

## Blackmon, Amanda

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**From:** Blackmon, Amanda  
**Sent:** Monday, November 9, 2020 7:21 AM  
**To:** Blackmon, Amanda  
**Subject:** FW: Flippin - WWTF Improvements  
**Attachments:** Form1-executed.pdf; Form2A-executed.pdf; DesignCalculation-stamped.pdf; FEMA - Firmette.pdf; Topographic map.pdf

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**From:** John Selig [<mailto:jselig@ce-associates.biz>]  
**Sent:** Friday, November 6, 2020 2:46 PM  
**To:** Water Permit Application  
**Subject:** Flippin - WWTF Improvements

Dear Sir/Madam,

Attached are copies of the executed permit application forms for the above-referenced project. Also attached are copies my design calculations for the oxidation ditch and clarifiers, the FEMA Firmette, and a topographic map depicting the approximate location of the existing WWTF. Because of the size of the files, I am attaching links that can be utilized to access and download the detailed construction drawings and the project manual (including the technical specifications) for the proposed improvements. Please review this information and advise me of any additional information that might be necessary in order to declare this application administratively complete.

The City of Flippin has contacted its laboratory concerning the sampling for the parameters in Table B. As soon as the samples are pulled and the results available, Table B will be completed and submitted.

Thank you for your cooperation in this matter. If you should have any questions or comments, do not hesitate to call me at 870-273-4185, or you can reach me via email.

<https://ceassoc.sharepoint.com/:b:/g/EbC-aUzs8PtPqMQYtikNSTkBYleEbVpp2DxwXW4TJWJrlw?e=gzgjB>

[https://ceassoc.sharepoint.com/:b:/g/ESWzFY0MQXRBmWk4Zmc5d0gB4qqK4ulbw6uV2tr2Pog9\\_Q?e=vml3kw](https://ceassoc.sharepoint.com/:b:/g/ESWzFY0MQXRBmWk4Zmc5d0gB4qqK4ulbw6uV2tr2Pog9_Q?e=vml3kw)

John S. Selig, P.E.  
Civil Engineering Associates, LLC  
2114 East Matthews Avenue  
Jonesboro, Arkansas 72401  
(870) 972-5316

NPDES PERMIT APPLICATION  
**FORM 1**

ARKANSAS DEPARTMENT OF ENERGY AND ENVIRONMENT  
DIVISION OF ENVIRONMENTAL QUALITY - OFFICE OF WATER QUALITY  
5301 Northshore Drive  
North Little Rock, AR 72118-5317  
[www.adeq.state.ar.us/water](http://www.adeq.state.ar.us/water)

**PURPOSE OF THIS APPLICATION**

- INITIAL PERMIT APPLICATION FOR NEW FACILITY
- INITIAL PERMIT APPLICATION FOR EXISTING FACILITY
- MODIFICATION OF EXISTING PERMIT
- REISSUANCE (RENEWAL) OF EXISTING PERMIT
- MODIFICATION AND CONSTRUCTION OF EXISTING PERMIT
- CONSTRUCTION PERMIT

**SECTION A- GENERAL INFORMATION**

1. Legal Applicant Name (The permit will be issued under this name. This is the entity that controls and is responsible for operations and compliance.):

City of Flippin

Note: The legal name of the applicant must be identical to the name listed with the Arkansas Secretary of State.

2. Operator Type: Private  Municipality  State  Federal  Partnership  Corporation  Other   
State of Incorporation: \_\_\_\_\_

3. Facility Name: Flippin Wastewater Treatment Facility

4. Is the legal applicant identified in number 1 above the owner of the facility?  Yes  No

5. NPDES Permit Number (If Applicable): AR0021717

6. NPDES General Permit Number (If Applicable): ARG

7. NPDES General Storm Water Permit Number (If Applicable): ARR00

8. Permit Numbers and/or names of any permits issued by ADEQ or EPA for an activity located in Arkansas that is presently held by the applicant or its parent or subsidiary corporation which are not listed above:

<u>Permit Name</u>	<u>Permit Number</u>	<u>Held by</u>

9. Give driving directions to the wastewater treatment plant with respect to known landmarks:

Go one block north of East Main on Eighth Street, then turn East on Industrial Drive. Follow Industrial Drive to dead-end at the treatment facility.

10. Facility Physical Location: (Attach a map with location marked; street, route no. or other specific identifier)

Street: 222 East Industrial Drive

City: Flippin County: Marion State: Arkansas Zip: 72634

11. Facility Mailing Address for permit, DMR, and invoice (Street or Post Office Box):

Name: Flippin Wastewater Treatment Facility Title: \_\_\_\_\_  
Street: \_\_\_\_\_ P.O. Box P.O. Box 40  
City: Flippin State: Arkansas Zip: 72634  
E-mail address\*: cofmaintenance@hotmail.com Fax: 870-453-5722

\* Is emailing all documents (permit, letters, DMRs, invoices, etc.) acceptable to the applicant?  Yes  No

12. Neighboring States Within 20 Miles of the permitted facility (Check all that apply):

Oklahoma  Missouri  Tennessee  Louisiana  Texas  Mississippi

13. Indicate applicable Standard Industrial Classification (SIC) Codes and NAICS codes for primary processes (See Item #3 of the instructions for assistance in determining the correct SIC and NAICS Codes):

4952 SIC Facility Activity under this SIC or NAICS:  
221320 NAICS \_\_\_\_\_

14. Design Flow: 0.35 MGD Highest Monthly Average of the last two years Flow: 0.429 MGD

15. Is the outfall equipped with a diffuser?  Yes  No

16. Responsible Official (as described on the last page of this application):

Name: Jerald Marberry Title: Mayor  
Address: P.O. Box 40 Phone Number: 870-453-8300  
E-mail Address: jgmmarberry@gmail.com  
City: Flippin State: Arkansas Zip: 72634

17. Cognizant Official (Duly Authorized Representative of responsible official as described on the last page of this application):

Name: J.L. Wagoner Title: Public Works Director  
Address: P.O. Box 40 Phone Number: 870-453-8300  
E-mail Address: cofmaintenance@hotmail.com  
City: Flippin State: Arkansas Zip: 72634

18. Name, address and telephone number of active consulting engineer firm (If none, so state):

Contact Name: John S. Selig, P.E.  
Company Name: Civil Engineering Associates, LLC  
Address: 2114 East Matthews Avenue Phone Number: 870-972-5316  
E-mail Address: jselig@ce-associates.biz  
City: Jonesboro State: Arkansas Zip: 72401

19. Wastewater Operator Information

Wastewater Operator Name: J.L. Wagoner License number: 010535  
Class of municipal wastewater operator: I  II  III  IV   
Class of industrial wastewater operator: Basic  Advanced

**SECTION B: FACILITY AND OUTFALL INFORMATION**

1. Facility Location (All information must be based on the **front door (gate)** location of the facility). A topographic map must be submitted. See Item #5 of the instructions for additional details.:

Lat: 36 ° 16 ' 56 " Long: 92 ° 35 ' 03 "

2. Outfall Information (If more than two outfalls, add additional pages)

Outfall 001

End-of-Pipe

Location: Latitude: 36 ° 17 ' 00 " Longitude: 92 ° 35 ' 10 "

Monitoring

Location: Latitude: 36 ° 16 ' 59 " Longitude: 92 ° 35 ' 06 "

Description of outfall location: \_\_\_\_\_

Name of Receiving Stream (i.e. an unnamed tributary of Mill Creek, thence into Mill Creek; thence into Arkansas River):

Fallen Ash Creek, thence into the White River in Segment 4I of the White River

Type of Treatment system (Include all components of the treatment system and attach the process flow diagram):

Screening, grit removal, oxidation ditch, final clarifiers, ultra violet disinfection, post aeration. Sludge will be held in a lagoon.

How are effluent samples collected?

How is flow measured, i.e., v-notch weir, totalizing meter, Parshall flume, etc.?

V-notch weir with ultra-sonic flow meter (instantaneous flow plus totalizing)

Outfall

End-of-Pipe

Location: Latitude: \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " Longitude: \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "

Monitoring

Location: Latitude: \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " Longitude: \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "

Description of outfall location: \_\_\_\_\_

Name of Receiving Stream (i.e. an unnamed tributary of Mill Creek, thence into Mill Creek; thence into Arkansas River):

Type of Treatment system (Include all components of the treatment system and attach the process flow diagram):



How are effluent samples collected?

How is flow measured, i.e., v-notch weir, totalizing meter, Parshall flume, etc.?

3. Is the proposed or existing facility located above the 100-year flood level?  Yes  No

NOTE: FEMA Map must be included with this application. Maps can be ordered at [www.fema.gov](http://www.fema.gov).

If "No", what measures are (or will be) used to protect the facility? \_\_\_\_\_

4. Population for Municipal and Domestic Sewer Systems: 1,355

5. Backup Power Generation for Treatment Plants

Are there any permanent backup generators? Yes  No

If Yes, how many? 1 Total Horsepower (hp)? 300 kW

If no, check one of the following.

- Portable generator is available.
- The WWTP does not require power to operate.
- Operations at the facility will cease if power is not available.
- The WWTP has sufficient capacity to hold influent until power is restored.
- Other, please explain \_\_\_\_\_

**SECTION C – WASTE STORAGE AND DISPOSAL INFORMATION**

1. Solids/Sludge Disposal Method (Check as many as are applicable):

**Solids are not produced at this facility.**

**Landfill:**

Landfill Site Name \_\_\_\_\_ ADEQ Solid Waste Permit No. \_\_\_\_\_

**Land Application:** ADEQ State Permit No. \_\_\_\_\_

**Septic tank:** Arkansas Department of Health Permit No.: \_\_\_\_\_

**Distribution and Marketing:** Facility receiving sludge:

Name: \_\_\_\_\_ Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ Phone: \_\_\_\_\_

Rail:  \_\_\_\_\_ Pipe:  \_\_\_\_\_ Other: \_\_\_\_\_

**Subsurface Disposal** (Lagoon for which the sole purpose is storing sludge):

Location of lagoon \_\_\_\_\_ How old is the lagoon? \_\_\_\_\_

Surface area of lagoon: \_\_\_\_\_ Acre Depth: \_\_\_\_\_ ft Does lagoon have a liner?  Yes  No

**Incineration:** Location of incinerator \_\_\_\_\_

**Remains in Treatment Lagoon(s):**

How old is the lagoon(s)? \_\_\_\_\_ Has sludge depth been measured?  Yes  No

If Yes, Date measured? \_\_\_\_\_ Sludge Depth? \_\_\_\_\_ ft If No, When will it be measured? \_\_\_\_\_

Has sludge ever been removed? Yes  No  If Yes, When was it removed? \_\_\_\_\_

**Other** (Provide complete description): Sludge holding pond

**SECTION D - WATER SUPPLY**

Water Sources which are downstream of the outfall location, i.e., those which could be affected by the discharge from this facility (check as many as are applicable):

- None**
- Private Well** - Distance from Discharge point:  Within 5 miles     Within 50 miles

- Municipal Water Utility** (Specify City): Flippin  
Distance from Discharge point:  Within 5 miles     Within 50 miles

- Surface Water**- Name of Surface Water Source: \_\_\_\_\_  
Distance from Discharge point:  Within 5 miles     Within 50 miles

Lat: \_\_\_\_\_ ° \_\_\_\_\_ ‘ \_\_\_\_\_ “    Long: \_\_\_\_\_ ° \_\_\_\_\_ ‘ \_\_\_\_\_ “

- Other** (Specify): \_\_\_\_\_  
Distance from Discharge point:  Within 5 miles     Within 50 miles

## SECTION E: TRUST FUND REQUIREMENTS AND DISCLOSURE STATEMENT

1. Ark. Code Ann. § 8-4-203(b)(1)(A) forbids the Arkansas Department of Energy and Environment – Division of Environmental Quality (DEQ) from issuing, modifying, renewing, or transferring a permit for a nonmunicipal domestic sewage treatment works without the applicant first fulfilling the trust fund requirements set forth in that section. Ark. Code Ann. § 8-4-203(b)(1)(B) defines “nonmunicipal domestic sewage treatment works” as a device or system operated by an entity other than a city, town, or county that treats, in whole or in part, waste or wastewater from humans or household operations and must continually operate to protect human health and the environment despite a permittee’s failure to maintain or operate the device or system. NDSTW’s can include, but are not limited to:

- Sewer Improvement Districts;
- Subdivisions,
- Mobile Home Parks,
- Property Owner’ Associates,
- RV parks, and
- Apartments

**Exclusions** Excluded from this application’s Section E.1. requirements for trust fund contribution fees are:

- State or federal facilities,
- Schools,
- Universities and colleges,
- Public facilities boards and public water authorities,
- Entities that continuously operate due to a connection with a city, town, or county, and
- Commercial or industrial entity that treats domestic sewage from its operations and does not accept domestic sewage from other entities or residences.

The trust fund form may be obtained from the DEQ web site at:

<http://www.adeq.state.ar.us/water/permits/npdes/individual/pdfs/ndstw-trust-fund-certification-form.pdf>

2. Disclosure Statement:

Ark. Code Ann. 8-1-106 requires that applicants for any type of permit or transfer of any permit, license, certification or operational authority issued by the DEQ file a Disclosure Statement with their application unless exempt for doing so under Ark. Code Ann. §8-1-106(b)(2). The filing of a Disclosure Statement is mandatory. No application can be considered administratively complete without a completed Disclosure Statement unless that facility is exempt. Publicly traded companies may submit the most recent 10k and 10Q filings to the Securities and Exchange Commission in lieu of the Disclosure Statement. The form may be obtained from the ADEQ web site at:

[https://www.adeq.state.ar.us/ADEQ\\_Disclosure\\_Statement.pdf](https://www.adeq.state.ar.us/ADEQ_Disclosure_Statement.pdf)

NOT APPLICABLE (N/A):

**SECTION F – INDUSTRIAL ACTIVITY**

1. Does an effluent guideline limitation promulgated by EPA ([Link to a Listing of the 40 CFR Effluent Limit Guidelines](#)) under Section 304 of the Clean Water Act (CWA) apply to your facility?

YES  (Answer questions 2 and 3)      NO

2. What Part of 40 CFR? \_\_\_\_\_

3. What Subpart(s)? \_\_\_\_\_

4. Give a brief description of all operations at this facility including primary products or services (attach additional sheets if necessary):

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5. Production: (projected for new facilities)

Product(s) Manufactured (Brand name)	Last 12 Months		Highest Production Year of Last 5 Years	
	lbs/day*		lbs/day*	
	Highest Month	Days of Operation	Monthly Average	Days of Operation

\* These units could be off-lbs, lbs quenched, lbs cleaned/etched/rinsed, lbs poured, lbs extruded, etc.





## SECTION H -TECHNICAL INFORMATION

Technical information to support this application shall be furnished in appropriate detail to understand the project. Information in this Part is required for obtaining a **construction permit** or for **modification** of the treatment system.

1. Describe the proposed construction activity. Include the types of control equipment to be installed along with their methods of operation and control efficiency.

A new influent lift station will be installed, a new headworks system (both screening & grit removal) will be installed, an additional oxidation ditch will be installed adjacent to the existing ditch, two new 28' diameter clarifier will be installed to replace the existing clarifiers, a new sludge hold pond will be installed.

2. One set of construction plans and specifications, approved (signed and stamped) by a **Professional Engineer** (PE) registered in **Arkansas**, must be submitted as follows:
  - a. The plans must show flow rates in addition to pertinent dimensions so that detention times, overflow rates, and loadings per acre, etc. can be calculated.
  - b. Specifications and complete design calculations.
  - c. All treated wastewater discharges should have a flow measuring device such as a weir or Parshall flume installed after the final treatment unit. Where there is a significant difference between the flow rates of the raw and treated wastewater, a flow measuring device should be provided both before and after treatment.
3. If this application includes a construction permit disturbing five or more acres, a storm water construction permit must be obtained by submitting a notice of intent (NOI) to DEQ.




## SECTION I: SIGNATORY REQUIREMENTS

### Cognizant Official (Duly Authorized Representative)

40 CFR 122.22(b) states that all reports required by the permit, or other information requested by the Director, shall be signed by the applicant (or person authorized by the applicant) or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- (1) the authorization is made in writing by the applicant (or person authorized by the applicant);
- (2) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity responsibility, or an individual or position having overall responsibility for environmental matters for the company.

The applicant hereby designates the following person as a Cognizant Official, or duly authorized representative, for signing reports, etc., including Discharge Monitoring Reports (DMR) required by the permit, and other information requested by the Director:

Signature of Cognizant Official:  Date: 11-5-2020  
Printed name of Cognizant Official: J.L. Wagoner  
Official title of Cognizant Official: Director of Public Works Telephone Number: 870-453-8300

### Responsible Official

The information contained in this form must be certified by a **responsible official** as defined in the "signatory requirements for permit applications" (40 CFR 122.22).

Responsible official is defined as follows:

**Corporation**, a principal officer of at least the level of vice president

**Partnership**, a general partner

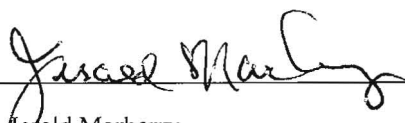
**Sole proprietorship**: the proprietor

**Municipal, state, federal, or other public facility**: principal executive officer, or ranking elected official.

"By my signature below, I certify that the cognizant official designated above is qualified to act as a duly authorized representative under the provisions of 40 CFR 122.22(b)." NOTE: If no duly authorized representative is designated in this section, the Division considers the applicant to be the responsible official for the facility and only reports, etc., signed by the applicant will be accepted by the Division.

"By my signature below, I certify that, if this facility is a corporation, it is registered with the Secretary of State in Arkansas. Please provide the full name of the corporation if different than that listed in Section A above."

"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. I further certify under penalty of law that all analyses reported as less than detectable in this application or attachments thereto were performed using the EPA approved test method having the lowest detection limit for the substance tested."

Signature of Responsible Official:  Date: 11/05/2020  
Printed name of Responsible Official: Gerald Marberry  
Official title of Responsible Official: Mayor Telephone Number: 870-453-8300

EPA Identification Number

NPDES Permit Number  
AR0021717Facility Name  
Flippin WWTFForm Approved 03/05/19  
OMB No. 2040-0004

Collection System and Population Served	1.7	Provide the collection system information requested below for the treatment works.				
		<b>Municipality Served</b>	<b>Population Served</b>	<b>Collection System Type (indicate percentage)</b>		<b>Ownership Status</b>
		Flippin	1355	<u>100</u> % separate sanitary sewer	<input checked="" type="checkbox"/> Own	<input checked="" type="checkbox"/> Maintain
				_____ % combined storm and sanitary sewer	<input type="checkbox"/> Own	<input type="checkbox"/> Maintain
				<input type="checkbox"/> Unknown	<input type="checkbox"/> Own	<input type="checkbox"/> Maintain
				_____ % separate sanitary sewer	<input type="checkbox"/> Own	<input type="checkbox"/> Maintain
				_____ % combined storm and sanitary sewer	<input type="checkbox"/> Own	<input type="checkbox"/> Maintain
				<input type="checkbox"/> Unknown	<input type="checkbox"/> Own	<input type="checkbox"/> Maintain
			_____ % separate sanitary sewer	<input type="checkbox"/> Own	<input type="checkbox"/> Maintain	
			_____ % combined storm and sanitary sewer	<input type="checkbox"/> Own	<input type="checkbox"/> Maintain	
			<input type="checkbox"/> Unknown	<input type="checkbox"/> Own	<input type="checkbox"/> Maintain	
			_____ % separate sanitary sewer	<input type="checkbox"/> Own	<input type="checkbox"/> Maintain	
			_____ % combined storm and sanitary sewer	<input type="checkbox"/> Own	<input type="checkbox"/> Maintain	
			<input type="checkbox"/> Unknown	<input type="checkbox"/> Own	<input type="checkbox"/> Maintain	
		<b>Total Population Served</b>	1355			
				<b>Separate Sanitary Sewer System</b>	<b>Combined Storm and Sanitary Sewer</b>	
		Total percentage of each type of sewer line (in miles)		100 %	%	
Indian Country	1.8	Is the treatment works located in Indian Country? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
	1.9	Does the facility discharge to a receiving water that flows through Indian Country? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Design and Actual Flow Rates	1.10	Provide design <i>and</i> actual flow rates in the designated spaces.			<b>Design Flow Rate</b>	
					0.35 mgd	
		<b>Annual Average Flow Rates (Actual)</b>				
		<b>Two Years Ago</b>		<b>Last Year</b>		<b>This Year</b>
		0.20 mgd		0.305 mgd		.286 mgd
		<b>Maximum Daily Flow Rates (Actual)</b>				
<b>Two Years Ago</b>		<b>Last Year</b>		<b>This Year</b>		
0.496 mgd		0.582 mgd		0.576 mgd		
Discharge Points by Type	1.11	Provide the total number of effluent discharge points to waters of the United States by type.				
		<b>Total Number of Effluent Discharge Points by Type</b>				
		<b>Treated Effluent</b>	<b>Untreated Effluent</b>	<b>Combined Sewer Overflows</b>	<b>Bypasses</b>	<b>Constructed Emergency Overflows</b>
		1	0	0	0	0

**Outfalls Other Than to Waters of the United States**

1.12 Does the POTW discharge wastewater to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the United States?  
 Yes  No → SKIP to Item 1.14.

1.13 Provide the location of each surface impoundment and associated discharge information in the table below.

**Surface Impoundment Location and Discharge Data**

Location	Average Daily Volume Discharged to Surface Impoundment	Continuous or Intermittent (check one)
	gpd	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
	gpd	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
	gpd	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent

1.14 Is wastewater applied to land?  
 Yes  No → SKIP to Item 1.16.

1.15 Provide the land application site and discharge data requested below.

**Land Application Site and Discharge Data**

Location	Size	Average Daily Volume Applied	Continuous or Intermittent (check one)
	acres	gpd	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
	acres	gpd	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
	acres	gpd	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent

1.16 Is effluent transported to another facility for treatment prior to discharge?  
 Yes  No → SKIP to Item 1.21.

1.17 Describe the means by which the effluent is transported (e.g., tank truck, pipe).

1.18 Is the effluent transported by a party other than the applicant?  
 Yes  No → SKIP to Item 1.20.

1.19 Provide information on the transporter below.

**Transporter Data**

Entity name	Mailing address (street or P.O. box)	
City or town	State	ZIP code
Contact name (first and last)	Title	
Phone number	Email address	

**Outfalls and Other Discharge or Disposal Methods**

Outfalls and Other Discharge or Disposal Methods Continued

1.20 In the table below, indicate the name, address, contact information, NPDES number, and average daily flow rate of the receiving facility.

**Receiving Facility Data**

Facility name	Mailing address (street or P.O. box)	
City or town	State	ZIP code
Contact name (first and last)	Title	
Phone number	Email address	
NPDES number of receiving facility (if any) <input type="checkbox"/> None	Average daily flow rate	mgd

1.21 Is the wastewater disposed of in a manner other than those already mentioned in Items 1.14 through 1.21 that do not have outlets to waters of the United States (e.g., underground percolation, underground injection)?  
 Yes  No → SKIP to Item 1.23.

1.22 Provide information in the table below on these other disposal methods.

**Information on Other Disposal Methods**

Disposal Method Description	Location of Disposal Site	Size of Disposal Site	Annual Average Daily Discharge Volume	Continuous or Intermittent (check one)
		acres	gpd	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
		acres	gpd	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent
		acres	gpd	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent

Variance Requests

1.23 Do you intend to request or renew one or more of the variances authorized at 40 CFR 122.21(n)? (Check all that apply. Consult with your NPDES permitting authority to determine what information needs to be submitted and when.)  
 Discharges into marine waters (CWA Section 301(h))  Water quality related effluent limitation (CWA Section 302(b)(2))  
 Not applicable

Contractor Information

1.24 Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor?  
 Yes  No → SKIP to Section 2.

1.25 Provide location and contact information for each contractor in addition to a description of the contractor's operational and maintenance responsibilities.

**Contractor Information**

	Contractor 1	Contractor 2	Contractor 3
Contractor name (company name)			
Mailing address (street or P.O. box)			
City, state, and ZIP code			
Contact name (first and last)			
Phone number			
Email address			
Operational and maintenance responsibilities of contractor			



**SECTION 2. ADDITIONAL INFORMATION (40 CFR 122.21(j)(1) and (2))**

<b>Design Flow</b>	<b>Outfalls to Waters of the United States</b>					
	2.1	Does the treatment works have a design flow greater than or equal to 0.1 mgd? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Section 3.				
<b>Inflow and Infiltration</b>	2.2	Provide the treatment works' current average daily volume of inflow and infiltration.	<b>Average Daily Volume of Inflow and Infiltration</b> 150,000 gpd			
	Indicate the steps the facility is taking to minimize inflow and infiltration. The City of Flippin has another construction project under development that will rehabilitate the entire wastewater collection system. This rehabilitative work will replace approximately 90% of the collection system and rehabilitate all of the remaining manholes. The I/I should be effectively eliminated once this construction is completed.					
<b>Topographic Map</b>	2.3	Have you attached a topographic map to this application that contains all the required information? (See instructions for specific requirements.) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
<b>Flow Diagram</b>	2.4	Have you attached a process flow diagram or schematic to this application that contains all the required information? (See instructions for specific requirements.) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
<b>Scheduled Improvements and Schedules of Implementation</b>	2.5	Are improvements to the facility scheduled? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Section 3.				
	Briefly list and describe the scheduled improvements.					
	1. An additional oxidation ditch will be constructed next to the existing ditch to double capacity.					
	2. The existing clarifiers will be replaced with two (2) new 25' diameter clarifiers.					
	3. A sludge holding pond will be constructed to replace the digester and drying beds.					
	4. A new headworks system will be installed to include both screening and grit removal.					
2.6	Provide scheduled or actual dates of completion for improvements.					
<b>Scheduled or Actual Dates of Completion for Improvements</b>						
	<b>Scheduled Improvement (from above)</b>	<b>Affected Outfalls (list outfall number)</b>	<b>Begin Construction (MM/DD/YYYY)</b>	<b>End Construction (MM/DD/YYYY)</b>	<b>Begin Discharge (MM/DD/YYYY)</b>	<b>Attainment of Operational Level (MM/DD/YYYY)</b>
	1.	001	05/03/2021	03/31/2022	04/01/2022	06/01/2022
	2.	001	05/03/2021	03/31/2022	04/01/2022	06/01/2022
	3.	001	05/03/2021	03/31/2022	04/01/2022	06/01/2022
	4.	001	05/03/2021	03/31/2022	04/01/2022	06/01/2022
2.7	Have appropriate permits/clearances concerning other federal/state requirements been obtained? Briefly explain your response. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> None required or applicable					
Explanation: All environmental clearances and permits have been obtained for the work.						

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**SECTION 3. INFORMATION ON EFFLUENT DISCHARGES (40 CFR 122.21(j)(3) to (5))**

<b>Description of Outfalls</b>	3.1	Provide the following information for each outfall. (Attach additional sheets if you have more than three outfalls.)		
		<b>Outfall Number</b> <u>001</u>	<b>Outfall Number</b> _____	<b>Outfall Number</b> _____
	State	Arkansas		
	County	Marion		
	City or town	Flippin		
	Distance from shore	N/A ft.	ft.	ft.
	Depth below surface	3 ft.	ft.	ft.
	Average daily flow rate	0.35 mgd	mgd	mgd
	Latitude	36° 17' 00" N	° ' "	° ' "
Longitude	92° 35' 10" W	° ' "	° ' "	
<b>Seasonal or Periodic Discharge Data</b>	3.2	Do any of the outfalls described under Item 3.1 have seasonal or periodic discharges? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Item 3.4.		
	3.3	If so, provide the following information for each applicable outfall.		
		<b>Outfall Number</b> _____	<b>Outfall Number</b> _____	<b>Outfall Number</b> _____
	Number of times per year discharge occurs			
	Average duration of each discharge (specify units)			
Average flow of each discharge	mgd	mgd	mgd	
Months in which discharge occurs				
<b>Diffuser Type</b>	3.4	Are any of the outfalls listed under Item 3.1 equipped with a diffuser? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Item 3.6.		
	3.5	Briefly describe the diffuser type at each applicable outfall.		
		<b>Outfall Number</b> _____	<b>Outfall Number</b> _____	<b>Outfall Number</b> _____
<b>Waters of the U.S.</b>	3.6	Does the treatment works discharge or plan to discharge wastewater to waters of the United States from one or more discharge points? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Section 6.		

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		3.7 Provide the receiving water and related information (if known) for each outfall.		
		Outfall Number <u>001</u>	Outfall Number _____	Outfall Number _____
Receiving Water Description	Receiving water name	White River		
	Name of watershed, river, or stream system	Segment 4I		
	U.S. Soil Conservation Service 14-digit watershed code			
	Name of state management/river basin			
	U.S. Geological Survey 8-digit hydrologic cataloging unit code	11010003		
	Critical low flow (acute)	cfs	cfs	cfs
	Critical low flow (chronic)	cfs	cfs	cfs
	Total hardness at critical low flow	mg/L of CaCO <sub>3</sub>	mg/L of CaCO <sub>3</sub>	mg/L of CaCO <sub>3</sub>
			3.8 Provide the following information describing the treatment provided for discharges from each outfall.	
		Outfall Number <u>001</u>	Outfall Number _____	Outfall Number _____
Treatment Description	Highest Level of Treatment (check all that apply per outfall)	<input checked="" type="checkbox"/> Primary <input type="checkbox"/> Equivalent to secondary <input checked="" type="checkbox"/> Secondary <input type="checkbox"/> Advanced <input type="checkbox"/> Other (specify)	<input type="checkbox"/> Primary <input type="checkbox"/> Equivalent to secondary <input type="checkbox"/> Secondary <input type="checkbox"/> Advanced <input type="checkbox"/> Other (specify)	<input type="checkbox"/> Primary <input type="checkbox"/> Equivalent to secondary <input type="checkbox"/> Secondary <input type="checkbox"/> Advanced <input type="checkbox"/> Other (specify)
	Design Removal Rates by Outfall	001		
	BOD <sub>5</sub> or CBOD <sub>5</sub>	95 %	%	%
	TSS	95 %	%	%
	Phosphorus	<input checked="" type="checkbox"/> Not applicable %	<input type="checkbox"/> Not applicable %	<input type="checkbox"/> Not applicable %
	Nitrogen	<input type="checkbox"/> Not applicable 95 %	<input type="checkbox"/> Not applicable %	<input type="checkbox"/> Not applicable %
	Other (specify)	<input checked="" type="checkbox"/> Not applicable %	<input type="checkbox"/> Not applicable %	<input type="checkbox"/> Not applicable %

<b>Treatment Description Continued</b>	3.9	Describe the type of disinfection used for the effluent from each outfall in the table below. If disinfection varies by season, describe below.					
			<b>Outfall Number</b> 001	<b>Outfall Number</b> _____	<b>Outfall Number</b> _____		
	Disinfection type	U.V.					
	Seasons used	All					
Dechlorination used?	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Not applicable <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Not applicable <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Not applicable <input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>Effluent Testing Data</b>	3.10	Have you completed monitoring for all Table A parameters and attached the results to the application package? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
	3.11	Have you conducted any WET tests during the 4.5 years prior to the date of the application on any of the facility's discharges or on any receiving water near the discharge points? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Item 3.13.					
	3.12	Indicate the number of acute and chronic WET tests conducted since the last permit reissuance of the facility's discharges by outfall number or of the receiving water near the discharge points.					
			<b>Outfall Number</b> _____	<b>Outfall Number</b> _____	<b>Outfall Number</b> _____		
			<b>Acute</b>	<b>Chronic</b>	<b>Acute</b>	<b>Chronic</b>	<b>Acute</b> <b>Chronic</b>
	Number of tests of discharge water						
	Number of tests of receiving water						
	3.13	Does the treatment works have a design flow greater than or equal to 0.1 mgd? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Item 3.16.					
	3.14	Does the POTW use chlorine for disinfection, use chlorine elsewhere in the treatment process, or otherwise have reasonable potential to discharge chlorine in its effluent? <input type="checkbox"/> Yes → Complete Table B, including chlorine. <input checked="" type="checkbox"/> No → Complete Table B, omitting chlorine.					
	3.15	Have you completed monitoring for all applicable Table B pollutants and attached the results to this application package? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
3.16	Does one or more of the following conditions apply? <ul style="list-style-type: none"> <li>The facility has a design flow greater than or equal to 1 mgd.</li> <li>The POTW has an approved pretreatment program or is required to develop such a program.</li> <li>The NPDES permitting authority has informed the POTW that it must sample for the parameters in Table C, must sample other additional parameters (Table D), or submit the results of WET tests for acute or chronic toxicity for each of its discharge outfalls (Table E).</li> </ul> <input type="checkbox"/> Yes → Complete Tables C, D, and E as applicable. <input checked="" type="checkbox"/> No → SKIP to Section 4.						
3.17	Have you completed monitoring for all applicable Table C pollutants and attached the results to this application package? <input type="checkbox"/> Yes <input type="checkbox"/> No						
3.18	Have you completed monitoring for all applicable Table D pollutants required by your NPDES permitting authority and attached the results to this application package? <input type="checkbox"/> Yes <input type="checkbox"/> No additional sampling required by NPDES permitting authority.						



## Effluent Testing Data Continued

3.19	Has the POTW conducted either (1) minimum of four quarterly WET tests for one year preceding this permit application or (2) at least four annual WET tests in the past 4.5 years? <input type="checkbox"/> Yes <input type="checkbox"/> No → Complete tests and Table E and SKIP to Item 3.26.				
3.20	Have you previously submitted the results of the above tests to your NPDES permitting authority? <input type="checkbox"/> Yes <input type="checkbox"/> No → Provide results in Table E and SKIP to Item 3.26.				
3.21	Indicate the dates the data were submitted to your NPDES permitting authority and provide a summary of the results.				
	<table border="1"> <thead> <tr> <th>Date(s) Submitted (MM/DD/YYYY)</th> <th>Summary of Results</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	Date(s) Submitted (MM/DD/YYYY)	Summary of Results		
Date(s) Submitted (MM/DD/YYYY)	Summary of Results				
3.22	Regardless of how you provided your WET testing data to the NPDES permitting authority, did any of the tests result in toxicity? <input type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Item 3.26.				
3.23	Describe the cause(s) of the toxicity:				
3.24	Has the treatment works conducted a toxicity reduction evaluation? <input type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Item 3.26.				
3.25	Provide details of any toxicity reduction evaluations conducted.				
3.26	Have you completed Table E for all applicable outfalls and attached the results to the application package? <input type="checkbox"/> Yes <input type="checkbox"/> Not applicable because previously submitted information to the NPDES permitting authority.				

## SECTION 4. INDUSTRIAL DISCHARGES AND HAZARDOUS WASTES (40 CFR 122.21(j)(6) and (7))

## Industrial Discharges and Hazardous Wastes

4.1	Does the POTW receive discharges from SIUs or NSCIUs? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Item 4.7.				
4.2	Indicate the number of SIUs and NSCIUs that discharge to the POTW.				
	<table border="1"> <thead> <tr> <th>Number of SIUs</th> <th>Number of NSCIUs</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	Number of SIUs	Number of NSCIUs		
Number of SIUs	Number of NSCIUs				
4.3	Does the POTW have an approved pretreatment program? <input type="checkbox"/> Yes <input type="checkbox"/> No				
4.4	Have you submitted either of the following to the NPDES permitting authority that contains information substantially identical to that required in Table F: (1) a pretreatment program annual report submitted within one year of the application or (2) a pretreatment program? <input type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Item 4.6.				
4.5	Identify the title and date of the annual report or pretreatment program referenced in Item 4.4. SKIP to Item 4.7.				
4.6	Have you completed and attached Table F to this application package? <input type="checkbox"/> Yes <input type="checkbox"/> No				

<b>Industrial Discharges and Hazardous Wastes Continued</b>	4.7	Does the POTW receive, or has it been notified that it will receive, by truck, rail, or dedicated pipe, any wastes that are regulated as RCRA hazardous wastes pursuant to 40 CFR 261? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Item 4.9.			
	4.8	If yes, provide the following information:			
		<b>Hazardous Waste Number</b>	<b>Waste Transport Method</b> (check all that apply)		<b>Annual Amount of Waste Received</b>
			<input type="checkbox"/> Truck <input type="checkbox"/> Dedicated pipe	<input type="checkbox"/> Rail <input type="checkbox"/> Other (specify) _____	
			<input type="checkbox"/> Truck <input type="checkbox"/> Dedicated pipe	<input type="checkbox"/> Rail <input type="checkbox"/> Other (specify) _____	
			<input type="checkbox"/> Truck <input type="checkbox"/> Dedicated pipe	<input type="checkbox"/> Rail <input type="checkbox"/> Other (specify) _____	
4.9	Does the POTW receive, or has it been notified that it will receive, wastewaters that originate from remedial activities, including those undertaken pursuant to CERCLA and Sections 3004(7) or 3008(h) of RCRA? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Section 5.				
4.10	Does the POTW receive (or expect to receive) less than 15 kilograms per month of non-acute hazardous wastes as specified in 40 CFR 261.30(d) and 261.33(e)? <input type="checkbox"/> Yes → SKIP to Section 5. <input type="checkbox"/> No				
4.11	Have you reported the following information in an attachment to this application: identification and description of the site(s) or facility(ies) at which the wastewater originates; the identities of the wastewater's hazardous constituents; and the extent of treatment, if any, the wastewater receives or will receive before entering the POTW? <input type="checkbox"/> Yes <input type="checkbox"/> No				
<b>SECTION 5. COMBINED SEWER OVERFLOWS (40 CFR 122.21(j)(8))</b>					
<b>CSO Map and Diagram</b>	5.1	Does the treatment works have a combined sewer system? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Section 6.			
	5.2	Have you attached a CSO system map to this application? (See instructions for map requirements.) <input type="checkbox"/> Yes <input type="checkbox"/> No			
	5.3	Have you attached a CSO system diagram to this application? (See instructions for diagram requirements.) <input type="checkbox"/> Yes <input type="checkbox"/> No			

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CSO Outfall Description	5.4	For each CSO outfall, provide the following information. (Attach additional sheets as necessary.)		
		CSO Outfall Number ____	CSO Outfall Number ____	CSO Outfall Number ____
	City or town			
	State and ZIP code			
	County			
	Latitude	° ' "	° ' "	° ' "
	Longitude	° ' "	° ' "	° ' "
	Distance from shore	ft.	ft.	ft.
Depth below surface	ft.	ft.	ft.	
CSO Monitoring	5.5	Did the POTW monitor any of the following items in the past year for its CSO outfalls?		
		CSO Outfall Number ____	CSO Outfall Number ____	CSO Outfall Number ____
	Rainfall	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	CSO flow volume	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	CSO pollutant concentrations	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Receiving water quality	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	CSO frequency	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Number of storm events	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
CSO Events in Past Year	5.6	Provide the following information for each of your CSO outfalls.		
		CSO Outfall Number ____	CSO Outfall Number ____	CSO Outfall Number ____
	Number of CSO events in the past year	events	events	events
	Average duration per event	hours <input type="checkbox"/> Actual or <input type="checkbox"/> Estimated	hours <input type="checkbox"/> Actual or <input type="checkbox"/> Estimated	hours <input type="checkbox"/> Actual or <input type="checkbox"/> Estimated
	Average volume per event	million gallons <input type="checkbox"/> Actual or <input type="checkbox"/> Estimated	million gallons <input type="checkbox"/> Actual or <input type="checkbox"/> Estimated	million gallons <input type="checkbox"/> Actual or <input type="checkbox"/> Estimated
Minimum rainfall causing a CSO event in last year	inches of rainfall <input type="checkbox"/> Actual or <input type="checkbox"/> Estimated	inches of rainfall <input type="checkbox"/> Actual or <input type="checkbox"/> Estimated	inches of rainfall <input type="checkbox"/> Actual or <input type="checkbox"/> Estimated	

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CSO Receiving Waters

5.7 Provide the information in the table below for each of your CSO outfalls.

	CSO Outfall Number ____	CSO Outfall Number ____	CSO Outfall Number ____
Receiving water name			
Name of watershed/ stream system			
U.S. Soil Conservation Service 14-digit watershed code (if known)	<input type="checkbox"/> Unknown	<input type="checkbox"/> Unknown	<input type="checkbox"/> Unknown
Name of state management/river basin			
U.S. Geological Survey 8-Digit Hydrologic Unit Code (if known)	<input type="checkbox"/> Unknown	<input type="checkbox"/> Unknown	<input type="checkbox"/> Unknown
Description of known water quality impacts on receiving stream by CSO (see instructions for examples)			

**SECTION 6. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))**

Checklist and Certification Statement

6.1 In Column 1 below, mark the sections of Form 2A that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.

Column 1	Column 2	
<input checked="" type="checkbox"/> Section 1: Basic Application Information for All Applicants	<input type="checkbox"/> w/ variance request(s)	<input type="checkbox"/> w/ additional attachments
<input checked="" type="checkbox"/> Section 2: Additional Information	<input checked="" type="checkbox"/> w/ topographic map <input type="checkbox"/> w/ additional attachments	<input checked="" type="checkbox"/> w/ process flow diagram
<input checked="" type="checkbox"/> Section 3: Information on Effluent Discharges	<input checked="" type="checkbox"/> w/ Table A <input checked="" type="checkbox"/> w/ Table B <input type="checkbox"/> w/ Table C	<input type="checkbox"/> w/ Table D <input type="checkbox"/> w/ Table E <input type="checkbox"/> w/ additional attachments
<input type="checkbox"/> Section 4: Industrial Discharges and Hazardous Wastes	<input type="checkbox"/> w/ SIU and NSCIU attachments <input type="checkbox"/> w/ additional attachments	<input type="checkbox"/> w/ Table F
<input type="checkbox"/> Section 5: Combined Sewer Overflows	<input type="checkbox"/> w/ CSO map <input type="checkbox"/> w/ CSO system diagram	<input type="checkbox"/> w/ additional attachments
<input checked="" type="checkbox"/> Section 6: Checklist and Certification Statement	<input type="checkbox"/> w/ attachments	

6.2 **Certification Statement**

*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.*

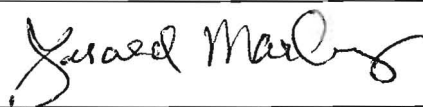
Name (print or type first and last name)

Jerald Marberry

Official title

Mayor

Signature



Date signed

11/05/2020

EPA Identification Number	NPDES Permit Number AR0021717	Facility Name Flippin WWTF	Outfall Number 001
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Form Approved 03/05/19  
OMB No. 2040-0004

TABLE A. EFFLUENT PARAMETERS FOR ALL POTWS							
Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method <sup>1</sup>	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Biochemical oxygen demand <input checked="" type="checkbox"/> BOD <sub>5</sub> or <input type="checkbox"/> CBOD <sub>5</sub> (report one)	21.3	mg/l	6.24	mg/l	39		<input type="checkbox"/> ML <input type="checkbox"/> MDL
Fecal coliform	344	#/100ml	43	#/100ml	39		<input type="checkbox"/> ML <input type="checkbox"/> MDL
Design flow rate	0.582	MGD	0.240	MGD	39		
pH (minimum)	6.43	SU					
pH (maximum)	7.58	SU					
Temperature (winter)	N/A						
Temperature (summer)	N/A						
Total suspended solids (TSS)	14	mg/l	3.77	mg/l	39		<input type="checkbox"/> ML <input type="checkbox"/> MDL

<sup>1</sup> Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

EPA Identification Number	NPDES Permit Number AR0021717	Facility Name Flippin WWTF	Outfall Number
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Form Approved 03/05/19  
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**TABLE B. EFFLUENT PARAMETERS FOR ALL POTWS WITH A FLOW EQUAL TO OR GREATER THAN 0.1 MGD**

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method <sup>1</sup>	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Ammonia (as N)							<input type="checkbox"/> ML <input type="checkbox"/> MDL
Chlorine (total residual, TRC) <sup>2</sup>							<input type="checkbox"/> ML <input type="checkbox"/> MDL
Dissolved oxygen							<input type="checkbox"/> ML <input type="checkbox"/> MDL
Nitrate/nitrite							<input type="checkbox"/> ML <input type="checkbox"/> MDL
Kjeldahl nitrogen							<input type="checkbox"/> ML <input type="checkbox"/> MDL
Oil and grease							<input type="checkbox"/> ML <input type="checkbox"/> MDL
Phosphorus							<input type="checkbox"/> ML <input type="checkbox"/> MDL
Total dissolved solids							<input type="checkbox"/> ML <input type="checkbox"/> MDL

<sup>1</sup> Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

<sup>2</sup> Facilities that do not use chlorine for disinfection, do not use chlorine elsewhere in the treatment process, and have no reasonable potential to discharge chlorine in their effluent are not required to report data for chlorine.





U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY



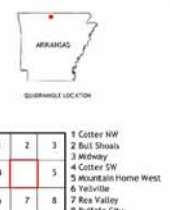
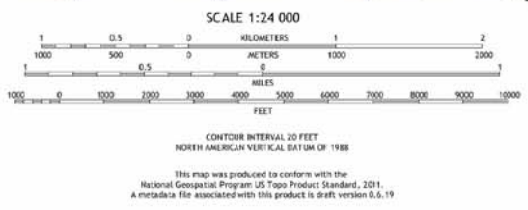
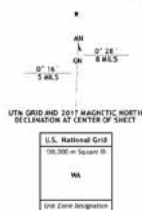
COTTER QUADRANGLE  
ARKANSAS  
7.5-MINUTE SERIES



Produced by the United States Geological Survey  
North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84). Projection and  
1 000-meter grid: Universal Transverse Mercator, Zone 15S  
15 000-foot scale; Arkansas Coordinate System of 1983 (south  
zone)

This map is not a legal document. Boundaries may be  
generalized for this map scale. Private lands within  
boundaries may not be shown. Obtain permission before  
entering private lands.

Imagery: .....NAIP, December 2015  
Roads: .....U.S. Census Bureau, 2015  
Names: .....GNIS, 2016  
Hydrography: .....National Hydrography Dataset, 2015  
Contours: .....National Elevation Dataset, 2000  
Boundaries: .....Multiple sources; see metadata file 1972-2016  
Roads: .....Land Survey System, 1972-2016  
Wetlands: .....FWS National Wetlands Inventory 1977 - 2014

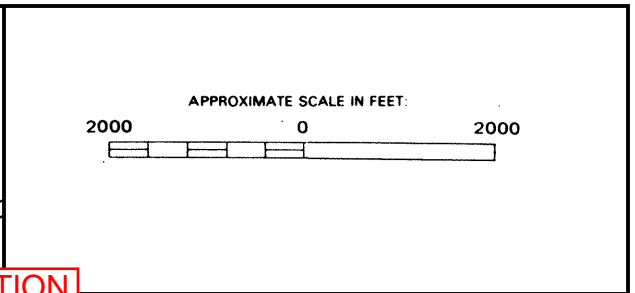
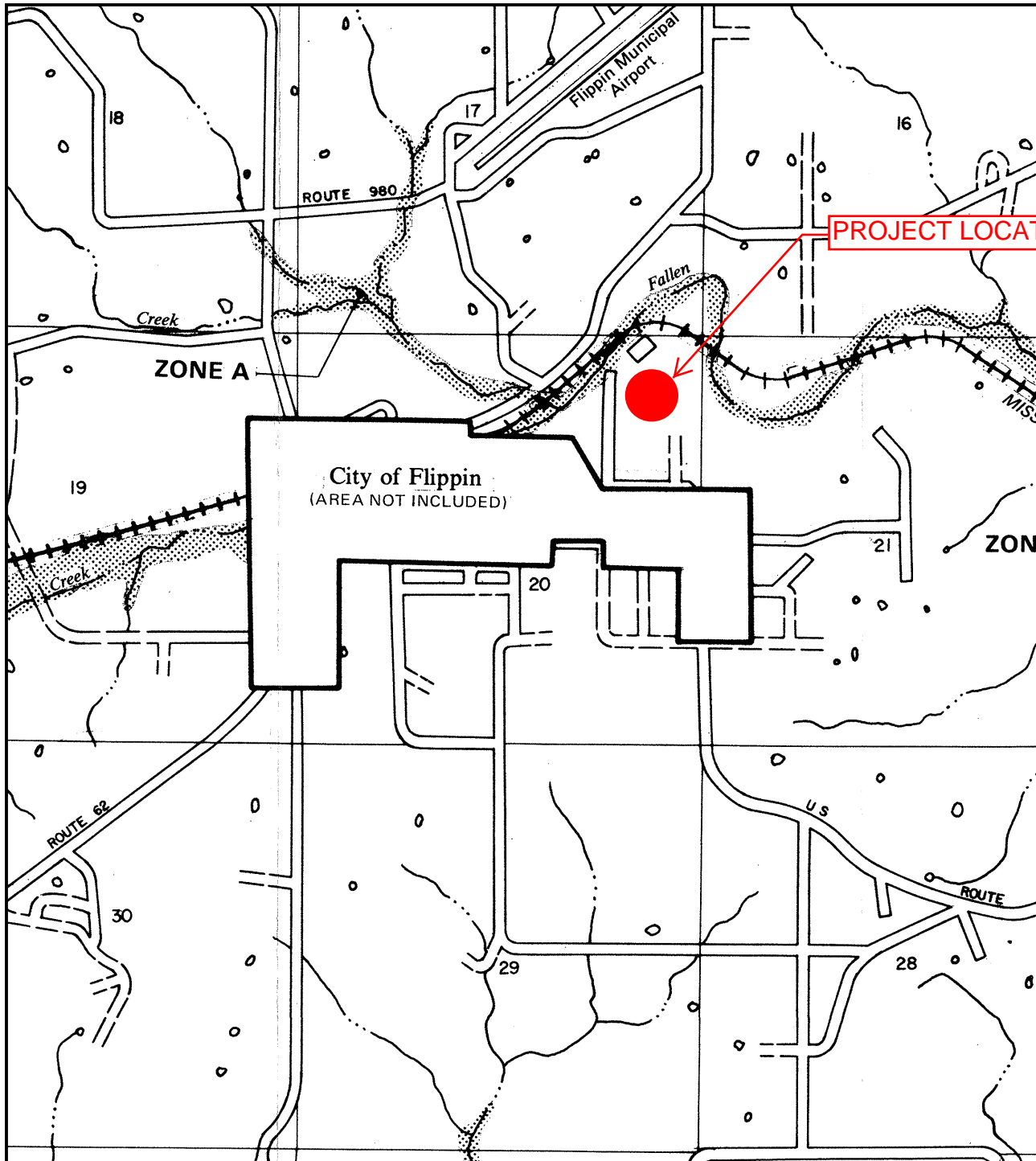


1	2	3	4	5	6	7	8
Cotter NW			Cotter SW			Cotter SE	
Bull Shoals			Mountain Home West			Rea Valley	
Bull Shoals			Mountain Home West			Rea Valley	
Bull Shoals			Mountain Home West			Rea Valley	
Bull Shoals			Mountain Home West			Rea Valley	
Bull Shoals			Mountain Home West			Rea Valley	
Bull Shoals			Mountain Home West			Rea Valley	

COTTER, AR  
2017







FLOOD HAZARD BOUNDARY MAP

**MARION COUNTY,  
 ARKANSAS**  
 UNINCORPORATED AREA  
 PAGE 6 OF 9  
 (SEE MAP INDEX FOR PAGES NOT PRINTED)

EFFECTIVE DATE:  
 SEPTEMBER 6, 1977

**COMMUNITY - PANEL NO.**  
 050450 0006 A



**U.S. DEPARTMENT OF HOUSING  
 AND URBAN DEVELOPMENT**

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)





CIVIL ENGINEERING ASSOCIATES, LLC

PROJECT: FLIPPEN WWTF IMPROVEMENTS

PROJECT No: \_\_\_\_\_ Sheet No: 1 Of 1

By: JSS Date: 11/05/2020 Chkd. By: \_\_\_\_\_ Date: \_\_\_\_\_

SUBJECT: DESIGN CALCULATIONS

- DESIGN FLOW RATE = 0.35 MGD
- PEAK HOURLY FLOW RATE = 0.72 MGD (BASED ON INFLUENT LEFT STATION CAPACITY OF 500 GPM)
- PEAK HOURLY LOADING RATE = 4.14 LB/CAPITA-DAY

- CLARIFIER

PEAK HOURLY FLOW RATE = 720,000 GPD

CLARIFIER SURFACE AREA = 615.75 ft<sup>2</sup>

SURFACE OUTFLOW RATE = (720,000 GPD) / (615.75 ft<sup>2</sup>) = 1,169 gpd/ft<sup>2</sup>

PEAK HOURLY LOADING RATE = 4.14 LB/CAPITA-DAY

POPULATION = 1,355

PEAK SOLIDS LOADING RATE = (4.14 LB/CAPITA-DAY)(1,355 PEOPLE) / (615.75 ft<sup>2</sup>) = 9,11 LB/day/ft<sup>2</sup>

WEIR LENGTH = 40 ft

PEAK HOURLY FLOW RATE = 720,000 GPD

WEIR LOADING RATE = (720,000 GPD) / (40 L.F.) = 18,000 gpd/L.F.

- OXIDATION DITCH

1/2 DESIGN FLOW RATE = 175,000 GPD

BOD<sub>5</sub> = 210 mg/L

BOD<sub>L</sub> =  $\frac{(175,000 \text{ GPD})(210 \text{ mg/L})(8.34 \text{ lb/gal})}{1,000,000 \text{ L/mg}}$  = 306.50 lb/day

VOLUME OF OXIDATION DITCH  
 $2(9.5')(11' \times 115') = 24,035 \text{ ft}^3$

MASS OF BIOMASS FOR BOD REMOVAL = 5,248 lb

ORGANIC LOADING =  $(306.5 \text{ lb/day}) / (24) = \underline{12.77 \text{ lb BOD/d/1000 ft}^3}$

MLSS =  $(5,248 \text{ lb})(1,000,000) / (9.5 \text{ ft})(24,030 \text{ ft}^3)(62.4 \text{ lb/mg} \times 1/\text{ft}^3) = \underline{3,498 \text{ mg/L}}$

