

**AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM AND THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT**

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended, Ark. Code Ann. 8-4-101 et seq.), and the Clean Water Act (33 U.S.C. 1251 et seq.),

City of Wynne  
121 Merriman Avenue  
Wynne, AR 72396

is authorized to discharge from a facility located approximately 1 ½ miles west of Wynne and 1/4 mile south of Highway 284 in Section 24, Township 7 North, Range 2 East in Cross County, Arkansas.

Latitude: 35° 13' 22"; Longitude: 90° 49' 13"

to receiving waters named:

a drainage ditch, thence to Caney Creek, thence to the L'Anguille River in Segment 5B of the St. Francis River Basin.

The outfall is located at the following coordinates:

Outfall 001:Latitude : 35° 12' 30"; Longitude: 90° 49' 45"

in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II (Version 2), III, and IV (Version 2) hereof.

This permit shall become effective on September 1, 2002.

The modified permit shall become effective on March 1, 2005.

This permit and the authorization to discharge shall expire at midnight, August 31, 2007.

Signed this day of

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Martin Maner, P.E.  
Chief, Water Division  
Arkansas Department of Environmental Quality

**SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS:** OUTFALL 001- treated municipal wastewater

During the period beginning on the effective date and lasting until date of expiration, the permittee is authorized to discharge from outfall serial number 001 - Treated municipal wastewater. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations			Monitoring Requirements	
	Mass (lbs/day) Monthly Average	Other Units (specify) Monthly 7-day Average Average		Measurement Frequency	Sample Type
Flow (MGD)+	N/A	N/A	N/A	Daily	Totalizing meter
Carbonaceous Biochemical Oxygen Demand (CBOD5)	345	15 mg/l	23 mg/l	Three/week	6-hr. composite
Total Suspended Solids (TSS)	345	15 mg/l	23 mg/l	Three/week	6-hr. composite
Ammonia-Nitrogen (NH3-N) (April-November)	92	4 mg/l	6 mg/l	Three/week	6-hr. composite
(December-March)	207	9 mg/l	14 mg/l	Three/week	6-hr. composite
Dissolved-Oxygen (DO)* (April-November)	N/A	7.0 mg/l (Inst. Min.)		Three/week	Grab
(December-March)	N/A	6.0 mg/l (Inst. Min.)		Three/week	Grab
Fecal Coliform Bacteria (FCB)**	N/A	Colonies / 100 ml 1000 2000		Three/week	Grab
pH	N/A	Minimum 6 s.u.	Maximum 9 s.u.	Three/week	Grab
<b><u>Whole Effluent Lethality</u></b> <b>(7-day NOEC)<sup>1,2</sup> 22414</b>		<b><u>Daily Average Minimum</u></b>	<b><u>7-day Minimum</u></b>		
		not < 100%	not < 100%	Once/quarter	24-hr composite
<b><u>Pimephales promelas (Chronic)<sup>2</sup></u></b> Pass/Fail Lethality (7-day NOEC) <b>TLP6C</b> Survival (7-day NOEC) <b>TOP6C</b> Growth (7-day NOEC) <b>TPP6C</b>		<b><u>7-day Average</u></b> Report (Pass=0/Fail=1) Report % Report %		Once/quarter Once/quarter Once/quarter	24-hr composite 24-hr composite 24-hr composite

**SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS(CONT):** OUTFALL 001-treated municipal wastewater

During the period beginning on the effective date and lasting until date of expiration, permittee is authorized to discharge from outfall serial number 001 - Treated municipal wastewater. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Mass (lbs/day)	Other Units (specify)	Measurement Frequency	Sample Type
	Monthly Average	Monthly 7-day Average		
<b><u>Ceriodaphnia dubia (Chronic)</u><sup>2</sup></b>		<b><u>7-day Average</u></b>		
Pass/Fail Lethality (7-day NOEC) <b>TLP3B</b>		Report (Pass=0/Fail=1)	Once/quarter	24-hr composite
Survival (7-day NOEC) <b>TOP3B</b>		Report %	Once/quarter	24-hr composite
Reproduction(7-day NOEC) <b>TPP3B</b>		Report %	Once/quarter	24-hr composite

- + Report monthly average and daily maximum as MGD.
- \* Instantaneous Minimum. Dissolved Oxygen must be equal or above the specified level at all times.
- \*\* See Condition No. 2 of Part III.
- <sup>1</sup> The daily average lethality and 7-day minimum lethality (7-day NOEC) value shall not be less than **100%** effluent. The daily average lethality (7-day NOEC) value is defined as the greatest effluent dilution at an below which lethality that is statistically different from the control (0% effluent) at the 95% confidence level does not occur.
- <sup>2</sup> See Part III, Condition No. 10.

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There shall be no discharge of distinctly visible solids, scum or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits or sludge banks.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):at Outfall 001, after the final treatment unit.

**SECTION B. SCHEDULE OF COMPLIANCE**

The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

Compliance is required on the effective date of the permit.

**PART III  
OTHER CONDITIONS**

1. The operator of this wastewater treatment facility shall be licensed by the State of Arkansas in accordance with Act 211 of 1971, Act 1103 of 1991, Act 556 of 1993, and Regulation No. 3, as amended.
2. For Fecal Coliform Bacteria (FCB) report the monthly average as a 30-day geometric mean in colonies per 100 ml.
3. The permittee shall not cause or allow the permitted facility to emit odors which unreasonably interfere with enjoyment of life or use of property in the surrounding area.
4. For publicly owned treatment works, the 30-day average percent removal for Biochemical Oxygen Demand and Total Suspended Solids shall not be less than 85 percent unless otherwise authorized by the permitting authority in accordance with 40 CFR 133.102, as adopted by reference in ADEQ Regulation No. 6.
5. Produced sludge shall be disposed of by land application only when meeting the following criteria:
  - A. Sewage sludge from treatment works treating domestic sewage (TWTDS) must meet the applicable provisions of 40 CFR Part 503; and
  - B. The sewage sludge has not been classified as a hazardous waste under state or federal regulations.
6. The permittee shall give at least 120 days prior notice to the Director of any change planned in the permittee's sludge disposal practice or land use applications, including types of crops grown (if applicable).
7. The permittee shall report all overflows with the Discharge Monitoring report (DMR) submittal. These reports shall be summarized and reported in tabular format. The summaries shall include: the date, time, duration, location, estimated volume, and cause of overflow; observed environmental impacts from the overflow; action taken to address the overflow; and ultimate discharge location if not contained (e.g., storm sewer system, ditch, tributary.) Overflows which endanger health or the environment shall be orally reported to this department (Enforcement Section of Water Division), within 24 hours from the time the permittee becomes aware of the circumstance. A written report of overflows which endanger health or the environment, shall be provided within 5 days of the time the permittee becomes aware of the circumstance.

8. **ADDITIONAL CONDITIONS FOR LAND APPLICATION OF BIOSOLIDS**

Sludge generated by this facility will be land applied at the following site(s):

<u>Field No.</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>
1	19	7 North	2 East
2	24	7 North	2 East

**A. GENERAL REQUIREMENTS:**

- i. Only biosolids which are not classified as a hazardous waste under state or federal regulations may be land applied.
- ii. Plant Available Nitrogen (PAN) will not be applied at a rate exceeding the annual nitrogen uptake of the crop. At no time will the nitrogen application rate (PAN/acre-year) be allowed to exceed the site specific rate approved by the Department.
- iii. Biosolids with Polychlorinated Biphenyls (PCB's) concentrations equal or greater than 50 mg/kg (dry basis) will not be land applied at any time.
- iv. **CEILING CONCENTRATIONS** (milligrams per kilogram, dry weight basis): If the biosolids to be land applied exceed any of the pollutant concentrations listed below, the biosolids **may not** be land applied.

<u>Pollutant</u>	<u>Ceiling Concentrations</u>
Arsenic	75
Cadmium	85
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

- v. **CUMULATIVE CONCENTRATION LIMITS:** When the cumulative amount of any pollutant land applied to a specific site exceeds any of the loading rates listed below, no more biosolids may be land applied the specific site.

<u>Element</u>	<u>Cumulative Pollutant Loading Rate</u>	
	<u>kg/ha (lbs/ac)</u>	
Arsenic	41	(37)
Cadmium	39	(35)
Copper	1500	(1350)
Lead	300	(270)
Mercury	17	(15)
Nickel	420	(378)
Selenium	100	(90)
Zinc	2800	(2520)

- vi. The biosolids generator must issue a signed certification stating that the Pathogen Reduction, Vector Attraction Reduction, and Pollutant Concentration Limits have been met. The State requirements on Pathogen Reduction, Vector Attraction Reduction, and Pollutant Concentration Limits are the same as those listed in Federal; Regulation 40 CFR Part 503. All the above information must be made available to the permittee before the material is delivered. Concurrently, a signed copy of each certification must be also submitted to ADEQ's Water Division.
- vii. The containers used for the transportation of the biosolids must be of the closed type.
- viii. Transportation of the biosolids must be such that will prevent the attraction, harborage or breeding of insects or rodents. It must not produce conditions harmful to public health, the environment, odors, unsightliness, nuisances, or safety hazards.
- ix. Transportation equipment must be leak-proof and kept in a top sanitary conditions at all times. Biosolids must be enclosed or covered as to prevent littering, vector attraction, or any other nuisances.
- x. The permittee will be responsible for assuring that the land owner, of any land application site not owned by the permittee, and the waste applicator, if different from the permittee, abide by the conditions of this permit.
- xi. Biosolids will be spread evenly over the application area and in no way biosolids will be allowed to enter the waters of the State.
- xii. Biosolids will not be applied to slopes with a gradient greater than 15%; or to soils that are saturated, frozen or covered with snow, during rain, or when precipitation is imminent.
- xiii. The permittee will not cause any underground drinking water source to

exceed the limitations in 40 CFR 257 Appendix I.

- xiv. The permittee will not cause or contribute to the taking of life or the destruction or adverse modification of the critical habitat of any known endangered or threatened species of plant, fish or wildlife.
- xv. The permittee will take all necessary measures to reduce obnoxious and offensive odors. Equipment will be maintained and operated to prevent spillage and leakage.
- xvi. Disposal of biosolids in a floodplain will not restrict the flow of the base flood, reduce the temporary storage capacity of the floodplain, or result in a washout of solid waste, so as to pose a hazard to human life, wildlife or land and water uses.
- xvii. Biosolids will not be spread within 25 feet of rock outcrops; 50 feet of property lines; 200 feet of drinking water well; 100 feet of lakes, ponds, springs, streams, wetlands, and sinkholes; 300 feet of occupied buildings and streams classified as an "extraordinary resource stream."
- xviii. The permittee will give 120 days prior notice to the Director of any change planned in the biosolids disposal practice.
- xix. All new land application sites must have a waste management plan approved by the Department prior to land application of biosolids. This may require a permit modification.

**B. MONITORING AND REPORTING REQUIREMENTS:**

- i. The permittee will be responsible for the biosolids analyses, soil analyses, and a reporting schedule that must include the following:
  - a. Biosolids Analysis
    - (1) Biosolids samples collected must be representative of the treated biosolids to be land applied. The samples are to be stored in appropriate glass or plastic containers and kept refrigerated or frozen to prevent any change in composition.
    - (2) Semi-annual grab samples of the land applied biosolids will be analyzed and results expressed in dry basis in mg/kg, except as otherwise indicated:

Volatile Solids(%)	Total Kjeldahl Nitrogen
Total Solids(%)	Total Phosphorus



Nitrate Nitrogen	Total Potassium
Nitrite Nitrogen	Ammonia Nitrogen
Arsenic	Cadmium
Chromium	Copper
Lead	Mercury
Nickel	Selenium
Zinc	pH (SU)

(3) Soils Analysis

Each land application site will be soil tested in the Spring prior to application for the following parameters:

Nitrate-Nitrogen	Potassium
Phosphorus	Magnesium
Arsenic	Cadmium
Copper	Lead
Selenium	Mercury
Nickel	pH (SU)
Zinc	C.E.C. (mequivalent/100 gr)
Electrical Conductivity (micromohs/cm)	

b. Reporting

- (1) Annual reports will be sent to the Department and to the owner of the land receiving biosolids **prior to May 1**, which must include the following:

The biosolids and soil analyses conducted under section **9.b** above (including a statement that the analyses were performed in accordance with EPA Document SW-846, "Test Methods for Evaluation of Solid Waste," or other procedures approved by the Director), application dates and locations, amounts of biosolids applied (in dry tons/acre-year and gallons/acre-year of biosolids), methods of disposal, identity of hauler, and type of crop grown, amounts of nitrogen applied, total elements added that year (lbs/acre), total elements applied to date, and copies of soil analyses for each site.

- (2) The permittee will also maintain copies of the above records for Department personnel review at the biosolids generating facility.

9. **Contributing Industries and Pretreatment Requirements**

- A. The following pollutants may not be introduced into the treatment facility:
- i. pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21;
  - ii. pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the works are specifically designed to accommodate such discharges;
  - iii. solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, resulting in Interference;
  - iv. any pollutant, including oxygen demanding pollutants (e.g., BOD), released in a discharge at a flow rate and/or pollutant concentration which will cause Interference with the POTW;
  - v. heat in amounts which will inhibit biological activity in the POTW resulting in Interference, but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 40 deg. C (104 deg. F) unless the Approval Authority, upon request of the POTW, approves alternate temperature limits;
  - vi. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
  - vii. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems;
  - viii. Any trucked or hauled pollutants, except at discharge points designated by the POTW.
- B. The permittee shall require any indirect discharger to the treatment works to comply with the reporting requirements of Sections 204(b), 307, and 308 of the Act, including any requirements established under 40 CFR Part 403.
- C. The permittee shall provide adequate notice to the Department of the following:
- i. any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Sections 301 or 306 of the Act if it were directly discharging those pollutants; and

- ii. any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.

Any notice shall include information on (i) the quality and quantity of effluent to be introduced into the treatment works, and (ii) any anticipated impact of the change on the quality or quantity of effluent to be discharged from the POTW.

## 10. WHOLE EFFLUENT TOXICITY TEST REQUIREMENT (WET Limits, 7 DAY CHRONIC, FRESHWATER)

### 1. SCOPE AND METHODOLOGY

- a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section.

APPLICABLE TO OUTFALL(S):                   **001**

REPORTED ON DMR AS OUTFALL:           **001**  
CRITICAL DILUTION:                       **100%**

EFFLUENT DILUTION SERIES:               **32,42,56,75,100**

TEST SPECIES/METHODS:                 **40 CFR Part 136**

Ceriodaphnia dubia chronic static renewal survival and reproduction test, Method 1002.0, EPA/600/4-91/002 or the most recent update thereof. This test should be terminated when 60% of the surviving adults in the control produce three broods.

Pimephales promelas (Fathead minnow) chronic static renewal 7-day larval survival and growth test, Method 1000.0, EPA/600/4-91/002, or the most recent update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

- b. The NOEC (No Observed Effect Concentration) is defined as the greatest effluent dilution at and below which lethality that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution.
- c. When the testing frequency stated above is less than monthly and the effluent fails the survival endpoint at the critical dilution, the permittee shall be considered in

violation of this permit limit and the frequency for the affected species will increase to monthly until such time compliance with the Lethal No Observed Effluent Concentration (NOEC) effluent limitation is demonstrated for a period of three consecutive months, at which time the permittee may return to the testing frequency stated in Part I of this permit. During the period the permittee is out of compliance, test results shall be reported on the DMR for that reporting period.

- d. This permit may be reopened to require chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

## **2. REQUIRED TOXICITY TESTING CONDITIONS**

### **a. Test Acceptance**

The permittee shall repeat a test, including the control and all effluent dilutions, if the procedures and quality assurance requirements defined in the test methods or in this permit are not satisfied, including the following additional criteria:

- i. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.
- ii. The mean number of Ceriodaphnia dubia neonates produced per surviving female in the control (0% effluent) must be 15 or more.
- iii. The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.
- iv. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the young of surviving females in the Ceriodaphnia dubia reproduction test, the growth and survival of the Fathead minnow test.
- v. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or nonlethal effects are exhibited for: the young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints in the Fathead minnow test.

Test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

### **b. Statistical Interpretation**

- i. For the Ceriodaphnia dubia survival test, the statistical analyses used to determine if there is a significant difference between the control and the

critical dilution shall be Fisher's Exact Test as described in EPA/600/4-91/002, or the most recent update thereof.

If the conditions of Test Acceptability are met in Item 2.a above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report an NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 3 below.

- ii. For the Ceriodaphnia dubia reproduction test and the Fathead minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA/600/4-91/002, or the most recent update thereof.

c. Dilution Water

- i. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness and alkalinity to the closest downstream perennial water where the receiving stream is classified as intermittent or where the receiving stream has no flow due to zero flow conditions.
- ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 2.a.), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:
  - A. a synthetic dilution water control which fulfills the test acceptance requirements of Item 2.a. was run concurrently with the receiving water control;
  - B. the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);
  - C. the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 3.a. below; and
  - D. the synthetic dilution water shall have a pH, hardness and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

d. Samples and Composites

- i. The permittee shall collect a minimum of three flow-weighted 24-hour composite samples from the outfall(s) listed at item 1.a. above. A 24-hour composite sample consists of a minimum of 4 effluent portions collected at equal time intervals representative of a 24-hour operating day and combined proportional to flow or a sample continuously collected proportional to flow over a 24-hour operating day.
- ii. The permittee shall collect second and third 24-hour composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the 24-hour composite samples such that the effluent samples are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on an intermittent basis.
- iii. The permittee must collect the 24-hour composite samples so that the maximum holding time for any effluent sample shall not exceed 72 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first 24-hour composite sample. Samples shall be chilled to 4 degrees Centigrade during collection, shipping and/or storage.
- iv. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must collect an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 3. of this section.
- v. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the 24-hour composite effluent samples in proportion to the average flow from the outfalls listed in item 1.a. above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.
- vi. Chlorination/Dechlorination: This section is applicable to permittee now chlorination who agree to dechlorinate, the permittee shall have the sample dechlorinated in the laboratory prior to installation of dechlorination systems. However, upon operation of dechlorination systems, the permittee shall not

allow the sample to be dechlorinated at the laboratory.

### **3. REPORTING**

- a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this section in accordance with the Report Preparation Section of EPA/600/4-91/002, or the most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of Part III.C. of this permit. The permittee shall submit full reports only upon the specific request of the Department.
- b. The permittee shall report the Whole Effluent Lethality values for the 30-Day Average Minimum and the 7-Day Minimum under Parameter No. 22414 on the DMR for that reporting period.

If more than one valid test for a species was performed during the reporting period, the test NOECs will be averaged arithmetically and reported as the DAILY AVERAGE MINIMUM NOEC for that reporting period.

If more than one species is tested during the reporting period, the permittee shall report the lowest 30-Day Average Minimum NOEC and the lowest 7-Day Minimum NOEC for Whole Effluent Lethality.

A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit. Only ONE set of biomonitoring data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST Survival results for each species during the reporting period. All invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached to the DMR for EPA review.

- c. The permittee shall submit the results of the valid toxicity test on the DMR for that reporting period. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

- i. **Pimephales promelas** (Fathead Minnow)

- A. If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TLP6C.

- B. Report the NOEC value for survival, Parameter No. TOP6C.

C. Report the NOEC value for growth, Parameter No. TPP6C.

ii. **Ceriodaphnia dubia**

A. If the NOEC for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TLP3B.

B. Report the NOEC value for survival, Parameter No. TOP3B.

C. Report the NOEC value for reproduction, Parameter No. TPP3B.



## Final Fact Sheet

for modification of NPDES Permit Number AR0021903 to discharge to Waters of the State

### 1. PERMITTING AUTHORITY.

The issuing office is:

Arkansas Department of Environmental Quality  
8001 National Drive  
Post Office Box 8913  
Little Rock, Arkansas 72219-8913

### 2. APPLICANT.

The applicant is:

City of Wynne  
121 Merriman Avenue  
Wynne, AR 72396

### 3. PREPARED BY.

The permit writer is:

Loretta Reiber, P.E., Staff Engineer  
NPDES Branch, Water Division

### 4. DATE PREPARED.

The final modified permit was prepared on 02/22/2004.

### 5. PREVIOUS PERMIT ACTIVITY.

Effective Date: 9/1/2002  
Expiration Date: 8/31/2007

### 6. REASONS FOR PERMIT ISSUANCE.

The permittee submitted a permit modification application to add an additional sludge land application site on 07/16/2004, with additional information received 10/6/2004. It is proposed that the current NPDES permit be modified in accordance with regulations promulgated at 40 CFR Part 122.62. **Please note that only the modified portion of the permit can be reopened for revision.**

7. **RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION.**

The outfall is located at the following coordinates:

Outfall 001:Latitude : 35° 12' 30"; Longitude: 90° 49' 45"

The receiving waters named:

a drainage ditch, thence to Caney Creek, thence to the L'Anguille River in Segment 5B of the St. Francis River Basin. The receiving stream is a Water of the State classified for secondary contact recreation, raw water source for public, industrial, and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

A. **303d List and Endangered Species Considerations**

i. **303d List**

The receiving stream is not listed on the 303d list. Therefore no permit action is needed.

ii. **Endangered Species:**

No comments were received from the U.S. Fish and Wildlife Service (USF&WS). Therefore no permit action is needed. The drafted permit and Fact Sheet will be sent to the USF&WS for their review.

8. **SEWAGE SLUDGE PRACTICES.**

Sludge is land applied to the following sites:

Field No.	Section	Township	Range
1 (Old)	19	7 North	2 East
2 (New)	24	7 North	2 East

9. **OUTFALL AND TREATMENT PROCESS DESCRIPTION.**

The following is a description of the facility described in the application:

A. Design flow: 2.76 MGD

B. Type of treatment:

Extended aeration activated sludge with ultraviolet disinfection, post aeration and aerobic sludge digestion.

C. Discharge Description: treated municipal wastewater.

10. **INDUSTRIAL WASTEWATER CONTRIBUTIONS.**

Pretreatment requirements are continued from the current NPDES Permit.

11. **PERMIT CONDITIONS.**

The Arkansas Department of Environmental Quality has made a determination to issue a permit for the discharge described in the application. Permit requirements are based on NPDES regulations (40 CFR Parts 122, 124, and Subchapter N) and regulations promulgated pursuant to the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended, Ark. Code Ann. 8-4-101 et. seq.).

A. **Final Effluent Limits**

Outfall 001- treated municipal wastewater

i. **Conventional and/or Toxic Pollutants**

Effluent Characteristic	Discharge Limitations		
	Mass (lbs/day) Monthly Average	Other Units (Specify) Monthly Average	
Flow (MGD)	N/A	N/A	N/A
Carbonaceous Biochemical Oxygen Demand (CBOD5)	345	15 mg/l	23 mg/l
Total Suspended Solids (TSS)	345	15 mg/l	23 mg/l
Ammonia-Nitrogen (NH3-N) (April-November)	92	4 mg/l	6 mg/l
(December-March)	207	9 mg/l	14 mg/l
Dissolved-Oxygen (DO) (April-November)	N/A	7.0 mg/l(Ins Min)	N/A
(December-March)	N/A	6.0 mg/l(Ins Min)	N/A
Fecal Coliform Bacteria (FCB)	N/A	1000	2000
		<u>Daily Average Minimum</u>	<u>7-day Minimum</u>
<b><u>Whole Effluent Lethality</u></b> (7-day NOEC) 22414	not < 100%		not < 100%
<b><u>Pimephales promelas (Chronic)</u></b> Pass/Fail Lethality (7-day NOEC) <b>TLP6C</b> Survival (7-day NOEC) <b>TOP6C</b> Growth (7-day NOEC) <b>TPP6C</b> Coefficient of variation <b>TQP6C</b>		<u>7-day Average</u> Report (Pass=0/Fail=1) Report % Report % Report %	
<b><u>Ceriodaphnia dubia (Chronic)</u></b> Pass/Fail Lethality (7-day NOEC) <b>TLP3B</b> Survival (7-day NOEC) <b>TOP3B</b> Reproduction (7-day NOEC) <b>TPP3B</b>		<u>7-day Average</u> Report (Pass=0/Fail=1) Report % Report %	

Coefficient of variation **TQP3B**

Report %

pH	N/A	Minimum 6 s.u.	Maximum 9 s.u.
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- ii. **Solids and Foam:** There shall be no discharge of distinctly visible solids, scum or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits or sludge banks.

## 12. **BASIS FOR PERMIT CONDITIONS.**

The following is an explanation of the derivation of the conditions of the permit and the reasons for them or, in the case of notices of intent to deny or terminate, reasons suggesting the decisions as required under 40 CFR 124.7 (48 FR 1413, April 1, 1983).

### A. **Technology-Based versus Water Quality-Based Effluent Limitations and Conditions**

Following regulations promulgated at 40 CFR Part 122.44 (1) (2) (ii), the draft permit limits are based on either technology-based effluent limits pursuant to 40 CFR Part 122.44 (a) or on State water quality standards and requirements pursuant to 40 CFR Part 122.44 (d), whichever are more stringent.

### B. **Technology-Based Effluent Limitations and/or Conditions**

#### i. **General Comments**

The permit must at least comply with 40 CFR 133 (Secondary Treatment Regulation) when applicable.

### C. **State Water Quality Numerical Standards Based Limitations**

#### i. **Conventional and Non-Conventional Pollutants**

The water quality-based limits for CBOD5, TSS, NH3-N, DO, FCB, and pH are continued based on the current NPDES permit.

### D. **Toxics Pollutants-Priority Pollutant Scan (PPS)**

#### a. **General Comments**

Effluent limitations and/or conditions established in the draft permit are in compliance with the Arkansas Water Quality Standards and the applicable Water Quality Management Plan.

A Priority Pollutant Scan was not required for the modification of this NPDES Permit.

### E. **Final Limitations**

The following effluent limitations or "report" requirements were placed in the permit based on the more stringent of the technology-based, water quality-based or previous NPDES permit limitations:

Parameter	Water Quality-Based		Technology-Based or BPJ		Previous NPDES Permit		Final Permit	
	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l
CBOD5	15	23	25	40	15	23	15	23
TSS	15	23	30	45	15	23	15	23
NH3-N								
April-November	4	6	N/A	N/A	4	6	4	6
December-March	9	14	N/A	N/A	9	14	9	14
DO								
April-November	7.0 (Inst. Min.)		N/A	N/A	7.0 (Inst. Min.)		7.0 (Inst. Min.)	
December-March	6.0 (Inst. Min.)		N/A	N/A	6.0 (Inst. Min.)		6.0 (Inst. Min.)	
FCB (Col/100 ml)	1000	2000	N/A	N/A	1000	2000	1000	2000
pH	6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	

F. **Biomonitoring**

Biomonitoring requirements are continued from the current permit.

11. **Sample Type and Sampling Frequency**

Sample Types and Sampling Frequencies are continued from the current permit.

12. **Changes from the previously issued permit**

1. A new sludge land application site has been included.

13. **SCHEDULE OF COMPLIANCE.**

The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

Compliance is required on the effective date of the permit.

14. **OPERATION AND MONITORING.**

Other proposed special conditions which will have a significant impact upon the discharge described in the application are the following:

The applicant is at all times required to properly operate and maintain the treatment facility; to monitor the discharge on a regular basis; and report the results monthly. The monitoring results will be available to the public.

**15. SOURCES.**

The following sources were used in the development of the proposed permit:

- A. NPDES permit application No. AR0021903 received July 18, 2004, with additional information received 10/6/2004.
- B. Regulation No. 6 as amended.
- C. Arkansas Water Quality Management Plan(WQMP).
- D. Regulation No. 2.
- E. 40 CFR 122, 125, and 133.
- F. NPDES permit file No. AR0021903.
- G. "Arkansas Water Quality Inventory Report 2000 (305B)", ADEQ.
- H. Continuing Planning Process (CPP).

**16. NPDES POINT OF CONTACT.**

For additional Information, Contact:

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