



ARKANSAS
Department of Environmental Quality

RESPONSE TO COMMENTS FINAL PERMIT DECISION

This is our response to comments received on the subject draft permit in accordance with regulations promulgated at 40 CFR Part 124.17.

Permit No. : AR0000752

Applicant : El Dorado Chemical Company

Prepared by : Mo Shafii

Permit Action : Arkansas Department of Environmental Quality (ADEQ) had made a decision to issue the NPDES permit No. AR0000752 for the El Dorado Chemical Company. The draft permit was sent to public notice on January 15, 2004. At the same time due to anticipated public interest, ADEQ scheduled a public hearing on April 13, 2004 to receive comments on the draft permit.

Date Prepared : April 29, 2004

The following comments have been received on the draft permit.

Letter from Mr. Hank Bates on behalf of Marty and Lane Davis dated January 29, 2004 (Comments #1 through #10)

Letter from John Talpas (Permittee) dated February 9, 2004 (Comments #11 through #13).

Comment from Marty Davis dated April 13, 2004 (Comment #14)

I. Response to issues raised

Comment #1

The Ammonia Nitrogen (NH₃-N) limits for Outfall 001 are not stringent enough to ensure compliance with the waste load allocation for ammonia toxicity set out in the TMDL developed by the U.S. EPA.

Response #1

In accordance with 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. Arkansas Water Quality Standards (AWQS) limits for NH₃-N are 12 mg/l (Monthly Average) and 18 mg/l (Daily Maximum). The technology-based concentration limits are 10.4 mg/l (Monthly

Average) and 31.9 mg/l (Daily Maximum) based on 1st drafted permit in the year 2002. However, based on paragraph “e” of the permit appeal resolution (PAR), mass limits for ammonia and nitrate should be revised. Therefore concentration limits also should be adjusted accordingly. The modified permit was drafted incorrectly with concentration limits of the 1st drafted permit in the year 2002. By comparing these numbers, final ammonia limits in the permit are 12 mg/l (Monthly Average) and 18 mg/l (Daily Maximum) which are Water Quality based limits. Additionally, based on EPA recommendation, ADEQ must either include a WET (Whole Effluent Toxicity) limits testing during the months of January, February, March, April, September, and December or include specific ammonia limits to levels at 4 mg/l monthly average and 6 mg/l daily maximum. This permit has included a WET limit instead of the 4 mg/l monthly average ammonia limit. Please note that in accordance with 40 CFR 122.62, only the modified portion of the permit can be reopened for revision. Therefore; TMDL was not approved when ADEQ issued the first permit in the year 2002. The TMDL must be applied to the next renewal of the El Dorado Chemical permit.

Comment #2

The ammonia nitrogen (NH₃-N) limits for outfall 001 are not stringent enough to meet the waste load allocation for Dissolved Oxygen in the receiving stream by ADEQ.

Response #2

Please see #1 above.

Comment #3

The Total Dissolved Solids (TDS) limits are inconsistent with the WLA and reduction requirements set forth in EPA's TMDL.

Response #3

TDS limits are based on Regulation No. 2 and the Continuing Planning Process (CPP) which has been reviewed and approved by EPA. Additionally, TDS is listed in the 303(d) list as a minor source contamination.

Comment #4

A three year schedule of compliance should not be given to EDCC.

Response #4

A schedule of compliance of up to three years for all more restrictive water quality permit limits and conditions is based on Regulation No. 2, Section 2.104- Policy for Compliance and Consent Administrative Order (CAO) No. 02-059.

Comment #5

The narrative description of the discharge location for outfall 010 should be revised to accurately describe the location.

Response #5

Information in our files indicate that the discharge for outfall 010 or outfall 011 is the Ouachita River.

Comment #6

The permit limits for potential outfalls 010 and 011 should be revised to include concentration limits and to protect the WQ of the receiving stream waters.

Response #6

In accordance with 40 CRF 122.45(f)(2), a pollutant limited in terms of mass may be limited in terms of other units of measurement. Additionally, in order to protect the Water Quality (WQ) of the receiving stream, a maximum flow limit of 2 MGD has been included in the permit in lieu of concentration limits. ADEQ does not believe that the permit applicant's discharge, as limited by the terms of the draft permit and the maximum flow of 2 MGD, will cause or contribute to any identifiable violation of water quality standards in the Ouachita River.

Comment #7

ADEQ should coordinate closely with the City of El Dorado on the wisdom of publicly funding EDCC's pipeline to the Ouachita River.

Response #7

ADEQ does not have any jurisdiction in this request.

Comment #8

The requirement to construct a liner for EDCC's 50-acre holding pond should not be deleted from the permit.

Response #8

EDCC and ADEQ agreed to enter into a consent administrative order (CAO) which requires EDCC to evaluate the presence of nitrate in the upper aquifer, and to implement required remediation.

Comment #9

Notification to the public. 1) "Did ADEQ provide actual notice to the persons who own land at, and immediately downstream from the location of potential Outfalls 010 and 011? 2) Did ADEQ provide actual, individualized notice of the Draft permit to the individuals who attended the public meetings and otherwise made their interest in the EDCC facility known to ADEQ? If no notice other than legal notice in the paper was given, why did ADEQ not make an attempt to contact interested and potentially impacted parties?

Response #9

1) No. 2) A copy of the permit was provided at the public meeting for review. In accordance with Regulation No. 8, Section 2.1.10(c), the final permitting decision shall be mailed to the applicant or permittee and those persons who submitted public comments as part of the record.

Comment #10

Request for Public Hearing.

Response #10

The Department concurs.

Comment #11

Outfall 001, 002 and SUM ammonia and nitrate limits.

Permittee has requested that the ammonia and nitrate concentration limits for Outfalls 001, 002 and SUM (final) to be revised in order to reflect the appropriate concentration limits.

The May 31, 2002 Permit, which was the subject of the appeal, included BAT effluent limitations based on 40 CFR 418.43 for ammonia and nitrate. The effluent limitations calculated were 138.96 lbs/day ammonia and 243.18 lbs/day nitrate (monthly average). Equivalent concentration limits of 10.4 mg/l (monthly average) and 31.9 mg/l (daily maximum) ammonia and 19.8 mg/l (monthly average) and 56.3 (daily maximum) nitrates were also calculated. The May 31, 2002 Permit used a water quality derived value of 18 mg/l (daily maximum) value for ammonia because that limit was more restrictive. The higher 31.9 mg/l value was used for the interim limit. The settlement of the appeal of the May 31, 2002 Permit included credits for loadings from stormwater, which increased the mass limits calculated under the effluent guidelines to 265.7 lbs/day ammonia and 405.02 lbs/day nitrate (monthly average). Using those values, the monthly average and daily maximum concentration limits for ammonia derived from the technology limits should be 17.3 mg/L and 52.8 mg/L respectively. The water quality based concentration limits for ammonia are 12 mg/L (monthly average) and 18 mg/L (daily maximum). Using the more restrictive limit, the water quality based concentration limits would apply and should have been included in the permit as the final limits. The nitrate monthly average and daily maximum concentration limitations derived from the technology limits should be 26.4 mg/L and 75.2 mg/L, respectively. There is no water

quality based limitation for nitrates, so the concentration limits derived from the technology limits should have been included in the permit as final limits.

The PAR provides for a three year compliance schedule for all more restrictive effluent limits. The mass effluent limits for Outfall 001 in the 1990 Permit (the current permit) are:

Ammonia (mass)	1852 lbs/day (monthly average)	3505 lbs/day (daily max)
Ammonia (conc)	Report (monthly average)	Report (daily max)
Nitrate (mass)	2043 lbs/day (monthly average)	4160 lbs/day (daily max)
Nitrate (conc)	Report (monthly average)	Report (daily max)

Pursuant to CAO No. 02-059 and the PAR, the above stated limits apply as interim limits for Outfall 001 for three years after the effective date of the permit. Please confirm that you agree that the interim ammonia and nitrate limits for Outfall 001 are as stated above.

The ammonia and nitrate limits for Outfall 002 in the 1990 Permit are “Report” for both concentration and mass limits. Accordingly, the interim ammonia and nitrate limits for Outfall 002 for both concentration and mass should be “Report”. Please confirm that you agree that the interim ammonia and nitrate limits for Outfall 002 for both concentration and mass are “Report”.

There is no Outfall SUM listed in the 1990 Permit. Accordingly, the ammonia and nitrate limits listed for Outfall SUM in the permit are more restrictive than the 1990 Permit, and the interim limits for ammonia and nitrate for both concentration and mass should be “Report.” Please confirm that you agree that the interim ammonia and nitrate limits for Outfall SUM for both concentration and mass are “Report”.

Response # 11

Staff agrees. Equivalent concentration limits of 10.4 mg/l (monthly average) and 31.9 mg/l (daily maximum) ammonia and 19.8 mg/l (monthly average) and 56.3 (daily maximum) nitrates were included in the drafted modification permit incorrectly. Equivalent concentration limits based on the flow of 1.845 MGD and the following formula should be as follows:

$$\text{Equivalent Concentration limit} = \text{Mass limit (lbs/day)} / (8.34 \times 1.845 \text{ MGD})$$

Pollutant	Mass limits (lbs/day)		Concentration limits (mg/l)	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Ammonia Nitrogen	265.7	811.84	17.3	52.8
Nitrate Nitrogen	405.02	1153.73	26.3	74.9

Therefore the interim concentration limits for ammonia and nitrate nitrogen will be corrected. Additionally, the final monthly average concentration limit for ammonia nitrogen will be corrected to 12 mg/l (Water Quality limit).

The permittee must comply with the PAR and CAO No. 02-059, which provides a three year compliance schedule for all more restrictive effluent limits.

Comment #12

Outfalls 002, 004, 005, 006 and 007 metals limits.

There should not be any effluent limitations for those metals at Outfalls 002, 004, 005, 006, and 007 that are subject to the hydrologic studies that are required by Section 1(f) of the PAR. The PAR provides that until the hydrologic study is completed and the permit reopened, the permit effluent limitations for all stormwater outfalls will be the same as those provided for Outfall 004 under the 1990 NPDES permit. The 1990 Permit does not include any metals limitations for Outfall 004. ADEQ may reopen the permit and add metals limitations after the hydrologic study is completed.

Response #12

The Department agrees that the PAR provides that until the evaluation of the background flow of the receiving stream for Outfalls 002, 004, 005, 006 and 007 (the "Hydrology Study") is completed and the permit is modified, the metals limits for Outfalls 002, 004, 005, 006 and 007 will be "REPORT". This has been provided through the three year interim metals limits for Outfalls 002, 004, 005, 006 and 007. The schedule of compliance for the Hydrology Study set out in Section B of Part I.B. of the Permit provides that the Hydrology Study must be completed within eighteen (18) months of the effective date of the Permit. Although it was premature to include final metals limits in the Permit, the Department will reopen the permit and modify the final metals limits after analysis of the results of the Hydrology Study. The schedule of compliance provides adequate time for the permit to be modified, and the new limits to become effective before the interim limits expire. Accordingly, no changes were made to the draft permit.

Comment #13

Outfalls 004, 005, 006 and 007 toxicity testing.

Section 1(g) of the Order and Agreement of the PAR provided that the toxicity testing on stormwater Outfalls 004, 005, 006 and 007 would be acute instead of the chronic. While this change was made in many respects, all of the changes to the monitoring requirements and monitoring frequencies applicable to acute biomonitoring were not included. In particular, the sample type should be "grab" and the monitoring frequency should be "quarterly" which are the appropriate references for acute biomonitoring.

Response #13

Staff does not agree. Paragraph 1(g) of PAR stay "The toxicity testing requirements for the storm water outfalls, Outfalls 002, 004, 005, 006, and 007 will be revised to provide for acute instead of chronic toxicity testing, and until such time as the watershed analysis provided for in paragraph (f)

above is complete and the permit modification resulting from such analysis is effective, the acute toxicity testing shall be a “monitor and report” requirement.” A frequency of once/quarter and sample type of grab sampling were not specified in paragraph 1(g) of the PAR. A frequency of once/quarter in the fact sheet has been correct to once/month based on 40 CFR 122.63(a).

Comment #14

Transcript from tape of public hearing dated April 13, 2004 is as follows:

“My name is Marty Davis. I’m a resident of Union County and this property, creek crosses my property. At time the water is green. The top soil – you had told us earlier has killed fish. I’d like to know who could give me some assurance that if my cattle get in this creek will it be safe for them to drink it? And I’d also like to know what would need to be done so that some outside personnel could go in and monitor the discharges of these chemical plant and to make sure that things are being handled properly?”

Response #14

The Arkansas Department of Environmental Quality is responsible issuing permits to protect water quality. El Dorado Chemical Company (EDCC) must comply with all state and federal regulations regarding the protection of water of the state. ADEQ does not have authority to grant a third party permission to monitor the discharge of the facility . A Third party may make an official request from the facility to monitor the discharge point.

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.),

El Dorado Chemical Company
P. O. Box 231
El Dorado, AR 71731

is authorized to discharge from a facility located at

approximately 1 mile west of State Hwy. 7 Spur on North West Ave. in Sections 6 and 7, Township 17 South, Range 15 West in Union County, Arkansas.

Latitude: 33E 09' 55"; Longitude: 92E 24' 40"

to receiving waters named:

Outfalls 001, 002, 003, 004, 005, 006,007: an unnamed tributary of Flat Creek in Segment 2D of the Ouachita River Basin.

Outfalls 010 and 011: Ouachita River in Segment 2E of the Ouachita River.

The outfall is located at the following coordinates:

Outfall 001:Latitude : 33E 15' 32"; Longitude: 92E 41' 12"

Outfall 002:Latitude : 33E 15' 48"; Longitude: 92E 41' 24"

Outfall 003:Latitude : 33E 15' 38"; Longitude: 92E 41' 07"

Outfall 004:Latitude : 33E 15' 42"; Longitude: 92E 41' 27"

Outfall 005:Latitude : 33E 15' 42"; Longitude: 92E 41' 17"

Outfall 006:Latitude : 33E 16' 03"; Longitude: 92E 41' 02"

Outfall 007:Latitude : 33E 16' 11"; Longitude: 92E 41' 16"

Outfall 010:Latitude : 33E 17' 22"; Longitude: 92E 28' 05"

Outfall 011:Latitude : 33E 19' 03"; Longitude: 92E 31' 15"

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

This permit became effective on July 1, 2002

This modified permit shall become effective on June 1, 2004

This permit and the authorization to discharge shall expire at midnight, June 30, 2007

Signed this 30th day of April, 2004

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

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001-treated process and contaminated storm water**

During the period beginning on the effective date and lasting through three(3) years from the effective date of the permit, the permittee is authorized to discharge from outfall serial number 001. 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	Sample	Type	Record
Flow (MGD)+	Monthly Avg N/A	Daily Max N/A	Monthly Avg N/A	Daily Max N/A	Frequency Continuous	Record
Total Suspended Solids(TSS)	462	692	30 mg/l	45 mg/l	Three/week	24-hr composite
Ammonia Nitrogen as N	265.7	811.84	17.3 mg/l	52.8 mg/l	Three/week	24-hr composite
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l	Three/week	24-hr composite
Dissolved Oxygen (DO)* (May-October)	N/A	N/A	4.0 mg/l,Min	N/A	Three/week	Grab
(November-April)	N/A	N/A	5.0 mg/l,Min	N/A	Three/week	Grab
Copper, Total Recov++	Report	Report	Report µg/l	Report µg/l	Once/month	24-hr composite
Selenium, Total Recov++	Report	Report	Report µg/l	Report µg/l	Once/month	24-hr composite
Zinc, Total Recov++	Report	Report	Report µg/l	Report µg/l	Once/month	24-hr composite
Sulfate(SO4)	Report	Report	Report mg/l	Report mg/l	Once/month	24-hr composite
Chlorides(Cl)	Report	Report	Report mg/l	Report mg/l	Once/month	24-hr composite
Total Dissolved Solids(TDS)	Report	Report	Report mg/l	Report mg/l	Once/month	24-hr composite
Temperature +++	N/A	N/A	N/A	86 E F	Three/week	In-Situ
pH	N/A	N/A	Minimum 6 s.u.	Maximum 9 s.u.	Continuous	Grab

	<u>Daily Average Minimum</u>	<u>7-day Minimum</u>		
Whole Effluent Lethality (7-day NOEC)^{1,2}	Report%	Report%	Once/month	24-hr composite

<u>Pimephales promelas (Chronic)²</u>	<u>7-day Average</u>		
Pass/Fail Growth (7-day NOEC) TGP6C	Report (Pass=0/Fail=1)	Once/month	24-hr composite
Pass/Fail Lethality (7-day NOEC) TLP6C	Report (Pass=0/Fail=1)	Once/month	24-hr composite
Survival (7-day NOEC) TOP6C	Report %	Once/month	24-hr composite
Coefficient of Variation TQP6C	Report %	Once/month	24-hr composite
Growth (7-day NOEC) TPP6C	Report %	Once/month	24-hr composite

<u>Ceriodaphnia dubia (Chronic)²</u>	<u>7-day Average</u>		
Pass/Fail Reproduction (7-day NOEC) TGP3B	Report (Pass=0/Fail=1)	Once/month	24-hr composite
Pass/Fail Lethality (7-day NOEC) TLP3B	Report (Pass=0/Fail=1)	Once/month	24-hr composite
Survival (7-day NOEC) TOP3B	Report %	Once/month	24-hr composite
Coefficient of Variation TQP3B	Report %	Once/month	24-hr composite
Reproduction(7-day NOEC) TPP3B	Report %	Once/month	24-hr composite

PART I
PERMIT REQUIREMENTS

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- ¹ The daily average lethality and 7-day minimum lethality (7-day NOEC) value shall not be less than 100% effluent. 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.
- ² See Part III, Condition No. 3.
- + Report monthly average and daily maximum as MGD.
- ++ See Condition No. 6 of Part III.
- +++ Instantaneous Maximum.
- * Instantaneous Minimum. Dissolved Oxygen must be equal or exceed the permit limit at all times.
- ** See condition No. 5 of Part III.

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 the outfall 001, following the final treatment unit.

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001-treated process and contaminated storm water**

During the period beginning three(3) years from the effective date of the permit and lasting through date of expiration, the permittee is authorized to discharge from outfall serial number 001. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements		Measurement Frequency	Sample Type
	Mass (lbs/day)	Other Units (specify)	Monthly Avg	Daily Max		
Flow (MGD)+	N/A	N/A	N/A	N/A	Continuous	Record
Total Suspended Solids(TSS)	462	692	30 mg/l	45 mg/l	Three/week	24-hr composite
Ammonia Nitrogen as N	265.7	811.84	12 mg/l	18 mg/l	Three/week	24-hr composite
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l	Three/week	24-hr composite
Dissolved Oxygen (DO)* (May-October)	N/A	N/A	4.0 mg/l,Min	N/A	Three/week	Grab
(November-April)	N/A	N/A	5.0 mg/l,Min	N/A	Three/week	Grab
Copper, Total Recov++	0.19	0.38	12.2 µg/l	24.48 µg/l	Once/month	24-hr composite
Selenium, Total Recov++	0.09	0.17	5.58 µg/l	11.2 µg/l	Once/month	24-hr composite
Zinc, Total Recov++	1.78	3.57	115.62 µg/l	231.99 µg/l	Once/month	24-hr composite
Sulfate	Report	Report	81 mg/l	122 mg/l	Once/month	24-hr composite
Chlorides(Cl)	Report	Report	38 mg/l	57 mg/l	Once/month	24-hr composite
Total Dissolved Solids(TDS)	Report	Report	237 mg/l	356 mg/l	Once/month	24-hr composite
Temperature +++	N/A	N/A	N/A	86 E F	Three/week	In-Situ
pH	N/A	N/A	Minimum 6 s.u.	Maximum 9 s.u.	Continuous	Grab

	<u>Daily Average Minimum</u>	<u>7-day Minimum</u>		
<u>Whole Effluent Lethality</u> (7-day NOEC) ^{1,2} 22414	not <100%	not <100%	Once/month	24-hr composite

<u>Pimephales promelas (Chronic)²</u>	<u>7-day Average</u>		
Pass/Fail Growth (7-day NOEC) TGP6C	Report (Pass=0/Fail=1)	Once/month	24-hr composite
Pass/Fail Lethality (7-day NOEC) TLP6C	Report (Pass=0/Fail=1)	Once/month	24-hr composite
Survival (7-day NOEC) TOP6C	Report %	Once/month	24-hr composite
Coefficient of Variation TQP6C	Report %	Once/month	24-hr composite
Growth (7-day NOEC) TPP6C	Report %	Once/month	24-hr composite

<u>Ceriodaphnia dubia (Chronic)²</u>	<u>7-day Average</u>		
Pass/Fail Reproduction (7-day NOEC) TGP3B	Report (Pass=0/Fail=1)	Once/month	24-hr composite
Pass/Fail Lethality (7-day NOEC) TLP3B	Report (Pass=0/Fail=1)	Once/month	24-hr composite
Survival (7-day NOEC) TOP3B	Report %	Once/month	24-hr composite
Coefficient of Variation TQP3B	Report %	Once/month	24-hr composite
Reproduction(7-day NOEC) TPP3B	Report %	Once/month	24-hr composite

PART I
PERMIT REQUIREMENTS

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- ¹ The daily average lethality and 7-day minimum lethality (7-day NOEC) value shall not be less than 100% effluent. 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.
- ² See Part III, Condition No. 3.
- + Report monthly average and daily maximum as MGD.
- ++ See Condition No. 6 of Part III.
- +++ Instantaneous Maximum.
- * Instantaneous Minimum. Dissolved Oxygen must be equal or exceed the permit limit at all times.
- ** See condition No. 5 of Part III.

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 the outfall 001, following the final treatment unit.

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PERMIT REQUIREMENTS

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SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 010-treated process and contaminated storm water++

During the period beginning on the effective date of the permit and lasting through date of expiration, the permittee is authorized to discharge from outfall serial number 010. 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	Sample		
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency	Type
Flow (MGD)+	N/A	N/A	N/A	2 MGD	Continuous	Record
Total Suspended Solids(TSS)	Report	Report	30 mg/l	45 mg/l	Three/week	24-hr composite
Ammonia Nitrogen as N	265.7	811.84	Report mg/l	Report mg/l	Three/week	24-hr composite
Nitrate Nitrogen as N	405.02	1153.73	Report mg/l	Report mg/l	Three/week	24-hr composite
Whole Effluent Lethality (48-hr NOEC)^{1,2} 22414	<u>30-day Average Minimum</u> not < 17%	<u>48-Hr Minimum</u> not < 17%			Once/quarter	24-hr composite
Pimephales promelas (Acute)²		<u>48-Hr Minimum</u>				
Pass/Fail Lethality (48-Hr NOEC) TEM6C		Report (Pass=0/Fail=1)			Once/quarter	24-hr composite
Survival (48-Hr NOEC) TOM6C		Report %			Once/quarter	24-hr composite
Coefficient of Variation (48-Hr NOEC) TQM6C		Report %			Once/quarter	24-hr composite
Daphnia pulex (Acute)²		<u>48-Hr Minimum</u>				
Pass/Fail Lethality (48-Hr NOEC) TEM3D		Report (Pass=0/Fail=1)			Once/quarter	24-hr composite
Survival (48-Hr NOEC) TOM3D		Report %			Once/quarter	24-hr composite
Coefficient of Variation (48-Hr NOEC) TQM3D		Report %			Once/quarter	24-hr composite
pH	N/A	N/A	Minimum 6 s.u.	Maximum 9 s.u.	Daily	Grab

+ Report monthly average and daily maximum as MGD.

++ See Condition No. 5 of Part III.

¹ The daily average minimum lethality and 48-hr minimum lethality (48-Hr NOEC) value shall not be less than 17% effluent. 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.

² See Part III, Condition No. 4.

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 the outfall 010, following the final treatment unit.

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PERMIT REQUIREMENTS

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SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 011-treated process and contaminated storm water++

During the period beginning on the effective date of the permit and lasting through date of expiration, the permittee is authorized to discharge from outfall serial number 011. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Other Units (specify)		Monitoring Requirements	
	Mass (lbs/day)				Measurement	Sample
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency	Type
Flow (MGD)+	N/A	N/A	N/A	2 MGD	Continuous	Record
Total Suspended Solids(TSS)	Report	Report	30 mg/l	45 mg/l	Three/week	24-hr composite
Ammonia Nitrogen as N	265.7	811.84	Report mg/l	Report mg/l	Three/week	24-hr composite
Nitrate Nitrogen as N	405.02	1153.73	Report mg/l	Report mg/l	Three/week	24-hr composite
Whole Effluent Lethality (48-hr NOEC)^{1,2} 22414	<u>30-day Average Minimum</u> not < 17%		<u>48-Hr Minimum</u> not < 17%		Once/quarter	24-hr composite
Pimephales promelas (Acute)²			<u>48-Hr Minimum</u>			
Pass/Fail Lethality (48-Hr NOEC) TEM6C			Report (Pass=0/Fail=1)		Once/quarter	24-hr composite
Survival (48-Hr NOEC) TOM6C			Report%		Once/quarter	24-hr composite
Coefficient of Variation (48-Hr NOEC) TQM6C			Report %		Once/quarter	24-hr composite
Daphnia pulex (Acute)²			<u>48-Hr Minimum</u>			
Pass/Fail Lethality (48-Hr NOEC) TEM3D			Report (Pass=0/Fail=1)		Once/quarter	24-hr composite
Survival (48-Hr NOEC) TOM3D			Report%		Once/quarter	24-hr composite
Coefficient of Variation (48-Hr NOEC) TQM3D			Report %		Once/quarter	24-hr composite
pH	N/A	N/A	Minimum 6 s.u.	Maximum 9 s.u.	Daily	Grab

+ Report monthly average and daily maximum as MGD.

++ See Condition No. 5 of Part III.

¹ The daily average minimum lethality and 48-hr minimum lethality (48-Hr NOEC) value shall not be less than 17% effluent. 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.

² See Part III, Condition No. 4.

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 the outfall 011, following the final treatment unit.

PART I
PERMIT REQUIREMENTS

Permit number: AR0000752
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SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 002-overflow pond (process water and storm water***)

During the period beginning on the effective date and lasting through three(3) years from the effective date of the permit, the permittee is authorized to discharge from outfall serial number 002. 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	Sample		
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency**	Sample Type
Flow (MGD)+	N/A	N/A	N/A	N/A	Daily	Estimate
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l	Daily	Grab
Ammonia Nitrogen as N	265.7	811.84	17.3 mg/l	52.8 mg/l	Daily	Grab
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l	Daily	Grab
Copper, Total Recov++	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Lead, Total Recov++	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Selenium, Total Recov++	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Zinc, Total Recov++	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l	Daily	Grab
Sulfate (SO4)	N/A	N/A	Report mg/l	Report mg/l	Once/month	Grab
Total Dissolved Solids(TDS)	N/A	N/A	Report mg/l	Report mg/l	Once/month	Grab
			Minimum	Maximum		
pH	N/A	N/A	6 s.u.	9 s.u.	Daily	Grab
Acute Biomonitoring*	N/A	N/A	N/A	N/A	Once/month	24-hr composite
<u>Pimephales promelas (Acute)</u>		<u>48-Hr Minimum</u>				
Pass/Fail Lethality (48-Hr NOEC) TEM6C		Report (Pass=0/Fail=1)			Once/month	24-hr composite
Survival (48-Hr NOEC) TOM6C		Report%			Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) TQM6C		Report %			Once/month	24-hr composite
<u>Daphnia pulex (Acute)</u>		<u>48-Hr Minimum</u>				
Pass/Fail Lethality (48-Hr NOEC) TEM3D		Report (Pass=0/Fail=1)			Once/month	24-hr composite
Survival (48-Hr NOEC) TOM3D		Report%			Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) TQM3D		Report %			Once/month	24-hr composite

* See Part III, Condition No. 15.

+ Report monthly average and daily maximum as MGD.

++ See Condition No. 6 of Part III.

*** See condition No. 5 of Part III. Additionally See Condition No. 8 of Part III.

** Samples are to be taken within 24 hours of the first discharge.

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 the outfall 002 before mixing with other waters.

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 002-overflow pond (process water and storm water*)**

During the period beginning on three(3) years from the effective date of the permit and lasting through date of expiration, the permittee is authorized to discharge from outfall serial number 002. 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	Sample
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency**	Type
Flow (MGD)+	N/A	N/A	N/A	N/A	Daily	Estimate
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l	Daily	Grab
Ammonia Nitrogen as N	265.7	811.84	12 mg/l	18 mg/l	Daily	Grab
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l	Daily	Grab
Copper, Total Recov++	N/A	N/A	12.2 µg/l	24.48 µg/l	Once/month	24-hr composite
Lead, Total Recov++	N/A	N/A	3.8 µg/l	7.62 µg/l	Once/month	24-hr composite
Selenium, Total Recov++	N/A	N/A	5.58 µg/l	11.2 µg/l	Once/month	24-hr composite
Zinc, Total Recov++	N/A	N/A	115.62 µg/l	231.99 µg/l	Once/month	24-hr composite
Sulfate (So4)	N/A	N/A	250 mg/l	375 mg/l	Once/month	Grab
Total Dissolved Solids(TDS)	N/A	N/A	500 mg/l	750 mg/l	Once/month	Grab
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l	Daily	Grab
pH	N/A	N/A	Minimum 6 s.u.	Maximum 9 s.u.	Daily	Grab
Acute Biomonitoring*	N/A	N/A	N/A	N/A	Once/month	24-hr composite
<u>Pimephales promelas (Acute)</u>			<u>48-Hr Minimum</u>			
Pass/Fail Lethality (48-Hr NOEC) TEM6C			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) TOM6C			Report%		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) TQM6C			Report %		Once/month	24-hr composite
<u>Daphnia pulex (Acute)</u>			<u>48-Hr Minimum</u>			
Pass/Fail Lethality (48-Hr NOEC) TEM3D			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) TOM3D			Report%		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) TQM3D			Report %		Once/month	24-hr composite

* See Part III, Condition No. 15.

+ Report monthly average and daily maximum as MGD.

++ See Condition No. 6 of Part III.

*** See condition No. 5 of Part III. Additionally, See Condition No. 8 of Part III.

** Samples are to be taken within 24 hours of the first discharge.

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 the outfall 002 before mixing with other waters.

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 003-treated domestic wastewater

During the period beginning on the effective date and lasting through three(3) years from the effective date of the permit, the permittee is authorized to discharge from outfall serial number 003. 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 Avg	Daily Max	Monthly Avg	Daily Max		
Flow (MGD)+	N/A	N/A	N/A	N/A	Once/week	Instantaneous
Carbonaceous Biochemical Oxygen Demand (CBOD5)	3.5	5.4	25 mg/l	38 mg/l	Once/quarter	Grab
Total Suspended Solids(TSS)	4.3	6.4	30 mg/l	45 mg/l	Once/quarter	Grab
Ammonia Nitrogen as NH3-N (May-October)	1.4	2.1	10 mg/l	15 mg/l	Once/quarter	Grab
(November-December)	2.1	3.3	15 mg/l	23 mg/l	Once/quarter	Grab
Fecal Coliform Bacteria*	N/A	N/A	1000	2000	Once/quarter	Grab
pH	N/A	N/A	Minimum 6 s.u.	Maximum 9 s.u.	Once/week	Grab

+ Report monthly average and daily maximum as MGD.

* See condition No. 2 of Part III

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 the outfall 003, following the final treatment unit.

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 003-treated domestic wastewater

During the period beginning on three years from effective date and lasting through date of expiration, the permittee is authorized to discharge from outfall serial number 003. 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 Avg	Daily Max	Monthly Avg	Daily Max		
Flow (MGD)+	N/A	N/A	N/A	N/A	Once/week	Instantaneous
Carbonaceous Biochemical Oxygen Demand (CBOD5)	1.4	2.1	10 mg/l	15 mg/l	Once/quarter	Grab
Total Suspended Solids(TSS)	2.1	3.3	15 mg/l	23 mg/l	Once/quarter	Grab
Ammonia Nitrogen as NH3-N (May-October)	0.7	1.1	5 mg/l	7.5 mg/l	Once/quarter	Grab
(November-December)	1.4	2.1	10 mg/l	15 mg/l	Once/quarter	Grab
Fecal Coliform Bacteria*	N/A	N/A	1000	2000	Once/quarter	Grab
pH	N/A	N/A	Minimum 6 s.u.	Maximum 9 s.u.	Once/week	Grab

+ Report monthly average and daily maximum as MGD.

* See condition No. 2 of Part III

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 the outfall 003 following the final treatment unit.

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 004- Contaminated storm water**

During the period beginning on the effective date and lasting through three(3) years from the effective date of the permit, the permittee is authorized to discharge from outfall serial number 004. 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	Sample
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency*	Type
Flow (MGD)+	N/A	N/A	N/A	N/A	Daily	Estimate
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l	Weekly	Grab
Ammonia Nitrogen as NH3-N	N/A	N/A	Report mg/l	Report mg/l	Weekly	Grab
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l	Weekly	Grab
Lead, Total Recov++	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Zinc, Total Recov++	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Total Dissolved Solids(TDS)	N/A	N/A	Report mg/l	Report mg/l	Once/month	Grab
			Minimum	Maximum		
pH	N/A	N/A	6 s.u.	9 s.u.	Daily	Grab
Acute Biomonitoring ¹	N/A	N/A	N/A	N/A	Once/month	24-hr composite
<u>Pimephales promelas (Acute)</u>			<u>48-Hr Minimum</u>			
Pass/Fail Lethality (48-Hr NOEC) TEM6C			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) TOM6C			Report %		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) TQM6C			Report %		Once/month	24-hr composite
<u>Daphnia pulex (Acute)</u>			<u>48-Hr Minimum</u>			
Pass/Fail Lethality (48-Hr NOEC) TEM3D			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) TOM3D			Report %		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) TQM3D			Report %		Once/month	24-hr composite

- 1 See Part III, Condition No. 4.
- + Report monthly average and daily maximum as MGD.
- ++ See Condition No. 6 of Part III.
- * Samples are to be taken within 24 hours of the first discharge.
- ** See Condition No. 5 of Part III.

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 the outfall 004.

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 004- Contaminated storm water**

During the period beginning on three(3) years from the effective date of the permit and lasting through date of expiration, the permittee is authorized to discharge from outfall serial number 004. 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	Sample
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency*	Type
Flow (MGD)+	N/A	N/A	N/A	N/A	Daily	Estimate
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l	Weekly	Grab
Ammonia Nitrogen as NH3-N	N/A	N/A	Report mg/l	Report mg/l	Weekly	Grab
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l	Weekly	Grab
Lead, Total Recov++	N/A	N/A	3.80 µg/l	7.62 µg/l	Once/month	24-hr composite
Zinc, Total Recov++	N/A	N/A	115.62 µg/l	231.99 µg/l	Once/month	24-hr composite
Total Dissolved Solids(TDS)	N/A	N/A	291 mg/l	436.5 mg/l	Once/month	Grab
			Minimum	Maximum		
pH	N/A	N/A	6 s.u.	9 s.u.	Daily	Grab
Acute Biomonitoring ¹	N/A	N/A	N/A	N/A	Once/month	24-hr composite
<u>Pimephales promelas (Acute)</u>			<u>48-Hr Minimum</u>			
Pass/Fail Lethality (48-Hr NOEC) TEM6C			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) TOM6C			Report %		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) TQM6C			Report %		Once/month	24-hr composite
<u>Daphnia pulex (Acute)</u>			<u>48-Hr Minimum</u>			
Pass/Fail Lethality (48-Hr NOEC) TEM3D			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) TOM3D			Report %		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) TQM3D			Report %		Once/month	24-hr composite

- 1 See Part III, Condition No. 4.
- + Report monthly average and daily maximum as MGD.
- ++ See Condition No. 6 of Part III.
- * Samples are to be taken within 24 hours of the first discharge.
- ** See Condition No. 5 of Part III.

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 the outfall 004.

PART I
PERMIT REQUIREMENTS

Permit number: AR000075;
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SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALLS 005,006,007 - Contaminated storm water**

During the period beginning on the effective date and lasting through three(3) years from the effective date of the permit, the permittee is authorized to discharge from outfalls serial number 005, 006,007. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	Mass (lbs/day) Monthly Avg	Daily Max	Other Units (specify) Monthly Avg	Daily Max	Measurement Frequency*	Sample Type
Flow (MGD)+	N/A	N/A	N/A	N/A	Daily	Estimate
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l	Weekly	Grab
Ammonia Nitrogen as NH3-N	N/A	N/A	Report mg/l	Report mg/l	Weekly	Grab
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l	Weekly	Grab
Cadmium, Total Recov++,***	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Lead, Total Recov++	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Zinc, Total Recov++	N/A	N/A	Report µg/l	Report µg/l	Once/month	24-hr composite
Total Dissolved Solids(TDS)	N/A	N/A	Report mg/l	Report mg/l	Once/month	Grab
pH	N/A	N/A	Minimum 6 s.u.	Maximum 9 s.u.	Daily	Grab
Acute Biomonitoring ¹	N/A	N/A	N/A	N/A	Once/month	24-hr composite
<u>Pimephales promelas (Acute)</u>			<u>48-Hr Minimum</u>			
Pass/Fail Lethality (48-Hr NOEC) TEM6C			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) TOM6C			Report%		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) TQM6C			Report %		Once/month	24-hr composite
<u>Daphnia pulex (Acute)</u>			<u>48-Hr Minimum</u>			
Pass/Fail Lethality (48-Hr NOEC) TEM3D			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) TOM3D			Report%		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) TQM3D			Report %		Once/month	24-hr composite

- 1 See Part III, Condition No. 4.
+ Report monthly average and daily maximum as MGD.
++ See Condition No. 6 of Part III.
* Samples are to be taken within 24 hours of the first discharge.
** See Condition No. 5 of Part III.
*** Testing for Cadmium is required only at Outfall 006.

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 the outfalls 005,006,007.

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALLS 005,006,007- Contaminated storm water**

During the period beginning on three(3) years from the effective date of the permit and lasting through date of expiration, the permittee is authorized to discharge from outfalls serial number 005,006,007. 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	Sample Type	Frequency*	Estimate
Flow (MGD)+	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Daily	Estimate
Total Suspended Solids(TSS)	N/A	N/A	N/A	N/A	Daily	Estimate
Ammonia Nitrogen as NH3-N	N/A	N/A	Report mg/l	Report mg/l	Weekly	Grab
Cadmium, Total Recov++, **	N/A	N/A	Report mg/l	Report mg/l	Weekly	Grab
Lead, Total Recov++	N/A	N/A	2.03 µg/l	4.08 µg/l	Once/month	24-hr composite
Zinc, Total Recov++	N/A	N/A	3.80 µg/l	7.62 µg/l	Once/month	24-hr composite
Total Dissolved Solids(TDS)	N/A	N/A	115.62 µg/l	231.99 µg/l	Once/month	24-hr composite
pH	N/A	N/A	291 mg/l	436.5 mg/l	Once/month	Grab
			Minimum	Maximum		
			6 s.u.	9 s.u.	Daily	Grab
Acute Biomonitoring ¹	N/A	N/A	N/A	N/A	Once/month	24-hr composite
<u>Pimephales promelas (Acute)</u>			<u>48-Hr Minimum</u>			
Pass/Fail Lethality (48-Hr NOEC) TEM6C			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) TOM6C			Report%		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) TQM6C			Report %		Once/month	24-hr composite
<u>Daphnia pulex (Acute)</u>			<u>48-Hr Minimum</u>			
Pass/Fail Lethality (48-Hr NOEC) TEM3D			Report (Pass=0/Fail=1)		Once/month	24-hr composite
Survival (48-Hr NOEC) TOM3D			Report%		Once/month	24-hr composite
Coefficient of Variation (48-Hr NOEC) TQM3D			Report %		Once/month	24-hr composite

- 1 See Part III, Condition No. 4.
- + Report monthly average and daily maximum as MGD.
- ++ See Condition No. 7 of Part III.
- * Samples are to be taken within 24 hours of the first discharge.
- ** See Condition No. 6 of Part III.
- *** Testing for Cadmium is required only at Outfall 006.

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 the outfalls 005,006,007.

PERMIT REQUIREMENTS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL SUM (Outfall 001 + Outfall 002)

During the period beginning on three years from effective date and lasting through date of expiration, the permittee is authorized to discharge from outfall sum. 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	Sample
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	Frequency	Type
Flow (MGD)+	N/A	N/A	N/A	N/A	Daily	Calculated
Ammonia Nitrogen as N	265.7	811.84	12 mg/l	18 mg/l	Daily	Calculated
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l	Daily	Calculated

- + Report monthly average and daily maximum as MGD.
- * When outfall 002 has a discharge.
- ** See Condition No. 8 of Part III.

SECTION B. SCHEDULE OF COMPLIANCE

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

Outfalls 001, 002, 003, 004, 005, 006, and 007:

1. Compliance with interim limitations is required on the effective date of the permit.
2. The permittee shall achieve compliance with final limitations in accordance with the following:

Activity	Compliance Date from
1. Submit Progress Report	Effective date of the modified permit
2. Submit Progress Report	One Year
3. Achieve final limitations	Two Years
	Three Years
3. Consent Administrative Order No. 02-059 continues to remain in effect and provides the permittee three(3) years from the effective date of this permit to comply with technology-based limits contained herein.

Outfalls 010 or 011 (Combined flows of Outfalls 001, 002, and 004):

1. Compliance with final limitations is required on the effective date of the permit. Permittee must notify ADEQ in writing ten days after operation of outfall 010 or 011 in order to terminate outfalls 001, 002 and 004.

Outfalls 002, 004, 005, 006, and 007 - Item #12 in Part III

1. Within 90 days of permit issuance, the permittee shall submit a protocol for the evaluation of the background flow of the receiving streams for these outfalls and the dilution of the effluent in the receiving stream as a result of a storm event.
2. The evaluation shall be completed within 18 months of permit issuance.
3. Until such time as the permit is reopened and modified, the effluent limits and toxicity testing requirements in this permit remain in effect.

Outfall 001 - Item #1 in Part III

1. Within 90 days of permit issuance, the permittee shall submit a protocol for the evaluation of the temperature regime of the fifty (50) acre equalization basin for the purpose of determining if the elevation of the temperatures in the equalization basin are related to ambient sources of heat resulting from summertime conditions.
2. The evaluation shall be completed within 18 months of permit issuance.

**PART III
OTHER CONDITIONS**

1. The operator of this wastewater treatment facility shall be licensed by the State of Arkansas in accordance with Act 1103 of 1991, Act 556 of 1993, Act 211 of 1971, and Regulation No. 3, as amended.
2. For Fecal Coliform Bacteria (FCB) report the monthly average as a 30-day geometric mean and the daily maximum as a 7-day geometric mean in colonies per 100 ml.
3. **WHOLE EFFLUENT TOXICITY LIMITS (7-DAY CHRONIC NOEC FRESHWATER)**

1. SCOPE AND METHODOLOGY

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

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

CRITICAL DILUTION (%): **100**

EFFLUENT DILUTION SERIES (%): **32, 42, 56, 75, 100**

COMPOSITE SAMPLE TYPE: Defined at PART I

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 females in the control produce three broods or at the end of eight days, whichever comes first.

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 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. The conditions of this item are effective beginning with the effective date of the WET limit. When the testing frequency stated above is less than monthly and the effluent fails

the survival endpoint at or below 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 Effect 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.
- e. Test failure is defined as a demonstration of statistically significant sub-lethal or lethal effects to a test species at or below the effluent critical dilution.

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:

- 1. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.
- 2. The mean number of Ceriodaphnia dubia neonates produced per surviving female in the control (0% effluent) must be 15 or more.
- 3. 60% of the surviving control females must produce three broods.
- 4. 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.
- 5. 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.
- 6. 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 composite samples from the outfall(s) listed at Item 1.a above.
- ii. The permittee shall collect second and third composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the 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 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 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 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.

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 II.C.3 of this permit. The permittee shall submit full reports upon the specific request of the Department. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for Department review.

- 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 in accordance with PART II.D.4 of this permit.

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 ADEQ review.

- c. The permittee shall submit the results of the valid toxicity test on the DMR for that reporting period in accordance with PART II.D.4 of this permit, as follows below. Submit retest information clearly marked as such with the following 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.
- (D) If the No Observed Effect Concentration (NOEC) for growth is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP6C.

(E) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQP6C.

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.

(D) If the No Observed Effect Concentration (NOEC) for reproduction is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP3B.

(E) Report the higher (critical dilution or control) Coefficient of Variation, Parameter No. TQP3B.

4. **WHOLE EFFLUENT TOXICITY TESTING (48-HOUR ACUTE NOEC FRESHWATER)**

1. SCOPE AND METHODOLOGY

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

APPLICABLE TO FINAL OUTFALL: **010 or 011**

CRITICAL DILUTION (%): **17**

EFFLUENT DILUTION SERIES (%): **7, 10, 13, 17, and 23**

COMPOSITE SAMPLE TYPE: Defined at PART I

TEST SPECIES/METHODS: 40 CFR Part 136

Daphnia pulex acute static renewal 48-hour definitive toxicity test using EPA/600/4-90/027F, or the latest 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.

Pimephales promelas (fathead minnow) acute static renewal 48-hour definitive toxicity test using EPA/600/4-90/027F, or the latest 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.
- c. This permit may be reopened to require whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.
- d. Test failure is defined as a demonstration of statistically significant lethal effects to a test species at or below the effluent critical dilution.

2. PERSISTENT LETHALITY

The requirements of this subsection apply only when a toxicity test demonstrates significant lethal effects at or below the critical dilution. Significant lethal effects are herein defined as a statistically significant difference at the 95% confidence level between the survival of the appropriate test organism in a specified effluent dilution and the control (0% effluent).

- a. Part I Testing Frequency Other Than Monthly
 - i. The permittee shall conduct a total of two (2) additional tests for any species that demonstrates significant lethal effects at or below the critical dilution. The two additional tests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two additional tests in lieu of routine toxicity testing. The full report shall be prepared for each test required by this section in accordance with procedures outlined in Item 4 of this section and submitted with the period discharge monitoring report (DMR) to the permitting authority for review.
 - ii. If one or both of the two additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest. A TRE may also be required due to a demonstration of intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests.
 - iii. If one or both of the two additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall henceforth increase the frequency of testing for this species to once per quarter for the life of the permit.
 - iv. The provisions of Item 2.a are suspended upon submittal of the TRE Action Plan.
- b. Part I Testing Frequency of Monthly

The permittee shall initiate the Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section when any two of three consecutive monthly toxicity tests exhibit significant lethal effects at or below the critical dilution. A TRE may be also be required due to a demonstration of intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests.

3. 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. Each toxicity test control (0% effluent) must have a survival equal to or greater than 90%.
- ii. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: Daphnia pulex survival test; and fathead minnow survival test.
- iii. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal effects are exhibited for: Daphnia pulex survival test; and fathead minnow survival 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

For the Daphnia pulex survival test and the fathead minnow survival test, the statistical analyses used to determine if there is a statistically 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/600/4-90/027F or the most recent update thereof.

If the conditions of Test Acceptability are met in Item 3.a above and the percent survival of the test organism is equal to or greater than 90% 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 4 below.

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 for;
 - (A) toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and
 - (B) toxicity tests conducted on effluent discharges where no receiving water is available 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 3.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 3.a was run concurrently with the receiving water control;
 - (B) the test indicating receiving water toxicity has been carried out to completion (i.e., 48 hours);
 - (C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 4 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 two flow-weighted composite samples from the outfall(s) listed at Item 1.a above.
- ii. The permittee shall collect a second composite sample for use during the 24-hour renewal of each dilution concentration for both tests. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to 4 degrees Centigrade during collection, shipping, and/or storage.
- iii. The permittee must collect the 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.

- 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. 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 4 of this section.
- v. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the 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.

4. REPORTING

- a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this Part in accordance with the Report Preparation Section of EPA/600/4-90/027F, 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 II.C.3 of this permit. The permittee shall submit full reports upon the specific request of the Department. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for review.
- b. A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. 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 ADEQ review.
- c. The permittee shall report the following results of each valid toxicity test on DMR for that reporting period in accordance with PART II.D.4 of this permit. 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. TEM6C.
 - (B) Report the NOEC value for survival, Parameter No. TOM6C.
 - (C) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM6C.
- ii. Daphnia pulex
 - (A) If the NOEC for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TEM3D.
 - (B) Report the NOEC value for survival, Parameter No. TOM3D.
 - (C) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM3D.

5. TOXICITY REDUCTION EVALUATION (TRE)

- a. Within ninety (90) days of confirming lethality in the retests, the permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE. The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is an investigation intended to determine those actions necessary to achieve compliance with water quality-based effluent limits by reducing an effluent's toxicity to an acceptable level. A TRE is defined as a step-wise process which combines toxicity testing and analyses of the physical and chemical characteristics of a toxic effluent to identify the constituents causing effluent toxicity and/or treatment methods which will reduce the effluent toxicity. The TRE Action Plan shall lead to the successful elimination of effluent toxicity at the critical dilution and include the following:
 - i. **Specific Activities.** The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Characterization Procedures the permittee shall perform multiple characterizations and follow the procedures specified in the documents "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures" (EPA-600/6-91/003) or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee

shall perform multiple identifications and follow the methods specified in the documents "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081), as appropriate.

The documents referenced above may be obtained through the National Technical Information Service (NTIS) by phone at (800) 553-6847, or by writing:

U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

- ii. Sampling Plan (e.g., locations, methods, holding times, chain of custody, preservation, etc.). The effluent sample volume collected for all tests shall be adequate to perform the toxicity test, toxicity characterization, identification and confirmation procedures, and conduct chemical specific analyses when a probable toxicant has been identified;

Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity. Where lethality was demonstrated within 24 hours of test initiation, each composite sample shall be analyzed independently. Otherwise the permittee may substitute a composite sample, comprised of equal portions of the individual composite samples, for the chemical specific analysis;

- iii. Quality Assurance Plan (e.g., QA/QC implementation, corrective actions, etc.); and
 - iv. Project Organization (e.g., project staff, project manager, consulting services, etc.).
- b. The permittee shall initiate the TRE Action Plan within thirty (30) days of plan and schedule submittal. The permittee shall assume all risks for failure to achieve the required toxicity reduction.
 - c. The permittee shall submit a quarterly TRE Activities Report, with the Discharge Monitoring Report in the months of January, April, July and October, containing information on toxicity reduction evaluation activities including:
 - i. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;

- ii. any studies/evaluations and results on the treatability of the facility's effluent toxicity; and
 - iii. any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant lethality at the critical dilution.
- d. The permittee shall submit a Final Report on Toxicity Reduction Evaluation Activities no later than twenty-eight (28) months from confirming lethality in the retests, which provides information pertaining to the specific control mechanism selected that will, when implemented, result in reduction of effluent toxicity to no significant lethality at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism.
- e. Quarterly testing during the TRE is a minimum monitoring requirement. EPA recommends that permittees required to perform a TRE not rely on quarterly testing alone to ensure success in the TRE, and that additional screening tests be performed to capture toxic samples for identification of toxicants. Failure to identify the specific chemical compound causing toxicity test failure will normally result in a permit limit for whole effluent toxicity limits per federal regulations at 40 CFR 122.44(d)(1)(v).

5. **Storm Water Pollution Prevention Plan Requirements**

If your facility already has a storm water pollution prevention plan (SWPPP) in place, then you shall continue the implementation of this SWPPP. If you do not have a SWPPP, then you shall prepare a SWPPP for your facility within 60 days of the effective starting date of this permit. Your SWPPP must be prepared in accordance with good engineering practices. Your SWPPP must:

- i. identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges from your facility;
- ii. describe and ensure implementation of practices which you will use to reduce the pollutants in storm water discharges from the facility; and
- iii. assure compliance with the terms and conditions of this permit.

a. Contents of Plan

i. Pollution Prevention Team

You must identify the staff individual(s) (by name or title) that comprise the facility's storm water Pollution Prevention Team. Your Pollution Prevention Team is responsible for assisting the facility/plant manager in developing, implementing, maintaining and

revising the facility's SWPPP. Responsibilities of each staff individual on the team must be listed.

ii. Site Description

Your SWPPP must include the following:

- (1) *Activities at Facility.* Description of the nature of the industrial activity(ies) at your facility;
- (2) *General Location Map.* A general location map (e.g., U.S.G.S. quadrangle, or other map) with enough detail to identify the location of your facility and the receiving waters within one mile of the facility;
- (3) A legible site map identifying the following:
 - (a) directions of storm water flow (e.g., use arrows to show which ways storm water will flow);
 - (b) locations of all existing structural BMPs
 - (c) locations of all surface water bodies
 - (d) locations of potential pollutant sources identified under Part 5.a.iv and where significant materials are exposed to precipitation;
 - (e) location where major spills or leaks identified under Part 5.a.v have occurred;
 - (f) locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, and liquid storage tanks;
 - (g) locations of storm water outfalls and an approximate outline of the area draining to each outfall;
 - (h) location and description of non-storm water discharges;
 - (i) locations of the following activities where such activities are exposed to precipitation: processing and storage areas; access roads, rail cars and tracks; the location of transfer of substance in bulk; and machinery;

- (j) location and source of runoff from adjacent property containing significant quantities of pollutants of concern to the facility (an evaluation of how the quality of the runoff impacts your storm water discharges may be included).

iii. **Receiving Waters and Wetlands**

You must provide the name of the nearest receiving water(s), including intermittent streams, dry sloughs, arroyos and the areal extent and description of wetland or other special aquatic sites that may receive discharges from your facility.

iv. **Summary of Potential Pollutant Source**

You must identify each separate area at your facility where industrial materials or activities are exposed to storm water. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. For each, separate area identified, the description must include:

- (1) *Activities in Area.* A list of the activities (e.g., material storage, equipment fueling and cleaning, cutting steel beams); and
- (2) *Pollutants.* A list of the associated pollutant(s) or pollutant parameter(s) (e.g., crankcase oil, iron, biochemical oxygen demand, pH, etc.) For each activity. The pollutant list must include all significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of three (3) years before being covered under this permit and the present.

v. **Spills and Leaks**

- (1) You must clearly identify areas where potential spills and leaks, which can contribute pollutants to storm water discharges, can occur, and their accompanying drainage points. For areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility to be covered under this permit, you must provide a list of significant spills and leaks of toxic or hazardous pollutants that occurred during the three (3) year period prior to the starting date of this permit. Your list must be updated if significant spills or leaks occur in exposed areas of your facility during the time you are covered by the permit.

- (2) Significant spills and leaks include, but are not limited to releases of oil or hazardous substances in excess of quantities that are reportable under CWA ' 311 (see 40 CFR 110.10 AND 40 CFR 117.21) or section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Significant spills may also include releases of oil or hazardous substances that are not in excess of reporting requirements.

vi. Sampling Data

You must provide a summary of existing storm water discharge sampling data taken at your facility. All storm water sampling data collected during the term of this permit must also be summarized and included in this part of the SWPPP.

vii. Storm Water Controls

- (1) *Description of Existing and Planned BMPs.* Describe the type and location of existing non-structural and structural best management practices (BMPs) selected for each of the areas where industrial materials or activities are exposed to storm water. All the areas identified in Part 5.a.ii should have a BMP(s) identified for the area's discharges. For areas where BMPs are not currently in place, describe appropriate BMPs that you will use to control pollutants in storm water discharges. Selection of BMPs should take into consideration:
 - (a) the quantity and nature of the pollutants, and their potential to impact the water quality of receiving waters;
 - (b) opportunities to combine the dual purposes of water quality protection and local flood control benefits (including physical impacts of high flows on streams - e.g., bank erosion, impairment of aquatic habitat, etc.);
 - (c) opportunities to offset the impact impervious areas of the facility on ground water recharge and base flows in local streams (taking into account the potential for ground water contamination.)
- (2) *BMP Types to be Considered.* The following types of structural, non-structural and other BMPs must be considered for implementation at your facility. Describe how each is, or will be, implemented. This requirement may have been fulfilled with area-specific BMPs identified under Part 5.a.vii.(1), 11.3.ii.(4)(c), in which case the previous descriptions are sufficient. However, many of the following BMPs may be more generalized or non site-specific and therefore not previously considered. If you determine that any of these BMPs are not appropriate for your facility, you must include an explanation of why they are not appropriate.

The BMP examples listed below are not intended to be an exclusive list of BMPs that you may use. You are encourage to keep abreast of new BMPs or new applications of existing BMPs to find the most cost effective means of permit compliance for your facility. If BMPs are being used or planned at the facility which are not listed here (e.g., replacing a chemical with a less toxic alternative, adopting a new or innovative BMP, etc.), include descriptions of them in this section of the SWPPP.

(3) Non-Structural BMPs

- (a) *Good Housekeeping:* You must keep all exposed areas of the facility in a clean, orderly manner where such exposed areas could contribute pollutants to storm water discharges. Common problem areas include: around trash containers, storage areas and loading docks. Measures must also include: a schedule for regular pickup and disposal of garbage and waste materials; routine inspections for leaks and conditions of drums, tanks and containers.
- (b) *Minimizing Exposure:* Where practicable, industrial materials and activities should be protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, or runoff.
- (c) *Preventive Maintenance:* You must have a preventive maintenance program which includes timely inspection and maintenance of storm water management devices, (e.g., cleaning oil/water separators, catch basins) as well as inspecting, testing, maintaining and repairing facility equipment and systems to avoid breakdowns or failures that may result in discharges of pollutants to surface waters.
- (d) *Spill Prevention and Response Procedures:* You must describe the procedures which will be followed for cleaning up spills or leaks. Those procedures, and necessary spill response equipment, must be made available to those employees that may cause or detect a spill or leak. Where appropriate, you must explain exiting or planned material handling procedures, storage requirements, secondary containment, and equipment (e.g., diversion valves), which are intended to minimize spills or leaks at the facility. Measures for cleaning up hazardous material spills or leaks must be consistent with applicable RCRA regulations at 40 CFR Part 264 and 40 CFR Part 265.

(e) *Routine Facility Inspections:* In addition to or as part of the comprehensive site evaluation required under Part 5.f, you must have qualified facility personnel inspect all areas of the facility where industrial materials or activities are exposed to storm water. The inspections must include an evaluation of existing storm water BMPs. Your SWPPP must identify how often these inspections will be conducted. You must correct any deficiencies in implementation of your SWPPP you find as soon as practicable, but not later than within 14 days of the inspection. You must document in your SWPPP the results of your inspections and the corrective actions you took in response to any deficiencies or opportunities for improvement that you identify.

(f) *Employee Training:* You must describe the storm water employee training program for the facility. The description should include the topics to be covered, such as spill response, good housekeeping and material management practices, and must identify periodic dates (e.g., every 6 months during the months of July and January) for such training. You must provide employee training for all employees that work in areas where industrial materials or activities are exposed to storm water, and for employees that are responsible for implementing activities identified in the SWPPP (e.g., inspectors, maintenance people). The employee training should inform them of the components and goals of your SWPPP.

(4) Structural BMPs

(a) *Sediment and Erosion Control:* You must identify the areas at your facility which, due to topography, land disturbance (e.g., construction), or other factors, have a potential for significant soil erosion. You must describe the structural, vegetative, and/or stabilization BMPs that you will be implementing to limit erosion.

(b) *Management of Runoff:* You must describe the traditional storm water management practices (permanent structural BMPs other than those which control the generation or source(s) of pollutants) that currently exist or that are planned for your facility. These types of BMPs typically are used to divert, infiltrate, reuse, or otherwise reduce pollutants in storm water discharges from the site. Factors to consider when you are selecting appropriate BMPs should include: 1) the industrial materials and activities that are exposed to storm water, and the associated pollutant

potential of those materials activities; and 2) the beneficial and potential detrimental effects on surface water quality, ground water quality, receiving water base flow (dry weather stream flow), and physical integrity of receiving waters. Structural measures should be placed on upland soils, avoiding wetlands and flood plains, if possible. Structural BMPs may require a separate permit under section 404 of the CWA before installation begins.

- (c) *Example BMPs:* BMPs you could use include but are not limited to: storm water detention structures (including wet ponds); storm water retention structures; flow attenuation by use of open vegetated swales and natural depressions; infiltration of runoff onsite; and sequential systems (which combine several practices).

(5) Other Controls

No solid materials, including floatable debris, may be discharged to waters of the United States, except as authorized by a permit issued under section 404 of the CWA. Off-site vehicle tracking of raw, final, or waste materials or sediments, and the generation of dust must be minimized. Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas must be minimized. Velocity dissipation devices must be placed at discharge locations and along the length of any outfall channel to provide a non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g., no significant changes in the hydrological regime of the receiving water).

b. Maintenance

All BMPs you identify in your SWPPP must be maintained in effective operating condition. If site inspections required by Part 5.a.vii.(3)(e) identify BMPs that are not operating effectively, maintenance must be performed before the next anticipated storm event, or as necessary to maintain the continued effectiveness of storm water controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable. In the case of non-structural BMPs, the effectiveness of the BMP must be maintained by appropriate means (e.g., spill response supplies available and personnel trained, etc.).

c. Non-Storm Water Discharges

Certification of Non-Storm Water Discharges

Your SWPPP must include a certification that all discharges (i.e., outfalls) have been tested or evaluated for the presence of non-storm water. The certification must be signed in accordance with Part V.I.H of the individual permit, and include:

- i. the date of any testing and/or evaluation;
- ii. identification of potential significant sources of non-storm water at the site;
- iii. a description of the results of any test and/or evaluation for the presence of non-storm water discharges;
- iv. a description of the evaluation criteria or testing method used; and
- v. a list of the outfalls or onsite drainage points that were directly observed during the test.

If you are unable to provide the certification required (testing for non-storm water discharges), you must notify the Director 180 days after the effective starting date of this permit to be covered by this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification must describe:

- (1) reason(s) why certification was not possible;
- (2) the procedure of any test attempted;
- (3) the results of such test or other relevant observations; and
- (4) potential sources of non-storm water discharges to the storm sewer.
- (5) A copy of the notification must be included in the SWPPP at the facility. Non-storm water discharges to waters of the United States which are not authorized by an NPDES permit are unlawful, and must be terminated.

d. Allowable Non-storm Water Discharges

Certain sources of non-storm water are allowable under this permit. In order for these discharges to be allowed, your SWPPP must include:

- i. identification of each allowable non-storm water source;
- ii. the location where it is likely to be discharged; and
- iii. descriptions of appropriate BMPs for each source.
- iv. Except for flows from fire fighting activities, you must identify in your SWPPP all sources of allowable non-storm water that are discharged under the authority of this permit.
- v. If you include mist blown from cooling towers amongst your allowable non-storm water discharges, you must specifically evaluate the potential for the discharges to be contaminated by chemicals used in the cooling tower and determined that the levels of such chemicals in the discharges would not cause or contribute to a violation of an applicable water quality standard after implementation of the BMPs you have selected to control such discharges.

e. Applicable State or Local Plans

Your SWPPP must be consistent (and updated as necessary to remain consistent) with applicable State and/or local storm water, waste disposal, sanitary sewer or septic system regulations to the extent these apply to your facility and are more stringent than the requirements of this permit.

f. Comprehensive Site Compliance Evaluation

i. Frequency and Inspectors

You must conduct facility inspections at least once a year. The inspections must be done by qualified personnel provided by you. The qualified personnel you use may be either your own employees or outside consultants that you have hired, provided they are knowledgeable and possess the skills to assess conditions at your facility that could impact storm water quality and assess the effectiveness of the BMPs you have chosen to use to control the quality of your storm water discharges. If you decide to conduct more frequent inspections, your SWPPP must specify the frequency of inspections.

ii. Scope of the Compliance Evaluation

Your inspections must include all areas where industrial materials or activities are exposed to storm water, as identified in Part 5.a.iv, and areas where spills and leaks have occurred within the past 3 years. Inspectors should look for: a) industrial materials, residue or trash on the ground that could contaminate or be washed away in storm water; b) leaks or spills from industrial equipment, drums, barrels, tanks or similar containers; c) offsite tracking of industrial materials or sediment where vehicles enter or exit the site; d) tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas and e) for evidence of, or the potential for, pollutants entering the drainage system. Storm water BMPs identified in your SWPPP must be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they must be inspected to see whether BMPs are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations must be inspected if possible.

iii. Follow-up Actions

Based on the results of the inspections, you must modify your SWPPP as necessary (e.g., show additional controls on map required by Part 5.a.v; revise description of controls required by Part 5.a.vii.(1), 11.3.ii.(4)(c) to include additional or modified BMPs designed to correct problems identified. You must complete revisions to the SWPPP within 14 calendar days following the inspection. If existing BMPs need to be modified or if additional BMPs are necessary, implementation must be completed before the next anticipated storm event. If implementation before the next anticipated storm event is impracticable, they must be implemented as soon as practicable.

iv. Compliance Evaluation Report

You must insure a report summarizing the scope of the inspection, name(s) of personnel making the inspection, the date(s) of the inspection, and major observations relating to the implementation of the SWPPP is completed and retained as part of the SWPPP for at least three years from the date permit coverage expires or is terminated. Major observations should include: the location(s) of discharges of pollutants from the site; location(s) of BMPs that need to be maintained; location(s) where additional BMPs are needed that did not exist at the time of inspection. You must retain a record of actions taken in accordance with Part 2, Section C (Retention of Records) of this permit as part of the storm water pollution prevention plan for at least three years from the date that permit coverage expires or is terminated. The inspection reports must identify any incidents of non-compliance. Where an inspection report does not identify any incidents of non-compliance, the report must contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. Both the inspection report and any reports of follow-up actions must be signed in accordance with Part 2, Section D (Reporting Requirements) of this permit.

v. Credit As a Routine Facility Inspection

Where compliance evaluation schedules overlap with inspections required under Part 5.a.vii.(3)(e), your annual compliance evaluation may also be used as one of the Part 5.a.vii.(3)(e), routine inspections.

g. Maintaining Updated SWPPP

You must amend the storm water pollution prevention plan whenever:

- i. there is a change in design, construction, operation, or maintenance at your facility which has a significant effect on the discharge, or potential for discharge, of pollutants from your facility;
- ii. during inspections or investigations by you or by local, State, Tribal or Federal officials it is determined the SWPPP is ineffective in eliminating or significantly minimizing pollutants from sources identified under Part 5.a.iv, or is otherwise not achieving the general objectives of controlling pollutants in discharges from your facility.

h. Signature, plan Review and Making Plans Available

You must sign your SWPPP in accordance with Part 2, Section D.11, and retain the plan on-site at the facility covered by this permit (see Part 2, Section C.7 for records retention requirements).

- i. You must keep a copy of the SWPPP on-site or locally available to the Director for review at the time of an on-site inspection. You must make your SWPPP

available upon request to the Director, a State, Tribal or local agency approving storm water management plans, or the operator of a municipal separate storm sewer receiving discharge from the site. Also, in the interest of public involvement, EPA encourages you to make your SWPPPs available to the public for viewing during normal business hours.

- ii. The Director may notify you at any time that your SWPPP does not meet one or more of the minimum requirements of this permit. The notification will identify provisions of this permit which are not being met, as well as the required modifications. Within thirty (30) calendar days of receipt of such notification, you must make the required changes to the SWPPP and submit to the Director a written certification that the requested changes have been made.
- iii. You must make the SWPPP available to the USFWS or NMFS upon request.

i. Additional Requirements for Storm Water Discharges Associated With Industrial Activity From Facilities Subject to EPCRA Section 313 Reporting Requirements.

Potential pollutant sources for which you have reporting requirements under EPCRA 313 must be identified in your summary of potential pollutant sources as per Part 5.a.iv. Note this additional requirement only applies to you if you are subject to reporting requirements under EPCRA 313.

- 6. If any individual analytical test results is less than the minimum quantification level (MQL) listed below, a value of zero (0) may be used for that individual result for the Discharge Monitoring report (DMR) calculations and reporting requirements.

Pollutant	EPA Method	MQL (µg/l)
Copper	220.2	10
Cadmium	213.2	1
Lead	239.2	5
Nickel	200.7	40
Selenium	270.2	5
Silver	272.2	2
Zinc	200.7	20

The permittee may develop a matrix specific method detection limit (MDL) in accordance with Appendix B of 40 CFR Part 136. For any pollutant for which the permittee determines a site specific MDL, the permittee shall send to ADEQ, NPDES Permits Branch, a report containing QA/QC

documentation, analytical results, and calculations necessary to demonstrate that a site specific MDL was correctly calculated. A site specific minimum quantification level (MQL) shall be determined in accordance with the following calculation:

$$\text{MQL} = 3.3 \times \text{MDL}$$

Upon written approval by the NPDES Permits Branch, the site specific MQL may be utilized by the permittee for all future Discharge Monitoring Report (DMR) calculations and reporting requirements.

If the permittee can demonstrate through more sensitive analyses that the discharge does not have the potential to exceed state water quality standards-based effluent limits for the above pollutants, the more stringent state water quality numerical standard-based effluent limit(s), monitoring requirements, and the schedule of compliance will be deleted in the final permit. Such new information must be submitted during the first two years from the effective date of the permit.

7. All samples must be composite samples. If use of an automatic sampler is infeasible the minimum of four grab samples collected 10 A.M., 12 P.M., 2 P.M., and 4 P.M. during a normal business day and composite according to flow.
8. When outfall 002 has a discharge, Ammonia as N and Nitrate as N discharge from outfall 002 combined with Ammonia as N and Nitrate as N discharge through outfall 001 should not exceed Ammonia as N and Nitrate as N limits at outfall sum (Page 13 of Part IA).
9. If the sampling results at outfall 001 for sulfate, chloride, TDS, and pH and at outfall 002 and WET limits for Outfall 010 or 011 are below permit limitations during the first two years with at least 24 sets of data, the permittee shall certify this information in writing to ADEQ, so monitoring and reporting requirements for those parameters can be reduced upon written authorization by the Department without a major modification. Modification of the permit will not violate the anti-backsliding (40 CFR Part 122.44 (l)(i)(B)). If a permit violation occurs, the monitoring frequency will revert back to the frequency stated in this permit.
10. When a permittee continuously monitors pH pursuant to an option or requirement of the permit, the pH shall be monitored, calculated, and reported as an hourly average of the pH measurements taken each minute. Hourly averages outside of the permitted range are violations and the number of violations shall be reported as excursions in accordance with Part II.C.5 of this permit.
11. When a permittee continuously monitors D.O. pursuant to an option or requirement of the permit, the D.O. shall be monitored, calculated, and reported as an hourly average as an hourly average of all of the D.O. measurements taken each hour. Hourly averages below the permitted minimum D.O. level are violations and the number of violations shall be reported as excursions in accordance with Part II.C.5 of this permit.
12. The permittee shall perform an evaluation of the background flow of the receiving streams for the storm water outfalls (Outfalls 002, 004, 005, 006, and 007) and the dilution of effluent in the receiving stream as a result of a storm event. This permit may be reopened and modified as a result of this study.

13. The sampling frequency for dissolved minerals at all outfalls shall be reduced automatically to once per quarter after 24 consecutive months with no violations. If a violation occurs after the frequency has been reduced, the monitoring frequency will then automatically increase back to once per month. However, if a violation of the dissolved minerals effluent limitations occurs at Outfall 001 while the permittee is monitoring once per month, the frequency shall than be increased to three times per week.
14. The permittee shall perform an evaluation of the temperature regime of the fifty (50) acre equalization basin for the purpose of determining if the elevation of temperatures in the equalization basin are related to ambient sources of heat resulting from summertime conditions. This permit may be modified to remove the temperature limitation for Outfall 001 if the evaluation documents that the elevation of water temperatures in the fifty (50) acre equalization basin are related to ambient sources of heat under summertime conditions.

15. **WHOLE EFFLUENT TOXICITY TESTING (48-HOUR ACUTE NOEC FRESHWATER)**

1. **SCOPE AND METHODOLOGY**

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

APPLICABLE TO FINAL OUTFALLS: **002, 004, 005, 006, and 007**

CRITICAL DILUTION (%): **100%** (all outfalls in this condition)

EFFLUENT DILUTION SERIES (%): **32%, 42%, 56%, 75%, 100%**

COMPOSITE SAMPLE TYPE: Defined at PART I

TEST SPECIES/METHODS: 40 CFR Part 136

Daphnia pulex acute static renewal 48-hour definitive toxicity test using EPA/600/4-90/027F, or the latest 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.

Pimephales promelas (fathead minnow) acute static renewal 48-hour definitive toxicity test using EPA/600/4-90/027F, or the latest 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 above which lethality that is statistically different from the control (0% effluent) at the 95% confidence level does not occur.

- c. This permit may be reopened to require whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.
- d. Test failure is defined as a demonstration of statistically significant lethal effects to a test species at or below the effluent critical dilution.

2. PERSISTENT LETHALITY

The requirements of this subsection apply only when a toxicity test demonstrates significant lethal effects at or below the critical dilution. Significant lethal effects are herein defined as a statistically significant difference at the 95% confidence level between the survival of the appropriate test organism in a specified effluent dilution and the control (0% effluent).

a. Part I Testing Frequency Other Than Monthly

- i. The permittee shall conduct a total of two (2) additional tests for any species that demonstrates significant lethal effects at or below the critical dilution. The two additional tests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two additional tests in lieu of routine toxicity testing. The full report shall be prepared for each test required by this section in accordance with procedures outlined in Item 4 of this section and submitted with the period discharge monitoring report (DMR) to the permitting authority for review.
- ii. If one or both of the two additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest. A TRE may be also be required due to a demonstration of intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests.
- iii. If one or both of the two additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall henceforth increase the frequency of testing for this species to once per quarter for the life of the permit.
- iv. The provisions of Item 2.a are suspended upon submittal of the TRE Action Plan.

3. 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. Each toxicity test control (0% effluent) must have a survival equal to or greater than 90%.
- ii. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: Daphnia pulex survival test; and fathead minnow survival test.
- iii. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal effects are exhibited for: Daphnia pulex survival test; and fathead minnow survival 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

For the Daphnia pulex survival test and the fathead minnow survival test, the statistical analyses used to determine if there is a statistically 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/600/4-90/027F or the most recent update thereof.

If the conditions of Test Acceptability are met in Item 3.a above and the percent survival of the test organism is equal to or greater than 90% 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 4 below.

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 for;
 - (A) toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and
 - (B) toxicity tests conducted on effluent discharges where no receiving water is available 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 3.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 3.a was run concurrently with the receiving water control;
 - (B) the test indicating receiving water toxicity has been carried out to completion (i.e., 48 hours);
 - (C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 4 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 two flow-weighted composite samples from the outfall(s) listed at Item 1.a above.
- ii. The permittee shall collect a second composite sample for use during the 24-hour renewal of each dilution concentration for both tests. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to 4 degrees Centigrade during collection, shipping, and/or storage.
- iii. The permittee must collect the 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.
- 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. 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 4 of this section.

- v. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the 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.

4. REPORTING

- a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this Part in accordance with the Report Preparation Section of EPA/600/4-90/027F, 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 II.C.7 of this permit. The permittee shall submit full reports upon the specific request of the Department. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for review.
- b. A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. 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 ADEQ review.
- c. The permittee shall report the following results of each valid toxicity test on DMR for that reporting period in accordance with PART II.D.4 of this permit. 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. TEM6C.
 - (B) Report the NOEC value for survival, Parameter No. TOM6C.
 - (C) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM6C.

ii. Daphnia pulex

- (A) If the NOEC for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TEM3D.
- (B) Report the NOEC value for survival, Parameter No. TOM3D.
- (C) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM3D.

Monitoring Frequency Reduction

- a. The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters of testing for one or both test species, with no lethal effects demonstrated at or below the critical dilution. If granted, the monitoring frequency for that test species may be reduced to not less than once per year for the less sensitive species (usually the fathead minnow) and not less than twice per year for the more sensitive test species (usually the *Daphnia pulex*).
- b. CERTIFICATION - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in item 3.a. above. In addition the permittee must provide a list with each test performed including test initiation date, species, NOECs for lethal and sub-lethal effects and the maximum coefficient of variation for the controls. Upon review and acceptance of this information the Department will issue a letter of confirmation of the monitoring frequency reduction. A copy of the letter will be forwarded to the Permit Compliance System section to update the permit reporting requirements.
- c. SURVIVAL FAILURES - If any test fails the survival endpoint at any time during the life of this permit, two monthly retests are required and the monitoring frequency for the affected test species shall be increased to once per quarter until the permit is re-issued. Monthly retesting is not required if the permittee is performing a TRE.
- d. This monitoring frequency reduction applies only until the expiration date of this permit, at which time the monitoring frequency for both test species reverts to once per quarter until the permit is re-issued.

5. TOXICITY REDUCTION EVALUATION (TRE)

- a. Within ninety (90) days of confirming lethality in the retests, the permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE. The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is an investigation intended to determine those actions necessary to achieve compliance with water quality-based effluent limits by reducing an effluent's toxicity to an acceptable level. A TRE is defined

as a step-wise process which combines toxicity testing and analyses of the physical and chemical characteristics of a toxic effluent to identify the constituents causing effluent toxicity and/or treatment methods which will reduce the effluent toxicity. The TRE Action Plan shall lead to the successful elimination of effluent toxicity at the critical dilution and include the following:

- i. Specific Activities. The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Characterization Procedures the permittee shall perform multiple characterizations and follow the procedures specified in the documents "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures" (EPA-600/6-91/003) or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081), as appropriate.

The documents referenced above may be obtained through the National Technical Information Service (NTIS) by phone at (800)553-6847 or by writing:

U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

- ii. Sampling Plan (e.g., locations, methods, holding times, chain of custody, preservation, etc.). The effluent sample volume collected for all tests shall be adequate to perform the toxicity test, toxicity characterization, identification and confirmation procedures, and conduct chemical specific analyses when a probable toxicant has been identified;

Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity. Where lethality was demonstrated within 24 hours of test initiation, each composite sample shall be analyzed independently. Otherwise the permittee may substitute a composite sample, comprised of equal portions of the individual composite samples, for the chemical specific analysis;

- iii. Quality Assurance Plan (e.g., QA/QC implementation, corrective actions, etc.); and
 - iv. Project Organization (e.g., project staff, project manager, consulting services, etc.).
- b. The permittee shall initiate the TRE Action Plan within thirty (30) days of plan and schedule submittal. The permittee shall assume all risks for failure to achieve the required toxicity reduction.
- c. The permittee shall submit a quarterly TRE Activities Report, with the Discharge Monitoring Report in the months of January, April, July and October, containing information on toxicity reduction evaluation activities including:
- i. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;
 - ii. any studies/evaluations and results on the treatability of the facility's effluent toxicity; and
 - iii. any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant lethality at the critical dilution.
- d. The permittee shall submit a Final Report on Toxicity Reduction Evaluation Activities no later than twenty-eight (28) months from confirming lethality in the retests, which provides information pertaining to the specific control mechanism selected that will, when implemented, result in reduction of effluent toxicity to no significant lethality at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism.
- e. Quarterly testing during the TRE is a minimum monitoring requirement. EPA recommends that permittees required to perform a TRE not rely on quarterly testing alone to ensure success in the TRE, and that additional screening tests be performed to capture toxic samples for identification of toxicants. Failure to identify the specific chemical compound causing toxicity test failure will normally result in a permit limit for whole effluent toxicity limits per federal regulations at 40 CFR 122.44(d)(1)(v).

FINAL Fact Sheet

for modification of NPDES Permit Number AR0000752 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:

El Dorado Chemical Company
P. O. Box 231
El Dorado, AR 71731

3. **PERMIT WRITER.**

The permit writer is:

Morteza ("Mo") Shafii
NPDES Branch, Water Division

4. **DATE PREPARED**

April 29, 2004

5. **REASONS FOR PERMIT ISSUANCE.**

On May 31, 2002, the Department issued NPDES Permit No. AR0000752 to El Dorado Chemical Company with an effective date of July 1, 2002. The permittee filed a timely Request for Adjudicatory Hearing and Commission Review (Appeal) regarding the Department's final permit decision. Ultimately, the parties have agreed to resolve the issues in dispute in the Appeal by agreement. Accordingly, docket in the Appeal was closed and the proceedings were remanded to the Department to proceed in accordance with the terms of the Permit Appeal Resolution (PAR) entered in LIS No. 03-067. The permit is revised according to the PAR as follows:

- A. With the exception of Outfalls 010 and 011, all more restrictive permit limits and conditions include a three (3) year implementation schedule as provided in CAO No. 02-059;

- B. The requirement for a "Pond Bottom" synthetic liner for the fifty (50) acre equalization basin has been removed;
- C. The requirements, in addition to the standard sample collection, preservation, chain of custody, and analytical protocols for all biomonitoring, have been removed from Part III, Items 3.4 and 4.6;
- D. All of the metals listed in Item 1.d of the Order and Agreement section of the PAR have been removed since the data submitted by the permittee demonstrate that there is no reasonable potential for the listed metals at the specified outfalls;
- E. Ammonia-Nitrogen and Nitrate-Nitrogen limitations have been revised;
- F. The permittee is required to perform an evaluation of the background flow of the receiving streams for the storm water outfalls (Outfalls 002, 004, 005, 006, and 007) and the dilution of the effluent in the receiving stream as a result of a storm event;
- G. Biomonitoring requirements at Outfalls 002, 004, 005, 006, and 007 have been changed to acute "monitor and report";
- H. Sampling frequencies for dissolved minerals have been reduced to once/month;
- I. Mass limitations for TSS at Outfalls 010 and 011 have been deleted;
- J. Mass limitations for dissolved minerals at Outfall 001 have been deleted;
- K. The permittee is required to perform an evaluation of the temperature regime of the fifty (50) acre equalization basin for the purpose of determining if the elevation of temperatures in the basin are related to ambient sources of heat resulting from summertime conditions;
- L. Compliance with the dissolved oxygen limits at Outfall 001 will be based on an average of all samples taken each hour; and
- M. Compliance with the pH limitations for all outfalls which have a continuous monitor is utilized shall be based on an average of all samples taken each hour.

Other changes to the permit are as follows:

- A. The planning segment for Outfalls 001, 002, 003, 004, 005, 006, and 007 has been corrected; and
- B. Any footnotes regarding D.O. in Part IA of the permit have been removed.
- C. Footnotes in regard to biomonitoring have been corrected to reflect correct items in Part III of the permit.

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

The outfall is located at the following coordinates:

Outfall 001:Latitude : 33E 15' 32"; Longitude: 92E 41' 12"
 Outfall 002:Latitude : 33E 15' 48"; Longitude: 92E 41' 24"
 Outfall 003:Latitude : 33E 15' 38"; Longitude: 92E 41' 07"
 Outfall 004:Latitude : 33E 15' 42"; Longitude: 92E 41' 27"
 Outfall 005:Latitude : 33E 15' 42"; Longitude: 92E 41' 17"
 Outfall 006:Latitude : 33E 16' 03"; Longitude: 92E 41' 02"
 Outfall 007:Latitude : 33E 16' 11"; Longitude: 92E 41' 16"
 Outfall 010:Latitude : 33E 17' 22"; Longitude: 92E 28' 05"
 Outfall 011:Latitude : 33E 19' 03"; Longitude: 92E 31' 15"

The receiving waters named:

Outfalls 001, 002, 003, 004, 005, 006, and 007: an unnamed tributary of Flat Creek in Segment 2D of the Ouachita River Basin and Outfalls 010 and 011: Ouachita River in Segment 2E of the Ouachita River. The receiving stream is a Water of the State classified for primary (Outfalls 010 or 011) and secondary contact recreation (001, 002, 003, 004, 005, 006, 007), raw water source for public, industrial, and agricultural water supplies, propagation of desirable species of fish and other aquatic life, and other compatible uses.

7. OUTFALL AND TREATMENT PROCESS DESCRIPTION.

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

1. Average flow:

Outfall 001: 1.845 MGD; Outfall 002: variable MGD; Outfall 003: 0.017 MGD (Design); Outfall 004: 1.203 MGD; Outfalls 005, 006, 007: Variable; Outfall 010: 2 MGD (Max Flow); and Outfall 011: 2 MGD (Max Flow), based on the highest monthly average flow during the last two years (Outfalls 001 and 004.)

2. Type of treatment: Outfalls 001, 002, 010, 011: pH neutralization, aeration pond, equalization pond; Outfall 003: Imhoff tank; Outfalls 004, 005, 006, 007: None

8. APPLICANT ACTIVITY.

The applicant's activities are the operation of a fertilizer manufacturing plant.

9. SEWAGE SLUDGE PRACTICES.

Sludge is accumulating on the bottom of the ponds.

10. PERMIT CONDITIONS.

The Arkansas Department of Environmental Quality has made a tentative 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. **Interim Effluent Limits**

Outfall 001-treated process and contaminated storm water

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

<u>Effluent Characteristic</u> (Specify)	<u>Discharge Limitations</u>			
	Mass (lbs/day)		Other Units	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Total Suspended Solids(TSS)	462	692	30 mg/l	45 mg/l
Ammonia Nitrogen as N	265.7	811.84	17.3 mg/l	52.8 mg/l
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l
Dissolved Oxygen (DO)				
(May-October)	N/A	N/A	4.0 mg/l (Ins Min)	N/A
(November-April)	N/A	N/A	5.0 mg/l (Ins Min)	N/A
Copper, Total Recov	Report	Report	Report µg/l	Report µg/l
Selenium, Total Recov	Report	Report	Report µg/l	Report µg/l
Zinc, Total Recov	Report	Report	Report µg/l	Report µg/l
Sulfate (SO4)	Report	Report	Report mg/l	Report mg/l
Chlorides (Cl)	Report	Report	Report mg/l	Report mg/l
Total Dissolved Solids (TDS)	Report	Report	Report mg/l	Report mg/l
Temperature (Ins. Max)	N/A	N/A	N/A	86 EF
	<u>Daily Average Minimum</u>		<u>7-day Minimum</u>	
<u>Whole Effluent Lethality</u> (7-day NOEC)	Report%		Report %	
<u>Pimephales promelas (Chronic)</u>		<u>7-day Average</u>		
Pass/Fail Growth (7-day NOEC)		Report (Pass=0/Fail=1)		
Pass/Fail Lethality (7-day NOEC)		Report (Pass=0/Fail=1)		
Survival (7-day NOEC)		Report %		
Coefficient of Variation		Report %		
Growth (7-day NOEC)		Report %		
<u>Ceriodaphnia dubia (Chronic)</u>		<u>7-day Average</u>		
Pass/Fail Reproduction (7-day NOEC)		Report (Pass=0/Fail=1)		
Pass/Fail Lethality (7-day NOEC)		Report (Pass=0/Fail=1)		
Survival (7-day NOEC)		Report %		
Coefficient of Variation		Report %		
Reproduction(7-day NOEC)		Report %		
pH	N/A	N/A	Minimum 6 s.u.	Maximum 9 s.u.

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.

b. **Final Effluent Limits**

Outfall 001-treated process and contaminated storm water

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

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			
	Mass (lbs/day)		Other Units (Specify)	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Total Suspended Solids(TSS)	462	692	30 mg/l	45 mg/l
Ammonia Nitrogen as N	265.7	811.84	12 mg/l	18 mg/l
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l
Dissolved Oxygen (DO)				
(May-October)	N/A	N/A	4.0 mg/l (Ins Min)	N/A
(November-April)	N/A	N/A	5.0 mg/l (Ins Min)	N/A
Copper, Total Recov	0.19	0.38	12.2 µg/l	24.48 µg/l
Selenium, Total Recov	0.09	0.17	5.58 µg/l	11.2 µg/l
Zinc, Total Recov	1.78	3.57	115.62 µg/l	231.99 µg/l
Sulfate (SO4)	Report	Report	81 mg/l	122 mg/l
Chlorides (Cl)	Report	Report	38 mg/l	57 mg/l
Total Dissolved Solids (TDS)	Report	Report	237 mg/l	356 mg/l
Temperature (Ins. Max)	N/A	N/A	N/A	86 EF

<u>Whole Effluent Lethality</u>	<u>Daily Average Minimum</u>		<u>7-day Minimum</u>	
(7-day NOEC)		not < 100%		not < 100%
<u>Pimephales promelas (Chronic)</u>		<u>7-day Average</u>		
Pass/Fail Growth (7-day NOEC)		Report (Pass=0/Fail=1)		
Pass/Fail Lethality (7-day NOEC)		Report (Pass=0/Fail=1)		
Survival (7-day NOEC)		Report %		
Coefficient of Variation		Report %		
Growth (7-day NOEC)		Report %		
<u>Ceriodaphnia dubia (Chronic)</u>		<u>7-day Average</u>		
Pass/Fail Reproduction(7-day NOEC)		Report (Pass=0/Fail=1)		
Pass/Fail Lethality (7-day NOEC)		Report (Pass=0/Fail=1)		
Survival (7-day NOEC)		Report %		
Coefficient of Variation		Report %		
Reproduction(7-day NOEC)		Report %		
			Minimum	Maximum
pH	N/A	N/A	6 s.u.	9 s.u.

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.

c. **Final Effluent Limits**

Outfall 010-treated process and contaminated storm water

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

<u>Effluent Characteristic</u>	Mass (lbs/day)		<u>Discharge Limitations</u>	
	Monthly Avg	Daily Max	Other Units (Specify)	
Flow (MGD)	N/A	N/A	Monthly Avg	Daily Max
Total Suspended Solids(TSS)	Report	Report	30 mg/l	45 mg/l
Ammonia Nitrogen as N	265.7	811.84	Report mg/l	Report mg/l
Nitrate Nitrogen as N	405.02	1153.73	Report mg/l	Report mg/l
		<u>30-day Average Minimum</u>		<u>48-Hr Minimum</u>
<u>Whole Effluent Lethality</u> (48-hr NOEC)		not < 17%		not < 17%
<u>Pimephales promelas (Acute)</u>			<u>48-Hr Minimum</u>	
Pass/Fail Lethality (48-Hr NOEC)			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC)			Report%	
Coefficient of Variation (48-Hr NOEC)			Report %	
<u>Daphnia pulex (Acute)</u>			<u>48-Hr Minimum</u>	
Pass/Fail Lethality (48-Hr NOEC)			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC)			Report%	
Coefficient of Variation (48-Hr NOEC)			Report %	
pH	N/A	N/A	Minimum 6 s.u.	Maximum 9 s.u.

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.

d. **Final Effluent Limits**

Outfall 011-treated process and contaminated storm water

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

<u>Effluent Characteristic</u>	Mass (lbs/day)		<u>Discharge Limitations</u>	
	Monthly Avg	Daily Max	Other Units (Specify)	
Flow (MGD)	N/A	N/A	Monthly Avg	Daily Max
Total Suspended Solids(TSS)	Report	Report	30 mg/l	45 mg/l
Ammonia Nitrogen as N	265.7	811.84	Report mg/l	Report mg/l
Nitrate Nitrogen as N	405.02	1153.73	Report mg/l	Report mg/l
		<u>30-day Average Minimum</u>		<u>48-Hr Minimum</u>
<u>Whole Effluent Lethality</u> (48-hr NOEC)		not < 17%		not < 17%
<u>Pimephales promelas (Acute)</u>			<u>48-Hr Minimum</u>	
Pass/Fail Lethality (48-Hr NOEC)			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC)			Report%	
Coefficient of Variation (48-Hr NOEC)			Report %	
<u>Daphnia pulex (Acute)</u>			<u>48-Hr Minimum</u>	
Pass/Fail Lethality (48-Hr NOEC)			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC)			Report%	
Coefficient of Variation (48-Hr NOEC)			Report %	

pH	N/A	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.

e. **Interim Effluent Limits**

Outfall 002-Overflow pond(process water and contaminated storm water)

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

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			
	Mass (lbs/day) Monthly Avg	Daily Max	Other Units (Specify) Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Total Suspended Solids(TSS)	N/A	N/A	30 mg/l	45 mg/l
Ammonia Nitrogen as N	265.7	811.84	17.4 mg/l	52.8 mg/l
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l
Copper, Total Recov	Report	Report	Report µg/l	Report µg/l
Lead, Total Recov	Report	Report	Report µg/l	Report µg/l
Selenium, Total Recov	Report	Report	Report µg/l	Report µg/l
Zinc, Total Recov	Report	Report	Report µg/l	Report µg/l
Sulfate (SO4)	Report	Report	Report mg/l	Report mg/l
Total Dissolved Solids (TDS)	Report	Report	Report mg/l	Report mg/l
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l
Acute Biomonitoring	N/A	N/A	N/A	N/A
<u>Pimephales promelas (Acute)</u>		<u>48-Hr Minimum</u>		
Pass/Fail Lethality (48-Hr NOEC) TEM6C		Report (Pass=0/Fail=1)		
Survival (48-Hr NOEC) TOM6C		Report%		
Coefficient of Variation (48-Hr NOEC) TQM6C		Report%		
<u>Daphnia pulex (Acute)</u>		<u>48-Hr Minimum</u>		
Pass/Fail Lethality (48-Hr NOEC) TEM3D		Report (Pass=0/Fail=1)		
Survival (48-Hr NOEC) TOM3D		Report%		
Coefficient of Variation (48-Hr NOEC) TQM3D		Report %		
pH	N/A	N/A	Minimum 6 s.u.	Maximum 9 s.u.

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.

f. **Final Effluent Limits**

Outfall 002-Overflow pond (process water and contaminated storm water)

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

<u>Effluent Characteristic</u>	Mass (lbs/day)		<u>Discharge Limitations</u>	
	Monthly Avg	Daily Max	Other Units (Specify)	Monthly Avg
Flow (MGD)	N/A	N/A	Monthly Avg	Daily Max
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l
Ammonia Nitrogen as N	265.7	811.84	12 mg/l	18 mg/l
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l
Copper, Total Recov	N/A	N/A	12.2 µg/l	24.48 µg/l
Lead, Total Recov	N/A	N/A	3.8 µg/l	7.62 µg/l
Selenium, Total Recov	N/A	N/A	5.58 µg/l	11.2 µg/l
Zinc, Total Recov	N/A	N/A	115.62 µg/l	231.99 µg/l
Sulfate (SO4)	N/A	N/A	250 mg/l	375 mg/l
Total Dissolved Solids (TDS)	N/A	N/A	500 mg/l	750 mg/l
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l
			Minimum	Maximum
pH	N/A	N/A	6 s.u.	9 s.u.
Acute Biomonitoring	N/A	N/A	N/A	N/A

Pimephales promelas (Acute)

	48-Hr Minimum
Pass/Fail Lethality (48-Hr NOEC) TEM6C	Report (Pass=0/Fail=1)
Survival (48-Hr NOEC) TOM6C	Report%
Coefficient of Variation (48-Hr NOEC) TQM6C	Report%

Daphnia pulex (Acute)

	48-Hr Minimum
Pass/Fail Lethality (48-Hr NOEC) TEM3D	Report (Pass=0/Fail=1)
Survival (48-Hr NOEC) TOM3D	Report%
Coefficient of Variation (48-Hr NOEC) TQM3D	Report %

- 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.

g. **Interim Effluent Limits**

Outfall 003-treated domestic wastewater

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

<u>Effluent Characteristic</u>	Mass (lbs/day)		<u>Discharge Limitations</u>	
	Monthly Avg	Daily Max	Other Units (Specify)	Monthly Avg
Flow (MGD)	N/A	N/A	Monthly Avg	Daily Max
Carbonaceous Biochemical Oxygen Demand (CBOD5)	3.5	5.4	25 mg/l	38 mg/l
Total Suspended Solids(TSS)	4.3	6.4	30 mg/l	45 mg/l
Ammonia Nitrogen as N				
(May-October)	1.4	2.1	10 mg/l	15 mg/l
(November-April)	2.1	3.3	15 mg/l	23 mg/l
Fecal Coliform Bacteria (FCB)			(Colonies/100 ml)	
	N/A	N/A	1000	2000
			Minimum	Maximum
pH	N/A	N/A	6 s.u.	9 s.u.

- 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.

h. **Final Effluent Limits**

Outfall 003-treated domestic wastewater

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

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			
	Mass (lbs/day)		Other Units (Specify)	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Carbonaceous Biochemical Oxygen Demand (CBOD5)	1.4	2.1	10 mg/l	15 mg/l
Total Suspended Solids(TSS)	2.1	3.3	15 mg/l	23 mg/l
Ammonia Nitrogen as N (May-October)	0.7	1.1	5 mg/l	7.5 mg/l
(November-April)	1.4	2.1	10 mg/l	15 mg/l
Fecal Coliform Bacteria (FCB)	N/A	N/A	(Colonies/100 ml)	
			1000 Minimum	2000 Maximum
pH	N/A	N/A	6 s.u.	9 s.u.

- 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.

i. **Interim Effluent Limits**

Outfall 004-Contaminated storm water

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

<u>Effluent Characteristic</u>	<u>Discharge Limitation</u>			
	Mass (lbs/day)		Other Units (Specify)	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l
Ammonia Nitrogen as N	N/A	N/A	Report mg/l	Report mg/l
Lead, Total Recov	N/A	N/A	Report µg/l	Report µg/l
Zinc, Total Recov	N/A	N/A	Report µg/l	Report µg/l
Total Dissolved Solids (TDS)	N/A	N/A	Report mg/l	Report mg/l
Oil and Grease (O&G)	N/A	N/A	10 mg/l Minimum	15 mg/l Maximum
pH	N/A	N/A	6 s.u.	9 s.u.
Acute Biomonitoring	N/A	N/A	N/A	N/A
<u>Pimephales promelas (Acute)</u>			<u>48-Hr Minimum</u>	
Pass/Fail Lethality (48-Hr NOEC) TEM6C			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC) TOM6C			Report%	
Coefficient of Variation (48-Hr NOEC) TQM6C			Report%	
<u>Daphnia pulex (Acute)</u>			<u>48-Hr Minimum</u>	
Pass/Fail Lethality (48-Hr NOEC) TEM3D			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC) TOM3D			Report%	
Coefficient of Variation (48-Hr NOEC) TQM3D			Report %	

- 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.

j. **Final Effluent Limits**

Outfall 004- Contaminated storm water

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

<u>Effluent Characteristic</u>	<u>Mass (lbs/day)</u>		<u>Discharge Limitations</u>	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l
Ammonia Nitrogen as N	N/A	N/A	Report mg/l	Report mg/l
Lead, Total Recov	N/A	N/A	3.8 µg/l	7.62 µg/l
Zinc, Total Recov	N/A	N/A	115.62 µg/l	231.99 µg/l
Total Dissolved Solids (TDS)	N/A	N/A	291 mg/l	436.5 mg/l
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l
			Minimum	Maximum
pH	N/A	N/A	6 s.u.	9 s.u.
Acute Biomonitoring	N/A	N/A	N/A	N/A
<u>Pimephales promelas (Acute)</u>			<u>48-Hr Minimum</u>	
Pass/Fail Lethality (48-Hr NOEC) TEM6C			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC) TOM6C			Report%	
Coefficient of Variation (48-Hr NOEC) TQM6C			Report%	
<u>Daphnia pulex (Acute)</u>			<u>48-Hr Minimum</u>	
Pass/Fail Lethality (48-Hr NOEC) TEM3D			Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC) TOM3D			Report%	
Coefficient of Variation (48-Hr NOEC) TQM3D			Report %	

- 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.

k. **Interim Effluent Limits**

Outfalls 005,006,007- Contaminated storm water

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

<u>Effluent Characteristic</u>	<u>Mass (lbs/day)</u>		<u>Discharge Limitations</u>	
	Monthly Avg	Daily Max	Monthly Avg	Daily Max
Flow (MGD)	N/A	N/A	N/A	N/A
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l
Ammonia Nitrogen as N	N/A	N/A	Report mg/l	Report mg/l
Cadmium, Total Recov*	N/A	N/A	Report µg/l	Report µg/l
Lead, Total Recov	N/A	N/A	Report µg/l	Report µg/l
Zinc, Total Recov	N/A	N/A	Report µg/l	Report µg/l
Total Dissolved Solids (TDS)	N/A	N/A	Report mg/l	Report mg/l
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l
			Minimum	Maximum
pH	N/A	N/A	6 s.u.	9 s.u.

Acute Biomonitoring	N/A	N/A	N/A	N/A
<u>Pimephales promelas (Acute)</u>			<u>48-Hr Minimum</u>	
Pass/Fail Lethality (48-Hr NOEC)	TEM6C		Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC)	TOM6C		Report%	
Coefficient of Variation (48-Hr NOEC)	TQM6C		Report%	
<u>Daphnia pulex (Acute)</u>			<u>48-Hr Minimum</u>	
Pass/Fail Lethality (48-Hr NOEC)	TEM3D		Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC)	TOM3D		Report%	
Coefficient of Variation (48-Hr NOEC)	TQM3D		Report %	

*Cadmium testing is required only at Outfall 006.

- i. **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.

1. **Final Effluent Limits**

Outfalls 005,006,007- Contaminated storm water

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

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		Other Units (Specify)	
	Mass (lbs/day)		Monthly Avg	Daily Max
	Monthly Avg	Daily Max		
Flow (MGD)	N/A	N/A	N/A	N/A
Total Suspended Solids(TSS)	N/A	N/A	Report mg/l	Report mg/l
Ammonia Nitrogen as N	N/A	N/A	Report mg/l	Report mg/l
Cadmium, Total Recov*	N/A	N/A	2.03 µg/l	4.08 µg/l
Lead, Total Recov	N/A	N/A	3.8 µg/l	7.62 µg/l
Zinc, Total Recov	N/A	N/A	115.62 µg/l	231.99 µg/l
Total Dissolved Solids (TDS)	N/A	N/A	291 mg/l	436.5 mg/l
Oil and Grease (O&G)	N/A	N/A	10 mg/l	15 mg/l
			Minimum	Maximum
pH	N/A	N/A	6 s.u.	9 s.u.
Acute Biomonitoring	N/A	N/A	N/A	N/A
<u>Pimephales promelas (Acute)</u>			<u>48-Hr Minimum</u>	
Pass/Fail Lethality (48-Hr NOEC)	TEM6C		Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC)	TOM6C		Report%	
Coefficient of Variation (48-Hr NOEC)	TQM6C		Report%	
<u>Daphnia pulex (Acute)</u>			<u>48-Hr Minimum</u>	
Pass/Fail Lethality (48-Hr NOEC)	TEM3D		Report (Pass=0/Fail=1)	
Survival (48-Hr NOEC)	TOM3D		Report%	
Coefficient of Variation (48-Hr NOEC)	TQM3D		Report %	

*Cadmium testing is required only at Outfall 006.

- 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.

m. **Final Effluent Limits**

Outfall Sum (Outfall 001 + Outfall 002)

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

<u>Effluent Characteristic</u>	Mass (lbs/day)		<u>Discharge Limitations</u>		Other Units (Specify)
	Monthly Avg	Daily Max	Monthly Avg	Daily Max	
Flow (MGD)	N/A	N/A	N/A	N/A	
Ammonia Nitrogen as N	265.7	811.84	12 mg/l	18 mg/l	
Nitrate Nitrogen as N	405.02	1153.73	26.3 mg/l	74.9 mg/l	

11. BASIS FOR PERMIT CONDITIONS.

All permit limits are continued from the previous permit with the exception of those limits contained in the PAR. These exceptions are as follows:

- A. With the exception of Outfalls 010 and 011, all more restrictive permit limits and conditions include a three (3) year implementation schedule as provided in CAO No. 02-059;
- B. The requirement for a "Pond Bottom" synthetic liner for the fifty (50) acre equalization basin has been removed;
- C. The requirements, in addition to the standard sample collection, preservation, chain of custody, and analytical protocols for all biomonitoring, have been removed from Part III, Items 3.4 and 4.6;
- D. All of the metals listed in Item 1.d of the Order and Agreement section of the PAR have been removed since the data submitted by the permittee demonstrate that there is no reasonable potential for the listed metals at the specified outfalls;
- E. Ammonia-Nitrogen and Nitrate-Nitrogen limitations have been revised;
- F. The permittee is required to perform an evaluation of the background flow of the receiving streams for the storm water outfalls (Outfalls 002, 004, 005, 006, and 007) and the dilution of the effluent in the receiving stream as a result of a storm event;
- G. Biomonitoring requirements at Outfalls 002, 004, 005, 006, and 007 have been changed to acute "monitor and report";
- H. Sampling frequencies for dissolved minerals have been reduced to once/month;
- I. Mass limitations for TSS at Outfalls 010 and 011 have been deleted;
- J. Mass limitations for dissolved minerals at Outfall 001 have been deleted;
- K. The permittee is required to perform an evaluation of the temperature regime of the fifty (50) acre equalization basin for the purpose of determining if the elevation of temperatures in the basin are related to ambient sources of heat resulting from summertime conditions;
- L. Compliance with the dissolved oxygen limits at Outfall 001 will be based on an average of all samples taken each hour; and
- M. Compliance with the pH limitations for all outfalls which have a continuous monitor is utilized shall be based on an average of all samples taken each hour.

B. **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/BPJ		Previous NPDES Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
			Outfall 001					
TSS	N/A	N/A	30	45	30	45	30	45
NH3-N	12	18	17.3	52.8	Report	Report	12	18
NO3-N	N/A	N/A	26.3	74.9	Report	Report	26.3	74.9
DO (May-Oct) (Nov-April)	4.0 Ins. Min. 5.0 Ins. Min.		N/A	N/A	4 Min. 6 Min.	N/A N/A	4.0 Ins. Min. 5.0 Ins. Min.	
Copper (ug/l)	12.2	24.48	N/A	N/A	N/A	N/A	12.2	24.48
Selenium (ug/l)	5.58	11.2	N/A	N/A	N/A	N/A	5.58	11.2
Zinc (ug/l)	115.62	231.99	N/A	N/A	N/A	N/A	115.62	231.99
SO4	81	122	N/A	250	Report	Report	81	122
Cl	38	57	N/A	250	N/A	N/A	38	57
TDS	237	356	N/A	500	N/A	N/A	237	356
Temperature	86 F Ins. Max.		N/A	N/A	30 C Max = 86 F		86 F Ins. Max	
WET Limit	not<100%	not<100%	not<100%	not<100%	N/A	N/A	not<100%	not<100%
pH	6-9 s.u.		N/A		6-9 s.u.		6-9 s.u.	
			Outfalls 010 and 011					
TSS	N/A	N/A	30	45	N/A	N/A	30	45
NH3-N	N/A	N/A	Report	Report	N/A	N/A	Report	Report
NO3-N	N/A	N/A	Report	Report	N/A	N/A	Report	Report
WET Limits	not<17%	not<17%	not<17%	not<17%	N/A	N/A	not<17%	not<17%
pH	6-9 s.u.		N/A		N/A		6-9 s.u.	
			Outfall 002					
TSS	N/A	N/A	Report	Report	N/A	Report	Report	Report
NH3-N	12	18	17.3	52.8	N/A	N/A	12	18
NO3-N	N/A	N/A	26.3	74.9	N/A	N/A	26.3	74.9

Parameter	Water Quality-Based		Technology-Based/BPJ		Previous NPDES Permit		Draft Permit	
	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l	Monthly Avg. mg/l	Daily Max. mg/l
O&G	10	15	N/A	N/A	10	15	10	15
Copper (ug/l)	12.2	24.48	N/A	N/A	N/A	N/A	12.2	24.48
Lead (ug/l)	3.8	7.62	N/A	N/A	N/A	N/A	3.8	7.62
Selenium (ug/l)	5.58	11.2	N/A	N/A	N/A	N/A	5.58	11.2
Zinc (ug/l)	115.62	231.99	N/A	N/A	N/A	N/A	115.62	231.99
SO4	N/A	N/A	250	375	Report	Report	250	375
TDS	751	1127	500	750	N/A	N/A	500	750
pH	6-9 s.u.		N/A	N/A	6-9 s.u.		6-9 s.u.	
			Outfall 003					
CBOD5	10	15	N/A	N/A	25	38	10	15
TSS	15	23	N/A	N/A	30	45	15	23
NH3-N (May-Oct) (Nov-April)	5 10	7.5 15	N/A	N/A	10 15	15 23	5 10	7.5 15
FCB(col/100ml)	1000	2000	N/A	N/A	1000	2000	1000	2000
pH	6-9 s.u.		N/A	N/A	6-9 s.u.		6-9 s.u.	
			Outfalls 004, 005, 006, 007					
TSS	N/A	N/A	Report	Report	Report	Report	Report	Report
NH3-N	N/A	N/A	Report	Report	N/A	Report	Report	Report
O&G	10	15	N/A	N/A	10	15	10	15
Cadmium (ug/l)*	2.03	4.08	N/A	N/A	N/A	N/A	2.03	4.08
Lead (ug/l)	3.8	7.62	N/A	N/A	N/A	N/A	3.8	7.62
Zinc (ug/l)	115.62	231.99	N/A	N/A	N/A	N/A	115.62	231.99
TDS	291	436.5	500	750	N/A	N/A	291	436.5
pH	6-9 s.u.		N/A		6-9 s.u.		6-9 s.u.	

*Only at Outfall 006.

C. **Biomonitoring**

The biomonitoring requirements have been carried forth from the current permit with the exception of the following changes required by the PAR:

- i. Acute biomonitoring, with "monitor and report" requirements, is now required instead of chronic biomonitoring at Outfalls 002, 004, 005, 006, and 007.

Section 101(a)(3) of the Clean Water Act states that ".....it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited." In addition, ADEQ is required under 40 CFR Part 122.44(d)(1), adopted by reference in Regulation 6, to include conditions as necessary to achieve water quality standards as established under Section 303 of the Clean Water Act. Arkansas has established a narrative criteria which states "toxic materials shall not be present in receiving waters in such quantities as to be toxic to human, animal, plant or aquatic life or to interfere with the normal propagation, growth and survival of aquatic biota."

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates the effects of synergism of effluent components and receiving stream water quality characteristics. It is the national policy of EPA to use bioassays as a measure of toxicity to allow evaluation of the effects of a discharge upon a receiving water (49 Federal Register 9016-9019, March 9, 1984). EPA Region 6 and the State of Arkansas are now implementing the Post Third Round Policy and Strategy established on September 9, 1992.

Biomonitoring of the effluent is thereby required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit are as follows:

TOXICITY TESTS

FREQUENCY

Acute Biomonitoring

Once/month

Because the discharges from Outfalls 002, 004, 005, 006, and 007 consist only of stormwater (some of which may be contaminated) and are therefore not occurring on a regular basis, the Department has determined that acute biomonitoring requirements are appropriate.

The calculations for dilution used for the acute biomonitoring are as follows:

$$\text{Critical Dilution (CD)} = (Q_d / (Q_d + Q_b)) \times 100$$

Because the background flow, Q_b , is 0 cfs, the critical dilution will be 100%.

Toxicity tests shall be performed in accordance with protocols described in "Methods for Measuring the Acute Toxicity of Effluent to Freshwater and Marine Organisms", EPA/600/4-90/027. A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations are **32%, 42%, 56%, 75%, and 100%** (See **Attachment I** of CPP). The low-flow effluent concentration (critical dilution) is defined as **100%** effluent. The requirement for acute biomonitoring tests is based on the magnitude of the facility's discharge with

respect to receiving stream flow. The stipulated test species are representative of organisms indigenous to the geographic area of the facility; the use of these is consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to provide data representative of the toxic potential of the facility's discharge, in accordance with the regulations promulgated at 40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity shall be reported according to EPA/600/4-90/027 and shall be submitted as an attachment to the Discharge Monitoring Report (DMR).

This permit may be reopened to require further biomonitoring studies, Toxicity Reduction Evaluation (TRE) and/or effluent limits if biomonitoring data submitted to the Department shows toxicity in the permittee's discharge. Modification or revocation of this permit is subject to the provisions of 40 CFR 122.62, as adopted by reference in ADEQ Regulation No. 6. Increased or intensified toxicity testing may also be required in accordance with Section 308 of the Clean Water Act and Section 8-4-201 of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

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

- A. With the exception of Outfalls 010 and 011, all more restrictive permit limits and conditions include a three (3) year implementation schedule as provided in CAO No. 02-059;
- B. The requirement for a "Pond Bottom" synthetic liner for the fifty (50) acre equalization basin has been removed;
- C. The requirements, in addition to the standard sample collection, preservation, chain of custody, and analytical protocols for all biomonitoring, have been removed from Part III, Items 3.4 and 4.6;
- D. All of the metals listed in Item 1.d of the Order and Agreement section of the PAR have been removed since the data submitted by the permittee demonstrate that there is no reasonable potential for the listed metals at the specified outfalls;
- E. Ammonia-Nitrogen and Nitrate-Nitrogen limitations have been revised;
- F. The permittee is required to perform an evaluation of the background flow of the receiving streams for the storm water outfalls (Outfalls 002, 004, 005, 006, and 007) and the dilution of the effluent in the receiving stream as a result of a storm event;
- G. Biomonitoring requirements at Outfalls 002, 004, 005, 006, and 007 have been changed to acute "monitor and report";
- H. Sampling frequencies for dissolved minerals have been reduced to once/month;
- I. Mass limitations for TSS at Outfalls 010 and 011 have been deleted;
- J. Mass limitations for dissolved minerals at Outfall 001 have been deleted;
- K. The permittee is required to perform an evaluation of the temperature regime of the fifty (50) acre equalization basin for the purpose of determining if the elevation of temperatures in the basin are related to ambient sources of heat resulting from summertime conditions;
- L. Compliance with the dissolved oxygen limits at Outfall 001 will be based on an average of all samples taken each hour; and
- M. Compliance with the pH limitations for all outfalls which have a continuous monitor is utilized shall be based on an average of all samples taken each hour.

Other changes to the permit are as follows:

- A. The planning segment for Outfalls 001, 002, 003, 004, 005, 006, and 007 has been corrected; and
- B. Any footnotes regarding D.O. in Part IA of the permit have been removed.
- C. Footnotes in regard to biomonitoring have been revised.

12.SCHEDULE OF COMPLIANCE.

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

Outfalls 001, 002, 003, 004, 005, 006, and 007:

- 1. Compliance with interim limitations is required on the effective date of the permit.
- 2. The permittee shall achieve compliance with final limitations in accordance with the following:

Activity	Compliance Date from
	Effective date of the modified permit
1. Submit Progress Report	One Year
2. Submit Progress Report	Two Years
3. Achieve final limitations	Three Years

- 3. Consent Administrative Order No. 02-059 continues to remain in effect and provides the permittee three(3) years from the effective date of this permit to comply with technology-based limits contained herein.

Outfalls 010 or 011 (Combined flows of outfalls 001, 002, and 004):

- 1. Compliance with final limitations is required on the effective date of the permit. Permittee must notify ADEQ in writing ten days after operation of outfall 010 or 011 in order to terminate outfalls 001, 002 and 004.

Outfalls 002, 004, 005, 006, and 007 - Item #12 in Part III

- 1. Within 90 days of permit issuance, the permittee shall submit a protocol for the evaluation of the background flow of the receiving streams for these outfalls and the dilution of the effluent in the receiving stream as a result of a storm event.
- 2. The evaluation shall be completed within 18 months of permit issuance.
- 3. Until such time as the permit is reopened and modified, the effluent limits and toxicity testing requirements in this permit remain in effect.

Outfall 001 - Item #1 in Part III

- 1. Within 90 days of permit issuance, the permittee shall submit a protocol for the evaluation of the temperature regime of the fifty (50) acre equalization basin for the purpose of determining if the elevation of the

temperatures in the equalization basin are related to ambient sources of heat resulting from summertime conditions.

2. The evaluation shall be completed within 18 months of permit issuance.

13. **OPERATION AND MONITORING.**

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.

14. **SOURCES.**

The following sources were used to draft the permit:

1. NPDES permit file AR0000752.
2. Continuing Planning Process (CPP).
3. PAR Lis 03-067.
4. Comments from Hank Bates, Permittee, and Mart Davis
5. Public Hearing dated 4/13/2004
6. 40 CFR 122.63

15. **NPDES POINT OF CONTACT.**

For additional information, contact:

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