liquid investments (including restricted cash and investments) with maturities of three months or less when purchased to be cash equivalents. Certificate of deposits are presented at fair value. Short-term investments generally mature or are otherwise available for withdrawal in less than one year.

Allowance for Bad Debts

The Department has elected to record bad debts using the direct write-off method. Generally accepted accounting principles require that the allowance method be used to recognize bad debts; however as of December 31, 2016 management had determined that no additional accounts needed to be written off. Bad debt expense for the year ended December 31, 2016 was \$0.

Budgets and Budgetary Accounting

Prior to the beginning of the new fiscal year, the Council Members adopt an annual budget for the Department. The budget of the Department is adopted under a basis consistent with GAAP, except that depreciation, certain capital expenses, and nonoperation income and expense items are not considered. All annual appropriations lapse at the fiscal year-end.

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2016 and 2015

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued):

Capital Assets

The cost of additions and major replacements of retired units of property are capitalized. The Department defines capital assets as assets with an initial, individual cost of more than \$1,000 and an estimated useful life in excess of two years. Cost includes direct labor, outside services, materials and transportation, employee fringe benefits, overhead, and interest on funds borrowed to finance construction. The cost and accumulated depreciation of property sold or retired is deducted from capital assets and any profit or loss resulting from the disposal is credited or charged in the nonoperating section of the statements of revenues, expenses and changes in net position. The cost of current repairs, maintenance, and minor replacements is charged to expense. Construction in progress primarily relates to upgrades of existing facilities.

Depreciation has been provided over estimated useful lives of the assets using the straight-line method. The estimated useful lives are as follows:

Asset	Years
Water & Sewer System	25-40
Office Equipment	3-7
Equipment	5-15
Vehicles	5

Long-Term Debt and Costs

Long-term debt is reported at face value, net of applicable discounts and deferred loss on refunding. Costs related to the issuance of debt are deferred and amortized over the lives of the various debt issues. Losses occurring from advance refundings of debt are deferred and amortized as interest expense over the remaining life of the old bonds, or the life of the new bonds, whichever is shorter.

Operating Revenues and Expenses

Operating revenues and expenses consist of those revenues that result from the ongoing principal operations of the Department. Operating revenues consist primarily of charges for services. Nonoperating revenues and expenses consist of those revenues and expenses that are related to financing and investing type of activities and result from nonexchange transactions or ancillary activities. When an expense is incurred for purposes for which there are both restricted and unrestricted net position available, it is the Department's policy to apply those expenses to restricted net position to the extent such are available and then to unrestricted net position.

Equity Classification

Net position comprises the various net earnings from operating income, nonoperating revenues and expenses, and capital contributions. Net position is classified in the following three components:

Net Investment in Capital Assets- This component of net position consists of capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes or other borrowings that are attributable to the acquisition, construction or improvements of those assets. If there are significant unspent related debt proceeds at year-end, the portion of the debt attributable to the unspent proceeds is not included in the calculation of net investment in capital assets. Rather, that portion of debt is included in the same net position component as the unspent proceeds.

Temporarily Restricted- This component of net position consists of constraints imposed by creditors (such as through debt covenants), grantors, contributors, or laws or regulations of other governments or constraints imposed by law through constitutional provisions or enabling legislation.

Unrestricted - This component of net position consists of net position that does not meet the definition of "restricted."

Capitalized Interest

Interest costs are capitalized when incurred on debt where proceeds were used to finance the construction of assets. Interest earned on proceeds of tax-exempt borrowing arrangements restricted to the acquisition of qualifying assets is offset against interest costs in determining the amount to be capitalized.

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2016 and 2015

NOTE 2 – DEPOSITS WITH FINANCIAL INSTITUTIONS:

All funds are deposited in approved banks. The deposited funds are insured by the Federal Deposit Insurance Corporation (“FDIC”) or collateralized by securities held by the banks in the Department’s name. The deposited funds were adequately insured at December 31, 2016.

NOTE 3 – CAPITAL ASSETS:

Capital asset activity for the years ended December 31, 2016 and 2015 was as follows:

	Balance 12/31/15	Additions	Retirements and transfers	Balance 12/31/16
Land & Easements	\$ 642,500	\$ -	\$ -	\$ 642,500
Sewer System	9,843,620	-	-	9,843,620
Water System	2,409,380	-	-	2,409,380
Equipment - Water	145,830	-	-	145,830
Equipment - Sewer	2,124	9,566	-	11,690
Office Equipment	3,029	-	-	3,029
Vehicles	68,991	35,873	-	104,864
	<u>13,115,474</u>	<u>\$ 45,439</u>	<u>\$ -</u>	<u>13,160,913</u>
Less Accumulated Depreciation	<u>(1,643,707)</u>			<u>(1,912,987)</u>
Total Net Capital Assets	<u>\$ 11,471,767</u>			<u>\$ 11,247,926</u>

	Balance 12/31/14	Additions	Retirements and transfers	Balance 12/31/15
Land & Easements	\$ 642,500	\$ -	\$ -	\$ 642,500
Sewer System	8,608,864	1,234,756	-	9,843,620
Water System	2,224,781	184,599	-	2,409,380
Equipment - Water	94,961	50,869	-	145,830
Equipment - Sewer	2,124	-	-	2,124
Office Equipment	3,029	-	-	3,029
Vehicles	14,291	54,700	-	68,991
	<u>11,590,550</u>	<u>\$ 1,524,924</u>	<u>\$ -</u>	<u>13,115,474</u>
Less Accumulated Depreciation	<u>(1,424,492)</u>			<u>(1,643,707)</u>
Total Net Capital Assets	<u>\$ 10,166,058</u>			<u>\$ 11,471,767</u>

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2016 and 2015

NOTE 4 – LONG-TERM DEBT:

Long-term debt consists of the following:

	<u>2016</u>	<u>2015</u>
Water System Revenue Bond, serviced by First Security Bank and payable to Arkansas Natural Resources Commission, due in annual installments of \$24,795, including interest at 5.0%, beginning December 2010 through December 2029. The bond is secured by revenues of the Department. (1)	\$ 232,913	\$ 257,363
Arkansas Natural Resources Commission loan, due in annual installments of \$42,449 including interest at 5.0%, beginning June 2013 through June 2032. The bond is secured by property and equipment revenues of the system. (2)	460,059	478,579
Arkansas Natural Resources Commission water revenue bond, due in semi- annual installments of \$15,515 including interest at 5.0%, beginning June 2004 through December 2033. The bond is secured by property and equipment revenues of the system. (3)	371,513	393,159
USDA Department of Rural Development loan, due in monthly installments of \$2,044 including interest at 3.75%, beginning June 2011 through December 2051. The bond is secured by property and equipment revenues of the system. (2)	476,326	482,858
Arkansas Natural Resources Commission loan, due in annual installments of \$10,786 including interest at 3.0%, beginning December 2016 through December 2034. The bond is secured by property and equipment revenues of the system. (2)	<u>148,349</u>	<u>154,500</u>
	1,689,160	1,766,459
Less Current Portion	<u>(60,900)</u>	<u>(77,300)</u>
Long-Term Debt, Net	<u>\$ 1,628,260</u>	<u>\$ 1,689,159</u>

(1) The bond agreement with Arkansas Natural Resources Commission contains a provision which requires the Department to maintain their water rates at an amount sufficient to (1) pay all operation, repair and maintenance expenses, (2) leave a balance equal to the debt service requirements to which the system revenues are pledged, and (3) maintain a depreciation reserve that accumulates at a rate of 3% of revenues each month for the life of the bond. For the year ended December 31, 2016, the Department did not satisfy this requirement of the rate covenant.

(2) This debt has no restrictive covenant.

(3) The bond agreement with Arkansas Natural Resources Commission contains a provision which requires the Department to maintain their water rates at an amount sufficient to (1) pay all operation, repair and maintenance expenses, (2) leave a balance equal to the debt service requirements to which the system revenues are pledged, and (3) maintain a depreciation reserve that accumulates at a rate of \$120 a month for the life of the bond. For the year ended December 31, 2016, the Department did not satisfy this requirement of the rate covenant.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2016 and 2015**

NOTE 4 – LONG-TERM DEBT (continued):

The annual maturities of long-term debt at December 31, 2016, are as follows:

	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2017	\$ 60,900	\$ 72,660	\$ 133,560
2018	63,700	69,920	133,620
2019	66,500	67,055	133,555
2020	69,500	64,105	133,605
2021	72,700	60,924	133,624
2022-2026	415,600	252,340	667,940
2027-2031	467,900	150,728	618,628
2032-2036	193,800	65,658	259,458
2037-2041	77,300	45,357	122,657
2042-2046	93,200	29,440	122,640
2047-2051	108,060	10,245	118,305
	<u>\$ 1,689,160</u>	<u>\$ 888,431</u>	<u>\$ 2,577,591</u>

Long-term liability activity for the years ended December 31, 2016 and 2015 is as follows:

	<u>Balance 12/31/15</u>	<u>Additions</u>	<u>Retirements</u>	<u>Balance 12/31/16</u>	<u>Due Within One Year</u>
Long Term Debt					
Loans	\$ 894,721	\$ -	\$ (37,134)	\$ 857,587	\$ 26,200
Water Revenue Bonds	871,738	-	(40,165)	831,572	34,700
Total	<u>\$ 1,766,459</u>	<u>\$ -</u>	<u>\$ (77,299)</u>	<u>\$ 1,689,160</u>	<u>\$ 60,900</u>
	<u>Balance 12/31/14</u>	<u>Additions</u>	<u>Retirements</u>	<u>Balance 12/31/15</u>	<u>Due Within One Year</u>
Long Term Debt					
Loans	\$ 746,514	\$ 154,500	\$ (6,293)	\$ 894,721	\$ 37,200
Water Revenue Bonds	896,290	-	(24,552)	871,738	40,100
Total	<u>\$ 3,285,608</u>	<u>\$ 154,500</u>	<u>\$ (30,845)</u>	<u>\$ 1,766,459</u>	<u>\$ 77,300</u>

The Department has pledged future water customer revenues, net of specified operating expenses, to repay \$1,689,160 in revenue bonds. Proceeds from the bonds were used for building of the Department's water and sewer system. Principal and interest on the bonds are payable through 2051, solely from the water customer net revenues. Principal and interest paid in the year ended December 31, 2016 were \$77,299 and \$99,303, respectively. Principal and interest paid in the year ended December 31, 2015 were \$30,845 and \$51,648 respectively.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2016 and 2015**

NOTE 5 – SUBSEQUENT EVENTS:

Management has evaluated all the activities of the Department through June 21, 2018 (the date the financial statements were available to be issued) and concluded that no subsequent events have occurred that would require recognition in the financial statements or disclosure in the notes to the financial statements as of December 31, 2016.

NOTE 6 – RESTRICTED ASSETS:

Restricted assets consist of cash reserves restricted for specific use and cash deposits for meters by customers.

The following is a list of the restricted cash at December 31:

	<u>2016</u>	<u>2015</u>
Customer Meter Deposits	\$ 325,323	\$ 233,134
Construction Fund	591,413	594,318
Debt Service Reserves	131,839	131,664
	<u>\$ 1,048,575</u>	<u>\$ 959,116</u>

NOTE 7 – RISK MANAGEMENT:

The Department is exposed to various levels of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions, injuries to employees; and natural disasters. The Department carries property, vehicle insurance and workers compensation insurance.

There has been no significant reduction in the Department's insurance coverage from the previous year. In addition, there have been no settlements in excess of the Department's coverage in any of the prior three fiscal years.

NOTE 8 – COMMITMENTS:

The Department leases the right to discharge treated effluent from its sewage treatment facilities under a Drip Field operating lease. The 50-year lease term began February 11, 2008 and provides rents of \$15 for every connected residence and \$15 for every 208 gallons of commercial effluent discharged through the drip field irrigation system per month. Payment of the rent is subject to the collection of user fees charged to the system's customers by the Department. The lease requires the City of Cave Springs, Arkansas to provide \$1,000,000 of public liability insurance, and \$1,000,000 environmental insurance once volume reaches a certain level.

The Department started a construction project to extend and improve the water system during the year ended December 31, 2015. The Department has entered into contracts with an engineering firm for the oversight of water system rehabilitation project and has incurred costs of \$81,519 as of December 31, 2016. The Department has entered into contracts with a construction contractor for the amount of \$335,210. As of December 31, 2016 the Department has incurred costs of \$252,309 on these contracts.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2016 and 2015**

NOTE 8 – COMMITMENTS (continued):

The Department started a construction project to relocate a portion of the water system during the year ended December 31, 2015. The Department has entered into contracts with an engineering firm for the oversight of water system rehabilitation project and has incurred costs of \$52,468 as of December 31, 2016. The Department has entered into contracts with a construction contractor for the amount of \$248,702. As of December 31, 2016 the Department has incurred costs of \$242,352 on these contracts.

The Department is the recipient of a \$1,100,000 grant from the Arkansas Economic Development Commission, dated March 20, 2013. The Department has received proceeds of the grant of \$1,099,401 as of December 31, 2015.

NOTE 9 – PENSION PLAN:

Plan Description. The Department contributes to the Arkansas Public Employees Retirement System (APERS), a cost-sharing multiple-employer defined benefit pension plan that covers municipal employees whose municipalities have elected coverage under this System. APERS provides retirement and disability benefits, annual cost-of-living adjustments, and death benefits to plan members and beneficiaries. Benefit provisions are established by State law and can be amended only by the Arkansas General Assembly. The Arkansas Public Employees Retirement System issues a publicly available financial report that includes financial statements and required supplementary information for APERS. That report may be obtained by writing to Arkansas Public Employees Retirement System, One Union National Plaza, 124 W. Capitol, Little Rock, AR 72201 or by calling 1-800-682-7377.

Funding Policy. APERS has contributory and non-contributory plans. Contributory members are required by code to contribute 5% of their salary. Each participating employer is required by code to contribute at a rate established by the Board of Trustees of the system based on the annual actuarial valuation. The current employer rate is 14.76% for January 1 to June 30 and 14.50% for July 1 to December 31 of 2016 annual covered payroll. The Water and Sewer Department's contributions to APERS for the year ending December 31, 2016 were \$25,189, equal to the required contributions for the year.

Implementation of GASB 68

In June 2012, GASB issued Statement No. 68, Accounting and Financial Reporting for Pensions – an Amendment of GASB Statement No. 27, which became effective with fiscal year ending June 15, 2014. The Statement establishes standards for public pension plan obligations for participating employers. Under the new statement, a cost-sharing employer whose employees receive pensions through a trust will report in the financial statements a net pension liability, deferred outflows or inflows of resources related to pensions, and pension expense based on its proportionate share of the collective net pension liability of all employers in the plan. A net pension liability can be volatile due to changes in actuarial estimates and the actual investment return. These financial statements do not include the disclosure related to this accounting principal, but would be included in the government wide financial statements and not the individual fund financial statements.

BERRY & ASSOCIATES, P.A.

Certified Public Accountants

American Institute of CPAs

Arkansas Society of CPAs

Texas Society of CPAs

Page 14

REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

**Honorable Travis Lee, Mayor
and Members of the City Council
City of Cave Springs Water and Sewer Department
Cave Springs, Arkansas**

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Water and Sewer Department of the City of Cave Springs, Arkansas, as of and for the year ended December 31, 2016, and the related notes to the financial statements, which collectively comprise the Water and Sewer Department of the City of Cave Springs, Arkansas's financial statements and have issued our report thereon dated June 21, 2018.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Department's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Department's internal control. Accordingly, we do not express an opinion on the effectiveness of the Department's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected in a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that were not identified. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified. We did identify certain deficiencies in internal control, described in the accompanying schedule of findings as items 2016-001, 2016-002, 2016-003, and 2016-004 that we consider to be significant deficiencies.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Department's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards* and which are described in the accompanying schedule of findings and responses as item 2016-005.

Honorable Travis Lee, Mayor
and Members of the City Council
City of Cave Springs
Page 2

Response to Findings

The Water and Sewer Department of the City of Cave Springs, Arkansas' responses to the findings identified in our audit are described in the accompanying schedule of findings. The Department's responses were not subjected to the auditing procedures applied in the audit of the financial statements and, accordingly, we express no opinion on it.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Berry & Associates

Berry & Associates, P.A.
Little Rock, Arkansas
June 21, 2018

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
SCHEDULE OF FINDINGS AND RESPONSES
For the Year Ended December 31, 2016**

2016-001 Internal Control – Segregation of Duties

Criteria: The segregation of duties and responsibilities between different individuals for custody of assets, recordkeeping and those assets and reconciliation of those asset accounts is an important control activity needed to adequately protect the entity's assets and ensure accurate financial reporting.

Condition: Presently the same individual who is responsible for customer billing and adjustment, receives customer payments, and posts payments to subsidiary accounts receivable ledger. Also, the same individual who is responsible for general ledger activity, including posting and writing checks, also reconciles the bank statement. In addition, only limited oversight is provided over this individual in the conduct of their daily functions. This finding was also noted in 2015.

Cause: The Department's limited size and staffing resources have made it difficult for management to provide sufficient staffing to fully segregate incompatible duties in a cost-effective manner.

Effect or Potential Effect: Without sufficient segregation of duties, the risk significantly increases that errors and fraud related to utility billing and collection activities, including misappropriation of assets, could occur and not be detected within a timely basis.

Recommendation: We recommend that management of the Department should consider a formal evaluation of their risks associated with this lack of duty segregation over utility cash and receivables. In response to the identified risks, consideration should be given to identifying and implementing controls that could help mitigate the risks associated with lack of segregation of duties, such as providing increased management oversight. For example, the Department might consider soliciting the assistance of an independent volunteer to perform certain functions including to act as compensating procedures where applicable.

Responsible Official's Response: The Department concurs with the recommendation, although, the cost to correct this condition might exceed the benefit, the Department has made certain changes in procedures that will improve the overall lack of segregation of duties and has implemented compensating procedures as applicable.

2016-002 Internal Control – Review and approval of adjustments to customer accounts

Criteria: Adjustments to customer accounts should be approved by a party independent of the person who enters transactions to the accounts receivable subsidiary ledger.

Condition: Adjustments in aggregate reduced or credited the amounts billed to customer accounts. This finding was also noted in 2015.

Cause: The Department's limited size and staffing resources have made it difficult for management to provide sufficient oversight to properly supervise this necessary function.

Effect or Potential Effect: Without proper approval of adjustments posted to customer accounts by a party independent of the person recording transactions to the customer accounts receivable subsidiary ledger, the Department faces exposure to irregularities or unusual items that may require investigation on a timely basis.

Recommendation: We recommend that the management of the Department approve all monthly adjustments posted to the customer accounts receivable subsidiary ledger by someone other than the one who posts the original entry to the accounts receivable subsidiary ledger.

Responsible Official's Response: The Department concurs with the recommendation.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
SCHEDULE OF FINDINGS AND RESPONSES
For the Year Ended December 31, 2016**

2016-003 Internal Control – Inadequate Payroll Reimbursement

Criteria: The Department is responsible for the proper recording and documentation of payroll transactions to enable management and City Council oversight of the recording process according to generally accepted accounting principles in the United States of America.

Condition: Transactions in the accounting records did not properly reflect the gross wages, employer payroll taxes, retirement expenses and health insurance costs for the respective employees of the Department. The Department recorded monthly payments payable to the general fund of the City of Cave Springs, but did not adequately account for the cost of the Departments' employees. A transfer in the amount of \$39,713 is reflected in the financial statements to account for the differences between the costs of the employees and the sum of the payments made to the City of Cave Springs general fund.

Cause: The Department did not properly record the respective transactions.

Effect or Potential Effect: Management was unable to adequately determine the costs of the Department's employees, thus not permitting the preparation of accurate and reliable financial statements.

Recommendation: We recommend that the Department properly record the costs and related employer expense of the Department's employees in the accounting records and reimburse the City of Cave Springs' general fund for these respective costs.

Responsible Official's Response: The Department concurs with the recommendation.

2016-004 Internal Control – Inadequate Accounting Records

Criteria: The Department is responsible for the proper recording and documentation of all financial activity, and maintaining segregated records for the water and sewer funds from other funds' activity.

Condition: The water and sewer fund accounts were not properly segregated from other funds. Several journal entries were made throughout the year to adjust bank account balances without supporting documentation. Many of the capitalized asset and long-term liability accounts were not recorded on the Department's accounting records.

Cause: The Department did not properly record transactions, carry forward capitalized assets and long-term debt, and segregate water and sewer activity.

Effect or Potential Effect: Management was unable to adequately segregate the activity of the Department thus not permitting the preparation of accurate and reliable financial statements.

Recommendation: We recommend that the Department properly segregate the Department's financial accounts in either a separate file or use proper classifications to ensure fund segregation in the accounting records. All transactions should be entered and bank accounts reconciled on a regular and consistent basis to ensure that all activity is properly recorded. Also, journal entries should be reduced to transactions that are in need of correction or necessary accruals. Capitalized assets and long-term debt should be maintained in the accounting records.

Responsible Official's Response: The Department concurs with the recommendation.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
SCHEDULE OF FINDINGS AND RESPONSES
For the Year Ended December 31, 2016**

2016-005 Compliance –Revenue Bond Agreements

Criteria: The Department was not in compliance with the revenue bond agreements established by Arkansas Natural Resources Commission regarding depreciation cash reserve requirements, and the filing of annual audits with the Division of Legislative Audit as required by Arkansas Code 14-234-119 through 122.

Conditions: Revenue Bond 00824-WSSW-L with the Arkansas Natural Resources Commission requires a depreciation reserve to be accumulated at a rate of 3% of the gross revenue monthly while the bond is outstanding.

Revenue Bond 00105-WSSW-D with the Arkansas Natural Resources Commission requires a depreciation reserve to be accumulated at a rate of \$120 a month while the bond is outstanding.

Annual audit reports are required to be submitted to Arkansas Natural Resources Commission no later than 120 days following the period covered by the audit for obligation ANRC00105-WSSW-D, and obligation ANRC 00824-WSSW-L. All Annual audits are to be also filed with the Division of Legislative Audit as required by Arkansas Code 14-234-1198 through 122, in a timely manner, within one year of the period covered by the audit. This finding was also noted in 2015.

Cause: The Department has not maintained a depreciation cash reserve account adequate to be in compliance with the requirements set for in the revenue bond agreement. The Department has not filed timely annual audit reports with Arkansas Natural Resources Commission or Division of Legislative Audit.

Effect or Potential Effect: Non-compliance with the terms of the agreements may make the Department ineligible for further financial assistance from the state, and may be subject to an assessed penalty.

Recommendation: We recommend that the Department make the required monthly transfers to the depreciation cash reserve accounts and file future annual audit reports in a timely manner.

Responsible Official's Response: The Department concurs with the recommendation.

**CITY OF CAVE SPRINGS
WATER AND SEWER DEPARTMENT
Cave Springs, Arkansas
FINANCIAL STATEMENTS
and
SUPPLEMENTARY INFORMATION
For the Years Ended
December 31, 2017 and 2016
and
INDEPENDENT AUDITOR'S REPORT**

DRAFT

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
Cave Springs, Arkansas
FINANCIAL STATEMENTS AND SUPPLEMENTARY INFORMATION
For the Years Ended December 31, 2017 and 2016

<u>Contents</u>	<u>Page</u>
Independent Auditor's Report	1-2
Statements of Net Position	3
Statements of Revenues, Expenses, and Changes in Net Position	4-5
Statements of Cash Flows	6
Notes to Financial Statements	
Note 1 - Summary of Significant Accounting Policies	7-8
Note 2 - Deposits with Financial Institutions	9
Note 3 - Capital Assets	9
Note 4 - Long-Term Debt	10-11
Note 5 - Subsequent Events	12
Note 6 - Restricted Assets	12
Note 7 - Risk Management	12
Note 8 - Commitments	12
Note 9 - Pension Plan	13
Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements performed in accordance with <i>Government Auditing Standards</i>	14-15
Schedule of Findings and Responses	16-18

BERRY & ASSOCIATES, P.A.

Certified Public Accountants

American Institute of CPAs

Arkansas Society of CPAs

Texas Society of CPAs

INDEPENDENT AUDITOR'S REPORT

Page 1

**Honorable Travis Lee, Mayor
and Members of the City Council
City of Cave Springs Water and Sewer Department
Cave Springs, Arkansas**

Report on the Financial Statements

We have audited the accompanying financial statements of the Water and Sewer Department of the City of Cave Springs, Arkansas, as of and for the years ended December 31, 2017 and 2016, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America. This includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit includes performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Basis for Qualified Opinion on Financial Statements

Because of the inadequacy of accounting records for the year ended December 31, 2017 and 2016, we were unable to obtain sufficient appropriate audit evidence regarding the amounts at which other transfers are recorded in the accompanying Statement of Revenues, Expenses, and Changes in Net Position at December 31, 2017 and 2016, (stated at \$88,098 and \$71,405, respectively).

11225 Huron Lane, Suite 212 • Little Rock, AR 72211 • 501-227-9044 • Fax 501-227-8791 • jtberrycpa@gmail.com
2911 Turtle Creek Blvd., Suite 300 • Dallas, TX 75219 • 972-437-2919
2088 Main Street, Suite A • Madison, MS 39110 • 601-383-0119

Honorable Travis Lee, Mayor
and Members of the City Council
City of Cave Springs

Page 2

Qualified Opinion on the Financial Statements

In our opinion, except for the possible effects of the matter discussed in the Basis for Qualified Opinion paragraph, the financial statements referred to in the first paragraph present fairly, in all material respects, the respective financial position of the City of Cave Springs Water and Sewer Department as of December 31, 2017 and 2016, and the respective changes in financial position, and cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated October 16, 2018 on our consideration of the Water and Sewer Department of the City of Cave Springs, Arkansas's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Water and Sewer Department of the City of Cave Springs, Arkansas's internal control over financial reporting and compliance.

Emphasis of Matter

As discussed in Note 1, the financial statements present only the Water Department and do not purport to, and do not, present fairly the financial position of the City of Cave Springs, Arkansas, as of December 31, 2017 and 2016, the changes in its financial position, or, where applicable, its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Berry & Associates

BERRY & ASSOCIATES, P.A.
Little Rock, Arkansas
October 16, 2018

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
STATEMENTS OF NET POSITION
December 31, 2017 and 2016

ASSETS		
	<u>2017</u>	<u>2016</u>
CURRENT ASSETS		
Cash and cash equivalents	\$ 1,105,124	\$ 607,458
Accounts receivable	118,852	110,488
Prepaid expenses	1,682	-
Total current assets	<u>1,225,658</u>	<u>717,946</u>
NON-CURRENT ASSETS		
Restricted assets		
Cash and cash equivalents	1,046,635	1,048,575
Capital assets		
Capital assets, net of accumulated depreciation	11,925,312	11,247,926
Other assets		
Construction in progress	-	890,912
TOTAL ASSETS	<u>\$ 14,197,854</u>	<u>\$ 13,905,359</u>
LIABILITIES AND NET POSITION		
CURRENT LIABILITIES		
Accounts payable	\$ 52,803	\$ 32,346
Retainage payable	-	25,231
Sales tax payable	5,589	4,583
Current portion of long-term debt	63,600	60,900
Accrued interest payable	16,042	16,724
Total current liabilities	<u>138,034</u>	<u>139,784</u>
CURRENT LIABILITIES PAYABLE FROM RESTRICTED ASSETS		
Meter deposits	140,264	130,724
NON-CURRENT LIABILITIES		
Long-term debt, net of current portion	1,564,579	1,628,260
TOTAL LIABILITIES	<u>1,842,877</u>	<u>1,898,768</u>
NET POSITION		
Net investment in capital assets	10,296,816	10,399,217
Temporarily restricted	73,996	131,839
Unrestricted	1,984,165	1,475,535
Total net position	<u>12,354,977</u>	<u>12,006,591</u>
TOTAL LIABILITIES AND NET POSITION	<u>\$ 14,197,854</u>	<u>\$ 13,905,359</u>

The accompanying notes to the financial statements are an integral part of these statements.

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
STATEMENTS OF REVENUES, EXPENSES, AND CHANGE IN NET POSITION
For the Years Ended December 31, 2017 and 2016

	<u>2017</u>	<u>2016</u>
OPERATING REVENUES		
Water revenue	\$ 872,192	\$ 711,407
Sewer revenue	730,647	497,291
Water & sewer tapping/connection fees	160,500	33,306
Sewer tank sales	-	206,976
Penalties	24,039	17,636
Miscellaneous	44,528	73,419
Total operating revenues	<u>1,819,066</u>	<u>1,540,035</u>
OPERATING EXPENSES		
Water:		
Water purchases	212,335	137,281
Depreciation	104,041	74,893
Salaries & wages	372,525	228,472
Dues and subscriptions	374	8,176
Bank fees	596	547
Office supplies	20,690	12,658
Professional fees	62,928	89,166
Repairs and maintenance	754	85,512
Fuel	11,841	9,039
Insurance	626	2,485
Miscellaneous	8,091	12,161
Training	2,500	8,736
Travel	-	169
Utilities and losses	2,445	1,866
Depreciation	33,084	62,711
Total Water Expenses	<u>710,330</u>	<u>733,872</u>
Sewer:		
Depreciation	194,982	194,388
Office supplies	17,923	4,407
Professional fees	45,521	12,982
Repairs and maintenance	179,489	23,602
Sewer maintenance fees	117,675	91,935
Telephone & utilities	28,568	16,675
Travel	-	117
Miscellaneous	614	7,873
Total sewer expenses	<u>584,772</u>	<u>351,979</u>
Total operating expenses	<u>1,295,102</u>	<u>1,085,851</u>
OPERATING INCOME	<u>\$ 536,804</u>	<u>\$ 454,184</u>

Income Stmt

The accompanying notes to the financial statements are an integral part of these statements.

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
STATEMENTS OF REVENUES, EXPENSES, AND CHANGE IN NET POSITION, Continued
For the Years Ended December 31, 2017 and 2016

NON-OPERATING REVENUE (EXPENSES)	<u>2017</u>	<u>2016</u>
Interest income	\$ 909	\$ 1,152
Interest expense	(71,974)	(74,628)
Other income	-	262,997
Net non-operating income	<u>1,065</u>	<u>189,521</u>
OTHER FINANCING SOURCES (USES)		
Transfers (to) from other funds	(95,451)	(92,480)
Other transfers	1,098	71,405
Total other financing sources (uses)	<u>(117,353)</u>	<u>(21,075)</u>
CHANGE IN NET POSITION	348,386	622,630
NET POSITION - BEGINNING OF YEAR	<u>1,006,591</u>	<u>11,383,961</u>
NET POSITION - END OF YEAR	<u><u>\$ 2,354,977</u></u>	<u><u>\$ 12,006,591</u></u>

income

The accompanying notes to the financial statements are an integral part of these statements.

CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
STATEMENTS OF CASH FLOWS
For the Years Ended December 31, 2017 and 2016

	<u>2017</u>	<u>2016</u>
CASH FLOWS FROM OPERATING ACTIVITIES:		
Cash received from customers	\$ 1,823,542	\$ 1,511,608
Cash payments to suppliers	(866,190)	(673,745)
Cash payments to employees	(125,799)	(194,572)
Net cash provided by operating activities	<u>831,553</u>	<u>643,291</u>
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES:		
Other income	-	262,997
Purchases of capital assets	-	(45,439)
Costs paid on construction in progress	(85,746)	(723,807)
Principal payments on long-term debt	(50,980)	(77,299)
Interest payments on long-term debt	(2,657)	(99,303)
Net cash used by capital and related financing activities	<u>(219,433)</u>	<u>(682,851)</u>
CASH FLOWS FROM NON-CAPITAL FINANCING ACTIVITIES:		
Transfers (to) from to other funds	(205,451)	(92,480)
Other transfers	88,098	71,405
Net cash used by non-capital financing activities	<u>(117,353)</u>	<u>(21,075)</u>
CASH FLOWS FROM INVESTING ACTIVITIES:		
Net activity of restricted cash	1,940	(89,461)
Interest received	909	1,152
Net cash provided (used) by investing activities	<u>2,849</u>	<u>(88,309)</u>
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	497,666	(148,944)
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR	607,458	756,402
CASH AND CASH EQUIVALENTS AT END OF YEAR	<u>\$ 1,105,124</u>	<u>\$ 607,458</u>
Reconciliation of operating income to net cash provided by operating activities:		
Operating income	\$ 536,804	\$ 454,184
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation and amortization	299,023	269,281
(Increase) Decrease in:		
Accounts receivable	(8,364)	(28,427)
Prepaid expenses	(1,682)	-
Increase (Decrease) in:		
Accounts payable	20,457	(107,044)
Retainage payable	(25,231)	25,231
Sales tax payable	1,006	(193)
Customer deposits	9,540	30,259
Net cash provided by operating activities	<u>\$ 831,553</u>	<u>\$ 643,291</u>

The accompanying notes to the financial statements are an integral part of these statements.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2017 and 2016**

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

Organization

The City of Cave Springs, Arkansas, Water and Sewer Department is an enterprise fund. Enterprise funds are proprietary funds used to account for business-like activities provided to the general public. These activities are financed primarily by user charges and the measurement of financial activity focuses on net revenue measurement similar to the private sector. The fund is used to record the revenues and expenses from the operation of the water and sewer system.

Basis of Presentation and Accounting

The accounts of the Department are organized on the basis of a proprietary fund type, specifically an enterprise fund. The activities of this fund are accounted for with a separate set of self-balancing accounts that comprise the Department's assets, liabilities, net position, revenues and expenses. Enterprise funds account for activities (i) that are financed with debt that is secured solely by a pledge of the net revenues from fees and charges of the activity; (ii) that are required by laws or regulations that the activity's costs of providing services, including capital costs (such as depreciation or debt service), be recovered with fees and charges, rather than with taxes or similar revenues; or (iii) that the pledging policies of the activity establish fees and charges designed to recover its costs, including capital costs (such as depreciation or debt service).

The accounting and financial reporting treatment applied to the Department is determined by its measurement focus. The transactions of the Department are accounted for on a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operations are included on the statement of net position. Net position (i.e., total assets net of total liabilities) are segregated into net investment in capital assets, restricted for debt service; and unrestricted components.

Estimates

Management of the Department has made certain estimates and assumptions relating to the reporting of assets and liabilities and revenues and expenses to prepare these financial statements in conformity with generally accepted accounting principles. Actual results may differ from those estimates.

Cash and Cash Equivalents

The Department considers all highly liquid investments (including restricted cash and investments) with maturities of three months or less when purchased to be cash equivalents. Certificate of deposits are presented at fair value. Short-term investments generally mature or are otherwise available for withdrawal in less than one year.

Allowance for Bad Debts

The Department has elected to record bad debts using the direct write-off method. Generally accepted accounting principles require that the allowance method be used to recognize bad debts; however as of December 31, 2017 management had determined that no additional accounts needed to be written off. Bad debt expense for the year ended December 31, 2017 was \$0.

Budgets and Budgetary Accounting

Prior to the beginning of the new fiscal year, the Council Members adopt an annual budget for the Department. The budget of the Department is adopted under a basis consistent with GAAP, except that depreciation, certain capital expenses, and nonoperation income and expense items are not considered. All annual appropriations lapse at the fiscal year-end.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2017 and 2016**

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued):

Capital Assets

The cost of additions and major replacements of retired units of property are capitalized. The Department defines capital assets as assets with an initial, individual cost of more than \$1,000 and an estimated useful life in excess of two years. Cost includes direct labor, outside services, materials and transportation, employee fringe benefits, overhead, and interest on funds borrowed to finance construction. The cost and accumulated depreciation of property sold or retired is deducted from capital assets and any profit or loss resulting from the disposal is credited or charged in the nonoperating section of the statements of revenues, expenses and changes in net position. The cost of current repairs, maintenance, and minor replacements is charged to expense. Construction in progress primarily relates to upgrades of existing facilities.

Depreciation has been provided over estimated useful lives of the assets using the straight-line method. The estimated useful lives are as follows:

Asset	Years
Water & Sewer System	25-40
Office Equipment	3-7
Equipment	5-15
Vehicles	5

Long-Term Debt and Costs

Long-term debt is reported at face value, net of applicable discounts and deferred loss on refunding. Costs related to the issuance of debt are deferred and amortized over the lives of the various debt issues. Losses occurring from advance refundings of debt are deferred and amortized as interest expense over the remaining life of the old bonds, or the life of the new bonds, whichever is shorter.

Operating Revenues and Expenses

Operating revenues and expenses consist of those revenues that result from the ongoing principal operations of the Department. Operating revenues consist primarily of charges for services. Nonoperating revenues and expenses consist of those revenues and expenses that are related to financing and investing type of activities and result from nonexchange transactions or ancillary activities. When an expense is incurred for purposes for which there are both restricted and unrestricted net position available, it is the Department's policy to apply those expenses to restricted net position to the extent such are available and then to unrestricted net position.

Equity Classification

Net position comprises the various net earnings from operating income, nonoperating revenues and expenses, and capital contributions. Net position is classified in the following three components:

Net Investment in Capital Assets- This component of net position consists of capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds, mortgages, notes or other borrowings that are attributable to the acquisition, construction or improvements of those assets. If there are significant unspent related debt proceeds at year-end, the portion of the debt attributable to the unspent proceeds is not included in the calculation of net investment in capital assets. Rather, that portion of debt is included in the same net position component as the unspent proceeds.

Temporarily Restricted- This component of net position consists of constraints imposed by creditors (such as through debt covenants), grantors, contributors, or laws or regulations of other governments or constraints imposed by law through constitutional provisions or enabling legislation.

Unrestricted - This component of net position consists of net position that does not meet the definition of "restricted."

Capitalized Interest

Interest costs are capitalized when incurred on debt where proceeds were used to finance the construction of assets. Interest earned on proceeds of tax-exempt borrowing arrangements restricted to the acquisition of qualifying assets is offset against interest costs in determining the amount to be capitalized.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2017 and 2016**

NOTE 2 – DEPOSITS WITH FINANCIAL INSTITUTIONS:

All funds are deposited in approved banks. The deposited funds are insured by the Federal Deposit Insurance Corporation ("FDIC") or collateralized by securities held by the banks in the Department's name. The deposited funds were adequately insured at December 31, 2017.

NOTE 3 – CAPITAL ASSETS:

Capital asset activity for the years ended December 31, 2017 and 2016 was as follows:

	Balance 12/31/17	Additions	Retirements and transfers	Balance 12/31/17
Land & Easements	\$ 642,500	\$ -	\$ -	\$ 642,500
Sewer System	9,843,620	-	-	9,843,620
Water System	2,409,380	76,658	-	3,386,038
Equipment - Water	145,830	-	-	145,830
Equipment - Sewer	11,690	-	-	11,690
Office Equipment	3,029	-	-	3,029
Vehicles	104,864	-	-	104,864
	<u>13,160,913</u>	<u>97,658</u>	<u>-</u>	<u>14,137,571</u>
Less Accumulated Depreciation	<u>(1,912,987)</u>	<u>-</u>	<u>-</u>	<u>(2,212,010)</u>
Total Net Capital Assets	\$ <u>11,247,926</u>			\$ <u>11,925,561</u>
	Balance 12/31/16	Additions	Retirements and transfers	Balance 12/31/16
Land & Easements	\$ 642,500	\$ -	\$ -	\$ 642,500
Sewer System	9,843,620	-	-	9,843,620
Water System	2,409,380	-	-	2,409,380
Equipment - Water	145,830	-	-	145,830
Equipment - Sewer	2,124	9,566	-	11,690
Office Equipment	3,029	-	-	3,029
Vehicles	68,991	35,873	-	104,864
	<u>13,115,474</u>	<u>45,439</u>	<u>-</u>	<u>13,160,913</u>
Less Accumulated Depreciation	<u>(1,643,707)</u>	<u>-</u>	<u>-</u>	<u>(1,912,987)</u>
Total Net Capital Assets	\$ <u>11,471,767</u>			\$ <u>11,247,926</u>

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2017 and 2016**

NOTE 4 – LONG-TERM DEBT:

Long-term debt consists of the following:

	<u>2017</u>	<u>2016</u>
Water System Revenue Bond, serviced by First Security Bank and payable to Arkansas Natural Resources Commission, due in annual installments of \$24,795, including interest at 5.0%, beginning December 2010 through December 2029. The bond is secured by revenues of the Department. (1)	219,764	\$ 232,913
Arkansas Natural Resources Commission loan, due in annual installments of \$42,449 including interest at 5.0%, beginning June 2013 through June 2032. The bond is secured by property and equipment revenues of the system. (2)	440,562	460,059
Arkansas Natural Resources Commission revenue bond, due in semi-annual installments of \$15,510 including interest at 5.0%, beginning June 2004 through December 2032. The bond is secured by property and equipment revenues of the system. (3)	356,297	371,513
USDA Department of Rural Development loan, due in monthly installments of \$2,044 including interest at 3.75%, beginning June 2011 through December 2051. The bond is secured by property and equipment revenues of the system. (2)	469,543	476,326
Arkansas Natural Resources Commission loan, due in annual installments of \$10,788 including interest at 3.0%, beginning December 2016 through December 2034. The bond is secured by property and equipment revenues of the system. (2)	<u>142,012</u>	<u>148,349</u>
	1,628,179	1,689,160
Less Current Portion	<u>(63,600)</u>	<u>(60,900)</u>
Long-Term Debt, Net	<u>\$ 1,564,579</u>	<u>\$ 1,628,260</u>

- (1) The bond agreement with Arkansas Natural Resources Commission contains a provision which requires the Department to maintain their water rates at an amount sufficient to (1) pay all operation, repair and maintenance expenses, (2) leave a balance equal to the debt service requirements to which the system revenues are pledged, and (3) maintain a depreciation reserve that accumulates at a rate of 3% of revenues each month for the life of the bond. For the year ended December 31, 2017, the Department did not satisfy this requirement of the rate covenant.
- (2) This debt has no restrictive covenant.
- (3) The bond agreement with Arkansas Natural Resources Commission contains a provision which requires the Department to maintain their water rates at an amount sufficient to (1) pay all operation, repair and maintenance expenses, (2) leave a balance equal to the debt service requirements to which the system revenues are pledged, and (3) maintain a depreciation reserve that accumulates at a rate of \$120 a month for the life of the bond. For the year ended December 31, 2017, the Department did not satisfy this requirement of the rate covenant.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2017 and 2016**

NOTE 4 – LONG-TERM DEBT (continued):

The annual maturities of long-term debt at December 31, 2017, are as follows:

	Principal	Interest	Total
2018	\$ 63,600	\$ 69,920	\$ 133,520
2019	66,500	67,055	133,555
2020	69,500	64,100	133,605
2021	72,700	60,920	133,624
2022	76,000	57,644	133,644
2023-2027	434,400	233,534	667,934
2028-2032	464,100	129,732	593,832
2033-2037	117,200	58,017	175,217
2038-2042	80,200	42,409	122,609
2043-2047	96,800	25,800	122,600
2048-2051	87,179	6,577	93,756
	<u>\$ 2,443,949</u>	<u>\$ 1,277,000</u>	<u>\$ 3,720,949</u>

Long-term liability activity for the years ended December 31, 2017 and 2016 is as follows:

	Balance 12/31/16	Additions	Retirements	Balance 12/31/17	Due Within One Year
Long Term Debt					
Loans	\$ 857,337	\$ -	\$ (19,485)	\$ 838,102	\$ 20,300
Water Revenue Bonds	831,573	-	(41,495)	790,077	43,300
Total	<u>\$ 1,688,910</u>	<u>\$ -</u>	<u>\$ (60,980)</u>	<u>\$ 1,628,179</u>	<u>\$ 63,600</u>

	Balance 12/31/15	Additions	Retirements	Balance 12/31/16	Due Within One Year
Long Term Debt					
Loans	\$ 894,721	\$ -	\$ (37,134)	\$ 857,587	\$ 26,200
Water Revenue Bonds	871,738	-	(40,165)	831,573	34,700
Total	<u>\$ 1,766,459</u>	<u>\$ -</u>	<u>\$ (77,299)</u>	<u>\$ 1,689,160</u>	<u>\$ 60,900</u>

The Department has pledged future water customer revenues, net of specified operating expenses, to repay \$1,628,179 in revenue bonds. Proceeds from the bonds were used for building of the Department's water and sewer system. Principal and interest on the bonds are payable through 2051, solely from the water customer net revenues. Principal and interest paid in the year ended December 31, 2017 were \$60,980 and \$72,657, respectively. Principal and interest paid in the year ended December 31, 2016 were \$77,299 and \$99,303 respectively.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2017 and 2016**

NOTE 5 – SUBSEQUENT EVENTS:

Management has evaluated all the activities of the Department through October 16, 2018 (the date the financial statements were available to be issued) and concluded that no subsequent events have occurred that would require recognition in the financial statements or disclosure in the notes to the financial statements as of December 31, 2017.

NOTE 6 – RESTRICTED ASSETS:

Restricted assets consist of cash reserves restricted for special use and cash deposits for meters by customers.

The following is a list of the restricted cash at December 31, 2017:

	2017	2016
Customer Meter Deposits	\$ 35,323	\$ 325,323
Construction Fund	622,500	591,413
Debt Service Reserves	73,990	131,839
	<u>\$ 1,046,635</u>	<u>1,048,575</u>

NOTE 7 – RISK MANAGEMENT:

The Department is exposed to various levels of risks related to torts; theft of, damage to, and destruction of assets; errors and omissions, injuries to employees; and natural disasters. The Department carries property, vehicle insurance and workers compensation insurance.

There has been no significant reduction in the Department's insurance coverage from the previous year. In addition, there have been no settlements in excess of the Department's coverage in any of the prior three fiscal years.

NOTE 8 – COMMITMENTS:

The Department leases the right to discharge treated effluent from its sewage treatment facilities under a Drip Field operating lease. The 50-year lease term began February 11, 2008 and provides rents of \$15 for every connected residence and \$15 for every 208 gallons of commercial effluent discharged through the drip field irrigation system per month. Payment of the rent is subject to the collection of user fees charged to the system's customers by the Department. The lease requires the City of Cave Springs, Arkansas to provide \$1,000,000 of public liability insurance, and \$1,000,000 environmental insurance once volume reaches a certain level.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
NOTES TO FINANCIAL STATEMENTS
December 31, 2017 and 2016**

NOTE 9 – PENSION PLAN:

Plan Description. The Department contributes to the Arkansas Public Employees Retirement System (APERS), a cost-sharing multiple-employer defined benefit pension plan that covers municipal employees whose municipalities have elected coverage under this System. APERS provides retirement and disability benefits, annual cost-of-living adjustments, and death benefits to plan members and beneficiaries. Benefit provisions are established by State law and can be amended only by the Arkansas General Assembly. The Arkansas Public Employees Retirement System issues a publicly available financial report that includes financial statements and required supplementary information for APERS. That report may be obtained by writing to Arkansas Public Employees Retirement System, Union National Plaza, 124 W. Capitol, Little Rock, AR 72201 or by calling 1-800-682-7377.

Funding Policy. APERS has contributory and non-contributory plans. Contributory members are required by code to contribute 5% of their salary. Each participating employer is required by code to contribute at a rate established by the Board of Trustees of the system based on the annual actuarial valuation. The current employer rate is 14.50% for January 1 to June 30 and 14.75% for July 1 to December 31 of 2017 and 2016. The Water and Sewer Department's contributions to APERS for the year ending December 31, 2017 were \$1,091, equal to the required contributions for the year.

Implementation of GASB 68

In June 2012, GASB issued Statement No. 68, Accounting and Financial Reporting for Pensions – an Amendment of GASB Statement No. 27, which is effective with fiscal years beginning June 15, 2014. The Statement establishes standards for public pension obligations for participating employers. Under the new statement, a cost-sharing employer whose employees receive pensions through a trust will report in the financial statements a net pension liability, deferred outflows or inflows of resources related to pensions, and pension expense based on its proportionate share of the collective net pension liability of all employers. The net pension liability can be volatile due to changes in actuarial estimates and the actual investment return. The financial statements do not include the disclosure related to this accounting principal, but should be included in the government-wide financial statements and not the individual fund financial statements.

*Refer To City Books
(Optional)*

BERRY & ASSOCIATES, P.A.

Certified Public Accountants

American Institute of CPAs

Arkansas Society of CPAs

Texas Society of CPAs

Page 14

REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

Honorable Travis Lee, Mayor
and Members of the City Council
City of Cave Springs Water and Sewer Department
Cave Springs, Arkansas

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Water and Sewer Department of the City of Cave Springs, Arkansas, as of and for the year ended December 31, 2017, and the related notes to the financial statements, which collectively comprise the Water and Sewer Department of the City of Cave Springs, Arkansas's financial statements, and have issued our report thereon dated October 16, 2018.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Department's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Department's internal control. Accordingly, we do not express an opinion on the effectiveness of the Department's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected in a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that were not identified. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified. We did identify certain deficiencies in internal control, described in the accompanying schedule of findings as items 2017-001, 2017-002, 2017-003, and 2017-004 that we consider to be significant deficiencies.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Department's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards* and which are described in the accompanying schedule of findings and responses as items 2017-005 and 2017-006.

11225 Huron Lane, Suite 212 • Little Rock, AR 72211 • 501-227-9044 • Fax 501-227-8791 • jberrycpa@gmail.com
2911 Turtle Creek Blvd., Suite 300 • Dallas, TX 75219 • 972-437-2919
2088 Main Street, Suite A • Madison, MS 39110 • 601-383-0119

Honorable Travis Lee, Mayor
and Members of the City Council
City of Cave Springs
Page 2

Response to Findings

The Water and Sewer Department of the City of Cave Springs, Arkansas' responses to the findings identified in our audit are described in the accompanying schedule of findings. The Department's responses were not subjected to the auditing procedures applied in the audit of the financial statements and, accordingly, we express no opinion on it.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Berry & Associates

Berry & Associates, P.A.
Little Rock, Arkansas
October 16, 2018

DRAFT

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
SCHEDULE OF FINDINGS AND RESPONSES
For the Year Ended December 31, 2017**

2017-001 Internal Control – Segregation of Duties

Criteria: The segregation of duties and responsibilities between different individuals for custody of assets, recordkeeping and those assets and reconciliation of those asset accounts is an important control activity needed to adequately protect the entity's assets and ensure accurate financial reporting.

Condition: Presently the same individual who is responsible for customer billing and adjustment, receives customer payments, and posts payments to subsidiary accounts receivable ledger. Also, the same individual who is responsible for general ledger activity, including posting and writing checks, also reconciles the bank statements. In addition, only limited oversight is provided over this individual in the conduct of their daily functions. This finding was also noted in 2016.

Cause: The Department's limited size and staffing resources have made it difficult for management to provide sufficient staffing to fully segregate incompatible duties in a cost-effective manner.

Effect or Potential Effect: Without sufficient segregation of duties the risk significantly increases that errors and fraud related to utility billing and collection activities, including misappropriation of assets, could occur and not be detected within a timely basis.

Recommendation: We recommend that management of the Department should consider a formal evaluation of their risks associated with this lack of duty segregation over utility cash and receivables. In response to the identified risks, consideration should be given to identifying and implementing controls that could help mitigate the risks associated with lack of segregation of duties, such as providing increased management oversight. For example, the Department might consider soliciting the assistance of an independent volunteer to perform certain functions including to act as compensating procedures where applicable.

Responsible Official's Response: The Department concurs with the recommendation, although, the cost to correct this condition might exceed the benefit, the Department has made certain changes in procedures that will improve the overall lack of segregation of duties and has implemented compensating procedures as applicable.

2017-002 Internal Control – Review and approval of adjustments to customer accounts

Criteria: Adjustments to customer accounts should be approved by a party independent of the person who enters transactions to the accounts receivable subsidiary ledger.

Condition: Adjustments in aggregate reduced or credited the amounts billed to customer accounts. This finding was also noted in 2016.

Cause: The Department's limited size and staffing resources have made it difficult for management to provide sufficient oversight to properly supervise this necessary function.

Effect or Potential Effect: Without proper approval of adjustments posted to customer accounts by a party independent of the person recording transactions to the customer accounts receivable subsidiary ledger, the Department faces exposure to irregularities or unusual items that may require investigation on a timely basis.

Recommendation: We recommend that the management of the Department approve all monthly adjustments posted to the customer accounts receivable subsidiary ledger by someone other than the one who posts the original entry to the accounts receivable subsidiary ledger.

Responsible Official's Response: The Department concurs with the recommendation.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
SCHEDULE OF FINDINGS AND RESPONSES
For the Year Ended December 31, 2017**

2017-003 Internal Control – Inadequate Payroll Reimbursement

Criteria: The Department is responsible for the proper recording and documentation of payroll transactions to enable management and City Council oversight of the recording process according to generally accepted accounting principles in the United States of America.

Condition: Transactions in the accounting records did not properly reflect the gross wages, employer payroll taxes, retirement expenses and health insurance costs for the respective employees of the Department. The Department recorded monthly payments payable to the general fund of the City of Cave Springs, but also paid for more than the cost of the Departments' employees. A transfer in the amount of \$16,407 is reflected in the financial statements to account for the differences between the costs of the employees and the sum of the payments made to the City of Cave Springs' general fund. This finding was also noted in 2016.

Cause: The Department did not properly record the respective transactions.

Effect or Potential Effect: Management was unable to adequately determine the costs of the Department's employees, thus not permitting the preparation of accurate and reliable financial statements.

Recommendation: We recommend that the Department properly record the costs and related employer expense of the Department's employees in the accounting records and reimburse the City of Cave Springs' general fund for these respective costs.

Responsible Official's Response: The Department concurs with the recommendation.

2017-004 Internal Control – Inadequate Accounting Records

Criteria: The Department is responsible for the proper recording and documentation of all financial activity, and maintaining segregated records for the water and sewer funds from other funds' activity.

Condition: The water and sewer fund accounts were not properly segregated from other funds. Several journal entries were made throughout the year to adjust bank account balances without supporting documentation. Many of the capitalized asset and long-term liability accounts were not recorded on the Department's accounting records. This finding was also noted in 2016.

Cause: The Department did not properly record transactions, carry forward capitalized assets and long-term debt, and segregate water and sewer activity.

Effect or Potential Effect: Management was unable to adequately segregate the activity of the Department thus not permitting the preparation of accurate and reliable financial statements.

Recommendation: We recommend that the Department properly segregate the Department's financial accounts in either a separate file or use proper classifications to ensure fund segregation in the accounting records. All transactions should be entered and bank accounts reconciled on a regular and consistent basis to ensure that all activity is properly recorded. Also, journal entries should be reduced to transactions that are in need of correction or necessary accruals. Capitalized assets and long-term debt should be maintained in the accounting records.

Responsible Official's Response: The Department concurs with the recommendation.

**CITY OF CAVE SPRINGS WATER AND SEWER DEPARTMENT
SCHEDULE OF FINDINGS AND RESPONSES
For the Year Ended December 31, 2017**

2017-005 Compliance –Revenue Bond Agreements

Criteria: The Department was not in compliance with the revenue bond agreements established by Arkansas Natural Resources Commission regarding depreciation cash reserve requirements, and the filing of annual audits with the Division of Legislative Audit as required by Arkansas Code 14-234-119 through 122.

Conditions: Revenue Bond 00824-WSSW-L with the Arkansas Natural Resources Commission requires a depreciation reserve to be accumulated at a rate of 3% of the gross revenue monthly while the bond is outstanding.

Revenue Bond 00105-WSSW-D with the Arkansas Natural Resources Commission requires a depreciation reserve to be accumulated at a rate of \$120 a month while the bond is outstanding.

Annual audit reports are required to be submitted to Arkansas Natural Resources Commission no later than 120 days following the period covered by the audit for obligation ANRC00105-WSSW-D, and obligation ANRC 00824-WSSW-L. All Annual audits are to be also filed with the Division of Legislative Audit as required by Arkansas Code 14-234-1198 through 122, in a timely manner, within one year of the period covered by the audit. This finding was also noted in 2016.

Cause: The Department has not maintained a depreciation cash reserve account adequate to be in compliance with the requirements set for in the revenue bond agreement. The Department has not filed timely annual audit reports with Arkansas Natural Resources Commission or Division of Legislative Audit.

Effect or Potential Effect: Non-compliance with the terms of the agreements may make the Department ineligible for further financial assistance from the state and may be subject to assessed penalties.

Recommendation: We recommend that the Department make the required monthly transfers to the depreciation cash reserve accounts and file future annual audit reports in a timely manner.

Responsible Official's Response: The Department concurs with the recommendation.

2017-006 Compliance –Employee Compensatory Leave

Criteria: The Department was accruing sick time at a rate that exceeded what is allowed in their current policy and compensatory time was not authorized. The Department paid compensation related to sick time and compensatory time that was not appropriately approved by a designated third party.

Conditions: Compensatory time can be accrued with authorized approval up to 40 hour and sick leave is accrued at 1 and 2/3 days per month up to 20 days per year.

Cause: The Department has not maintained documentation for the authorization of compensatory accrual and has issued sick time in excess of mandated levels.

Effect or Potential Effect: The cost to the Department increases beyond budgeted amounts and compensation was provided without the proper oversight or documentation.

Recommendation: We recommend that the Department should maintain documentation of all compensatory accruals and authorize all compensatory accruals prior to payment of such accrued time. Sick time should be accrued at a set rate. Adjustments should not be made without the approval of the mayor and/or city council.

Responsible Official's Response: The Department concurs with the recommendation.

11.0 Appendix 3 – Cave Springs Corrective Action Plan April 2017



CORRECTIVE ACTION PLAN

APRIL 27TH, 2017

WASTEWATER TREATMENT PLANT IMPROVEMENTS

CAVE SPRINGS, ARKANSAS

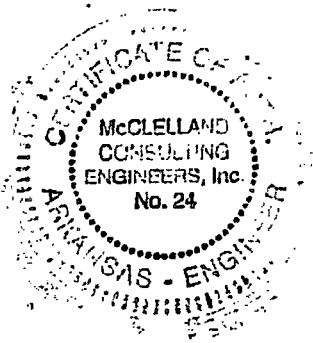
ISSUED FOR REVIEW

PREPARED FOR:

THE CITY OF CAVE SPRINGS
134 N. MAIN STREET
CAVE SPRINGS, AR 72718

Prepared By:

Barret Knutson, E.I.
McClelland Consulting Engineers, Inc.
1810 N. College Avenue
Fayetteville, AR 72703



MCE McCLELLAND
CONSULTING
ENGINEERS, INC.
DESIGNED TO SERVE

CORRECTIVE ACTION PLAN
THE CITY OF CAVE SPRINGS
WASTEWATER TREATMENT PLANT IMPROVEMENTS

Introduction

This Corrective Action Plan (CAP) was prepared by MCE on behalf of the City of Cave Springs' Water and Wastewater Department. The CAP was prepared at the request of the Water Division Enforcement Branch of the Arkansas Department of Environmental Quality (ADEQ) in an incompleteness letter for renewal of No-Discharge Permit 4893-WR-3 in a letter dated March 24th, 2017.

Purpose

Over the past 5-years during the permitting cycle of Permit 4893-WR-2, the City of Cave Springs has recorded 22 instances of exceeding their permit limits, 20 of which were for exceedances of Total Suspended Solids (TSS) limits. The City of Cave Springs is committed to complying with environmental laws and regulations and therefore is determined to identify and address their wastewater treatment plant's performance. Exceedances of the permitted concentrations of TSS can be seen in the appendix, *Appendix 1*, at the end of this report.

Scope

The goal of this analysis was to identify and resolve the issues leading to excess solids accumulation within the system without having to upgrade or retrofit the existing plant. It was assumed that the problems were due to a piece of equipment under performing or an overlooked part of the operation and maintenance protocol. This assumption was based on the fact that the plant has a relatively short operational life. Additionally, the plant was designed to treat much higher wastewater flows while keeping concentrations of permitted pollutants within acceptable ranges. If necessary the plant would undergo some form of upgrading by whatever means necessary, in order to get into compliance with their permit.

History

With construction finished late in the year of 2006, the City's new wastewater treatment facility was permitted to dispose of its effluent via sub-surface, drip irrigation, discharge. The plant is comprised of two package treatment facilities, which discharge effluent underground beneath the adjacent Creek's Golf Course. Disposal of effluent in this fashion serves a symbiotic benefit to

both the client and the City: the golf course benefits by obtaining irrigation, rich in nutrients, for their grass fairways and rough, and the City benefits by receiving additional removal of permitted pollutants by the grasses and soils, as well as an adjacent discharge for their effluent.

Location

The Cave Springs WWTP is located off of Arkansas Highway 112 South of the City. The plant is only accessible by going through the Creeks Golf Course and is located on the far north side of the property.

Condition of Existing Facility

As previously mentioned, the current treatment facility is relatively young, and therefore should have plenty of anticipated operational life remaining. Originally, during the first permitting cycle, only Plant 1 was utilized for treatment and Plant 2 was kept on standby. During the last permitting cycle, only Plant 2 was used for treatment while Plant 1 was kept on standby; this will remain the same for the next permitting under Permit 4893-WR-3. Flows over the past year indicated an Annual Average Flow (AAF) of 40,000 GPD with a peak flow of around 150,000 GPD, with a capacity of 320,000 GPD, it is anticipated that Plant 2 will have ample treatment capacity over the next 5-years, even at peak flow. Although ample capacity is available and the operational life of Plant 2 is relatively young, instances of MMR exceedances of TSS have persisted.

Environmental Resources

The only environmental resource involved with this plan is the renewal of the City's existing ADEQ No-Discharge Permit.

Growth Area and Population

According to the Northwest Arkansas Regional Planning Committee (NWARPC), from 1990 to 2010, the average annual population increase of Cave Springs was roughly 64 people per year. With continued growth of the Fairway Valley Residential Development, the population is expected to continue to grow at around the same rate over the next decade. Based on these population growth models, the City's current WWTP will have ample treatment capacity over the next permitting cycle.

System Operation & Maintenance

Because there is no new proposed construction or expansion to the existing facility, no new staff is currently needed for plant operations. Maintenance operation will continue based upon manufacturer's recommendations.

Case Background

The existing plant is adequately sized to handle the influent flowrates and loadings received from the sewer system. However, excess TSS accumulation has led to numerous discharge violations over the previous permitting cycle. It was realized by Plant staff that the cartridge filters used in the system were regularly clogging up. This was leading to sludge accumulation in the sub-surface irrigation dosing tanks.

After a thorough system investigation, it was determined that the filters were not at fault and were only clogging up due to excess solids carryover. The true cause of the WWTP's accumulation of excess TSS was due to the Waste Activated Sludge (WAS) system pumps. The operators were turning on the pumps everyday and assuming that they were operating correctly, but did not realize that the pumps had become worn and were no longer adequately pumping the sludge. Repairing and replacing the WAS pumps was a simple fix for the treatment plant and did not require any additional system redesign. By replacing the WAS pumps, solids inventories are maintained to provide adequate and efficient operation. By wasting sludge as designed, treatment will improve, and TSS will no longer carryover to the dosing tanks and into the sub-surface disposal fields.

Proposed Goals of the Plan

The issues pertaining to exceedances of permitted TSS concentrations have been identified and corrected. It is predicted that after a period of equilibration, future instances of exceeding permitted TSS concentrations will be prevented. The plant operators and staff have been made aware of what created the problem and how to identify and prevent future instances of this from happening again.

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMITTEE NAME
City of Cave Springs

PERMITTEE ADDRESS
P.O. Box 36
Cave Springs AR 72718

FACILITY NAME (IF DIFFERENT)
Plant #8

FACILITY ADDRESS
498 Pebble Beach Dr.

PERMIT NO.
4893-WR-2

AFIN NO.
04-01642

MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.

WASTEWATER EFFLUENT MONITORING PERIOD
FROM 11/01/2016 TO 11/30/2016

PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE	*****	7.4	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE	---	6.8	MG/L	ONCE/MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	6.4	S.U.	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE	---	15.0	MG/L	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE	---	2400	N/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TRN) EFFLUENT GROSS VALUE	*****	22.40	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE	*****	17.1	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE	*****	46.293	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE	---	65.0	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	*****	MONTHLY TOTAL 1.85	MGD	ONCE/MONTH	TOTAL FLOW
		DAILY MAX .07			DATE
<p>NAVIGATE PRINCIPAL EXECUTIVE OFFICER <u>Tony Meriworth</u></p> <p>water/sewer <u>Supervisor</u></p> <p>TYPED OR PRINTED</p>		<p>SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT</p>		<p>479</p> <p>AREA CODE NUMBER</p>	<p>12/01/2016</p> <p>MM/DD/YYYY</p>
<p>COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here)</p>					

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMIT NO. **4893-WR-2**
 AFIN NO. **04-01642**

FACILITY NAME (IF DIFFERENT)
Plant #1
 FACILITY ADDRESS
198 Pebble Beach

PERMITTEE NAME
CITY OF CAVE SPRINGS
 PERMITTEE ADDRESS
**P.O. Box 36
 Cave Springs AR 72718**

MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.

WASTEWATER EFFLUENT MONITORING PERIOD
 FROM **08/01/2016** TO **08/31/2016**

PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE	*****	8.7	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE	---	5.4	MG/L	ONCE/MONTH	GRAB
PH	6 to 9	6.4	S.U.	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE	---	16.0	MG/L	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE	---	3400	MP/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	*****	22.40	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE	*****	17.5	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE	*****	40.67	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE	---	59.6	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	*****	1.61	MGD	ONCE/MONTH	TOTAL FLOW
MONTHLY TOTAL DAILY MAX 1.61 1.06					DATE
I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.					TELEPHONE
TYPED OR PRINTED Tom McQuinn					AREA CODE NUMBER
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT Water Sewer Specialist					DATE 09/01/2016
COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here) Maintenance on clarifier and D box should resolve TSS issues.					

**ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION**

PERMITTEE NAME City of Cave Springs	FACILITY NAME (IF DIFFERENT) Plant # 2	PERMIT NO. 4893-2R-2
PERMITTEE ADDRESS P.O. Box 36 Cave Springs AR 72718	FACILITY ADDRESS 498 Pebble Beach	AFIN NO. 04-0164A

MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.

WASTEWATER EFFLUENT MONITORING PERIOD: FROM 07/01/2016 TO 07/31/2016

PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE	*****	8.5	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE	_____	11.6	MG/L	ONCE/MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	6.5	S.U.	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE	_____	36.0	MG/L	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE	_____	340	N/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	*****	22.40	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE	*****	16.7	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE	*****	42.6	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE	_____	61.0	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	_____	MONTHLY TOTAL 1.80	MGD	ONCE/MONTH	TOTAL FLOW
I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THIS SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.					DATE
TONY METWORTH WATER/SEWER SUPERINTENDENT TYPED OR PRINTED					479 245-8013
COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here) Switched Clarifiers prior to lab pulling sample. we are cleaning Clarifier and take care of TSS issues.					08/01/2016
					MIN/D/YYYY

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMITTEE NAME: City of Cave Springs
 PERMITTEE ADDRESS: P.O. Box 36
Cave Springs, AR, 72718

FACILITY NAME (IF DIFFERENT): Pilot 2
 FACILITY ADDRESS: 498 Pebble Beach

PERMIT NO.: 4773-DR-2
 AEN NO.: 04-0164B

WASTEWATER EFFLUENT MONITORING PERIOD: FROM 08/01/2016 TO 08/29/2016

PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE	*****	7.9	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE	---	8.2	MG/L	ONCE/MONTH	GRAB
PH	6 to 9	6.3	S.U.	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE	---	15.5	MG/L	ONCE/MONTH	GRAB
CALIFORNIA, FECAL GENERAL EFFLUENT GROSS VALUE	---	6000	MP/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	*****	52.60	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE	*****	20.0	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE	*****	35.152	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE	---	30.5	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	*****	MONTHLY TOTAL 1.3	MGD	ONCE/MONTH	TOTAL FLOW
I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INSURRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT _____ DATE 08/29/2016		TELEPHONE 479 295-3320 AREA NUMBER MM/DD/YYYY MM/DD/YYYY	

COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here)
 we cleaned the wier in our clarifier which stirred a lot of the solids. we did this the day before the lab pulled the sample. we will investigate and make sure that is the problem.

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMITTEE NAME:
 City of Cave Springs
 PERMITTEE ADDRESS:
 P.O. Box 36
 Cave Springs, AR 72718

FACILITY NAME (IF DIFFERENT):
 Plant # 8
 FACILITY ADDRESS:
 498 Pebble Beach

PERMIT NO.
 4893-6K-2
 AFIN NO.
 04-0148

WASTEWATER EFFLUENT MONITORING PERIOD
 FROM 12/01/15 TO 12/31/15

TREATED WASTEWATER EFFLUENT SAMPLING

PARAMETER	EFFLUENT	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE		4.9	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		-----	5.0	MG/L	ONCE/MONTH	GRAB
PH		6 to 9	6.5	S.U.	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		-----	16.0	MG/L	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		-----	2500	MP/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE		13.40	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE		3.2	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE		32.79	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE			39.1	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE		MONTHLY TOTAL 2.27 DAILY MAX 1.48	MGD	ONCE/MONTH	TOTAL FLOW
I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.						
NAME OF PRINCIPAL EXECUTIVE OFFICER			SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		TELEPHONE	DATE
Tony Merworth			<i>[Signature]</i>		477 295-3013	01/04/2016
TYPED OR PRINTED			NUMBER		AREA CODE	MMDDYYYY
			477		295-3013	MMDDYYYY

COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here) Violation for exceeding TSS limit, we have increased the sludge pumping time to help reduce TSS. we have Taken on a lot of I/I during our last rain event on 12/26 - 12/28. Typically we treat 40,000 gal/perday, we treated 418,500 perday during this rain event, exceeding this plant's Design Capacity. NO overflows just exceeded capacity.

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY

PERMIT NO.
4893-68-2
AFIN NO.
04-01648

FACILITY NAME (IF DIFFERENT)
P1604 # 2
FACILITY ADDRESS
498 Pebble Beach

PERMITTEE NAME
City of Cave Springs
PERMITTEE ADDRESS
P.O. Box 36
Cave Springs, AR, 72718

WASTEWATER EFFLUENT MONITORING PERIOD
MMDDYYYY TO MMDDYYYY
10-01-2015 TO 10-31-2015

MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.

PARAMETER	EFFLUENT	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE		*****	7.0	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		_____	5.0	MG/L	ONCE/MONTH	GRAB
PH EFFLUENT GROSS VALUE		6 to 8	6.5	S.U.	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		_____	16.0	MG/L	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		_____	4	MP/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE		*****	20.20	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE		*****	13.8	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE		*****	45.02	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		*****	60.7	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE		*****	MONTHLY TOTAL 1.89	MGD	ONCE/MONTH	TOTAL FLOW
<small>I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.</small>			DAILY MAX .045		TELEPHONE 498-295-2013	DATE 11/09/2015
TYPED OR PRINTED Tony Merworth Water Sewer Superintendent			SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		NUMBER 498	NUMBER MMDDYYYY 11/09/2015
COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here) we are exceeding the limits on TSS, we are adjusting operation and fixing sludge pump.						

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMITTEE NAME: City of Cape Springs
 PERMITTEE ADDRESS: P.O. Box 36
Cape Springs, AR 72718

FACILITY NAME (DIFFERENT FROM PERMITTEE NAME): Plant #1
 FACILITY ADDRESS: 1499 1/2 S. Main St

PERMIT NO.: 4893-4352
 AFIN NO.: 04-01649

MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.

WASTEWATER EFFLUENT MONITORING PERIOD: FROM 07/01/2015 TO 07/31/2015
 WASTEWATER EFFLUENT MONITORING PERIOD: MM/DD/YYYY

PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE	*****	14.9	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE	---	27.0	MG/L	ONCE/MONTH	GRAB
PH	6 to 9	7.0	S.U.	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE	---	28.0	MG/L	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE	---	70.0	N/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	*****	42.60	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE	*****	41.6	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE	*****	469	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE	---	42.4	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	*****	MONTHLY TOTAL: .175 DAILY MAX: .017	MGD	ONCE/MONTH	TOTAL FLOW

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: Tony Merworth
 WATER/SEWER SUPERINTENDENT: Tony Merworth
 SIGNED AND PRINTED: Tony Merworth
 TELEPHONE: 479 295-3013
 DATE: 08/06/2015
 AREA CODE: 479
 NUMBER: 295-3013
 MM/DD/YYYY: MM/DD/YYYY

COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here) We will be shutting this plant down until mechanical components are fixed and until we get enough flow to this plant, as of now we are sending all waste water to plant #2.
Monthly total will not be accurate due to Mag Meter malfunctioning.

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMITTEE NAME (IF DIFFERENT FROM FACILITY NAME)
 PERMIT NO. (IF DIFFERENT FROM FACILITY PERMIT NO.)
 FACILITY ADDRESS

City of Cave Springs
 Permit # 1
 1499 1/2 S. Main
 Cave Springs, AR 72718

WASTEWATER EFFLUENT MONITORING PERIOD
 FROM 06-01-2015 TO 06-30-2015

MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.

PARAMETER	EFFLUENT	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE		*****	5.0	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		---	6.0	MG/L	ONCE/MONTH	GRAB
PH EFFLUENT GROSS VALUE		6 to 9	7.2	S.U.	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		---	20.0	MG/L	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		---	1500	N/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE		*****	26.90	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE		*****	25.6	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE		*****	12.3	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		*****	38.3	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE		*****	1.7	MGD	ONCE/MONTH	TOTAL FLOW
NAME/TITLE PRINCIPAL CALCULATING OFFICER: Rick Sayre, Water-Sewer Superintendent I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. TYPED OR PRINTED: Rick Sayre SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: Rick A. Sayre TELEPHONE: 479-721-7539 DATE: 07-02-2015 COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments hereto): OUR TSS IS STILL A Little High, we have reset the Sludge Timers on Plant 1 AND PUMP OUT SAME Sludge From Pese Tank To Sludge Tanks. We Also find High Motor Gdown For the First 5 days of the month. We Also had Tanks over Flow on 6-8-2015 From Pump AND pumps quit working. On the 18 of June we ALSO started Using Sewer Plant #2. Sewer overflow Confirmation Number 918223A						

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMITTEE NAME: City of Cave Springs
 PERMITTEE ADDRESS: P.O. Box 36, Cave Springs, AR 72718
 PERMIT NO.: 2873-2P-2
 EXPIRES: 04-01-2012

FACILITY NAME (IF DIFFERENT): Plant #1
 FACILITY ADDRESS: 1499 1/2 S. Main
 WASTEWATER EFFLUENT MONITORING PERIOD: FROM 05-01-2015 TO 05-31-2015

TREATED WASTEWATER EFFLUENT SAMPLING

PARAMETER	EFFLUENT	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE		*****	6.7	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE			19.6	MG/L	ONCE/MONTH	GRAB
PH		6 to 9	7.0	S.U.	ONCE/MONTH	GRAB
EFFLUENT GROSS VALUE			28.0	MG/L	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE			2200	N/100 ML	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE			34.70	MG/L	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE		*****	29.5	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE		*****	23.53	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE		*****	54.6	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE						
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE			MONTHLY TOTAL: 110	MGD	ONCE/MONTH	TOTAL FLOW
			DAILY MAX: 0.07			

WASTEWATER TREATMENT FACILITY OPERATOR: Rick Sayre
 TITLE: Water-Sewer Superintendent
 TELEPHONE: 479-721-7539
 DATE: 06-01-2015
 AREA CODE: 479
 NUMBER: 721-7539
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: Paul A Sayre
 MM/DD/YYYY: MM/DD/YYYY

COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here):
 Our Sewer plant must have gotten hit by lightning around the 27 of May. We lost one surge pump, magmeter, and one master pump. Not sure if this is the problem to our High TSS. Hope it was the problem for our FOD. Are working on getting everything fixed. Had Ken Gregory out to go over plant. Still got pending on drip field. ADEQ Form With all the pain this might be some of the problem to the pond area.

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMITTEE NAME
CITY OF Cave Springs

PERMITTEE ADDRESS
*P.O. Box 36
Cave Springs, AR 72718*

FACILITY NAME (IF DIFFERENT)
Plant #1

FACILITY ADDRESS
1499 1/2 S. Main

PERMIT NO.
4873-2P-2

AFIN NO.
04-216

MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.

WASTEWATER EFFLUENT MONITORING PERIOD
MAIDDDTTY TO MAIDDDTTY
04-01-2015 TO *04-30-2015*

RECEIVED
MAY 13 2015

PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE	*****	<i>6.2</i>	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE	---	<i>14.0</i>	MG/L	ONCE/MONTH	GRAB
PH	6 to 9	<i>7.4</i>	S.U.	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE	---	<i>17.0</i>	MG/L	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE	---	<i>5800</i>	N/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TN) EFFLUENT GROSS VALUE	*****	<i>31.40</i>	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ N) EFFLUENT GROSS VALUE	*****	<i>29.9</i>	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ N + NO ₂ N) EFFLUENT GROSS VALUE	*****	<i>13.83</i>	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		<i>44.2</i>	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	*****	MONTHLY TOTAL <i>0.88</i> DAILY MAX <i>0.035</i>	MGD	ONCE/MONTH	TOTAL FLOW
<small>NAME OF PRINCIPAL OPERATOR</small> <i>Rick Snyre</i>					
<small>CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.</small>					
<small>TYPED OR PRINTED</small> <i>Water-Saver Superintendent</i>					
<small>SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT</small> <i>Paul A. Sayre</i>					
<small>TELEPHONE</small> <i>479-721-7539</i>					
<small>DATE</small> <i>05-05-2015</i>					
<small>AREA CODE</small> <i>MMDDYYYY</i>					
<small>NUMBER</small>					

COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here)
Not sure why TSS is High ASAM, Just Had Slog Tanks Pumped out. We are also having some ponding on Drip field. Have talked and met with Sam Dunn & McChelland Consulting Eng. news to fix the problem.

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMITTEE NAME: City of Cave Springs
 PERMITTEE ADDRESS: P.O. Box 36
Cave Springs, AR 72718

FACILITY NAME (IF DIFFERENT): Plant #1
 FACILITY ADDRESS: 1499 1/2 S. Main

PERMIT NO.: 1873-DP-2
 EXPIRES: 04-01-92

MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.

WASTEWATER EFFLUENT MONITORING PERIOD: FROM 03-01-2015 TO 03-28-2015

PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE	*****	5.6	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE	---	7.0	MG/L	ONCE/MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	7.2	S.U.	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE	---	15.0	MG/L	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE	---	844	N/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	*****	28.80	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE	*****	27.7	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE	*****	22.0	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE	*****	50.0	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	*****	MONTHLY TOTAL: <u>0.76</u> DAILY MAX: <u>0.028</u>	MGD	ONCE/MONTH	TOTAL FLOW
I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. NAME/TITLE: <u>Rick Sayre</u> / <u>Water-Sewer Superintendent</u> SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: <u>Paul A Sayre</u> TELEPHONE: <u>479 721-7539</u> AREA CODE: <u>479</u> NUMBER: <u>721-7539</u> DATE: <u>03-05-2015</u> TYPED OR PRINTED: _____					
COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here)					

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMIT NO. 4875-22-2
 FACILITY NO. 04-01682

FACILITY NAME (IF DIFFERENT FROM PERMIT) Plant H1
 FACILITY ADDRESS 1499 1/2 S. Main

WASTEWATER EFFLUENT MONITORING PERIODS
 FROM 01-01-2015 TO 01-31-2015

PERMITTEE NAME City of Cave Springs
 PERMITTEE ADDRESS P.O. Box 36
 Cave Springs, AR 72718

MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.

PARAMETER	EFFLUENT	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE		5.9	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		---	5.0	MG/L	ONCE/MONTH	GRAB
PH		6 to 9	7.2	S.U.	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		---	18.0	MG/L	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		---	4100	N/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE		24.60	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE		23.6	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE		16.7	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE			40.6	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE		MONTHLY TOTAL <u>0.86</u> DAILY MAX <u>0.031</u>	MGD	ONCE/MONTH	TOTAL FLOW
IDENTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. TYPED OR PRINTED <u>Rick Sayre</u> WATER-SERVE SUPERINTENDENT SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT TELEPHONE <u>479-721-7539</u> DATE <u>02-02-2015</u> AREA CODE NUMBER MMDDYYYY						
COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here) <u>Once again our TSS is high, we had both sludge tanks pumped out on 1-13-2015. I hope this takes care of this problem.</u>						

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMITTEE NAME: City of Lake Springs
 PERMITTEE ADDRESS: P.O. Box 36
Lake Springs, Ar 72718

FACILITY NAME (IF DIFFERENT): Plant #1
 FACILITY ADDRESS: 1499 W S. Main

PERMIT NO.: 1873-DR-1
 WAFFIN NO.: 04-0602

MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.

WASTEWATER EFFLUENT MONITORING PERIOD: FROM 12-01-2014 TO 12-31-2014

PARAMETER	EFFLUENT	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE		*****	6.3	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		---	13.0	MG/L	ONCE/MONTH	GRAB
PH		6 to 9	7.1	S.U.	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		---	21.0	MG/L	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		---	6800	N/100 MIL	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE		*****	16.80	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE		*****	12.0	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE		*****	26.80	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		*****	40.2	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE		*****	MONTHLY TOTAL 0.86 DAILY MAX 0.033	MGD	ONCE/MONTH	TOTAL FLOW

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

PRINCIPAL EXECUTIVE OFFICER
Rick Sayre
Water-Sewer Superintendent
 TYPED OR PRINTED

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
Rick A Sayre

TELEPHONE
479-721-7539
 AREA CODE
01-02-2015
 NUMBER
 MM/DD/YYYY

COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here)
TSS went back up not sure why, we pumped dose tank back to the front of plant to see how much sludge was in bottom of tank. I think our next step is to have sludge tanks pumped out and have sludge hauled off.

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMITTEE NAME
 CITY OF CANTON, MISSISSIPPI
 PERMITTEE ADDRESS
 P.O. Box 36
 Canton, MS 39016

FACILITY NAME (IF DIFFERENT)
 Plant #1
 FACILITY ADDRESS
 1499 1/2 S. Main

PERMIT NO.
 H873-DR-L
 AFR. NO.
 01-01642

MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.

WASTEWATER EFFLUENT MONITORING PERIOD
 FROM 10-21-2014 TO 10-31-2014

RECEIVED
 SKR @ 10am
 NOV 10 2014

PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE	6.7	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE	6.0	MG/L	ONCE/MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	6.1	S.U.	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE	26.0	MG/L	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE	800	N/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	11.20	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ N) EFFLUENT GROSS VALUE	8.6	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ N + NO ₂ -N) EFFLUENT GROSS VALUE	38.568	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE	47.9	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	MONTHLY TOTAL DAILY MAX 0.90 0056	MGD	ONCE/MONTH	TOTAL FLOW

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Rick Sayre
 Water-Sewer Superintendent

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

TYPED OR PRINTED
 Rick Sayre
 Water-Sewer Superintendent

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
 Paul A. Sayre

TELEPHONE
 479-721-7539

DATE
 11-03-2014

COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here)
 TSS High - When they installed plant they ran flush return line into rose tank. We are going to remove flush line from rose tank to the s/wy tank. Then have close tank pumped out.

ALL IN ALL

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMITTEE NAME
CITY OF CAVE SPRINGS

PERMITTEE ADDRESS
P.O. BOX 36
CAVE SPRINGS, AR 72718

FACILITY NAME (IF DIFFERENT)
PART #1

FACILITY ADDRESS
1499 1/2 S. MAIN

PERMIT NO.
MS73-PP-2

AFIN NO.
14-016072

ADOER
OCT 07 2014

RECEIVED
OCT 08 2014

WASTEWATER EFFLUENT MONITORING PERIOD
MMDDYYYY TO MMDDYYYY

MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.

PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE	*****	6.4	MGL	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG C) EFFLUENT GROSS VALUE	-----	3.0	MGL	ONCE/MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	6.04	S.U	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE	-----	23.5	MGL	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE	-----	154	N/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	*****	15.90	MGL	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE	*****	10.7	MGL	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE	*****	34.381	MGL	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE	*****	46.60	MGL	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	*****	MONTHLY TOTAL DAILY MAX 0.75 0.031	MGD	ONCE/MONTH	TOTAL FLOW

Signature of Principal Executive Officer or Authorized Agent
Rick Sayre

TEL: PHONE
721-7539
MAIL ROOM
NUMBER
10-01-2014
MM/DD/YYYY

COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here)
'0665 due over 755 is still high if you been in contact with company that installed system, have tried every thing they require to do and it is still high, we are now going to have all along tanks

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMIT NO. 4873-DP-4
 SWAIN NO. 04-01642

FACILITY NAME (DIFFERENT FROM PERMIT) Plant #1
 FACILITY ADDRESS 1499 W S. Main

PERMITTEE NAME City of Cape Springs
 PERMITTEE ADDRESS P.O. Box 36 Cape Springs, AC 77718

WASTEWATER EFFLUENT MONITORING PERIOD FROM 08-21-2014 TO 08-31-2014

PARAMETER	EFFLUENT	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE		*****	6.7	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		---	9.0	MG/L	ONCE/MONTH	GRAB
PH		6 to 9	6.0	S.U.	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		---	18.0	MG/L	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		---	100	N/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE		*****	15.70	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE		*****	9.5	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE		*****	45.386	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		*****	56.7	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE		*****	MONTHLY TOTAL 0.65 DAILY MAX 0.025	MGD	ONCE/MONTH	TOTAL FLOW

MANIFESTE PRINCIPAL EXECUTIVE OFFICER
 Rick Squire
 WATER-Sewer Superintendent

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
 Park A. Squire

TELEPHONE 479-721-7539 DATE 08-04-2014

COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here)
TSS still a little high, After cleaning Filters, had per to low, have adjusted the air flow.

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMITTEE NAME: City of Cave Springs
 PERMITTEE ADDRESS: P.O. Box 36 Cave Springs, AR 72718

FACILITY NAME (IF DIFFERENT FROM PERMITTEE NAME): Plant #1
 FACILITY ADDRESS: 1499 1/2 S. Main

PERMIT NO.: 4873-DR-L
 AFIN NO.: 04-21642

MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.

WASTEWATER EFFLUENT MONITORING PERIOD: FROM 01-01-2014 TO 01-31-2014

PARAMETER	EFFLUENT	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE		*****	7.6	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		---	10.0	MG/L	ONCE/MONTH	GRAB
PH EFFLUENT GROSS VALUE		6 to 9	6.4	S.U.	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		---	32.0	MG/L	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		---	164	N/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKM) EFFLUENT GROSS VALUE		*****	14.60	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE		*****	11.2	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE		*****	33.635	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		*****	45.8	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE		*****	MONTHLY TOTAL: 0.652 DAILY MAX: 0.024	MGD	ONCE/MONTH	TOTAL FLOW

NAME OF PRINCIPAL EXECUTIVE OFFICER: Paul A. Sayre
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER: *Paul A. Sayre*
 AUTHORIZED AGENT

TELEPHONE: 479-721-7539
 DATE: 08-01-2014
 AREA CODE: _____ NUMBER: _____ MM/DD/YYYY

COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here):
TSS limits are high this month, we found that the slope pumps had been turned off.

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMITTEE NAME: City of Cave Springs
 PERMITTEE ADDRESS: P.O. Box 36
Cave Springs, Ar 72718

FACILITY NAME (IF DIFFERENT FROM PERMITTEE NAME): Plant #1
 FACILITY ADDRESS: 1499 1/2 S. Main

PERMIT NO.: 4873-108-L
 AFFIN NO.: 04-D1642

MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.

WASTEWATER EFFLUENT MONITORING PERIOD: FROM 3-21-2014 TO 3-31-2014

PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE	*****	5.2	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE	---	11.0	MG/L	ONCE/MONTH	GRAB
PH	6 to 9	7.3	S.U.	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE	---	22.0	MG/L	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE	---	8100	N/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	*****	30.20	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE	*****	0.3	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE	*****	22.19	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE	*****	31.5	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	*****	8764	MGD	ONCE/MONTH	TOTAL FLOW
I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.		MONTHLY TOTAL DAILY MAX 8764 0.033	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT <u>Rick Sayre</u> <u>Water-Sewer Superintendent</u>		
COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here) Total Suspended Solids were a little high this month, we had just cleaned the filters at the sewer plants. This might be the cause of the high readings.		TELEPHONE 479-721-7539	NUMBER 04-01-2014	DATE	ADEQ CODE MMDDYYYY

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMITTEE NAME: City of Cave Springs
 PERMITTEE ADDRESS: P.O. Box 314, Cave Springs, AR 72718

PERMIT NAME (IF DIFFERENT): Plant #1
 FACILITY ADDRESS: 1499 1/2 S. Main

PERMIT NO.: 4883-DP-2
 PERMIT ADDRESS: SH-01642

MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.

WASTEWATER EFFLUENT MONITORING PERIOD: FROM 08-01-2013 TO 08-31-2013

PARAMETER	EFFLUENT	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE		*****	4.7	MG/L	ONCE/MONTH	GRAB
COD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		---	2.0	MG/L	ONCE/MONTH	GRAB
PH		6 to 9	6.7	S.U.	ONCE/MONTH	GRAB
EFFLUENT GROSS VALUE		---	22.0	MG/L	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		---	2.0	MG/L	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		---	10.0	MP/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE		*****	5.7	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE		*****	22.917	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE		*****	29.9	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		*****	0.67	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE		*****	MONTHLY TOTAL: 0.067	MGD	ONCE/MONTH	TOTAL FLOW
			DAILY MAX: 0.065			
48-HOUR PRINCIPAL DESIGNING OFFICER: <u>Rock A. Sayre</u> WATER SERVER: <u>Water Server Specialists</u>				TELEPHONE: <u>479-721-7539</u> DATE: <u>09-04-2013</u>		
COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here): Looks like Total Suspended Solids Exceeds Permits limits. This might be because on 08-08-2013 our Sewer plant got hit by lightning and caused a power outage, it also caused the Sewer plant to Over flow At one of the tank.				SIGNATURE OF PRINCIPAL AUTHORIZED AGENT: <u>Rock A. Sayre</u> AREA CODE: <u>479</u> NUMBER: <u>721-7539</u>		MIN/DI/YYY: <u>MM/DD/YYYY</u>

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMITTEE NAME: City of Cave Springs
 PERMITTEE ADDRESS: P.O. Box 36 Cave Springs Ar 72718

FACILITY NAME (IF DIFFERENT): Plant #1
 FACILITY ADDRESS: 1499 1/2 S. Main

PERMIT NO.: 489-3-108-2
 AFFINITY NO.: 04-01642

MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.

WASTEWATER EFFLUENT MONITORING PERIOD: FROM MM/DD/YYYY TO MM/DD/YYYY

PARAMETER	EFFLUENT	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE		*****	3.6	MG/L	ONCE/MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		---	2.0	MG/L	ONCE/MONTH	GRAB
PH EFFLUENT GROSS VALUE		6 to 9	9.9	S.U.	ONCE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		---	18.0	MG/L	ONCE/MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		---	26	N/100 ML	ONCE/MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE		*****	11.20	MG/L	ONCE/MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ -N) EFFLUENT GROSS VALUE		*****	7.4	MG/L	ONCE/MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ -N + NO ₂ -N) EFFLUENT GROSS VALUE		*****	37.79	MG/L	ONCE/MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE			46.3	MG/L	ONCE/MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE		*****	MONTHLY TOTAL: 0.33 DAILY MAX: 10.016	MGD	ONCE/MONTH	TOTAL FLOW
HANDSILE PRINCIPAL EXECUTIVE OFFICER: <u>Rick A. Sayre</u> WATER SUPERINTENDENT: <u>Paul A. Sayre</u> TYPED OR PRINTED: _____ SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: _____ TELEPHONE: <u>479 727-5539</u> DATE: <u>09-05-2012</u> AREA CODE: _____ NUMBER: _____ MM/DD/YYYY: _____						
COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here): <u>We are still working on how much Soda Ash to add to get pH where we need it. Should be better next month. We just cleaned filters at the plant, this might be why TSS was high this month.</u>						

As agreed upon by McClelland Consulting Engineers (MCE) and Jamal Solaimanian of the ADEQ, Treatment Plant #1 will not be utilized during this permitting cycle. When Treatment Plant 1 is needed for further treatment purposes, The City of Cave Springs and MCE will consult with the ADEQ on requirements needed to implement the plant into future permits.

The City of Cave Springs, Arkansas has a municipal wastewater treatment plant which disposes its effluent via a subsurface discharge drip irrigation system located on an adjacent, privately owned golf course, The Creeks. There are five effluent disposal fields on the Creeks golf course which are intended to discharge effluent from the city of Cave Springs' two separate package wastewater treatment facilities into an underground drip system located on the Creek's Golf Course. Final construction of the plants was completed in 2006, connecting two dripfields to Treatment Plant 1 (TP1) and three dripfields to Treatment Plant 2 (TP2).

Originally only TP1, with a capacity of 92,000 gallons per day (GPD), was used for the city's sewage treatment needs and this was sufficient capacity to handle the city's waste treatment needs. However, since that time, TP1 has been taken out of service and TP2 serves as the only treatment facility for the city. TP2 has a much larger capacity of 320,000 GPD and is fully capable of handling waste flows, even at times of peak flow. With the current population growth projections, it has been determined that TP2 will be sufficient for the handling of the city's wastewater flows for the next permitting cycle, 4893-WR-3. TP1 will be kept on standby for future treatment needs and permitting cycles.

In accordance with the existing no discharge permit, 4893-WR-2, waste must be applied at a rate that provides a quantity of PAN that is equal or less than the nitrogen uptake rate of the cover crop. Cover crops on the golf course consist of the following three grasses, Bermuda, Fescue, and Rye. Waste is applied at a rate that complies with the guidelines set by the ADEQ based on the uptake of each cover crop. Bermuda grass was used as the cover crop for the course's fairway's and rough and therefore encompasses the vast majority of the dripfields. Rye and Fescue grasses are naturally occurring grasses which can be found in 'out of bounds' areas not developed by the golf course.

A monitoring well which lies in an intermediate elevation point on the course, within zone 8, can be used to assess the depth to groundwater level. In the previous permit 4893-WR-2, it is required that the depth to groundwater be at least 5-feet, in order to allow for proper treatment of Fecal Coliform. The most recent depth to groundwater measurement was taken in early May of 2017, where the depth to ground water was measured at 66-inches from the level of the soil. It should be noted that this measurement was taken only days after a significant flooding event when water table levels were high, and the depth to groundwater was still several inches clear of the permitted depth.

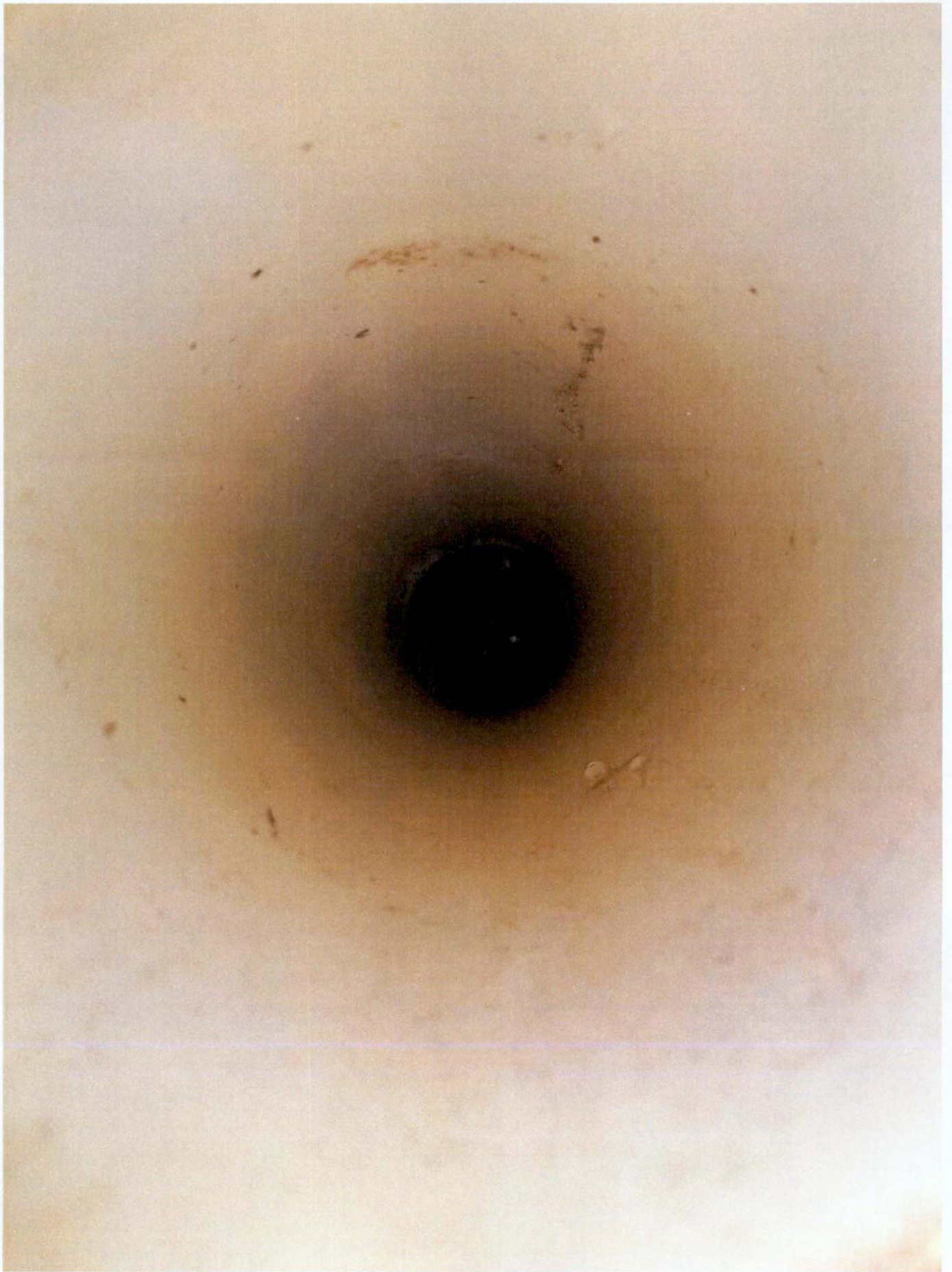
49,46



000







From: [Barret Knutson](#)
To: [McWilliams, Katherine](#)
Cc: [Water Permit Application](#)
Subject: RE: Permit 4893-WR-3; Response to Insufficiencies
Date: Monday, May 15, 2017 6:56:51 PM
Attachments: [image002.png](#)
[image004.png](#)
[Full Plan Signed.pdf](#)
[WMP Response to Insufficient Comments.pdf](#)

Dear Katherine,

Attached to This email are two PDF documents which address the Deficiencies as outlined in the incompleteness letter dated March 24th, 2017:

- 1) Corrective Action Plan – Addressing MMR violations associated with Total Suspended Solids.
- 2) Response to Comments Made on the Waste Management Plan
 - a. The majority of the information requested had to do with operation of Plant 1. As discussed in our meeting last month, we have no intentions to implement Plant 1 during this permitting cycle but it will be kept on standby until further notice.
 - b. As MCE did not do the design of this plant, the original WMP and the subsequent calculations were kept with the CEI cover page and project number.

Please contact me at your earliest possible convenience if you have any questions or concerns.

Barret Knutson, EI
Project Engineer



1810 N. College Ave. | Fayetteville, AR 72703

P.O. Box 1229 | Fayetteville, AR 72202

479.443.2377 office | 479.443.9241 fax

bknutson@mce.us.com

www.mce.us.com



Our domain has changed!

www.mce.us.com

Please update your contact info!

New email addresses:

FirstInitialLastName@mce.us.com



Connect on [LinkedIn](#)

[Join the MCE team today!](#)

12.0 Appendix 4 – Elm Springs Service Contract



SERVICE CONTRACT

between

NORTHWEST ARKANSAS CONSERVATION AUTHORITY

and

CITY OF ELM SPRINGS, ARKANSAS

Dated: _____

TABLE OF CONTENTS

ARTICLE I

SHORT TITLE, DEFINITIONS AND GENERAL PROVISIONS.	<u>4</u>
SECTION 101. <u>Short Title</u>	<u>4</u>
SECTION 102. <u>Definitions and Constructions</u>	<u>4</u>
A. <u>Definitions</u>	<u>4</u>
B. <u>Construction</u>	<u>10</u>
SECTION 103. <u>Duration of the Contract</u>	<u>11</u>
SECTION 104. <u>Successors</u>	<u>11</u>
SECTION 105. <u>Parties of Interest and Interest of Bondholders</u>	<u>12</u>

ARTICLE II

CONSTRUCTION OF THE SYSTEM.	<u>12</u>
SECTION 201. <u>Construction of the System</u>	<u>12</u>
SECTION 202. <u>Additional Construction</u>	<u>13</u>
SECTION 203. <u>Financing of System by the Authority</u>	<u>14</u>
SECTION 204. <u>Reserved</u>	<u>14</u>
SECTION 205. <u>Inclusion of Claims</u>	<u>14</u>
SECTION 206. <u>Reserved</u>	<u>14</u>
SECTION 207. <u>Administrator and Consulting Engineer</u>	<u>14</u>
A. <u>Administrator</u>	<u>14</u>
B. <u>Consulting Engineer</u>	<u>15</u>
C. <u>Filing Copies</u>	<u>15</u>
SECTION 208. <u>Assignment of Grants</u>	<u>15</u>
SECTION 209. <u>Use of Grant Funds by the Authority</u>	<u>16</u>

ARTICLE III

OPERATION AND MAINTENANCE OF THE SYSTEM.	<u>16</u>
SECTION 301. <u>Operation of the System</u>	<u>16</u>
SECTION 302. <u>Rules, Regulations and Other Details</u>	<u>17</u>
SECTION 303. <u>Sewer Use Code: City Discharge of Wastewater</u>	<u>17</u>
SECTION 304. <u>Sewer Use Code: Industrial User Discharge of Wastewater</u>	<u>19</u>
SECTION 305. <u>Inflow and Infiltration</u>	<u>24</u>
SECTION 306. <u>The City's Sewer System and Connection to the Authority</u>	<u>25</u>
SECTION 307. <u>Connection to the Authority and Division of Costs</u>	<u>25</u>
SECTION 308. <u>Restrictions on Flow Rates Discharged by the City to the Authority's System</u>	<u>27</u>
SECTION 309. <u>Restrictions on Competing Systems or the Construction of Other Sewage Treatment Works</u>	<u>27</u>
SECTION 310. <u>Insurance and Reconstruction</u>	<u>28</u>

SECTION 311. <u>Covenant Against Waste</u>	29
SECTION 312. <u>Covenant Against Assignment</u>	29
SECTION 313. <u>Right of Inspection</u>	29
SECTION 314. <u>Records, Accounts and Audits</u>	30
SECTION 315. <u>No Vested Rights of the City in System</u>	30

ARTICLE IV

AUTHORITY'S OPERATION AND MAINTENANCE BUDGET.....	30
SECTION 401. <u>Annual Operation and Maintenance Budget</u>	30
SECTION 402. <u>Limitations on Operation and Maintenance Expenses</u>	32
SECTION 403. <u>Budget Disagreement - Remedy</u>	32

ARTICLE V

PAYMENT BY THE CITY.....	35
SECTION 501. <u>Agreement to Pay</u>	35
SECTION 502. <u>City's Source of Funds</u>	35
SECTION 503. <u>Authority Account</u>	35
SECTION 504. <u>The Contract Amount</u>	36
SECTION 505. <u>Meter Reading and Calibration</u>	38
SECTION 506. <u>Payment of Contract Amount</u>	39
SECTION 507. <u>Delinquent Payment of the City</u>	39
SECTION 508. <u>Contracts With Others</u>	40
SECTION 509. <u>City's User Charge System</u>	40
SECTION 510. <u>Resolution of Disputes</u>	40
SECTION 511. <u>Connection Fees</u>	41

ARTICLE VI

ABANDONMENT OF THE CITY'S SEWER SYSTEM FACILITIES.....	41
SECTION 601. <u>Abandonment Permitted</u>	41
SECTION 602. <u>Notice of Abandonment</u>	42

ARTICLE VII

MISCELLANEOUS.....	42
SECTION 701. <u>Effective Date</u>	42
SECTION 702. <u>Performing Duties</u>	42
SECTION 703. <u>Further Assurances</u>	43
SECTION 704. <u>Limitations Upon Consent</u>	43
SECTION 705. <u>Form of Consent</u>	44
SECTION 706. <u>Bonds of the Authority</u>	44
SECTION 707. <u>Conformity With Laws And Regulations</u>	44
SECTION 708. <u>Acts of God</u>	45
SECTION 709. <u>Nonassignability</u>	45
SECTION 710. <u>Amendments</u>	45

SECTION 711.	<u>Severability</u>	<u>45</u>
SECTION 712.	<u>Execution of Documents; Further Acts</u>	<u>46</u>
SECTION 713.	<u>Waiver</u>	<u>46</u>
SECTION 714.	<u>Remedies</u>	<u>46</u>
SECTION 715.	<u>Entirety</u>	<u>46</u>
SECTION 716.	<u>Applicable Law; Captions</u>	<u>46</u>
SECTION 717.	<u>Joint Use Connection Points</u>	<u>47</u>
SECTION 718.	<u>Injunctive Relief</u>	<u>47</u>
SECTION 719.	<u>Authority</u>	<u>47</u>
SECTION 720.	<u>Notice</u>	<u>47</u>

SERVICE CONTRACT

THIS SERVICE CONTRACT dated as of the ____ day of _____, 2017, (regardless of when signed by the parties hereto), by and between NORTHWEST ARKANSAS CONSERVATION AUTHORITY (herein referred to as the "Authority"), a body corporate and politic duly organized and existing under the laws of the State of Arkansas, and ELM SPRINGS, ARKANSAS, a municipal corporation (herein referred to as the "City").

WITNESSETH:

WHEREAS, Title 14, Chapter 233 of the Arkansas Code as amended, permits any two or more Arkansas municipalities, any two or more counties, or any one or more Arkansas municipalities together with any one or more Arkansas counties to create, establish, and become a member of a solid waste disposal authority for the purpose of controlling, collecting, storing, removing, handling, reducing, disposing of, treating, and otherwise dealing in and concerning solid waste as that term is defined in the Joint County and Municipal Solid Waste Disposal Act, Ark. Code Ann. §§14-233-101 et seq. (hereinafter the "Act") and for the purposes stated in the Act; and

WHEREAS, pursuant to and in accordance with the provisions of the Act, the Authority has been duly created and is duly authorized to undertake the planning, financing, construction, maintenance and operation of a common system of trunk sewers, sewage treatment plant and related facilities constructed by the Authority to serve certain areas within Benton County and Washington County, Arkansas (hereinafter referred to as the "System"); and

WHEREAS, the Act permits the Authority to enter into agreements such as this Service Contract (hereinafter the "Contract");

WHEREAS, the City, as a political subdivision of the State, is authorized to enter into agreements such as this Service Contract with the Authority for the provision of sewage treatment services; and

WHEREAS, the City hereby agrees to pay a reasonable charge to the Authority for wastewater disposal, such charges to be based as determined by the Board of Directors from time to time and as determined pursuant to this Contract for sewage water used by the residential, commercial, and industrial establishments both within and without the jurisdictional limits of the City and discharged into the System together with such amounts, if any, of groundwater, surface water, and storm water that is allowed to be discharged into the System, said volume to be determined at the point of discharge to the System, such charge to be fixed at such rate that shall, together with all other revenues of the Authority, insure the provision of sufficient revenues for the operation, maintenance, rehabilitation and restoration of the System and the payment of principal and interest on all outstanding revenue bonds issued by the Authority, or by any other financing source, as provided by law; and

WHEREAS, the Authority has the power and is authorized, pursuant to the Act, to issue its Bonds in such principal amount as, in the opinion of the Authority and with the concurrence of the Authority's Board of Directors and as provided in the Act, shall be necessary to provide sufficient funds for achieving its purposes, including the acquisition and construction, improvement, extension and rehabilitation of the common sewer system and treatment plants, and other expenditures of the Authority incident to and necessary or convenient to carry out its

purposes and powers; and

WHEREAS, in order to provide funds to pay a portion of the cost of the System, the Authority issued Bonds pursuant to the Act payable from and secured by revenues from the System; (to the extent now or hereafter outstanding all said original issue and refinancing bonds are hereinafter sometimes collectively referred to as the "Outstanding Bonds"), and to the extent the same are outstanding during the term hereof the Outstanding Bonds represent continuing obligations of the Authority under the terms and provisions of Bond Documents duly adopted by the Authority prior to the issuance of the Outstanding Bonds; and

WHEREAS, prior to construction of its current facility, the Authority reviewed the needs of the System and retained the services of professional consulting engineers to make such plans and designs for the System (herein referred to as the "Facility Plan") to serve the needs of the Authority and its Users and as such has the requisite capacity for the City for the near future; and

WHEREAS, implementing the Facility Plan necessitated consideration of appropriate methods of financing such implementation, including the issuance of Bonds and alternative sources of financing; and

WHEREAS, the Authority obtained all governmental approvals required by law for the acquisition, construction, ownership, operation, and maintenance of the System by the Authority; and

WHEREAS, the System benefits the Users which contract with the Authority and are connected to the System; and

WHEREAS, the Authority has secured binding service contracts with all Users seeking to use the System to the extent that the same can practically and economically be made a part of the

System to maximize its efficient use and provide for the connection of, use of and payment for use of the System; and

WHEREAS, it is the intention of the parties and all Users of the Authority that no change or modification be made which would impair any Outstanding Bonds or modify any current provisions for payment of such Outstanding Bonds now or in the future; and

WHEREAS, nothing set forth in this Service Contract shall be construed in a manner to adversely affect the rights of the holders of any Outstanding Bonds.

NOW, THEREFORE, IT IS MUTUALLY AGREED AS FOLLOWS:

ARTICLE I

SHORT TITLE, DEFINITIONS AND GENERAL PROVISIONS

SECTION 101. Short Title

This Contract may be referred to as the “Service Contract” (herein sometimes designated as the “Contract”).

SECTION 102. Definitions and Constructions

A. Definitions

All terms which are defined herein shall have the same meanings for all purposes of this Contract as amended and supplemented, and including any instrument or document appertaining hereto and whether or not such term is capitalized when used (except where the context by clear implication otherwise requires).

“Act” - The applicable provisions of Title 14, Chapter 233 of the Arkansas Code as amended, Ark. Code Ann. §§14-233-101 et seq.

“ADEQ” - The Arkansas Department of Environmental Quality and any successor

agency.

“Administrator” - Regardless of the title used by the Authority, that person appointed by action of the Authority’s Board of Directors and who shall have all powers authorized by the provisions of the Act, as now provided or as hereafter amended, as well as such other powers authorized by the Board of Directors of the Authority to the extent that such authorization is not inconsistent with the Act.

“Annual Budget” - The budget or the amended budget for the operation and administration of the Authority for a twelve-month period commencing January 1 of each year and adopted by the Authority or in effect pursuant to Article IV hereof.

“Board of Directors” - Board of Directors shall mean the duly elected and constituted Board of the Authority as provided by the Act, and the provisions of the agreement between the member cities of the Authority as well as the bylaws of the Authority.

“Bonds” - All Outstanding Bonds issued by the Authority to date, and all subsequent bonds issued by it, or on its behalf, for the purpose of paying the cost of acquiring, constructing, improving or extending the System and all refunding bonds issued by it, or on its behalf, to refinance any such Bonds. The term also includes Bonds issued to date and all subsequent bonds issued for the purpose of paying the cost of acquiring, constructing, improving and extending a sewer system, including land and easements, interceptor sewer lines, sewage treatment facilities, and refunding bonds.

“Bond Documents” - The Authority’s bond resolutions and all subsequent bond resolutions approved by the Board of Directors, together with all documents necessary for authorizing and directing the issuance of sewer system revenue bonds and sewer system

refunding bonds for the purpose of paying the cost of acquiring, constructing, improving and extending a sewer system, including land and easements, interceptor sewer lines, and sewage treatment facilities.

“Charge(s)” - Such amounts as are recommended to the Board of Directors by the User Committee, which recommendation shall be accepted unless such recommendation is rejected or otherwise altered by super-majority vote [i.e. three-fourths of all members] by the Board of Directors of the Authority. Charges, once established, shall be utilized to determine the Contract Amount (Article V, Section 504). In no event shall Charges be established at an amount less than the minimum required by the Bond Documents and any covenants contained therein.

Charges shall be established so as to always provide sufficient revenues for:

1. the operation and maintenance, including a reserve fund, of the System as set forth in the then current annual budget;
2. the payment of interest and principal on all Bonds of the Authority, issued to finance the System owned by the Authority, when the same become due;
3. the payments into the various Funds provided for in the Bond Documents;
4. any deficiencies in said Funds, except that such charge or charges shall not provide for revenues in any one year which, together with other revenues received and collected by the Authority and arising out of the use of the System by other Users, or others, exceeds the amounts required to be collected; and
5. debt service coverage as required by or defined by the Bond Documents and any covenant contained therein.

“City Connection” - A piped tie-in to the City’s Sewer System which conveys sewage.

“City’s Sewer System”, “City’s Sanitary Sewer System”, “City’s Sewage Treatment Works” - Each means a system or other facilities owned by, or to be owned by, the City and connected to the System, which provides now or hereafter for the collection, treatment or disposal of sewage or wastewater or any combination thereof as permitted by law.

“Connection Fees” – Such amounts as are recommended to the Board of Directors by the User Committee, which recommendation shall be accepted unless such recommendation is rejected or otherwise altered by super-majority vote [i.e. three fourths of all members] by the Board of Directors of the Authority. Connection Fees are various amounts as reasonably and equitably to be determined to be paid by one or more City or Cities for future System Connections to finance part or all costs the Authority may incur for expansions of the System that are necessary to serve one or more City or Cities.

“Consulting Engineer” - Any registered or licensed professional engineer, firm or professional corporation composed of such engineers, or an association thereof entitled to practice and practicing as such under the laws of the State of Arkansas or any other state, selected, retained and compensated by the Authority but not in the regular employ or control of the Authority, including without limitation any successor of the present Consulting Engineer, if any.

“Contract Amount” - The amounts paid or required to be paid from time to time by the City to the Authority pursuant to this Contract (Article V, Section 504).

“Herein”, “Hereinabove”, “Hereinafter”, “Hereof”, “Hereto”, “Hereunder”, and any similar term, refer to this entire Contract and not solely to the particular portion thereof in which such word is used; “Heretofore” means before the stated date of this Contract; and, “Hereafter”

means after the stated date of this Contract.

“Industrial User” - An industrial manufacturing process, trade, or business which generates water-carried wastes and is a source for the introduction of non-domestic pollutants into the System.

“Infiltration” - Includes any storm water, surface water or groundwater that enters a sanitary sewer collection system through broken or defective pipes, improper joints or connections, deteriorated manhole components, broken foundation drains or defective service laterals.

“Inflow” - Includes any storm water which gains access to a sanitary sewer collection system through direct sources, including, but not limited to, vented manhole lids, downspouts, area drains, indirect storm sewer connections, storm sewer cross-connections and uncapped cleanouts below grade, roof drains, cellar or basement drains, sump pumps or yard drains.

“Person” - A natural person, corporation or other entity, or two or more natural persons, corporations or other legal entities acting jointly as a firm, partnership, unincorporated association, joint venturers, or otherwise.

“Pretreatment Program”- The documents (rules, regulations, ordinances, contracts, or agreements), procedures and funding mechanisms developed and adopted by the Authority in response to the requirements of Title 40, Code of Federal Regulations, Part 403 - “General Pretreatment Regulations for Existing and New Sources.”

“Sanitary Sewer Overflow” - A condition in which the wastewater flow rate in a sewer system exceeds the capacity of the sewer to the extent that untreated raw wastewater is discharged to waters of the State.

“Sewage” - The spent water of a community which may be a combination of the liquid and water-carried wastes from residences, commercial buildings, industrial plants and institutions together with any groundwater, surface water, and storm water that may be present.

“State” - The State of Arkansas.

“System” - The interrelated physical components constituting the whole and including without limitation the interceptor trunk and connecting sewers, manholes, access junctions, metering, sampling and related structures, pump stations, treatment plants and support facilities, solid waste disposal systems and land, easements and rights-of-way, all as may be acquired or constructed by the Authority or acquired from others, whether interim or permanent facilities, whether existing or to be constructed to serve the City’s needs, and whether acquired or constructed as initially planned facilities, as extensions or replacements thereof or improvements thereto, all as necessary or appropriate to achieve the Authority’s purposes.

“System Connection” - A piped tie-in to the System which conveys sewage.

“Technical Advisory Committee” - A committee consisting of various representatives of various members of the Authority who operate sewage collection systems as well as consulting engineers and others whose expertise is deemed valuable to the Authority by the Board of Directors and the Administrator.

“Total Construction Contract Cost” - The total amount paid by the Authority for and related to the completion of the System as extended from time to time.

“Trustee” - Refers to the Trustee as defined in the Bond Documents.

“User” - Any government unit or legal entity who has or will have a service contract with the Authority whereby that entity discharges sewage into the System. Where context suggests,

“User” shall also be those persons or entities which discharge sewage into the City’s Sanitary Sewer System.

“User Committee” - A committee of the Board of Directors consisting of a single representative, who shall be a Board Member of the Authority, from each User. In the case of a User with two Board Members, the User shall select one to serve and shall advise the Board of Directors and the Administrator of that choice. For purposes of this definition and being permitted to sit on the User Committee, User is limited to a governmental unit: (a) which is a member of the Authority; and, (b) which has executed a service contract with the Authority whereby that entity discharges sewage into the System.

“Wastewater” - Same as the definition for “Sewage” above.

B. Construction

This Contract, except where the context by clear implication herein otherwise requires, shall be construed as follows:

- (1) All interpretations and applications of this Service Contract shall be construed to apply only to the extent that the terms of this Service Contract impact the services provided by the Authority to the City;
- (2) Definitions include both singular and plural; pronouns include both singular and plural and cover all genders;
- (3) Articles, sections, subsections, paragraphs, and subparagraphs mentioned by number, letter and otherwise, correspond to the respective articles, sections, subsections, paragraphs and subparagraphs of this Contract so numbered or otherwise so designated;

- (4) In the event a conflict arises with respect to any of the terms or conditions contained herein and any portion of the Bond Documents, the terms and conditions of said Bond Documents shall govern the rights of the parties hereto and, with respect to such terms and conditions of said Bond Documents, the Authority hereby covenants not to permit any amendment, modification or other revision of the Bond Documents which would impair the rights of the City without first obtaining the written consent of the City.

SECTION 103. Duration of the Contract

This Contract and each and every provision hereof shall remain in full force and effect with respect to the System for a period of forty years, but in no event less than the point in time when the Authority shall have paid and retired or shall have made due and adequate provision for the payment and retirement of all of the Bonds issued by the Authority in respect of the System, and thereafter until such time as:

- (1) no Bonds or any other debt of the Authority exists; and
- (2) the Authority and the City thereafter agree to terminate this Contract in writing.

SECTION 104. Successors

Subject to the terms and conditions of the Bond Documents, wherever the Authority or the City, as the case may be, is referred to herein, such provision shall be deemed to include the successors of the Authority or the City, as the case may be, whether so expressed or not. Subject to the terms and conditions of the Bond Documents, all of the covenants, stipulations, obligations and agreements by or on behalf of, and other provisions for the benefit of the Authority or the City contained herein, shall bind and shall inure to the benefit of such successors and shall bind

and shall inure to the benefit of any officer, board, commission, authority, agent, or instrumentality to whom or to which there shall be transferred by or in accordance with law any powers, duty or function of the Authority or the City respectively, or of its successors, the possession of which is necessary or appropriate in order to comply with any such covenant, stipulation, obligation, agreement, or other provision hereof.

SECTION 105. Parties of Interest and Interest of Bondholders

Nothing in this Contract expressed or implied is intended or shall be construed to confer upon any person, firm or corporation, other than the parties hereto, the Directors and the holders of the Bonds and the coupons thereunto appertaining, any rights, remedy or claim, legal or equitable, under or by reason of this Contract, this Contract being intended to be and being for the sole and exclusive benefit of the parties hereto, the Trustee and the holders from time to time of the Bonds and the coupons thereunto appertaining. For the purpose of providing payment of the Principal of and interest on the Bonds, or for the enforcement of collection of revenue owed to the Authority, the Authority may pledge, assign and transfer the right to receive and collect Contract Amounts provided for in the Contract, and from and after such pledge, assignment and transfer, such assignee shall have the Authority's rights and privileges hereunder to the extent and as conferred in such pledge, assignment and transfer.

ARTICLE II

CONSTRUCTION OF THE SYSTEM

SECTION 201. Construction of the System

The Authority shall have full discretion in determining the size, capacity, route and location of all trunk, interceptor and outlet sewers, pumping and metering stations, treatment

plant and outlet works or other structures.

The Authority shall not be deemed to be in default under the aforesaid covenant or any other applicable provision hereof if the construction of the System or any portion or extension thereof shall be delayed by the inability of the Authority or others to secure needed labor or materials, or by inclement weather which delays completion of the System, or by strikes, labor disputes, lockouts or like trouble among mechanics or laborers which delay construction of the System, or by acts of God, or by acts or neglect of the City or its agents or employees, or by regulations or restrictions imposed by any governmental agency or authority, or by fire or other similar catastrophe or other similar delay beyond the reasonable control of the Authority, its agents or contractors, or by the inability of the Authority to award construction contracts for construction of the System or any extension thereof for total bids that are within the estimated cost, or in the event of the inability of the Authority to issue Bonds to finance the System.

The System shall, upon completion, be free and clear of all liens and encumbrances of every kind and character which may arise regarding the work of any character performed respecting the System, including mechanics', laborers' and materialmen's liens and other liens of a similar nature. However, nothing in this Section 201 shall require the Authority to pay or cause to be discharged or to make provision for the payment of any such lien or encumbrance so long as the validity thereof shall be contested in good faith by appropriate legal proceedings. Before undertaking construction of any substantial part of the System, the plans and specifications for such construction shall be submitted by the Authority to ADEQ in order to obtain such permits or other approvals as are required by law.

SECTION 202. Additional Construction

All acquisitions, additions, alterations, re-construction, improvements or extensions to the System shall become a part of the System owned exclusively by the Authority, except as otherwise provided herein or agreed in writing by the parties. The parties agree that the System Connection by which the City's sewage is transported to the System shall be constructed by, paid for, and owned by the City. The design, plans, and construction shall require approval of the Authority. The System Connection shall thereafter be owned by and maintained by the City.

SECTION 203. Financing of System by the Authority

The Authority financed Total Construction Contract Costs of the System from the proceeds derived from the issuance of Bonds, from funds available from any federal, state or local source, from any other grants available from any source or from funds approved within the Authority's annual budget.

SECTION 204. Reserved

SECTION 205. Inclusion of Claims

The Authority had the authority to pay as a part of Total Construction Contract Cost any claim against it arising from construction of the System or any extension as a result of a settlement acceptable to the Authority, or after the rendering of an award of such claim by a court of competent jurisdiction. The Authority had the authority to include interest, court costs and legal fees, if any, in the payment of any such claim. The Authority retains such authority as to any expansion of its facilities.

SECTION 206. Reserved

SECTION 207. Administrator and Consulting Engineer

A. Administrator

The Administrator shall have all powers authorized by the Board of Directors of the Authority to the extent that such authorization is not inconsistent with the Act.

B. Consulting Engineer

From the commencement of the design of the System until completion of the construction of the System, the Authority employed a Consulting Engineer whose duties were to be responsible for the design and to supervise the construction of the System and provide certain operational assistance as required, and to execute, from time to time, certificates appertaining thereto. The City shall employ its own consulting engineer for purposes of designing and overseeing the installation of its sewer lines to convey sewage to the point of the System Connection by the City. The City shall provide copies of the design of the sewer lines and connection sufficiently in advance of bidding to allow the Authority to review and approve such design.

C. Filing Copies

Copies of the reports, estimates, or certificates of the Consulting Engineer, Administrator, and other employees, consultants or agents, as the case may be, and copies of the recommendations and estimates made, as hereinabove provided, shall be filed and remain upon file with the Authority for inspection by the City and other interested parties.

SECTION 208. Assignment of Grants

Any grants made to the City for and on its own behalf regarding other sewer work in process or future work and not a part of the System or any extension or improvement thereof, shall belong to the City. Except by express written agreement between the City and Authority the City shall not be required to assign to the Authority its right, title and interest in and to any

grant made or to be made by the United States of America or any agency or instrumentality thereof or by the State or any agency or instrumentality thereof in respect to the City's connection to the System. To the extent either party shall seek grants, the City and the Authority agree to cooperate with respect to any such grants made or to be made, to make such applications or other requests for such grants, to enter into and perform any and all agreements required to comply with any applicable laws in respect thereof, and to take such other and further action as is required or permitted.

SECTION 209. Use of Grant Funds by the Authority

Any grant made or to be made to the Authority by the United States of America or any agency or instrumentality thereof or by the State or any agency or instrumentality thereof in respect to the System shall be used by the Authority in accordance with law as the Board of Directors, in its discretion, may determine.

ARTICLE III

OPERATION AND MAINTENANCE OF THE SYSTEM

SECTION 301. Operation of the System

The Authority and the City shall take such action from time to time as is required to permit the System to receive, treat and dispose of wastewater delivered into the System by the City, and thereafter the Authority will operate and maintain the System so as to receive, treat and dispose of wastewater in accordance with the terms and provisions hereof.

The Authority shall at all times, after the System or any part thereof is placed in operation, operate the System properly and in a sound and economical manner. The Authority shall maintain, preserve, keep the System in good repair, order, and condition. The Authority

shall, from time to time, make or cause to be made all necessary and proper repairs, replacements, and renewals so that the operation of the System may be properly conducted at all times in a sound and economical manner.

SECTION 302. Rules, Regulations and Other Details

The operation, use and services of the System shall be governed by "Sewer Use Code," adopted by the Board on April 19, 2007, and as may be further amended from time to time (hereinafter "Sewer Use Code"). Said Sewer Use Code is attached hereto as an Appendix to this Contract and made a part hereof by reference as much as if set forth, in full, and verbatim in this Contract at this point. The Pretreatment Program applies specifically to Industrial User discharges to the System or the City's Sewer System (see also Section 509 hereof). The Authority shall observe and perform all of the terms and conditions contained in the Act and the Bond Documents and shall comply with all valid acts, rules, regulations, orders and directives of any legislative, administrative or judicial body applicable to the System or the Authority.

SECTION 303. Sewer Use Code: City Discharge of Wastewater

System Connections shall be limited to the City's Sanitary Sewer System. The City shall not accept the waste of septic tank pumpers, leachate from landfills or other waste haulers. The City's ordinance adopting the Sewer Use Code of its sanitary sewers shall be filed with and accepted by the Authority prior to making any System Connections. Any amendments or changes proposed to standards accepted by the Authority shall be submitted for approval prior to adoption by the City.

All measurements for flow rate and sampling for wastewater testing shall be conducted by the Authority with facilities provided thereof or at connecting points to the System or at other

locations in the City's Sanitary Sewer System in accordance with applicable provisions of the Sewer Use Code.

If tests conducted by the Authority indicate wastewater discharged to the System exceeds the flow or quality criteria set forth in the Sewer Use Code, the Authority may:

- a. Require pretreatment to an acceptable condition before discharge, in keeping with good engineering practices and the recommendations of the regulatory agencies;
- b. Require a surcharge payment to cover the added cost of treatment for characteristics outside the established limits, in keeping with good engineering practices and the recommendations of regulatory agencies;
- c. Install a restriction device at the point of the System Connection(s);
- d. Require a penalty payment within guidelines established by the Environmental Protection Agency and ADEQ for each occurrence where excessive peak flows, toxic substances, or other materials upset the treatment process to the extent that effluent standards are exceeded and such upsets occur on days that tests on wastewater from the City indicate the presence of such flows or substances. Any imposition of fines or penalties shall have a rational relationship to the expense incurred by the Authority and shall provide due process to the City.

Should the Authority have validly imposed upon it a monetary penalty or fine by any court, agency or instrumentality of the State of Arkansas or the United States of America having competent jurisdiction, and should such penalty be imposed because of some action or failure to take action on the part of the City with regard to its sewer system or the users thereof and whether or not the Authority has the right to enforce such compliance directly or indirectly, the

Authority, in appropriate circumstances and in its sole business judgment, shall have the right to require the City to immediately reimburse the Authority for any monies so paid or so required to be paid because of said penalty or fine.

SECTION 304. Sewer Use Code: Industrial User Discharge of Wastewater

The parties recognize and acknowledge the Authority's right to the establishment, operation, administration, and enforcement of a publicly owned treatment works pretreatment program consistent with state and federal pretreatment standards, including inspection, monitoring, sampling, permitting and reporting programs and activities. The rules and regulations adopted by the Board of Directors for a pretreatment program shall be applicable and enforceable by civil, administrative or other actions within any territory served by the System or treatment facilities and against any municipality, sub-authority, authority or industrial user who shall directly or indirectly discharge sewage or permit discharge of sewage into the System or treatment facilities.

The parties specifically authorize, recognize, and acknowledge the Authority's right to implement and enforce the Sewer Use Code including its Pretreatment Program, as amended, promulgated pursuant to the Act and the applicable provisions of Title 40, Code of Federal Regulations, Part 403 as published in the Federal Register (hereinafter "40 CFR Part 403"), and further the City authorizes the Authority to perform technical and administrative duties necessary to implement and enforce the Sewer Use Code and Pretreatment Program.

The parties acknowledge the Authority's right to implement and enforce all future laws and regulations as authorized or mandated by the Federal Clean Water Act and/or the Arkansas Clean Water Act.

Because Industrial Users in the City's jurisdictional boundaries will or may contribute wastewater which includes industrial waste to the System, the parties agree to the following terms and conditions:

- (1) If the City has not already done so, the City agrees as soon as reasonably possible (but in no event later than 120 days after the effective date hereof) to adopt sewer ordinances or other governing rules (hereinafter "Ordinances") which acknowledge and grant to the Authority the responsibility to require and monitor compliance and respond to and remedy violations or other instances of noncompliance with the Sewer Use Code and Pretreatment Program.
- (2) Whenever the Authority amends its Sewer Use Code or Pretreatment Program, it will immediately notify the City. For purposes of this Section 304, immediate notification means the Authority will use its reasonable best efforts to forward a copy of any amendments within five (5) business days of enactment thereof. As soon as is reasonably possible (but in no event later than 120 days after receipt of the Authority's notice), the City agrees that it will enact, as appropriate, any necessary amendments to its Ordinances to make them at least as stringent as the Sewer Use Code and Pretreatment Program, as amended.
- (3) The Authority and the City agree to periodically review the Sewer Use Code, the Pretreatment Program, and the City's Ordinances, and use their reasonable best efforts to jointly draft and adopt equivalent amendments when deemed necessary for the effective administration and operation of the Sewer Use Code. Either party, ADEQ, or the United States Environmental Protection Agency may request

a joint review whenever deemed necessary.

- (4) If the City has not already done so, the City agrees as soon as reasonably possible (but in no event later than 120 days after the effective date hereof) to adopt “Local Limits” which address at least the same pollutant parameters and which are at least as stringent as the Local Limits enacted by the Authority and as set forth in the Sewer Use Code and Pretreatment Program. If any revisions or additions are made to the Authority’s Local Limits, the Authority will immediately notify the City. For purposes of this Section 304, immediate notification means the Authority will use its reasonable best efforts to forward a copy of any revisions or additions to the Local Limits within five (5) business days of enactment. As soon as reasonably possible (but in no event later than 120 days after receipt of the Authority’s notice), the City agrees to adopt any revisions or additions made to the Authority’s Local Limits.
- (5) The Authority, on behalf of the City, agrees to perform technical and administrative duties necessary to implement and enforce the Sewer Use Code and the Pretreatment Program, including, but not limited to, the following: (i) determining the acceptability of industrial waste to the System from Industrial Users within the City’s jurisdiction; (ii) providing technical services such as sampling and analysis of effluent from Industrial Users; (iii) permitting Industrial Users contributing to the System; (iv) conducting inspection and compliance monitoring of effluent from Industrial Users; and (v) performing enforcement for acts of noncompliance of the Sewer Use Code or the Pretreatment Program. In

addition, the Authority is authorized, in accordance with the authority granted to it by Arkansas law, to take emergency action to stop or prevent any discharge for any Industrial User which presents or may present an imminent danger to the health or welfare of humans, which reasonably appears to threaten the environment, or which threatens to materially interfere with the operation of the System.

- (6) The Authority shall assess the City all costs and expenses reasonably incurred in implementing and enforcing the Sewer Use Code and Pretreatment Program on behalf of the City in accordance with the provisions hereof.
- (7) Notwithstanding that certain Industrial Users within the City's jurisdictional boundaries with operational pretreatment programs approved by ADEQ may be exempt from the Pretreatment Program, the City's discharges shall be controlled to the degree required by the Pretreatment Program, as approved by ADEQ.
- (8) Upon the City's failure to control Industrial User discharges as provided above, then any additional cost or charge to the Authority resulting from said failure shall be borne entirely by the City.
- (9) Before Industrial Users located outside the City's jurisdictional boundaries are allowed to discharge into the City's Sewer System, the City agrees to negotiate and secure an agreement with such User. Such an agreement shall be substantially equivalent to this Section 304, and a draft thereof shall be forwarded to the Authority for its reasonable approval prior to execution.
- (10) Any disputes arising out of this Contract shall be resolved in accordance with the

applicable provisions hereof, which shall in no way limit the Authority's power to enforce requirements directly against Industrial Users using the City's Sewer System, nor shall it preclude the Authority from seeking other remedies against the City.

- (11) The Authority and its authorized representatives are hereby granted the authority to enter the jurisdictional boundaries of the City to administer and enforce the Sewer Use Code and Pretreatment Program as authorized in this Section 304. The Authority shall indemnify and save harmless the City against all liabilities, judgments, costs, damages, expenses and attorneys' fees for loss, damage, or injury to person or property resulting from the administration and enforcement of the Sewer Use Code and Pretreatment Program as authorized in this Section 304 caused by the negligent or intentional acts or omission of the Authority or its officers, employees or any other agents.
- (12) If (i) the Authority reasonably believes that a violation of the City's Ordinances exists and (ii) the alleged violation also violates the Sewer Use Code and/or Pretreatment Program, the Authority shall have the authority to demand that the City commence enforcement of its Ordinances against an Industrial User or any other user of the City's system by sending written notice to the City stating the reasons for its belief that a violation exists and requesting that such enforcement by the City be commenced. Upon receipt of any such notice stating a reasonable belief that a violation exists, the City shall commence and diligently pursue enforcement of its Ordinances. If the Authority gives such written notice, and the

City fails to commence and diligently pursue enforcement of its Ordinances, then any additional cost or charge to the Authority, including fines and penalties, resulting from said failure shall be borne entirely by the City, provided that the failure of the City to obtain a conviction shall not be deemed a failure to commence and diligently pursue enforcement. Unless the State of Arkansas has designated the City as a pretreatment control authority, the Authority shall assist the City with any inspection, monitoring, and sampling necessary to the enforcement action.

Any failure of the Authority to give any notices required under this Section within the time stated shall not excuse the City from complying with the terms of the notice once it is given.

Subparagraphs (5), (6), and (11) of this section shall not apply within the jurisdictional boundaries of a city if the State of Arkansas has designated that City as a pretreatment control authority.

SECTION 305. Inflow and Infiltration

The parties recognize and acknowledge the Authority's right to implement and enforce federal and state regulations delegated to and implemented by the Authority as may become enacted to govern infiltration/inflow and to reasonably prevent sanitary sewer overflows of the System.

The Authority and the City will each operate and maintain its own respective wastewater collection systems according to standard engineering and management practices and, in doing so, each will effectively police, monitor and control its respective sanitary wastewater collection systems, to the most reasonable extent possible, so as to preclude the admission of any more than

minor quantities of storm, surface or groundwater.

The City further agrees to maintain in effect ordinances prohibiting the connection of roof drains, porch drains, driveway drains, parking lot drains, footing drains and surface or ground water sump pumps to the sanitary wastewater collection system. The City agrees to notify the Authority of any amendment to such ordinances. The City will further perform reasonable monitoring and inspection to avoid significant infiltration and inflow to the City's Sewer System. The Administrator shall meet annually with a representative of the City to establish mutually agreeable goals to reduce the infiltration and inflow to the System. The City shall advise the Authority in writing of the name and address of its representative.

SECTION 306. The City's Sewer System and Connection to the Authority

The City, at its own expense and cost, will construct, install, and operate any and all improvements to its sewer system necessary to cause all sewage, originating in the City's Sewer System, except sewage flowing to the City's sewage treatment and collection facilities currently in operation as of the effective date of this Service Contract, to be delivered and discharged into the System. The City also will cause its sewer system to remain connected with the System.

Only sewage from customers actually hooked onto the City's sewage collecting systems which are a part of the City's Sewer System shall be discharged into the System.

Consistent with this Service Contract, the City shall retain full power and authority over its existing sewer system and full power and authority to provide additional sewer service inside its jurisdictional limits. Nothing herein shall be deemed to limit the City's authority to charge persons outside its jurisdictional limits for the use of the City's Sewer System.

SECTION 307. Connection to the Authority and Division of Costs

The City shall cause those portions of the City's Sewer System transporting sewage originating in the City's Sewer System, except sewage flowing to sewage treatment and collection facilities currently in operation as of the effective date of this Service Contract, to be connected with the System at the appropriate connecting points designated in Schedule A, attached hereto and made a part hereof by reference as much as if set forth in full and verbatim in this Service Contract at this point (hereinafter sometimes referred to as the "List of Connecting Points"), upon notice from the Authority of the availability of connecting points. Every such connection shall constitute and shall be operated by the Authority as part of the System and shall include all such metering and other facilities as may be necessary to cause all sewage delivered at said connecting point or points to be measured and discharged into the System. System Connections by the City shall be limited to the locations designated in the List of Connecting Points or any other point or points requested by the City and approved by the Authority. The "List of Connecting Points" may be modified by written consent of the City and the Authority.

The Authority will provide, at the Authority's expense, a connecting point that will permit the flow of wastewater by gravity or force main to the Authority via a junction structure or other facility for effecting the connection and will make provision for metering and sampling as a means of determining the quantity and characteristics of wastewater contributed at each location in Schedule A. In the event a meter structure is required, the City will bear the cost of design and construction. Additional System Connections, if requested by the City, may be approved and furnished by the Authority provided the City bears the cost of design and construction of the junction structure or structures or other facility if required to connect, meter, and sample flows contributed at that point. Such additional System Connections will be listed in Schedule A, as

revised, upon their approval by the Authority.

SECTION 308. Restrictions on Flow Rates Discharged by the City to the Authority's System

At each connecting point of the City's Sewer System to the Authority's System, the City shall not discharge flows at instantaneous rates that exceed the maximum permitted rate of flow for each connection as designated in Schedule A, attached hereto, without the written consent of the Authority.

The Authority will provide treatment flow capacity for all of the City's System Connections as follows:

Maximum Monthly Average Flow: 0.4 MGD.

Instantaneous Peak Flow: 1.0 MGD.

The sum of flows discharged by all of the City's System Connections to the Authority's System shall not exceed these flow rates without the written consent of the Authority.

SECTION 309. Restrictions on Competing Systems or the Construction of Other Sewage Treatment Works

So long as this Contract is in effect, and except for sewage treatment and collection systems currently in operation as of the effective date of this Service Contract, to the extent such restriction is not prohibited by applicable law, the City shall not construct, grant, franchise or license a competing sewage treatment works for sewage, other than by the Authority; provided, however, that the Authority shall consent to such grant or construction in the event that each of the following conditions exist:

- a. It is reasonably projected that the City's sewage flow will exceed the Authority's

capacity to receive and treat it within the time period needed to plan, design, finance and construct a treatment facility by the City;

- b. The construction of such sewage treatment works by the City or by any other person shall not impair the security for the payment of any Bonds of the Authority, including all Bonds of the Authority hereafter issued by or on behalf of the Authority; and
- c. The construction of such sewage treatment works by the City or by any other person shall be approved by ADEQ.

SECTION 310. Insurance and Reconstruction

The Authority shall at all times maintain with responsible insurers all such insurance reasonably required and obtainable within limits and at costs deemed reasonable by the Authority as is customarily maintained with respect to sewage treatment works of like character against loss of or damage to the System, against use and occupancy, and against public and other liability to the extent at least reasonably necessary to protect the interest of the Authority and each holder of any Bond of the Authority, and also all such insurance as is required to indemnify and to save harmless the City against all liabilities, judgments, costs, damages, expenses, and attorneys' fees for loss, damage, or injury to person or property resulting from the operation or a failure of operation of the System caused by the negligence, including malfeasance or nonfeasance, or willful act of the Authority or its officers, employees, or any other agents. Any liability incurred by the City as a result of the operation of its sewer system shall be its sole liability. If any part of the System required for the performance of the obligations of the Authority pursuant hereto shall be damaged or destroyed, the Authority shall, as expeditiously as reasonably possible, commence

and diligently prosecute the repair or replacement of the damaged property so as to restore the same to substantially the same condition as existed prior to the event causing such damage or destruction, with such changes, alterations and modifications (including the substitution and addition of additional property) as may be desired by the Authority and as will not impair the character of the System as a sewage treatment works. The proceeds of any insurance appertaining thereto shall be payable to the Authority and (except for proceeds of use insurance) shall be applied to the necessary costs involved in such repair and replacement and, to the extent not so applied, if any Bonds issued by the Authority are outstanding, such proceeds shall be applied to any deficiency in the Emergency Repair Fund established pursuant to the Bond Documents and, to the extent not so applied, such proceeds shall be paid into the Revenue Fund. If the cost of such repair and replacement of the damaged property exceeds the proceeds of such insurance available for the payment of the same, and if Bonds issued in respect to the System are outstanding, monies in the Emergency Repair Fund created and established in the Bond Documents in respect of the System shall be used to the extent necessary for such purposes.

SECTION 311. Covenant Against Waste

The Authority and the City covenant not to do, suffer or permit any waste or damage, disfigurement or injury to the System.

SECTION 312. Covenant Against Assignment

No part of the System shall be sold, leased or otherwise encumbered by the Authority, except for the purpose of providing security for financing.

SECTION 313. Right of Inspection

The Authority covenants and agrees to permit the City and the authorized agents and

representatives of the City to enter the System during usual business hours for the purpose of inspecting the same. As permitted by law, upon reasonable notice to the City and the right of the City to accompany, the Authority shall have the right, but not the obligation, to inspect the City's Sewer System.

SECTION 314. Records, Accounts and Audits

The Authority shall keep proper books of record and accounts (separate from all other records and accounts) in which complete and correct entries shall be made of its transactions relating to the System or any part thereof and of the Contract Amount and all other revenues or monies received by or due to the Authority. All books and papers of the Authority shall at all reasonable times be available for inspection by such persons as may be designated by the City, and copies thereof provided as reasonably requested by the City or their designee, the cost of such copies to be paid for by the City.

SECTION 315. No Vested Rights of the City in System

The City shall not acquire any vested rights in the System by reason of this Service Contract. All or any portion of the Contract Amount to be paid by the City shall be deemed to be current operating expenses of the City's Sewer System.

ARTICLE IV

AUTHORITY'S OPERATION AND MAINTENANCE BUDGET

SECTION 401. Annual Operation and Maintenance Budget

The Authority's budget year shall be from January 1 to December 31. The Authority shall, no later than September 1 of each year, prepare and furnish copies to the City of a preliminary annual budget of operating and maintenance expenses of the System for the ensuing

twelve-month period commencing January 1. The Authority shall prepare such preliminary annual budget and every annual budget of such operating expenses, to the extent reasonably possible, so that operating and maintenance expenses may be determined from such budget. Every proposed annual budget shall set forth a statement of the sources of funds available to defray such expenditures included therein including, without limitation, that portion of the Contract Amount to be paid by the City with respect to the costs of operation and maintenance of the System as set forth in the budget.

No later than October 1, before the beginning of the year for which such preliminary annual budget is prepared, the Authority shall hold a public hearing at which any authorized representative of the City may appear and present any objection the City may have to the preliminary annual budget for such year. Notice of the time and place of such hearing shall be sent to the City at least ten (10) days before the date fixed for the hearing.

Within thirty (30) days following such public hearing, the Authority shall adopt an annual budget for such year, and the total expenditures thereof shall not exceed the total income for such year. Within ten (10) days after its adoption, excluding Saturdays, Sundays and Holidays, a copy of the annual budget shall be sent to the Mayor or the Chief Executive Officer of the City and/or their designee.

If for any reason the Authority shall not have adopted the annual budget on or before the first day of January of any year, the proposed annual budget for the twelve months following January 1 shall be deemed to be in effect for such twelve-month period until the annual budget for such twelve-month period is adopted; provided, however, that if the proposed annual budget for such twelve-month period has not been prepared, the annual budget for the preceding twelve-

month period shall be deemed to be in effect for the ensuing twelve-month period until the proposed annual budget for such twelve-month period has been prepared.

The Authority may at any time adopt an amended annual budget for the then current twelve-month period, but no such amended annual budget shall supersede any prior budget until presented at a public hearing, as previously described.

The Authority will make provision in the annual budget for items of expenditure which are normally provided for by municipalities and other public bodies engaged in the operation of a similar project to the System including, but not limited to, all administrative, legal and fiscal expenses.

SECTION 402. Limitations on Operation and Maintenance Expenses

The Authority shall not incur operation and maintenance expenses with respect to the System in any budget year in excess of the reasonable and necessary amount thereof. The Authority shall not expend any amount and shall not incur any indebtedness for operation and maintenance expenses in excess of the aggregate amount provided therefor in the annual budget or proposed annual budget (if any) then in effect, subject to the provisions of Section 401 hereof.

SECTION 403. Budget Disagreement - Remedy

In the event that the City disagrees with the operating budget or the Budget of the whole for the ensuing year, the City shall have the right, forty-five (45) days prior to January 1 of the ensuing year, to present to the Board of Directors a written statement of reasons as to why the proposed budget is, in the City's opinion, unreasonable and unnecessary (hereinafter an "Original Statement of Reasons").

In the event the City properly submits an Original Statement of Reasons to the Authority,

the Authority shall, upon receipt of an Original Statement of Reasons, forward a copy of the same to all Users. Each User may, within ten (10) days of receipt of such Original Statement of Reasons from the Authority, submit in writing to the Authority its own statement of reasons as to why the proposed budget is, in that User's opinion, unreasonable and unnecessary (hereinafter a "Supplemental Statement of Reasons"). The Original Statement of Reasons and any Supplemental Statement of Reasons for any one particular budget shall be considered a single statement of reasons for purposes of resolution by arbitration (hereinafter a "Combined Statement of Reasons") pursuant to this Section 403. If User elects not to, or fails to properly, submit either an Original Statement of Reasons or a Supplemental Statement of Reasons for a particular proposed budget, that User shall be bound by any final decision of an Arbitrator, pursuant to this Section 403.

The Original Statement of Reasons shall be considered by the Board of Directors. If the Board of Directors of the Authority do not adjust the Budget in a manner acceptable to the User within fifteen (15) days of receipt of the Original Statement of Reasons, the Original Statement of Reasons shall be promptly referred by the Board of Directors to an Arbitrator mutually agreed upon by the Authority and User that filed the Original Statement of Reasons. The referral to an Arbitrator shall be made within twenty (20) days of receipt of the Original Statement of Reasons. If the Authority and the User that submitted the Original Statement of Reasons are unable to mutually agree to an Arbitrator within such twenty (20) day period, then the Authority shall apply to the Presiding Judge of the Circuit Court of Benton County, Arkansas for the immediate appointment of the Arbitrator.

The Combined Statement of Reasons shall also be submitted to the Arbitrator. The

Arbitrator shall appoint a time and place for the hearing. The Authority shall cause notification to all Users to be served personally or by registered mail not less than five (5) days before the hearing. An appearance at the hearing waives such notice. The Arbitrator may adjourn the hearing from time to time as necessary and upon request of a party and for good cause or upon the Arbitrator's own motion may postpone the hearing to a time no later than the date fixed by this Contract for making the decision. The Arbitrator may herein determine the controversy upon the evidence produced notwithstanding the failure of the Authority or a User duly notified to appear. The Circuit Court of Benton County, Arkansas, upon application, may direct the Arbitrator to proceed promptly with the hearing and determination of the controversy. The Authority and any User submitting an Original Statement of Reasons or Supplemental Statement of Reasons are entitled to be heard, to present evidence to the controversy and to cross-examine witnesses appearing at the hearing. The hearing shall be conducted by the Arbitrator who will determine all questions and render a final decision. The Arbitrator shall render the decision within ten (10) days after the hearing. In every event, the decision will be rendered by January 1 of that year, or the proposed budget shall automatically become the annual budget upon approval of the Board of Directors until such time as the Arbitrator shall render a decision which requires its amendment. The expense and salary incident to the services of the Arbitrator shall be shared equally by the Authority and all Users. The Authority's costs are to be considered an operational expense. The Authority agrees to include the binding arbitration provisions of this Section 403 in any and all service contracts between the Authority and a User.

In all events, even during a dispute as provided in this Section 403, the Authority shall have the right to continue to collect from all Users an amount sufficient to satisfy Section 504(b).

ARTICLE V

PAYMENT BY THE CITY

SECTION 501. Agreement to Pay

The City agrees to pay the Authority for the treatment and disposal of its wastewater, as provided in Section 301 hereof, the Contract Amount provided for in Section 504 hereof. The City's obligation to make the payments as hereinafter provided shall begin at such time as the parties agree, but no later than the time that the City connects to the System and thereby receives service from the Authority.

SECTION 502. City's Source of Funds

The Contract Amount shall be paid by the City from an activity account as provided below. If the monies paid to the Authority from the account are not sufficient to fully pay the Contract Amount or any portion thereof when due, the amount remaining unpaid, plus any delinquent charges, shall be paid by the City from its other unencumbered income, revenues and property, as may be necessary to fully pay the Contract Amount.

SECTION 503. Authority Account

The City has provided, or hereby agrees to provide, by an appropriate ordinance or other governing rules for the imposition, collection and segregation of a charge for the use of the City's Sewer System or any part thereof, said charge to be sufficient to provide, and from time to time be revised to always be sufficient to provide within the City's activity account, sufficient funds to pay the Contract Amount. The City further agrees to annually budget and appropriate such monies to such account. The City may maintain other funds with the funds in the Authority account used to pay the Contract Amount.

SECTION 504. The Contract Amount

- (a) The City's Contract Amount shall be comprised of the following costs:
1. Treatment Costs - Treatment Costs are those costs directly attributable to wastewater treatment facilities provided by the Authority for treatment of the City's and other Users' flows. These costs include Debt Service costs, certain Operation and Maintenance costs and other costs as may be approved by the Board of Directors from time to time. The City's portion of Treatment Costs will be allocated based on the City's contributed percentage of the Authority's flow. For the purpose of budget development and billing, the City's contributed annual flow will be projected based on a linear regression from the preceding twenty (20) quarters of the City's actual measured flow. If, for any reason, twenty (20) quarters of flow information is not available for the City's flows, a linear regression using available data will be used to determine the City's contributed flow. The Board of Directors shall review such projected flow calculation for reasonableness and determine any readjustments. All Users' projected flows will be added together to determine the total projected flow for the Authority. The total projected flow for the Authority will then be divided into each User's projected flow to determine the percentage of Treatment Costs to be billed to that User the next fiscal year. A preliminary allocation of Treatment Costs shall be provided to the City at the time of approval of the Annual Budget. The final allocation will be based on a linear regression using the previous twenty (20) quarters of flow ending September 30 of the prior fiscal year. No changes will be

made to this allocation until the next fiscal year, unless approved by the Board of Directors.

2. Pretreatment Costs- Pretreatment Costs are those costs associated with the Authority's pretreatment program as approved by the Board of Directors. These costs are allocated to those Users who do not have a pretreatment program approved by the State of Arkansas as follows: a percent of Pretreatment Costs based on total flow from Significant Industrial Users (SIU) located in the City divided by total flow from SIU's of all Users who do not already have an approved pretreatment program.

(b) The total of all Charges imposed by the Authority on all Users shall insure sufficient revenues for:

1. the operation, maintenance and reasonable reserves necessary for the System as set forth in the Authority's then current annual budget;
2. the payment of interest and principal of all Bonds of the Authority, issued to finance the System owned by the Authority, when the same become due;
3. the payment into various funds by the Authority as provided for in its Bond covenants;
4. any deficiencies in said funds; and
5. debt service coverage as required by or defined by the Bond Documents and any covenant contained therein.

In no event shall Charges be established at an amount less than the minimum required by the Bond Documents and any covenants contained therein.

(c) As soon as actual costs of the previous fiscal year are determined through an audit of the Authority's Debt Service costs, Operation and Maintenance costs, and other costs billed to the City as approved by the Board of Directors, an adjustment will be made to the City's next monthly bill to account for any differences between budgeted costs billed to the City during that fiscal year and actual costs for that fiscal year.

SECTION 505. Meter Reading and Calibration

This Section 505 is subject to change due to technological improvements in wastewater measurements. As needed, the Authority will change the flow charts at each meter structure, perform maintenance of flow measuring equipment, calculate flow quantities based on the flow readings, and perform a calibration of the meters. The Authority shall furnish the City with a written schedule of the date and location of each weekly visit, if requested. Representatives of the City may accompany the Authority's staff and observe the calculation of the weekly flow and the meter calibration. The City shall, no later than ninety (90) days after the visit, advise the Authority in writing of any differences between the City's readings and those of the Authority.

As needed, the Authority's staff or a representative of the maintenance service contractor will calibrate and verify calibration of the meter at each meter structure. The City shall be given twenty four (24) hours notice of the time and place of said meter calibrations. Representatives of the City may accompany the Authority's staff and contractor and observe the calibration of the meter. The City shall, no later than ninety (90) days after the visit, advise the Authority of any differences regarding the meter calibrations, and the parties shall attempt to resolve any such differences with the Authority.

The City shall have the right, at its own expense, to retain consultants to observe any of

the above referred to operations.

Neither the failure of the City to observe the Authority's calculation of weekly flow or meter calibration, nor the failure of the City to advise the Authority and record in writing any differences between the City's readings or calibrations and those of the Authority shall effect the Authority or ability of the City to dispute a billing in accordance with Section 510.

SECTION 506. Payment of Contract Amount

The Contract Amount shall be billed monthly. In all events, the monthly billing shall be due and payable upon receipt by the City.

SECTION 507. Delinquent Payment of the City

Any Contract Amount not paid within sixty (60) days from the date of billing will be considered delinquent and an additional charge of one and one-half percent (1.5%) per month for each month or portion thereof that the bill remains delinquent will be added thereto. The Authority may commence legal proceedings or available administrative proceedings against any User which is delinquent in the payment of the Contract Amount, and the Authority shall at all times diligently prosecute said proceedings to its conclusion. Should any other User become delinquent in the payment of its cost and charges for a period of twelve (12) months after the same shall become due and payable, the City may, in its discretion and upon default of the Authority, commence legal proceedings or available administrative proceedings against said delinquent User to recover said sum or sums then due in the name and on behalf of the Authority, and the proceeds of any sums collected shall be paid over to the Authority exclusive of costs and expenses of effecting said collection recovered in the proceedings. All sums recovered, whether by the Authority or by the City on behalf of the Authority, shall, after payment of reasonable

costs of said proceedings, be returned to the non-delinquent Users in the proportion that the Contract Amount payment of the non-delinquent Users made up the deficiency of the delinquent User.

SECTION 508. Contracts With Others

No sewer authority, county, municipality, or other entity shall be permitted to connect to the System unless it has first duly entered into a contractual agreement substantially in the same form as and providing for payment of Contract Amounts as defined in this Contract.

SECTION 509. City's User Charge System

In conformance with Sections 503 and 707 of this Contract, the City is required, to the extent permissible by applicable law, to establish and maintain a User Charge System. The purpose of the City's User Charge System is to ensure the adequate collection of revenues to permit timely payment of the Contract Amount. This Section 509 shall in no way be construed as conferring on the Authority, and the Authority shall not have, any such right of review or approval of the City's User Charge System. The City shall adopt and maintain its User Charge System in accordance with applicable law.

SECTION 510. Resolution of Disputes

Any and all billing disputes, including the measurement of metered flow for purposes of computation of the Contract Amount that are not able to be resolved between the Authority and the City shall be referred to the Board of Directors for disposition. Any and all documentation shall be made available to the Board concerning the dispute. The City shall have sixty (60) days from the date of receipt of the Authority's annual audit to notify the Authority that it is contesting a bill from that audit period. Failure by the City to notify the Authority, in writing, and to pay in

full the undisputed portion of a bill within said sixty (60) day period shall constitute a waiver on the part of the City and the City shall be deemed to have agreed to the accuracy of said bill. Upon receipt of notice of a contested bill, the disputed portion shall be referred to the Board for determination of the matter. The Board shall establish such procedures and policies as it reasonably deems necessary to resolve all disputes. If the Board of Directors determines that the City is entitled to a reduction of its bill, then all other bills for the billing period in question shall be amended, showing the appropriate adjustment on the next regular billing cycle.

SECTION 511. Connection Fees

In addition to other sums payable by the City hereunder, the City agrees to pay \$580,000.00 for its initial connection to the System. This amount is payable with a down payment of \$58,000.00, due within fifteen days after the execution of this agreement, the balance shall not bear interest and shall be paid with annual payments of \$52,200.00, the first such payment shall be due one year from the execution of this agreement and subsequent payments due on the anniversary thereafter, until the balance is paid in full. There will be no other connection fees owed as to the initial connection. In the future, the City agrees to pay to the Authority a "Connection Fee" for all future System Connections whereby the City's Sewer System is connected to the System as such fee amounts are reasonably and equitably determined by the Authority from time to time during the term of this Contract.

ARTICLE VI

ABANDONMENT OF THE CITY'S SEWER SYSTEM FACILITIES

SECTION 601. Abandonment Permitted

The City may, in its sole discretion, at any time, abandon, or in the alternative, continue

to operate, maintain, and repair all or any part of those sewage treatment or disposal facilities constituting, at the time of the effective date of the Contract, a part of the City's Sewer System, subject, however, to the provisions of Section 301, Section 305, Section 308 and Section 602 hereof, and any applicable laws or regulations.

SECTION 602. Notice of Abandonment

The City, prior to abandoning any such sewage treatment or disposal facilities referred to in Section 601 hereof, which abandonment will substantially increase the sewage received from the City's Sewer System by the Authority in its System, shall file with the Authority a written notice of the City's intention to abandon such facilities on the date specified in such notice at least one (1) year prior to the date so specified, said notice to set forth the estimated amount of the increase.

ARTICLE VII

MISCELLANEOUS

SECTION 701. Effective Date

The effective date of this Contract is the date as set out in the first paragraph of this document.

SECTION 702. Performing Duties

The Authority will faithfully and punctually perform all duties with respect to the System required by the Constitution and laws of the State and the United States and the resolutions of the Board of Directors and all Bond Documents. Similarly, the City will so perform all duties with respect to the System required by the Constitution, the laws of the State and the United States, and the Ordinances or other governing rules of the City including, but not limited to, the prompt

payment of the Contract Amount in respect of the System.

SECTION 703. Further Assurances

At any and all times, the Authority and the City shall (insofar as they may be authorized by law) pass, make, execute, acknowledge and deliver any and every such further resolution or ordinance (or other governing rule) and deeds, conveyances, assignments, transfers and assurances as may be necessary or desirable to better assure, convey, grant, assign and confirm, all and singular, the Contract Amount in respect of the System, and other funds pledged or assigned, or intended so to be, of which the Authority or the City, as the case may be, may heretofore or hereafter become bound to pledge or to assign, as may be reasonable and required to carry out the purposes of any such Bond Document or ordinance (or other governing rule) and to comply with the Act. The City consents to and acknowledges the assignment of the Contract Amount to the Trustee as provided for in any Bond Document of the Authority authorizing the issuance of Revenue Bonds. The Authority shall at all times, to the extent permitted by law, defend, preserve and protect the pledge of the Contract Amount in respect of the System, and other funds pledged heretofore and hereafter, and all rights of every holder of any Bond against all claims and demands of all persons whomsoever.

SECTION 704. Limitations Upon Consent

Whenever, under the terms of the Contract, the Authority is authorized to give its written consent, the Authority in its discretion may give or may refuse such written consent and, if given, may restrict, limit or condition such consent in such manner as it shall deem advisable. Such written consent shall not be unreasonably withheld. Acceptance by the Authority into the System from the City of sewage in the volume or with characteristics exceeding or violating any limit or

restriction provided for, by or pursuant to this Contract in one or more instances or under one or more circumstances shall not constitute a waiver of such limit or restriction or of any of the provisions of this Contract, and shall not in any way obligate the Authority thereafter to accept or to make provisions for sewage delivered and discharged into the System in a volume or with characteristics exceeding or violating any such limit or restriction in any other instances or under any other circumstances.

SECTION 705. Form of Consent

All consents of any party required under this Contract shall be given in writing.

Whenever, under the terms of this Contract, the City is authorized to give its consent, such consent may be given and shall be conclusively evidenced by a copy, certified by its City Clerk or other designated official and under its seal (if any), of an ordinance (or other governing rule) adopted by its governing body giving such consent. Whenever, under the terms of this Contract, the Authority is authorized to give its consent, such consent may be given and shall be conclusively evidenced by a copy, certified by its Secretary and under its seal, of a resolution adopted by the Authority giving such consent.

SECTION 706. Bonds of the Authority

The Bonds of the Authority shall not, except to the extent herein provided and in the Bond Documents, be a debt of the City, nor shall the City be liable thereon.

SECTION 707. Conformity With Laws And Regulations

Each party hereto agrees to abide by and to conform to all applicable laws and regulations of the United States of America, the State, and the Sewer Use Code set out in the Appendix hereto, as reasonably amended from time to time.

SECTION 708. Acts of God

No party hereto shall be responsible or liable in any way for Acts of God or any other act or acts or omissions beyond the control of such party which may in any way cause an interruption or a discontinuance of service appertaining to the System or to the City's Sewer System.

SECTION 709. Nonassignability

No party to this Contract may assign any interest herein to any person without the consent of all the other parties hereto at that time; and subject to the terms of the Bond Documents, the terms of this Contract shall inure to the benefit of and be binding upon the respective successors of each party hereto. Nothing herein contained, however, shall be construed as preventing the reorganization of any party hereto nor as preventing any other body corporate and politic succeeding to the rights, privileges, powers, immunities, liability, disabilities, functions and duties of a party hereto, as may be authorized by law, subject to the terms and conditions of the Bond Documents and in the absence of any prejudicial impairment of any obligation of contract hereby imposed.

SECTION 710. Amendments

Subject to and in accordance with the Bond Documents, this Contract may be amended from time to time by written agreement, duly authorized and executed by the parties hereto.

SECTION 711. Severability

If any provision of this Contract shall for any reason be held to be invalid or unenforceable, the invalidity or unenforceability of such provision shall not affect any of the remaining provisions of this Contract and this Contract shall be construed and enforced as if such invalid or unenforceable provision had not been contained herein.

SECTION 712. Execution of Documents; Further Acts

This Contract may be executed at different times by the parties in any number of counterparts, any of which shall be regarded for all purposes as an original and all of which constitute but one and the same instrument. Each party agrees that it will execute any and all deeds, documents or other instruments, and take such other actions as are reasonably necessary to carry out and to give effect to the terms of this Contract.

SECTION 713. Waiver

No waiver by either party of any term or condition of this Contract shall be deemed or construed as a waiver of any other term or condition, nor shall a waiver of any breach be deemed to constitute a waiver of any subsequent breach, whether of the same or of a different section, subsequent paragraph, clause, phrase, or other provision of this Contract.

SECTION 714. Remedies

If permitted by law, this Contract shall be specifically enforceable by any party hereto.

SECTION 715. Entirety

This Contract, inclusive of the Appendix and Schedule A, which are attached hereto and made a part hereof, merges and supersedes all prior negotiations, representations, and agreements between the parties hereto relating to the subject matter hereof, and constitutes the entire agreement between the parties hereto in respect thereof.

SECTION 716. Applicable Law; Captions

This Contract shall be governed by and construed in accordance with the laws of the State of Arkansas. The captions at the beginning of articles, sections and subsections are used for convenience only and are not to be used in attempting to construe any part of this Contract.

SECTION 717. Joint Use Connection Points

The City accepts operational responsibility for any current joint use connection points and accepts future responsibility for any other joint use connection points as designated in the Schedule attached hereto. The parties agree that any designated joint use connection points are agreed to for engineering and technical purposes only. All joint use agreements shall be reviewed and revised from time to time to take into account the Authority's regulations and charges.

SECTION 718. Injunctive Relief

The City shall provide injunctive relief at the request of the Authority to restrain the violation or attempted violation of any of the provisions of this Contract and all Appendices thereto. Upon failure of the City to act within ten (10) days of a written request, the Authority shall be authorized to so proceed, in the City's name, if necessary.

SECTION 719. Authority

The City shall have an immediate and continuing right to discharge wastewater, or as otherwise permitted hereunder, into the System on condition that the City agrees to promptly enforce and cooperate with the Authority in the exercise of the Authority's enforcement of the restrictions, proscriptions, penalties and other terms provided for herein against any person discharging into the System in violation of the same. In default of the City's action at the Authority's request, the City authorizes the Authority to take all legal actions necessary to enforce the terms of this Contract and all Appendices thereto in the City's name, if necessary.

SECTION 720. Notice

Any notice required by the terms of this Service Contract shall be sent via facsimile or certified mail, return receipt requested, as follows:

To Authority: Rick McClain
NACA Administrator
11579 Snavelly Road
Bentonville, AR 72712

With a copy to: Charles L. Harwell
NACA Attorney
P.O. Box 1400
Springdale, AR 72765

To City: City of Elm Springs
Office of the Mayor
289 Jayroe Street
Elm Springs, AR 72728

With a copy to: Jay B. Williams
Attorney for Elm Springs
100 W. Main Street
Gentry, AR 72734

THIS CONTRACT CONTAINS BINDING ARBITRATION PROVISIONS [IN SECTION 403
CONCERNING AUTHORITY BUDGET DISPUTES] WHICH MAY BE ENFORCED BY
THE PARTIES

IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed on behalf of the Authority by the Chairman of the Board of Directors, and attested to by the Secretary of the Board of Directors, and on behalf of the City by its authorized representative at the dates shown respectively.

ELM SPRINGS, ARKANSAS

NORTHWEST ARKANSAS
CONSERVATION AUTHORITY

By: _____

By: _____

Mayor

Chairman, Board of Directors

Date: _____

Date: _____

ATTEST:

ATTEST:

By: _____
City Recorder

By: _____
Secretary, Board of Directors

Date: _____

Date: _____

APPROVED AS TO FORM:

APPROVED AS TO FORM:

By: _____
City Attorney

By: _____
NACA Attorney

Date: _____

Date: _____

SERVICE CONTRACT
Between
NORTHWEST ARKANSAS CONSERVATION AUTHORITY
And
CITY OF ELM SPRINGS, ARKANSAS

SCHEDULE A

LIST OF CONNECTING POINTS

Connection No.	Type	Name	Peak Flow Rate (MGD)
ES-FM01	1	Elm Springs Force Main - Elm Springs	1.0

Connection Types are as Follows:

Type 1 - Connection point with metering and sampling station.

Type 2 - Connection point with metering and sampling to be provided by other Authority facilities.

Type 3 - Connection point with or without metering and sampling facilities depending on the feasibility of the measuring for payment by other methods.

End of Schedule A

13.0 Appendix 5 – Preliminary NPDES Discharge Limits



ADEQ

ARKANSAS
Department of Environmental Quality

JAN 05 2017

Barret Knutson, Project Engineer
McClelland Consulting Engineers, Inc.
1810 North Coilege Avenue
Fayetteville, AR 72702

RE: Preliminary NPDES Discharge Limits for City of Cave Springs

Dear Mr. Knutson:

Based on your e-mails dated 11/10/2016 and 12/02/2016, preliminary effluent discharge limits were estimated for a discharge of treated domestic wastewater from the City of Cave Springs. This evaluation used a design flow of 0.4 MGD. These preliminary limits would need to be re-evaluated in the event that the design flow changes. The following discharge location was evaluated:

Discharge coordinates: 36° 15' 02" N; 94° 14' 24" W
Watershed Area at outfall: 40 square miles
Receiving Stream: Osage Creek
7Q10: 0.37 cfs (critical season); 2.33 cfs (primary season)
Planning Segment: 3J
Ecoregion: Ozark Highlands
HUC + Reach: 11110103 + 930

Preliminary Limits for Discharge to Osage Creek		
Parameter	Monthly Average	7-day Average
Carbonaceous Biochemical Oxygen Demand (CBOD5) (year-round)	20.0 mg/L	30.0 mg/L
Total Suspended Solids (TSS) (year-round)	20.0 mg/L	30.0 mg/L
Ammonia-Nitrogen (NH3-N)		
(May-October)	5.0 mg/L	7.5 mg/L
(November-April)	10.0 mg/L	15.0 mg/L
Dissolved Oxygen (DO)		
(May-October)	5.0 mg/L (Instantaneous Minimum)	
(November-April)	6.0 mg/L (Instantaneous Minimum)	
Fecal Coliform Bacteria (FCB)		
(May-September)	200 col/100 mL	400 col/100 mL
(October-April)	1000 col/100 mL	2000 col/100 mL
Total Phosphorus (TP) ¹	0.1 mg/L ¹	0.15 mg/L ¹
Total Residual Chlorine (TRC) (year-round) ²	0.011 mg/L (Inst. Max.) ²	
pH (year-round)		6.0 – 9.0 s.u.

¹ Osage Creek flows approximately 14.1 miles from Cave Springs' proposed discharge to the Illinois River. Osage Creek and Illinois River are currently listed on the 2008 List of Impaired Waterbodies (303d list) for Total Phosphorus. The proposed discharge is also located within a Nutrient Surplus Area as defined by Act 1061 of 2003 Arkansas General Assembly. Nutrient modeling is currently under development for the Illinois River Basin. Once the nutrient modeling is finalized, development of a TMDL will begin. The TMDL will set the wasteload allocations of each point source in the Illinois River Basin. Total Phosphorus limits will likely be included in any new NPDES discharge permit for this facility at values at least as stringent as shown in above table. These preliminary limits are consistent with those contained in the NACA permit. However, please be aware that more stringent Phosphorus limits or limits on additional nutrients may be required for this facility based on the final TMDL. ADEQ strongly recommends that provisions be included in the design of any future treatment system that will allow installation of additional nutrient removal if required by the final TMDL. Please be aware that all permits in the Illinois River Basin are currently on hold for the nutrient issue. Therefore, a permit for this facility could not be issued until the nutrient modeling and TMDL are finalized.

² TRC limit would be included if chlorine is used for disinfection.

Please be advised that these preliminary limits are based on information available at this time on the proposed discharge location and that any of these preliminary limits are subject to change based on any data reported for the effluent or data collected in the receiving stream after an application is submitted. The preliminary limits given in this letter are expressed in concentration, but any future permit will most likely contain mass limits also, which would be determined using the design flow of the treatment system using the following equation:

$$\text{Mass (lb/day)} = \text{Design Flow (MGD)} \times 8.34 \times \text{Concentration Limit (mg/L)}$$

Please note that more stringent permit limits, additional monitoring requirements, or additional limits may be added based on information contained in the permit application, any effluent data collected after a permit is issued, or as may be required by any final approved TMDL. These preliminary limits will require EPA approval and therefore, are subject to change. In no way does this letter imply or guarantee that a construction permit or a NPDES discharge permit will be issued. If any assumptions noted herein are proven false, this analysis may be moot. If you have any questions, you can reach us at the contact information listed below.

Sincerely,



Shane Byrum, Engineer
NPDES Discharge Permits Section
Office of Water Quality
(501) 682-0618
E-mail: byrum@adeq.state.ar.us



Carrie McWilliams, P.E., Supervisor
NPDES Discharge Permits Section
Office of Water Quality
(501) 682-0915
Email: mcwilliamsc2@adeq.state.ar.us

14.0 Appendix 6 – Memorandum of Agreement

An agreement between the Oklahoma secretary of energy and environment, the Oklahoma secretary of agriculture, the Arkansas department of environmental quality, and the Arkansas natural resources commission, or successor agencies.

Improving and protecting water quality in the Illinois River Watershed.



**MEMORANDUM OF AGREEMENT
BY AND BETWEEN
THE OKLAHOMA SECRETARY OF ENERGY AND ENVIRONMENT,
THE OKLAHOMA SECRETARY OF AGRICULTURE,
THE ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY,
AND
THE ARKANSAS NATURAL RESOURCES COMMISSION,
OR SUCCESSOR AGENCIES**

**Article I
BACKGROUND**

(1) WHEREAS, the States of Arkansas and Oklahoma ("States") share a common goal of further improving and protecting water quality in the Illinois River Watershed ("Watershed"), particularly the portions designated as Oklahoma Scenic Rivers and Lake Tenkiller;

(2) WHEREAS, on December 18, 2003, the States entered into a Statement of Joint Principles and Action ("First Statement") in an effort to avoid costly, protracted litigation and administrative proceedings that would strain relationships between the States and distract from cooperative efforts needed to protect and improve water quality in the designated Scenic Rivers;

(3) WHEREAS, under the First Statement, the States agreed to undertake interim actions designed to improve river clarity and substrate quality in the designated Scenic Rivers and their watersheds, including substantial upgrades to wastewater treatment plants, efforts by industry to remove nutrients out of the watersheds, and the development and implementation of regulations restricting the use of nutrients to fertilize lands within the watersheds;

(4) WHEREAS, on February 20, 2013, the States entered into a Second Statement of Joint Principles and Actions ("Second Statement") intended to extend and augment the First Statement;

(5) WHEREAS, under the Second Statement, the States agreed to appoint a six (6) member Joint Study Committee to undertake a study that resulted in specific recommendations as to what phosphorus levels and what frequency and duration components of measure are necessary to protect the aesthetics beneficial use and scenic river designation (Outstanding Resource Water) assigned to the designated Scenic Rivers, and based on overall stream health that included evaluating the relationship, if any, between phosphorus concentrations in the designated Scenic Rivers and biotic indicators of water quality, including primarily algal taxonomic composition and periphyton biomass;

(6) WHEREAS, under the Second Statement, "[t]he States of Arkansas and Oklahoma, acting through their respective Parties, agree[d] to be bound by the findings of the Joint Study. Oklahoma, through the Oklahoma Water Resources Board, agree[d] to promulgate any new Numeric Phosphorus Criterion, subject to applicable Oklahoma statutes, rules and regulations if significantly different than the current 0.037 mg/L standard" and "Arkansas agree[d] to be bound by and to fully comply with the Numeric Phosphorus Criterion at the Arkansas-Oklahoma State

line, whether the existing 0.037 mg/L standard is confirmed or a new Numeric Phosphorus Criterion is promulgated”;

(7) WHEREAS, on December 19, 2016, the Joint Study Committee approved and issued a Final Report to Governors from the Joint Study Committee and Scientific Professionals (Joint Study Recommendations) and specifically recommended “a six-month average total phosphorus level of not to exceed 0.035 milligrams per liter based on water samples collected during critical conditions was necessary to protect the designated Scenic Rivers”;

(8) WHEREAS, the Joint Study Committee also unanimously recommended that both States develop monitoring and assessment programs informed by the Joint Study Recommendations and other scientific information to determine attainment of the total phosphorus criterion;

(9) WHEREAS, the Joint Study Committee also unanimously recommended “that protection of the [Oklahoma] Scenic Rivers needs to extend beyond the phosphorus levels and additionally focus on including but limited to the following: Hydrologic alteration; Riparian zone protection; Stream bank stabilization; Fluvial channel habitat; In-stream mining; [a]nd other contaminants”;

(10) WHEREAS, “the Joint Study Committee unanimously views system wide management as critical to the protection of the [Oklahoma] Scenic Rivers”;

(12) WHEREAS, the EPA has developed models for the Illinois River and Lake Tenkiller that can be used by all parties in evaluating future improvements to the Watershed;

(13) WHEREAS, while much progress has been made and improvements continue, the historical uses of the Watershed and Lake Tenkiller mean that it will take extensive cooperative actions to achieve the common goals of protection and enhancement of water quality;

(14) WHEREAS, it is the belief of the States that it is in their best interest to continue working together to protect and improve water quality in the designated Scenic Rivers and to avoid costly, protracted litigation and administrative proceedings;

Article II
AGREEMENT

NOW THEREFORE, the Arkansas Department of Environmental Quality (ADEQ), the Arkansas Natural Resources Commission (ANRC), the Oklahoma Secretary of Agriculture, and the Oklahoma Secretary of Energy and Environment, or successor agencies (Parties), enter into this Memorandum of Agreement for the implementation of the Joint Study Recommendations and agree to the following commitments:

(1) Joint Study Committee Total Phosphorus Criterion Recommendation—The States hereby acknowledge and accept that the existing Oklahoma numeric value of 0.037 mg/L will remain as the total phosphorus criterion magnitude at the state line;

(2) Promulgation of Criterion Duration and Frequency—The Oklahoma Water Resources Board (OWRB) agrees to initiate rulemaking in Oklahoma Administrative Code (OAC), Chapters 45 and 46, to implement the Joint Study Recommendations as they apply to the total phosphorus criterion, subject to applicable laws, rules, and regulations. Any revisions shall be scientifically defensible and ensure full protection of beneficial uses and the Scenic River and Outstanding Resource Water status of the Illinois River. The OWRB agrees to submit revised Water Quality Standards and Water Quality Standards Implementation found in OAC, Chapters 45 and 46, to the Oklahoma Governor for approval during the 2019 Oklahoma legislative session;

(3) Processing and Issuance of Permit Applications for Facilities with a Design Flow of Greater than One (1) Million Gallons per Day (MGD)—The States, through the appropriate Parties, will continue to require existing point-source dischargers in the Illinois River Watershed with a design capacity of greater than 1 MGD to operate under existing NPDES permits reflecting an effluent limit for total phosphorus of not more than 1 mg/L based upon a 30-day average or as may be allowed pursuant to 40 CFR 122.44 I (1). In considering applications to renew, amend, or modify existing NPDES permits or to issue permits for new point-source discharges, the Parties agree to the following:

(A) Permit Renewal: The States may issue permit renewals for existing NPDES permits consistent with Art. II (3). The total phosphorus loading will not be increased beyond the permitted design flow, and the renewal will include a permit condition requiring an analysis of potential phosphorus concentration reduction be completed during the term of the renewed permit.

(B) Amending or Modifying Permits of Existing Point-Source Discharges: The total phosphorus loading will not be increased beyond the permitted design flow, and where appropriate, the applications will be evaluated for the ability to meet an agreed-to total phosphorus limit of not more than 0.5 mg/L on an averaging period determined by the permitting authority or as may be allowed pursuant to 40 CFR 122.44(l)(1).

(C) Permitting New Point Source Discharges: In considering applications for new point-source discharges, the applications will be evaluated for the ability to meet an agreed to

total phosphorus limit of not more than 0.2 mg/L on an averaging period determined by the permitting authority.

(D) Applicability of Variance Provisions: The Parties will consider applications in light of these agreed-to limits until such time as the OWRB has finalized applicable variance requirements and/or the revisions to the Oklahoma Water Quality Standards and Water Quality Standards Implementation required in Article II (2) above, subject to applicable laws, rules, and regulations.

(E) Applicability of Trading Programs or Watershed Based Permits: New, modified, and existing point source discharges that are permitted under Article II (3) shall be eligible to receive credit in any nutrient trading program (future or potential) for any decrease in total phosphorus loading in the Watershed that occurs as a result of permitting pursuant to this Agreement. Nothing in this paragraph creates any guaranty, right, or claim in accordance with Article IV of this agreement.

(4) Regulatory Flexibility—The States acknowledge that there may be different short- and long-term approaches to address point sources covered by Article II (3) of this Agreement that can continue to reduce the phosphorus loading. These approaches may include but are not limited to options such as the enactment of a nutrient water-quality standard variance, permitting variances, nutrient trading programs, and watershed-based permits. Nothing in this Agreement is intended to limit the authorities of the Parties to implement these approaches and strategies to the fullest extent possible;

(5) Monitoring and Assessment—Within one (1) year of the effective date of this Agreement, the States agree to work together to develop and initiate a Monitoring and Assessment Workgroup (MAW) jointly chaired by representatives from OWRB and ADEQ, or successor agencies, with membership as determined by the chairs. The MAW will develop a robust, basin-wide monitoring and assessment program designed to ascertain progress toward attainment of the total phosphorus criterion as defined by Article II (1) and (2) and to be used in 305(b) and 303(d) reports for the States. Additional participants may be invited to participate in MAW meetings or discussions at the discretion of the chairs;

(6) Watershed Improvement Plan—Within four (4) years of the effective date of this Agreement, the States agree to develop and begin implementing a Watershed Improvement Plan (WIP) that will identify possible water-quality improvement strategies from point and nonpoint sources from each state including consideration of Clean Water Act (CWA) Section 319 Watershed Management Plans and development of a joint phosphorus index to be used by both states. The WIP will contain implementation action milestones necessary to achieve compliance with the Oklahoma total phosphorus criterion promulgated under Article II (1) and (2) of this Agreement. The WIP development and Advisory Workgroup activities shall include an opportunity for engagement with a broad group of participants including non-government organizations (NGOs) and interested stakeholders. If the established or necessary milestones for the WIP are not achieved by the earliest practicable time, the States acknowledge that they are required to proceed, either jointly or separately, with compliance under 40 CFR 130.7;

(A) Additional Considerations: In addition to the milestones mentioned above, the WIP shall also consider other recommendations including hydrologic alteration, riparian zone protection, stream bank stabilization, fluvial channel habitat, in-stream mining, and other contaminants. The WIP should also consider the impact of legacy phosphorus in the Watershed and its influence on the ability to meet the Oklahoma total phosphorus criterion.

(B) WIP Advisory Workgroup: The WIP shall have an Advisory Workgroup jointly chaired by representatives from the Oklahoma Conservation Commission (OCC) and ADEQ with membership consisting of representatives from OWRB, OCC, Oklahoma Department of Environmental Quality, ADEQ, ANRC, and Arkansas Department of Agriculture, or successor agencies.

(7) Steering Committee—The States agree to establish an Illinois River Watershed Steering Committee (“Steering Committee”) comprised of the Secretary or Director for each of the Parties. Additionally, the Parties will invite the Cherokee Nation to be a member of the Steering Committee and request that the EPA Region 6 Administrator designate an advisor to the Steering Committee. The Steering Committee shall oversee the implementation of this Agreement, including the MAW and the WIP Advisory Workgroup. The Steering Committee will meet at least on an annual basis to summarize progress in achieving the commitments set forth in this Agreement. Four affirmative votes by members of the Steering Committee are required for approval of decisions or any amendment to this Agreement.

(8) Data Sharing—The Parties agree to continue sharing all available reports of watershed improvements from public and private parties, compilations of environmental data and data summaries, and to make such data available to the Parties, stakeholders, and general public by providing increased access to each state’s data repositories. The Parties may develop a shared platform for distributing such data or pursue other tools that support transparency and information sharing in support of the commitments of this Agreement;

(9) Communications—Within three (3) months of the effective date of this Agreement, the States agree to develop and maintain a communications plan (including components such as electronic distribution of information and public meetings) to inform stakeholders and the general public on matters that impact the quality of the Scenic Rivers or are relevant to this Agreement;

(10) Amendment and Termination—The Parties agree to the following conditions:

(A) Amendment: This Agreement may be amended or modified by the Steering Committee in accordance with Article II (7). Any such amendment or modification must be in writing.

(B) Review: The Parties will review this Agreement five (5) years from the effective date and will recommend revisions as appropriate.

(C) Termination: The two Parties from each State may terminate this Agreement, on 90-days written notification, that includes a stated reason, provided to the other Parties at their respective addresses as specified in Article V (Signatures) below.

Article III
SUSPENSION OF ADMINISTRATIVE PROCESSES AND COVENANT NOT TO SUE

In consideration of the commitments by each party to this Agreement, the Parties agree to the following terms that are intended to avoid costly, time intensive, and distracting legal proceedings while preserving all Parties' legal rights.

Parties for both States will continue cooperative efforts to improve and protect water quality in the designated Scenic Rivers. The Parties for both States covenant and agree during the Term of this Agreement not to institute or maintain administrative enforcement actions, judicial proceedings, or to take regulatory actions that are against any other Party to this Agreement and are contrary to this Agreement.

The Parties reserve any and all rights, claims, or causes of action that presently exist or that may arise during the term of this Agreement related to the First Statement, the Second Statement, the Numeric Phosphorus Criterion, the criterion frequency, critical flow, and duration components and the WIP, which, as necessary, may be promulgated in a form pursuant to 40 CFR 130.7 (the Tolloed Claims), but covenant and agree not to initiate any legal or administrative proceedings against any other party to this Agreement related to the Tolloed Claims.

The Term of this Agreement shall not be included in computing the running of any statute of limitations potentially applicable to any action brought by the Parties to this Agreement relating to the Tolloed Claims. Any defense of laches, estoppel, waiver or other similar equitable defense to the Tolloed Claims based on the running or expiration of any time period shall not include the Term of this Agreement. The foregoing tolling agreement does not constitute an admission or acknowledgement of any fact, conclusion of law, or liability by any party to this Agreement. The foregoing tolling agreement does not constitute any admission or acknowledgement by any party that any statute of limitations, or similar defense concerning the timeliness of commencing a legal or administrative action, is applicable to the Tolloed Claims. The Parties reserve the right to assert that no statute of limitations applies to any of the Tolloed Claims and that no other defense based upon the timeliness of commencing a legal or administrative action is applicable.

Article IV
GENERAL PROVISIONS

Nothing in this Agreement creates any rights or causes of action for any person who is not a party to the Agreement.

This Agreement is not intended to affect any claims by or against a third party. However, if a third party initiates a legal or administrative proceeding related to water quality in the designated Scenic Rivers that is inconsistent with the terms of this Agreement, the Parties shall take necessary steps to indicate to inform the Court of their support for this document.

This Agreement is effective upon execution by the Parties and without the requirement of filing with any Court, and the Agreement may be signed in counterparts. The Effective Date of this

Agreement shall be the date of the last Party's signature. The Term of this Agreement shall be the period from the Effective Date to the date of termination.

Except as provided in this Agreement, this Agreement shall not impair any obligations, rights or remedies available to any Party under the First Statement or Second Statement, which shall remain binding in accordance with their terms.

This Agreement, together with any provisions of the First Statement and the Second Statement not superseded herein, contains the entire understanding between the Parties, and no statement, promise, or inducement made by any party that is not set forth in this Agreement, together with any provisions of the First Statement and Second Statement not superseded herein, shall be valid or binding, nor shall it be used in construing the terms of the Agreement for the implementation of the Joint Study Committee Recommendations.

Article V SIGNATURES

A. Key officials are essential to ensure maximum coordination and communications between the parties and the work being performed. They are:

1. For the Oklahoma Secretary of Energy and Environment

Secretary of Energy and Environment
204 N. Robinson Suite 1010
Oklahoma City, OK 73102

2. For the Oklahoma Department of Agriculture, Food, and Forestry

Secretary of Agriculture
2800 N. Lincoln Blvd.
Oklahoma City, OK 73105

3. For the Arkansas Department of Environmental Quality:

Director
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

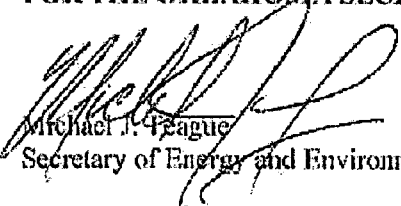
4. For the Arkansas Natural Resources Commission

Executive Director
Arkansas Natural Resources Commission
101 E Capitol Ave. #350
Little Rock, AR 72201

B. If there is a change in the identity of one of the key officials identified above, the affected party will provide the other party with written notice of the change within ten (10) days of the effective date thereof.

IN WITNESS HEREOF, the Parties hereto have executed this Agreement on the date(s) set forth below.

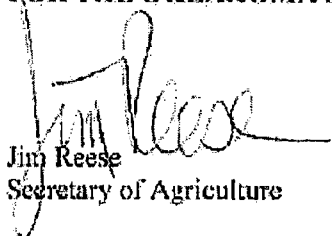
FOR THE OKLAHOMA SECRETARY OF ENERGY AND ENVIRONMENT:


Michael J. League
Secretary of Energy and Environment

13 Nov 2018
Date:

In witness thereof:

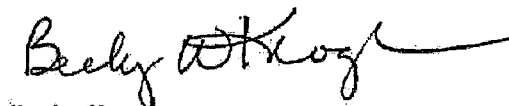
FOR THE OKLAHOMA SECRETARY OF AGRICULTURE:


Jim Reese
Secretary of Agriculture

13 Nov 2018
Date:

In witness thereof:


FOR THE ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY:


Becky Keogh
Director
Arkansas Department of Environmental Quality

Date: 14 November 2018

In witness thereof:

FOR THE ARKANSAS NATURAL RESOURCES COMMISSION:


Bruce Holland
Executive Director
Arkansas Natural Resources Commission

Date: 14 November 2018

In witness thereof: