

**ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY**

**IN THE MATTER OF:**

**City of Danville  
YELL COUNTY, ARKANSAS**

**LIS NO. 09-138  
AR0022241  
AFIN 75-00037**

**CONSENT ADMINISTRATIVE ORDER**

This Consent Administrative Order (hereinafter "Order") is issued pursuant to Ark. Code Ann. §8-1-202(b)(2)(B), which authorizes the Director of the Arkansas Department of Environmental Quality (hereinafter "ADEQ" or "Department") to initiate and settle administrative enforcement actions to compel compliance with laws, orders, and regulations charged to the responsibility of the Department, including, but not limited to, the Federal Water Pollution Control Act, 33 U.S.C §1311 et seq., and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. §8-4-101 et seq., and all regulations issued thereunder. The Director may also propose the assessment of civil penalties as provided by Ark. Code Ann. §8-4-103(c) and the Arkansas Pollution Control and Ecology Commission (hereinafter APC&EC) Regulation No. 7, Civil Penalties, and take all actions necessary to collect such penalties.

The issues herein having been settled by the agreement of the City of Danville, (hereinafter the "Permittee") and ADEQ, it is hereby agreed and stipulated that the following **FINDINGS OF FACT** and **ORDER AND AGREEMENT** be entered herein.

**FINDINGS OF FACT**

1. The City of Danville is located in Yell County, Arkansas. The Permittee operates a wastewater treatment facility pursuant to the National Discharge Elimination System (NPDES) permit number AR0022241 (hereinafter the "Permit").
2. Since January, 2006, the Permittee has reported the following violations of Part I, Section A (Effluent Limits) of the permit and Ark. Code Ann. §8-4-217(a)(3):

Date	Outlet	Parameter	Reported	Permitted
1/31/06	002A	CBOD5 (Monthly Average, mg/L)	10.3	10
1/31/06	002A	NH3-N (7 day Average, mg/L)	23	15
1/31/06	002A	NH3-N (Monthly Average, mg/L)	13.57	10
1/31/06	002A	TSS (Monthly Average, mg/L)	19.28	15
2/28/06	002A	NH3-N (7 day Average, mg/L)	40	15
2/28/06	002A	NH3-N (Monthly Average, mg/L)	28.36	10
2/28/06	002A	TSS (Monthly Average, mg/L)	16.23	15
3/31/06	002A	CBOD5 (7 day Average, mg/L)	17	15
3/31/06	002A	CBOD5 (Monthly Average, mg/L)	10.51	10
3/31/06	002A	Coliform, fecal general (30 day, #/100mL)	1200	1000
3/31/06	002A	Coliform, fecal general (7 day, #/100mL)	3036	2000
3/31/06	002A	NH3-N (7 day Average, mg/L)	27	15
3/31/06	002A	pH (Minimum, s.u.)	5.9	6
3/31/06	002A	TSS (7 day Average, mg/L)	35	23
3/31/06	002A	TSS (Monthly Average, mg/L)	20.78	15
4/30/06	002A	CBOD5 (7 day Average, mg/L)	20	15
4/30/06	002A	CBOD5 (Monthly Average, mg/L)	10.36	10

Date	Outfall	Parameter	Reported	Permitted
4/30/06	002A	Coliform, fecal general (7 day, #/100mL)	440	400
4/30/06	002A	TSS (7 day Average, mg/L)	24	23
4/30/06	002A	TSS (Monthly Average, mg/L)	16.96	15
5/31/06	002A	Coliform, fecal general (7-Day, #/100mL)	1255	400
5/31/06	002A	NH3-N (7 day Average, mg/L)	27	3
5/31/06	002A	NH3-N (Monthly Average, mg/L)	8.96	2
5/31/06	002A	NH3-N (Monthly Average, mg/L)	34.14	13.3
6/30/06	002A	Coliform, fecal general (30-Day, #/100mg/L)	376	200
6/30/06	002A	Coliform, fecal general (7-Day, #/100mg/L)	37000	400
6/30/06	002A	NH3-N (7 day Average, mg/L)	3.4	3
7/31/06	002A	Coliform, fecal general (30-Day, #/100mg/L)	483	200
7/31/06	002A	Coliform, fecal general (7-Day, #/100mg/L)	39700	400
7/31/06	002A	NH3-N (7 day Average, mg/L)	11	3
7/31/06	002A	NH3-N (Monthly Average, mg/L)	4.29	2
7/31/06	002A	TSS (7 day Average, mg/L)	45	23
7/31/06	002A	TSS (Monthly Average, mg/L)	35.57	15
8/31/06	002A	Coliform, fecal general (7-Day, #/100mg/L)	520	400
8/31/06	002A	NH3-N (7 day Average, mg/L)	58	3
8/31/06	002A	NH3-N (Monthly Average, mg/L)	2.52	2
9/30/06	002A	NH3-N (7 day Average, mg/L)	41	3
9/30/06	002A	NH3-N (Monthly Average, mg/L)	30.05	2
9/30/06	002A	NH3-N (Monthly Average, lb/d)	128.63	13.3
10/31/06	002A	Coliform, fecal general (30-Day, #/100mg/L)	6070	1000
10/31/06	002A	Coliform, fecal general (7-Day, #/100mg/L)	10333	2000
12/31/06	002A	CBOD5 (7 day Average, mg/L)	18	15
12/31/06	002A	CBOD5 (Monthly Average, mg/L)	12.09	10

Date	Outfall	Parameter	Reported	Permitted
12/31/06	002A	CBOD5 (Monthly Average, lb/d)	81.01	66.7
12/31/06	002A	TSS (7 day Average, mg/L)	28	23
12/31/06	002A	TSS (Monthly Average, mg/L)	17.43	15
12/31/06	002A	TSS (Monthly Average, lb/d)	116.76	100
2/28/07	002A	NH3-N (Monthly Average, mg/L)	10.64	10
3/31/07	002A	Coliform, fecal general (30-Day, #/100mg/L)	3940	1000
3/31/07	002A	Coliform, fecal general (7-Day, #/100mg/L)	20000	2000
3/31/07	002A	TSS (Monthly Average, mg/L)	16.3	15
4/30/07	002A	CBOD5 (7 day Average, mg/L)	16	15
4/30/07	002A	CBOD5 (Monthly Average, mg/L)	13.06	10
4/30/07	002A	Coliform, fecal general (30-Day, #/100mg/L)	2510	200
4/30/07	002A	Coliform, fecal general (7-Day, #/100mg/L)	12600	400
4/30/07	002A	pH (Minimum, s.u.)	5.6	6
4/30/07	002A	TSS (7 day Average, mg/L)	26	23
4/30/07	002A	TSS (Monthly Average, mg/L)	22.12	15
4/30/07	002A	TSS (Monthly Average, lb/d)	112.53	100
5/31/07	002A	Coliform, fecal general (30-Day, #/100mg/L)	2490	200
5/31/07	002A	Coliform, fecal general (7-Day, #/100mg/L)	40000	400
5/31/07	002A	NH3-N (7 day Average, mg/L)	10	3
5/31/07	002A	NH3-N (Monthly Average, mg/L)	5.35	2
5/31/07	002A	NH3-N (Monthly Average, lb/d)	14.85	13.3
6/30/07	002A	CBOD5 (7 day Average, mg/L)	31	15
6/30/07	002A	CBOD5 (Monthly Average, mg/L)	14.58	10
6/30/07	002A	Coliform, fecal general (7-Day, #/100mg/L)	4000	400
6/30/07	002A	NH3-N (7 day Average, mg/L)	32	3
6/30/07	002A	NH3-N (Monthly Average, mg/L)	10.53	2

Date	Outfall	Parameter	Reported	Permitted
6/30/07	002A	NH3-N (Monthly Average, lb/d)	20.46	13.3
6/30/07	002A	TSS (7 day Average, mg/L)	160	23
6/30/07	002A	TSS (Monthly Average, mg/L)	65.45	15
6/30/07	002A	TSS (Monthly Average, lb/d)	127.19	100
7/31/07	002A	Coliform, fecal general (7-Day, #/100mg/L)	1917	400
7/31/07	002A	NH3-N (7 day Average, mg/L)	7.2	3
7/31/07	002A	NH3-N (Monthly Average, mg/L)	4.43	2
8/31/07	002A	NH3-N (7 day Average, mg/L)	41	3
8/31/07	002A	NH3-N (Monthly Average, mg/L)	25.03	2
8/31/07	002A	NH3-N (Monthly Average, lb/d)	56.99	13.3
8/31/07	002A	TSS (7 day Average, mg/L)	33	23
8/31/07	002A	TSS (Monthly Average, mg/L)	19.54	15
10/31/07	002A	NH3-N (7 day Average, mg/L)	18	3
10/31/07	002A	NH3-N (Monthly Average, mg/L)	11.09	2
10/31/07	002A	NH3-N (Monthly Average, lb/d)	28	13.3
11/30/07	002A	NH3-N (7 day Average, mg/L)	56	15
11/30/07	002A	NH3-N (Monthly Average, mg/L)	40.82	10
11/30/07	002A	NH3-N (Monthly Average, lb/d)	97.13	66.7
12/31/07	002A	NH3-N (7 day Average, mg/L)	19	15
1/31/08	002A	CBOD5 (Monthly Average, mg/L)	10.11	10
1/31/08	002A	NH3-N (7 day Average, mg/L)	22	15
1/31/08	002A	NH3-N (Monthly Average, mg/L)	21.38	10
1/31/08	002A	NH3-N (Monthly Average, lb/d)	73.75	66.7
2/29/08	002A	NH3-N (Monthly Average, mg/L)	14.9	10
3/31/08	002A	TSS (7 day Average, mg/L)	38	23
3/31/08	002A	TSS (Monthly Average, mg/L)	27.55	15

Date	Outfall	Parameter	Reported	Permitted
3/31/08	002A	TSS (Monthly Average, lb/d)	118.73	100
4/30/08	002A	CBOD5 (7 day Average, mg/L)	26	15
4/30/08	002A	CBOD5 (Monthly Average, mg/L)	13.35	10
4/30/08	002A	Coliform, fecal general (30-Day, #/100mg/L)	3110	200
4/30/08	002A	Coliform, fecal general (7-Day, #/100mg/L)	6040	400
4/30/08	002A	TSS (7 day Average, mg/L)	82	23
4/30/08	002A	TSS (Monthly Average, mg/L)	44.82	15
4/30/08	002A	TSS (Monthly Average, lb/d)	157.25	100
5/31/08	002A	CBOD5 (7 day Average, mg/L)	28	15
5/31/08	002A	CBOD5 (Monthly Average, mg/L)	13.95	10
5/31/08	002A	NH3-N (7 day Average, mg/L)	29	3
5/31/08	002A	NH3-N (Monthly Average, mg/L)	19.97	2
5/31/08	002A	NH3-N (Monthly Average, lb/d)	65.52	13.3
6/30/08	002A	CBOD5 (7 day Average, mg/L)	120	15
6/30/08	002A	CBOD5 (Monthly Average, mg/L)	89.41	10
6/30/08	002A	CBOD5 (Monthly Average, lb/d)	169	66.7
6/30/08	002A	Coliform, fecal general (7-Day, #/100mg/L)	940	400
6/30/08	002A	NH3-N (7 day Average, mg/L)	39	3
6/30/08	002A	NH3-N (Monthly Average, mg/L)	25.59	2
6/30/08	002A	NH3-N (Monthly Average, lb/d)	48.37	13.3
6/30/08	002A	DO (INST MIN, mg/L)	4.6	6
6/30/08	002A	TSS (7 day Average, mg/L)	170	23
6/30/08	002A	TSS (Monthly Average, mg/L)	117.49	15
6/30/08	002A	TSS (Monthly Average, lb/d)	222	100
7/31/08	002A	Coliform, fecal general (7-Day, #/100mg/L)	2200	400
7/31/08	002A	NH3-N (7 day Average, mg/L)	28	3

Date	Outfall	Parameter	Reported	Permitted
7/31/08	002A	NH3-N (Monthly Average, mg/L)	12.24	2
7/31/08	002A	NH3-N (Monthly Average, lb/d)	29.63	13.3
7/31/08	002A	pH (Minimum, s.u.)	5	6
7/31/08	002A	TSS (7 day Average, mg/L)	24	23
8/31/08	002A	CBOD5 (7 day Average, mg/L)	35	15
8/31/08	002A	CBOD5 (Monthly Average, mg/L)	21.5	10
8/31/08	002A	CBOD5 (Monthly Average, lb/d)	66.83	66.7
8/31/08	002A	Coliform, fecal general (30-Day, #/100mg/L)	Missing	200
8/31/08	002A	Coliform, fecal general (7-Day, #/100mg/L)	Missing	400
8/31/08	002A	TSS (7 day Average, mg/L)	120	23
8/31/08	002A	TSS (Monthly Average, mg/L)	152.16	15
8/31/08	002A	TSS (Monthly Average, lb/d)	472.93	100
9/30/08	002A	NH3-N (7 day Average, mg/L)	14	3
9/30/08	002A	NH3-N (Monthly Average, mg/L)	6.95	2
9/30/08	002A	NH3-N (Monthly Average, lb/d)	21.82	13.3
9/30/08	002A	TSS (7 day Average, mg/L)	44	23
9/30/08	002A	TSS (Monthly Average, mg/L)	20.29	15
11/30/08	002A	TSS (7 day Average, mg/L)	27	23
11/30/08	002A	TSS (Monthly Average, mg/L)	15.61	15
12/31/08	002A	CBOD5 (7 day Average, mg/L)	19	15
12/31/08	002A	CBOD5 (Monthly Average, mg/L)	14.59	10
12/31/08	002A	CBOD5 (Monthly Average, lb/d)	69.64	66.7
12/31/08	002A	Coliform, fecal general (7-Day, #/100mg/L)	4200	2000
12/31/08	002A	TSS (Monthly Average, mg/L)	15.32	15
1/31/09	002A	Solids, total suspended (MO AVG, mg/L)	16.2	15
1/31/09	002A	NH3-N (Monthly Average, lb/d)	68.02	66.7

Date	Outfall	Parameter	Reported	Permitted
1/31/09	002A	NH3-N (Monthly Average, mg/L)	13.98	10
1/31/09	002A	NH3-N (7 day Average, mg/L)	29	15
1/31/09	002A	Coliform, fecal general (7 DA GEO, #/100mL)	4700	2000
2/28/09	002A	NH3-N (7 day Average, mg/L)	18	15
2/28/09	002A	Coliform, fecal general (7 DA GEO, #/100mL)	20000	2000

3. On November 19, 2008, an ADEQ Water Division Field Inspector conducted a compliance sampling inspection of the facility. The inspection revealed the following:

- a) There was a discharge of untreated wastewater coming from the west pump that was causing pollution to the Petit Jean River, in violation of Ark. Code Ann. §8-4-217(a)(1) and Permit Condition Part II, Section B(3);
- b) The discharge or overflow had not been reported to the Department, violating Ark. Code Ann. §8-4-216(a) and Permit Condition Part II, Section D(6);
- c) The west pump was not operating properly, causing the west SBR tank to operate inefficiently, in violation of Ark. Code Ann. §8-4-217(a)(3) and Permit Condition Part II, Section B(1);
- d) The chlorine contact chamber needed to be cleaned because there was organic build-up on the walls, violating Ark. Code Ann. §8-4-217(a)(3) and Permit Condition Part II, Section B(1);
- e) In-house calibration checks were not being performed for the flow meter, violating Ark. Code Ann. §8-4-217(a)(3) and Permit Condition Part II, Section C(3); and
- f) A sample taken from outfall 002 during the inspection showed the effluent

was significantly out of the permitted ranges for Fecal Coliform Bacteria and pH. The results of these tests were >6000 col./100ml and 4.25 SU, respectively. CBOD5 was also out of permitted range with a result of 15.22 mg/L. This is a violation of Ark. Code Ann. §8-4-217(a)(3) and Permit Condition Part I, Section A.

4. On December 16, 2008, the Permittee was sent notification of the violations found during the November 19, 2008 inspection. The correspondence required a written response from the Permittee by January 6, 2009.

5. On January 8, 2009, a response was received from the Permittee in regards to the findings on the November 19, 2008 inspection stating:

- a) The pump was removed and sent off for repairs and the waste was cleaned and disposed of.
- b) Not reporting the discharge was an over sight and would not occur again.
- c) The chlorine contact chamber had been cleaned.
- d) The in-house check of the flow meter would be done monthly.
- e) The cause of noncompliance on the effluent permit ranges was due to the high loading coming from a local industry and the problems would be eliminated with the closing of the industry in January 2009.

### **ORDER AND AGREEMENT**

Therefore, the parties do hereby stipulate and agree that:

1. Within thirty (30) days of the effective date of this Order, the Permittee shall submit to the Department, a comprehensive Corrective Action Report which shall detail

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the steps the Permittee shall take to eliminate sanitary sewer overflows and discharges, comply with effluent limits, and perform any maintenance to equipment. This report shall at a minimum include the following:

- A. The Permittee shall hire a licensed engineer to assess and complete a comprehensive collection system evaluation.
  - B. The Permittee shall submit their Fecal Coliform Bacteria (FCB) data for August 31, 2008.
  - C. The comprehensive collection system evaluation shall be completed within one (1) year of the effective date of this Order.
2. Failure to comply with the schedule, as approved by the Department, shall subject the Permittee to penalties contained in Paragraph 6 of the Order and Agreement section of this Order.
3. Within thirty (30) days of the effective date of this Order, the Permittee will establish and implement an overflow response plan which shall:
- a. Identify the individual(s) responsible for submitting the appropriate reports (24-hour notification and monthly tabular reports) to ADEQ;
  - b. Ensure that collection system overflows are identified and responded to in a timely manner;
  - c. Establish written procedures for sanitary sewer overflows clean up; and
  - d. Have provisions to notify the affected public of overflows in public areas where access is not restricted and a reasonable potential exists for exposure to bacteria and other disease-causing agents.
4. In compromise and full settlement of the civil penalties for the violations specified in the Findings of Fact, the Permittee agrees to pay to ADEQ the total sum of **Four Thousand Six Hundred Dollars (\$4,600.00)** as a voluntary civil penalty. Payment of

the penalty shall be made within thirty (30) days of the effective date of this Order, made payable to the Arkansas Department of Environmental Quality, and mailed to the attention of: The Fiscal Division, Arkansas Department of Environmental Quality, 5301 Northshore Dr., North Little Rock, AR 72118.

5. All submittals required by this Order are subject to approval by ADEQ. In the event of any deficiency, the Permittee shall within fifteen (15) days of notification by ADEQ submit any additional information requested. Failure to adequately respond to the notice of deficiency within fifteen (15) days constitutes a failure to meet a deadline and is subject to the civil penalties established in paragraph 6 below.

6. Failure to meet the requirements and schedules provided for herein constitutes a violation of this Order. If the Permittee should fail to meet any such requirements, effluent limits or deadlines, the Permittee consents and agrees to pay, on demand, to ADEQ civil penalties according to the following schedule:

- |   |                  |
|---|------------------|
| (a) First day through the tenth day:        | \$100.00 per day |
| (b) Eleventh day through the twentieth day: | \$200.00 per day |
| (c) Twenty-first day through thirtieth day: | \$300.00 per day |
| (d) Each day beyond the thirtieth day:      | \$500.00 per day |

These stipulated penalties for delays in performance shall be in addition to any other remedies or sanctions which may be available to ADEQ by reason of the Permittee's failure to comply with the requirements of this Order.

7. If any event, including but not limited to an act of nature, occurs which causes or may cause a delay in the achievement of compliance by the Permittee with the requirements or deadlines of this Order, the Permittee shall so notify ADEQ, in writing,

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as soon as reasonably possible after it is apparent that a delay will result, but in no case after the due dates specified in the Permittee's milestone schedule. The notification shall describe in detail the anticipated length of the delay, the precise cause of the delay, the measures being taken and to be taken to minimize the delay, and the timetable by which those measures will be implemented.

8. ADEQ may grant an extension of any provision of this Order, provided that the Permittee requests such an extension in writing and provided that the delay or anticipated delay has or will be caused by circumstances beyond the control of and without the fault of the Permittee. The time for performance may be extended for a reasonable period but in no event longer than the period of delay resulting from such circumstances. The burden of proving that any delay is caused by circumstances beyond the control of and without the fault of the Permittee and the length of the delay attributable to such circumstances shall rest with the Permittee. Failure to notify ADEQ promptly, as provided in Paragraph 7 of this Section, shall be grounds for a denial of an extension.

9. This Order is subject to public review and comment in accordance with Ark. Code Ann. §8-4-103 (d) and Arkansas Pollution Control and Ecology Commission Regulation No. 8 and shall be effective thirty days from the date of public notice. ADEQ retains the right to rescind this Order based upon the comments received within the thirty-day public comment period. Notwithstanding the public notice requirements, the corrective actions necessary to achieve compliance with the terms of the permit shall be taken immediately.

10. As provided by Arkansas Pollution Control and Ecology Commission Regulation No. 8, this matter is subject to being reopened upon Commission initiative or in the event a petition to set aside this Order is granted by the Commission.

11. Nothing in this Order shall be construed as a waiver by ADEQ of its enforcement authority over alleged violations not specifically addressed herein. Also, this Order does not exonerate the Permittee from any past, present, or future conduct which is not expressly addressed herein, nor does it relieve the Permittee of its responsibilities for obtaining any necessary permits.

SO ORDERED THIS 13<sup>th</sup> DAY OF October, 2009.

  
TERESA MARKS, DIRECTOR

APPROVED AS TO FORM AND CONTENT:  
City of Danville

BY:   
(Signature)

Steve Pfeifer  
(Typed or printed name)

TITLE: Mayor

DATE: 9-17-09

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COLLECTION SYSTEM EVALUATION

Of the

**DANVILLE SEWER SYSTEM  
CITY OF DANVILLE, YELL COUNTY, ARKANSAS**

**CAO LIS 09-138**

ADEQ Permit No. AR0022241; AFIN 75-00037

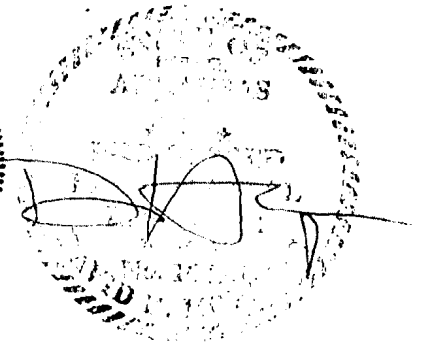
November 19, 2010

OWNER:

City of Danville  
1299 East 8<sup>th</sup> Street  
Danville, AR 72833  
(479) 495-2013  
[danville@arkwest.com](mailto:danville@arkwest.com)

ENGINEERING CONSULTANT:

Landmark Engineering & Surveying  
300 South Rodney Parham, Suite 7  
Little Rock, AR 72205  
(501) 224-1000  
FAX (501) 227-7200  
[dhopkins@landmarkeng-sur.com](mailto:dhopkins@landmarkeng-sur.com)



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## Section 1: Introduction

The City of Danville in Yell County, Arkansas owns and operates a municipal sewer system under permit from the Arkansas Department of Environmental Quality (ADEQ). The sewer system is comprised of a collection system and a wastewater treatment facility. Facilities are operated and maintained by a licensed wastewater operator and city water/wastewater personnel.

The Danville sewer system is primarily comprised of gravity sewer collection with non-clog or grinder lift stations located at the low points of each drainage basin. Danville has 2 collection zones north of the Petit Jean River and 4 collection zones south of the river.

Danville operates two wastewater treatment facilities.

North of the Petit Jean River, a 29 acre facultative lagoon system receives and treats sewage originating from the north extensions. The north plant is comprised of a large primary cell, smaller secondary cell, tertiary filtration and UV disinfection prior to discharge. The primary cell also is the storage lagoon for waste sludge from the southern (main) plant. The north plant has only a seasonal discharge into the Petit Jean River thru Outfall 001.

South of the Petit Jean River, Danville's main treatment facility is an SBR plant which receives and treats sewage from all service areas south of the river. The plant is comprised of fine screen, grit removal, SBR biological process (2 parallel trains), chlorine disinfection, and cascade aeration prior to discharge into the Petit Jean River thru Outfall 002.

The City of Danville entered into a Consent Administrative Order with ADEQ in October, 2009. This report addresses system deficiencies investigated since that time.

## Section 2A: Wastewater Facility Discharge Compliance

The ADEQ Consent Administrative Order referenced by LIS 09-138 lists violations since January, 2006 in violation of Part 1, Section A (Effluent Limits) on Danville's NPDES permitted discharge under AR0022241; AFIN 75-00037. Individual effluent limit occurrences will not be listed here, as they are a matter of record in the referenced Consent Order.

Since 2006, Danville personnel conducted composite sampling and extensive investigations of collection system and contributing flows to try & determine the source of exceedingly high influent BOD (~1850 mg/l) and TSS(200-540 mg/l). Further testing revealed a high protein content. A 3<sup>rd</sup>-party study of the waste stream conducted in 2006 resulted in a report dated April, 2007 confirming industrial influent waste strength well exceeded limits requiring pre-treatment. This study led to the City enforcing a pretreatment requirement on the offending industry in 2007.

A pre-treatment facility was designed, constructed, and put on-line by the aforementioned industry in the latter part of 2008. This same industry ceased operations in Danville and closed in January, 2009.

Since March, 2009, Influent waste strength has been within design parameters. Danville has had only 1 effluent permit exceedence since March, 2009, a Fecal limit in July, 2009 which occurred as a result of a failure in the chlorine system.

Effluent limits compliance are addressed herein by parameter as appropriate:

TSS. *Total Suspended Solids* permit excursions were observed as particulate suspended grease as well as algae in the effluent. Permit exceedences were a result of facility overload by a local industry which failed to consistently maintain effective grease removal and pretreatment as mandated by ordinance. This industry closed January, 2009. In addition, the chlorine contact chamber has been cleaned of growth to deter further algae growth.

- A thorough inspection of the facilities was conducted to identify problem areas and recommend implementation of best management practices to prevent buildup of suspended solids. Decant cycles were investigated to determine if decant rate exceed recommended operating parameters; such a condition would cause turbulence & draw solids into the effluent. Decant rates were found to be within recommended operating parameters. The Engineer and Operator concur that periodic wash-down of the effluent chamber is necessary to prevent buildup of solids. This is a maintenance item & will be performed on an as-needed basis from Operator observations.
- **There have been no TSS permit exceedences since March, 2009. DMR Records indicate Danville has been in full permit compliance for TSS since March, 2009 through the most recently-received report for October, 2010.**

CBOD5. A *Carbonaceous Biological Oxygen Demand(5-day)* permit excursion would indicate the microbial activity in the reactor chamber is not capable of consuming the reducible waste material prior to discharge. CBOD5 issues were a result of facility overload by a local industry which failed to consistently maintain effective grease removal and pretreatment as mandated by ordinance. This industry closed January, 2009. CBOD5 discharge has been within limits since March, 2009.

- A facility inspection was undertaken. Oxidation & complete mixing occurs in the aerobic cycle using the circulating pumps & aerated by large PD blowers. Oxidation is enhanced by the design of the by a completely-mixed process. **The lack of permit excursions since March, 2009 indicates no additional treatment modifications are necessary.**
- **There have been no CBOD permit exceedences since March, 2009. DMR Records Indicate Danville has been in full permit compliance for CBOD since March, 2009 through the most recent report received for October, 2010.**

NH3-N. *Ammonia – Nitrogen* permit excursion indicated the microbial activity in the reactor chamber is not efficiently or completely consuming the reducible ureas prior to discharge. NH3-N issues were a result of facility overload by a local industry which failed to consistently maintain effective grease removal and pretreatment as mandated by ordinance. This industry closed January, 2009.

- A facility inspection was undertaken. Nitrogen removal is effected by nitrification / denitrification effected by sequential aerated and non-aerated process stages. Nitrogen - ammonia is released as nitrogen gas in the final aerated mix prior to settle. **The lack of permit excursions since March, 2009 Indicates no additional treatment modifications are necessary.**
- **There have been no NH3-N permit exceedences since March, 2009. DMR Records Indicate Danville has been in full permit compliance for NH3-N since March, 2009 through the most recent report received for October, 2010.**

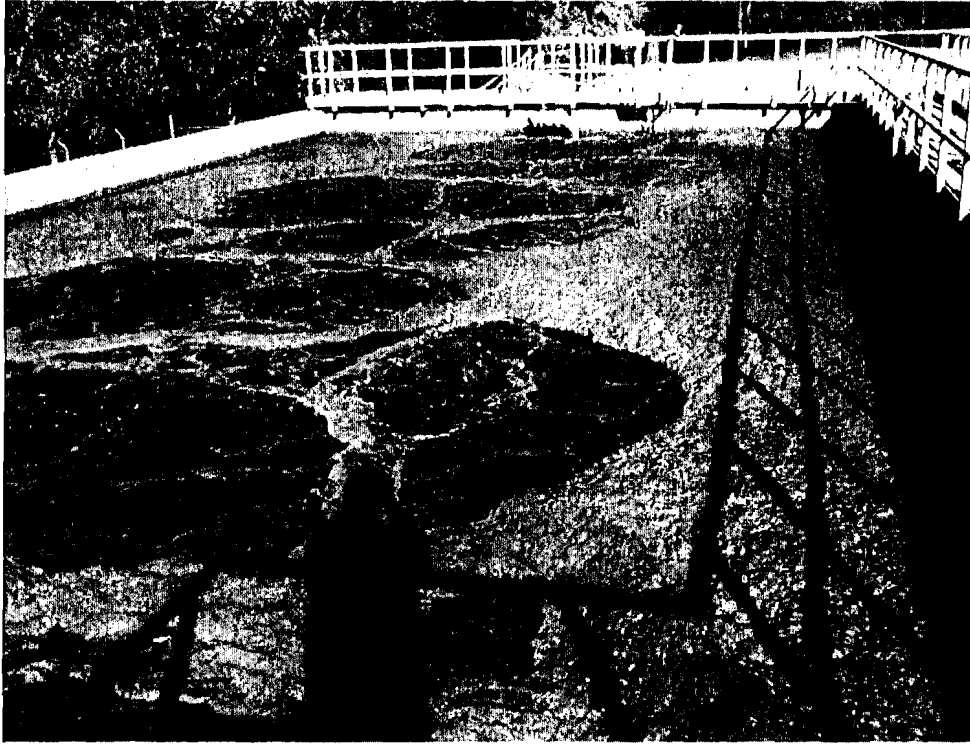


Figure 1: SBR-1 during aerated mix cycle. Danville WWTP

*Coliform* permit excursion indicates failure of the disinfection system to destroy culture growth prior to discharge. *Coliform* issues have been resolved by repairs to the chlorination system.

- A thorough inspection of the facility was conducted to identify problem areas and recommend improvements to enhance the reliability of the disinfection system. Chlorination equipment was inspected & found to be serviceable. Feed rates were found to be within recommended operating parameters. The Engineer and Operator concur that periodic wash-down of the effluent chamber is necessary to prevent buildup of solids. This is a maintenance item & will be performed on an as-needed basis from Operator observations.
- Only one FcB permit exceedence has occurred since March, 2009. DMR Records indicate the 7-Day Geometric was exceeded in July, 2009. This was believed to be due to a blockage in the chlorine injector which reduced flow of the disinfectant. Equipment was rebuilt and Danville has been in full permit compliance for FcB since August, 2009 through the most recently-received report for October, 2010.

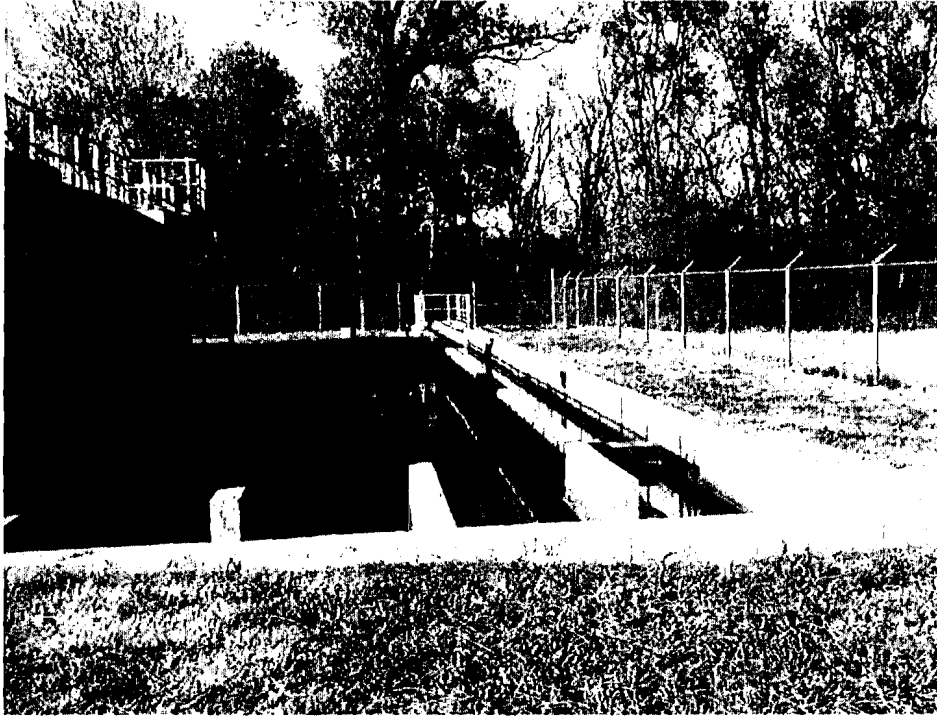


Figure 2: Disinfection chamber at Danville WWTP.

## Section 2B: Wastewater Facility Operational Compliance

The ADEQ Consent Administrative Order referenced by LIS 09-138 lists findings from an inspection performed by ADEQ personnel on November 19, 2008. Inspections revealed the following items:

- *“There was a discharge of untreated wastewater coming from the west pump that was causing pollution to the Petit Jean River, in violation of Ark. Code Ann. §8-4-217(a)(1) and Permit Condition Part II, Section B(3);”*

The pump was removed and sent off for repairs and the waste was cleaned and disposed of. The discharge occurred as a result of a failed pump seal. The City installed fresh water seal lubrication to reduce the likelihood of a seal failure in the future. This item has been addressed & no other corrective measures are necessary.

- *“The discharge or overflow(from the pump) had not been reported to the Department, violating Ark. Code Ann. §8-4-216(a) and Permit Condition Part II, Section D(6);”*

The City acknowledges that not reporting the discharge was an oversight and would not occur again. The City has adopted a *Sewer Overflow Response Plan*, copy of which is included in the appendices.

- *“The west pump was not operating properly, causing the west SBR tank to operate inefficiently, in violation of Ark. Code Ann. §8-4-217(a)(3) and Permit Condition Part II, Section B(1);”*

The pump was removed and sent off for repairs. This item has been addressed & no other corrective measures are necessary.

- *“The chlorine contact chamber needed to be cleaned because there was organic build-up on the walls, violating Ark. Code Ann. §8-4-217(a)(3) and Permit Condition Part II, Section B(1);”*

The chlorine contact chamber has been cleaned. The Engineer and Operator concur that periodic wash-down of the effluent chamber is necessary to prevent buildup of solids. This is a maintenance item & will be performed on an as-needed basis from Operator observations.

- *“In-house calibration checks were not being performed for the flow meter, violating Ark. Code Ann. §8-4-217(a)(3) and Permit Condition Part II, Section C(3);”*

The in-house check of the flow meter is being performed monthly.

- *“A sample taken from outfall 002 during the inspection showed the effluent was significantly out of the permitted ranges for Fecal Coliform Bacteria and pH. The results of these tests were >6000 col./100ml and 4.25 SU, respectively. CBOD5 was also out of permitted range with a result of 15.22 mg/L. This is a violation of Ark. Code Ann. §8-4-217(a)(3) and Permit Condition Part I, Section A.”*

**The cause of noncompliance on the effluent permit ranges was due to the high loading coming from a local industry and the problems would be eliminated with the closing of the industry in January 2009. See Section 2A and DMR tabulated result in the Appendices. The consistent permit compliance demonstrates that Danville’s facility is being operated in a conscientious manner. Operational diligence shall be on-going with additional emphasis placed on maintaining the disinfection system.**

- **Fecal Coliform data for August, 2008 was reportedly missing from the record.**

**The City reports forwarding copy of the missing Fecal Coliform Bacteria data for August 31, 2008.**

### Section 3: Collection System Evaluation

Dating back to the 1950's, the Danville collection system is comprised of a mixture of concrete, clay, ductile iron, and PVC mains. Manholes are cast-in-place concrete, pre-cast concrete or clay brick. The system is comprised of five basins. The oldest section lies in the center of town and is generally 6" clay mains with brick or cast manholes. Newer areas have 8" PVC mains with cast manholes. Large diameter interceptor mains are concrete, PVC or ductile iron.

Prior to the Collection System Evaluation (CSE), City personnel relied on the memory of long-term employees, old plans and a hand-drawn map which occupied a large part of a wall in the old City Hall. Memories sometimes are hazy, old plans refer to features that no longer exist and the large wall map's usefulness proved to be limited because of its fragility & size.

As part of the Collection System Evaluation, a new comprehensive Sewer System Layout map was created by the Engineer from information provided by the City. The new map is fully digital with a recent airphoto background for easily-identified reference points. The map was created in a digital format so that it can be revised and maintained as improvements are made. Enlargements of study areas are easily printed for use by field personnel, and can be transmitted electronically. The map identifies & labels manholes, lift stations, drainage areas, main and force main location & sizes. Future revisions will likely catalog materials, age & condition information. These maps were used extensively in the CSE.

The comprehensive Collection System Evaluation (CSE) has been conducted by Landmark Engineering & Surveying of Little Rock, Arkansas, with the assistance and cooperation of City of Danville Water & Wastewater Department personnel. Work performed included:

1. Inspect the collection system alignment for visible problems (displaced or missing lids, sinkholes, infiltration/exfiltration, structural damage, etc.). Also inspect the customer areas for abandoned, open or damaged sewer services.
2. Perform smoke testing of suspect areas for line breaks and open services. Perform inspections of manholes for condition, flow and infiltration.
3. Calibrate wet well of lift stations & perform flow tests for pump performance. Institute record keeping for pump runs to be compared with rainfall data.
4. Perform other inspections and tests as necessary for the purpose of locating and identifying collection system problem areas and sources of infiltration & inflow.

#### **1. Collection System Visual Inspection:**

Since October, 2009, a visual inspection of 100% of the collection system has been conducted by City personnel and the engineering consultant. Visual inspections were conducted to identify obvious signs of damage to manholes, mains and service lines. Particular attention in the visual inspection phase was placed on identifying damaged manhole lids & rings and looking for open services where homes are known to have been removed.



Figure 3: Visual observation made by walking easements & looking for sinkholes, service lines, cleanouts & other signs of problems.

Throughout most of 2010, the local telephone utility has been replacing all underground telephone wires in Danville with fiber optic cable. A majority of the new installation is conducted by directional bore, requiring the City Water & Wastewater personnel to locate & inspect all sewer mains in the service area.

Through the course of visual inspections, few manhole lids and/or rings were found needing repair. Lids or rings can be easily damaged or displaced by flood damage & contact with machinery. Manhole repair is a high priority & repairs are made by the City crews whenever problems are found.



Figure 4: Manhole ring grout separated from cone section near Park Avenue; likely damaged by mowing machinery. Displacement will allow inflow. Repairs are planned.

Open & abandoned services are another problem commonly found during visual inspection after houses are demolished or when mobile homes are removed from property. To find these problems in a visual inspection, it is best to inspect the site when it is newly cleared; vegetation easily conceals broken & open abandoned services. Danville has discussed modifying the sewer use ordinance to provide penalties for noncompliance. Service line repair is a high priority. When found, property owners are contacted & directed to hire a plumber to repair the problem. Problems found on abandoned property or with uncooperative owners are repaired by the City & billed to the owner with a lien placed on water service or on the property itself.

PVC Service lines crossing creeks have been found during system inspections and are a problem because they are easily damaged by debris or equipment used to maintain ditches.

## **2. Smoke Testing:**

The City of Danville owns its own smoke testing equipment as well as televising equipment. During the study period, a comprehensive smoke-testing of the collection system was performed. The project was managed through a cooperative effort of the City and Engineering Consultant. Chiefly involved were the Danville Wastewater Superintendent who managed & directed the City's efforts and observed the test results. Smoke test observations were recorded by a Senior Engineering Technician for Landmark Engineering.

To catalog smoke test observations, the new collection system map was gridded-off into 1600' blocs. Test manholes & locations of smoke were noted on the grid maps with notes indicating likely source or other pertinent information.

First priority was placed on the oldest parts of the system. As expected, the oldest areas of town had the most problems. Testing then spread from the central area to newer sections which exhibited far fewer problems.

Dry weather during 2010 made smoke testing conditions ideal. General observations include:

- Most problems were found in older areas with clay sewer mains & service lines.
- Poor or damaged service connections to sewer main have high potential for infiltration because gravel bedding along sewer main acts as a French drain to collect & concentrate ground water.
- Abandoned services present high potential for inflow because crawl space below old homes & trailers are often depressed below surrounding grades.
- Smoke from service lines or connections observed at more than 20 locations.
- Existing clean-outs were usually found in areas not likely to cause infiltration. Clean-outs showed smoke at more than 10 locations.

- Newer areas with plastic mains & services showed very few problems in the service lines, service connections & mains.
- Drain culverts at street crossings frequently had smoke indicating likely line break & high potential for inflow.
- Smoke found at base of sign posts in some locations indicating post driven into a line or void underground.
- Manhole ring damage found at five locations.



Figure 5: McCargo Interceptor lies along a creek and had smoke rising from multiple joints. Manhole cone sections were raised some years ago to eliminate floodwater inflow. Replacement of this main is a goal of the city.

Danville has made a concerted effort to repair collection system problems found during the study period. Work accomplished includes:

- Valves & piping replaced & embankment placed around Cottontail lift station 9/2010. Embankment construction improves access & adds stability to structure.
- Damage to the 10" main leading from Buckman Addition to the Gorman Rupp station was discovered in a wooded area by smoke test between manholes G27 and G28. Line repaired by City crews 10/2010 using full-circle clamp. Displaced ring & cover on Manhole G27 was repaired.



Figure 5: Map showing Smoke Test Observations (example).

As the telephone company continues to bore & install fiber-optic cable, additional smoke testing will likely need to be performed to determine if any damage to mains has occurred as a result of construction. Danville will perform smoke tests on collection system to (a) check the effectiveness of repairs already made and (b) check for additional sources of infiltration & inflow. Supplemental smoke testing is likely to occur next spring.

### 3. Lift Station Performance:

Determining lift station operating capacity and performance at current conditions was also listed as an important component of the CSE. Lift stations are critical because proper station operation allows the collection system within that basin to drain. Furthermore, as pumps age, significant impeller wear occurs drastically reducing efficiency even if the pump remains operational.

Possible explanations for poor pump performance include:

1. Improperly sized pumps for the application
2. Pumps worn or cut out of tolerance
3. Blocked discharge / damaged force main
4. Blocked suction
5. Inflow exceeds pump capacity.

Record Keeping on Lift Stations & Rainfall: The City maintains daily records of lift station pump runs as a way to assure that pumps are inspected daily as well as provide indication that pump operation may have changed.

In addition to the normal recordkeeping, the consultant asked the City to record daily rainfall to compare to pump run times. This information would be useful to determine if the pumps runs longer after rain events, indicating infiltration to the system. Unfortunately, 2010 was unseasonably dry. These conditions did not allow any strong correlation between rainfall &

pump runs to establish conclusive evidence of infiltration. Additional study through wet weather months is recommended.

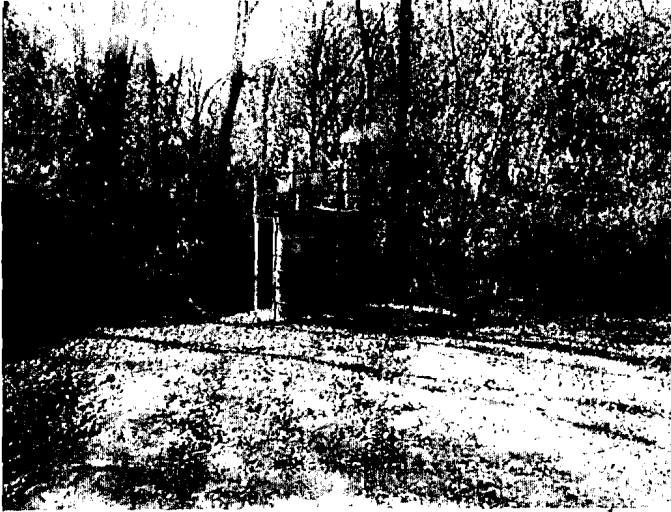


Figure 6: Improved Cottontail Lift Station.

#### **4. Other Tests:**

The owner maintained the option to perform other inspections and tests as necessary for the purpose of locating and identifying collection system problem areas and sources of infiltration & inflow. During the study period, no unexpected conditions were found to the degree that advanced inspections or additional tests were deemed necessary.

In the case of smoke rising from culverts or under structures, the use of the City's televising camera is recommended to determine the exact location of the line break. Doing so may enable a repair to be made in a manner minimizing damage to roadways, structures and other utilities.

Landmark Engineering remains on-call to provide any technical assistance that may be determined to be necessary.

#### Section 4: Elimination of SSO's

It is Danville's desire and intent to repair, maintain and improve the collection system such that SSOs become extremely rare occurrences, if not eliminated entirely. In pursuit of these goals, Danville has assisted and supported the Consulting Engineer in performance of this comprehensive Collection System Evaluation (CSE). Work Identified in this CSE will be undertaken by City or City-contracted forces as necessary and in accordance with a schedule established for implementation.

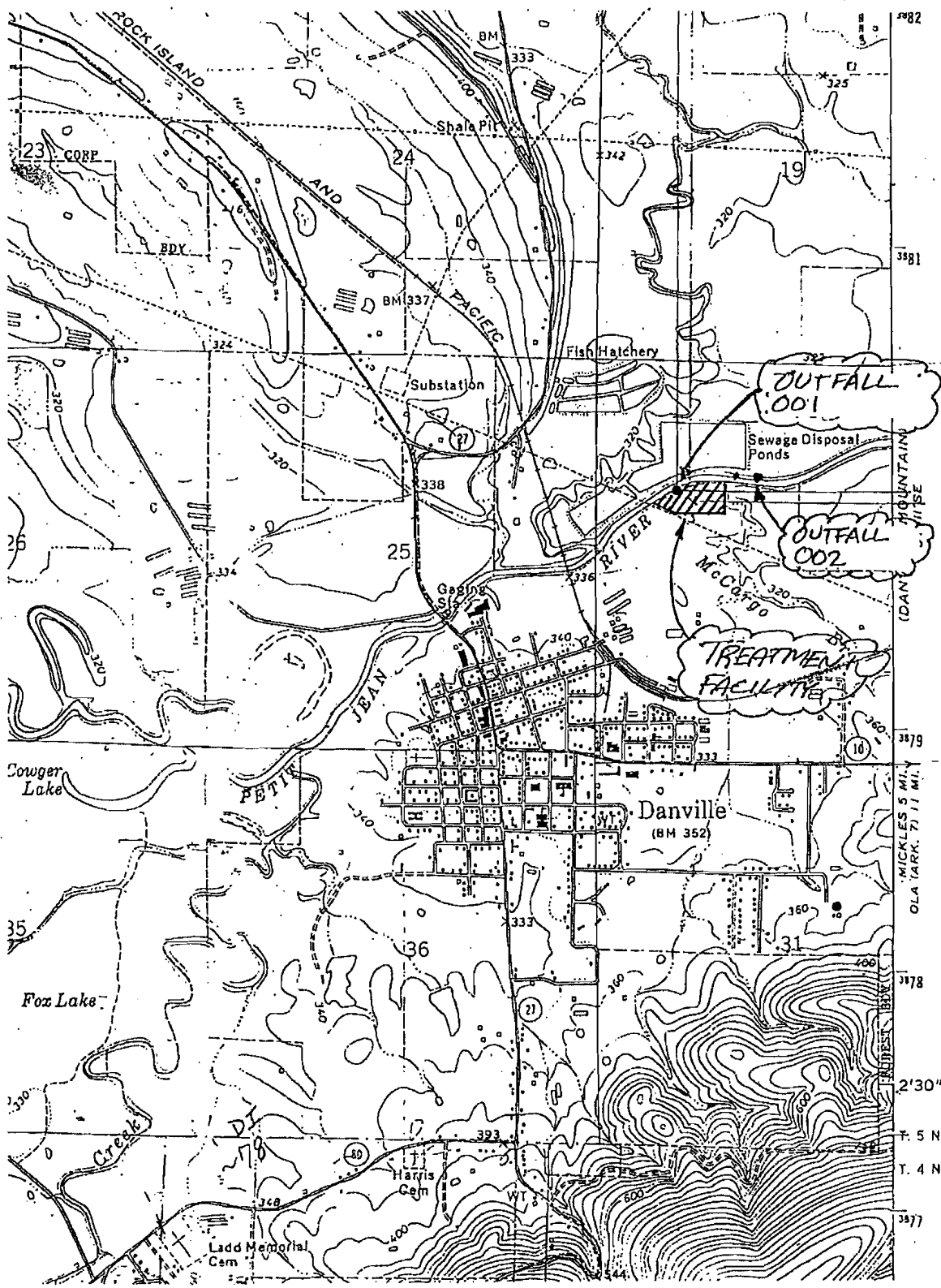
The schedule of implementation is due February 24, 2011.

# Appendix A: Collection System Map

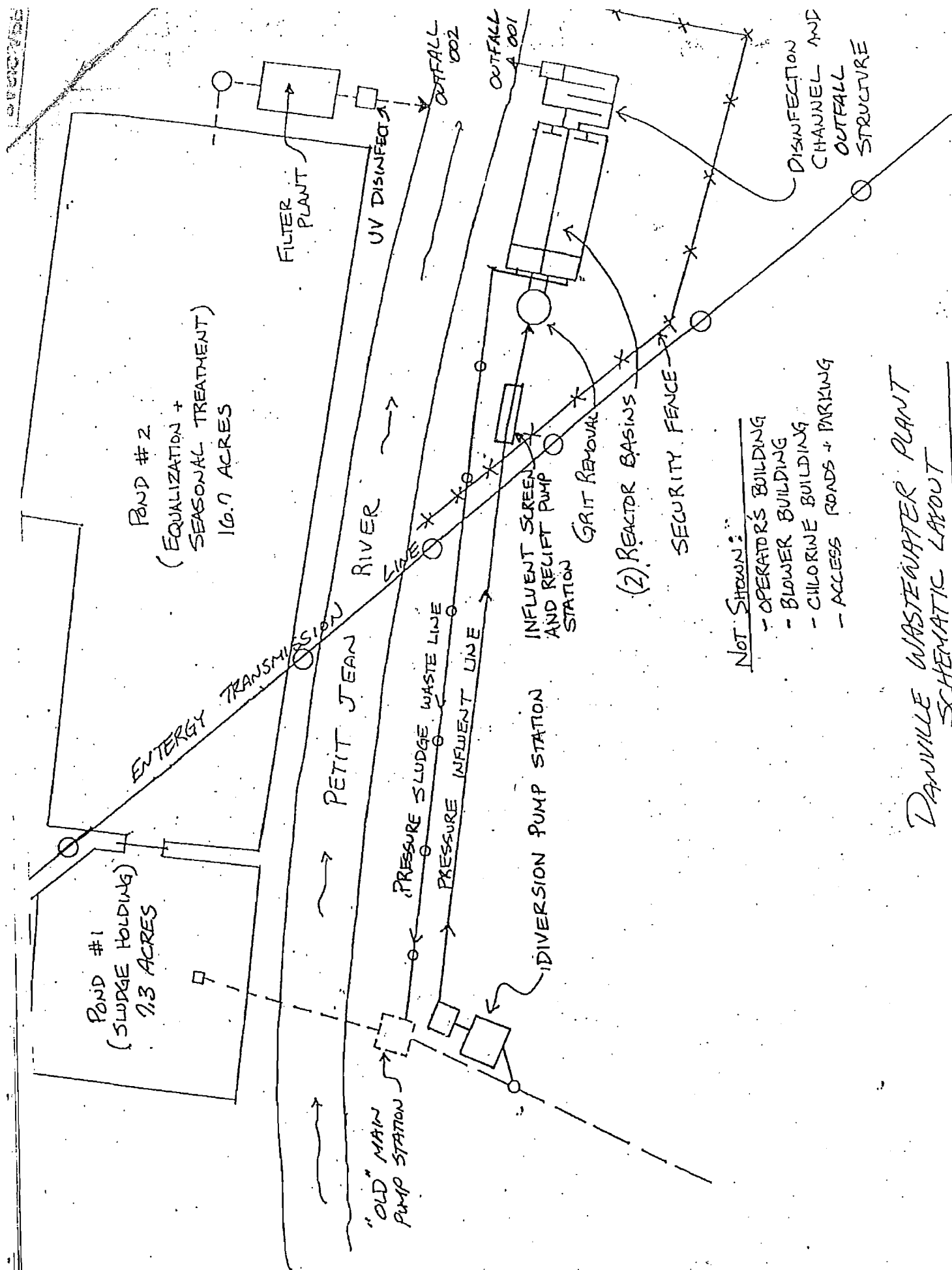
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## Appendix B: Wastewater Treatment Plant Process Schematic



DANVILLE WASTEWATER  
 TREATMENT FACILITY  
 DISCHARGE STRUCTURE  
 SCALE: 1" = 2000'

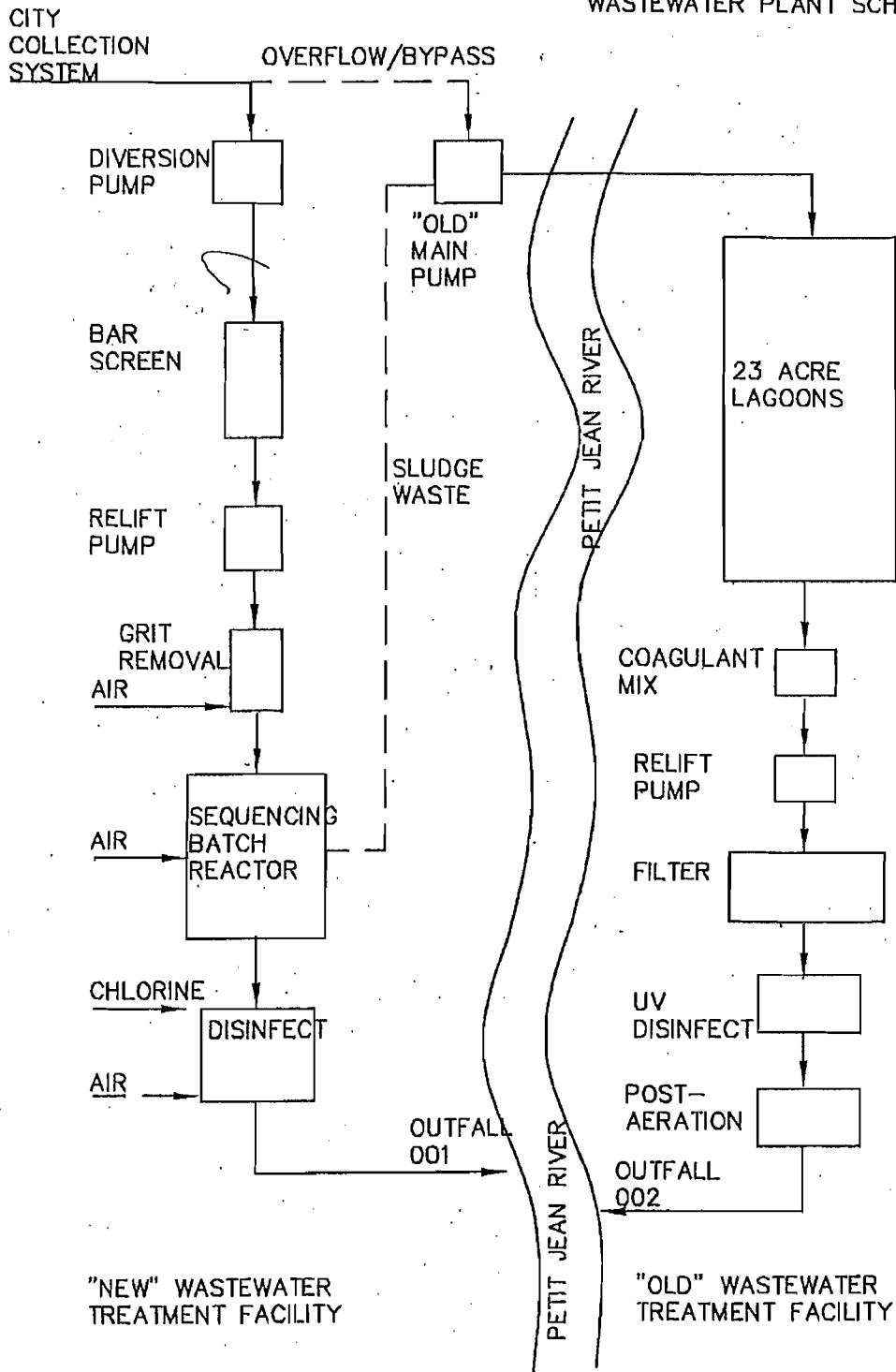


NOT SHOWN:

- OPERATOR'S BUILDING
- BLOWER BUILDING
- CHLORINE BUILDING
- ACCESS ROADS + PARKING

DANVILLE WASTEWATER PLANT  
SCHEMATIC LAYOUT

DANVILLE, ARKANSAS  
WASTEWATER PLANT SCHEMATIC



## Appendix C: City of Danville Overflow Response Plan

# City of Danville, Arkansas Sewer Overflow Response Plan (SORP)

**Plan Prepared By:**

City of Danville, Arkansas  
P.O. Box 69  
1299 East 8<sup>th</sup> Street  
Danville, AR 72833  
Ph: (479) 495-2013  
Fax: (479) 495-3347

**Technical Assistance Provided By:**

Landmark Engineering & Surveying  
300 S. Rodney Parham, Ste. 7  
Little Rock, AR 72205  
Ph: (501) 224-1000  
Fax: (501) 227-7200

**Plan Approved:**

By: \_\_\_\_\_ Date: \_\_\_\_\_

**Plan Revised:**

Revision: _____	By: _____	Date: _____
Revision: _____	By: _____	Date: _____
Revision: _____	By: _____	Date: _____

**System Owner:**

City of Danville  
1299 east 8<sup>th</sup> Street  
Danville, AR 72833

**Contact Persons at City of Danville:**

Wastewater Superintendent:

Wendell Limbocker (479) 495-1118

City Administrator:

Jerry Pendergraft (479) 495-1131

Mayor:

Steve Pfeifer (479) 495-2339

**Regulatory Agency with Oversight Responsibility:**

Arkansas Department of Environmental Quality (ADEQ)  
5301 North Shore Drive  
North Little Rock, AR 72118-5317

Tracy Blake, Enforcement Administrator (501) 682-0667

**City's Engineering Consultant:**

David Hopkins, P.E.  
Landmark Engineering & Surveying  
300 S. Rodney Parham, Ste. 7  
Little Rock, AR 72205  
Ph: (501) 224-1000  
Fax: (501) 227-7200  
dhopkins@landmarkeng-sur.com

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## **I. AUTHORITY**

This Sewer Overflow Response Plan (SORP) is prepared pursuant to NPDES Permit # AR0022241 to facilitate proper incident reporting procedures outlined in accordance with a NPDES Permit requirements.

## **II. General**

The Sewer Overflow Response Plan (SORP) is designed to ensure that every report of a sewage overflow incident is immediately dispatched to the Sewer Department personnel for confirmation. Quick response will minimize the effects of the overflow with respect to impacts on public health, beneficial uses and water quality of surface waters and on customer service. The SORP also includes provisions to ensure the preservation of public health and safety pursuant to the directions provided by applicable agencies. Furthermore, this plan addresses the appropriate notification and reporting requirements for each confirmed overflow. For purposes of this SORP, "confirmed sewage spill" is also sometimes referred to as "sewer overflow," "overflow," or "SSO." The effective date of this plan is as listed on page 1.

### **A. Objectives**

The primary objective of the SORP is to protect public health and the environment, satisfy regulatory agency requirements, and address procedures for managing sewer overflows. This objective is intended to reduce the frequency of incidents, reduce the risk to public health, and to minimize risk of enforcement actions against the City of Danville.

Additional objectives of the SORP are as follows:

- Protect system maintenance personnel from exposure to pathogens or other hazards;
- Protect wastewater collection and wastewater treatment facilities from damage; and
- Protect private and public property beyond the collection and treatment facilities.

### **B. Organization of Plan**

The key elements of the SORP are addressed individually as follows:

	Section III	Overflow Response Procedure
Section IV		Public Advisory Procedure
Section V		Regulatory Agency Notification Procedure
Section VI		Maintenance of SORP
Section VII		Appendices

### **III. OVERFLOW RESPONSE PROCEDURE**

The Overflow Response Procedure presents a strategy for the City of Danville Water and Sewer Department to identify, locate and consequently mobilize labor, materials, tools and equipment to correct or repair any condition which may cause or contribute to an un-permitted discharge. The plan considers a wide range of potential system failures that could create an overflow to surface waters, land or buildings.

#### **A. Receipt of Information Regarding an SSO**

An overflow may be detected by city employees or by others. The City of Danville is responsible to act based on received phone calls or reports on possible sewage overflow from the wastewater collection system, and to provide immediate response to investigate and/or correct reported sewer overflow. Generally, telephone calls from the public reporting possible sewer overflows will be received at Danville City Hall as identified in Appendix D.

1. The telephone operator shall obtain all relevant information available regarding the overflow including:
  - a. Date call was received;
  - b. Specific location;
  - c. Description of problem;
  - d. When possible overflow was noticed by the caller;
  - e. Caller's name and phone number;
  - f. Observations of the caller; and
  - g. Any other relevant information that will enable the City of Danville Sewer Department, to quickly locate, assess and address the overflow condition.

The telephone operator shall record initial information in the Sewage Overflow Report and notify Danville Water and Sewer Department.

2. The Danville Water and Sewer department will dispatch water & sewer department personnel to confirm the overflow. Until verified, the report of a possible spill will not be referred to as a "sewer overflow."

The Danville Water and Sewer Department is required to complete the Sewage Overflow Report within 24 hours of the sewer overflow confirmation and provide telephone notification to ADEQ.

## **B. Dispatch of Sewer Maintenance Personnel to Site of Sewer Overflow**

Failure of any element within the wastewater disposal system that threatens to cause or causes a SSO shall trigger an immediate response to isolate and correct the problem. Personnel and equipment shall be made available to respond to any SSO locations. Additional maintenance personnel shall be "on call" in the event extra manpower is needed.

### **1. Dispatching Maintenance Personnel**

- When the City of Danville receives notification of a potential sewer overflow, The City Sewer Department will dispatch maintenance personnel with appropriate resources as required.

### **2. Maintenance Personnel Instructions**

- Contact maintenance personnel by telephone or radio. Dispatch appropriate personnel, materials, supplies and equipment as needed to the reported site.
- The telephone operator must verify that the entire message has been received and acknowledged by the maintenance personnel who were dispatched. All personnel being dispatched to the site of an SSO proceed immediately to the site of the overflow. Report any delays or conflicts in assignments immediately for resolution.
- In all cases response maintenance personnel shall report their findings to the Wastewater Superintendent or supervisor. A full description of the situation including any possible damage to private and public property shall be reported immediately upon making their investigation.

### **3. Additional Resources**

The City of Danville Wastewater Superintendent shall convey to his supervisors any need for additional personnel, material, supplies, and equipment as required to address and repair the overflow.

### **4. Preliminary Assessment of Damage to Private and Public Property**

The responding maintenance personnel shall use discretion in their actions as reasonably as they can. They must be aware that the City could face increased liability for any further damages inflicted to private property while repairs are being made.

### **5. Field Supervision and Inspection**

- The Danville Wastewater Superintendent shall visit the site of the sewer overflow to ensure that provisions of this Overflow Response Plan and other directives are met.
- The Danville Wastewater Superintendent is responsible for verbally notifying ADEQ within the specified time and submitting the Overflow Report to ADEQ.

### **6. Coordination with Hazardous Material Response**

- Upon arrival at the scene of a sewer overflow, should a suspicious substance (e.g., oil sheen, foamy residue) be found in the discharge, or should a suspicious odor (e.g., gasoline) not common to the sewer system be detected, the maintenance crew shall immediately contact the Danville Wastewater Superintendent for guidance before taking further action.

- Should the Danville Wastewater Superintendent determine the need to alert the National Response Center to report suspected hazardous substances, the maintenance personnel shall await the instructions of the Wastewater Superintendent and the hazardous waste team response.
- Contact the 24- hour National Response Center at 1-800-424-8802. Notify ADEQ within 5 days of the occurrence.
- Should an on-site response team be required to respond, the maintenance personnel shall take direction from the person with lead authority of that team. Only when that authority determines it is safe and appropriate for the maintenance personnel to proceed under the SORP with the containment, clean-up activities and correction, they shall proceed.

### C. Overflow Correction, Containment, and Clean-Up

This section describes specific actions to be performed by the Danville sewer maintenance personnel during a SSO.

The Objectives of these actions are:

- To protect public health, environment and property from sewage overflows and restore surrounding area back to normal as soon as possible;
- To establish perimeters and control zones with appropriate measures to limit public access (these may include traffic cones and barricades, vehicles or use of natural topography e.g., hills, swales and berms);
- To promptly notify the regulatory agency with preliminary overflow information and potential impacts;
- To contain the sewer overflow to the maximum extent possible including preventing the discharge of sewage into surface waters; and
- To minimize the City's exposure to any regulatory agency penalties and fines.

Under most circumstances, the City of Danville can handle all response actions with its own maintenance forces. City forces shall continue to be trained to respond rapidly and in the most appropriate manner. An important issue with respect to an emergency response is to ensure that the temporary actions necessary to divert flows and repair the problem do not produce a problem elsewhere in the system.

Circumstances may arise when City forces may require support and assistance from private-sector construction contractors and/or construction equipment suppliers. This may be true in the case of large diameter pipes, deeply buried pipelines, and locations requiring sheet piling, dewatering, unstable slopes, underwater crossings and other extra-ordinary conditions. The Wastewater Superintendent shall maintain a current contact list of such providers and secure authorization from his supervisors when such needs may arise.

Should the overflow not be the responsibility of The City of Danville but there is imminent danger to public health, public or private property or to the quality of waters of the state, the City has a responsibility to take emergency action until the responsible party assumes responsibility and provides actions. *In such a case it is especially important that the City keep detailed records of its actions, including photographs, invoices and witness statements should legal issues with or against the responsible party arise at a later date.*

1. The first City personnel to arrive at the site of a sewer overflow shall have place the highest priority on protecting the health and safety of the public by mitigating the impact of the overflow to the maximum extent possible.
2. The second priority is to contain the overflow. Initiate measures to contain the overflowing sewage and recover sewage which has already been discharged, thereby minimizing impact to public health or the environment.
  - Determine the immediate destination of the overflow, (storm drain, street curb gutter, body of water, stream bed, etc.);
  - Identify and request any additional necessary materials and equipment to contain or isolate the overflow; and
  - Take immediate steps to contain the overflow (block or bag storm drains, recover through vacuum truck, divert into downstream manhole, etc).
3. After securing the site to protect public health and safety and performing containment, the Danville sewer maintenance personnel shall initiate repairs:
  - Determine the cause of the overflow. Inspect for sewer line blockage, pump station mechanical or electrical failure, sewer line break, etc.;
  - Notify supervisors of the conditions and if necessary, request assistance or additional resources to correct the overflow or to assist in determination of its cause;
  - Take immediate steps to eliminate the overflow. (May include relieving pipeline blockage, manually operate pump station controls, repair pipe, etc. Extraordinary steps may be considered where overflows from private property threaten public health and safety (e.g., an overflow running off of private property into the public right-of-way); and
  - Request additional personnel, materials, supplies, or equipment that will expedite and minimize the impact of the overflow.
4. Additional Measures May Be Required To Address Long-Term Overflow Conditions:

In the event of a prolonged sewer line blockage or a sewer line collapse which can not be repaired in a short period of time, the City may need to set up a portable by- pass pumping operation around the obstruction.

  - Take appropriate measures to determine the proper size and number of pumps required to effectively handle the sewage flow.
  - Implement continuous or periodic monitoring of the by-pass pumping operation as required.
  - Address regulatory agency issues in conjunction with emergency repairs.
5. Cleanup

Clean sewer overflow sites thoroughly after an overflow. No readily identified residue (sewage solids, papers, rags, plastics, and rubber products) shall remain.

  - Where practical, thoroughly flush the area clean of any sewage or wash-down water. Solids and debris are to be flushed, swept, raked, picked-up, and transported for proper disposal.

- Secure the overflow area to prevent contact by members of the public until the site has been thoroughly cleaned.
- Where appropriate, disinfect and deodorize the overflow site.
- If a ponded area contains sewage, which cannot be pumped dry, it may be treated with bleach. If sewage has discharged into a body of water that may contain fish or other aquatic life, do not use bleach. Contact the ADEQ for specific instructions.

#### **D. Sewage Overflow Report**

The Sewer Overflow Report in Appendix A contains information which is required to be reported to ADEQ and possibly to Arkansas Department of Health depending upon the nature of the spill.

The Danville Wastewater Superintendent shall complete the Sewer Overflow Report. The Danville Wastewater Superintendent shall promptly notify the ADEQ of the overflow condition and when the overflow is eliminated. Information regarding the sewer overflow will include the following:

- Determination if the sewage overflow has reached surface waters. (Look for sewage running to surface waters, or if there is obvious indication (sewage residue) that sewage has entered surface waters)
- Determination that the sewage overflow has not reached surface waters by describing conditions at the sewage overflow which support this determination.
- Determination of the start date of the sewer overflow by one of the following methods:
  - a. Date information received and/or reported to have begun and later substantiated by Danville sewer maintenance personnel;
  - b. Visual observation
- Determination of the elimination of the sewer overflow by one of the following methods:
  - a. Record when the blockage is cleared or flow is controlled or contained; or
  - b. Record the arrival time of maintenance personnel if the overflow stopped between the time it was reported and the time of arrival.
- An estimation and description of the rate of sewer overflow by one of the following criteria:
  - a. direct observations of the overflow; or
  - b. measurement of actual overflow rate from the sewer main.
- Determination of the volume of the sewer overflow by estimation of containment volume or other method.
- Assessment of any obvious damage to the visible areas of public/private property. *Danville personnel shall not enter private property for purposes of estimating damage to structures, floor and wall coverings, and other personal property without authorization from their superiors. Such interior inspections shall be made by duly qualified personnel only.*

#### **E. Customer Satisfaction**

The Danville Wastewater Superintendent should make attempts to follow up in person or by telephone with the entity who reported the overflow, where appropriate. The cause of the overflow and its resolution will be disclosed at the discretion of the Wastewater Superintendent. Positive communication is encouraged to build customer confidence and satisfaction.

#### **IV. PUBLIC ADVISORY PROCEDURE**

This section describes the actions the City of Danville will take, in cooperation with the ADEQ, to limit public access to areas potentially impacted by unpermitted discharges of sewage to surface water bodies from the wastewater collection system.

##### **A. Temporary Signage**

The City of Danville has primary responsibility for determining when to post notices of polluted surface water bodies or ground surfaces that result from uncontrolled wastewater discharges from its facilities. Discharges which potentially pose an imminent health threat shall always be posted. Non-threatening discharges do not necessarily prohibit use of recreational areas, unless posted otherwise, but provide a warning of potential public health risks due to sewage contamination.

The Danville Wastewater Superintendent may consult with his superiors to determine when it is necessary to post warnings.

##### **B. Other Public Notification**

Should the posting of surface water bodies or ground surfaces subjected to a sewer overflow be deemed necessary, the Danville Wastewater Superintendent shall determine the need for further public notification.

#### **V. REGULATORY AGENCY NOTIFICATION PLAN**

The Regulatory Agency Notification Plan establishes procedures, which the City of Danville follows to provide formal notice to the ADEQ as necessary in the event of a SSO.

Agency notifications will be performed in parallel with other internal notifications. Internal notification and mobilization of Danville sewer maintenance personnel are established in Section III – Overflow Response Procedure.

Using data supplied during the verification process and updates from the maintenance personnel, the Danville Wastewater Superintendent shall prepare initial and final Overflow Reports. Initial report will be provided to ADEQ by phone, FAX, email or other means within 24 hours from the time the City became aware of the SSO.

Within five (5) days of becoming aware of the overflow, the Wastewater Superintendent will prepare and provide final written report to ADEQ by mail or other acceptable record format. The Danville Wastewater Superintendent is responsible for:

- Meeting the 5 day notification deadline requirement;
- Preparing written notification to ADEQ of any confirmed overflows;
- Sign the notification and provide any additional information requested;
- Assure that any remedial actions prescribed by ADEQ or other regulatory authorities is performed.

In some cases ADEQ may waive the written report requirement when the phone notification is made within the required time frame. Regardless of other notifications, a *Report of Noncompliance* form is required to be submitted with the monthly Discharge Monitoring Report. A Sewer Overflow Report should be maintained in the Wastewater Superintendent's files.

##### **A. Immediate Notification**

Danville shall notify the ADEQ contact person by telephone within two hours of becoming aware of the discharge.

If the overflow will affect bathing areas during the bathing season or public drinking water intakes, the Wastewater Superintendent shall also contact the Arkansas Department of Health by telephone.

Any instructions or orders issued by these agencies shall be followed to the extent possible. All actions shall be recorded in the Sewer Overflow Report.

#### B. Secondary Notification

The Danville Wastewater Superintendent should contact other agencies with authority over effected areas if and when necessary. Public notification may be made if necessary.

### VI. MAINTENANCE OF SORP

The SORP should be reviewed on an annual basis. Possible amendments include:

- Change in procedures
- Change in contact personnel
- Changes due to regulatory requirements

## **APPENDICES**

- Appendix A - Sanitary Sewer Overflow Detail Information**
- Appendix B - Sanitary Sewer Overflow Monthly Report**
- Appendix B - Sewer Overflow Response Tracking Protocol**
- Appendix C - List of Public Offices to Report Overflow**
- Appendix D - Measures to Avoid Sewer Overflow**
- Appendix E - Suggested Criteria for Demonstrating How a Sewer Overflow was Unavoidable**
- Appendix F - Overflow Descriptions and Required Notifications**

Appendix A: SANITARY SEWER OVERFLOW DETAIL INFORMATION

1. General Information

- a. NPDES Permit# AR0022241
- b. Name of collection system: City of Danville
- c. Authorized representative filing this form:  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_
- d. Type of filing report (Circle appropriate item):
  - Initial
  - Final
  - Other (explain) \_\_\_\_\_
- e. Date of filing report:
  - Initial \_\_\_\_\_
  - Final \_\_\_\_\_

2. Initial Reporting of Overflow, Bypass or Upset

All releases of untreated or partially treated sewage require 24-hour notification by telephone:

- a. Overflow requiring 24-hour notification (Circle appropriate item).
  - Gravity sewer manhole
  - Pump station
  - Treatment plant bypass
  - Other (explain) \_\_\_\_\_
- b. Record of telephone report to ADEQ contact person.  
Name: \_\_\_\_\_  
Phone Number: \_\_\_\_\_  
Email Address: \_\_\_\_\_  
Date of phone notification: \_\_\_\_\_

3. Overflow location and Description

- a. Location, address or landmark: \_\_\_\_\_
- b. Discharge Location (Circle appropriate item):
  - Directly into stream or other water body
  - Ground
  - Into storm drain which discharges to stream or water body
  - Building interior
  - Other (explain): \_\_\_\_\_
- c. Type of overflow (Circle appropriate item)
  - Gravity sewer manhole
  - Pump station
  - Bypass at treatment plan
  - Other (explain): \_\_\_\_\_

4. Time of Overflow/Bypass Incident

- When did the incident begin? \_\_\_\_\_
- Was the overflow/bypass event ongoing at the time of report:      Yes      No
- If yes, how long is the incident expected to continue? \_\_\_\_\_
- If no, when did event end? Date: \_\_\_\_\_

**5. General Information about Overflow at this Location**

a. Estimated volume of overflow released at time of report: \_\_\_\_\_

b. Method of estimating volume: \_\_\_\_\_

c. Estimated total volume of overflow released at end of incident: \_\_\_\_\_

d. Were digital photos taken:            Yes            No

e. corrective measures taken (circle all appropriate):

- No Action
- Removed Blockage
- Repair pump station
- Other: \_\_\_\_\_

f. Cause of overflow/bypass (circle all those that apply):

- Rain
- High ground water
- Other excessive flow
- Sewer system blockage or collapse
- Pump/lift station failure
- Other: \_\_\_\_\_

g. Additional comments:

\_\_\_\_\_  
\_\_\_\_\_

**Appendix B:**  
**SANITARY SEWER OVERFLOW MONTHLY  
REPORT**

## **Appendix C: SEWER OVERFLOW (SSO) RESPONSE TRACKING PROTOCOL**

### **CITY OF DANVILLE WASTEWATER SYSTEM**

<b>Step</b>	<b>Event</b>
1.	Report of possible SSO received by a telephone operator.
2.	Telephone Operator enters received information into Sewer Overflow Report.
3.	Telephone Operator contacts Danville Wastewater and/or Water Department, which then deploys maintenance personnel to confirm reported SSO.
4.	Maintenance personnel reports back to the Danville Wastewater Superintendent reporting significance of the overflow.
5.	Danville Wastewater Superintendent observes the overflow and completes initial Overflow Report & notification.
6.	Wastewater personnel performs containment, repair and cleanup. Wastewater Superintendent supervises & records actions & observations.
6.	Danville Wastewater Superintendent prepares final Overflow Report & mails copy to ADEQ.
7.	Data from Overflow Report are entered into a permanent record on file at the City of Danville Sewer Department.
8.	Attach Report to Discharge Monitoring Report.

**APPENDIX D: LIST OF PUBLIC OFFICES TO REPORT OVERFLOW  
DANVILLE WASTEWATER DISPOSAL SYSTEM**

<u>Contact Name</u>	<u>Telephone</u>
Wastewater Superintendent Wendell Limbocker	(479) 495-1118
Danville City Administrator A.D. Morris	(479) 495-2013
Danville Water & Sewer Dept.	(479) 495-2516
Danville Wastewater Treatment Plant	(479) 495-5964
Fire Department	(479) 495-2800
Danville Police	(479) 495-2121
Yell County Sheriff	(479) 495-2811

**Appendix E**  
**MEASURES TO AVOID SEWER OVERFLOW**  
**CITY OF DANVILLE WASTEWATER DISPOSAL SYSTEM**

**A. Proper Collection System Maintenance and Operations Program**

- Periodic cleaning of pipes (grease, roots deposits)
- Sealing leaking manholes
- Open cut or slip-lining repairs to deteriorated sewer lines
- Repair leaking services; Plug abandoned services.
- Sewer replacement or rehabilitation program (long term)
- Proper maintenance and operations of pump stations
- Inspection of Private laterals & requirement to cap abandoned services.

**B. New Wastewater Disposal System Construction Recommended Standards to include:**

- Have all plans for proposed work reviewed by City's Engineer for accuracy, compliance and sufficient quality of materials and methods.
- All installers shall have sufficient experience, be licensed and bonded.
- Oversee all construction connected to city collection system.
- Require hydrostatic test on all building sewers prior to connection to City system.
- Use impervious sewer main materials (solid-wall PVC and cement-lined ductile iron)
- Vacuum test all manholes. Require exterior joint wrap on all precast manholes.
- Require highest grade materials where necessary.
- Require leak testing on all new construction
- Require all sewer taps to be made by or supervised by wastewater department personnel
- Perform proper construction inspection/quality assurance procedures

**Appendix F:  
SUGGESTED CRITERIA FOR DEMONSTRATING IF A SEWER OVERFLOW WAS  
UNAVOIDABLE  
CITY OF DANVILLE WASTEWATER SYSTEM**

SSO's can be demonstrated as unavoidable by showing the discharge meets each of the criteria 1 through 5

1. The discharge resulted from a temporary, exceptional incident that was either:
  - A. Necessary to prevent loss of life, personal injury, or severe property damage
  - B. Beyond the reasonable control of the operator. Incidents beyond the reasonable control of the operator would include:
    - Exceptional acts of nature;
    - Third party actions that could not be reasonably prevented, including vandalism that could not be avoided by reasonable measures;
    - Blockages that could not be avoided by reasonable measures;
    - Unforeseeable sudden structural, mechanical, or electrical failure that could not be avoided by reasonable measures.
2. The discharge had no feasible alternative
3. The discharge was not caused by any of the following;
  - A. Operational error,
  - B. Improperly designed or constructed collection system facilities,
  - C. Inadequate collection system facilities or components,
  - D. The lack of appropriate preventive maintenance, or
  - E. Careless or improper oversight
4. Steps to stop the discharge, address the source of the problem, and mitigate potential impacts from the discharge were taken as soon as possible after becoming aware of the release.

## **Appendix G: OVERFLOW DESCRIPTIONS AND REQUIRED NOTIFICATION**

### **Overflows Requiring 24-Hour Notification (ADEQ only)**

- Gravity sewer manhole
- Pump station
- Sewer siphon
- Treatment plant bypass

### **ADEQ**

**Area Enforcement Analyst**

**ARKANSAS DEPARTMENT OF  
ENVIRONMENTAL QUALITY  
5301 N. SHORE DRIVE  
NORHT LITTLE ROCK, AR 72118-5317  
PHONE (501) 682-0667**

## Appendix D: DMR Report Tabulations, 2009 & 2010

DANVILLE DMR REPORTS

2009

Parameter	Permit	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	AVERAGES
DO	3 min				6.2	9.0	8.4	7.8	7.7	7.9	9.0	8.1	7.5	8.0
PH	6 min	6.0	6.5	6.4	6.0	6.6	6.0	6.0	6.1	6.1	6.0	6.3	6.2	6.2
	9 max	7.0	7.5	7.5	6.7	7.6	6.3	6.1	6.6	6.8	6.0	6.6	7.6	6.9
TSS	15 mg/l mo. Avg	16.20	11.80	11.22	4.55	6.70	6.17	5.29	7.50	6.30	5.06	4.68	6.92	7.70
	22.5 mg/l 7 d avg	22.00	15.00	13.00	5.80	13.00	8.00	6.60	11.00	8.80	7.80	5.40	10.00	10.53
NH3N	10 mg/l mo. avg	13.98	9.26	6.05	0.10							0.1	0.13	4.94
	15 mg/l 7 d avg	29.00	18.00	12.00	0.10							0.1	0.17	9.90
NH3N	2 mg/l mo. avg					0.10	0.14	0.10	0.10	0.10	0.10			0.11
	3 mg/l 7 d avg					0.10	0.27	0.10	0.10	0.10	0.10			0.13
FLOW	Month Avg (MGD)	0.475	0.545	0.562	0.584	0.586	0.267	0.228	0.235	0.484	0.666	0.666	0.475	0.481
	Daily Max (MGD)	0.923	0.817	0.838	0.785	0.857	0.479	0.447	0.589	0.905	0.996	0.996	0.923	0.796
FCB	1000/30d Geo	950	128	10							5	4	4	183.50
	2000 #/7d Geo/100ml	4700	20000	42							40	10	15	4134.50
FCB	200/30d Geo				3	3	9	13	75	21				20.67
	400 #/7d Geo/100ml				4	4	35	583	104	31				126.83
CBOD	10 mg/l mo. Avg	9.89	6.61	3.03	4.11	4.14	6.99	4.88	7.06	3.82	8.84	4.67	2.91	5.58
	15 mg/l 7d. Avg	14.00	11.00	3.40	5.40	4.80	7.20	10.00	13.00	13.00	12.00	7.40	4.60	8.82

DANVILLE DMR REPORTS

2010

Parameter	Permit	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVERAGES
DO	3 min	8.4	11.0	9.0	8.6	8.3	7.3	6.7	7.1	6.0				8.0
PH	6 min	6.0	6.2	6.0	6.0	6.1	6.9	6.3	6.7	6.0				6.2
	9 max	6.7	7.9	6.8	7.0	7.4	7.7	7.2	7.0	6.8				7.2
TSS	15 mg/l mo. Avg	6.35	8.34	7.46	7.39	4.81	9.76	6.57	5.73	9.43				7.32
	22.5 mg/l 7 d avg	9.20	11.00	14.00	13.00	7.40	14.00	9.40	6.80	16.00				11.20
NH3N	10 mg/l mo. avg	0.48	1.28	1.00	0.12									0.48
	15 mg/l 7 d avg	1.10	0.36	2.40	0.14									0.67
NH3N	2 mg/l mo. avg					0.10	0.42	0.10	0.10	0.47				0.20
	3 mg/l 7 d avg					0.10	0.86	0.11	0.10	1.50				0.56
FLOW	Month Avg (MGD)	0.617	0.684	0.579	0.469	0.599	0.203	0.202	0.169	0.194				0.413
	Daily Max (MGD)	0.942	0.902	0.886	0.708	0.905	0.410	0.360	0.260	0.430				0.645
FCB	1000/30d Geo	4	15	40										9.83
	2000 #/7d Geo/100ml	10	54	264										54.67
FCB	200/30d Geo				25	4	11	9	17	26				15.33
	400 #/7d Geo/100ml				315	20	24	36	400	317				185.33
CBOD	10 mg/l mo. Avg	4.33	3.35	5.49	3.69	4.70	2.24	4.30	3.39	5.36				4.09
	15 mg/l 7d. Avg	6.90	4.00	6.40	6.00	7.60	2.70	11.00	6.50	7.90				6.56

## Appendix E: Pump Station Evaluation Study



# Landmark Engineering & Surveying

300 S. Rodney Parham, Suite 7  
Little Rock, Arkansas 72205

Phone: (501) 224-1000  
Fax: (501) 227-7200

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February 21, 2011

Mr. Samuel Sawyer  
Enforcement Coordinator  
ADEQ Water Division, Enforcement Branch  
5301 Northshore Drive  
North Little Rock, AR 72118-5317

RE: City of Danville, Yell County, AR  
NPDES Permit AR0022241; AFIN 75-00037  
Consent Administrative Order LIS 09-138  
Schedule of Implementation

Dear Mr. Sawyer:

On behalf of the City of Danville, enclosed is a proposed Schedule of Implementation for work recommended in the Collection System Evaluation.

Wastewater Facility:

The wastewater facility currently has no unresolved issues requiring a Schedule of Implementation. All issues identified in the Consent Administrative Order are believed to have been addressed. The operational personnel have been instructed to continue to maintain the facility in a manner meeting or exceeding permit requirements.

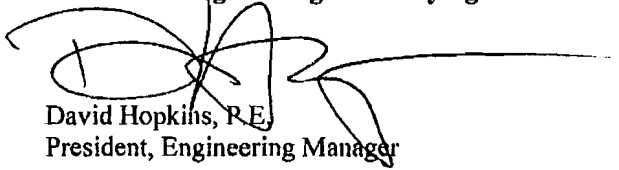
Collection System:

Recommended work on the Collection System to reduce or eliminate SSO's includes:

- Replace the McCargo Interceptor Main. This sewer main lies in the McCargo Creek floodplain & has been found to be the source of significant infiltration. This is a capitol improvement project requiring funding assistance, agency reviews & permits. Funding was recently made available and construction is expected to commence in the summer of 2011. Completion will require 1 year to full acceptance.
  - Scheduled to be completed: June 1, 2012.
  
- Perform collection system repairs identified by smoke testing. This work can be accomplished by City personnel or city-contracted labor where issues are on the public mains. Smoke was observed at 19 locations attributable to the City's sewer main. The City proposes to identify & perform at least 10 point repairs per year to the City main.
  - Scheduled to be completed: July 10, 2013.
  
- Repair or enforce repair of private service lines identified by smoke testing. This work can be accomplished by the property owner's plumber or by City personnel. Smoke was observed at 60 locations attributable to problems with abandoned, open or otherwise damaged service lines. The City proposes to identify & perform at least 10 service line repairs per year.
  - Scheduled to be completed: July 10, 2017.

If you have any questions or comments, please call me at 501-224-1000, ext. 2# or email me at [dhopkins@landmarkeng-sur.com](mailto:dhopkins@landmarkeng-sur.com).

Sincerely,  
**Landmark Engineering & Surveying**

A handwritten signature in black ink, appearing to read 'David Hopkins', with a long horizontal line extending to the right.

David Hopkins, P.E.  
President, Engineering Manager

Enclosures

CC: Mr. Jerry Pendergraft  
Danville City Hall  
P.O. Box 69  
Danville, AR 72833