LITTLE ROCK
Water Reclamation
Authority ONE WATER. ONE FUTURE.

May 19, 2021

Adam Yates
Arkansas Pretreatment Program
Division of Environmental Quality – Office of Water Quality
Arkansas Department of Energy and Environment
5301 Northshore Drive
North Little Rock, AR 72118

Dear Mr. Yates,

By this letter, I certify that Little Rock Water Reclamation Authority's Pretreatment Program meets all the requirements listed in 40 C.F.R. 403.8. Specifically, the City of Little Rock has passed an ordinance that is enforceable under State and local laws as required by 40 C.F.R. 403.8(f)(1). The most recent version of the City's Pretreatment Ordinance, Ordinance No. 21,776, was passed by the Little Rock Board of Directors on September 3, 2019.

The revised Pretreatment Program Manual dated May 19, 2021 contains substantial modifications as defined by 40 CFR 403.18(b) and is submitted for review and approval by the DEQ as the Approval Authority. If you have any questions regarding the City's Pretreatment Ordinance or the revised Pretreatment Program Manual please contact Megan Jones, Pretreatment Administrator, at (501) 688-1495 or megan.jones@lrwra.com.

Sincerely,

Jean C. Block
Chief Legal Officer
Little Rock Water Reclamation Authority

ORDINANCE NO. 21,776

AN ORDINANCE TO REGULATE THE DISCHARGE OF INDUSTRIAL WASTEWATER TO THE PUBLIC SEWER SYSTEM PERTAINING TO THE SEWER LINES AND SYSTEM WITHIN THE JURISDICTION OF THE CITY OF LITTLE ROCK, ARKANSAS, TO COMPLY WITH THE REQUIREMENTS OF THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY AT 40 C.F.R. § 403; TO PROVIDE PENALTIES FOR VIOLATIONS THEREOF, AND TO REPEAL ORDINANCE NO. 19,895 (DECEMBER 21, 2007); TO DECLARE AN EMERGENCY; AND FOR OTHER PURPOSES.

WHEREAS, pursuant to 40 C.F.R. § 403.8(a), the City of Little Rock, Arkansas, is required to develop a Pretreatment Program to regulate the discharge of industrial wastewater to the Public Sewer System, and pursuant to 40 C.F.R. § 403.8(f) is required to adopt a mechanism of legal authority to administer the Pretreatment Program; and,

WHEREAS, the City of Little Rock Board of Directors adopted Little Rock, Ark., Ordinance No. 19,895 (December 21, 2007) and repealed Little Rock, Ark., Ordinance No. 17,966 (March 16, 1999) pertaining to discharges of industrial wastewater to the sewer lines and system within the jurisdiction of the City of Little Rock, Arkansas; and,

WHEREAS, the provisions set forth herein contain revisions and additions necessary for continued compliance with applicable Federal and State Laws and regulations prescribing requirements on industrial discharges to the sewer lines and system within the jurisdiction of the City of Little Rock including, but not limited to, penalties or fines authorized by Arkansas State Law, as set forth in Ark. Code Ann. § 8-4-103(g)(1); and,

WHEREAS, said revisions and additions are necessary to more effectively regulate industrial discharges to the sewer system of the City of Little Rock and enable the Little Rock Water Reclamation Authority to more efficiently and effectively operate the sewer system by regulating industrial discharges; and,

WHEREAS, it is essential that the Little Rock Water Reclamation Commission should have the authority to perform all acts as provided in Exhibit A attached hereto in order to effectively regulate the use and operation of the sewer lines and system within the jurisdiction of the City of Little Rock and the Exhibit A provisions of this ordinance are necessary for the immediate preservation and protection of the public health, safety and welfare; and,

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE CITY OF LITTLE ROCK, ARKANSAS:

Section 1. The Board of Directors of the City of Little Rock have determined that it is essential that the Little Rock Water Reclamation Commission have the authority to regulate the use of public and private sewers in accordance with the provisions contained in Exhibit A attached hereto in order to accomplish the purposes thereof. Therefore, an emergency is hereby declared to exist, and this ordinance, being necessary for the immediate preservation of the public health, safety, and welfare, shall be in full force and effect immediately after its passage and approval.

Section 2. ***Severability.*** In the event any section, subsection, subdivision, paragraph, subparagraph, item, sentence, clause, phrase, or word of this ordinance is declared or adjudged to be invalid or unconstitutional, such declaration or adjudication shall not affect the remaining provisions of this ordinance, as if such invalid or unconstitutional provision was not originally a part of this ordinance.

Section 3. ***Repealer.*** All ordinances, resolutions, bylaws, and other matters inconsistent with this ordinance are hereby repealed to the extent of such inconsistency.

Section 4. ***Emergency Clause.*** Unless the provisions of this ordinance are put into effect immediately, the public health, safety and welfare of the citizens of Little Rock will be adversely affected; therefore, an emergency is hereby declared to exist, and this ordinance shall be in full force and effect from and after its passage.

PASSED: September 3, 2019

ATTEST:

Susan Langley, City Clerk

APPROVED:

Frank Scott, Jr., Mayor

APPROVED AS TO LEGAL FORM:

Thomas M. Carpenter, City Attorney

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Exhibit A

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SECTION 1 - GENERAL PROVISIONS

1.1 Title, Purpose, and Policy

This ordinance shall be known as "the Pretreatment Ordinance" and sets forth uniform requirements for Industrial Users of the Publicly Owned Treatment Works for the City of Little Rock and enables Little Rock Water Reclamation Authority ("LRWRA") to comply with all applicable State and Federal laws, including the Clean Water Act (33 U.S.C. § 1251 *et seq.*) and Pretreatment Regulations promulgated by the Environmental Protection Agency (40 C.F.R. Part 403). The objectives of this ordinance are:

A. To prevent the introduction of pollutants into the Publicly-Owned Treatment Works that will interfere with its operation, contaminate the resulting biosolids, or interfere with the use and disposal of wastewater or biosolids in compliance with applicable statutes and regulations;

B. To prevent the introduction of pollutants into the Publicly-Owned Treatment Works that will pass through the Publicly Owned Treatment Works, inadequately treated, into receiving waters or otherwise be incompatible with the Publicly-Owned Treatment Works;

C. To protect both Publicly Owned Treatment Works personnel who may be affected by industrial wastewaters or sludges in the course of their employment and the general public;

D. To promote reuse and recycling of wastewater and biosolids from the Publicly-Owned Treatment Works;

E. To enable LRWRA to comply with its National Pollutant Discharge Elimination System Permit conditions, biosolids use and disposal requirements, and any other Federal or State Laws to which LRWRA is subject.

F. To promote and encourage pollution prevention, waste minimization, and waste reduction by Industrial Users prior to their recycling, treatment, or disposal options.

This ordinance shall apply to all Users of the Publicly Owned Treatment Works. The ordinance authorizes the issuance of Wastewater Discharge Permits; provides for monitoring, compliance, and enforcement activities; establishes administrative review procedures; requires User reporting; and provides for the setting of such fees as necessary for the equitable distribution of costs resulting from the program established herein.

1.2 Administration

Except as otherwise provided herein, the CEO shall administer, implement, and enforce the provisions of this ordinance. Any powers granted to or duties imposed upon the CEO may be delegated by the CEO to other LRWRA personnel.

1.3 Abbreviations

The following abbreviations, when used in this ordinance, shall have the designated meanings:

ADEQ	Arkansas Department of Environmental Quality
BMP	Best Management Practice
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
C.F.R.	Code of Federal Regulations
CIU	Categorical Industrial User
COD	Chemical Oxygen Demand
EPA	United States Environmental Protection Agency
gpd	gallons per day
IU	Industrial User
LRWRA	Little Rock Water Reclamation Authority
LRWRC	Little Rock Water Reclamation Commission
mg/L	milligrams per liter
NPDES	National Pollutant Discharge Elimination System
O&G	Oil and Grease
POTW	Publicly-Owned Treatment Works
RCRA	Resource Conservation and Recovery Act
SIC	Standard Industrial Classification
SIU	Significant Industrial User
SNC	Significant Noncompliance
TSS	Total Suspended Solids
U.S.C.	United States Code

1.4 Definitions

Unless a provision explicitly states otherwise, the following terms and phrases, as used in this ordinance, shall have the meanings hereinafter designated.

Approval Authority. The Arkansas Department of Environmental Quality, or its successor.

Authorized Representative of the Industrial User.

(1) If the Industrial User is a corporation:

(a) The President, Secretary, Treasurer, or a Vice-President of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(b) The Manager of one (1) or more manufacturing, production, or operating facilities, provided: the Manager is authorized to make management decisions

which govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations and can initiate and direct other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the Manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for individual Wastewater Discharge Permit requirements; and authority to sign documents has been assigned or delegated to the Manager in accordance with corporate procedures.

(2) If the Industrial User is a partnership or sole proprietorship: a general partner or proprietor, respectively.

(3) If the Industrial User is a Federal, State, or Local Governmental Facility: a Director or highest official appointed or designated to oversee the operation and performance of the activities of the government facility, or their designee.

(4) The individuals described in Paragraphs 1 through 3, above, may designate another authorized representative if the authorization is in writing, the authorization specifies the individual or position responsible for the overall operation of the facility from which the discharge originates or having overall responsibility for environmental matters for the company, and the written authorization is submitted to the CEO of LRWRA.

Batch Discharge. The discharge of wastewater to a POTW on an intermittent basis.

Best Management Practices or BMPs. Means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to implement the prohibitions listed in 40 C.F.R. 403.5(a)(1) and (b). BMPs may include, but are not limited to, treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw materials storage. BMPs may also include alternative means (i.e., management plans) of complying with, or in place of, certain established categorical Pretreatment Standards and effluent limits.

Biochemical Oxygen Demand or BOD. An indirect measure of the concentration of biologically degradable material present in organic wastes. Also expressed as BOD5, It reflects the amount of oxygen consumed in five (5) days by biological processes breaking down organic waste.

Biosolids. Primarily organic solid product produced by wastewater treatment processes that can be beneficially recycled. Biosolids production and use is regulated pursuant to 40 C.F.R. Part 503.

BTEX. The sum of the milligram per liter concentrations of benzene, toluene, ethylbenzene, and xylene.

BTEX Waters. Waters polluted by BTEX substances. Including, but not limited to, waters

associated with underground petroleum storage tanks; including water inside the tanks, water within the excavation pit upon removal of such tanks, or contaminated groundwater in the immediate vicinity of such a tank.

Bypass. The intentional diversion of waste streams from any portion of an Industrial User's treatment facility.

Categorical Pretreatment Standard or Categorical Standard. Standards specifying the quantity, concentration, or pollutant properties of pollutants that may be discharged to POTWs. EPA promulgates Pretreatment Standards for specific industry categories in accordance with Section 307 of the Clean Water Act. These standards are codified in 40 C.F.R. Parts 405-471.

CEO. The Chief Executive Officer of LRWRA, or a duly authorized representative.

Chemical Oxygen Demand or COD. A measure of the oxygen required to oxidize all compounds, both organic and inorganic, in water.

City. The City of Little Rock, Arkansas.

Clean Water Act. The Federal Water Pollution Control Act, 33 U.S.C. § 1251 *et seq.*

Combined Wastestream Formula. Procedure for calculating alternative discharge limits at industrial facilities where a waste stream regulated by a categorical Pretreatment Standard or local limit is combined before treatment with waste streams other than those subject to the standard or limit.

Commission or LRWRC. Little Rock Water Reclamation Commission.

Conventional Pollutant. BOD, TSS, pH, and fecal coliform bacteria, plus any additional pollutants that the POTW is designed to treat to the degree required by the POTW's NPDES Permit.

Composite Sample. A series of individual grab samples collected over a known period of time or proportional to flow and combined to make one sample.

Concentration-Based Limit. A limit based on the relative strength of a pollutant in a waste stream, usually expressed in milligrams per liter (mg/L).

Control Authority. Little Rock Water Reclamation Authority ("LRWRA").

Cooling Water. Water discharged from any use suchas air conditioning, cooling, or refrigeration, or to which the only pollutant added is heat.

Corrosive Waste. Any and all liquid or waterborne waste or gaseous or solid substance which can cause actual physical damage or destruction to any public or sanitary sewer or which prevents or materially retards treatment of sewage in the Sewage Treatment Plant.

Daily Maximum Limit. The arithmetic average of all effluent samples for a pollutant collected during a calendar day.

Domestic Waste. Any and all liquid or waterborne waste or gaseous or solid substances that result from household waste, as is common to residential areas such as home laundry, bathing, and/or

kitchen waste.

Enforcement Response Plan. Step-by-step enforcement procedures developed and followed by POTW personnel to identify, document, and respond to violations by Industrial Users.

Environmental Protection Agency, or EPA. The United States Environmental Protection Agency or, where appropriate, the Regional Water Management Division Director, or other duly authorized official of said agency.

Existing Source. Any source of discharge, the construction or operation of which commenced prior to the publication by EPA of proposed categorical Pretreatment Standards, which will be applicable to such source if the standard is thereafter promulgated in accordance with Section 307 of the Clean Water Act.

Extra Strength Surcharge or Surcharge. The additional monthly sewer charge assessed to persons discharging wastewater exceeding the average domestic concentrations for BOD, COD, TSS, and/or Oil and Grease. The surcharge is based on the pounds of pollutant discharged and reflects the additional cost of treating high strength discharges.

Garbage. The solid wastes from the domestic and commercial preparation, cooking and disposing of food, and from the handling, storage, and sale of produce.

Grab Sample. A sample which is taken from a waste stream without regard to the flow in the waste stream and over a period of time not to exceed fifteen (15) minutes.

Hazardous Waste. Any liquid, semi-liquid or solid waste or combination of wastes which, because of its quantity, concentration, physical, chemical or infectious characteristics may exhibit any of the following:

(1) Toxic, corrosive, irritant or strong sensitizer, flammable or combustible, explosive or otherwise capable of causing substantial personal injury or illness; or

(2) Pose a substantial hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise improperly managed; or is identified or listed as a hazardous waste as defined by the Arkansas Hazardous Waste Management Act, Ark. Code Ann. § 8-7-203(7) or Resource Conservation and Recovery Act (RCRA), Subtitle C, 42 U.S.C. § 6921 *et seq.*

Indirect Discharge or Discharge. The introduction of pollutants into the POTW from any non-domestic source regulated under Section 307(b), (c), or (d) of the Clean Water Act.

Industrial User or User. A source of indirect discharge.

Interference. A discharge, which alone or in conjunction with a discharge or discharges from other sources: 1) inhibits or disrupts the POTW, its treatment processes or operations or its biosolids processes, use or disposal; or 2) is a cause of a violation of any requirement of the POTW's NPDES Permit (including an increase in the magnitude or duration of a violation) or of the prevention of

biosolids use or disposal in compliance with any applicable statutes or regulations, or permits issued thereunder, or any more stringent State or local regulations.

Landfill Leachate. Those waters collected from the underdrainage collection system of a sanitary landfill.

Liquid Waste. Liquid, waterborne, gaseous, or solid substances derived from a chemical or portable toilet, or septage.

Local Limit. Specific discharge limits developed and enforced by LRWRA to implement the general and specific discharge prohibitions listed in 40 C.F.R. § 403.5(a)(1) and (b).

Maximum Allowable Discharge Limit. The maximum amount of a pollutant (either in concentration or mass) that is allowed to be discharged to the POTW

Medical Waste. Including, but not limited to, isolation wastes, infectious agents, human blood and blood products, pathological wastes, sharps, body parts, contaminated bedding, surgical wastes, potentially contaminated laboratory wastes, dialysis wastes, pharmaceutical medications, and wastes containing radioactive isotopes.

New Source.

(1) Any building, structure, facility, or installation from which there is (or may be) a discharge of pollutants, the construction of which commenced after the publication of proposed Pretreatment Standards under Section 307(c) of the Clean Water Act which will be applicable to such source if such standards are thereafter promulgated in accordance with that section, provided that:

   (a) The building, structure, facility, or installation is constructed at a site at which no other source is located; or

   (b) The building, structure, facility, or installation totally replaces the process or production equipment that causes the discharge of pollutants at an existing source; or

   (c) The production or wastewater generating processes of the building, structure, facility, or installation are substantially independent ofan existing source at the same site. In determining whether these are substantially independent, factors such as the extent to which the new facility is integrated with the existing plant, and the extent to which the new facility is engaged in the same general type of activity as the existing source, should be considered.

(2) Construction on a site at which an existing source is located results in a modification rather than a new source if the construction does not create a new building, structure, facility, or installation meeting the criteria of Sections (1)(b) or (c) above but otherwise alters, replaces, or adds to existing process or production equipment.

(3) Construction of a new source as defined under this paragraph has commenced if the owner or operator has:

(a) Begun, or caused to begin, as part of a continuous on-site construction program:

(i) any placement, assembly, or installation of facilities or equipment; or

(ii) significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or

(b) Entered into a binding contractual obligation for the purchase of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under this paragraph.

Noncontact Cooling Water. Water used for cooling which does not come into direct contact with any raw material, intermediate product, waste product, or finished product.

Nonsignificant Categorical Industrial User. An Industrial User subject to categorical Pretreatment Standards under 40 C.F.R. 403.6 and Parts 405-471, that the POTW has determined is exempt from the definition of Significant Industrial User on a finding that the Industrial User never discharges more than 100 gpd of total categorical wastewater (excluding sanitary, noncontact cooling and boiler blowdown wastewater, unless specifically included in the Pretreatment Standard). The Industrial User must also meet the following conditions:

(1) The Industrial User, before the POTW's finding, has consistently complied with all applicable categorical Pretreatment Standards and requirements;

(2) The Industrial User annually submits the certification statement required in 40 C.F.R. 403.12(q) together with any additional information necessary to support the certification statement; and

(3) The Industrial User never discharges any untreated concentrated wastewater.

Oil and Grease or O&G. A group of substances with similar physical characteristics determined quantitatively on the basis of their common solubility in an organic extracting solvent. These substances including fats, waxes, free fatty acids, calcium and magnesium soaps, mineral oils, and certain other non-fatty materials. It includes other materials recovered by the solvent from an acidified sample (such as sulfur compounds, certain organic dyes, and chlorophyll) and not volatilized during the test. At the discretion of the CEO, the Oil and Grease test may be determined by the latest approved listing in 40 C.F.R. Part 136.

Owner or Operator. Any person who has the primary management and ultimate decision-making responsibility over the operation of a facility or activity. The owner or operator is responsible for ensuring compliance with all applicable environmental regulations and conditions.

Pass Through. A discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES Permit, including an increase in the magnitude or duration of a violation.

Person. Any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity, or any other legal entity; or their legal representatives, agents, or assigns. This definition includes all Federal, State, and local governmental entities.

pH. A measure of the hydrogen-ion concentration in a solution, expressed in standard units as the logarithm (base ten) of the reciprocal of the hydrogen-ion concentration in gram moles per liter (g/mole/L). On the pH scale (0 to 14), a value of 7 at 25°C (77°F) represents a neutral condition. Decreasing values indicate increasing hydrogen-ion concentration (acidity); increasing values indicate decreasing hydrogen-ion concentration (alkalinity).

Pharmaceutical Drug. Any chemical substance intended for use in the medical diagnosis, cure, treatment, or prevention of disease, whether prescribed or sold "over the counter," or unused or expired.

Pollutant. A contaminant or other substance likely to render receiving waters harmful, detrimental, or injurious to public health, safety, or welfare; including, but not limited to, dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, medical wastes, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, municipal, agricultural and industrial wastes, and certain characteristics of wastewater (e.g., TSS, turbidity, color, BOD, COD, cyanide, oil & grease, heavy metals, toxicity, or odor).

POTW Water Reclamation Facility. That portion of the Publicly-Owned Treatment Works (POTW) designed to provide treatment to wastewater.

Pretreatment. The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to, or in lieu of, introducing such pollutants into the POTW. This reduction or alteration can be obtained by physical, chemical, or biological processes; by process changes; or by other means, except by diluting the concentration of the pollutants unless allowed by an applicable Pretreatment Standard.

Pretreatment Program. LRWRA's EPA and/or Arkansas Department of Environmental Quality approved program to administer the requirements of 40 C.F.R. 403, the General Pretreatment

Regulations, and associated National Categorical Standards, as adopted into Arkansas Pollution Control and Ecology Commission Regulation No. 6, Regulations for State Administration of the National Pollutant Discharge Elimination System.

Pretreatment Requirement. Any substantive or procedural requirement related to Pretreatment, other than a National Pretreatment Standard, imposed on an Industrial User.

Pretreatment Standards. For any specified pollutant, LRWRA prohibitive standards, LRWRA Technically-Based Local Limits, State of Arkansas Pretreatment Standards, or EPA'sCategorical Pretreatment Standards, whichever Standard is appropriate or most stringent.

Process Wastewater. Any water that, during manufacturing or processing by an Industrial User, comes into contact with or results from the production or use of any raw material, intermediate product, finished product, by product, or waste product.

Publicly-Owned Treatment Works or POTW. Treatment works owned or operated by the City of Little Rock.

Receiving Water. For purposes of this ordinance, receiving water shall include treatment works and waters receiving final effluent from treatment plants.

Representative Sample. A sample from a waste stream that is as nearly identical as possible in composition to that in the larger volume of wastewater being discharged and is typical of the discharge from the Industrial User on a normal operating day.

Sampling/Inspection Manhole. An approved access point to a building sewer which is used for the purpose of collecting a wastewater sample.

Sanitary Sewer. A sewer in which sewage is carried, and to which storm, surface, and ground water are not intentionally admitted.

Secure Sample Point. Any access point to a building sewer which is used for the purpose of collecting a wastewater sample where LRWRA is required to maintain custody of the sample and can be secured via approved structure by LRWRA.

Septic Tank Waste. Any domestic sewage from holding tanks such as vessels, campers, trailers, and septic tanks.

Sewage. The spent or used water of a community or industry containing dissolved and suspended matter.

Sewer. A pipe or conduit for carrying sewage.

Sewer Rate Ordinance. City of Little Rock Ordinance No. 20,594, or any ordinance adopted by the City of Little Rock Board of Directors for the purpose of establishing a schedule of sewer rates and charges for discharges to the POTW by Industrial Users.

Significant Industrial User.

(1) An Industrial User subject to categorical Pretreatment Standard; or

(2) An Industrial User that:

(a) Discharges an average of 25,000 gpd or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow down wastewater);

(b) Contributes a process waste stream which makes up 5% or more of the average dry weather hydraulic or organic capacity of the POTW Treatment Plant; or,

(c) Is designated as such by the CEO on the basis that it has a reasonable potential for adversely affecting the POTW's operation or for violating any Pretreatment Standard or Requirement.

Sludge. Semi-solid slurry produced by industrial processes including, but not limited to, pretreatment of industrial wastewater. This term is used in this ordinance to distinguish sludges produced by Industrial Users from biosolids created by the POTW.

Slug Load or Slug Discharge. Any discharge at a flow rate or pollutant concentration which could cause a violation of the prohibited discharge standards in Section 2.1 of this ordinance. A slug discharge is any discharge of a non-routine, episodic nature, including but not limited to, an accidental spill or a non-customary batch discharge which has a reasonable potential to cause interference or pass through, or in any way violate the POTW's regulations, local limits or permit conditions.

Standard Industrial Classification (SIC) Code. A classification pursuant to the *North American Industry Classification System - United States, (1997)* issued by the United States Office of Management and Budget's Economic Classification Policy Committee.

State. The State of Arkansas.

Stormwater. Any flow occurring during or following any form of natural precipitation, and resulting from such precipitation, including snow melt.

Total Suspended Solids or TSS. The total suspended solids are wastewater residues removed by laboratory filtering and retained on a standard glass-fiber filter with a nominal pore size of 2.0 µm (or smaller) and dried to a constant weight at a temperature of 103° - 105° centigrade.

Toxic Pollutant. Any pollutant or combination of pollutants listed as toxic in regulations promulgated by the EPA under the provisions of the Section 307(a) of the Clean Water Act or other statutes and regulations.

Treatment Works. Any devices or systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature, or necessary to recycle or reuse water at the most economical cost over the estimated life of the works, including intercepting sewers, outfall sewers, sewage collection systems, pumping, power, and other equipment, and their appurtenances; extensions, improvements, remodeling, additions, and alterations thereof.

Upset. An exceptional incident in which a Industrial User unintentionally and temporarily is in a state of noncompliance with the standards set forth in this ordinance or the Industrial User's Industrial Wastewater Discharge Permit, due to forces beyond the reasonable control of the Industrial User, and excluding noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation thereof.

Wastewater. Liquid and water-carried industrial wastes and sewage from residential dwellings, commercial buildings, industrial and manufacturing facilities, and institutions, whether treated or untreated, which are contributed to the POTW.

SECTION 2 - GENERAL SEWER USE REQUIREMENTS

2.1 Prohibited Discharge Standards

A. General Prohibitions. No User shall introduce or cause to be introduced into the POTW any pollutant or wastewater which causes pass through or interference, or in any way contaminates the POTW effluent, biosolids, scum, or residues to such a level as to render them unacceptable for economical reuse or reclamation. These general prohibitions apply to all Users of the POTW regardless of whether they are subject to categorical Pretreatment Standards or any other National, State, or local Pretreatment Standards or Requirements.

B. Specific Prohibitions. No User shall introduce or cause to be introduced into the POTW the following pollutants, substances, or wastewater:

(1) Liquids, solids, or gases which by reason of their nature and quantity are, or may be, sufficient either alone or by interaction with other substances to cause a fire or explosion hazard or be injurious in any other way to the POTW or the operation of the POTW. Such materials include, but are not limited to, gasoline, diesel, benzene, naphtha, fuel oils, kerosene, toluene, xylene, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides, or sulfides, or any waste stream with a closed cup flash point of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 C.F.R. 261.21;

(2) Water or wastes having a pH lower than 5.0 S.U. or greater than 12.0 S.U. or having any other corrosive property capable of causing damage or a hazard to the structures, equipment, and personnel of the POTW. In no case shall waters or wastes be discharged at such a flow rate and/or pH which will cause the influent at the POTW treatment plant to be lower than 6.0 S.U. or greater than 9.0 S.U.;

(3) Solid or viscous substances in quantities or of such size capable of creating a stoppage, plugging, breakage, or any reduction in sewer capacity or any other damage to the POTW such as, but not limited to, commercial food service oil and grease, ashes,

cinders, sand, plastic, wood, un-ground garbage, whole blood, hair and fleshings, entrails, and paper dishes, cups, milk containers, etc. Any additional sewer or sewerage maintenance expenses caused by such a discharge, or any other expenses attributable thereto will be charged to the User by LRWRA. Any refusal to pay the additional maintenance expense duly authorized by the CEO shall constitute a violation of the provisions contained herein;

(4) Pollutants, including oxygen-demanding pollutants (BOD, COD, etc.), released in a discharge at a flow rate and/or pollutant concentration which, either singly or by interaction with other pollutants, will cause interference, upset, or loss of efficiency at POTW. In no case shall a slug load have a flow rate or contain a concentration or quantity of pollutants that exceed for any time period longer than fifteen (15) minutes more than five (5) times the average twenty-four (24)-hour concentration, quantity, or flow during normal operation of the User;

(5) Waters, wastes, or vapors discharged at such a volume or temperature which will inhibit biological activity in the treatment plant resulting in interference, but in no case any such waters or wastes which will cause the POTW influent or pumping station wetwell temperature to exceed 140 degrees Fahrenheit (40 degrees Centigrade). Any liquid or vapor having a temperature higher than 130 degrees Fahrenheit (54.4 degrees Centigrade) at the point of discharge;

(6) Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin, in amounts that will cause interference or pass through;

(7) Waters or wastes containing toxic or poisonous solids, liquids, or gases, or oxygen demanding wastes, in sufficient quantity, either singly or by interaction with other wastes to injure or cause interference with any sewage treatment process, to contaminate the POTW effluent, biosolids, scum, or residue to such a level to render them unacceptable for economical reuse or reclamation, to pass through the POTW and cause a violation of the POTW's NPDES Permit or create a toxic effect in the receiving stream, to cause a public nuisance, or to constitute a hazard or an acute health or safety problem to the POTW workers or the public;

(8) Noxious or malodorous liquids, gases, solids, or other wastewater which, either singly or by interaction with other wastes, are sufficient to create a public nuisance or a hazard to life, or to prevent entry into the sewers for maintenance or repair;

(9) Wastewater which imparts color which cannot be removed by the treatment process, such as, but not limited to, dye wastes and vegetable tanning solutions, which consequently imparts color to the treatment plant's effluent, thereby violating the

NPDES Permit;

(10) Unusual concentrations of inert suspended solids such as, but not limited to, Fuller earth, lime slurries, and lime residues, or dissolved solids such as, but not limited to, sodium chloride and sodium sulfate.

(11) Wastewater containing any radioactive wastes or isotopes except in compliance with applicable State or Federal Regulations;

(12) Storm water, surface water, ground water, artesian well water, roof runoff, subsurface drainage, swimming pool drainage, condensate, de-ionized water, noncontact cooling water, and unpolluted wastewater;

(13) Sludges, screenings, or other residues from the pretreatment of industrial wastes;

(14) Medical wastes including, but not limited to, any pharmaceutical drugs, whether unused or expired;

(15) Wastewater causing, alone or in conjunction with other sources, the treatment plant's effluent to fail a toxicity test;

(16) Detergents, surfactants, or other substances which may cause excessive foaming in the POTW;

(17) Wastewater causing two successive readings on an explosion hazard meter at the point of discharge into the POTW, or at any point in the POTW, of more than 10% or any single reading over 20% of the Lower Explosive Limit of the meter;

(18) Hauled or trucked liquid wastes, except at the specific discharge point(s) designated by LRWRA;

(19) Hazardous wastes, except as approved by the CEO in accordance with this ordinance;

(20) Wastewaters or leachates generated from the remediation of hazardous or non-hazardous sites, except as approved by the CEO and in accordance with this ordinance; or

(21) Any material into the POTW, except as approved by the CEO and in accordance with this ordinance.

Pollutants, substances, or wastewater prohibited by this section shall not be processed or stored in such a manner that they could be discharged to the POTW.

2.2 National Categorical Pretreatment Standards

The Categorical Pretreatment Standards found at 40 C.F.R. Parts 405-471 are hereby incorporated by reference. Those standards, if more stringent than the limitations imposed by the latest "Technically Based Local Limits Development Document" and approved by the Approval Authority for sources in that sub-category, shall supersede the limitations imposed by the Local Limits.

A. Where a Categorical Pretreatment Standard is expressed only in terms of either the mass or the

concentration of a pollutant in wastewater, the CEO may impose equivalent concentration or mass limits in accordance with 40 C.F.R. 403.6(c).

B. When the limits in a Categorical Pretreatment Standard are expressed only in terms of mass of pollutant per unit of production, the CEO may convert the limits to equivalent limitations expressed either as mass of pollutant discharged per day or effluent concentration for purposes of calculating effluent limitations applicable to individual Industrial Users, in accordance with 40 C.F.R. 403.6(c)(2).

C. When wastewater subject to a Categorical Pretreatment Standard is mixed with wastewater not regulated by the same standard, the CEO shall impose an alternate limit using the combined waste stream formula in 40 C.F.R. 403.6(e).

2.3 State Pretreatment Standards

State Pretreatment Standards established in Arkansas Pollution Control and Ecology Commission Regulation No. 6, Regulations for State Administration of the National Pollutant Discharge Elimination System, are hereby incorporated by reference and will be imposed where applicable and shall include, but are not limited to, discharge limitations and reporting requirements. If such Standards for a particular industrial subcategory are more stringent than the requirements of this ordinance, those Standards shall supersede the requirements of this ordinance. This shall include those regulations currently promulgated or which will be promulgated in the future, including any amendments, and shall be recognized as part of this ordinance.

2.4 Technically-Based Local Limits

A. No person shall discharge any waters or wastes at a concentration that would exceed the concentration of pollutants identified in the "Technically Based Local Limits Development Document," as adopted by the CEO and approved by the Approval Authority.

B. LRWRA will develop and assign specific discharge permit limitations, or Best Management Practices (BMPs) when deemed appropriate by the CEO, for pollutants for permitted Users based on criteria approved by the CEO. The specific permit limits or BMPs shall ensure that Local Limit pollutant concentrations will protect the wastewater treatment plant from upset. The Local Limits shall apply to the total flow or total process discharge from the Industrial User. In developing specific permit limits, the CEO may impose mass limitations in addition to, or in place of, specific concentration-based limits. In addition, LRWRA may develop specific discharge limitations or BMPs for any other toxic pollutants which the CEO of LRWRA may determine to be of sufficient quantity to cause POTW interference or pass through, endanger the health and safety of the POTW personnel or public health, cause a POTW Permit violation, or render the POTW biosolids unacceptable for economic reuse or reclamation.

C. The CEO may develop BMPs, by ordinance or in individual wastewaters or general permits, to

implement Local Limits and the requirements of Section 2.1 of this ordinance.

2.5 Dilution

No User shall ever increase the use of process water, or in any way attempt to dilute a discharge, as a partial or complete substitute for adequate treatment to achieve compliance with a discharge limitation unless expressly authorized by an applicable Pretreatment Standard or Requirement. The CEO may impose mass limitations on Users who are using dilution to meet applicable Pretreatment Standards or Requirements, or in other cases when the imposition of mass limitations is appropriate.

2.6 Right of Revision

LRWRA shall at all times have the right to establish, by ordinance or in individual Wastewater Discharge Permits, more stringent standards or requirements on discharges to the POTW, consistent with the purpose of this ordinance, than may be specified in this ordinance or the "Technically Based Local Limits Document."

2.7 Rules and Regulations

In addition to the provisions of this ordinance, the Little Rock Water Reclamation Commission is specifically authorized to make such other reasonable rules and regulations for the construction, use, and operation of sanitary sewers to be connected to, or connecting into, the mains of the Little Rock Water Reclamation Authority System. Such rules and regulations so made and adopted at a regular meeting of the Commission shall become effective as follows:

A. A public notice of intent to enact and intention of proposed rules and regulations shall be placed in a daily newspaper in the City of Little Rock, Arkansas, one (1)-day for each of two (2) successive weeks with a brief summary of the proposed rules and regulations.

B. The proposed rules and regulations shall be available for public inspection and reproduction at the office of the CEO of Little Rock Water Reclamation Authority for thirty (30) days following the first publication of the public notice.

C. A correct copy of those rules and regulations shall be filed for permanent record with the City Clerk of the City of Little Rock together with any written objections to the proposed rules and regulations at the end of the thirty (30)-day public review period.

D. Said rules and regulations shall become effective on the filing of said copy for permanent record with the City Clerk.

SECTION 3 - PRETREATMENT OF WASTEWATER

3.1 Pretreatment Facilities

Users shall provide wastewater treatment as necessary to comply with this ordinance and shall achieve compliance with all Categorical Pretreatment Standards, Local Limits, and the prohibitions set out in Section 2.1 of this ordinance within the time limitations specified by EPA, the State, or the CEO, whichever is more stringent. Any facilities necessary for compliance shall be provided, operated, and maintained at

the User's expense. Detailed plans describing such facilities and operating procedures shall be submitted to the CEO for review and shall be acceptable to the CEO before such facilities are constructed. The review of such plans and operating procedures shall in no way relieve the User from the responsibility of modifying such facilities as necessary to produce a discharge acceptable to LRWRA under the provisions of this ordinance.

3.2 Additional Pretreatment Measures

A. If any waters or wastes which are discharged or which are to be discharged into the public sewers contain or possess any of the characteristics enumerated in Section 2.1(A), 2.1(B), 2.4, or 14.1 of this ordinance and, in the judgment of the CEO, may have a deleterious effect upon the sewage works, processes, equipment, biosolids, or receiving waters, or which otherwise creates a hazard to life or constitutes a public nuisance, the CEO may: (a) reject the wastes; (b) require pretreatment to an acceptable condition for discharge to the public sewer; or (c) require control over the quantities and rate of discharge.

B. If the CEO requires the pretreatment or equalization of waste flows, the design and installation of all treatment facilities and equipment shall be subject to the review and approval of the CEO and subject to all applicable codes, ordinances, and laws. Where pretreatment or flow equalization facilities are provided for any waters or wastes, they shall be continuously maintained in satisfactory and effective operation by the owner or occupant at his own expense.

C. Whenever deemed necessary, the CEO may require Users to restrict their discharge during peak flow periods, designate that certain wastewater be discharged only into specific sewers, relocate and/or consolidate points of discharge, separate sewage wastestreams from industrial wastestreams, and such other conditions as may be necessary to protect the POTW and determine the User's compliance with the requirements of this ordinance.

D. The CEO may require any person discharging into the POTW to install and maintain, on their property and at their expense, a suitable storage and flow-control facility to ensure equalization of flow. A Wastewater Discharge Permit may be issued solely for flow equalization.

E. Grease, oil, and sand interceptors shall be provided when, in the opinion of the CEO, they are necessary for the proper handling of wastewater containing excessive amounts of grease and oil, any flammable wastes, or sand, except that such interceptors shall not be required for residential Users. All interception units shall be of a type and capacity approved by the CEO and shall be so located to be easily accessible for cleaning and inspection. Such interceptors shall be inspected, cleaned, and repaired regularly, as needed, by the User at their expense. Storage, handling, transportation, and disposal of all wastes generated from such interceptors shall be performed in accordance with all applicable Federal, State, and local regulations that pertain to that type or class of waste.

F. Users with the potential to discharge flammable substances may be required to install and maintain an approved combustible gas detection meter.

G. Whenever deemed necessary, the CEO may require the Pretreatment System Operator(s)to be licensed in accordance with the Arkansas Pollution Control and Ecology Commission Regulation No. 3, Licensing of Wastewater Treatment Plant Operators, for the operation of industrial wastewater treatment systems.

3.3 Accidental Discharge and Slug Control Plans

The CEO shall evaluate whether each Significant Industrial User needs an accidental discharge/slug control plan or other action to control slug discharges. The CEO may require any User to develop, submit for approval, and implement such a plan or take such other action that may be necessary to control slug discharges. Alternatively, the CEO may develop such a plan for any User. An accidental discharge/slug control plan shall address, at a minimum, the following:

A. Description of discharge practices, including non-routine batch discharges;

B. Description of stored chemicals;

C. Procedures for immediately notifying the CEO of any accidental or slug discharge, as required by Section 6.7 of this ordinance; and

D. Procedures to prevent adverse impact from any accidental or slug discharge. Such procedures include, but are not limited to, inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site runoff, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants, including solvents, or measures and equipment for emergency response.

3.4 Hauled Wastewater

A. Septic tank waste originating from domestic sources may be introduced into the POTW only at locations designated by the CEO, and at such times as are established by the CEO. Such waste shall not violate Section 2 of this ordinance or any other requirements established by the CEO. The CEO may require septic tank waste haulers to obtain Wastewater Discharge Permits.

B. Other hauled liquid wastes may be introduced into the POTW, with prior approval of the CEO. These other wastes may include, but are not limited to, landfill leachate and waters associated with the removal of underground petroleum storage tanks (BTEX Waters).The acceptance of such waters for introduction to the POTW shall comply with this ordinance and LRWRA policies and procedures for the acceptance of landfill leachate and BTEX.

C. The CEO may require haulers of industrial waste to obtain individual or general Wastewater Discharge Permits. The CEO also may prohibit the disposal of hauled industrial waste. The discharge of hauled industrial waste is subject to all other requirements of this ordinance.

D. Industrial waste haulers may discharge loads only at locations designated by the CEO. No load

may be discharged without prior consent of the CEO. The CEO may collect samples of each hauled load to ensure compliance with applicable Standards. The CEO may require the industrial waste hauler to provide a waste analysis of any load prior to discharge.

E. The CEO shall require all haulers of liquid wastes discharged into the POTW to use the LRWRA manifest system for each load of hauled liquid waste. This form must contain, at a minimum, the name and address of the waste hauler, permit number, truck identification, names and addresses of sources of waste, and volume and characteristics of waste. The form shall identify the type of waste and state whether any wastes are RCRA hazardous wastes.

F. Except as approved and designated by LRWRA, Haulers of waste materials removed from grease interceptors, solids traps or other such devices shall not discharge any material retained by such devices back into the Sanitary Sewer Collection System.

SECTION 4 - WASTEWATER DISCHARGE PERMITS

4.1 Wastewater Survey

When requested by the CEO, all Industrial Users must submit information on the nature and characteristics of their wastewater by completing a wastewater survey prior to commencing their discharge. The CEO is authorized to prepare a form for this purpose and may periodically require Industrial Users to update the survey. Failure to complete this survey shall be reasonable grounds for denying or terminating service to the Industrial User and shall be considered a violation of this ordinance.

4.2 Permit Requirements

A. No Significant Industrial User shall discharge wastewater into the POTW without first obtaining an individual Wastewater Discharge Permit from the CEO, except that a Significant Industrial User that has filed a timely application pursuant to Section 4.3 of this ordinance may continue to discharge for the time period specified therein.

B. The CEO may also require any other Industrial Users to obtain Wastewater Discharge Permits as necessary to carry out the purposes of this ordinance.

C. Any violation of the terms and conditions of a Wastewater Discharge Permit shall be deemed a violation of this ordinance and subjects the Industrial User to the sanctions set out in Sections 10 through 12 of this ordinance. Obtaining a Wastewater Discharge Permit does not relieve a permittee of its obligation to comply with all Federal and State Pretreatment Standards or requirements or with any other requirements of Federal, State, and Local Law.

4.3 Permitting – Existing Connections

Any existing Industrial User identified by LRWRA and required by the CEO to obtain an Industrial Wastewater Discharge Permit shall be notified by the CEO in writing and shall complete and return an Industrial Wastewater Discharge Permit Application within the time established by the CEO. The CEO may

deny or condition the discharge of pollutants by such Industrial User in the Industrial Wastewater Discharge Permit.

4.4 Permitting – New Connections

Any Industrial User required by the CEO to obtain an individual Wastewater Discharge Permit or a General Permit who proposes to begin or recommence discharging industrial wastes into the POTW must obtain a Discharge Permit prior to the beginning or recommencing of such discharge. An application for this Wastewater Discharge Permit must be filed at least ninety (90) days prior to the date upon which any discharge will begin or recommence. The CEO may deny or condition the discharge of pollutants by such Industrial User in the Industrial Wastewater Discharge Permit.

4.5 Application Contents

All Industrial Users required to obtain an individual Wastewater Discharge Permit or general permit by the CEO shall submit an Industrial Wastewater Discharge Permit Application to LRWRA, using the form(s) provided by LRWRA. The information required in the Permit Application shall include, but is not limited to:

A. Name, address, and location of the Industrial User and the name of the operator and owner with contact information.

B. Standard Industrial Classification Number (SIC Code).

C. North American Industry Classification System (NAICS Code)

D. The nature and concentrations of any pollutants or materials prohibited or regulated by this ordinance, including the EPA's Priority Pollutant Listing for each pollutant or material.

E. The time of day and duration of each discharge.

F. The average daily and maximum daily flow rates including any daily, monthly, or seasonal variations. Information showing the measured average daily and maximum daily flow, in gallons per day, to the POTW from regulated process streams and other streams, as necessary, to allow use of the combined waste stream formula set out in Section 2.2(C) of this ordinance (40 C.F.R. 403.6(e)).

G. Site plans and details showing all plumbing including storm and sanitary sewers, sewer connections, manholes, and sampling/inspection manholes; the location and description of any pretreatment equipment; and the appropriate location for monitoring all wastes covered by the permit.

H. A description of facilities, activities, and plant processes including all materials which are or may be discharged to the POTW.

I. A list of all raw materials used at the facility including SDS (Safety Data Sheets) for all chemicals that are used or stored at the facility which are, or could accidentally or intentionally be, discharged to the POTW.

J. Compliance schedules, where applicable and which meet the applicable requirements of 40 C.F.R. 403.8(f)(1)(iv).

K. Any other information as may be deemed necessary by the CEO to evaluate the Wastewater Discharge Permit application.

L. A list of all environmental control permits for the facility.

M. Measurement of Pollutants.

(1) The Categorical Pretreatment Standards applicable to each regulated process and any new categorically regulated processes for existing sources.

(2) The results of sampling and analysis identifying the nature and concentration (or mass, where required by the Standard(s) or by the CEO, of regulated pollutants in the discharge from each regulated process.

(3) Instantaneous, daily maximum, and long-term average concentrations (or mass, where required) shall be reported.

(4) The sample shall be representative of daily operations and shall be analyzed in accordance with procedures set out in Section 6.11 of this ordinance. Where the Standard requires compliance with a BMP or pollution prevention alternative, the User shall submit documentation as required by the CEO or the applicable Standard to determine compliance with the Standard.

(5) Sampling must be performed in accordance with procedures set out in Section 6.13 of this ordinance.

Incomplete or inaccurate applications will not be processed and will be returned to the User for revision. This could result in a delay in the issuance to the discharge permit.

4.6 Application Signatories and Certification

A. All Wastewater Discharge Permit applications and Industrial User reports must be signed by an Authorized Representative of the User and contain the following certification statement:

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

B. If the designation of an Authorized Representative is no longer accurate because a different

individual or position has responsibility for the overall operation of the facility or overall responsibility for environmental matters for the company, a new written authorization satisfying the requirements of this Section must be submitted to the CEO prior to or together with any reports to be signed by an Authorized Representative.

SECTION 5 - WASTEWATER DISCHARGE PERMIT ISSUANCE PROCESS

5.1 Wastewater Discharge Permit Duration

A Wastewater Discharge Permit shall be issued for a specified time period not to exceed five (5) years from the effective date of the permit. A Wastewater Discharge Permit may be issued for a period less than five (5) years at the discretion of the CEO. Each Wastewater Discharge Permit will indicate a specific date upon which it will expire.

A Wastewater Discharge Permit shall include such conditions as are deemed reasonably necessary by the CEO to prevent pass through or interference, protect the quality of the water body receiving the treatment plant's effluent, protect worker health and safety, facilitate biosolids management and disposal, and protect against damage to the POTW.

5.2 Permit Contents

A. Wastewater Discharge Permits must contain:

(1) A statement that indicates Wastewater Discharge Permit duration, which in no event shall exceed five (5) years;

(2) A statement that the Wastewater Discharge Permit is nontransferable without prior notification to the CEO in accordance with Section 5.4 of this ordinance and provisions for furnishing the new owner or operator with a copy of the existing Wastewater Discharge Permit;

(3) Effluent limits, including Best Management Practices, based on applicable Pretreatment Standards;

(4) Self-monitoring, sampling, reporting, notification, and record-keeping requirements. These requirements shall include an identification of pollutants (or Best Management Practices) to be monitored, sampling location, sampling frequency, and sample type based on Federal, State and Local Law;

(5) A statement of applicable civil and criminal penalties for violation of Pretreatment Standards and Requirements, and any applicable compliance schedule. Such schedule may not extend the time for compliance beyond that required by applicable Federal, State or Local Law; and

(6) Requirements to control Slug Discharge, if determined by the CEO to be necessary

B. Individual Wastewater Discharge Permits may contain, but need not be limited to, the following conditions:

(1) Limits on the rate of discharge, time of discharge, or requirements for flow regulation and equalization;

(2) Requirements for the construction or installation of pretreatment technology, pollution control, or other appropriate containment devices, designed to reduce, eliminate, or prevent the introduction of pollutants into the treatment works;

(3) Requirements for the development and implementation of spill/slug control plans or other special conditions including management practices necessary to adequately prevent accidental, unanticipated, or non-routine discharges;

(4) Development and implementation of waste minimization plans to reduce the amount of pollutants discharged to the POTW;

(5) The unit charge or schedule of User charges and fees for the management of the wastewater discharged to the POTW;

(6) Requirements for installation and maintenance of inspection and sampling facilities and equipment, including flow measurement devices;

(7) A statement that compliance with the Wastewater Discharge Permit does not relieve the permittee of responsibility for compliance with all applicable Federal and State Pretreatments Standards or Requirements, including those which become effective during the term of the Wastewater Discharge Permit; and

(8) Other conditions, as deemed appropriate by the CEO, to ensure compliance with this ordinance, and State and Federal Laws, Rules, and Regulations.

5.3 Wastewater Discharge Permit Modification

The CEO may modify a Wastewater Discharge Permit for good cause, including but not limited to, the following reasons:

A. To incorporate any new or revised Federal, State, or Local Pretreatment Standards or Requirements;

B. To address significant alterations or additions to the User's operation, processes, or wastewater volume or character since the time of Wastewater Discharge Permit issuance;

C. A change in the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;

D. Information indicating that the permitted discharge poses a threat to the POTW and/or its personnel, the receiving waters, or the beneficial use of biosolids;

E. Violation of any terms or conditions of the Wastewater Discharge Permit;

F. Misrepresentations or failure to fully disclose all relevant facts in the Wastewater Discharge Permit application or in any required reporting;

G. Revision of or a grant of variance from categorical Pretreatment Standards pursuant to 40

C.F.R. 403.13;

H. To correct typographical or other errors in the Wastewater Discharge Permit; or

I. To reflect a transfer of the facility ownership or operation to a new owner or operator.

5.4 Wastewater Discharge Permit Transfer

Wastewater Discharge Permits may be transferred to a new owner or operator only if the permittee gives at least sixty (60) days advance notice to the CEO and the CEO approves the Wastewater Discharge Permit transfer. The notice to the CEO must include a written certification by the new owner or operator which:

A. States that the new owner or operator has no immediate intent to change the facility's operations and processes;

B. Identifies the specific date on which the transfer is to occur; and

C. Acknowledges full responsibility for complying with the existing Wastewater Discharge Permit.

Failure to provide advance notice of a transfer may render the Wastewater Discharge Permit void as of the date of facility transfer.

5.5 Wastewater Discharge Permit Revocation

The CEO may revoke a Wastewater Discharge Permit for good cause in accordance with the procedure set forth in Section 10 of this ordinance, including but not limited to, the following reasons:

A. Failure to notify the CEO of significant changes to the wastewater prior to the changed discharge;

B. Failure to provide prior notification to the CEO of changed conditions pursuant to Section 6.6 of this ordinance;

C. Misrepresentation or failure to fully disclose all relevant facts in the Wastewater Discharge Permit application;

D. Falsifying self-monitoring reports and certification statements;

E. Tampering with monitoring equipment;

F. Refusing to allow the CEO timely access to the facility premises and records;

G. Failure to meet effluent limitations;

H. Failure to pay fines;

I. Failure to pay sewer charges;

J. Failure to meet compliance schedules;

K. Failure to complete a wastewater survey or submit a Wastewater Discharge Permit application for modification at the request of the CEO;

L. Failure to provide advance notice of the transfer of business ownership of a permitted facility; or

M. Violation of any Pretreatment Standard or Requirement, or any terms of the Wastewater Discharge Permit or this ordinance.

5.6 Voided Permits

Wastewater Discharge Permits shall be void upon cessation of operations or transfer of business ownership. All Wastewater Discharge Permits are void upon renewal or modification ofthe permit for that discharge.

5.7 Wastewater Discharge Permit Renewal

A. A User with an expiring Wastewater Discharge Permit shall apply for Wastewater Discharge Permit renewal by submitting a complete permit application, in accordance with Section 4.5 of this ordinance, a minimum of sixty (60) days prior to the expiration of the User's existing Wastewater Discharge Permit. The CEO will notify the User of his responsibility to reapply for renewal of the permit at least ninety (90) days prior to the expiration date.

B. If a User submits a timely application for renewal of an expiring Wastewater Permit and, through no fault of the User, a renewal permit is not issued prior to the expiration date of the existing permit, the User shall continue to discharge under the limits and conditions contained in the expired permit until a new permit is issued for that discharge.

5.8 Regulation of Waste Received from Other Jurisdictions

A. All Industrial Users discharging wastewater to the City of Little Rock POTW which are outside the jurisdiction and are not part of another incorporated city, shall be required to agree by written contract to abide by the conditions set forth in this ordinance, subsequent revisions and amendments to this ordinance, and any rules or regulations promulgated by the Little Rock Water Reclamation Commission in accordance with Section 2.7 of this ordinance.

B. All incorporated cities which discharge to the City of Little Rock POTW shall agree by written contract to adopt an ordinance which meets the requirements of 40 C.F.R. Part 403 and will be at least as stringent as the conditions set forth in this ordinance. This agreement must also contain a provision that allows for the adoption of any and all rules or regulations promulgated by the Little Rock Water Reclamation Commission in accordance with Section 2.7 of this ordinance and shall delegate to the City of Little Rock the powers to enforce the provisions of all laws, rules, or regulations adopted in accordance with this Section.

SECTION 6 - REPORTING REQUIREMENTS

6.1 Baseline Monitoring Reports

A. Within either 180 days after the effective date of a Categorical Pretreatment Standard or the final administrative decision on a category determination under 40 C.F.R. 403.6(a)(4), whichever is later, existing Categorical Users currently discharging to or scheduled to discharge to the POTW shall submit to the CEO a report which contains the information listed in Section 6.1(B) below. At least ninety (90) days prior to commencement of their discharge, new sources and sources that become Categorical Users subsequent to the promulgation of an applicable Categorical Standard, shall submit to the CEO a report which contains the information listed

in Section 6.1(B) below. A new source shall report the method of pretreatment it intends to use to meet applicable Categorical Standards. A new source also shall give estimates of its anticipated flow and quantity of pollutants to be discharged.

B. Users described in Section 6.1(A) above shall submit the following information:

(1) Identifying Information. The name and address of the facility, including the name of the operator and owner.

(2) Environmental Permits. A list of all environmental control permits for the facility.

(3) Description of Operations. A brief description of the nature and average rate of production and the Standard Industrial Classifications of the operation(s) carried out by such User. This description should include a schematic process diagram which indicates points of discharge to the POTW from the regulated processes.

(4) Flow Measurement. Information showing the measured average daily and maximum daily flow, in gallons per day, to the POTW from regulated process streams and other streams, as necessary, to allow use of the combined waste stream formula set out in 40 CFR 403.6(e).

(5) Measurement of Pollutants.

(a) The Categorical Pretreatment Standards applicable to each regulated process.

(b) The results of sampling and analysis, identifying the nature and concentration, or mass where required by the standard or by the CEO, of regulated pollutants in the discharge from each regulated process.

(c) Instantaneous, daily maximum, and long-term average concentrations, or mass where required, shall be reported.

(d) The sample shall be representative of daily operations and shall be analyzed in accordance with procedures set out in Section 6.11 of this ordinance. Where the Standard requires compliance with a Best Management Practice or pollution prevention alternative, the User shall submit documentation as required by the CEO or the applicable Standard(s) to determine compliance with the Standard(s).

(e) The User shall take a minimum of one representative sample to compile that data necessary to comply with the requirements of this paragraph.

(f) Samples should be taken immediately downstream from pretreatment facilities if such exist or immediately downstream from the regulated process if no pretreatment exists. If other wastewaters are mixed with the regulated wastewater prior to pretreatment the User should measure the flows and concentrations necessary to allow use of the combined waste stream formula

in 40 C.F.R. 403.6(e) to evaluate compliance with the Pretreatment Standards. Where an alternate concentration or mass limit has been calculated in accordance with 40 C.F.R. 403.6(e) this adjusted limit along with supporting data shall be submitted to the Control Authority;

(g) The CEO may allow the submission of a baseline report which utilizes only historical data so long as the data provides information sufficient to determine the need for industrial pretreatment measures; and

(h) The baseline report shall indicate the time, date, and place of sampling and methods of analysis, and shall certify that such sampling and analysis is representative of normal work cycles and expected pollutant discharges to the POTW.

(6) Compliance Certification. A statement, certified by the User's Authorized Representative and certified by a qualified professional, indicating whether Pretreatment Standards are being met on a consistent basis and, if not, whether additional pretreatment measures or BMPs are required to meet the Pretreatment Standards and Requirements.

(7) Compliance Schedule. If additional pretreatment or BMPs will be required to meet the Pretreatment Standards, the shortest schedule by which the User will provide such additional pretreatment or BMPs must be provided. The completion date in this schedule shall not be later than the compliance date established for the applicable Pretreatment Standard. A compliance schedule pursuant to this section must meet the requirements set out in Section 6.2 of this ordinance.

(8) Signature and Certification. All baseline monitoring reports must be signed and certified in accordance with Section 4.6 of this ordinance by an Authorized Representative of the User.

6.2 Compliance Schedule Progress Reports

The following conditions shall apply to the compliance schedule required by Section 6.1(B)(7) of this ordinance or any compliance schedule issued by the CEO under Section 10.4 of this ordinance:

A. The schedule shall contain progress increments in the form of dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment required for the User to meet the applicable Pretreatment Standards. Such events include, but are not limited to, hiring an engineer, completing preliminary and final plans, executing contracts for major components, commencing and completing construction, and beginning and conducting routine operation;

B. No increment referred to above shall exceed nine (9) months;

C. The User shall submit a progress report to the CEO no later than fourteen (14) days following each date in the schedule and the final date of compliance including, as a minimum, whether or not it complied with the increment of progress, the reason for any delay, and, if appropriate, the steps being taken by the User to return to the established schedule; and

D. In no event shall more than nine (9) months elapse between such progress reports to the CEO.

6.3 Reports on Compliance with Categorical Pretreatment Standard Deadline

Within ninety (90) days following the date for final compliance with applicable Categorical Pretreatment Standards, or in the case of a new source following commencement of the introduction of wastewater into the POTW, any User subject to such Pretreatment Standards and requirements shall submit to the CEO a report containing the information described in Sections 6.1(B)(4)-(6) of this ordinance. For Users subject to equivalent mass or concentration limits established in accordance with the procedures in Section 2.2 of this ordinance, this report shall contain a reasonable measure of the User's long-term production rate. For all other Users subject to Categorical Pretreatment Standards expressed in terms of allowable pollutant discharge per unit of production (or other measure of operation), this report shall include the User's actual production during the appropriate sampling period. All compliance reports must be signed and certified in accordance with Section 4.6 of this ordinance.

6.4 Periodic Compliance Reports for Significant Industrial Users

A. All Significant Industrial Users shall, at a frequency determined by the CEO, but in no case less than twice per year (in June and December), submit a report indicating the nature and concentration of pollutants in the discharge which are limited by Pretreatment Standards and the measured or estimated average and maximum daily flows for the reporting period. In cases where the Pretreatment Standard requires compliance with a Best Management Practice (BMP) or pollution prevention alternative, the User must submit documents required by the CEO or the Pretreatment Standard necessary to determine the compliance status of the user. All periodic compliance reports must be signed and certified in accordance with Section 4.6 of this ordinance.

B. When LRWRA conducts the sampling and flow data collection for the Significant Industrial User, the reporting requirements listed under Section 6.4(A) of this ordinance shall be waived.

C. All wastewater samples must be representative of the Industrial User's discharge. Wastewater monitoring and flow measurement facilities shall be properly operated, kept clean, and maintained in good working order at all times. The failure of an Industrial User to keep its monitoring facility in good working order shall not be grounds for the Industrial User to claim that sample results are unrepresentative of its discharge.

D. If an Industrial User subject to the reporting requirement in this section monitors any pollutant more frequently than required by the CEO, using the procedures prescribed in Section 6.11 of

this ordinance, the results of this monitoring shall be included in the report.

E. All Significant Industrial Users required by the CEO to submit Periodic Compliance Reports shall use the form supplied by the CEO or other approved form.

6.5 Monthly Self-Monitoring Reports for Categorical Industrial Users

A. When required by the CEO, all Industrial Users subject to a Categorical Pretreatment Standard shall submit a monthly self-monitoring report indicating the nature and concentration or mass of pollutants in the discharge which are limited by Pretreatment Standards and the measured or estimated average and maximum daily flows for the reporting period. All monthly self-monitoring reports must be signed and certified in accordance with Section 4.6 of this ordinance.

B. All wastewater samples must be representative of the User's discharge. Wastewater monitoring and flow measurement facilities shall be properly operated, kept clean, and maintained in good working order at all times. The failure of a User to keep its monitoring facility in good working order shall not be grounds for the User to claim that sample results are unrepresentative of its discharge.

C. If a User subject to the reporting requirement in this section monitors any pollutant more frequently than required by the CEO, using the procedures prescribed in Section 6.11 of this ordinance, the results of this monitoring shall be included in the report.

D. All Categorical Industrial Users required by the CEO to submit monthly self-monitoring reports shall use the form supplied by the CEO or other approved form.

6.6 Reports of Changed Conditions

Each User must notify the CEO of any planned significant changes to the User's operations or system which might alter the nature, quality, or volume of its wastewater at least sixty (60) days before the change.

A. The CEO may require the User to submit such information as may be deemed necessary to evaluate the changed condition, including the submission of a Wastewater Discharge Permit application under Section 4.5 of this ordinance.

B. The CEO may modify an existing Wastewater Discharge Permit under Section 5.3 of this ordinance in response to changed conditions or anticipated changed conditions.

C. For purposes of this requirement, significant changes include, but are not limited to, flow increases of 20% or greater or the discharge of any previously unreported pollutants.

D. No User shall implement the planned change condition(s) without written approval from the CEO.

6.7 Reports of Potential Problems

A. In the case of any discharge, including, but not limited to, accidental discharges, discharges of a non-routine, episodic nature, a non-customary batch discharge, a slug discharge or a slug load,

that may cause potential problems for the POTW, the User shall immediately notify the CEO of the incident. This notification shall include the location of the discharge, type of waste, concentration, and volume, if known, and corrective actions taken by the User. The notification must be made to LRWRA in accordance with the notification procedures set forth in the User's Industrial Wastewater Discharge Permit.

B. Within five (5) days following such discharge, the User shall, unless waived by the CEO, submit a detailed written report describing the cause(s) of the discharge and the measures to be taken by the User to prevent similar future occurrences. Such notification shall not relieve the User of any expense, loss, damage, or other liability which may be incurred as a result of damage to the POTW, natural resources, or any other damage to person or property, nor shall such notification relieve the User of any fines, penalties, or other liability which may be imposed pursuant to this ordinance.

C. A notice shall be permanently posted by the User in a prominent place advising employees of notification procedures in the event of a discharge described in Section 6.7(A) above of this ordinance. Employers shall ensure that all employees who could cause such a discharge to occur are advised of the emergency notification procedure.

D. Significant Industrial Users are required to notify the CEO immediately of any changes at its facility affecting the potential for a slug discharge.

6.8 Other Reports – Permitted and Unpermitted Users

All Users shall provide appropriate reports to the CEO as the CEO may require. Such reports may request, but are not limited to, the nature and characteristics of the Users wastewater (industrial waste survey). Failure to complete requested reports or survey shall be considered a violation of this section and considered reasonable grounds for legal action as provided by this ordinance.

6.9 Sampling and Reporting Following Violation

If sampling performed by a User indicates a violation of any Pretreatment Standard or other condition set by the CEO, the User must notify the CEO within twenty-four (24) hours of becoming aware of the violation. The User shall also repeat the sampling and analysis and submit the results of the repeat analysis to the CEO within thirty (30) days after becoming aware of the violation. The User is not required to resample if the CEO samples between the User's initial sampling and when the User receives the results of this sampling. If the CEO performed the sampling and analysis in lieu of the Industrial User, the CEO will perform the repeat sampling and analysis unless it notifies the User of the violation and requires the User to perform the repeat sampling and analysis.

6.10 Notification of the Discharge of Hazardous Waste

A. Any User who commences the discharge of Hazardous Waste shall notify the POTW and the Arkansas Department of Environmental Quality, in writing, of any discharge into the POTW

of a substance which, if otherwise disposed of, would be a Hazardous Waste under 40 C.F.R. Part 261. Such notification must include the name of the Hazardous Waste, as set forth in 40 C.F.R. Part 261, the EPA Hazardous Waste identification number, and the type of discharge (continuous, batch, or other).

B. If the User discharges more than 100 kilograms of such waste per calendar month to the POTW, the notification also shall contain the following information to the extent such information is known and readily available to the User: an identification of the hazardous constituents contained in the wastes; an estimation of the mass and concentration of such constituents in the waste stream discharged during that calendar month; and an estimation of the mass of constituents in the waste stream expected to be discharged during the following twelve (12) months.

C. All notifications must take place no later than 180 days after the discharge commences. Any notification under this paragraph need be submitted only once for each Hazardous Waste discharged. However, notifications of changed conditions must be submitted under Section 6.6 of this ordinance. The notification requirement in this section does not apply to pollutants already reported by Users subject to Categorical Pretreatment Standards under the self-monitoring requirements of Sections 6.1, 6.3, 6.4, and 6.5 of this ordinance.

D. Users are exempt from the requirements of Section 6.10(A) of this ordinance during a calendar month in which they discharge no more than fifteen (150 kilograms of Hazardous Wastes, unless the wastes are acute Hazardous Wastes, as specified in 40 C.F.R. 261.30(d) and 261.33(e). Discharge of more than fifteen (15) kilograms of non-acute Hazardous Wastes in a calendar month, or of any quantity of acute Hazardous Wastes requires a one (1)-time notification. Subsequent months during which the User discharges more than such quantities of any hazardous waste do not require additional notification.

E. In the case of any new regulations promulgated under the Resource Conservation and Recovery Act, 42 U.S.C. § 6921 *et seq.* identifying additional characteristics of Hazardous Waste or listing any additional substance as a Hazardous Waste, the User must notify the CEO and the Arkansas Department of Environmental Quality of the discharge of such substance within ninety (90) days of the effective date of such regulations.

F. In the case of any notification made under this section, the User shall certify that it has a program in place to reduce the volume and toxicity of Hazardous Wastes generated to the degree it has determined to be economically practical.

G. This provision does not create a right to discharge any substance otherwise prohibited by this ordinance, any permits or authorizations issued thereunder, or any applicable Federal, State or Local Law.

6.11 Analytical Requirements

A. All pollutant analyses, including sampling techniques, to be submitted as part of a Wastewater Discharge Permit application or report shall be performed in accordance with the techniques prescribed in 40 C.F.R. Part 136 and amendments thereto, unless otherwise specified in an applicable categorical Pretreatment Standard. If 40 C.F.R. Part 136 does not contain sampling or analytical techniques for the pollutant in question, sampling and analyses must be performed in accordance with procedures approved by EPA. All samples shall be collected at the secure sample point, sample/inspection manhole, or process sampling point as designated by the CEO.

B. All independent laboratories performing analyses for Industrial Users including, but not limited to, self-monitoring reports, periodic reports on continuing compliance, baseline monitoring reports, or split sample verification, shall be certified by the Arkansas Department of Environmental Quality Laboratory Certification Program for the specific analysis being performed. The CEO reserves the right to reject any analysis performed by an independent laboratory that is not duly certified for a particular analysis.

6.12 Sampling and Inspection Manholes

When required by the CEO, the owner of any property serviced by a building sewer carrying industrial waste shall provide a secure sampling point or manhole which is constructed in accordance with the latest revision of the Little Rock Water Reclamation Authority Specification Requirements for Sanitary Sewers. The secure sampling point or manhole shall be safely located and accessible to duly authorized employees or representatives of LRWRA at all times. When deemed necessary by the CEO, the secure sampling point or manhole shall be provided with meters or other appurtenances to facilitate the monitoring of the wastewater. The cost of the installation and maintenance of a secure sampling point or manhole shall be borne by the owner. Any construction or alteration of a secure sampling point or manhole shall be approved by the CEO before any construction has begun.

Any secure sampling point or manhole located in a parking lot or other area where any vehicles may reasonably be expected to be parked must be protected by a permanent barrier, railing, or other means if it is determined necessary by the CEO to ensure continued and uninterrupted access to the secure sampling point or manhole by LRWRA personnel.

6.13 Sample Collection

A. If as a result of any sampling and analyses authorized by the CEO, or due to the existence of any other information, the CEO may have sufficient reason to suspect the presence of toxic or prohibited substances as limited or prohibited by this ordinance to exist in the wastewater discharge of a facility, the CEO may direct the owner or operator of said facility to have a representative sample of that facility's wastewater subjected to the appropriate physical, chemical, and biological tests performed by a qualified laboratory certified by the State of

Arkansas acceptable to the CEO. The purpose of such tests shall be to determine the conformance of the wastewater characteristics to this ordinance. A prompt report shall be made in writing to the CEO by the laboratory stating the results of the tests. The costs associated with the sampling and testing required by this section shall be borne by the owner or operator.

B. Any sampling, testing, or sample delivery associated with duplicate sample analysis in excess of the regularly scheduled sampling and analysis performed by LRWRA that is requested by an industrial customer for the purpose of assessing a surcharge or enforcement of this ordinance will be borne by the owner or operator of the facility. The owner or operator of the facility which has a duplicate analysis performed by an independent laboratory will submit a prompt report in writing from the laboratory giving the results of the analyses and all quality assurance information relative to the analyses.

C. The User must collect wastewater samples using twenty-four (24)-hour flow-proportional composite sampling techniques, unless time-proportional composite sampling or grab sampling is authorized by the CEO or is otherwise required by this ordinance. Where time-proportional composite sampling or grab sampling is authorized by LRWRA, the samples must be representative of the discharge. Using protocols (including appropriate preservation) specified in 40 C.F.R. Part 136 and appropriate EPA guidance, multiple grab samples collected during a twenty-four (24)-hour period may be composited prior to the analysis as follows: for cyanide, total phenols, and sulfides, the samples may be composited in the laboratory or in the field; for volatile organics and oil and grease, the samples may be composited in the laboratory. Composite samples for other parameters unaffected by the compositing procedures as documented in approved EPA methodologies may be authorized by LRWRA, as appropriate. In addition, grab samples may be required to show compliance with instantaneous limits.

D. Samples for oil and grease, temperature, pH, cyanide, phenols, sulfides, and volatile organic compounds must be obtained using grab sample collection techniques.

E. For sampling required in support of baseline monitoring and ninety (90)-day compliance reports required by this ordinance, a minimum of four (4) grab samples must be used for pH, cyanide, total phenols, oil and grease, sulfide and volatile organic compounds for facilities for which historical sampling data do not exist. For facilities for which historical sampling data are available, the CEO may authorize a lower minimum. For the reports required by Section 6.4 and 6.5 of this ordinance, the Industrial User is required to collect the number of grab samples necessary to assess and assure compliance by with applicable Pretreatment Standards.

F. Sampling and testing shall be performed in accordance with the techniques prescribed in 40 C.F.R. Part 136 and amendments thereto. The sampling methods performed shall include, at a minimum, procedures for sample chain of custody, preservation techniques, and holding times.

6.14 Timing

Reports and other documents that are submitted by postal mail or parcel delivery service will be deemed to have been received on the date posted. For all other submittals, including electronic submissions, the date of actual receipt of the report shall govern.

6.15 Record Keeping

Industrial Users subject to the reporting requirements of this ordinance shall retain, and make available for inspection and copying, all records of information obtained pursuant to any monitoring activities required by this ordinance, any additional records of information obtained pursuant to monitoring activities undertaken by the Industrial User independent of such requirements, and documentation associated with Best Management Practices established under Section 2.4 of this ordinance. Records shall include the date, exact place, method, and time of sampling, and the name of the person(s) taking the samples; the dates analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses. These records shall remain available for a period of at least three (3) years. This period shall be automatically extended for the duration of any litigation concerning the User or LRWRA, or where the Industrial User has been specifically notified of a longer retention period by the CEO.

SECTION 7 - POWER AND AUTHORITY OF INSPECTORS

7.1 Right of Entry – Inspection and Sampling

The CEO shall have the right to enter the premises of any User to determine whether the User is complying with all requirements of this ordinance and any Wastewater Discharge Permit or order issued hereunder. Users shall allow the CEO ready access to all parts of the premises for the purposes of inspection, sampling, records examination and copying, and the performance of any additional duties. The CEO may conduct inspection and sampling tasks at a minimum of once a year for every User.

A. Where a User has security measures in force which require proper identification and clearance before entry into its premises, the User shall make necessary arrangements that, upon presentation of suitable identification, the CEO will be permitted to enter without delay for the purposes of performing specific responsibilities.

B. The CEO shall have the right to set up on the User's property, or require installation of, such devices as are necessary to conduct sampling or metering of the User's operations.

C. The CEO may require the User to install monitoring equipment as necessary. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the User at its own expense. All devices used to measure wastewater flow and quality shall be calibrated at least annually to ensure their accuracy.

D. Any temporary or permanent obstruction to safe and easy access to the facility to be inspected or sampled shall be promptly removed by the User at the written or verbal request of the CEO and shall not be replaced. The costs of clearing such access shall be born by the User.

E. Unreasonable delays or refusals in allowing the CEO access to the User's premises for the purpose of making an inspection authorized by this section shall be a violation of this ordinance.

7.2 Search Warrants

If the CEO has been refused access to a building, structure, or property, or any part thereof, then upon application and affidavit, the Little Rock Water Reclamation Commission through its attorney, may request a search warrant from the appropriate Municipal Court Judge of the City of Little Rock, Arkansas. The CEO must demonstrate probable cause to believe that there may be a violation of this ordinance, that there is a need to inspect or sample as part of a routine inspection and sampling program designed to verify compliance with this ordinance, or that access is necessary to protect the overall public health, safety and welfare of the community. The warrant shall describe the specific location subject to the warrant and specify what, if anything, may be searched or seized on the property described. Such warrant shall be served at reasonable hours by the CEO or the Little Rock Water Reclamation Commission attorney in the company of a Uniformed Police Officer of the City of Little Rock, Arkansas. In the event of an emergency affecting public health and safety, inspections shall be made without the issuance of a warrant.

SECTION 8 - CONFIDENTIAL INFORMATION

All records submitted by an Industrial User, including but not limited to reports, surveys, Wastewater Discharge Permit applications, Wastewater Discharge Permits, and data collected from the CEO's inspection and sampling activities, shall be available to the public without restriction. The Industrial User may request protection of records that, if released, would divulge information, processes, or methods of production entitled to protection as trade secrets under the Arkansas Freedom of Information Act ("FOIA"), Ark. Code Ann. § 25-19-101 *et seq.* and other applicable Arkansas law. Any such request must be asserted with specificity at the time of submission of the record. Determination of the applicability of the trade secrets exemption under FOIA and other applicable Arkansas State Law shall be at the sole discretion of the CEO.

Notwithstanding the preceding paragraph, records granted protection as trade secrets under Arkansas law shall be made available immediately upon request to governmental agencies for uses related to the National Pollutant Discharge Elimination System Program or Pretreatment Program, and as otherwise required by law or a judicial or administrative ruling.

Wastewater constituents and characteristics and other "effluent data" as defined by 40 C.F.R. 2.302(a)(2) will not be recognized as confidential information and will be available to the public without restriction.

SECTION 9 - PUBLICATION OF INDUSTRIAL USERS IN SIGNIFICANT NONCOMPLIANCE

The CEO shall publish annually, in a newspaper of general circulation that provides meaningful public notice within the jurisdictions served by the POTW, a list of the Industrial Users which, during the previous twelve (12) months, were in significant noncompliance with applicable Pretreatment Standards and requirements. The term Significant Noncompliance shall be applicable to all Significant Industrial Users

(or any other Industrial User that violates Sections (C), (D), or of this Section) and shall mean:

A. Chronic violations of wastewater discharge limits, defined here as those in 66% or more of all the measurements taken for the same pollutant parameter taken during a six (6)-month period exceed (by any magnitude) a numeric Pretreatment Standard or Requirement, including Instantaneous Limits as defined in Section 2 of this ordinance;

B. Technical Review Criteria (TRC) violations, defined here as those in which 33% or more of wastewater measurements taken for each pollutant parameter during a six (6)-month period equals or exceeds the product of the numeric Pretreatment Standard or Requirement, including Instantaneous Limits as defined by Section 2 of this ordinance, multiplied by the applicable criteria (1.4 for BOD, TSS, fats, oils and grease, and 1.2 for all other pollutants except pH);

C. Any other violation of a Pretreatment Standard or Requirement as defined by Section 2 of this ordinance (Daily Maximum, long-term average, Instantaneous Limit, or narrative standard) that the CEO determines has caused, alone or in combination with other discharges, Interference or Pass Through, including endangering the health of POTW personnel or the general public;

D. Any discharge of pollutants that has caused imminent endangerment to the public or to the environment, or has resulted in the CEO's exercise of its emergency authority to halt or prevent such a discharge;

E. Failure to meet, within ninety (90) days of the scheduled date, a compliance schedule milestone contained in a Wastewater Discharge Permit or enforcement order for starting construction, completing construction, or attaining final compliance;

F. Failure to provide within forty-five (45) days after the due date, any required reports, including baseline monitoring reports, reports on compliance with categorical Pretreatment Standard deadlines, periodic self-monitoring reports, and reports on compliance with compliance schedules;

G. Failure to accurately report noncompliance; or

H. Any other violation(s), which may include a violation of Best Management Practices, which the CEO determines will adversely affect the operation or implementation of the City of Little Rock's Industrial Pretreatment Program.

SECTION 10 - ENFORCEMENT

10.1 Noncompliance Incident

Whenever the CEO finds that any Industrial User has violated or is violating this ordinance, a Wastewater Discharge Permit or order issued hereunder, or any other requirement, the CEO may notify the Industrial User of noncompliance. This notification may be oral or written. Within thirty (30) days of the receipt of the notice of noncompliance incident, or within a timeframe specified by the

CEO, the Industrial User must notify LRWRA of the reason for the noncompliance and the steps taken to prevent any recurrence. Submission of this information in no way relieves the Industrial User of liability for any violation occurring before or after receipt of the notice of the noncompliance incident. Nothing in this section shall limit the authority of LRWRA to take any action, including emergency actions or any other enforcement action, without first issuing a notice of a noncompliance incident.

10.2 Notice of Violation

When the CEO finds that an Industrial User has violated, or continues to violate, anyprovision of this ordinance, a Wastewater Discharge Permit or order issued hereunder, or any other Pretreatment Standard or Requirement, the CEO shall serve upon the Industrial User a written Notice of Violation. Within thirty (30) days of the receipt of this notice, or within a timeframe specified by the CEO in the Notice of Violation, the Industrial User shall submit to the CEO an explanation of the violation and a plan for the satisfactory correction and prevention thereof, including, but not limited to, specific required actions and milestone schedules. Submission of this plan in no way relieves the Industrial User of liability for any violations occurring before or after receipt of the Notice of Violation. Nothing in this section shall limit the authority of the CEO to take any action, including emergency actions or any other enforcement action, without first issuing a Notice of Violation.

10.3 Consent Orders

The CEO is authorized to enter into consent orders, assurances of voluntary compliance, or other similar documents establishing an agreement with any Industrial User responsible for noncompliance. Such orders, assurances, or other similar documents will include specific action to be taken by the Industrial User to correct the noncompliance within a time period specified by the document. Such orders, assurances, or other similar documents shall be judicially enforceable.

10.4 Compliance Orders and Schedules

When the CEO finds that an Industrial User has violated, or continues to violate, anyprovision of this ordinance, a Wastewater Discharge Permit or order issued hereunder, or any other Pretreatment Standard or Requirement, the CEO may issue an order or schedule to the Industrial User responsible for the discharge directing that the User come into compliance within a specified time. If the Industrial User does not come into compliance within the time provided, sewer service may be discontinued, subject to notice and right to a hearing as provided herein, unless adequate treatment facilities, devices, or other related appurtenances are installed and properly operated.Compliance orders also may contain other requirements to address the noncompliance, including additional self-monitoring and management practices designed to minimize the amount of pollutants discharged to the POTW. A compliance order may not extend the deadline for compliance established for a Pretreatment Standard or Requirement, nor does a compliance order relieve the Industrial User of liability for any violation, including any continuing violation. Issuance of a compliance order shall not be a bar against, or a prerequisite for, taking any other action against the

Industrial User.

10.5 Cease and Desist Orders

When the CEO finds that an Industrial User has violated, or continues to violate, anyprovision of this ordinance, a Wastewater Discharge Permit or order issued hereunder, or any other Pretreatment Standard or Requirement, or that the Industrial User's past violations are likely to recur, the CEO may issue an order to the Industrial User directing it to cease and desist all such violations and directing the Industrial User to immediately comply with all requirements and take such appropriate remedial or preventive action as may be needed to properly address a continuing or threatened violation, including halting operations and/or terminating the discharge. Issuance of a Cease and Desist Order shall not be a bar against, or a prerequisite for, taking any other action against the Industrial User.

10.6 Administrative Fines

A. When the CEO finds that an Industrial User has violated, or continues to violate, any provision of this ordinance, a Wastewater Discharge Permit or order issued hereunder, or any other Pretreatment Standard or Requirement, the CEO may fine such User in an amount not to exceed One Thousand Dollars ($1,000.00). Such fines shall be assessed on a per violation basis. In the case of monthly or other long-term average discharge limits, fines shall be assessed for each day during the period of violation. Each day of a continuing violation shall be deemed a separate violation.

B. The CEO may add the costs of preparing administrative enforcement actions, such as notices and orders, to a fine.

C. When an Industrial User desires to dispute such fines, the Industrial User must file a written request for the CEO to reconsider the fine along with full payment of the fine amount within ten (10) days of being notified of the fine. Where a request has merit, the CEO may convene a hearing on the matter. In the event the User's request is granted, the payment, together with any interest accruing thereto, shall be returned to the User.

D. Issuance or pursuit of an administrative fine shall not be a bar against, or a prerequisite for, taking any other action against the Industrial User. In no event, shall legal proceedingsbe initiated to collect said fine or penalty without a resolution of the Commission authorizing such action. If authorized, legal proceedings to collect fines or penalties must be brought in a court of competent jurisdiction.

10.7 Show Cause Hearing

A. The CEO may order any Industrial User which causes or contributes to violation(s) of this ordinance, Wastewater Discharge Permits, or orders issued hereunder, or any other Pretreatment Standard, to appear before the Little Rock Water Reclamation Commission and show cause why a proposed enforcement action should not be taken. Notice shall be served on

the Industrial User specifying the time and place for the hearing, the proposed enforcement action, the reasons for such action, and a request that the Industrial User show cause why this proposed enforcement action should not be taken. The notice of the meeting shall be served personally or by certified mail, return receipt requested, at least ten (10) days prior to the hearing. Such notice may be served on any authorized representative of the Industrial User. Whether or not the User appears as ordered, immediate enforcement action may be pursued following the hearing date. A Show Cause Hearing shall not be a prerequisite for taking any other enforcement action.

B. The Little Rock Water Reclamation Commission may itself conduct the Show Cause Hearing and take the evidence, or the Commission or its Chairman may designate the CEO to:

(1) Issue in the name of the Commission notices of hearings requiring attendance, testimony of witnesses and the production of evidence relevant to any matter involved in such hearings;

(2) Take the evidence; and

(3) Transmit a report of the evidence and hearing, including transcripts and other evidence together with recommendations to the Commission for action thereon.

C. At any hearing held pursuant to this ordinance, any testimony taken must be under oath and be electronically recorded. Any party desiring stenographic recording may provide the same at its own expense. Any decision made as a consequence of any hearing held pursuant to this ordinance shall be subject to review by appeal to the Circuit Court of Pulaski County, in accordance with the law of Arkansas.

D. Following the Show Cause Hearing, the Hearing Officer, if other than the Little Rock Water Reclamation Commission, shall within ten (10) days after the hearing submit his findings and recommendations to the members of the Commission. Following receipt of the recommendations, the Commission shall consider the findings and recommendations at its next regularly scheduled meeting or at any special meeting called for that purpose at which meeting the Commission shall take such action as it deems necessary. Within fifteen (15) days after consideration of the matter, the Commission shall have served on all parties its decision regarding the findings and recommendations. If the Commission finds that legal action should be brought against the User for the violation(s), the Commission may initiate such action in a court of competent jurisdiction seeking all appropriate relief. No suit to collect civil or criminal penalties may be initiated until after such time that a resolution authorizing such suit is duly adopted by the Commission pursuant to Ark. Code Ann. § 8- 4-103 (g)(1)-(2).

10.8 Emergency Suspension of Discharge

The CEO may immediately suspend an Industrial User's discharge, whenever such suspension is necessary

to stop an actual or threatened discharge which reasonably appears to present or cause an imminent or substantial endangerment to the health or welfare of persons, that threatens to interfere with the operation of the POTW, or which presents, or may present, an endangerment to the environment.

A. The CEO must provide notice of the suspension to the Industrial User. Any Industrial User notified of a suspension of its discharge shall immediately stop or eliminate its discharge. In the event of an Industrial User's failure to immediately comply voluntarily with the suspension order, the CEO may take such steps as deemed necessary, including immediate severance of the sewer connection, to prevent or minimize damage to the POTW, its receiving stream, or endangerment to any individuals.

B. If requested by the Industrial User, the CEO must provide a hearing regarding the immediate suspension within five (5) days of the notice of suspension.

C. An Industrial User who is responsible, in whole or in part, for any discharge presenting imminent endangerment shall submit a detailed written statement, describing the causes of the harmful discharge and the measures taken to prevent any future occurrence, to the CEO prior to the date of any hearing held pursuant to Section 10.8(C), or any show cause or termination hearing under Sections 10.7 or 10.9 of this ordinance.

Nothing in this section shall be interpreted as requiring a hearing prior to any emergency suspension under this section.

10.9 Termination of Discharge

In addition to the provisions in Section 5.5 of this ordinance, any Industrial User who violates the following conditions of this ordinance, Wastewater Discharge Permits, or orders issued pursuant to any provision of this ordinance may be subject to Wastewater Discharge Permit termination:

A. Violation of Wastewater Discharge Permit conditions;

B. Failure to accurately report the wastewater constituents and characteristics of its discharge;

C. Failure to report significant changes in operations or wastewater volume, constituents, and characteristics prior to discharge;

D. Refusal of reasonable access to the Industrial User's premises for the purpose of inspection, monitoring, or sampling; or

E. Violation of the Pretreatment Standards in Section 2 of this ordinance. Such Industrial User will be notified of the proposed termination of its discharge and be offered an opportunity to show cause under Section 10.7 of this ordinance why the proposed action should not be taken. Exercise of this option by the CEO shall not be a bar to, or a prerequisite for, taking any other action against the Industrial User.

10.10 Termination of Service

Additionally, the Commission, through the CEO, may issue to any Industrial User in violation, notice that following a specified period of time, the sewer service will be discontinued unless the User comes into full compliance with the requirements of this ordinance, Wastewater Discharge Permits, or orders issued pursuant to a provision of this ordinance. Other orders and directives as necessary and appropriate may be issued.

An order directing the cessation of sewer service shall not preclude legal action as the Commission may deem appropriate under the circumstances.

10.11 Injunctive Relief

When the CEO finds that an Industrial User has violated, or continues to violate, anyprovision of this ordinance, a Wastewater Discharge Permit, or order issued hereunder, or any other Pretreatment Standard, the Commission may commence proceedings for the issuance of a Temporary or Permanent Injunction, as appropriate, which restrains or compels the specific performance of the Wastewater Discharge Permit, order, or other requirement imposed by this ordinance on activities of the Industrial User. The Commission may also seek other appropriate legal relief, including a requirement for the Industrial User to conduct environmental remediation. A complaint for injunctive relief shall not be a bar against, or a prerequisite for, taking any other action against an Industrial User.

10.12 Civil Penalties

A. An Industrial User who has violated, or continues to violate, any provision of this ordinance, a Wastewater Discharge Permit, or order issued hereunder, or any other Pretreatment Standard or Requirement shall be liable to LRWRA for the maximum civil penalty allowed under applicable Arkansas State Law. In the case of a monthly or other long-term average discharge limit, penalties shall accrue for each day during the period of the violation; and, each day of a continuing violation may be deemed a separate violation.

B. The CEO may recover all costs and other expenses associated with enforcement activities, including sampling and monitoring expenses, the cost of any actual damages incurred by LRWRA, and all other costs recoverable under Arkansas State Law.

C. In determining the amount of civil liability, a court of competent jurisdiction may take into account all relevant circumstances, including, but not limited to, the extent of harm caused by the violation, the magnitude and duration of the violation, any economic benefit gained through the Industrial User's violation, corrective actions by the Industrial User, the compliance history of the Industrial User, and any other factor as justice requires.

D. Filing a suit for civil or criminal penalties shall not be a bar against, or a prerequisite for, taking any other action against an Industrial User, provided that no such suit to collect civil or criminal penalties shall be commenced without a resolution of the Little Rock Water Reclamation

Commission authorizing such court action.

(1) For Industrial Users with properties located within the corporate limits of the City of Little Rock, no suit to collect civil or criminal penalties or fines may be initiated until after such time that a resolution authorizing the suit is duly adopted by the Commission, as the governing body referenced in Ark. Code Ann § 8-4-103.

(2) For Industrial Users with properties located outside the corporate limits of the City of Little Rock, the Board of Directors of the City of Little Rock hereby delegates authority to the Commission to be the governing body to authorize, by resolution, legal actions to collect civil or criminal penalties or fines, as required by Ark. Code Ann § 8-4-103.

10.13 Criminal Prosecution

A. An Industrial User who willfully or negligently violates any provision of this ordinance, a Wastewater Discharge Permit, or order issued hereunder, or any other Pretreatment Standard or Requirement shall, upon conviction, be guilty of a misdemeanor, punishable by a fine of not more than One Thousand Dollars ($1,000.00) per violation or imprisonment for such term as allowed by law or both; provided that no criminal prosecution may be commenced without a prior resolution of the Commission authorizing such prosecution.

B. An Industrial User who willfully or negligently introduces any substance into the POTW which causes personal injury or property damage shall, upon conviction, be guilty of a misdemeanor and be subject to a penalty of at least One Hundred Dollars ($100.00), but not more than Five Hundred Dollars ($500.00) for any one (1) specified offense or violation thereof, and not less than One Hundred Dollars ($100.00) but not more than One Thousand Dollars ($1,000.00) for each repetition of such event or violation, or be subject to imprisonment for such term as allowed by law, or both. This penalty shall be in addition to any other cause of action for personal injury or property damage available under State law.

C. An Industrial User who knowingly makes any false statements, representations, or certifications in any application, record, report, plan, or other documentation filed, or required to be maintained, pursuant to this ordinance, Wastewater Discharge Permit, or order issued hereunder, or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under this ordinance shall, upon conviction, be punished by a fine of at least One Hundred Dollars ($100.00), but not more than Five Hundred Dollars ($500.00) for any one (1) specified offense or violation thereof, and not less than One Hundred Dollars ($100.00), but not more than One Thousand Dollars ($1,000.00) for each repetition of such event or violation, or be subject to imprisonment for such term as allowed by law, or both. This penalty shall be in addition to any other cause of action for personal injury or property damage available under Arkansas State Law.

10.14 Remedies Nonexclusive

The remedies provided for in this ordinance are not exclusive. The CEO may take any, all, or any combination of these actions against a noncompliant Industrial User. Enforcement of pretreatment violations will generally be in accordance with LRWRA's Enforcement Response Plan. However, the CEO may take other action against any Industrial User when the circumstances warrant. Further, the CEO is empowered to take more than one enforcement action against any noncompliant Industrial User.

10.15 Public Nuisances

A violation of any provision of this ordinance, an individual Wastewater Discharge Permit, a General Permit, or order issued hereunder, or any other Pretreatment Standard or Requirement is hereby declared a public nuisance and shall be corrected or abated as directed by the CEO. Any person(s) creating a public nuisance shall be subject to the provisions of the City Code for the City of Little Rock governing such nuisances, including reimbursing the City or the Commission for any costs incurred in removing, abating, or remedying said nuisance.

10.16 Payment of Outstanding Fees and Penalties

The CEO may decline to issue or reissue an individual Wastewater Discharge Permit or a General Permit to any Industrial User who has failed to pay any outstanding fees, fines, or penalties incurred as a result of any provision of this ordinance, a previous individual Wastewater Discharge Permit, or a previous General Permit or Order issued hereunder.

SECTION 11 – SUPPLEMENTAL ENVIRONMENTAL PROJECTS

In lieu of administrative or civil penalties, the CEO may accept the performance of a Supplemental Environmental Project by the User. The Supplement Environmental Project shall provide a general benefit to the POTW and the City of Little Rock, not to the sole benefit of the User. Activities undertaken to comply with Pretreatment Standards, the installation of necessary pretreatment measures, or any other action required by this ordinance shall not qualify as a Supplemental Environmental Project. The acceptance of a Supplemental Environmental Project is at the sole discretion of the CEO.

SECTION 12 – FINANCIAL ASSURANCE

The CEO may decline to issue or reissue a Wastewater Discharge Permit to any User who has failed to comply with any provision of this ordinance, a previous Wastewater Discharge Permit or order issued hereunder, or any other Pretreatment Standard, unless the User first submits proof that it has obtained financial assurances sufficient to restore or repair damage to the POTW caused by its discharge or as necessary to achieve consistent compliance. Acceptable forms of financial assurance may include, but are not limited to, Liability Insurance or Performance Bonds payable to the Little Rock Water Reclamation Commission. The request for and acceptance of financial assurances is within the sole discretion of the CEO.

SECTION 13 - AFFIRMATIVE DEFENSES TO DISCHARGE VIOLATIONS

13.1 Prohibited Discharge Standards

A User shall have an affirmative defense to an enforcement action brought against it for noncompliance with the general or specific prohibitions in Section 2.1of this ordinance if the User can prove that the User did not know, or have reason to know, that its discharge, alone or in conjunction with discharges from other sources, would cause pass through or interference and that either:

A. A Local Limit exists for each pollutant discharged and the User was in compliance with each limit directly prior to, and during, the pass through or interference; or

B. No Local Limit exists, but the discharge did not change substantially in nature or constituents from the User's prior discharge when LRWRA was regularly in compliance with its NPDES Permit, and in the case of interference, was in compliance with applicable biosolid use or disposal requirements.

13.2 Upset

A. Users shall control production of all discharges to the extent necessary to maintain compliance with categorical Pretreatment Standards upon reduction, loss, or failure of its treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

B. An upset shall constitute an affirmative defense to an action brought for noncompliance with categorical Pretreatment Standards if the following requirements are met:

(1) An upset occurred and the User can identify the cause(s) of the upset;

(2) The facility was at the time being operated in a prudent and workman-like manner and in compliance with applicable operation and maintenance procedures; and

(3) The User has submitted the following information to the CEO within twenty-four (24) hours of becoming aware of the upset. If this information is provided orally, a written submission must be provided within five (5) days:

(a) A description of the indirect discharge and cause of noncompliance;

(b) The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and

(c) Steps being taken and/or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

C. In any enforcement proceeding, the User seeking to establish the occurrence of an upset shall have the burden of proof. A User who wishes to establish the affirmative defense of upset shall demonstrate such occurrence through properly signed, contemporaneous operating logs, or other relevant evidence.

D. Users will have the opportunity for a judicial determination on any claim of upset only in an enforcement action brought for noncompliance with categorical Pretreatment Standards.

13.3 Bypass

A. A User may allow any bypass to occur which does not cause Pretreatment Standards or Requirements to be violated, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Sections 13.3(C) and (D) below.

B. If a User knows in advance of the need for a bypass, it shall submit prior notice to the CEO at least ten (10) days before the date of the bypass, if possible.

C. A User shall submit oral notice to the CEO of an unanticipated bypass that exceeds applicable Pretreatment Standards within twenty-four (24) hours from the time it becomes aware of the bypass. A written submission shall also be provided within five (5) days of the time the User becomes aware of the bypass. The written submission shall contain: a description of the bypass and its cause; the duration of the bypass, including exact dates and times; if the bypass has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass. The CEO may waive the written report on a case-by-case basis if the oral report has been received within twenty-four (24) hours.

D. The CEO may approve an anticipated bypass, after considering its adverse effects, if the CEO determines that it will meet the three conditions listed in Section 13.3(F) of this section.

E. Bypass is prohibited, and the CEO may take an enforcement action against a User for a bypass, unless:

(1) The bypass meets the provisions of Section 13.3(B);

(2) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(3) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(4) The User submitted notices as required under Section 13.3(C) and approval was granted by the CEO.

F. Severe property damage includes substantial physical damage to property, damage to treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not include economic losses caused by delays in production.

SECTION 14 – ADMINISTRATIVE FEES AND EXTRA-STRENGTH SURCHARGE RATES

14.1 Collection of Extra-Strength Surcharges

The CEO may at any time collect appropriate samples from any Industrial User's discharge and conduct analyses to determine the concentrations of COD, TSS, pH, and Oil and Grease (O&G). If the sampling and analyses performed by the CEO or his designated assistant indicates concentrations of COD, TSS, and O&G exceeding the limits set forth in Section 14.2 below, he shall compute an extra-strength surcharge as set by the existing Sewer Rate Ordinance, and the owner shall be liable for payment of the amount thereof. The collection of an extra-strength surcharge is not a penalty, but rather allows LRWRA to defray the costs of treating industrial wastewater concentrations that are above average domestic wastewater concentrations. The surcharge shall be considered a sewer charge for which the owner shall be liable in accordance with the applicable law of the State of Arkansas and, upon default in such payment, LRWRA shall be entitled to all available remedies.

14.2 Computation of Extra-Strength Surcharges

The extra-strength surcharge shall be calculated in accordance with the provisions of the applicable rate ordinance (the same being incorporated by reference) using the following limits and calculations:

(1) COD in excess of 900 mg/L

(2) TSS in excess of 600 mg/L

(3) O&G in excess of 50 mg/L

SURCHARGE = [(CODX - 900 mg/L) (8.34) (V) (A)] + [(TSSX - 600 mg/L) (8.34) (V) (B)] + [(O&GX - 50 mg/L) (8.34) (V) (C)]

Where:	CODX	= concentration of COD in mg/L
	TSSX	= concentration of TSS in mg/L
	O&GX	= concentration of O&G in mg/L
	8.34	= weight of one gallon of water, pounds
	V	= flow in million gallons per month
	A	= unit charge for COD as set forth in the Sewer Rate Ordinance
	B	= unit charge for TSS as set forth in the Sewer Rate Ordinance
	C	= unit charge for O&G as set forth in the Sewer Rate Ordinance

14.3 Administrative Fees

The CEO may adopt fees for reimbursement of costs of setting up and operating the Little Rock Water Reclamation Authority Industrial Pretreatment Program which may include, but is not limited to, the following:

A. Fees for Wastewater Discharge Permit applications including the cost of processing such applications and reviewing construction plans;

B. Fees for monitoring, inspection, and surveillance procedures including the cost of sample collection and analyzing a User's discharge, and reviewing monitoring reports or BMPs and certification statements submitted by Users;

C. Fees for reviewing and responding to accidental discharge, including reasonable costs incurred for labor, materials, and proper disposal of incompatible wastes not subject to treatment by the POTW Treatment Plant;

D. Fees for reviewing written requests for discharge of special wastes;

E. Fees for filing appeals; and

F. Other fees as the CEO may deem necessary to carry out the requirements contained herein. These fees relate solely to the matters covered by this ordinance and are separate from all other fees, fines, and penalties chargeable by the City.

SECTION 15 - SEVERABILITY

The provisions of this ordinance are severable, and if any provision, paragraph, word, section, or article of this ordinance is invalidated by any court of competent jurisdiction, it shall not affect the remainder of this ordinance and the remaining provisions, paragraphs, words, sections, and articles shall not be affected and shall continue in full force and effect.

SECTION 16 - REPEAL OF PRIOR ORDINANCE

All ordinances and parts of ordinances inconsistent or conflicting with any part of this ordinance are hereby repealed to the extent of such inconsistency or conflict, including, but not limited to, Ordinance No. 19,895, adopted on December 21, 2007.

SECTION 17 - AUTHORITY OF LITTLE ROCK WATER RECLAMATION COMMISSION, EFFECTIVE DATE, DECLARING AN EMERGENCY

The City Board of Directors of the City of Little Rock has determined that it is essential that the Little Rock Water Reclamation Commission should have the authority to regulate the use of public and private sewers in accordance with the provisions contained in Little Rock, Ark., Ordinance No. _____ (September 3, 2019) in order to accomplish the purposes thereof. Therefore, an emergency is thereby declared to exist, and the ordinance, being necessary for the immediate preservation of the public health, safety, and welfare, shall be in full force and effect immediately after its passage and approval.

PREPARED BY:

Jean Block, Chief Legal Officer
Little Rock Water Reclamation Authority
11 Clearwater Drive
Little Rock, AR 72204

ORDINANCE NO. 17,965

AN ORDINANCE REGULATING THE USE OF PUBLIC AND PRIVATE SEWERS, PRIVATE SEWAGE DISPOSAL, THE INSTALLATION, CONSTRUCTION, MAINTENANCE, AND CONNECTION OF BUILDING SEWERS; THE DISCHARGE OF WATERS AND WASTES INTO THE PUBLIC SEWER SYSTEM; PROVIDING PENALTIES FOR THE VIOLATION THEREOF; REPEALING ALL ORDINANCES AND PROVISIONS THEREOF IN CONFLICT THEREWITH INCLUDING ARTICLES I, II, III, IV, V, X, XI, AND XII OF ORDINANCE NO. 15,344, PASSED ON SEPTEMBER 1, 1987; AND FOR OTHER PURPOSES, ALL PERTAINING TO THE SEWER LINES AND SYSTEM WITHIN THE JURISDICTION OF THE CITY OF LITTLE ROCK, ARKANSAS, AND DECLARING AN EMERGENCY.

WHEREAS, Ordinance No. 15,344, passed on September 1, 1987, currently regulates the use of public and private sewers and specifically, Articles I, II, III, IV, V, X, XI, and XII of said Ordinance contain general provisions regarding the use, disposal, connection, protection, inspections, and penalties in connection with the use of public sewers and these provisions should be repealed, and revised and expanded provisions in a new Ordinance should be adopted to enable the LRWU to effectively operate the sewer system of the City of Little Rock; and,

WHEREAS, the provisions as hereinafter set forth contain the revisions and additions necessary to enable the LRWU to more effectively and efficiently operate the sewer system in the City of Little Rock, by inclusion in this Ordinance the following provisions, the titles to which are hereinafter set forth in the following table of contents for convenience of reference only, and not to define or limit any of the terms or provisions hereinafter set forth in this Ordinance:

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WHEREAS, it is essential that the Little Rock Sanitary Sewer Committee should have the authority to perform all acts as provided in the ordinance in order to effectively regulate the use and operation of the public sewer system of the City of Little Rock and the provisions of this ordinance are necessary for the immediate protection of the public health, safety and welfare;

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE CITY:

SECTION 1 - GENERAL PROVISIONS

1.1 Title, Purpose and Policy

This Ordinance shall be known as the "General Sewer Use Ordinance" and sets forth uniform general requirements regulating the use of the public sewers for the City of Little Rock, Arkansas. The objectives of this Ordinance are:

A. To regulate the general use of both public and private sewers within the jurisdiction of the City of Little Rock, Arkansas;

B. To regulate private sewage disposal within the jurisdiction of the City of Little Rock, Arkansas;

C. To regulate the installation, construction, maintenance, connection, and protection of building sewers within the jurisdiction of the City of Little Rock, Arkansas;

D. To regulate the disconnection and sealing of building sewers within the jurisdiction of the City of Little Rock, Arkansas;

E. To repeal all existing Ordinances in conflict therewith.

1.2 Definitions

Unless a provision explicitly states otherwise, the following terms and phrases, as used in this Ordinance, shall have the meanings hereinafter designated.

A. And/Or shall mean one item or the other or a combination of both or all.

B. Building Drain shall mean that part of the lowest horizontal piping of a drainage system which receives the discharge from all drains which carry waste or water-born waste inside the walls of a building and conveys it to the building sewer, beginning five (5) feet outside the inner face of the building.

C. Building Sewer shall mean the extension from the building drain to the public sewer or other place of disposal.

D. Manager shall mean the manager of Little Rock Wastewater Utility, or his authorized deputy, agent, or representative.

E. Natural Outlet shall mean any outlet, including storm sewers and combined sewer overflows, into a water course, ditch, lake, or other body of surface or ground water.

F. Objectionable Waste shall mean any wastes that can harm either the sewers, sewer treatment processes or equipment, have an adverse effect on the receiving stream or otherwise endanger life, health, or property, or constitutes a nuisance.

G. Person shall mean any individual, firm, company, association, society, corporation, or group.

H. POTW shall mean Publicly Owned Treatment Works

I. Private Sewage Disposal System shall mean that facility owned, operated, and maintained by any person for the purpose of collecting and disposing of sewage within the property of said person.

J. Public Sewer shall mean a common sewer in which all owners of abutting properties have equal rights, and is controlled by public authority.

K. Sanitary Sewer shall mean a sewer in which sewage is carried, and to which storm, surface, and ground water are not intentionally admitted.

L. Sewage shall mean a combination of the water-carried wastes from residences, business buildings, institutions, commercial establishments, and industries.

M. Sewer shall mean a pipe or conduit for carrying sewage.

N. Sewer Committee shall mean the Little Rock Sanitary Sewer Committee of the City of Little Rock Wastewater Utility.

O. Sewer System shall mean the City of Little Rock Wastewater Utility as operated by the Sewer Committee of the City of Little Rock, Arkansas.

P. Shall is mandatory; May is permissive.

Q. Storm Drain shall mean a drain or sewer for conveying water, ground water, subsurface water, or unpolluted water from any source.

R. Utility shall mean the Little Rock Sanitary Sewer Committee.

S. User shall mean a source of indirect discharge

T. Wastewater shall mean the spent water of a community, including the combination of the liquid and water carried wastes from residences, commercial establishments, industrial plants, and institutions, together with any ground water, surface water, and storm water that may be present.

U. Water Course shall mean a channel in which a flow of water occurs, either continuously or intermittently.

SECTION 2 - USE OF PUBLIC SEWERS REQUIRED

2.1 Unsanitary Conditions

It shall be unlawful for any person to place, deposit, or permit to be deposited in any unsanitary manner on public or private property within the City of Little Rock, Arkansas, or in any area under the jurisdiction of said City, any human or animal excrement, or other objectionable wastes.

2.2 Stormwater Discharge

No person shall discharge or cause to be discharged any stormwater, surface water, groundwater, roof runoff, subsurface drainage, non-contact cooling water or other such waters into any sanitary sewer.

2.3 Discharge to Natural Outlets

It shall be unlawful to discharge to any natural outlet within the City of Little Rock, Arkansas, or in any area under the jurisdiction of said City, any sewage or other polluted waters, except where suitable treatment has been provided as required by law.

2.4 Septic Tanks, Privys, Cesspools

Except as herein provided under Section 3 below, it shall be unlawful for any person to construct or maintain any privy, privy vault, septic tank, cesspool, or other facility intended to be used for the disposal of sewage.

2.5 Connection to Public Sanitary Sewer Required

The owner of all houses, buildings, or properties used for human occupancy, employment, recreation, or other purposes, situated within the City of Little Rock and abutting on any street, alley, or right-of-way in which there is now located or may in the future be located a public sanitary sewer of the City, is hereby required, at his expense, to install suitable toilet facilities therein, and to connect such facilities directly with the proper public sewer in accordance with the provisions of this Ordinance, within thirty (30) days after date of official notice to do so, provided that said property is within three hundred (300) feet of any accessible public sanitary sewer.

2.6 Dischargers Outside City

All dischargers to the City of Little Rock POTW, who are outside the jurisdiction and are not part of another incorporated city, shall be required to agree by written contract to abide by the conditions set forth in this ordinance, subsequent revisions and amendments to this ordinance, and any rules and/or regulations promulgated by the Sewer Committee of the City of Little Rock in accordance with this ordinance. All incorporated cities which discharge to the City of Little Rock POTW shall agree by written

contract to adopt an ordinance which meets the requirements of 40CFR403, General Pretreatment Regulations, and will be at least as stringent as the conditions set forth in this ordinance. This agreement must also contain a provision that allows for the adoption of any and all rules and/or regulations promulgated by the provisions of the Sewer Committee of the City of Little Rock in accordance with this ordinance and shall delegate to the City of Little Rock the powers to enforce the provisions of all laws, rules and/or regulations adopted in accordance with this section.

SECTION 3 - PRIVATE SEWAGE DISPOSAL

3.1 Private Sewage Disposal Systems Allowed

Where a public sanitary sewer is not available, under the provisions of Section 2.4, the building sewer shall be connected to a private sewage disposal system complying with the provisions of this Section.

3.2 Permits Required

Before commencement of construction of a private sewage disposal system, the owner shall first obtain a written permit from the office of the Arkansas Department of Health and/or the Arkansas Department of Environmental Quality. The application for such permit(s) shall be supplemented by such plans, specifications, test results, and other information as deemed necessary by the permitting authority.

3.3 Compliance with Regulations

The type, capacities, locations, and layout of private sewage disposal systems shall comply with all requirements and recommendations of the Arkansas Department of Health and/or the Arkansas Department of Environmental Quality.

3.4 Connection to Public Sewer Required

When a public sewer becomes available, the building sewer shall be connected to said sewer within thirty (30) days after date of official notice to do so, and the private sewage disposal system shall be cleaned of all sludge and solids, and filled with suitable materials.

3.5 Owner Responsibilities

The owner shall operate and maintain the private sewage disposal facilities in a sanitary manner at all times, at no expense to Little Rock Wastewater Utility.

3.6 Additional Requirements Govern

No statement contained in this Section shall be construed to supersede any additional requirements that may be imposed by the Arkansas Department of Health or the Arkansas Department of Environmental Quality, and in the event of any conflict between this section and any such additional requirements, the latter shall govern.

SECTION 4 - BUILDING SEWERS AND CONNECTIONS

4.1 Authorizations Required

No unauthorized person shall uncover, make any connection with or opening into, use, alter, or disturb, a public sewer or appurtenance thereof without first obtaining a written permit from the Manager of Little Rock Wastewater Utility.

4.2 Building Sewer Permits/Fees Required

A building sewer permit shall be required for all residential, commercial, and industrial connections to the sanitary sewer system. The owner or agent shall make application on a special form provided by the Utility. The permit application shall be supplemented by any plans, specifications, or other information considered pertinent in the judgment of the Manager. A permit and inspection fee for residential, commercial, and industrial building sewer connections shall be paid to Little Rock Wastewater Utility at the time the application is filed. Coincident with application for a permit, a connection fee shall be paid to Little Rock Wastewater Utility. Said fee shall be in proportion to the sewage treatment capacity required by the connected facility in accordance with a schedule adopted by the Sewer Committee of Little Rock Wastewater Utility.

4.3 Costs, Expenses, and Indemnification

All costs and expenses incident to the installation and connection of the building sewer shall be borne by the owner. The owner shall indemnify the City from any loss or damage that may directly be occasioned by the installation of the building sewer.

4.4 Separate Building Sewers Required

A separate and independent building sewer shall be provided for every building except as follows:

A. Where multiple buildings are constructed in an apartment complex or condominium on a single lot or tract of land which cannot be subsequently subdivided and sold in parcels, the individual buildings may be connected to a collector building sewer provided that only one person is responsible for maintenance of the building sewer.

B. Temporary buildings, mobile homes, or similar portable structures may be connected to a building sewer installed to serve a previously constructed permanent building provided that both the permanent and temporary buildings are located on the same lot.

4.5 Use of Old Building Sewers

Old building sewers may be used in connection with new buildings only when they are found, upon examination and testing by the Manager, to meet all requirements of this Ordinance and other rules and regulations of Little Rock Wastewater Utility.

4.6 Construction Requirements and Specifications

The size, slope, alignment, and materials of construction of a building sewer and the methods to be used in excavating, placing of pipe, joining, testing, and backfilling the trench, shall all conform to the rules and regulations of Little Rock Wastewater Utility, the building and plumbing codes, or other applicable rules or regulations of the City of Little Rock, Arkansas. In the absence of code provisions or in amplification thereof, the materials and procedures set forth in appropriate specifications of the American Standard Testing Material (A.S.T.M.) and the Water Environment Federation (W.E.F.) Manual of Practice No. 9 shall apply.

4.7 Building Sewer Elevations/Lift Stations

Whenever possible, the building sewer shall be brought to the building at an elevation below the basement floor. In all buildings in which any building drain is too low to permit gravity flow to the public sewer, sanitary sewage carried by such building drain shall be lifted by a means approved by the Manager and discharged to the building sewer.

4.8 Prohibited Connections

No person shall make, permit to be made, own, use or be in possession of a connection of roof drains, downspouts, exterior foundation drains, areaway drains, or other sources of surface runoff or groundwater to a building sewer or building drain which is directly or indirectly connected to a public sanitary sewer. If such connection is found to exist, the Owner shall be notified and given thirty (30) days to disconnect the prohibited cross connection. If disconnection is not made, sewer service will be discontinued until such repair is made.

4.9 Conformance to Rules and Regulations

The connection of a building sewer into a public sewer shall conform to the rules and regulations of Little Rock Wastewater Utility, the building and plumbing codes or other applicable rules of the City of Little Rock, Arkansas, or the procedures set forth in appropriate specifications of the A.S.T.M. and W.E.F. Manual of Practice No. 9. All such connections shall be made gas tight and water tight. Any deviation from the prescribed procedures and materials must be approved by the Manager before installation.

4.10 Notification-Inspection and Connection

The applicant for the building sewer permit shall notify the Manager of Little Rock Wastewater Utility when the building sewer is ready for inspection and connection to the public sewer. All portions of the building sewer from the foundation to the connection to the public sewer shall be inspected and approved by the Manager before backfilling.

4.11 Protection of the Public

All excavations for building sewer installation shall be adequately guarded with barricades and lights so as to protect the public from hazard.

4.12 Restoration of Public Property

Streets, sidewalks, parkways, and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the City of Little Rock Public Works Department.

4.13 Operation and Maintenance Requirements

The owner of any building or buildings which is (are) connected to the public sanitary sewer shall be required to operate and properly maintain the building drains and building sewer in accordance with all provisions of this Article at no expense to Little Rock Wastewater Utility.

SECTION 5 - PROTECTION FROM DAMAGE

5.1 Damage, Destruction, and Tampering

No person shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface, or tamper with any structure, appurtenance, or equipment which is a part of the sewage works.

5.2 Unauthorized Covering

No unauthorized person shall cover any manhole on a public sewer with earth or paving, or otherwise render it inaccessible.

5.3 Removal of Cover

No unauthorized person shall remove the earth cover from a public sewer so that less than two (2) feet of earth cover remains over the pipe bells. Approval to remove subsequent cover shall require written consent from the Manager of the Little Rock Wastewater Utility.

5.4 Applicable Penalties

Violation of any provision of this Section is a Class C misdemeanor.

SECTION 6 - DISCONNECTING SEWERS

6.1 Disconnection and Sealing Required

Before any dwelling or other building being served by the public sewer is moved or demolished, the building sewer serving said building shall be disconnected from the public sewer at the property line and the remaining building sewer sealed to prevent the entrance of stormwater, groundwater, and debris into the public sewer. The Manager shall inspect all disconnect and seals.

6.2 Application and Fee Required

Prior to the demolition or moving of any building served by a public sewer, application shall be made to the office of Little Rock Wastewater Utility for disconnect and seal of the building sewer by the Utility and the sewer seal fee, as set by the Sewer Committee, shall be paid to the Utility at that time.

6.3 Notification Requirements

At least three (3) days before the building is moved or demolished, but after it is no longer occupied, the party making the application outlined in Section 6.2, above, shall notify the Utility that the building sewer is ready for inspection of disconnection and sealing.

SECTION 7 - POWER AND AUTHORITY OF INSPECTORS

7.1 Right of Entry

The Manager and other duly authorized employees of the Little Rock Wastewater Utility bearing proper credentials and identification shall be permitted to enter all properties connected to the sanitary sewer system for the purposes of inspection, observation, measurement, sampling, and testing in accordance with the provisions of this Ordinance. The Manager or other duly authorized employee of the Little Rock Wastewater Utility bearing proper credentials and identification shall be permitted to enter all private properties through which the City holds a duly negotiated easement for the purposes, but not limited to, inspection, observation, measurement, sampling, repair, and maintenance of any portion of the sewage works lying within said easement. Any entry in and subsequent work on any such easement shall be done in full accordance with the terms of the duly negotiated easement pertaining to the private property involved.

7.2 Adoption of Rules and Regulations Pertaining to Services

In addition to the provisions of this Ordinance, the Sewer Committee of the City of Little Rock is specifically authorized to make such other reasonable rules and regulations in regard to the construction, use, and operation of sanitary sewers to be connected to, or connecting into, the mains of the Little Rock

Wastewater Utility system. Such rules and regulations so made and adopted at a regular meeting of the Sewer Committee shall become effective as follows:

(a) A public notice of intent to enact and intention of proposed rules and regulations shall be placed in a daily newspaper in the City of Little Rock, Arkansas, one (1) day for each of two (2) successive weeks with a brief summary of the proposed rules and regulations.

(b) The proposed rules and regulations shall be available for inspections and reproduction at the office of the Manager of the Wastewater Utility for thirty (30) days following the first publication of the public notice.

(c) A correct copy of those rules and regulations shall be filed for permanent record with the City Clerk of the City of Little Rock together with any written objections to the proposed rules and regulations at the end of the thirty (30) day public review period.

(d) Said rules and regulations shall become effective on the filing of said copy for permanent record with the City Clerk.

SECTION 8 - ADMINISTRATIVE ENFORCEMENT REMEDIES

8.1 Enforcement Procedure

Whenever the Manager finds that any person has violated or is violating any provision of this Ordinance, or any prohibition, limitation, or requirement contained herein, he shall serve upon such person a written notice via certified mail or personal service stating the nature of the violation and providing a reasonable time, not to exceed thirty (30) days, for the satisfactory correction thereof.

8.2 Show Cause Hearing

A. If the violation is not corrected by timely compliance, the Manager shall order any person who violates any provision of this Ordinance or causes or allows an unauthorized discharge to show cause before the Manager why service should not be terminated. A notice shall be served on the offending party, specifying the time and place of a hearing to be held by the Manager regarding the violation, and directing the termination of service. The notice of the hearing shall be served personally or by registered or certified mail (return receipt requested) at least ten (10) days before the hearing. Service may be made on any agent or officer of a corporation.

B. The Manager shall conduct the hearing, take the evidence, and the Manager is further authorized to do any and all of the following:

1. Issue notices of hearings requesting the attendance and testimony of witnesses and the production of evidence relevant to any matter involved in any such hearings and conduct such hearing for the purpose of making a determination of the existence of violations and recommendation to the Sewer Committee for appropriate action.

2. Transmit a report of the evidence and hearing, including transcripts and other evidence, together with the recommendations and/or findings of the Manager to the Sewer Committee for final action by the Sewer Committee subject to any further information which the Sewer Committee may request or any party to the action may desire to submit for further consideration.

3. At any public hearing, testimony taken before the Manager must be under oath and recorded by cassette tape or stenographically. The transcript, so recorded, will be made available to any member of the public or any party to the hearing upon payment of the cost of production.

C. After the Sewer Committee has reviewed the evidence, and the Manager's recommendation it may issue an order to the party responsible for the discharge or violation directing that, following a specified time period, the sewer service be discontinued unless adequate treatment facilities, devices, or other related appurtenances shall have been installed or existing treatment facilities, devices, or other related appurtenances are properly operated or the violation is corrected, and such further orders and directives as are necessary and appropriate. Such order shall be subject to review by appeal to the Circuit Court of Pulaski County, Arkansas, in accordance with the law of Arkansas.

D. A discharge in violation of the provisions of this Ordinance shall be considered a public nuisance. In addition to the procedures outlined in Sections 6 and 7, nothing herein shall be deemed to prevent the Sewer Committee and/or the Utility from seeking appropriate legal and/or equitable relief in the Courts of Arkansas in the event of a violation or discharge in violation of the provisions of this Ordinance.

8.3 Emergency Suspension of Service

The Sewer Committee may for good cause shown, after notice, suspend the receipt of wastewater discharge to the POTW, subject to a hearing within five (5) days, and, thereafter, revoke the Wastewater Discharge Permit of a discharger when it appears to the Sewer Committee that an actual or threatened discharge presents or threatens an imminent and substantial danger to the health or welfare of persons, substantial danger to the environment, interferes with the operation of the POTW, or violates any of the provisions of this Ordinance. Any Discharger notified of the suspension of service and/or discharge permit, shall within a reasonable period of time, as determined by the Sewer Committee or its representative, cease all discharges. In the event of failure of the discharger to comply voluntarily with the suspension order within the time specified, the Sewer Committee shall take all lawful actions necessary to immediately suspend the access of the User to the POTW. The Sewer Committee shall reinstate the service and/or Discharge Permit upon proof by the Discharger of the elimination of the non-complying discharges or conditions creating the threat of imminent or substantial danger as set forth above. The Discharger shall be charged with reimbursing the LRWU all costs incurred in the suspension of service before the service will be reinstated.

SECTION 9 - JUDICIAL ENFORCEMENT REMEDIES

9.1 Injunctive Relief

Whenever a User has violated any provision of this Ordinance or continues to violate any provision of this Ordinance, wastewater discharge permits or orders issued hereunder, the Sewer Committee may commence action for appropriate legal and/or equitable relief in any court of competent jurisdiction for the issuance of a temporary or permanent injunction, as appropriate, which restrains or compels compliance, performance of a Sewer Committee order, or other requirement imposed by this Ordinance on activities of the User. A petition for injunctive relief need not be filed as a prerequisite to taking any other action against a User.

9.2 Civil Penalties

A. Any person or other entity found to be violating any provision of this Ordinance or regulations promulgated by the Sewer Committee shall be subject to a fine in an amount of not less than one hundred dollars ($100.00) nor more than five hundred dollars ($500.00) for any one (1) specified offense or violation of such ordinance, and not less than one hundred dollars ($100.00) nor more than one thousand dollars ($1,000.00) for each repetition of such offense or violation. If a thing prohibited or rendered unlawful is, in its nature, continuous in respect to time, the fine or penalty for allowing the continuance thereof shall not exceed two hundred and fifty dollars ($250.00) per day for each continuing offense or violation.

B. Any person or other entity who knowingly makes any false statements, representations or certification of any record, report, plan, or other document filed or required to be maintained pursuant to this Ordinance, regulations, or laws referred to herein, or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under this Ordinance, regulations or laws referred to herein, shall be subject to a fine in an amount not less than one hundred dollars ($100.00) nor more than five hundred dollars ($500.00) for any one (1) specified offense or violation of such ordinance, and not less than one hundred dollars ($100.00) nor more than one thousand dollars ($1,000.00) for each repetition of such offense or violation. If a thing prohibited or rendered unlawful is, in its nature, continuous in respect to time, the fine or penalty for allowing the continuance thereof, in violation of such ordinance, shall not exceed two hundred and fifty dollars ($250.00) per day for each offense or violation.

C. Any person or other entity violating any of the provisions of this Ordinance shall become liable to the Utility for any expense, loss, or damage occasioned the Utility by reason of such violation.

D. In addition to the civil penalties provided for herein, the Sewer Committee may recover, on behalf of the Utility, from a person or other entity(ies) determined to be in violation of the provisions of this Ordinance any damages suffered, costs, and other expenses of litigation in an action at law or equity which may be permitted by the laws of Arkansas.

E. The Sewer Committee shall petition a Court of competent jurisdiction to impose, assess and recover all civil penalties, legal fees, and costs together with damages if appropriate. In determining the amount of the penalty, the Sewer Committee in its recommendation for civil penalties, the City Board of Directors and the Court may take into account all relevant circumstances, including, but not limited to, the extent of harm caused by the violation, the magnitude and duration of the violation, any economic benefit gained by the User in allowing the violation, the timing and nature of any corrective actions taken by the User, the compliance history of the User, and any other facts as justice requires.

F. Filing a suit for civil penalties shall not be a prerequisite for taking any other action against a User.

9.3 Criminal Prosecution

A. The Sewer Committee may criminally prosecute in a court of competent jurisdiction any User who knowingly or negligently violates any provision of this Ordinance, its Wastewater Discharge Permit or any orders issued hereunder. If so prosecuted the User shall, upon conviction, be guilty of a misdemeanor, and be punished by a fine not to exceed five hundred dollars ($500.00) per violation or imprisonment for such term as allowed by law.

B. The Sewer Committee may criminally prosecute in a court of competent jurisdiction any User who knowingly or negligently makes any false statement, representation or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to this Ordinance or its Wastewater Discharge Permit, or who falsifies, tampers with, or knowingly or negligently renders inaccurate any monitoring or sampling device, wastewater sample or other methods required by this Ordinance. If so prosecuted, the User shall, upon conviction, be guilty of a misdemeanor, and be punished by a fine of not more than five hundred dollars ($500.00) per violation or by imprisonment for such term as allowed by law.

C. Each day on which a violation shall occur or continue shall be a separate and distinct offense. In the case of monthly or other long-term average discharge limits, penalties shall accrue for each business or operational day during the period of violation.

9.4 Remedies Nonexclusive

The provisions in Sections 7 through 9 are not exclusive remedies. The Utility reserves the right to take any, all, or any combination of these actions against a noncompliant User. The Utility shall be authorized to take other action against any User when the circumstances warrant. Further, the Utility is empowered to take more than one (1) enforcement action against any noncompliant User. These actions may be taken concurrently.

9.5 Initiation of Criminal or Civil Action

Any criminal or civil action for violation of this Ordinance may be initiated only after a majority vote of the Sewer Committee resolves to pursue such action.

A. For Users with properties located within the corporate limits of the City of Little Rock, no suit to collect civil or criminal penalties or fines may be initiated until after such time that a resolution authorizing the suit is duly adopted by the Sewer Committee, as the governing body.

B. For Users with properties located outside the corporate limits of the City of Little Rock, the Board of Directors of the City of Little Rock hereby delegates authority to the Sewer Committee to be the governing body to authorize, by resolution, legal actions to collect civil or criminal penalties or fines.

SECTION 10 - SUPPLEMENTAL ENFORCEMENT ACTION

10.1 Performance Bonds

The Manager may decline to issue a wastewater discharge permit to any User who has failed to comply with the provisions of this Ordinance, any orders, or a previous wastewater discharge permit issued hereunder, unless such User first files a satisfactory bond, payable to the Little Rock Sanitary Sewer Committee or the Utility, in a sum not to exceed a value determined by the Manager to be necessary to achieve compliance.

10.2 Liability Insurance

The Manager may decline to issue a wastewater discharge permit to any User who has failed to comply with the provisions of this Ordinance, or violated any order, or a previous wastewater discharge permit issued hereunder, unless that User first submits proof that it has obtained financial assurances sufficient to restore or repair damage to the POTW caused by its discharge.

10.3 Public Nuisances

Any violation of this Ordinance, wastewater discharge permit, or orders issued hereunder, is declared a public nuisance and shall be corrected or abated as directed by the Manager or his designee. Any person(s) creating a public nuisance shall be subject to the provisions of the City Code § 20-2 governing such nuisances, including reimbursing the Utility for any costs incurred in removing, abating, or remedying said nuisance. Any discharger which makes, causes, or allows a prohibited discharge which causes additional expense or costs to handle and treat such discharge or to correct damages caused by such discharge shall be required to reimburse the Utility for such cost or expense.

SECTION 11 - SEVERABILITY

The provisions of this Ordinance are severable, and if any provision, paragraph, word, section, or article of this Ordinance is invalidated by any court of competent jurisdiction it shall not affect the remainder of this Ordinance and the remaining provisions, paragraphs, words, sections, and articles shall not be affected and shall continue in full force and effect.

11.1 Repeal of Prior Ordinances

All Ordinances and parts of Ordinances inconsistent or conflicting with any part of this Ordinance are hereby repealed to the extent of such inconsistency or conflict, including but not limited to Articles I, II, III, IV, V, X, XI, and XII of Ordinance No. 15,344 passed on September 1, 1987.

SECTION 12 - AUTHORITY OF LITTLE ROCK SANITARY SEWER COMMITTEE, EFFECTIVE DATE, AND DECLARING AN EMERGENCY

The City Board of Directors of the City of Little Rock has determined that it is essential that the Little Rock Sanitary Sewer Committee should have the authority to regulate the use of public and private sewers in accordance with the provisions contained in this Ordinance in order to accomplish the purposes thereof. Therefore, an emergency is hereby declared to exist, and this Ordinance, being necessary for the immediate preservation of the public peace, health and safety, shall be in full force and effect immediately after its passage and approval.

PASSED:

March 16, 1999

CONTRACT

THIS CONTRACT is entered into by and between the City of Little Rock, Arkansas and the Little Rock Water Reclamation Commission (both hereinafter collectively "Little Rock" and sometimes separate references to "LRWRC") and the City of Alexander, Arkansas ("Alexander") by their respective duly authorized undersigned representatives.

W I T N E S S E T H:

WHEREAS, Little Rock is the owner of certain existing public sewer facilities consisting of pipes eight (8) inches or larger in diameter and manholes with covers and appurtenances thereto situated within the city limits of Alexander ("Sewer Facilities"), and Alexander is the owner of certain utility easements or rights of way in which the Sewer Facilities are located, and the LRWRC has operated and maintained said Sewer Facilities since the completion of the construction of these Sewer Facilities; and

WHEREAS, the Little Rock City Board of Directors ("LRCBOD") approved Ordinance No. 17,610 dated November 4, 1997, authorizing a contract for the treatment of sewage by the LRWRC (then known as the Sewer Committee) through the Little Rock Water Reclamation Authority (then known as the Little Rock Wastewater Utility).

WHEREAS, Little Rock and Alexander entered a contract for sewer service dated November 7, 1997, subject to the provisions of Ark. Code Ann. § 14-235-212.

WHEREAS, that contract expired on November 7, 2012.

WHEREAS, the parties desire to renew that contract for sewer service on the terms and conditions herein set forth;

NOW, THEREFORE, in consideration of the mutual benefits to be derived, it is hereby agreed by and between the parties:

1. Sewage Treatment and Extension of Sewer Service by Little Rock. Little Rock, acting through the LRWRC operating the Little Rock Water Reclamation Authority ("LRWRA"), agrees to perform the treatment of sewage from Alexander by Little Rock, as discharged in accordance with this contract into the existing sewer facilities located in that area shown on the map marked Exhibit "A" attached hereto and incorporated by reference herein. Said sewer treatment is subject to the provisions of this contract, and in consideration of the terms and conditions set forth herein and Alexander's covenant to perform and comply with all provisions of this contract, including Alexander's cooperation in the enforcement of all rules, regulations, ordinances, and laws referred to herein and/or applicable to the use, operation, and maintenance of Little Rock's sewer system referred to in this contract for the duration thereof, as well as any extensions thereof.

2. Charges for Sewer Service. All charges for sewer services provided by Little Rock to customers residing within the city limits of Alexander and/or to any customer through the Sewer Facilities referred to in this contract shall be included on the water bills of Central Arkansas Water in accordance with the existing Little Rock ordinances establishing rates for sewer service based on outside city rates, as those rates are currently established and as those rates may be adjusted from time to time. In the event such sewer service is provided to customers who do not receive water service from Central Arkansas Water and, therefore, receive no water bills which would otherwise also contain sewer charges, those customers shall be billed in accordance with such procedures as Little Rock, acting through the LRWRC by LRWRA may establish in order to collect the outside city sewer rates for such sewer service.

3. Conveyance and Assignment by Alexander to the Sewer Committee of Easements and Rights of Way. Alexander granted and assigned by separate easement unto Little Rock for the use and benefit of the LRWRC a certain easement and rights of way situated within its corporate city limits in Pulaski County and Saline County, Arkansas, as described in the easement attached hereto identified as Exhibit "A," including Schedule "1" attached thereto. Alexander agrees to assign in the future (if necessary) any utility easements and rights of way, whether now owned or hereafter acquired, for the purpose of maintaining, operating, repairing, or replacing the Sewer Facilities in the LRWRC's discretion.

4. Acceptance by LRWRC of Easement and Assignment by City of Alexander and Agreement to Operate and Maintain Sewer Facilities. The LRWRC accepted the separate easement described in Exhibit "A," including Schedule "1" attached thereto, subject to the terms and conditions to operate and maintain said Sewer Facilities in good repair in accordance with the provisions of the easement. It is expressly agreed, however, that no sewer line with an internal diameter of less than eight (8) inches shall be considered a public sewer, or otherwise be maintained by the LRWRC, and the "point of service" for maintenance responsibility assumed by the LRWRC shall be the "wye" connection or other means of connecting any building sewer to the public sewer.

5. Application of City of Little Rock Sewer Ordinances.

(a) The operation and maintenance of the Sewer Facilities referred to herein, including any present or future service or extension thereof, shall be governed solely by the provisions of all existing and future ordinances enacted by the City of Little Rock, Arkansas related to the operation and maintenance of sewers including, but not limited to, sewer use and pretreatment requirements

of any nature whatsoever; and the provisions of these ordinances shall be binding on the parties hereto, including the rates as may be from time to time specified in those ordinances.

(b) The City of Alexander agrees that the authority of the LRWRC includes, but is not limited to, the authority to:

(1) Deny or condition new or increased contributions of pollutants, or changes in the nature of pollutants, to the Publicly Owned Treatment Works ("POTW") owned by the LRWRC by Industrial Users where such contributions do not meet applicable Pretreatment Standards and Requirements (as same are defined in applicable federal and Arkansas statutes and regulations, and ordinances of the City of Little Rock, as the same may be amended from time to time) or where such contributions would cause the POTW to violate its National Pollutant Discharge Elimination System ("NPDES") permit;

(2) Require compliance with applicable Pretreatment Standards and Requirements by Industrial Users;

(3) Control, through permit, contract, order, or similar means, the contributions to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements;

(4) Require (a) the development of a compliance schedule by each Industrial User for the installation of technology required to meet applicable Pretreatment Standards and Requirements and (b) the submission of all notices and self-monitoring reports from Industrial Users as are necessary to assess and assure compliance by Industrial Users with Pretreatment Standards and Requirements, including by not limited to 40 C.F.R. § 403.12, as adopted in Arkansas Pollution Control and Ecology Commission Regulation No. 6, Regulations for State

Administration of the National Pollutant Discharge Elimination System (NPDES), as same are administered and enforced by the Arkansas Department of Environmental Quality;

(5) Carry out all inspection, surveillance, and monitoring procedures necessary to determine, independent of information supplied by Industrial Users, compliance or noncompliance with applicable Pretreatment Standards and Requirements by Industrial Users. Representatives of the POTW shall be authorized to enter any premises of any Industrial User in which a discharge source or treatment system is located or in which records are required to be kept under applicable federal or state regulations including, but not limited to 40 C.F.R. § 403.12(m) to assure compliance with Pretreatment Standards and Requirements. Such authority shall be at least as extensive as the authority provided under Section 308 of the Federal Water Pollution Control Act (Clean Water Act amendments of 1972), 33 U.S.C. § 1318; any applicable Arkansas regulations and statutes including the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-101 *et seq.*; and ordinances of the City of Little Rock, as same may be enacted or amended from time to time;

(6) Obtain remedies for noncompliance by any Industrial User with any Pretreatment Standard and Requirement. The LRWRC shall be entitled to seek injunctive relief for noncompliance by Industrial Users with Pretreatment Standards and Requirements. If the laws of the State of Arkansas now or hereafter authorize Alexander to enact ordinances or other local legislation to assess civil or criminal penalties for noncompliance by Industrial Users with Pretreatment Standards and Requirements, Alexander covenants with the LRWRC that it will enact such ordinances or other local legislation with the LRWRC may request as soon as practical, and Alexander expressly agrees that this covenant may be enforced by the LRWRC in a court of competent jurisdiction in Pulaski County, Arkansas which the parties expressly stipulate is the

appropriate venue for any such action. If the laws of the State of Arkansas do not now or hereafter authorize such actions, then the LRWRC is authorized to enter into contracts with Industrial Users to assure compliance by Industrial Users with Pretreatment Standards and Requirements. Any such contract will provide for liquidated damages for violation of Pretreatment Standards and Requirements and will include an agreement by the Industrial User to submit to the remedy of specific performance for breach of contract, enforceable by a court situated in Pulaski County, Arkansas.

(7) The definitions set forth at 40 C.F.R. § 403.3, as amended, are expressly incorporated by reference herein as if set forth word for word and a copy thereof is attached hereto marked Exhibit "B."

6. Future Connections with the Sewer System in Alexander. Alexander shall have no authority to extend or permit any future connections to the Sewer Facilities referred to in this Contract, and Alexander agrees not to allow or permit any sewer extension to any area outside the incorporated area of Alexander as the boundaries exist on the date when this Contract is executed or when they may be changed in the future without the prior written approval of Little Rock by resolution of the LRCBOD. Alexander further agrees not to allow or permit any future sewer main extensions and/or sewer connections within the city limits of Alexander served or not currently served unless Alexander obtains the prior approval in writing of the LRWRC and LRCBOD in accordance with the terms of this Contract.

7. Future Extensions of Service. Little Rock and the LRWRC shall not be obligated for and assume no liability for any future extension of service not specifically set forth herein, and no such extension shall be made without the prior written approval of the LRCBOD and the LRWRC in accordance with this Contract. This Contract anticipates an amount of wastewater flow not to

exceed a peak daily flow rate of 750 gallons per minute with the maximum flow rate being based on the capacity of the 18" diameter collector presently serving the City of Alexander. There may be a combination of residential, commercial, and industrial users otherwise permitted by land use controls, such as zoning and subdivision regulations, on condition that the maximum peak daily wastewater flow rate for any combination of such permitted users does not exceed the peak daily wastewater flow rate of 750 gallons per minute as specified herein. Any further extension of service shall be in accordance with the terms of the Contract, the rules and regulations of the LRWRC, and subject to written approval of the LRCBOD and LRWRC at the time of the extension of service. Anyone desiring such an extension of service beyond the existing facilities hereby served shall bear the full cost thereof.

8. Alexander Comprehensive Development Plan, Zoning Ordinance, and Pretreatment Ordinance. Before any further sewer service is provided through connections to or extensions of the Sewer Facilities referred to in this Contract, Alexander shall furnish proof of the adoption of a comprehensive development plan, zoning ordinance, resolution mandating the application and enforceability of the Little Rock sewer use and pretreatment ordinances. Said plan and zoning ordinance shall be submitted to the Planning and Development Department of the City of Little Rock for written approval before any further sewer service is provided by Little Rock either through a sewer connection or sewer extension specified in this Contract with such resolution to be approved by the LRCBOD and LRWRC before said connection is made; and Alexander covenants to maintain and enforce at all times said comprehensive development plan and zoning ordinance, and cooperate with Little Rock for the enforcement thereof.

9. Title and Maintenance Responsibility for Public Sewer Facilities Located and/or to be Located in Alexander. Title to and maintenance responsibility for any and all public sewer

facilities subject to this contract being defined as those pipes or conduits having a diameter of eight (8) inches or larger, normally equipped with manholes located in rights of way or easements together with all appurtenances thereto, shall be in Little Rock, provided however, any storm water facilities are not included as part of the Sewer Facilities herein referred to or assigned, and any storm water facilities shall remain the property of Alexander.

10. Title and Maintenance Responsibility for Building Sewer or Private Service Lines. Title to and maintenance responsibility for any building sewer connecting each customer's public facilities to the public sewer line located in Alexander or private service line or to any extension thereof shall remain with the respective property owner, even though a portion of the building sewer or service line may be installed in the public right of way or easement; and Little Rock shall have no liability or responsibility for the operation or maintenance of said building sewer.

11. Term of Contract. Unless terminated earlier, the term of this Contract shall be for a period of thirty (30) years from the date hereof at which time it will expire; provided, however, this Contract may be extended by the agreement of the parties hereto upon notice given by either party prior to the end of the term and adoption, thereafter, of approving ordinances by Alexander and the City of Little Rock.

12. Assignment or Transfer. This Contract and the rights hereunder shall not be assigned or transferred by Alexander, and shall be binding upon the successors or either party.

13. Taxes and Compliance with Laws. Alexander covenants and agrees to pay any and all taxes levied by the United States and the State of Arkansas for the services provided and treatment of sewage pursuant to this contract, and Alexander and Little Rock shall comply with all federal, state, county and municipal laws, ordinances, rules and regulations pertaining to the treatment of sewage; and Alexander further agrees to indemnify and hold harmless Little Rock for any loss or

damage of nature whatsoever sustained by Little Rock occasioned by the failure to comply with said laws, ordinances, rules and regulations by the employees or authorized representatives of Alexander.

14. Termination. This Contract may be terminated by Little Rock if Alexander fails to comply fully with any of the terms and provisions of this Contract. Termination of this Contract may occur only after actual written notice is given of the nature of the breach. In the event of the termination of this Contract, all obligations of Little Rock to treat the sewage under the agreement shall cease and Alexander, including all residents and/or customers shall stop using the Sewer Facilities and Alexander shall immediately remove the sewer connections provided herein. It is the intention of the parties that Alexander shall be solely responsible for the treatment of its sewage upon termination of this Contract, failing which Little Rock shall be entitled to recover from Alexander all damages sustained by Little Rock of any nature whatsoever proximately caused by any violation by Alexander or its residents of any provision(s) of this Contract, including but not limited to the failure of Alexander or its residents to remove said sewer connections and cease use of the Sewer Facilities, and Little Rock's costs and expenses for treatment of said sewage in the event Alexander fails to do so.

15. Notices. All notices hereunder shall be in writing and shall be deemed to have been duly given when sent by certified mail, postage prepaid, as follows:

If to Little Rock:

Little Rock Water Reclamation Authority
11 Clearwater Drive
Little Rock, Arkansas 72204
Attn: Chief Executive Officer

AND

City of Little Rock
City Hall, 500 W. Markham
Little Rock, AR 72201
Attn: Mayor

If to Alexander:

City of Alexander
City Hall
15605 Alexander Road
Alexander, AR 72002
Attn: Mayor

16. Update or Regulations. Alexander agrees to abide by the rules and regulations published from time to time concerning the treatment of sewage by Little Rock; and all applicable federal, state, county, and municipal regulations concerning construction, operating, maintenance, and protection of treatment of sewage pursuant to this Contract. Little Rock, by the LRWRC acting through the LRWRA, shall have the right at all times, if it deems necessary or appropriate, to inspect all individual tie-ons, connections to, or extensions of the Sewer Facilities referred to in thin Contract.

17. Governmental Function. The parties recognize that treatment of sewage pursuant to this agreement is a governmental function and this Contract shall be performed by the parties hereto in their respective governmental capacities.

18. Invalid Provision Shall Not Invalidate Contract. The parties agree that in the event any paragraph, sentence, clause, or word(s) of this Contract shall be held to be invalid, illegal, or unenforceable, all other terms and provisions of this Contract shall remain in full force and effect, and this Contract shall be construed as if not containing the particular provision or provisions held to be invalid.

19. Contract Legally Binding. All parties to the Contract agree to the terms contained herein and represent to each other that the terms of this Contract have been duly accepted and approved by the authorized representatives of the parties hereto; and all parties covenant to each other that all action required by law has been taken to make this Contract legally binding and enforceable and that the parties hereto shall have all of the rights and remedies under the law of Arkansas to enforce the terms of this Contract.

20. Venue in Pulaski County, Arkansas. The parties expressly agree that any legal or equitable action of any nature whatsoever must be brought in appropriate courts situated in Pulaski County, Arkansas, and that court shall be the proper venue for any such action to assert jurisdiction over the parties hereto, as well as the subject matter thereof.

IN WITNESS WHEREOF, the parties have caused this contract to be executed by their duly authorized representatives on the 3rd day of December, 2018.

CITY OF LITTLE ROCK, ARKANSAS

BY: _____
Mayor

Attest:

LITTLE ROCK WATER RECLAMATION COMMISSION

BY: _____ 9/19/18
Chair

CITY OF ALEXANDER, ARKANSAS

BY: _____ 9-17-18
Mayor

CONTRACT

THIS CONTRACT is entered into by and between the City of Little Rock, Arkansas and the Little Rock Sanitary Sewer Committee (both hereinafter collectively "Little Rock" and sometimes separate references to ("the Sewer Committee") and the City of Cammack Village, Arkansas ("Cammack Village") by their respective duly authorized undersigned representatives;

W I T N E S S E T H:

WHEREAS, Little Rock is the owner of certain existing public sewer facilities consisting of pipes six (6) inches or larger in diameter and manholes with covers and appurtenances thereto all situated within the city limits of Cammack Village ("Sewer Facilities"), which Little Rock acquired by contract dated September 15, 1982 between Little Rock and Cammack Village, together with certain utility easements or rights of way in which the Sewer Facilities are located, and the Sewer Committee has operated and maintained said Sewer Facilities since the date of that contract in accordance with the provisions contained therein; and

WHEREAS, the contract dated September 15, 1997, between Little Rock and Cammack Village is subject to the provisions of A.C.A. §14-235-212 and the statutory term of fifteen (15)

years which expired on November 7, 2012, and the parties desire to renew that contract for sewer service on the terms and conditions herein set forth;

NOW, THEREFORE, in consideration of the mutual benefits to be derived, it is hereby agreed by and between the parties:

1. Sewage Treatment and Extension of Sewer Service by Little Rock. Little Rock, acting through the Sewer Committee operating the Little Rock Wastewater Utility ("LRW"), agrees to perform the treatment of sewage from Cammack Village, as discharged from Cammack Village to Little Rock's sewer system in accordance with this contract into the existing sewer facilities located in that area shown on the map marked Exhibit "A" attached hereto and incorporated by reference herein, subject to the provisions of this contract; and, in consideration of the terms and conditions set forth herein and Cammack Village's covenant to perform and comply with all provisions of this contract, including Cammack Village's cooperation in the enforcement of all rules, regulations, ordinances, and laws referred to herein and/or applicable to the use, operation and maintenance of Little Rock's sewer system referred to in this contract for

the duration thereof, as well as any continuations or extensions thereof.

2. Charges for Sewer Service. All charges for sewer services provided by Little Rock to customers residing within the city limits of Cammack Village and/or to any customer through the Sewer Facilities referred to in this contract and located in the area identified on Exhibit "A" attached hereto shall be included on the water bills of Central Arkansas Water in accordance with the existing city ordinances establishing rates for sewer service based on outside city rates, as those rates are currently established and as these rates may be adjusted from time to time. In the event such sewer service is provided to customers who do not receive water service from Central Arkansas Water and, therefore, receive no water bills which would otherwise also contain sewer charges, those customers shall be billed in accordance with such procedures as Little Rock, acting through the Little Rock Sanitary Sewer Committee by the Little Rock Wastewater Utility ("LRW"), may establish in order to collect the outside city sewer rates for such sewer service.

3. Sewer Facilities. No sewer line with a nominal diameter of less than six (6) inches shall be considered a public sewer, or otherwise be maintained by the Sewer Committee, acting through LRW; and, the "point of service" for maintenance responsibility assumed by the Sewer Committee shall be the "wye" connection or other means of connecting any building sewer to the public sewer, being a public sewer main serving two or more customers.

4. Application of City of Little Rock Sewer Ordinances.

(a) The operation and maintenance of the Sewer Facilities referred to herein, including any present or future service or extension thereof, shall be governed solely by the provisions of all existing and future ordinances enacted by the City of Little Rock, Arkansas relating to the operation and maintenance of sewers including, but not limited to, sewer use and pretreatment requirements of any nature whatsoever and the provisions of these ordinances shall be binding on the parties hereto, including the rates as may be from time to time specified in those ordinances.

(b) The City of Cammack Village agrees that the authority of the Sewer Committee includes, but is not limited to, the authority to:

(1) Deny or condition new or increased contributions of pollutants, or changes in the nature of pollutants to the Publicly Owned Treatment Works ("POTW") owned by the Sewer Committee by Industrial Users where such contributions do not meet applicable Pre-treatment Standards and Requirements (as same are defined in applicable Federal and Arkansas statutes and regulations and ordinances of the City of Little Rock as the same may be amended from time to time) or where such contributions would cause the POTW to violate its National Pollutants Discharge Elimination System ("NPDES") permit;

(2) Require compliance with applicable Pretreatment Standards and Requirements by Industrial Users;

(3) Control, through permit, contract, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements;

(4) Require (a) the development of a compliance schedule by each Industrial User for the installation of

technology required to meet applicable Pretreatment Standards and Requirements, and (b) the submission of all notices and self-monitoring reports from Industrial Users as are necessary to assess and assure compliance by Industrial Users with Pretreatment Standards and Requirements, including but not limited to the reports required in Volume 40 of the Code of Federal Regulations at 40 C.F.R. §403.12, as adopted into Section 4 of Regulation No. 6 of the Regulations for State Administration of the National Pollutants Discharge Elimination System of the Arkansas Department of Pollution Control and Ecology, or any future amendment to these regulations, as same are administered and enforced by the Arkansas Department of Pollution Control and Ecology;

(5) Carry out all inspection, surveillance and monitoring procedures necessary to determine, independent of information supplied by Industrial Users, compliance or non-compliance with applicable Pretreatment Standards and Requirements by Industrial Users. Representatives of the POTW shall be authorized to enter any premises of any Industrial User in which a Discharge source or treatment system is located or in which records are required to be

kept under applicable federal or state regulations including but not limited to 40 C.F.R. §403.12(o) to assure compliance with Pretreatment Standards. Such authority shall be at least as extensive as the authority provided under Section 308 of the Clean Water Act of 1972, as amended, and any applicable Arkansas regulations and statutes including the Arkansas Water and Air Pollution Control Act, Act 472 of 1949, as amended, and ordinances of the City of Little Rock, as same may be enacted or amended from time to time;

(6) Obtain remedies for noncompliance by any Industrial User for violation of any Pretreatment Standard and Requirement. The Sewer Committee shall be entitled to seek injunctive relief for noncompliance by Industrial Users with Pretreatment Standards and Requirements. If the laws of the State of Arkansas now or hereafter authorize Cammack Village to enact ordinances or other local legislation to assess civil or criminal penalties for noncompliance by Industrial Users with Pretreatment Standards and Requirements, Cammack Village covenants with the Sewer Committee that it will enact such ordinances or other local legislation which the Sewer Committee may request as soon as practical, and Cammack Village expressly agrees that this

covenant may be enforced by the Sewer Committee in a Court of Equity in accordance with the laws of Arkansas in Pulaski County, Arkansas, which the parties expressly stipulate is the appropriate venue for any such action. If the laws of the State of Arkansas do not now or hereafter authorize such actions, then the Sewer Committee is authorized to enter into contracts with Industrial Users to assure compliance by Industrial Users with Pretreatment Standards and Requirements. Any such contract will provide for liquidated damages for violation of Pretreatment Standards and Requirements and will include an agreement by the Industrial User to submit to the remedy of specific performance for breach of contract, enforceable by a court situated in Pulaski County, Arkansas.

(7) The definitions set forth at 40 C.F.R. § 403.3, as amended, are expressly incorporated by reference herein as if set forth word for word and a copy thereof is attached hereto marked Exhibit "B".

5. Future Connections with the Sewer System in Cammack Village. Cammack Village shall have no authority to extend or permit any future connections to the Sewer Facilities referred to in this Contract and Cammack Village

agrees not to allow or permit any sewer extension to any area outside the incorporated area of Cammack Village as the boundaries exist on the date when this Contract is executed or if they are changed in the future. Cammack Village further agrees not to allow or permit any future sewer main extensions and/or sewer connections within the city limits of Cammack Village (as shown on Exhibit "A") served or not currently served without the prior approval in writing of the Little Rock Sanitary Sewer Committee after a written application for such connection with information of the reasons and proposed location of the connection.

6. Future Extensions of Service. Little Rock and the Sewer Committee shall not be obligated for and assume no liability for any future extension of service not specifically set forth herein. Anyone desiring such an extension of service beyond the existing facilities hereby served after receiving the necessary written permission, as specified herein, shall bear the full cost thereof, including all costs of any nature whatsoever involved in effecting such extension or making available such service and the payment of any connection fees set by the Little Rock Sanitary Sewer Committee, which shall have the sole

authority to establish such fees. The further extension of service shall be in accordance with the rules and regulations of the Little Rock Sanitary Sewer Committee and subject to its approval at the time of the extension of service.

7. Cammack Village Comprehensive Development Plan, Zoning Ordinance, and Pre-Treatment Ordinance. Cammack Village covenants as a condition of sewer service under this Contract that it has or is in the process of enacting a comprehensive development plan and zoning ordinance. Cammack Village covenants to maintain and enforce at all times said comprehensive development plan, and zoning ordinance and cooperate with Little Rock for the enforcement of such ordinance.

8. Title and Maintenance Responsibility for Public Sewer Facilities Located and/or to be Located in Cammack Village. Title to and maintenance responsibility for any and all public sewer facilities subject to this contract being defined as those pipes or conduits having a diameter of six (6) inches or larger, normally equipped with manholes located in rights of way or easements together with all appurtenances thereto, shall be in Little Rock, provided

however, any storm water facilities are not included as part of the Sewer Facilities herein referred to, and any storm water facilities shall remain the property and sole responsibility of Cammack Village. Little Rock shall maintain the Sewer Facilities in good condition and repair and respond promptly to customer complaints.

9. Title and Maintenance Responsibility for Building Sewer or Private Service Lines. Title to and maintenance responsibility for any building sewer connecting each customer's public facilities to the public sewer line located in Cammack Village or private service line or to any extension thereof shall remain with the respective property owner, even though a portion of the building sewer or service line may be installed in the public right of way or easement; and Little Rock shall have no liability or responsibility for the operation or maintenance of said building sewer.

10. Term of Contract. Unless terminated earlier, the term of this Contract shall be for a period of thirty (30) years from the date hereof at which time it will expire, provided, however, this Contract may be extended by the agreement of the parties hereto upon notice given by either party prior to the end of the term and adoption, thereafter,

of approving ordinances by Cammack Village and the City of Little Rock, Arkansas.

11. Assignment or Transfer. This Contract and the rights hereunder shall not be assigned or transferred by Cammack Village, and shall be binding upon the successors of either party.

12. Taxes and Compliance with Laws. Cammack Village covenants and agrees to pay any and all taxes levied by the United States and the State of Arkansas for the services provided and treatment of sewage pursuant to this contract, and Cammack Village and Little Rock shall comply with all federal, state, county and municipal laws, ordinances, rules and regulations pertaining to the treatment of sewage; and Cammack Village further agrees to indemnify and hold harmless Little Rock for any loss or damage to Little Rock's Sewer Facilities situated in Cammack Village sustained by Little Rock occasioned by the employees or authorized representatives of Cammack Village.

13. Termination. This Contract may be terminated by Little Rock if Cammack Village fails to comply fully with any of the terms and provisions of this Contract.

Termination of this Contract may occur only after actual written notice is given of the nature of the breach. In the event of the termination of this Contract, all obligations of Little Rock to treat the sewage under the agreement shall cease and Cammack Village, including all residents and/or customers shall stop using the Sewer Facilities and Cammack Village shall immediately remove the sewer connection(s) to Little Rock's sewer system provided herein. It is the intention of the parties hereto that Cammack Village shall be solely responsible for the treatment of its sewage upon termination of this Contract, failing which Little Rock shall be entitled to recover from Cammack Village all damages sustained by Little Rock of any nature whatsoever proximately caused by any violation by Cammack Village or its residents of any provision(s) of this Contract, including but not limited to any damages sustained by Little Rock due to the failure of Cammack Village or its residents to remove said sewer connection(s) and cease use of the Sewer Facilities, as well as any additional costs and expenses incurred by Little Rock for treatment of said sewage in the event Cammack Village fails to remove the sewer connection(s) to Little Rock's sewer system.

14. Notices. All notices hereunder shall be in writing and shall be deemed to have been duly given when sent by certified mail, postage prepaid, as follows:

If to Little Rock:

Little Rock Wastewater Utility
11 Clearwater Drive
Little Rock, Arkansas 72204
Attn: Manager

AND

City of Little Rock
City Hall, 500 W. Markham
Little Rock, Arkansas 72201
Attn: City Manager and Mayor

If to Cammack Village:

City of Cammack Village
City Hall
2710 North McKinley
Little Rock, Arkansas 72207
Attention: Mayor

15. Update or Regulations. Cammack Village agrees to abide by the rules and regulations published from time to time concerning the treatment of sewage by Little Rock; and all applicable federal, state, county and municipal regulations concerning construction, operating, maintenance, and protection of treatment of sewage pursuant to this Contract. Little Rock by the Sewer Committee acting through LRW shall have the right at all times, if it deems necessary or appropriate, to inspect all individual tie-ons, connections to or extensions of the Sewer Facilities referred to in this Contract.

16. Governmental Function. The parties recognize that treatment of sewage pursuant to this agreement is a

governmental function and this Agreement shall be performed by the parties hereto in their respective governmental capacities.

17. Invalid Provision Shall Not Invalidate Contract. The parties agree that in the event any paragraph, sentence, clause or word(s) of this Contract shall be held to be invalid, illegal or unenforceable, all other terms and provisions of this Contract shall remain in full force and effect, and this Contract shall be construed as if not containing the particular provision or provisions held to be invalid.

18. Contract Legally Binding. All parties to the Contract agree to the terms contained herein and represent to each other that the terms of this Contract have been duly accepted and approved by the authorized representatives of the parties hereto; and all parties covenant to each other that all action required by law has been taken to make this Contract legally binding and enforceable and that the parties hereto shall have all of the rights and remedies under the law of Arkansas to enforce the terms of this Contract, any action on which the parties stipulate and agree shall be brought in Pulaski County, Arkansas.

IN WITNESS WHEREOF, the parties have caused this contract to be executed by their duly authorized representatives on the 3rd day of December, 2018.

CITY OF LITTLE ROCK, ARKANSAS

Mayor Mark Stodola

Attest:

LITTLE ROCK SANITARY SEWER COMMITTEE

Chair, Ken Griffey

ATTEST:

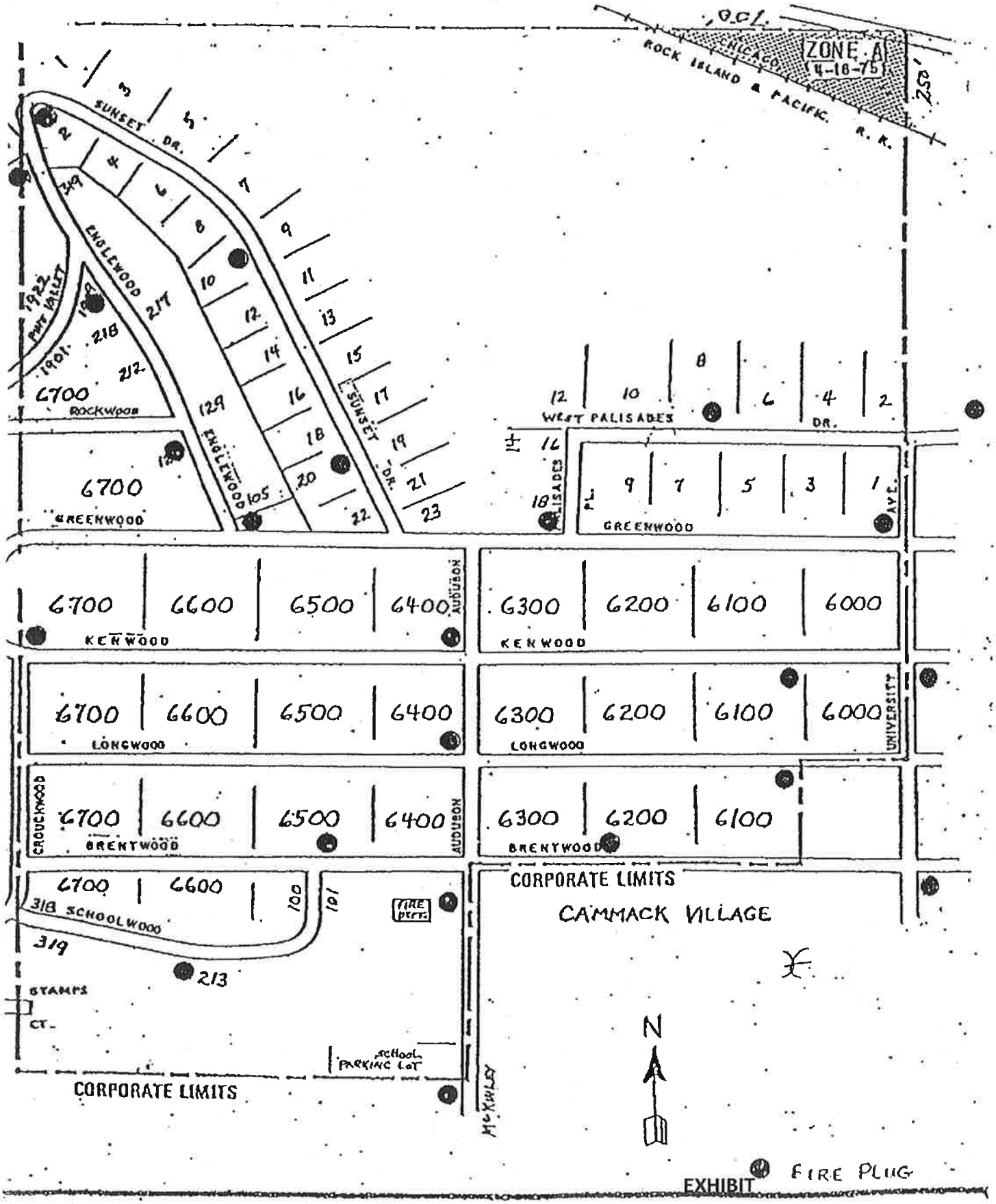
Richard Mays, Jr., Secretary

CITY CAMACK VILLAGE, ARKANSAS

Mayor Harry Light

Attest:

ACKNOWLEDGMENTS
for all signs.


B.C.L.
CHICAGO ROCK ISLAND & PACIFIC R. R.
ZONE A
(4-16-75)
250'
SUNSET DR.
ENGLEWOOD
1922 PMT VALLEY
1901
6700
ROCKWOOD
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GREENWOOD
WEST PALISADES DR.
PALISADES PL.
GREENWOOD AVE.
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KENWOOD
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KENWOOD
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LONGWOOD
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LONGWOOD
UNIVERSITY
CROCKWOOD
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BRENTWOOD
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BRENTWOOD
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318 SCHOOLWOOD
319
213
STARRS CT.
FIRE PLUG
SCHOOL PARKING LOT
CORPORATE LIMITS
CORPORATE LIMITS
CAMMACK VILLAGE
McKINLEY
N
FIRE PLUG

EXHIBIT

A

403.10 Development and submission of NPDES State pretreatment programs.
403.11 Approval procedures for POTW pretreatment programs and POTW granting of removal credits.
403.12 Reporting requirements for POTW's and industrial users.
403.13 Variances from categorical pretreatment standards for fundamentally different factors.
403.14 Confidentiality.
403.15 Net/Gross calculation.
403.16 Upset provision.
403.17 Bypass.
403.18 Modification of POTW pretreatment programs.
403.19 Provisions of specific applicability to the Owatonna Waste Water Treatment Facility.
403.20 Pretreatment Program Reinvention Pilot Projects Under Project XL.

APPENDIXES A–C TO PART 403 [RESERVED]
APPENDIX D TO PART 403—SELECTED INDUSTRIAL SUBCATEGORIES CONSIDERED DILUTE FOR PURPOSES OF THE COMBINED WASTESTREAM FORMULA
APPENDIX E TO PART 403—SAMPLING PROCEDURES
APPENDIX F TO PART 403 [RESERVED]
APPENDIX G TO PART 403—POLLUTANTS ELIGIBLE FOR A REMOVAL CREDIT

AUTHORITY: 33 U.S.C. 1251 *et seq.*

SOURCE: 46 FR 9439, Jan. 28, 1981, unless otherwise noted.

§ 403.1 Purpose and applicability.

(a) This part implements sections 204(b)(1)(C), 208(b)(2)(C)(iii), 301(b)(1)(A)(ii), 301(b)(2)(A)(ii), 301(h)(5) and 301(i)(2), 304 (e) and (g), 307, 308, 309, 402(b), 405, and 501(a) of the Federal Water Pollution Control Act as amended by the Clean Water Act of 1977 (Pub. L. 95–217) or "The Act". It establishes responsibilities of Federal, State, and local government, industry and the public to implement National Pretreatment Standards to control pollutants which pass through or interfere with treatment processes in Publicly Owned Treatment Works (POTWs) or which may contaminate sewage sludge.

(b) This regulation applies:

(1) To pollutants from non-domestic sources covered by Pretreatment Standards which are indirectly discharged into or transported by truck or rail or otherwise introduced into POTWs as defined below in § 403.3;

(2) To POTWs which receive wastewater from sources subject to National Pretreatment Standards;

(3) To States which have or are applying for National Pollutant Discharge Elimination System (NPDES) programs approved in accordance with section 402 of the Act; and

(4) To any new or existing source subject to Pretreatment Standards. National Pretreatment Standards do not apply to sources which Discharge to a sewer which is not connected to a POTW Treatment Plant.

[46 FR 9439, Jan. 28, 1981, as amended at 48 FR 2776, Jan. 21, 1983; 60 FR 33932, June 29, 1995]

§ 403.2 Objectives of general pretreatment regulations.

By establishing the responsibilities of government and industry to implement National Pretreatment Standards this regulation fulfills three objectives:

(a) To prevent the introduction of pollutants into POTWs which will interfere with the operation of a POTW, including interference with its use or disposal of municipal sludge;

(b) To prevent the introduction of pollutants into POTWs which will pass through the treatment works or otherwise be incompatible with such works; and

(c) To improve opportunities to recycle and reclaim municipal and industrial wastewaters and sludges.

§ 403.3 Definitions.

For the purposes of this part:

(a) Except as discussed below, the general definitions, abbreviations, and methods of analysis set forth in 40 CFR part 401 shall apply to this regulation.

(b) The term *Act* means Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 U.S.C. 1251, *et seq.*

(c) The term *Approval Authority* means the Director in an NPDES State with an approved State pretreatment program and the appropriate Regional Administrator in a non-NPDES State or NPDES State without an approved State pretreatment program.

(d) The term *Approved POTW Pretreatment Program* or *Program* or *POTW Pretreatment Program* means a program administered by a POTW that meets the criteria established in this regulation (§§ 403.8 and 403.9) and which

EXHIBIT
B

has been approved by a Regional Administrator or State Director in accordance with § 403.11 of this regulation.

(e) The term *Best Management Practices* or *BMPs* means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to implement the prohibitions listed in § 403.5(a)(1) and (b). BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw materials storage.

(f) The term *Control Authority* refers to:

(1) The POTW if the POTW's Pretreatment Program Submission has been approved in accordance with the requirements of § 403.11; or

(2) The Approval Authority if the Submission has not been approved.

(g) The term *Director* means the chief administrative officer of a State or Interstate water pollution control agency with an NPDES permit program approved pursuant to section 402(b) of the Act and an approved State pretreatment program.

(h) The term *Water Management Division Director* means one of the Directors of the Water Management Divisions within the Regional offices of the Environmental Protection Agency or this person's delegated representative.

(i) The term *Indirect Discharge* or *Discharge* means the introduction of pollutants into a POTW from any non-domestic source regulated under section 307(b), (c) or (d) of the Act.

(j) The term *Industrial User* or *User* means a source of Indirect Discharge.

(k) The term *Interference* means a Discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

(1) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

(2) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

(l) The term *National Pretreatment Standard, Pretreatment Standard,* or *Standard* means any regulation containing pollutant discharge limits promulgated by the EPA in accordance with section 307 (b) and (c) of the Act, which applies to Industrial Users. This term includes prohibitive discharge limits established pursuant to § 403.5.

(m)(1) The term *New Source* means any building, structure, facility or installation from which there is or may be a Discharge of pollutants, the construction of which commenced after the publication of proposed Pretreatment Standards under section 307(c) of the Act which will be applicable to such source if such Standards are thereafter promulgated in accordance with that section, *provided that:*

(i) The building, structure, facility or installation is constructed at a site at which no other source is located; or

(ii) The building, structure, facility or installation totally replaces the process or production equipment that causes the discharge of pollutants at an existing source; or

(iii) The production or wastewater generating processes of the building, structure, facility or installation are substantially independent of an existing source at the same site. In determining whether these are substantially independent, factors such as the extent to which the new facility is integrated with the existing plant, and the extent to which the new facility is engaged in the same general type of activity as the existing source should be considered.

(2) Construction on a site at which an existing source is located results in a modification rather than a New Source if the construction does not create a

new building, structure, facility or installation meeting the criteria of paragraphs (m)(1)(ii) or (m)(1)(iii) of this section, but otherwise alters, replaces, or adds to existing process or production equipment.

(3) Construction of a new source as defined under this paragraph has commenced if the owner or operator has:

(i) Begun, or caused to begin as part of a continuous onsite construction program:

(A) Any placement, assembly, or installation of facilities or equipment; or

(B) Significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or

(ii) Entered into a binding contractual obligation for the purchase of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under this paragraph.

(n) The terms *NPDES Permit* or *Permit* means a permit issued to a POTW pursuant to section 402 of the Act.

(o) The term *NPDES State* means a State (as defined in 40 CFR 122.2) or Interstate water pollution control agency with an NPDES permit program approved pursuant to section 402(b) of the Act.

(p) The term *Pass Through* means a Discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

(q) The term *Publicly Owned Treatment Works* or *POTW* means a treatment works as defined by section 212 of the Act, which is owned by a State or municipality (as defined by section 502(4) of the Act). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in section 502(4) of the Act, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.

(r) The term *POTW Treatment Plant* means that portion of the POTW which is designed to provide treatment (including recycling and reclamation) of municipal sewage and industrial waste.

(s) The term *Pretreatment* means the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a POTW. The reduction or alteration may be obtained by physical, chemical or biological processes, process changes or by other means, except as prohibited by § 403.6(d). Appropriate pretreatment technology includes control equipment, such as equalization tanks or facilities, for protection against surges or slug loadings that might interfere with or otherwise be incompatible with the POTW. However, where wastewater from a regulated process is mixed in an equalization facility with unregulated wastewater or with wastewater from another regulated process, the effluent from the equalization facility must meet an adjusted pretreatment limit calculated in accordance with § 403.6(e).

(t) The term *Pretreatment requirements* means any substantive or procedural requirement related to Pretreatment, other than a National Pretreatment Standard, imposed on an Industrial User.

(u) The term *Regional Administrator* means the appropriate EPA Regional Administrator.

(v) *Significant Industrial User.* (1) Except as provided in paragraphs (v)(2) and (v)(3) of this section, the term Significant Industrial User means:

(i) All Industrial Users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR chapter I, subchapter N; and

(ii) Any other Industrial User that: discharges an average of 25,000 gallons per day or more of process wastewater

to the POTW (excluding sanitary, non-contact cooling and boiler blowdown wastewater); contributes a process wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW Treatment plant; or is designated as such by the Control Authority on the basis that the Industrial User has a reasonable potential for adversely affecting the POTW's operation or for violating any Pretreatment Standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

(2) The Control Authority may determine that an Industrial User subject to categorical Pretreatment Standards under § 403.6 and 40 CFR chapter I, subchapter N is a Non-Significant Categorical Industrial User rather than a Significant Industrial User on a finding that the Industrial User never discharges more than 100 gallons per day (gpd) of total categorical wastewater (excluding sanitary, non-contact cooling and boiler blowdown wastewater, unless specifically included in the Pretreatment Standard) and the following conditions are met:

(i) The Industrial User, prior to the Control Authority's finding, has consistently complied with all applicable categorical Pretreatment Standards and Requirements;

(ii) The Industrial User annually submits the certification statement required in § 403.12(q) together with any additional information necessary to support the certification statement; and

(iii) The Industrial User never discharges any untreated concentrated wastewater.

(3) Upon a finding that an Industrial User meeting the criteria in paragraph (v)(1)(ii) of this section has no reasonable potential for adversely affecting the POTW's operation or for violating any Pretreatment Standards or requirement, the Control Authority may at any time, on its own initiative or in response to a petition received from an Industrial User or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such Industrial User is not a Significant Industrial User.

(w) The term *Submission* means:

(1) A request by a POTW for approval of a Pretreatment Program to the EPA or a Director;

(2) A request by a POTW to the EPA or a Director for authority to revise the discharge limits in categorical Pretreatment Standards to reflect POTW pollutant removals; or

(3) A request to the EPA by an NPDES State for approval of its State pretreatment program.

[46 FR 9439, Jan. 28, 1981, as amended at 49 FR 5132, Feb. 10, 1984; 49 FR 28059, July 10, 1984; 51 FR 20430, June 4, 1986; 51 FR 23760, July 1, 1986; 52 FR 1600, Jan. 14, 1987; 53 FR 40610, Oct. 17, 1988; 55 FR 30129, July 24, 1990; 70 FR 60191, Oct. 14, 2005]

§ 403.4 State or local law.

Nothing in this regulation is intended to affect any Pretreatment Requirements, including any standards or prohibitions, established by State or local law as long as the State or local requirements are not less stringent than any set forth in National Pretreatment Standards, or any other requirements or prohibitions established under the Act or this regulation. States with an NPDES permit program approved in accordance with section 402 (b) and (c) of the Act, or States requesting NPDES programs, are responsible for developing a State pretreatment program in accordance with § 403.10 of this regulation.

§ 403.5 National pretreatment standards: Prohibited discharges.

(a)(1) *General prohibitions.* A User may not introduce into a POTW any pollutant(s) which cause Pass Through or Interference. These general prohibitions and the specific prohibitions in paragraph (b) of this section apply to each User introducing pollutants into a POTW whether or not the User is subject to other National Pretreatment Standards or any national, State, or local Pretreatment Requirements.

(2) *Affirmative Defenses.* A User shall have an affirmative defense in any action brought against it alleging a violation of the general prohibitions established in paragraph (a)(1) of this section and the specific prohibitions in paragraphs (b)(3), (b)(4), (b)(5), (b)(6), and (b)(7) of this section where the User can demonstrate that:

MAYOR LIGHT CALLED THE SEPTEMBER 10, 2013 CAMMACK VILLAGE CITY COUNCIL TO ORDER AT 6:00 P.M. MAYOR LIGHT ASKED CITY RECORDER WALKER TO CALL THE ROLL. ANSWERING THE ROLL CALL WERE COUNCILWOMAN ELDRIDGE, COUNCILMAN DORAMUS, COUNCILMAN GRAY, COUNCILWOMAN FINCH AND MAYOR LIGHT. MAYOR LIGHT CALLED FOR A MOTION TO APPROVE THE MINUTES OF THE AUGUST 13, 2013 COUNCIL MEETING. COUNCILWOMAN FINCH MADE THE MOTION TO APPROVE THE MINUTES OF THE AUGUST 13, 2013 COUNCIL MEETING, SECONDED BY COUNCILWOMAN ELDRIDGE. ALL APPROVED.

CITIZEN COMMENTS: MAYOR LIGHT ASKED IF ANY CITIZENS HAD COMMENTS THEY WOULD LIKE TO MAKE. MAYOR LIGHT CALLED UPON JOE FINCH. MR. FINCH SAID ON THE 29TH OF JULY IN FRONT OF HIS HOUSE HE AND HIS NEIGHBOR WERE IN THE YARD TALKING BECAUSE HIS NEIGHBORS' CAR DIED IN FRONT OF HIS HOUSE, WHEN CHIEF POWELL PULLED UP, ROLLED HIS WINDOW DOWN AND IN A VERY RUDE WAY, SAID "ARE YOU ALL BUDDIES NOW"? MR. FINCH TOLD THE MAYOR AND COUNCIL HE THOUGHT CHIEF POWELL WAS BEING RUDE. MR. FINCH STATED HE HAD PROBLEMS WITH THIS NEIGHBOR BEFORE AND HE FELT UNSAFE NOW THAT CHIEF POWELL HAD CONFRONTED HIM ABOUT COMPLAINING ABOUT THE SAME NEIGHBOR. HE SAID THIS NEIGHBOR HAS A CRIMINAL HISTORY AND WORRIED WHAT HE MIGHT DO NOW THAT HE KNOWS HE WAS THE ONE FILING COMPLAINTS HE STATED HE DID NOT APPRECIATE WHAT THE CHIEF SAID AND THE WAY HE SAID IT. MR. FINCH SAID HE DIDN'T KNOW WHAT CHIEF POWELL'S PROBLEM WAS AND HE HAS ALWAYS BEEN RUDE TO HIM. MAYOR LIGHT THEN CALLED ON MARY GRACE MCCULLAR. SHE STATED SHE DIDN'T KNOW THE ISSUED BETWEEN MR. FINCH AND CHIEF POWELL BUT SHE SUPPORTED CHIEF POWELL COMPLETELY. MRS. MCCULLAR SAID CHIEF POWELL IS THE REASON SHE MOVED INTO CAMMACK VILLAGE AND CHIEF POWELL HAS BEEN NOTHING BUT PROFESSIONAL AND COURTEOUS TO HER AND HER FAMILY. MAYOR LIGHT THEN CALLED ON AMY BUSCHNER. SHE STATED CHIEF POWELL HAD HER FULL SUPPORT. SHE STATED SHE REMEMBERS WHEN CAMMACK HAD POLICE CHIEFS THAT ACTUALLY WHERE RUDE AND CHIEF POWELL WAS NOT ANYTHING LIKE THEM. SHE STATED SHE BELIEVED THE PROBLEM LAY WITH MR. FINCH AND NOT CHIEF POWELL.

ANNOUNCEMENTS: THE NEXT CITY AGENDA MEETING WILL BE TUESDAY, OCTOBER 1, 2013 AT 6:00 P.M. THE NEXT CITY COUNCIL MEETING WILL BE TUESDAY OCTOBER 8, 2013 AT 6:00 P.M. MAYOR LIGHT SAID THE CAMMACK VILLAGE WEBSITE WAS NOW UP AND WORKNG.

MONTHLY REPORTS: MAYOR LIGHT CALLED ON CITY TREASURER THOMAS TO GIVE THE MONTHLY REPORT. TEASURER THOMAS SAID THERE WERE THREE PAYDAYS IN AUGUST AND THAT WAS THE MAIN REASON THE GENERAL FUND DECREASED. HE ALSO SAID THE PARKS AND REC FUND DECREASED FOR AUGUST BECAUSE THE POOL SEASON IS WINDING DOWN. ALEX MCALLISTER SAID THE POOL WAS ONLY OPEN FOR THREE (3) DAYS IN SEPTEMBER.

POLICE REPORT: CHIEF POWELL THANKED EVERYONE FOR THE KIND WORDS AND SAID IT MEANT A LOT TO HIM. CHIEF POWELL SAID WE HAD TWO (2) THEFT OF PROPERTIES THIS MONTH; ONE TOOK PLACE BETWEEN JUNE AND AUGUST. THE SECOND THEFT WAS TOOLS FROM A HOUSE ON ROCKWOOD THAT WAS BEING REMODELED. WE HAD 1 ARREST, 72 WARNNG CITATIONS, AND 19 CITATIONS. CHIEF POWELL SAID THIS WAS THE FIRST MONTH OFFICER SHIPPEE WAS ON HIS OWN. THE CHIEF SAID THERE WERE NO MAJOR EXPENSES ON VEHICLES. CHIEF POWELL SAID HE HAD PURCHASED HIS NEW K9, AND HOPEFULLY THEY BOTH WILL BE CERTIFIED BY THE END OF THE WEEK. ALDERMAN GRAY ASKED CHIEF POWELL IF THERE HAD BEEN A RESOLUTION TO THE PARKING COMPLAINTS HE HAD RECEIVED. CHIEF POWELL SAID HE CHECKED ON THE SITUATION AND THE ONLY RESOLUTION WAS TO PUT UP "NO PARKING" SIGNS CLOSE TO THE INTERSECTION OF KENWOOD AND AUDUBON BUT HE DIDN'T WANT TO PUT IT UP WITHOUT SPEAKING TO THE COUNCIL FIRST. THE COUNCIL ALL AGREED THERE SHOULD BE A "NO PARKING" SIGN IN PLACE. MAYOR LIGHT SAID THE "NO PARKING" SIGN CAN BE INSTALLED.

BUILDING PERMITS: COUNCILMAN GRAY SAID THERE WAS THOUSANDS OF DOLLARS WORTH OF CONSTRUCTION HAPPENING ON THE NORTH SIDE OF WEST PALISADES WITH NO BUILDING PERMITS. HE SAID IT LOOKED LIKE DITCHES, AND MANHOLE COVERS WERE BEING INSTALLED. CHIEF POWELL SAID THE CITY OF LITTLE ROCK WAS INSTALLING SEWER LINES BECAUSE A LOT OF THOSE HOUSES WERE ON A SEPTIC SYSTEM.

UNSIGHTLY PROPERTY CONDITIONS: NONE.

SANITATION REPORT: ALEX MCALLISTER SAID THERE WERE ONLY THREE (3) NAMES ON THE LATE SANITATION LIST. MR. MCALLISTER SAID THEY HAVE A COUPLE OF DAYS BEFORE THEY WILL RECEIVE A TICKET. MAYOR LIGHT ASKED MR. MCALLISTER WHY HE THOUGHT THERE HAS BEEN A DIFFERENCE IN THE NUMBER ON THE LIST LATELY. MR. MCALLISTER SAID HE THINKS PEOPLE TAKE THE WARNINGS NOTICES MORE SERIOUSLY NOW THAT WE ARE A DISTRICT COURT. THEY KNOW THAT IF THEY DON'T PAY THEIR SANITATION BILL THEN DON'T SHOW UP TO COURT THE COURT WILL SUSPEND THEIR DRIVER'S LICENSE.

NEW BUSINESS: MAYOR LIGHT ASKED FOR A MOTION TO APPROVE THE RENEWAL OF CONTRACT WITH THE CITY OF LITTLE ROCK FOR SANITARY SEWER AND AUTORIZE THE MAYOR TO ENTER THE CONTRACT. COUNCILMAN ELDRIDGE MADE THE MOTION, SECONDED BY COUNCILMAN GRAY. ALL APPROVED, MOTION APPROVED.

MAYOR LIGHT EXPLAINED THE CITY OF CAMMACK VILLAGE IS LOOKING INTO REQUIRING RENTAL INSPECTION FOR ALL RENTAL PROPERTY IN CAMMACK AND A NEW RENTAL REGISTRATION ORDINANCE TO COMPLIMENT THE RENTAL INSPECTIONS. MAYOR LIGHT HOPED THAT BY NEXT MONTH' MEETING THE TWO ORDINANCES WOULD BE READY TO BE READ. MAYOR SAID THIS WILL BE HELD FOR THE NEXT MEETING UNDER OLD BUSINESS.

MAYOR LIGHT ADJOURNED THE SEPTEMBER 10, 2013 CAMMACK VILLAGE CITY COUNCIL MEETING AT 6:26 P.M

Mary Lynn Walker

CITY RECORDER

MAYOR

CONTRACT

THIS CONTRACT is entered into by and between the City of Little Rock, Arkansas and the Little Rock Sanitary Sewer Committee (both hereinafter collectively "Little Rock" and sometimes separate references to ("the Sewer Committee") and College Station Suburban Sewer Improvement District No. 243, and improvement district duly organized and existing pursuant to the law of Arkansas ("SID 243") for itself and those members and landowners, their heirs, personal representatives, assigns or successors, (as listed on Exhibit "1" attached hereto) owning lands in the College Station Community unincorporated area outside the city limits of Little Rock, as shown on the map marked Exhibit "2" attached hereto;

W I T N E S S E T H:

WHEREAS, SID 243 has requested Little Rock to provide sanitary sewer service and treatment for the lands within the unincorporated area of the boundary of SID 243, as shown on Exhibit "2", which Little Rock is willing to provide as set forth hereinafter; and,

WHEREAS, Little Rock and SID 243 desire to enter into a contract in accordance with the provisions of Ark. Code Ann. § 14-235-212 containing those terms and

conditions under which sanitary sewer service will be extended by Little Rock to the land located in the unincorporated area of the College Station community ("College Station Community") being contiguous to the city limits of Little Rock and within the boundary of SID 243, as shown on the map marked Exhibit "2" attached hereto, to be constructed by SID 243 in the future in that area, and also the land located in the College Station community lying north of SID 243 and outside the existing city limits, subject to the terms and conditions set forth in the contract; and,

WHEREAS, the residents of College Station community outside Little Rock have or will have interest in lands on which certain utility easements of the College Station sanitary sewer facilities ("Sewer Facilities") will be located, and,

WHEREAS, it being expressly agreed that any storm water facilities located in the College Station Community or constructed, owned and/or operated by the unincorporated areas of the College Station Community as shown on the map marked Exhibit "2" attached hereto or SID 243 shall remain in the ownership of Pulaski County, SID 243, or landowners in the College Station Community, as the case may be, but in any event not Little Rock, and

SID 243 shall have the responsibility for the operation, maintenance, and monitoring of any storm water facilities located on the land shown on Exhibit "2", and for all other purposes; and,

WHEREAS, The City of Little Rock, acting through the Sewer Committee operating Little Rock Wastewater ("LRW"), agrees to operate and maintain said Sewer Facilities subject to the terms and conditions contained herein;

NOW, THEREFORE, in consideration of the mutual benefits to be derived, it is hereby agreed by and between the parties that the City of Little Rock will, from and after the Effective date (hereafter defined) of this Agreement, bill and receive payment for services of the System on behalf of the Owner and will provide for the maintenance and repair of the System under the terms and conditions as follows:

1. Sewage Treatment and Extension of Sewer Service by Little Rock. Little Rock, acting through the Sewer Committee operating the LRW, agrees that the Sewer Facilities to be constructed in the College Station Community, as shown on Exhibit "2", as well as those on land located in the College Station Community lying north of SID 243 and outside the existing city limits, may be connected to Little Rock's sewer system in accordance with this

Contract subject to the approval of the Chief Executive Officer ("CEO") of the LRW, including approved extensions as may be expressly approved in writing as set forth hereinafter, and Little Rock agrees to perform the appropriate treatment of the sewage in accordance with the applicable federal, state, and local laws, subject to the provisions of this Contract; and SID 243 shall comply with all provisions of this contract and applicable federal, state, and local laws and sewer ordinances of Pulaski County and Little Rock, as well as the rules and regulations of Little Rock applicable to the use, operation and maintenance of Little Rock's sanitary sewer system referred to in this contract for the duration thereof, as well as any extension thereof.

2. Charges for Sewer Service. All charges for sewer services provided by Little Rock under this contract to customers residing within the unincorporated area of College Station Community, as shown on Exhibit "2", and/or to any customer through the Sewer Facilities referred to in this contract or extensions thereof, shall be included on the water bills of Central Arkansas Water in accordance with the existing Little Rock ordinances establishing rates for sanitary sewer service based on outside city rates, as those rates are currently established and as

these rates may be adjusted from time to time and referred to in the County Sewer Ordinance currently in effect and as may be from time to time amended in the future. In the event such sewer service is provided to customers who do not receive water service from Central Arkansas Water and, therefore, receive no water bills which would otherwise also contain sewer charges, those customers shall be billed in accordance with such procedures as Little Rock, acting through the Sewer Committee operating LRW may establish in order to collect the outside city sewer rates for such sewer service according to the applicable rate ordinance, as it may be amended in the future.

3. Future Conveyance and Assignment by SID 243 to the Sewer Committee of Easements and Rights of Way. At some date the parties may agree that SID 243 shall grant and assign by separate easements unto Little Rock for the use and benefit of the Sewer Committee any easements and rights of way situated within the unincorporated area of College Station Community in Pulaski County, Arkansas, in the form as provided by little Rock through Little Rock Wastewater, and further agrees to assign in the future (if necessary) any easements, whether now owned or hereafter acquired, including but not limited to all of those utility easements

and rights of way as described acquired or to be acquired in the area shown as Exhibit "2", for the purpose of maintaining, operating, repairing or replacing the aforementioned Sewer Facilities as may be necessary in the Sewer Committee's judgment. However, it is agreed by the parties that no future agreement to assign any easements to the City of Little Rock will be entered into by the parties until after the date of closing of Rural Development loan # 3-60-0710806470 from the Untied Stated Department of Agriculture to College Station Sewer Improvement District # 243.

4. Acceptance by Sewer Committee of Easement(s) and Assignment by SID 243 and Agreement to Operate and Maintain Sewer Facilities. Little Rock hereby agrees at some future date to be agreed upon by the parties hereto to accept any sewer easement(s) in the form approved by LRWU from SID 243 in the unincorporated areas of the College Station Community within the area shown in Exhibit "2", subject to the terms and conditions contained therein, and further covenants to operate and maintain said Sewer Facilities in good repair. It is expressly agreed, however, that no sanitary sewer, or otherwise be maintained by the Sewer Committee, and the "point of service" for maintenance responsibility assumed by

the Sewer Committee shall be the "wye" connection or other means of connecting any building sanitary sewer to the public sanitary sewer. However, it is agreed by the parties that no future agreement by the SID to assign any easements to the City of Little Rock will be entered into by the parties until after the date of closing of Rural Development loan #03-60-0710806470 from the United States Department of agriculture to College Station Improvement District #243.

5. Transfer of Ownership of Sewer Facilities at a Future Date to be Agreed upon by the Parties. It is understood by the parties hereto that the Sewer Facilities to be constructed by SID 243 within the unincorporated area of its boundary will be paid for by federal grant and loan funds administered by Rural Development, an agency of the U.S. Department of Agriculture, as well as grant and loan funds from the State of Arkansas Soil and Water Agency, Development Finance Authority and Economic Development Authority; and further that construction of the Sewer Facilities will commence sometime in the current year with an estimated time of completion of eighteen (18) months, more or less. The parties agree that the Sewer Facilities will be constructed in accordance with the standards of existing applicable sewer ordinances, rules and regulations referred to herein and, at some date in the future after

completion and connection, the parties hereto may agree that the ownership of the Sewer Facilities will be transferred by SID 243 to Little Rock, subject to the approval of the CEO of LRW upon such terms and at such time when the parties hereto shall then agree and the transfer shall be documented by the execution of documents in the form approved by the partied and furnished by Little Rock, as authorized by its rules and regulations regulating sanitary sewers, including an assignment of easements, bill of sale and such other documents as may be necessary, copies of which have been furnished to SID 243 separately for the information of the parties hereto. However, it is agreed by the parties that any future transfer of ownership will not transpire until after the date of closing of Rural Development loan #3-60-0710806470 from the United States Department of Agriculture to College Station Sewer Improvement District #243.

6. Application of the Pulaski County and Little Rock Sewer Ordinance. The parties hereto agree that the use, operation and maintenance of the Sewer Facilities to be located in the unincorporated area of the College Station Community, as shown on Exhibit "2", and any extension thereof, shall be governed by the applicable provisions of the Pulaski County Sewer Ordinance(s) currently in effect and as may from time to time amended in the future, and also

the Little Rock sewer ordinance, rules, regulations, and state and federal laws applicable thereto, it being expressly agreed that in the event of conflict between any provisions of the County ordinance and any provision of Little Rock's sewer ordinance, Little Rock's ordinance shall prevail; and Little Rock shall have the sole authority to interpret, apply and enforce said ordinances, rules, regulations and laws in accordance with the provisions contained therein; and the parties hereto further agree as follows:

(a) The operation and maintenance of the Sewer Facilities referred to herein, including any present or future service or extension thereof, shall be governed by the provisions of all existing and future ordinances enacted by Pulaski County, Arkansas and the City of Little Rock, Arkansas relating to the operation and maintenance of sanitary sewers including, but not limited to, sanitary sewer use and pretreatment requirements of any nature whatsoever; and the provisions of these ordinances shall be binding on the parties hereto, including the rates as may be from time to time specified in those ordinances.

(b) That the authority of the Sewer Committee includes, but is not limited to, the authority to:

(1) Deny or condition new or increased contributions of pollutants, or changes in the nature of pollutants, to the Publicly Owned Treatment Works ("POTW") owned by the Sewer Committee by Industrial Users where such contribution do not meet applicable Pre-treatment Standards and Requirements (as same are defined in applicable Federal and Arkansas statutes and regulations and ordinances of the City of Little Rock, as the same may be amended from time to time) or where such contributions would cause the POTW to violate its National Pollutants Discharge Elimination System ("NPDES") permit;

(2) Require compliance with applicable Pre-treatment Standards and Requirements by Industrial Users;

(3) Control, through permit, contract, order, or similar means, the contribution to the POTW by each Industrial user to ensure compliance with applicable Pre-treatment Standards and Requirements;

(4) Require (a) the development of a compliance schedule by each Industrial User for the installation of technology required to meet applicable Pre-treatment Standards and Requirements and (b) the submission of all notices and self-monitoring reports from Industrial Users as are necessary to assess and assure compliance by Industrial

Users with Pre-treatment Standards and Requirements, including but not limited to the reports required in Volume 40 of the Code of Federal Regulations at 40 C.F.R. 403.12, as adopted into Section 4 of Regulation No. 6 of the Regulations for State Administration of the National Pollutants Discharge Elimination System of the Arkansas Department of Pollution Control and Ecology, or any future amendment to these regulations, as some are administered and enforced by the Arkansas Department of Pollution Control and Ecology;

(5) Carry out all inspection, surveillance and monitoring procedures necessary to determine, independent of information supplied nu Industrial Users, compliance or non-compliance with applicable Pre-treatment Standards and Requirements by Industrial Users. Representatives of the POTW shall be authorized to enter and premises of any Industrial User in which Discharge source or treatment system is located or in which records are required to be kept under applicable federal or state regulations including but not limited to 40 C.F.R. 403.12(m) to assure compliance with Pre-treatment Standards. Such authority shall be at least as extensive as the authority provided under Section 308 of the Clean Water Act of 1972, as amended, and any applicable Arkansas regulations and statutes including the

Arkansas Water and Air Pollution Control Act, Act 472 of 1949, as amended, and ordinances of the City of Little Rock, as same may be enacted or amended from time to time;

(6) Obtain remedies for noncompliance by any Industrial User with any Pre-treatment Standard and Requirement. The Sewer Committee shall be entitled to seek injunctive relief for noncompliance by Industrial Users with Pre-treatment Standards and Requirements. The Sewer Committee is authorized to enter into contracts with Industrial Users to assure compliance by Industrial Users with Pre-treatment Standards and Requirements. Any such contract will provide for liquidated damages for violation of Pre-treatment Standards and Requirements and will include an agreement by the Industrial User to submit to the remedy of specific performance for break of contract, enforceable by a court situated in Pulaski County, Arkansas.

(7) The definitions set forth at 40 C.F.R. 403.3, as amended, are expressly incorporated by reference herein as if set forth word for word and a copy thereof is attached hereto marked Exhibit "3".

7. Future Connections with the Sanitary Sewer System in College Station Community Unincorporated Area. SID 243 or any person owning lands therein shall have no authority

to extend of permit any future connections to the Sewer Facilities referred to in this Contract and the parties hereto agree not to allow or permit any sanitary sewer extension to any area outside the College Station Community unincorporated area, as the boundaries exist on the date when this Contract is executed or when they may be changed in the future, without the prior written approval of Little Rock by resolution or ordinance of the Little Rock City Board of Directors and written approval by the CEO of LRW. SID 243 further agrees not to allow or permit any future sanitary sewer main extensions or sanitary sewer connections or any combination of extensions and connections in any portion of the College Station Community unincorporated area, as shown on Exhibit "2", served or not currently served unless it obtains the prior approval in writing of the Little Rock Sanitary Sewer Committee after written application for such connections with full information of the reasons and proposed location of the connections.

8. Future Extensions of Service. Little Rock and the Sewer Committee shall not be obligated for and assume no liability for any future extension of service no specifically set forth herein, and no such extension shall be made without the prior written approval of the governing body of Little Rock and the Sewer Committee. This Contract

anticipates no more than 1,000 residential College Station Community connections which generate an amount of wastewater flow not exceed a peak daily flow rate of 1,000 gallons per minute with the maximum flow rate being based on the capacity of the fifteen (15) inch diameter collector constructed to serve the College Station Community area, as determined by the Mannings formula; provided, however, there may be a combination of residential, commercial, and industrial users otherwise permitted by land use controls such as zoning, and subdivision regulations, on condition that the maximum peak daily wastewater flow rate for any combination of such permitted users does not exceed the peak daily wastewater flow rate of 1,000 gallons per minute as specified herein. In any event, anyone desiring such as extension of service beyond the existing facilities hereby served shall bear the full cost thereof, including all costs of any nature whatsoever involved in making such extension or making available such service and any connection fees set by the Sewer Committee, which shall have the sole authority to do so. The further extension of service shall be in accordance with the rules and regulations of the Sewer Committee and subject to its approval at the time of the extension of service, as well as in accordance with any applicable policy of the City of Little Rock, as adopted by

its City Board of Directors.

9. Extraterritorial Zoning of College Station Community and Certificate of Adoption of Legal Authority. Before any sanitary sewer service is provided to the College Station Community under this Contract through connections to or extensions of the Sewer Facilities referred to in this Contract, a land use plan for the College Station Community shall be adopted by Little Rock, and such land use plan shall include an extra-territorial zoning plan under Little Rock's zoning powers in order to protect Little Rock's sanitary sewer system and treatment plants from changes in land use which might include industrial users making prohibited discharges into Little Rock's sanitary sewer system in violation of law. The adoption by Little Rock of the appropriate legal authority, ordinance or resolution for the extra-territorial zoning shall be certified by the Little Rock Director of Planning to the CEO of LRW before any sanitary sewer services shall be provided under this Contract. The land use plan and extra-territorial zoning powers shall be maintained and enforced at all times and all parties agree to compliance with and enforcement of said land use plan.

10. Maintenance Responsibility for Public Sewer Facilities Located and/or to be Located in College Station Community. Title to any and all public sewer facilities subject to this contract being defined as those pipes or conduits having a diameter of eight (8) inches or larger, normally equipped with manholes located in rights of way or easements together with all appurtenances thereto, shall be in SID 243 subject to the understanding between the parties hereto that title to all or part of the sanitary sewer facilities may be transferred to Little Rock at a future date to be agreed upon by the parties hereto, provided however, any storm water facilities shall remain the property of Pulaski County, SID 243, or the landowners, their heirs, assigns, personal representatives or successors, as the case may be, and, in any event, during the term of this contract or until terminated, whichever occurs first, Little Rock shall have the maintenance responsibilities for the Sewer Facilities.

11. Title and Maintenance Responsibility for Building Sewer or Private Service Lines. Title to and maintenance responsibility for any building sewer connecting each customer's public facilities to any public sewer line constructed in the College Station Community, as shown on Exhibit "2" attached hereto or private service line or to

any extensions thereof shall remain with the respective property owner(s), even though a portion of the building sewer or service line may be installed in a right of way or easement; and Little Rock shall have no liability or responsibility for the operation or maintenance of said building sewer.

12. Pre-Annexation. In addition to the service to be provided herein, and the rates and other matters set forth in this Contract, SID 243 for itself, its members, and all landowners situated in the College Station Community agree that, upon written request from Little Rock to do so, SID 243 and all said members and owners will execute for filing a petition to voluntarily annex property in the College Station Community shown on Exhibit "2" to Little Rock; provided, however, (a) that Little Rock will make this request only for that property located in the College Station Community which is contiguous to the corporate boundaries of Little Rock, or is part of a tract of several parcels of property that together are contiguous to the corporate boundaries of Little rock and (b) that no such request will be made if such annexation would terminate, restrict or be in derogation of the purpose of the Federal rural funding made available by Rural Development for construction of the Sewer Facilities. This provision does

not mandate Little Rock to make this request. Furthermore, the City of Little Rock agrees that no such request will be made until after the date that Rural Development loan #3-60-0710806470 from the United States Department of Agriculture to College Station Sewer Improvement District has been closed.

13. Compliance with Sewer Service Rules and Regulations of Little Rock Wastewater. In consideration for the extension of sanitary sewer service under this Contract, all members of or landowners in SID 243, hereby agree to comply with the rules and regulations regarding sanitary sewer service and use of the Sewer Facilities of the LRW and they further agree to execute such documents or separate agreements as may be requested by Little Rock for sanitary sewer service, including but not limited to the standard form water/sanitary sewer service agreement used by Little Rock, as currently in effect or as it may be revised in the future.

14. Term of Contract. Unless terminated earlier, the term of this Contract shall be for a period of thirty (30) years from the date hereof at which time it will expire; provided, however, this Contract may be extended by the agreement of the parties hereto upon notice given by either

party prior to the end of the term and adoption, thereafter, of the necessary approving ordinances or resolutions as required by law.

15. Assignment or Transfer. This Contract and the rights hereunder shall not be assigned or transferred by SID 243, except to Rural Development, an agency of the U.S. Department of Agriculture, and shall be binding upon the successors or all parties hereto, as well as any assigns permitted herein.

16. Taxes. SID 243 covenants and agrees to pay any and all taxed levied by the United States and the State of Arkansas for the services provided and treatment of sewage pursuant to this contract, and shall comply with all federal, state, county and municipal laws, ordinances, rules and regulations pertaining to the treatment of sewage under this contract; and SID 243 further agrees to indemnify and hold harmless Little Rock for any loss or damage of any nature whatsoever sustained by Little Rock occasioned by the failure of SID 243 to comply with said laws, ordinances, rules and regulations by the authorized representatives residents or property owners in SID 243.

17. Covenants Running with the Land. It is the intention of the parties hereto that the terms and

conditions herein specified are covenants which run with the land situated in College Station Community unincorporated area shown on Exhibit "2", and these terms and conditions shall be binding upon the SID 243 and landowners, their representatives, heir, assigns, personal representatives or successors in title or any other person, firm or entity who acquires title to the said lands situated in College Station Community unincorporated area as shown on Exhibit "2' attached hereto in the future; and said covenants shall inure to the benefit of Little Rock, as well as the Sewer Committee and LRWU, their successors or assigns, and said covenants shall be enforceable by Little Rock, the Sewer Committee, and/or LRWU, their successors or assigns at law or in equity against SID 243, its members, their heirs, successors, personal representatives or against any future owners of the title to said property situated within College Station Community, as shown on Exhibit "2", all of whom shall be obligated to comply with the provisions of this contract.

18. Termination. This Contract may be terminated by Little Rock if SID 243 fails to comply fully with any of the terms and provisions of this Contract. Termination of this Contract may occur only after actual written notice is given of the nature of the break or non-performance of any

provisions of this Contract. In the event of the termination of this Contract, all obligations of Little Rock to treat the sewage under this contract shall cease and SID 243, including all residents or customers in the College Station community, shall stop using the Sewer Facilities and SID 243, shall immediately remove the sanitary sewer connection(s) made pursuant to this Contract to Little Rock's sanitary sewer system and pay Little Rock for any damages for which SID 243 is legally liable. It is the intention of the parties hereto that SID 243 shall be responsible for the treatment of its sewage upon termination of this Contract, failing which Little Rock shall be entitles to recover from SID 243, its members and residents or landowners using the Sewer Facilities in the College Station Community sanitary sewer charges for the use of the system connected to Little Rock's system and also liquidated damages, as hereinafter provided in this Contract, as well as such equitable relief to which Little Rock may be entitled for the failure of SID 243 or its members, residents or landowners, to remove said sanitary sewer connection(s) and cease use of the Sewer Facilities.

19. Liquidated Damages. SID 243 and Little Rock recognize that damages to Little Rock caused by SID 243's breach of this Contract or failure to perform the terms and

conditions thereof will be substantial and difficult to determine or quantify, but that Little Rock will duffer financial loss as a consequence thereof. They also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Little Rock due to SID 243's breach of contract or failure of performance in the event of termination of this contract by Little Rock, Accordingly, instead of requiring any such proof, Little Rock and SID 243 agree that as liquidated damages for breach of contract (not as a penalty) resulting in termination of this Contract by Little Rock, SID 243 shall pay Little Rock the sum of Five Hundred Dollars ($500.00) for each day that expires after the effective date of termination of this Contract by Little Rock and SID 243's liability to make such payments shall continue until such date when SID 243 removes any and all connections made to Little Rock's sanitary sewer system pursuant to this Contract or until such other date designated by Little Rock in the event the breach of contract is cured to Little Rock's satisfaction.

20. Notices. All notices hereunder shall be in writing and shall be deemed to have been duly given when sent by certified mail, postage prepaid, as follow:

If to Little Rock:

Little Rock Wastewater AND City of Little Rock
11 Clearwater Drive
Little Rock, AR 72204
Attn: CEO

City Hall, 500 W. Markham
Little Rock, AR 72201
Attn: City Manager & Mayor

If to SID 423:

College Station SID 243
P.O. Box 243
College Station, AR 72053
Attn: Commissioners

21. Update or Regulations. All parties hereto agree to abide by the rules and regulations published from time to time concerning the treatment of sewage by Little Rock and all applicable federal, state, county and municipal regulations concerning construction, operation, maintenance, and protection of treatment of sewage pursuant to this Contract. Little Rock by the Sewer Committee acting through LRWU shall have the right at all times, if it deems necessary or appropriate, to inspect all individual tie-ons, connections to or extensions of the Sewer facilities referred to in this Contract.

22. Governmental Function. The parties recognize that treatment of sewage pursuant to this agreement is a governmental function and this contract shall be performed by the parties hereto in their respective governmental capacities.

23. Invalid Provision shall not invalidate Contract. The parties agree that in the event any paragraph, sentence, clause or word(s) of this Contract shall be held to be invalid, illegal or unenforceable, all other terms and provisions of this Contract shall remain in full force and effect, and this Contract shall be construed as if not containing this particular provision or provisions held to be invalid.

24. Contract Legally Binding. All parties to the Contract agree to the terms contained herein and represent to each other that the terms of this Contract have been duly accepted and approved by the authorized representatives of the parties hereto; and all parties covenant to each other that all action required by law has been taken to make this Contract legally binding and enforceable and that the parties hereto shall have all of the rights and remedies under the law or Arkansas to enforce the terms of this Contract, any action on which the parties stipulate and agree shall be brought in Pulaski County, Arkansas.

25. Discrimination. The parties agree to make the services of said system available within its capacity to all persons in SID 243's area without discrimination as to race, color, religion, sex, national origin, age, marital status, or physical or mental handicap at those charges in accordance with the existing Little Rock ordinances establishing rates

for sanitary sewer service based on outside rates, as those rates are currently established and as these rates may be adjusted from time to time in the future by the City of Little Rock Board of Directors, as set forth in Paragraph No. 2 hereinbefore.

26. Plumbing Permit/Inspection. All applicants for sewer service shall be required to obtain and pay for a plumbing permit from the City of Little Rock and receive an inspection to meet the State and City Plumbing Code before the extension of sewer service, as provided herein.

IN WITNESS WHEREOF, the parties have caused this contract to be executed by their duly authorized representatives on the 3 day of December, 2018.

CITY OF LITTLE ROCK, ARKANSAS

By: _____
Mayor

Attest:

LITTLE ROCK SANITARY SEWER COMMITTEE

By: _____
Chair

ATTEST:

CEO
Little Rock Wastewater

COLLEGE STATION SUBURBAN SEWER
IMPROVEMENT DISTRICT NO. 243

By: Chairman

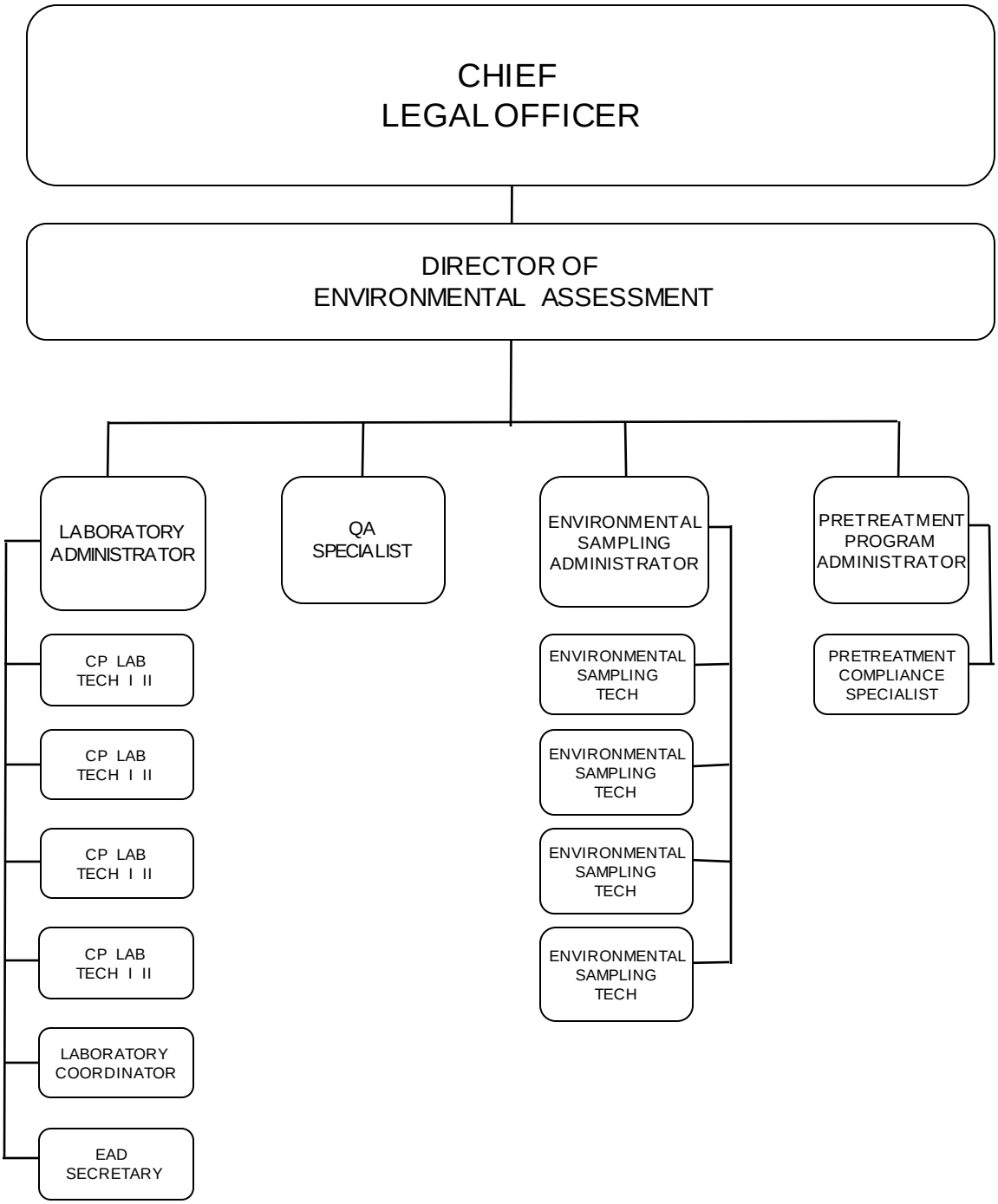
By: Secretary

Approved:

By:

Attorney for
Sewer Improvement
District No. 243

408 ENVIRONMENTAL ASSESSMENT



Type of Violation	Recommended Enforcement Response	Staff Member(s) Responsible
Section I. Unauthorized Discharge (No Permit or Failure to Renew Permit)		
1. Unpermitted discharge: Industry unaware of the requirement. No damage to POTW or cause of pass-through or interference.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
	Email or letter with certified mail-return receipt requested with permit application and thirty (30) day due date	Pretreatment Compliance Specialist
2. Unpermitted Discharge. Industry unaware of the requirement. Damage to POTW or cause of pass-through or interference	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
	NOV sent via email and certified mail-return receipt requested with permit application and thirty (30) day due date	Pretreatment Program Administrator
	Show cause hearing	Chief Legal Officer
	Consent Order	Director of Environmental Asessment
	Compliance Order	Director of Environmental Asessment
	Cease and Desist Order	Director of Environmental Asessment
	Administrative Fine	Director of Environmental Asessment
	Emergency Suspension	Chief Legal Officer
	Injunctive Relief	Chief Legal Officer
	Civil Penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
	Performance Bond	Director of Environmental Asessment
	Liability Insurance	Director of Environmental Asessment
3. Unpermitted Discharge: Industry does not submit permit application within (10) days of the due date.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
	NOV sent via email and certified mail-return receipt requested with permit application and thirty (30) day due date	Pretreatment Program Administrator
	Show cause hearing	Chief Legal Officer
	Consent Order	Director of Environmental Asessment
	Compliance Order	Director of Environmental Asessment
	Cease and Desist Order	Director of Environmental Asessment
	Administrative Fine	Director of Environmental Asessment
	Emergency Suspension	Chief Legal Officer
	Injunctive Relief	Chief Legal Officer
	Civil Penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
	Performance Bond	Director of Environmental Asessment
	Liability Insurance	Director of Environmental Asessment
4. Unpermitted Discharge: Industry does not submit permit application after second request	NOV sent via email and certified mail-return receipt requested with permit application and thirty (30) day due date	Pretreatment Program Administrator
	Show cause hearing	Chief Legal Officer

	Consent Order	Director of Environmental Asessment
	Compliance Order	Director of Environmental Asessment
	Cease and Desist Order	Director of Environmental Asessment
	Administrative Fine	Director of Environmental Asessment
	Emergency Suspension	Chief Legal Officer
	Injunctive Relief	Chief Legal Officer
	Civil Penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
	Performance Bond	Director of Environmental Asessment
	Liability Insurance	Director of Environmental Asessment
5. Failure to submit permit application. Existing permitted industry fails to submit permit application within ten (10) days of due date.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
6. Failure to submit permit application. Existing permitted industry fails to submit permit application and is more than thirty 45 days late.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
	NOV sent via email and certified mail-return receipt requested with permit application and five (5) day due date	Pretreatment Program Administrator
7. Failure to submit permit application. Existing permitted industry fails to submit permit application and continues to discharge after expiration date of current permit.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
	NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Program Administrator
	Show cause hearing	Chief Legal Officer
	Consent Order	Director of Environmental Asessment
	Compliance Order	Director of Environmental Asessment
	Cease and Desist Order	Director of Environmental Asessment
	Administrative Fine	Director of Environmental Asessment
	Injunctive Relief	Chief Legal Officer
	Civil Penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
	Performance Bond	Director of Environmental Asessment
	Liability Insurance	Director of Environmental Asessment
Section II. Monitoring and Reporting Violations		
1. Improper signature or certification statement. Isolated incident (once per 6-month period).	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
2. Improper signature or certification statement. Pattern of noncompliance (twice per 6 month period).	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist

	NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Program Administrator
3. Improper signature or certification statement. Chronic noncompliance (three or more times per 6-month period).	Phone call or email to industry representative and communications record to file	Pretreatment Program Administrator
	NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Program Administrator
	Show cause hearing	Chief Legal Officer
	Consent Order	Director of Environmental Asessment
	Compliance Order	Director of Environmental Asessment
	Cease and Desist Order	Director of Environmental Asessment
	Administrative Fine	Director of Environmental Asessment
	Emergency Suspension	Chief Legal Officer
	Injunctive Relief	Chief Legal Officer
	Civil Penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
4. Minor sampling, monitoring, or reporting deficiencies Computational and/or typographical errors. Isolated instance (once per 6-month period).	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
5. Minor Sampling, monitoring, or reporting deficiencies. Computational and/or typographical errors. Failure to correct deficiency after initial notification.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
	NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Compliance Specialist
6. Minor sampling, monitoring, or reporting deficiencies. Computational and/or typographical error. Continued deficiencies after issuing NOV.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
	Show cause hearing	Chief Legal Officer
	Consent Order	Director of Environmental Asessment
	Cease and desist order	Director of Environmental Asessment
	Administrative fine	Director of Environmental Asessment
	Termination of discharge	Director of Environmental Asessment
	Injunctive relief	Chief Legal Officer
	Civil penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
7. Failure to monitor all pollutants as required by the discharge permit. Isolated instance (once per 6-month period).	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist

8. Failure to monitor all pollutants as required by the discharge permit. Pattern of noncompliance (two times per 6-month period).	Phone call or email to industry representative and communications record to file NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Compliance Specialist Pretreatment Program Administrator
9. Failure to monitor all pollutants as required by the discharge permit. Chronic noncompliance (three or more times per 6-month period).	Phone call or email to industry representative and communications record to file NOV sent via email with response requested or certified mail-return receipt requested Show cause hearing Consent Order Compliance Order Cease and Desist Order Administrative Fine Termination of Discharge Injunctive Relief Civil Penalties Criminal Prosecution	Pretreatment Compliance Specialist Pretreatment Program Administrator Chief Legal Officer Director of Environmental Asessment Director of Environmental Asessment Director of Environmental Asessment Director of Environmental Asessment Director of Environmental Asessment Chief Legal Officer Chief Legal Officer Chief Legal Officer
10. Failure to use a laboratory certified by DEQ for parameters being analyzed. Isolated instance (one time per 6-month period).	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
11. Failure to use a laboratory certified by DEQ for parameters being analyzed. Pattern of noncompliance (two times per 6-month period).	Phone call or email to industry representative and communications record to file NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Compliance Specialist Pretreatment Program Administrator
12. Failure to use a laboratory certified by ADEQ for parameters being analyzed. Chronic noncompliance (three or more times per 6-month period).	Phone call or email to industry representative and communications record to file NOV sent via email with response requested or certified mail-return receipt requested Show cause hearing Consent Order Compliance Order Cease and desist order Administrative fine Termination of discharge Injunctive relief Civil penalties Criminal Prosecution	Pretreatment Compliance Specialist Pretreatment Program Administrator Chief Legal Officer Director of Environmental Asessment Director of Environmental Asessment Director of Environmental Asessment Director of Environmental Asessment Director of Environmental Asessment Chief Legal Officer Chief Legal Officer Chief Legal Officer

13. Failure to report violation of pretreatment standard within 24 hours of becoming aware of the violation. Isolated instance (one time per 6 month period).	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
	Show cause hearing	Chief Legal Officer
	Consent Order	Director of Environmental Asessment
	Compliance Order	Director of Environmental Asessment
	Cease and desist order	Director of Environmental Asessment
	Administrative fine	Director of Environmental Asessment
	Termination of discharge	Director of Environmental Asessment
	Injunctive relief	Chief Legal Officer
	Civil penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
15. Failure to submit monthly self-monitoring reports on time. Isolated instance (one time per 6 month period) but not over thirty (30) - forty-five (45) days late.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
16. Failure to submit monthly self-monitoring reports on time. Pattern of late submittals (2 or 3 times per 12 month period) but no over thirty (30) days late.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
	NOV sent via certified mail-return receipt requested	
17. Failure to submit monthly self-monitoring reports on time. Chronic late submittals (4 or more times per 12 month period) but not over thirty (30) days late or any one (1) self-monitoring report during a 12 month period is over thirty (30) days late (SNC).	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
	NOV sent via certified mail-return receipt requested	Pretreatment Program Administrator
	Show cause hearing	Chief Legal Officer
	Consent Order	Director of Environmental Asessment
	Compliance Order	Director of Environmental Asessment
	Cease and desist order	Director of Environmental Asessment
	Administrative fine	Director of Environmental Asessment
	Termination of discharge	Director of Environmental Asessment
	Injunctive relief	Chief Legal Officer
	Civil penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
18. Failure to submit PRCC on time. Isolated instance (one time per 12 month period) but not over thirty (30) days late.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
	NOV sent via certified mail-return receipt requested	
19. Failure to submit PRCC on time. Chronic late submittals (twice per 12 month period) but not over thirty (30) days late or any one (1) PRCC during a 12 month period is over thirty (30) days late.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist

	NOV sent via certified mail-return receipt requested	Pretreatment Program Administrator
	Show cause hearing	Chief Legal Officer
	Consent Order	Director of Environmental Asessment
	Compliance Order	Director of Environmental Asessment
	Cease and desist order	Director of Environmental Asessment
	Administrative fine	Director of Environmental Asessment
	Termination of discharge	Director of Environmental Asessment
	Injunctive relief	Chief Legal Officer
	Civil penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
20. Failure to report spill, upset, or slug load within 24 hours of becoming aware of the spill, upset, or slug load. One (1) time incident and no damage to treatment works or cause of pass-through or interference.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
	NOV sent via certified mail-return receipt requested	Pretreatment Program Administrator
21. Failure to report spill, upset, or slug load within 24 hours of becoming aware to the spill, upset, or slug load. Damage to treatment works or was a cause of pass-through or interference.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
	NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Program Administrator
	Show cause hearing	Chief Legal Officer
	Consent Order	Director of Environmental Asessment
	Compliance Order	Director of Environmental Asessment
	Cease and Desist Order	Director of Environmental Asessment
	Administrative Fine	Director of Environmental Asessment
	Injunctive Relief	Chief Legal Officer
	Civil Penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
	Performance Bond	Director of Environmental Asessment
	Liability Insurance	Director of Environmental Asessment
22. Failure to report spill, upset, or slug load within 24 hours of becoming aware of the spill, upset, or slug load. Chronic noncompliance (2 or more incidents per 12 month period) regardless of damage to the treatment works or cause of pass-through or interference.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
	NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Program Administrator
	Consent Order	Director of Environmental Asessment

	Compliance Order	Director of Environmental Asessment
	Cease and Desist Order	Director of Environmental Asessment
	Administrative Fine	Director of Environmental Asessment
	Emergency Suspension	Chief Legal Officer
	Termination of discharge	Director of Environmental Asessment
	Injunctive relief	Chief Legal Officer
	Civil penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
	Performance Bond	Director of Environmental Asessment
	Liability Insurance	Director of Environmental Asessment
23. Failure to submit any other required report or submit required information. Isolated incident (one time per 12 month period) but not over thirty (30) days late.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
24. Failure to submit any other required report or submit required information. Chronic late reports (two or more times per 12 month period) or any instance where a required report or information is over thirty (30) days late (SNC).	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
	NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Program Administrator
	Show cause hearing	Chief Legal Officer
	Consent Order	Director of Environmental Asessment
	Compliance Order	Director of Environmental Asessment
	Cease and Desist Order	Director of Environmental Asessment
	Termination of discharge	Director of Environmental Asessment
	Administrative Fine	Director of Environmental Asessment
	Injunctive Relief	Chief Legal Officer
	Civil Penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
Section III. Effluent Limit Violations		
1. pH ≤ 0.5 S.U. above or below ordinance limits. Isolated violations (less than 3 violations per 6 month period.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
2. pH ≤ 0.5 S.U. above or below ordinance limits. Pattern of noncompliance (at least 3 but less than 5 violations per 6 month period).	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
	NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Program Administrator
3. pH ≤ 0.5 S.U. above or below ordinance limits. Chronic noncompliance (five or more violations per 6 month period).	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist

		Pretreatment Program Administrator
	NOV sent via email with response requested or certified mail-return receipt requested	
	Show cause hearing	Chief Legal Officer
		Director of Environmental Asessment
	Consent Order	
		Director of Environmental Asessment
	Compliance Order	
		Director of Environmental Asessment
	Cease and Desist Order	
		Director of Environmental Asessment
	Termination of discharge	
		Director of Environmental Asessment
	Administrative Fine	
	Injunctive Relief	Chief Legal Officer
	Civil Penalties	Chief Legal Officer
4. pH > 0.5 S.U. above or below ordinance limits. Isolated violation (one violation per 6 month period).	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
5. pH> 0.5 S.U. above or below ordinance limits. Pattern of noncompliance (2 violations per 6 month period).	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
		Pretreatment Program Administrator
	NOV sent via email with response requested or certified mail-return receipt requested	
6. pH > 0.5 S.U. above or below ordinance limits. Chronic noncompliance (3 or more violations per 6 month period).	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
		Pretreatment Program Administrator
	NOV sent via email with response requested or certified mail-return receipt requested	
	Show cause hearing	Chief Legal Officer
		Director of Environmental Asessment
	Consent Order	
		Director of Environmental Asessment
	Compliance Order	
		Director of Environmental Asessment
	Cease and Desist Order	
		Director of Environmental Asessment
	Termination of discharge	
		Director of Environmental Asessment
	Administrative Fine	
	Injunctive Relief	Chief Legal Officer
	Civil Penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
7. Discharge of any pH above or below ordinance limits which caused damage to the treatment works or were a cause of pass-through or interference.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
		Pretreatment Program Administrator
	NOV sent via email with response requested or certified mail-return receipt requested	
	Show cause hearing	Chief Legal Officer
		Director of Environmental Asessment
	Consent Order	

	Compliance Order	Director of Environmental Asessment
	Cease and Desist Order	Director of Environmental Asessment
	Administrative Fine	Director of Environmental Asessment
	Emergency Suspension	Director of Environmental Asessment
	Termination of discharge	Director of Environmental Asessment
	Injunctive relief	Chief Legal Officer
	Civil penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
	Performance Bond	Director of Environmental Asessment
	Liability Insurance	Director of Environmental Asessment
8. Violation of categorical discharge limit. Isolated violation (one violation per 6 month period) and the magnitude of the violation is less than 1.2 times the categorical limit.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
9. Violation of categorical discharge limit. Pattern of noncompliance (2 or 3 violations per 6 month period) and the magnitude of the violations is less than 1.2 times the categorical limit.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
	NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Program Administrator
10. Violation of categorical discharge limit. Chronic noncompliance (4 or more violations per 6 month period) and the magnitude of the violations is less than 1.2 times the categorical limit.	Phone call or email to industry representative and communications record to file	Pretreatment Program Administrator
	NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Program Administrator
	Show cause hearing	Chief Legal Officer
	Consent Order	Director of Environmental Asessment
	Compliance Order	Director of Environmental Asessment
	Cease and Desist Order	Director of Environmental Asessment
	Administrative Fine	Director of Environmental Asessment
	Emergency Suspension	Director of Environmental Asessment
	Termination of discharge	Chief Legal Officer
	Injunctive relief	Director of Environmental Asessment
	Civil penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
	Performance Bond	Chief Legal Officer
	Liability Insurance	Director of Environmental Asessment

11. Violation of categorical discharge limit. Isolated violation (one violation per 6 month period) and the magnitude of the violations is equal to or greater than 1.2 times the categorical limit.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist
12. Violation of categorical discharge limit. Pattern of noncompliance (two violations per 6 month period) and the magnitude of the violations are equal to or greater than 1.2 times the categorical limit.	Phone call or email to industry representative and communications record to file NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Compliance Specialist Pretreatment Program Administrator
13. Violation of categorical discharge limit. Chronic noncompliance (3 or more violations per 6 month period) and the magnitude of the violations are equal to or greater than 1.2 times the categorical limit.	Phone call or email to industry representative and communications record to file NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Compliance Specialist Pretreatment Program Administrator
14. Violation of categorical limit. Any magnitude which causes damage to the treatment works or was a cause of pass-through or interference.	Phone call or email to industry representative and communications record to file NOV sent via email with response requested or certified mail-return receipt requested Show cause hearing Consent Order Compliance Order Cease and Desist Order Administrative Fine Emergency Suspension Termination of discharge Injunctive relief Civil penalties Criminal Prosecution Performance Bond Liability Insurance	Pretreatment Program Administrator Pretreatment Program Administrator Chief Legal Officer Director of Environmental Asessment Director of Environmental Asessment Director of Environmental Asessment Director of Environmental Asessment Chief Legal Officer Director of Environmental Asessment Chief Legal Officer Chief Legal Officer Chief Legal Officer Director of Environmental Asessment Director of Environmental Asessment
15. Violation of a local discharge limit (except pH). Isolated violations (less than 3 violations per 6 month period) and the magnitude of the violations are less than 1.2 times the local discharge limit.	Phone call or email to industry representative and communications record to file	Pretreatment Compliance Specialist

	NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Program Administrator
16. Violation of a local discharge limit (except pH). Pattern of noncompliance (4 violations per 6 month period) and the magnitude of the violations are less than 1.2 times the local discharge limit.	Phone call or email to industry representative and communications record to file NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Compliance Specialist Pretreatment Program Administrator
17. Violation of a local discharge limit (except pH). Chronic noncompliance (5 or more violations per 6 month period) and the magnitude of the violations are less than 1.2 times the local discharge limit.	Phone call or email to industry representative and communications record to file NOV sent via email with response requested or certified mail-return receipt requested Show cause hearing Consent Order Compliance Order Cease and Desist Order Administrative Fine Emergency Suspension Termination of discharge Injunctive relief Civil penalties Criminal Prosecution Performance Bond Liability Insurance	Pretreatment Program Administrator Pretreatment Program Administrator Chief Legal Officer Director of Environmental Asessment Director of Environmental Asessment Director of Environmental Asessment Director of Environmental Asessment Chief Legal Officer Director of Environmental Asessment Chief Legal Officer Chief Legal Officer Director of Environmental Asessment Director of Environmental Asessment
18. Violation of a local discharge limit (except pH). Isolated violation (one or two violations per 6 month period) and the magnitude of the violations are equal to or greater than 1.2 times the local discharge limit.	Phone call or email to industry representative and communications record to file	Pretreatment Program Administrator
19. Violation of a local discharge limit (except pH). Pattern of noncompliance (3 violations per 6 month period) and the magnitude of the violations are equal to or greater than 1.2 times the local discharge limit.	Phone call or email to industry representative and communications record to file NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Program Administrator Pretreatment Program Administrator

20. Violation of a local discharge limit (except pH). Chronic noncompliance (4 or more violations per 6 month period) and the magnitude of the violations are equal to or greater than 1.2 times the local discharge limit.	Phone call or email to industry representative and communications record to file	Pretreatment Program Administrator
	NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Program Administrator
	Show cause hearing	Chief Legal Officer Director of Environmental Asessment
	Consent Order	Director of Environmental Asessment
	Compliance Order	Director of Environmental Asessment
	Cease and Desist Order	Director of Environmental Asessment
	Administrative Fine	
	Emergency Suspension	Chief Legal Officer
	Termination of discharge	Director of Environmental Asessment
	Injunctive relief	Chief Legal Officer
	Civil penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
	Performance Bond	Director of Environmental Asessment Director of Environmental Asessment
	Liability Insurance	
21. Violation of local discharge limit (except pH). Any magnitude which caused damage to the treatment works or was a cause of pass-through or interference.	Phone call or email to industry representative and communications record to file	Pretreatment Program Administrator
	NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Program Administrator
	Show cause hearing	Chief Legal Officer Director of Environmental Asessment
	Consent Order	Director of Environmental Asessment
	Compliance Order	Director of Environmental Asessment
	Cease and Desist Order	Director of Environmental Asessment
	Administrative Fine	
	Emergency Suspension	Chief Legal Officer
	Termination of discharge	Director of Environmental Asessment
	Injunctive relief	Chief Legal Officer
	Civil penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
	Performance Bond	Director of Environmental Asessment Director of Environmental Asessment
	Liability Insurance	
Section IV. Compliance Schedules, Orders, and Related Reports		

1. Failure to meet a milestone date contained in a compliance schedule, consent order, and/or a compliance order. The missed milestone date will not affect the remaining milestone dates or the final compliance date.	Phone call or email to industry representative and communications record to file	Pretreatment Program Administrator
	NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Program Administrator
2. Failure to meet a milestone date contained in a compliance schedule, consent order, and /or a compliance order. The missed milestone date will cause other missed milestone dates but will not affect the final compliance date.	Phone call or email to industry representative and communications record to file	Pretreatment Program Administrator
	NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Program Administrator
3. Failure to meet a milestone date contained in a compliance schedule, consent order, and/or a compliance order. The missed milestone date will cause a delay in final compliance and there is a valid reason for the missed milestone date.	Phone call or email to industry representative and communications record to file	Pretreatment Program Administrator
	NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Program Administrator
	Show cause hearing	Chief Legal Officer
	Administrative Fine	Director of Environmental Asessment
	Injunctive relief	Chief Legal Officer
	Civil penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
	Performance Bond	Director of Environmental Asessment
	Liability Insurance	Director of Environmental Asessment
4. Failure to meet a milestone date contained in a compliance schedule, consent order, and /or a compliance order. The missed milestone date will cause a delay in final compliance and there is no valid reason for the delay.	Phone call or email to industry representative and communications record to file	Pretreatment Program Administrator
	NOV sent via email with response requested or certified mail-return receipt requested	Pretreatment Program Administrator
	Show cause hearing	Chief Legal Officer
	Consent Order	Director of Environmental Asessment
	Compliance Order	Director of Environmental Asessment
	Cease and Desist Order	Director of Environmental Asessment
	Administrative Fine	Director of Environmental Asessment

	Emergency Suspension Termination of discharge Injunctive relief Civil penalties Criminal Prosecution Performance Bond Liability Insurance	Chief Legal Officer Director of Environmental Asessment Chief Legal Officer Chief Legal Officer Chief Legal Officer Director of Environmental Asessment Director of Environmental Asessment
Section V. Noncompliance Detected Through Inspections And/Or Field Investigations		
1. Minor violation of permit condition. Isolated instance (first time noted).	Discuss with industry representative during inspection- NOV sent via certified mail-return receipt requested-	Pretreatment Compliance Specialist Pretreatment Program Administrator
2. Minor violation of permit condition. Failure to correct after formal notification or same violation noted during next inspection.	Discuss with industry representative during inspection- NOV sent via certified mail-return receipt requested- Show cause hearing Consent Order Compliance Order Cease and Desist Order Administrative Fine Emergency Suspension Termination of discharge Injunctive relief Civil penalties Criminal Prosecution	Pretreatment Compliance Specialist Pretreatment Program Administrator Chief Legal Officer Director of Environmental Asessment Director of Environmental Asessment Director of Environmental Asessment Director of Environmental Asessment Chief Legal Officer Director of Environmental Asessment Chief Legal Officer Chief Legal Officer Chief Legal Officer
3. Major violation of permit condition. Any Instance.	Discuss with industry representative during inspection- NOV sent via certified mail-return receipt requested- Show cause hearing Consent Order Compliance Order Cease and Desist Order Administrative Fine Emergency Suspension Termination of discharge Injunctive relief Civil penalties Criminal Prosecution	Pretreatment Compliance Specialist Pretreatment Program Administrator Chief Legal Officer Director of Environmental Asessment Director of Environmental Asessment Director of Environmental Asessment Director of Environmental Asessment Chief Legal Officer Director of Environmental Asessment Chief Legal Officer Chief Legal Officer Chief Legal Officer
4. Violation of any permits condition (minor or major) when there is evidence of negligence or intent.	NOV sent via certified mail-return receipt requested- Show cause hearing	Pretreatment Program Administrator Chief Legal Officer

	Consent Order	Director of Environmental Asessment
	Compliance Order	Director of Environmental Asessment
	Cease and Desist Order	Director of Environmental Asessment
	Administrative Fine	Director of Environmental Asessment
	Emergency Suspension	Chief Legal Officer
	Termination of discharge	Director of Environmental Asessment
	Injunctive relief	Chief Legal Officer
	Civil penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
5. Falsification of data and/or submittal of false information in any report . Any instance.	NOV sent via certified mail-return receipt requested-	Pretreatment Program Administrator
	Show cause hearing	Chief Legal Officer
	Consent Order	Director of Environmental Asessment
	Compliance Order	Director of Environmental Asessment
	Cease and Desist Order	Director of Environmental Asessment
	Administrative Fine	Director of Environmental Asessment
	Emergency Suspension	Chief Legal Officer
	Termination of discharge	Director of Environmental Asessment
	Injunctive relief	Chief Legal Officer
	Civil penalties	Chief Legal Officer
	Criminal Prosecution	Chief Legal Officer
6. Refusal to allow entry for the purpose of inspecting, monitoring, or records review. Any instance.	Obtain search warrant	Chief Legal Officer

Note: The pretreatment personnel designated as responsible for the enforcement responses listed in this guide are the minimum levels. Any higher ranking LRWRA official in the Environmental Assessment Department or the Director of Operations may initiate any appropriate enforcement response.

Time Frames for Enforcement Responses

A. All violations will be identified and documented immediately upon receipt of the compliance information. In no case shall more than five (5) business days elapse between receipt of the compliance information and documentation of the violation.

B. The enforcement responses listed in this guide appearing in bold, italic print are required responses. All other enforcement

C. Informal enforcement responses (telephone call and communications record to file) will occur immediately upon detection of a violation. In no case will more than five (5) business days elapse between the detection of a violation and telephone notification to the industry representative.

D. NOV's sent via certified mail-return receipt requested will be sent within five (5) business days of the documentation of the

E. Follow up actions and enforcement responses for continuing or recurring violations will be initiated within sixty (60) days of the initial enforcement response. For continuing violations, the enforcement response will, at a minimum, include a compliance schedule incorporated into the industrial user's discharge permit.

F. Any industrial user which meets the criteria for significant noncompliance (SNC) who has not returned to compliance within the

G. Any violation which threatens the public health, personal or public property, or environmental quality will be considered an emergency and will receive an immediate(within 24 hours) response. The immediate response will consist of telephone notification and communications record to file followed by a cease and desist order, emergency suspension, or termination of discharge.

H. The use of any one (1) enforcement response taken against an industrial user for any violation or series of violations does not preclude LRWRA from utilizing any or all of the other enforcement options available as allowed by the current Pretreatment Ordinance.

I. Enforcement Actions may include fees as listed in the LRWRA Consolidated Fee Schedule.

ATTACHMENT No. 1

LITTLE ROCK WATER RECLAMATION AUTHORITY

SPILL AND SLUG NOTIFICATION PROCEDURES

In the event of a spill or slug load that is discharged into the sanitary sewer from your facility, the following **IMMEDIATE NOTIFICATION** procedures listed below must be followed in accordance with City of Little Rock Pretreatment Use Ordinance 21,776,Section 6.7. A slug discharge includes a spill, upset, or any non-routine discharge which could cause a violation of Part I.A discharge limitations or a violation of prohibited discharge standards (listed in Industrial Wastewater Discharge Permit Part III Standard Conditions, item N).

To report a discharge occurrence, dial the telephone number sequence listed below until contact is made.

For occurrences **during normal working hours** (8:00 a.m. to 4:30 p.m.)			For occurrences **after normal working hours** (4:30 p.m. to 8:00a.m.), weekends and holidays.		
1.	Environmental Assessment Pretreatment Compliance Specialist	(501) 688-1493	1.	Environmental Assessment Pretreatment Program Administrator	(479) 216-0961
2.	Pretreatment Program Administrator	(501) 688-1495 (479) 216-0961	2.	Fourche Creek WRF	(501) 541-3559
3.	Fourche Creek WRF	(501) 541-3559	3.	Adams Field WRF	(501) 413-7381
4.	Adams Field WRF	(501) 413-7381	4.	Operations Superintendent	(501) 416-2857

To assist you in reporting the necessary information, please have the following available:

A. Date and time of the incident.
B. The location of the incident (your plant name and address).
C. The type of waste involved - try to be specific.
D. The pollutant concentration - if known.
E. The volume of the discharge.
F. The duration of the discharge.
G. Any corrective actions taken at your facility.

Display or post this Attachment in areas so that the notification procedures will be readily accessible. **Immediate Notification** allows LRWRA to assess the flow quantity, pollutants of concern, concentrations, and loading rates to make adjustment in the wastewater treatment system when necessary.

ATTACHMENT VI

Arkansas Democrat Gazette

STATEMENT OF LEGAL ADVERTISING

LR WATER RECLAMATION AUTHORITY
P. O. BOX 45090
LITTLE ROCK AR 72214

ATTN: Megan Jones
DATE : 03/01/19 INVOICE #: 3205179
ACCT #: L6016938 P.O. #:

REMIT TO:
ARKANSAS DEMOCRAT-GAZETTE, INC.
P.O. BOX 2221
LITTLE ROCK, AR 72203

BILLING QUESTIONS CALL 378-3873

STATE OF ARKANSAS,)
COUNTY OF PULASKI,) ss.

I, Charles A McNeice Jr, do solemnly swear that I am the Accounting Manager of the Arkansas Democrat-Gazette, a daily newspaper printed and published in said County, State of Arkansas; that I was so related to this publication at and during the publication of the annexed legal advertisement the matter of:

notice

pending in the Court, in said County, and at the dates of the several publications of said advertisement stated below, and that during said periods and at said dates, said newspaper was printed and had a bona fide circulation in said County; that said newspaper had been regularly printed and published in said County, and had a bona fide circulation therein for the period of one month before the date of the first publication of said advertisement; and that said advertisement was published in the regular daily issues of said newspaper as stated below.

DATE	DAY	LINAGE	RATE	DATE	DAY	LINAGE	RATE
03/01	Fri	23	1.35				

TOTAL COST ---------- 31.05
Billing Ad #: 74847061

Charles A McNeice

Subscribe and sworn to me this 1 day of March .20 19

Deanna Griffin Notary Public

OFFICIAL SEAL - #12347408
DEANNA GRIFFIN
NOTARY PUBLIC-ARKANSAS
PULASKI COUNTY
MY COMMISSION EXPIRES: 03-30-26

ADCOPY

PUBLIC NOTICE
Little Rock Water Reclamation Authority

In accordance with the U.S. Environmental Protections Agency's rule published as 40 CFR 403.8(f)(2)(viii), Little Rock Water Reclamation Authority (LR-WRA) is providing notification that during 2018, Little Rock Quick Rice, LLC was in Significant Noncompliance with pretreatment requirements contained in regulations governing the discharge of industrial wastewater. The facility has returned to compliance.

74847061

MONITORING RESULTS FOR THE ANNUAL PRETREATMENT REPORT
REPORTING YEAR: _____, 20__ TO _____, 20____
TREATMENT PLANT: City of_____NPDES PERMIT #AR00_____
AVERAGE POTW FLOW: ____MGD % IU FLOW: ____%

METALS, CYANIDE and PHENOLS	MAHC (Total) (µg/l) (2)	INFLUENT DATES SAMPLED (µg/l) Once/quarter				WQ level/ limit (µg/l) (2)	EFFLUENT DATES SAMPLED (µg/l) Once/quarter				LABORATORY ANALYSIS		
		Date	Date	Date	Date		Date	Date	Date	Date	EPA MQL (µg/l) (1)	EPA Method Used (1)	Detection Level Achieved (µg/l)
Antimony	N/A					N/A					60		
Cadmium											0.5		
Copper											0.5		
Lead											0.5		
Mercury											0.005		
Nickel											0.5		
Selenium											5		
Silver											0.5		
Zinc											20		
Chromium											10		
Cyanide											10		
Arsenic											0.5		
Molybdenum						N/A					--		
Phenols	N/A					N/A					5		
Beryllium											0.5		
Thallium	N/A					N/A					0.5		
Flow, MGD	N/A					N/A							
(3)													

(1) It is advised that the influent and effluent samples are collected considering flow detention time through each plant. **Analytical MQLs must be met for the effluent (and SHOULD be met for the influent) so the data can also be used for Local Limits assessment and NPDES application purposes.**

(2) This value was calculated during the development of TBLL based on State WQ criteria, EPA guidance and either ADEQ Pretreatment staff Excel spreadsheets or the Permittee's consultant with concurrence from Pretreatment staff.

(3) Record the name of any pollutant [40 CFR 122, Appendix D, Table II and/or Table V] detected and the concentration at which they were detected.

MAHL - Maximum Allowable Headworks Level / MAHC – Maximum Allowable Headworks Concentration

WQ - "Water Quality Levels not to exceed" OR actual permit limit.

ATTACHMENT A

PRETREATMENT PROGRAM STATUS REPORT

UPDATED SIGNIFICANT INDUSTRIAL USERS LIST

Industrial User Name	SIC/NAICS Code	40 CFR XXX or N/A	Control Document		New User	Times Inspected	Times Sampled	Compliance Status **(N/A, C, NC, or SNC)**				**Permit Limits** (denote parameter violated & number of times)
			Y/N	Last Action				Reports				
								BMR	90-day Compliance	Semi Annual	Self Monitoring	

Include NAICS code(s)

3rd column – include the CFR # only if the Category has Pretreatment Standards (numeric or narrative)
Please footnote N/A reason

ATTACHMENT B

SIGNIFICANT NON-COMPLIANT (SNC) INDUSTRIES - ENFORCEMENT ACTIONS TAKEN

Industrial User Name	Nature of Violation		Number of Action Taken					Penalties Collected	Compliance Schedule		Current Status	Comments
	Reports	Limits	N.O.V.	A.O.	Civil	Criminal	Other		Date Issued	Date Due		

ATTACHMENT C

PRETREATMENT PERFORMANCE SUMMARY (PPS)

NOTE: ALL QUESTIONS REFER TO THE INDUSTRIAL PRETREATMENT PROGRAM AS APPROVED BY ADEQ. THE PERMITTEE SHOULD NOT ANSWER THE QUESTIONS BASED ON CHANGES MADE TO THE APPROVED PROGRAM WITHOUT DEPARTMENT AUTHORIZATION.

I. General Information

Control Authority Name _____

Address _____

City _____ State/Zip _____

Contact Person _____ Position _____

Contact Telephone _____ NPDES Permit Nos. _____

Reporting Period _____ _____

(Beginning Month, day and Year) (Ending Month, day and Year)

Total Number of Categorical IUs _____

Total Number of Significant Noncategorical IUs _____

Total Number of Non-Significant (yet permitted) IUs _____

II. Significant Industrial User Compliance

	SIGNIFICANT INDUSTRIAL USERS	
	Categorical	NonCategorical
1) No. of SIUs Submitting BMRs/Total No. Required.	/	N/A*
2) No. of SIUs Submitting 90-Day Compliance Reports / No. Required.	/	N/A*
3) No. of SIUs Submitting Semiannual Reports / Total No. Required.	/	/
4) No. of SIUs Meeting Compliance Schedule / Total No. Required to Meet Schedule	/	/
5) No. of SIUs in Significant Noncompliance / Total No. of SIUs	/	/
6) Rate (%) of Significant Noncompliance for all SIUs (categorical and noncategorical) . .		

III. Compliance Monitoring Program

	SIGNIFICANT INDUSTRIAL USERS	
	Categorical	NonCategorical
1) No. of Control Documents Issued / Total No. Required.	___/___	___/___
2) No. of Non-sampling Inspections Conducted / Total No. Required.	___/___	___/___
3) No. of Sampling Visits Conducted / Total No. Required.	___/___	___/___
4) No. of Facilities Inspected (nonsampling) / Total No. Required.	___/___	___/___
5) No. of Facilities Sampled / Total No. Required.	___/___	___/___

IV. Enforcement Actions

	SIGNIFICANT INDUSTRIAL USERS	
	Categorical	NonCategorical
1) No. of Compliance Schedules Issued/No. of Schedules Required	___/___	___/___
2) No. of Notices of Violations Issued to SIUs	_____	_____
3) No. of Administrative Orders Issued to SIUs	_____	_____
4) No. of Civil Suits Filed.	_____	_____
5) No. of Criminal Suits Filed	_____	_____
6) No. of Significant Violators (attach newspaper publication).	_____	_____
7) Amount of Penalties (not surcharges) Collected (total dollars/IUs assessed) . . .	___/___	___/___
8) Other Actions (sewer bans, etc.).	_____	_____

The following certification must be signed in order for this form to be considered complete:

I certify that the information contained herein is complete and accurate to the best of my knowledge.

_____

Authorized Representative Date _____

LITTLE ROCK WASTEWATER UTILITY
ENVIRONMENTAL ASSESSMENT DEPARTMENT

TECHNICALLY BASED LOCAL LIMITS DEVELOPMENT DOCUMENT

ORIGINAL SUBMITTED MARCH 31, 1997

REVISION SUBMITTED NOVEMBER 3, 1997

REVISION SUBMITTED NOVEMBER 17, 1998

TECHNICALLY BASED LOCAL LIMITS DEVELOPMENT DOCUMENT
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TECHNICALLY BASED LOCAL LIMITS DEVELOPMENT DOCUMENT
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Section 1.0

SECTION 1.0
GENERAL INFORMATION ON THE DEVELOPMENT OF TECHNICALLY BASED LOCAL LIMITS

Part 1.1 Purpose and Policy

The purpose of this document is to demonstrate the procedures by which Little Rock Wastewater Utility has established Technically Based Local Limits (TBLL) for industrial dischargers to the Utility Collection system. The four (4) main objectives of the development of these TBLLs are presented below:

(1) To prevent the introduction of pollutants into the treatment works which could cause interference with treatment plant unit processes or cause a violation of current NPDES permit limitations,

(2) To prevent the contamination of biosolids which would interfere with current land application/beneficial use disposal practices,

(3) To prevent the introduction of pollutants which could cause a violation of applicable water quality standards, and

(4) To promote and encourage waste minimization by industrial users.

It shall be the policy of Little Rock Wastewater Utility to monitor the pollutants discharged by permitted industrial users and the pollutants present in the treatment plant influents, effluents, and biosolids at a frequency equal to or greater than our NPDES permits require. It shall also be the policy of Little Rock Wastewater Utility to conduct a review of technically based local limits as necessary in response to treatment plant process changes, any significant change in the industrial user population or change in the concentration or nature of pollutants discharge by industry, in response to regulatory changes, and as required by our NPDES permits.

Part 1.2 Background Information

The City of Little Rock is served by two (2) wastewater treatment plants, the Adams Field facility and the Fourche Creek facility. Both treatment plants discharge into Segment 3C of the Arkansas River Basin. Included with this development document in Appendix A is a locator map indicating the treatment plant locations.

The Adams Field Wastewater Treatment Plant has a design capacity of 36 MGD and has an average influent flow of 21.32 MGD and a minimum influent flow of 13.62 MGD (January,

1994 through December, 1996). The Adams Field facility is a conventional activated sludge plant using bar screens, grit removal, primary clarification, fine bubble aeration, secondary clarification, and disinfection by chlorination. A flow schematic of the Adams Field Treatment Plant showing sampling locations is included in Appendix B.

Hauled liquid waste is accepted at the Adams Field Plant Liquid Waste Disposal Station and sources of this waste are primarily domestic septic tank waste and landfill leachate. Each load of hauled liquid waste must be accompanied by a Utility manifest form indicating the source of the hauled waste. Manifest forms are selected at random each month and checked by contacting the generator of the waste to confirm the information on the manifest. Average volumes of liquid waste disposed of at the Adams Field Plant during calendar year 1996 included 1.99 MG of domestic septage and 1.49 MG of landfill leachate.

The Fourche Creek Wastewater Treatment Plant has a design capacity of 16 MGD and has an average influent flow of 13.90 MGD and a minimum flow of 5.94 MGD (January, 1994 through December, 1996). The Fourche Creek facility is a step feed activated sludge plant using bar screens, grit removal, primary clarification, fine bubble aeration, secondary clarification, and disinfection by chlorination. A flow schematic of the Fourche Creek Treatment Plant showing sampling locations is included in Appendix C.

Solids removed from the Adams Field facility are transferred via force main to the Fourche Creek facility where the solids from both plants are anaerobically digested and further treated by lagooning for a period of two (2) to four (4) years prior to disposal (land application/beneficial reuse). The methane gas produced from the anaerobic digestion process is used to fuel engine generators to supply electric power to the Fourche Creek facility. Total flow to the anaerobic digesters is approximately 0.35 MGD at a solids concentration of approximately 2%.

The Utility currently has a five (5) year contract with CDR Environmental (ending in the year 1999) for the removal and land application of Utility biosolids on grass farm lands and pasture lands located in Pulaski County. This contract requires CDR to provide permitted land for Utility biosolids. Land application permits are currently held by CDR Environmental and Wilcox Land and Cattle Company for Utility biosolids. In addition to these land application sites, the Utility has a Site Management Plan on file with ADPC&E for the land application of biosolids at the Wilcox Grass Farm. A copy of that site management plan is included in Appendix D and average pollutant concentrations of our land applied biosolids from 1994 through 1996 is included in Appendix E.

Part 1.3 Sampling and Analysis

Little Rock Wastewater Utility has had an ongoing pretreatment program since 1978 and has compiled a significant amount of permitted industrial discharge data and treatment plant data. For the purpose of this TBLL evaluation, industrial discharge data from 1994 through 1996 will be used along with treatment plant influent and effluent data for heavy metals and cyanide for that same time period.

Appendix F of this document - **Type and Quantity of Pollutants Discharged by Industry**, summarizes all sampling and analytical data from known permitted dischargers for the time period stated above along with average flows. Industrial User flows are from actual flow monitoring where applicable and all other flows are estimated from Little Rock Municipal Water Works consumption records. Total flows for all industrial users contributing a particular pollutant to our treatment system are also shown in Appendix F.

Appendix G and H of this document - **Type and Quantity of Pollutants Discharged to the Treatment Works (Adams Field and Fourche Creek)**, summarizes all sampling and analytical data for heavy metals and cyanide collected from January 1994 through December 1996 on the treatment plant influents and effluents. Treatment plant flow data for this same time period is also included as well as pollutant removal percentages. Median pollutant removal percentages (as suggested in the *EPA Guidance Manual on the Development of Technically Based Local Limits Under the Pretreatment Program - 1987*) were used in all calculations where applicable.

No known industrial users (IU) discharge to the collection system in significant quantities the toxic pollutants, from 40 CFR Part 122, Appendix D, Table III, antimony, arsenic, beryllium, mercury, selenium, thallium and phenols. However Industrial Discharge Limits are being set at 10 times the headworks concentration limit (Table 2.3.1) due to the limiting factor of the biosolids land application limit for arsenic and selenium and the water quality standard for mercury.

In addition, Technically Based Local Limits were not developed for barium, boron, manganese, and molybdenum as part of this document. Little Rock Wastewater Utility will continue to monitor these metals at the plant influents' and effluents and evaluate whether local limits need to be established for these metals.

Those IUs with an existing permit and the potential to discharge metal, cyanide, or phenol bearing wastestreams will be evaluated by Little Rock Wastewater Utility 6 to 8 months prior to permit renewal. The evaluation will include all of the toxic pollutants from 40 CFR

Part 122 Appendix D Table III and the pollutants barium, boron, manganese and molybdenum from 40 CFR Part 122 Appendix D Table IV. New IUs with the potential to discharge metal, cyanide, or phenol bearing wastestreams will be evaluated 4 to 6 months prior to the issuance of a discharge permit and the commencement of the new facility's operation.

Appendix G and H summarizes all sampling and analytical data for all metals of concern collected from January 1994 through December 1996.

Appendix I contain the average monthly flows for the Adams Field and Fourche Creek Treatment Plants.

Appendix J - **Domestic/Non-industrial Concentrations**, summarizes all sampling and analytical data collected over a time period from 1989 through 1996 from two (2) domestic/non-industrial interceptors within the Utility collection system. Use of the extra data presented in Appendix J more accurately characterizes the domestic/non-industrial contributions to our system.

Appendix K and L presents the results of Priority Pollutant Scans conducted on the Adams Field and Fourche Creek treatment plant influents and effluents in 1996 and Appendix M contains information on water quality considerations for the Arkansas River and contains both chronic and acute maximum effluent limitations for the Adams Field and Fourche Creek Wastewater Treatment Plants as provided by the State Pretreatment Coordinator, Allen Gilliam.

Part 1.4 Methodology for Determining TBLLs

Treatment plant headworks concentration limits were established based on the following factors:

(1) The activated sludge process,

(2) The anaerobic digestion process,

(3) Biosolids pollutant concentrations listed in 40 CFR 503, and

(4) Current Arkansas River water quality standards and effluent limitations provided by the State Pretreatment Coordinator.

Section 4 (Maximum Allowable Headworks Loadings and Influent Concentration Limits Based on the Activated Sludge Process, Section 5 (Maximum Allowable Headworks Loadings and Influent Concentration Limits Based on the Anaerobic Digestion Process), Section 6 (Maximum Allowable Headworks Loadings and Influent Concentration Limits Based on 40 CFR 503.13, Table 3), and Section 7 (Maximum Allowable Headworks Loadings and Concentration Limits Based on Current Arkansas River Water Quality Criteria), show the methods used for calculating these limitations based on the four (4) factors listed above for each wastewater treatment plant where applicable.

The maximum allowable headworks loadings and influent concentration limits based on the calculations in Sections 4, 5, 6, and 7 above are summarized in Section 2.0 of this document. Average treatment plant flows for each plant (21.32 MGD for Adams Field and 13.90 MGD for Fourche Creek) and total system average flow (35.22 MGD) were used to calculate limitations where applicable. A safety factor is provided in this methodology by assuming all industrial users not discharging a particular pollutant discharge that pollutant at the same concentration as the domestic/background concentration.

Section 2.0

SECTION 2.0
POLLUTANT LIMITATION SUMMARY AND PROPOSED ORDINANCE CHANGE

Part 2.1 Maximum Allowable Headworks Loadings and Concentration Limits Based on the Aerobic and Anaerobic Processes, Water Quality, and Biosolids Land Application Requirements

Presented below in Table 2.1.1 is a summary of the most stringent MAHLs for each process (activate sludge, anaerobic digestion, biosolids beneficial use/land application, and water quality) and the corresponding uniform treatment plant influent concentrations taken from Sections 4.0, 5.0, 6.0, and 7.0 of this document.

Table 2.1.1

Maximum Allowable Headworks Loadings and Influent Concentrations based on Aerobic and Anaerobic Processes, Biosolids Land Application, and Water Quality

Pollutant	Aerobic Process MAHL (lbs/day)	Aerobic Process Influent Conc. (mg/L)	Anaerobic Process MAHL (lbs/day)	Anaerobic Process Influent Conc. (mg/L)	Biosolids MAHL (lbs/day)	Biosolids Influent Conc. (mg/L)	Water Quality MAHL (lbs/day)	Water Quality Influent Conc. (mg/L)
Arsenic	11.5926	0.0652	10.3787	0.0584	**2.4712**	**0.0139**	384.7136	2.1636
Cadmium	136.38	0.7670	87.1343	0.4900	**1.5788**	**0.0089**	14.5480	0.0818
Chromium	158.8	0.8931	460.4147	2.5894	**46.6710**	**0.2625**	2904.0738	16.3326
Copper	148.62	0.8359	136.1044	0.7655	**47.4256**	**0.2667**	132.6100	0.7458
Cyanide	**15.88**	**0.0893**	16.9217	0.0952			16.6337	0.0935
Lead	269.6	1.5162	1103.2936	6.2225	**9.0457**	**0.0509**	98.0589	0.5515
Mercury	12.88	0.0724			0.7685	0.0043	**0.0311**	**0.0002**
Nickel	134.80	0.7581	72.2523	0.4063	**28.1975**	**0.1586**	742.8602	4.1779
Selenium					**1.9529**	**0.0110**	9.9573	0.0560
Silver	36.23	0.2037	44.7375	0.2516			**32.8004**	**0.1845**
Zinc	**63.52**	**0.3572**	1330.7499	7.4842	86.5873	0.4870	682.2654	3.8375

Note: The most stringent MAHL and corresponding concentration limit for each pollutant is listed in bold face type.

Part 2.2 Limitation Summary

Table 2.2.1 below summarizes the most stringent MAHLs and corresponding influent concentrations from Tables 2.1.1 and proposes uniform headworks concentration limits which are protective of process tolerance limits, biosolids land application limits, and applicable water quality standards.

Table 2.2.1

Pollutant Limitation Summary

Pollutant	MAHL (lbs/day)	Influent Conc. (mg/L)	Pollutant Limited By:	Treatment Facility	Proposed Headworks Conc. Limit (mg/L)
Arsenic	2.4712	0.0139	Biosolids	Fourche Creek	0.014
Cadmium	1.5788	0.0089	Biosolids	Fourche Creek	0.009
Chromium	46.6710	0.2625	Biosolids	Fourche Creek	0.26
Copper	47.4256	0.2667	Biosolids	Adams Field	0.27
Cyanide	15.88	0.0893	Aerobic	Fourche Creek	0.09
Lead	9.0457	0.0509	Biosolids	Fourche Creek	0.05
Mercury	0.0311	0.0002	Water Quality	Adams Field	0.0002
Nickel	28.1975	0.1586	Biosolids	Adams Field	0.16
Selenium	1.9529	0.0110	Biosolids	Fourche Creek	0.01
Silver	32.8004	0.1845	Water Quality	Adams Field	0.18
Zinc	63.52	0.3572	Aerobic	Fourche Creek	0.36

Part 2.3 Comparison of Calculated Local Headworks Limits with Ordinance 15,344 Limits

Table 2.3.1 presented below compares current Ordinance 15,344 headworks limits which were adopted in September of 1987 with the most stringent limits calculated according to Sections 4, 5, 6, and 7 of this document as presented in Table 2.2.1 above and proposed headworks limits.

Table 2.3.1

Comparison of Current (Ordinance 15,344) Headworks Limits with Proposed Headworks Limits

Pollutant	Ordinance 15,344 Limits	Most Stringent Limits Proposed by This Document	Proposed Limitations
Arsenic, mg/L	0.065	0.0139	0.014
Cadmium, mg/L	0.039	0.0089	0.009
Chromium, mg/L	0.22	0.2625	0.26
Copper, mg/L	0.20	0.2667	0.27
Cyanide, mg/L	0.05	0.0893	0.09
Lead, mg/L	0.26	0.0461	0.05
Mercury, mg/L	0.010	0.0002	0.0002
Nickel, mg/L	0.30	0.1586	0.16
Selenium, mg/L	NL*	0.0100	0.01
Silver, mg/L	0.37	0.1845	0.18
Zinc, mg/L	0.41	0.3572	0.36

* Not Listed

Part 2.4 Proposed Ordinance Change

Ordinance 15,344, passed on September 1, 1987, currently regulates the general use of public and private sewers, private sewage disposal, the installation, construction, maintenance, and connection of building sewers; the discharge of domestic and industrial waters and wastes into the public sewer system; and providing penalties for violations of the ordinance. The Utility has developed a new Pretreatment Ordinance and revised the existing ordinance to regulate the discharge of industrial wastewater to the public sewer system, and provides penalties for violations of the new ordinance.

Sub-Section 2.4 of the new Pretreatment Ordinance addresses local limits and reads as follows:

> No person shall discharge any waters or wastes at a concentration that would exceed the pollutant concentrations of pollutants as listed in the Guideline Local Limits Table of the Technically Based Local Limits Development Document, and adopted by the Manager of the Little Rock Wastewater Utility and approved by the Arkansas

Department of Pollution Control and Ecology and the Little Rock Sanitary Sewer Committee.

The Utility will develop and assign specific discharge permit limitations for pollutants for permitted users based on criteria approved by the Manager. The specific permit limits shall ensure that local limit pollutant concentrations will protect the wastewater treatment plant from upset. The Local Limits shall apply to the total flow or total discharge from the Industrial Users. In developing specific permit limits, the Manager may impose mass limitations in addition to, or in place of, specific concentration-based limits. The Utility may develop specific discharge limitations for any toxic pollutants which the Manager of the Utility may determine to be of sufficient quantity to cause POTW interference and/or pass through, endanger the health and safety of the POTW personnel or the public health, cause a POTW permit violation or render the POTW sludges unacceptable for economic reuse or reclamation.

Section 3.0

SECTION 3.0
CALCULATION OF INDUSTRIAL DISCHARGE LIMITS BASED ON CONTRIBUTORY FLOW

Part 3.1 Computed Industrial Discharge Limits Based on Contributory Flow

The method used in calculating the industrial discharge limits is as follows:

Step 1 - Calculate the background mass loading of pollutants to the POTW (in lbs/day) using the formula LB = Q * CB * 8.34

Where,

LB	=	Background mass loading in lbs/day,
Q	=	Average POTW total flow of 35.22 MGD (21.32 MGD at Adams Field and 13.90 MGD at Fourche Creek),
CB	=	Average background concentration in mg/L from domestic/non-industrial users (Appendix J), and
8.34	=	Conversion factor.

Step 2 - Calculate the Allocable Fraction (in lbs/day) to all Industrial Users using the formula AF = LT - LB

Where,

AF	=	Allocable fraction to all industrial users in lbs/day,
LT	=	Maximum allowable mass loading of pollutant in lbs/day (from Table 2.2.1), and
LB	=	Background mass loading of pollutant in lbs/day.

Step 3 - Calculate the Industrial Discharge limit (in mg/L) using the formula UDL = AF/[Qcont*8.34]
where,

UDL	=	Uniform industrial discharge limit in mg/L,
AF	=	Allocable fraction in lbs/day, and
Qcont	=	Sum of all users flows in MGD which discharge the specific pollutant.

Table 3.1.1 below summarizes the maximum allowable headworks limits (C) and the maximum allowable pollutant loading (L) to the treatment plant headworks as presented in Table 2.2.1, the background pollutant concentrations (CB) and mass loading to the treatment plant headworks using the average pollutant concentrations from Appendix F and

average treatment plant flows, the allocable fraction of the mass loading available to industrial users (AF), the contributory flow of industries discharging a particular pollutant (Qcont) as presented in Appendix F, and the calculated uniform industrial discharge limits (UDL) according to steps 1 through 3 in this Section.

Table 3.1.1

Computed Industrial Discharge Limits Based on the Most Stringent Tolerance Limits from Section 2, Table 2.2.1

Pollutant	C (mg/L)	L (lbs/day)	CB (mg/L)	LB (lbs/day)	AF (lbs/day)	Qcont (MGD)	UDL (mg/L)
Arsenic	0.0139	2.4712	0.0020	0.5875	1.8837	*	*
Cadmium	0.0089	1.5788	0.0012	0.3525	1.2263	0.6542	0.22
Chromium	0.2625	46.6710	0.0023	0.6756	45.9954	0.6542	8.43
Copper	0.2667	47.4256	0.0350	10.2807	37.1449	0.7657	5.82
Cyanide	0.0893	15.88	0.0200	5.8747	10.0053	0.6538	1.83
Lead	0.0509	9.0457	0.0060	1.7624	7.2833	0.6747	1.29
Mercury	0.0002	0.0311	0.0003	0.0881	0.0000	*	*
Nickel	0.1586	28.1975	0.0045	1.3218	26.8756	0.6542	4.93
Selenium	0.0110	1.9529	0.0035	1.0281	0.9248	*	*
Silver	0.1845	32.8004	0.0016	0.4700	32.3304	1.9720	1.97
Zinc	0.3572	63.52	0.1190	34.9544	28.5656	0.7165	4.78

*Note: No known industrial users discharge arsenic, mercury, or selenium to the collection system in significant quantities. Computed Industrial Discharge Limits will be developed for these pollutants should an industry discharge one or more of these pollutants in the future.

Table 3.1.2
Guideline Local Limits

Pollutant	Monthly Average Concentration, mg/L	Daily Maximum Concentration, mg/L*
Arsenic**	0.14	0.14
Cadmium	0.2	0.4
Chromium	5.0	5.0
Copper	5.0	5.0
Cyanide	1.8	3.6
Lead	1.3	2.6
Mercury**	0.002	0.002
Nickel	4.9	5.0
Selenium**	0.1	0.1
Silver	2.0	4.0
Zinc	4.8	5.0

*The Daily Maximum Concentration is two times the limit with a maximum ceiling of 5.0 mg/L. The Monthly Average Concentration is limited to 5.0 mg/L.

**Daily Maximum and Monthly average concentrations were set for these metals at 10 times the headworks limit. No known industrial users discharge arsenic, mercury, or selenium to the collection system in significant quantities, but, they are considered metals of concern due to the limiting criteria outlined in section 2.0. Arsenic and Selenium are limited by the biosolids land application limits and mercury is limited by the water quality standards.

Section 4.0

SECTION 4.0
MAXIMUM ALLOWABLE HEADWORKS LOADINGS AND INFLUENT CONCENTRATION LIMITS BASED ON THE ACTIVATED SLUDGE PROCESS

Part 4.1 General Information

Maximum allowable headworks loadings (MAHLs) and uniform treatment plant influent concentrations based on the activated sludge (aerobic) process are calculated in this Section of the Local Limits Development Document. In order to calculate MAHLs for each pollutant of concern, several assumptions are necessary. Those assumptions are listed below.

(1) Estimated process tolerance limits to the activated sludge process from the EPA Guidance Manual on the Development of Technically Based Local Limits Under the Pretreatment Program (1987) , Table 3-2, in mg/L as listed below,

Pollutant	Minimum Reported Inhibition Threshold
Arsenic	0.10
Cadmium	1.00
Chromium	1.00
Copper	1.00
Cyanide	0.10
Lead	1.00*
Mercury	0.10
Nickel	1.00
Selenium	Not Listed
Silver	0.25
Zinc	0.40**

*Note: The aerobic process tolerance limits in the EPA Guidance Manual on the Development of Technically Based Local Limits Under the Pretreatment Program (1987) for lead is listed as 0.10 mg/L.. According to the State Pretreatment Coordinator, Allen Gilliam, this value is in error. The correct value to use for the aerobic process (activated sludge) is 1.00 mg/L for Pb.

**Note: Refer to Zinc Inhibition Study located in Appendix N.

(2) Estimated priority pollutant removal efficiencies through primary treatment from EPA Guidance Manual on the Development of Technically Based Local Limits Under the Pretreatment Program (1987), Table 3-9 as listed below:

Pollutant	Median Removal
Cadmium	15%
Chromium	27%
Copper	22%
Lead	57%
Nickel	14%
Zinc	27%
Mercury	10%
Silver	20%
Cyanide	27%
Arsenic	Not Listed
Selenium	Not Listed

No removal was assumed for arsenic throughout the primary treatment process. An influent limit based on the activated sludge process was not calculated for selenium.

(3) The average flow for the Adams Field Plant is 21.32 MGD and the average flow to the Fourche Creek Plant is 13.90 MGD. Average treatment plant influent flows are the average monthly flows measured from January 1, 1994 through December 31, 1996 as presented in Appendix I.

(4) Selenium was not analyzed due to lack of aerobic process tolerance data, and

(5) All industries not discharging a particular pollutant discharge that pollutant at the domestic/non-industrial concentration.

Part 4.2 Calculation of Maximum Allowable Headworks Loadings and Uniform Treatment Plant Influent Concentrations

Calculation of maximum allowable headworks loadings (MAHLs) and uniform treatment plant influent concentration limits for inhibition to the activated sludge process is accomplished using the formulas that follow. MAHLs for each treatment plant must be calculated in order to derive a maximum uniform treatment plant influent concentration to protect both treatment plants against inhibition to the aerobic (activated sludge) process.

Lin = (8.34 * Ccrit X Qpotw) / 1-Rprim

Where,

Lin	=	Maximum allowable headworks loading in lbs/day,
Ccrit	=	Threshold inhibition level to the aerobic process in mg/L as presented in Part 4.1(1) above,
Qpotw	=	Average treatment plant influent flow (21.32 for Adams Field and 13.90 for Fourche Creek) in MGD,
1-Rprim	=	Removal efficiency across primary treatment expressed as a decimal, and
8.34	=	Conversion factor.

And,

Cunif = Lmin / Qmax *8.34,

Where,

Cuf	=	Maximum allowable uniform treatment plant influent concentration in mg/L,
Lmin	=	Lowest calculated MAHL (based on a comparison of the Adams Field, and Fourche Creek MAHLs) in lbs/day,
Qmax	=	Highest average treatment plant flow (21.32 for Adams Field) in MGD, and,
8.34	=	Conversion factor.

Using the above calculations, the MAHLs for both the Adams Field and Fourche Creek Treatment Plants and calculated uniform treatment plant influent concentration limits are presented in Table 4.2.1.

Table 4.2.1

Maximum Allowable Headworks Loadings and Uniform Influent Concentrations Based on the Activated Sludge Process for the Adams Field and Fourche Creek Treatment Plants

Pollutant of Concern	Maximum Mass Loading (lbs/day) Adams Field Plant	Maximum Mass Loading (lbs/day) Fourche Creek Plant	Maximum Uniform Treatment Plant Influent Concentration (mg/L)
Arsenic	17.78	11.59	**0.0652**
Cadmium	209.19	136.38	**0.7670**
Chromium	243.57	158.80	**0.8931**
Copper	227.96	148.62	**0.8359**
Cyanide	24.36	15.88	**0.0893**
Lead	413.51	269.60	**1.5162**
Mercury	19.76	12.88	**0.0724**
Nickel	206.75	134.80	**0.7581**
Selenium	*	*	*
Silver	55.57	36.23	**0.2037**
Zinc	97.43	63.52	**0.3572**

* Maximum mass loading for selenium could not be calculated due to lack of any activated sludge (aerobic) process inhibition data on this element.

Section 5.0

SECTION 5.0
MAXIMUM ALLOWABLE HEADWORDS LOADINGS AND INFLUENT CONCENTRATION LIMITS BASED ON THE ANAEROBIC DIGESTION PROCESS

Part 5.1 General Information

Maximum allowable headworks loadings (MAHLs) and uniform treatment plant influent concentrations based on the anaerobic digestion process are calculated in this Section of the Local Limits Development Document. In order to calculate MAHLs for each pollutant of concern, several assumptions are necessary. Those assumptions are listed below.

(1) Estimated process tolerance limits to the anaerobic digestion process from the EPA Guidance Manual on the Development of Technically Based Local Limits Under the Pretreatment Program (1987), Table 3-2, in mg/L as listed below,

Pollutant	Minimum Reported Inhibition Threshold
Arsenic	1.6
Cadmium	20
Chromium	110
Copper	40
Cyanide	4
Lead	340
Mercury	Not Listed
Nickel	10
Selenium	Not Listed
Silver	13
Zinc	400

(2) Estimated pollutant removal by treatment processes, as presented in Appendix G and H for Adams Field and Fourche Creek (actual flow data on the date of sampling was used to calculate the removal percentages),

(3) Flow to digesters is 0.35 MGD,

(4) Mercury and Selenium were not analyzed due to lack of anaerobic process tolerance data,

(5)* Use 21.32 MGD for average flow to Adams Field and 13.90 MGD for average flow to Fourche Creek,

(6) All industries not discharging a particular pollutant discharge that pollutant at the domestic/non-industrial concentration.

*Note - Average treatment plant influent flows were the average daily flows measured from January 1, 1994 through December 31, 1996 as presented in Appendix I.

Part 5.2 Calculation of Maximum Allowable Influent Mass Loadings and Uniform Treatment Plant Influent Concentrations

Calculation of maximum allowable headworks loadings (MAHLs) and uniform treatment plant influent concentration limits for inhibition to the anaerobic digestion process is accomplished using the formulas that follow. MAHLs for each treatment plant must be calculated in order to derive a maximum uniform treatment plant influent concentration to protect both treatment plants against inhibition to the anaerobic process.

$$\textbf{Lin} = \textbf{(8.34 * Ccrit * Qdig) / Rpotw}$$

Where,

Lin	=	Maximum allowable headworks loading in lbs/day,
Ccrit	=	Threshold inhibition level to the anaerobic process in mg/L as presented in Part 5.1(1) above,
Qdig	=	Sludge flow to anaerobic digestion in MGD,
*Rpotw	=	Removal efficiency across the POTW expressed as a decimal, and
8.34	=	Conversion factor.

And,

Cunif = Lmin / Qmax X 8.34

Where,

Cunif	=	Maximum allowable uniform treatment plant influent concentration in mg/L,
Lmin	=	Lowest calculated MAHL (based on a comparison of the Adams Field and Fourche Creek MAHLs) in lbs/day,
Qmax	=	Highest average treatment plant flow (21.32 for Adams Field) in MGD, and
8.34	=	Conversion factor.

* Due to analytical detection limits, accurate removal efficiencies could not be developed from the historical data presented in Appendix G and H for the following pollutants: cadmium, arsenic, mercury, and selenium. The following estimated removal efficiencies through activated sludge treatment from EPA Guidance Manual on the Development of Technically Based Local Limits Under the Pretreatment Program (1987) , Table 3-10 were used.

Pollutant	Median Removal
Cadmium	67%
Arsenic	45%
Mercury	60%
Selenium	50%
Cyanide	69%

Using the above calculations, the MAHLs for both the Adams Field and Fourche Creek Treatment Plants and calculated uniform treatment plant influent concentration limits are presented in Table 5.2.1

Table 5.3.1

Maximum Digester Loadings and Maximum Influent Concentrations for the Adams Field and Fourche Creek Wastewater Treatment Plants

Pollutant of Concern	Adams Field Median % Removal	Adams Field MAHL lbs/day	Fourche Creek Median % Removal	Fourche Creek MAHL lbs/day	Maximum Uniform Treatment Plant Influent Conc. (mg/L)
Arsenic	45.00%	**10.3787**	45.00%	10.3787	**0.0584**
Cadmium	67.00%	**87.1343**	67.00%	87.1343	**0.4900**
Chromium	65.77%	488.1724	69.74%	**460.4147**	**2.5894**
Copper	85.79%	**136.1044**	83.74%	139.4307	**0.7655**
Cyanide	69.00%	**16.9217**	69.00%	16.9217	**0.0952**
Lead	82.23%	1206.9347	89.95%	**1103.2936**	**6.2049**
Mercury	60.00%	**	60.00%	**	**
Nickel	40.40%	72.2523	31.77%	91.8670	**0.4063**
Selenium	50.00%	**	50.00%	**	**
Silver	84.82%	**44.7375**	71.63%	52.9760	**0.2516**
Zinc	77.85%	1499.8516	87.71%	**1331.2112**	**7.4868**

** Maximum mass loadings for mercury and selenium could not be calculated due to lack of any anaerobic process inhibition data on these elements

Note: The most stringent MAHL and corresponding maximum allowable uniform treatment plant influent concentration appears in bold face type.

Section 6.0

SECTION 6.0
MAXIMUM ALLOWABLE HEADWORKS LOADINGS AND INFLUENT CONCENTRATION LIMITS BASED ON LAND APPLICATION OF BIOSOLIDS

Part 6.1 General Information

Solids from the Adams Field and Fourche Creek Treatment Plants are anaerobically digested at the Fourche plant and undergo further treatment by lagooning for a period of two (2) to four (4) years. Current disposal practice is to land apply the resulting biosolids on pasture, farm, and grass farm lands in beneficial use projects using a private contractor.

Since the Utility relies on private contractors for the annual removal and land application of biosolids on sites permitted and maintained primarily by the contractor, no consideration was given to the cumulative pollutant loading rates listed in 40 CFR 503.13, Table 2 and subsequent application site life in this study. The Utility does not use any dedicated sites for the land application of our biosolids.

The Utility has successfully land applied approximately 4,500 dry metric tons of biosolids annually since over the past three years, 1994, 1995, and 1996.

Maximum treatment plant influent concentrations and maximum allowable headworks loadings (MAHLs) based on Pollutant Concentrations ("Clean" or "Exceptional Quality Sludge") as presented in 40 CFR 503.13, Table 3, are calculated in this Section of the Local Limits Development Document. Use of the 40 CFR 503.13, Table 3 concentrations provides an additional degree of safety as opposed to using the Ceiling Concentrations in 40 CFR 503.13, Table 1. Maximum treatment plant influent concentrations and MAHLs based on Annual Pollutant Loading Rates APLRs) as presented in 40 CFR 503.13, Table 4 are not calculated because Little Rock Wastewater Utility is not subject to APLRs.

In order to these calculations, several assumptions are necessary. Those assumptions are listed below:

1) Estimated pollutant removal by treatment processes, as presented in Appendix B and C for Adams Field and Fourche Creek (actual flow data on the date of sampling was used to calculate the removal percentages), and

(2) Average biosolids flow to disposal (land application) is 4,500 dry metric tons per year or 12.3288 dry metric tons per day.

Part 6.2 Calculation of Maximum Allowable Influent Mass Loadings and Uniform Treatment Plant Influent Concentrations

Calculation of maximum allowable headworks loadings (MAHLs) and uniform treatment plant influent concentration limits for biosolids land application is accomplished using the formulas that follow. MAHLs for each treatment plant must be calculated in order to derive a maximum uniform treatment plant influent concentration that is protective of the pollutant limits listed in 40 CFR 503.13, Table 3.

$$\mathbf{Lin = (0.0022 * Cslcrit * Qsl) / Rpotw}$$

(Note: The formula listed above was recommended by Ted Palit of the Water Management Division of Region 6 EPA to calculate MAHLs at the Region 6 Pretreatment Implementation Seminar in San Antonio, Texas in September of 1993)

Where,

Lin	=	Maximum allowable headworks loading based on 40 CFR 503.13, Table 3, in mg/L,
Cslcrit	=	Biosolids land application concentration limit from 40 CFR 503.13, Table 3, in mg/kg,
Qsl	=	Average biosolids flow to beneficial use/land application projects in metric tons/day,
*Rpotw	=	Removal efficiency across the POTW expressed as a decimal, and
0.0022	=	Conversion factor.

And,

Cunif = Lmin / Qmax X 8.34

Where,

Cunif	=	Maximum allowable uniform treatment plant influent concentration in mg/L,

Lmin	=	Lowest calculated MAHL (based on a comparison of the Adams Field and Fourche Creek MAHLs) in lbs/day,
Qmax	=	Highest average treatment plant flow (21.32 for Adams Field) as presented in Appendix I in MGD, and
8.34	=	Conversion factor.

* Due to analytical detection limits, accurate removal efficiencies could not be developed from the historical data presented in Appendix G and H for the following pollutants: cadmium, arsenic, mercury, and selenium. The following estimated removal efficiencies through activated sludge treatment from EPA Guidance Manual on the Development of Technically Based Local Limits Under the Pretreatment Program (1987) , Table 3-10 were used.

Pollutant	Median Removal
Cadmium	67%
Arsenic	45%
Mercury	60%
Selenium	50%

Based on the above formulas and the pollutant concentrations presented in 40 CFR 503.13, Table 3, the average flow data to biosolids disposal, and the median pollutant removal percentages through the treatment processes, the MAHLs and calculated uniform treatment plant concentration limits are presented in Table 6.2.1 below.

Table 6.2.1

Maximum Allowable Influent Headworks Loadings and Concentrations Adams Field and Fourche Creek Wastewater Treatment Plants

40 CFR 503 Listed Pollutant	40 CFR 503.13 Table 3 Conc. mg/kg	Adams Field Median % Removal	Maximum Mass Loading Adams Field lbs/day	Fourche Creek Median % Removal	Maximum Mass Loading Fourche Creek lbs/day	Maximum Uniform Treatment Plant Influent Concentration mg/L
Arsenic	41	45.00%	**2.4712**	45.00%	**2.4712**	**0.0139**
Cadmium	39	67.00%	**1.5788**	67.00%	**1.5788**	**0.0089**
Chromium	1200	65.77%	49.4847	69.74%	**46.6712**	**0.2625**
Copper	1500	85.79%	**47.4256**	83.74%	48.5847	**0.2667**
Cyanide	----	69.00%		69.00%		
Lead	300	82.23%	9.8954	89.95%	**9.0457**	**0.0509**
Mercury	17	60.00%	**0.7685**	60.00%	**0.7685**	**0.0043**
Nickel	420	40.40%	**28.1975**	31.77%	35.8524	**0.1586**
Selenium	36	50.00%	**1.9529**	50.00%	**1.9529**	**0.0110**
Silver	----	84.82%		71.63%		
Zinc	2800	77.85%	97.5564	87.71%	**86.5873**	**0.4870**

* Note: The molybdenum standard of 18 mg/kg in 40 CFR 503.13, Table 3 was removed from the Regulations in 1995. The ceiling concentration of 75 mg/kg for molybdenum as listed in 40 CFR 503.13, Table 1, was used to calculate MAHLs and maximum allowable influent concentrations.. The most stringent MAHL and corresponding maximum allowable uniform treatment plant influent concentration appear in bold face print.

Section 7.0

SECTION 7.0
MAXIMUM ALLOWABLE HEADWORKS LOADINGS AND INFLUENT CONCENTRATION LIMITS BASED ON WATER QUALITY STANDARDS

Part 7.1 General Information

This section of the Local Limits Development Document deals with the development of limits protective of Arkansas River Water Quality Standards. Appendix M contains the information received from the State Pretreatment Coordinator, Allen Gilliam, on discharge standards for the Adams Field and Fourche Creek treatment plants that are protective of that water quality and those discharge standards are used in the following parts to calculate maximum allowable treatment plant influent concentrations and maximum allowable headworks loadings (MAHLs) for both chronic and acute scenarios.

Part 7.2 Calculation of Maximum Allowable Influent Mass Loadings and Uniform Treatment Plant Influent Concentrations

Calculation of maximum allowable headworks loadings (MAHLs) and uniform treatment plant influent concentration limits based on current Arkansas River water quality standards is accomplished using the formulas that follow. MAHLs (both acute and chronic) for each treatment plant must be calculated in order to derive a maximum uniform treatment plant influent concentration that is protective of water quality limits.

$$\textbf{Lin} = \textbf{(8.34 * Ccrit * Qpotw) / 1-Rpotw}$$

Where,

Lin	=	Maximum allowable headworks loading in lbs/day,
Ccrit	=	Maximum allowable treatment plant effluent concentration (both acute and chronic) for Adams Field and Fourche Creek in mg/L,
Qpotw	=	Average treatment plant influent flow (21.32 for Adams Field and 13.90 for Fourche Creek) in MGD as presented in Appendix I,
*Rpotw	=	Removal efficiency across the POTW expressed as a decimal, and
8.34	=	Conversion factor.

And,

Cunif	=	Lmin / Qmax X 8.34

Where,

Cunif	=	Maximum allowable uniform treatment plant influent concentration in mg/L,
Lmin	=	Lowest calculated MAHL (based on a comparison of the Adams Field and Fourche Creek MAHLs for both acute and chronic criteria) in lbs/day,
Qmax	=	Highest average treatment plant flow (21.32 for Adams Field) in MGD as presented in Appendix I, and
8.34	=	Conversion factor.

* Due to analytical detection limits, accurate removal efficiencies could not be developed from the historical data presented in Appendix G and H for the following pollutants: cadmium, arsenic, mercury, and selenium. The following estimated removal efficiencies through activated sludge treatment from EPA Guidance Manual on the Development of Technically Based Local Limits Under the Pretreatment Program (1987) , Table 3-10 were used.

Pollutant	Median Removal
Cadmium	67%
Arsenic	45%
Mercury	60%
Selenium	50%
Cyanide	69%

Using the above calculations, the MAHLs for both the Adams Field and Fourche Creek Treatment Plants (both acute and chronic) and calculated uniform treatment plant influent concentration limits are presented in Table 7.2.1.

Table 7.2.1

Maximum Allowable Headworks Loadings and Influent Concentrations Based on Water Quality Criteria for the Fourche Creek and Adams Field Treatment Plants

Water Quality Pollutant of Concern	Adams Field Max Effluent Acute (mg/L)	Adams Field Max Effluent Chronic (mg/L)	Adams Field Median % Removal	Adams Field MAHL Acute lbs/day	Adams Field MAHL Chronic lbs/day	Fourche Creek Max Effluent Acute (mg/L)	Fourche Creek Max Effluent Chronic (mg/L)	Fourche Creek Median % Removal	Fourche Creek MAHL Acute (lbs/day)	Fourche Creek MAHL Chronic (lbs/day)	Maximum Uniform Treatment Plant Influent Conc. (mg/L)
Arsenic	2.3800	1.1900	45.00%	**769.43**	**384.71**	6.9000	3.4400	45.00%	1454.34	725.06	**2.1636**
Cadmium	0.0540	0.0270	67.00%	**29.10**	**14.55**	0.1070	0.0530	67.00%	37.59	18.62	**0.0818**
Chromium	11.2000	5.5900	65.77%	**5818.54**	**2904.07**	23.5000	11.7000	69.74%	9002.64	4482.16	**16.3326**
Copper	0.2140	0.1060	85.79%	**267.72**	**132.61**	0.6190	0.3950	83.74%	441.33	281.62	**0.7458**
Cyanide	0.0580	0.0290	69.00%	**33.27**	**16.63**	0.1160	0.0580	69.00%	43.38	21.69	**0.0935**
Lead	0.1980	0.0980	82.23%	**198.12**	**98.06**	0.3950	0.1970	89.95%	455.82	227.34	**0.5515**
Mercury	0.0001	0.0001	60.00%	**0.0445**	**0.0311**	0.0003	0.0001	60.00%	0.0783	0.0406	**0.0002**
Nickel	4.9900	2.4900	40.40%	**1488.70**	**742.86**	9.9800	4.9800	31.77%	1695.75	846.18	**4.1779**
Selenium	0.0560	0.0280	50.00%	**19.91**	**9.96**	0.1120	0.0560	50.00%	25.97	12.98	**0.0560**
Silver	0.0570	0.0280	84.82%	**66.77**	**32.80**	0.1650	0.0820	71.63%	67.42	33.51	**0.1845**
Zinc	1.7000	0.8500	77.85%	**1364.53**	**682.27**	4.9400	2.4600	87.71%	4659.53	2320.33	**3.8371**

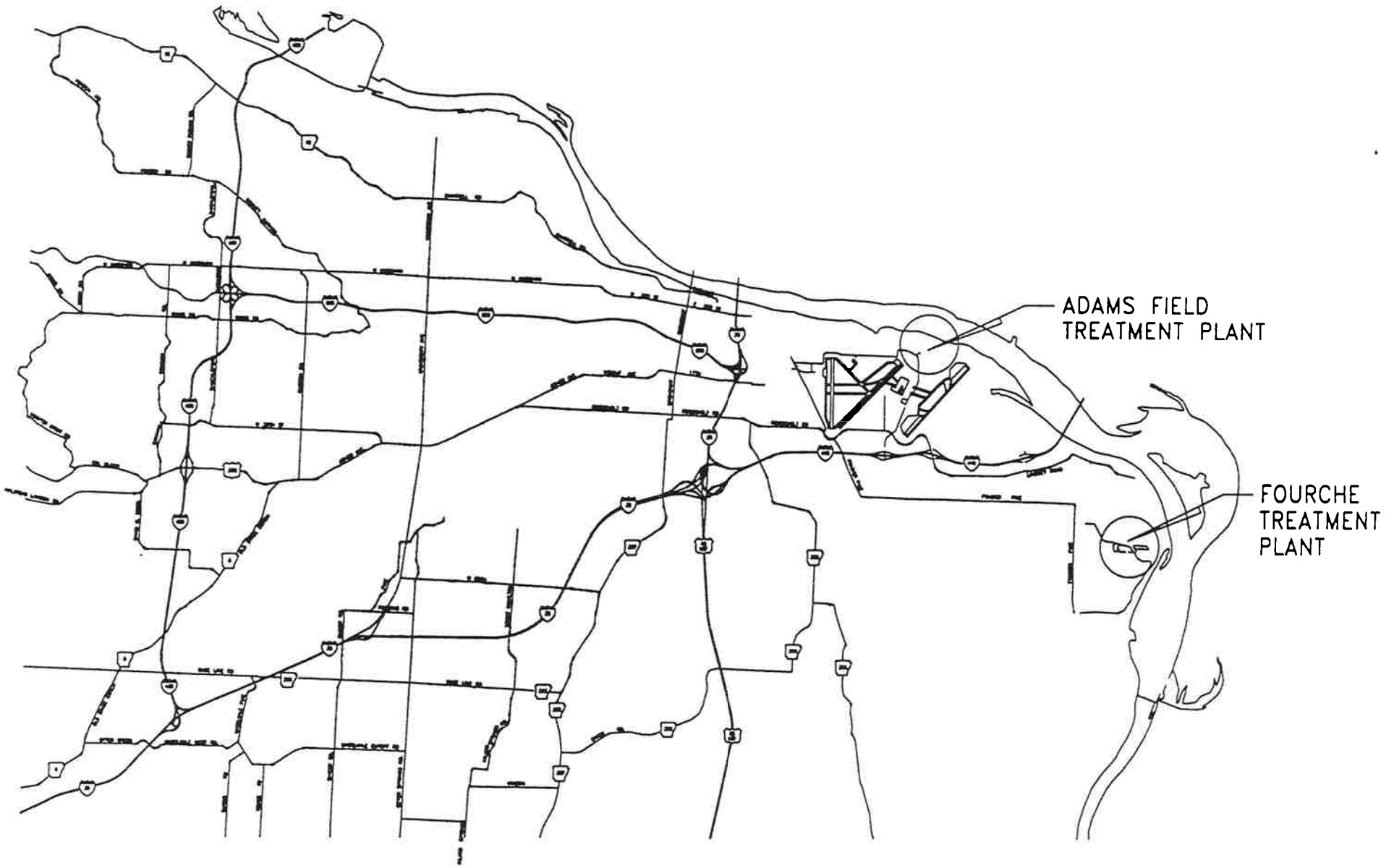
Notes:

1. N/A - Not applicable. No freshwater criteria for aquatic life are published for these parameters.
2. The most stringent MAHL and corresponding maximum allowable uniform treatment plant influent concentration appears in bold face type.

Appendices

APPENDIX

A



LITTLE ROCK WASTEWATER UTILITY
LITTLE ROCK, ARKANSAS

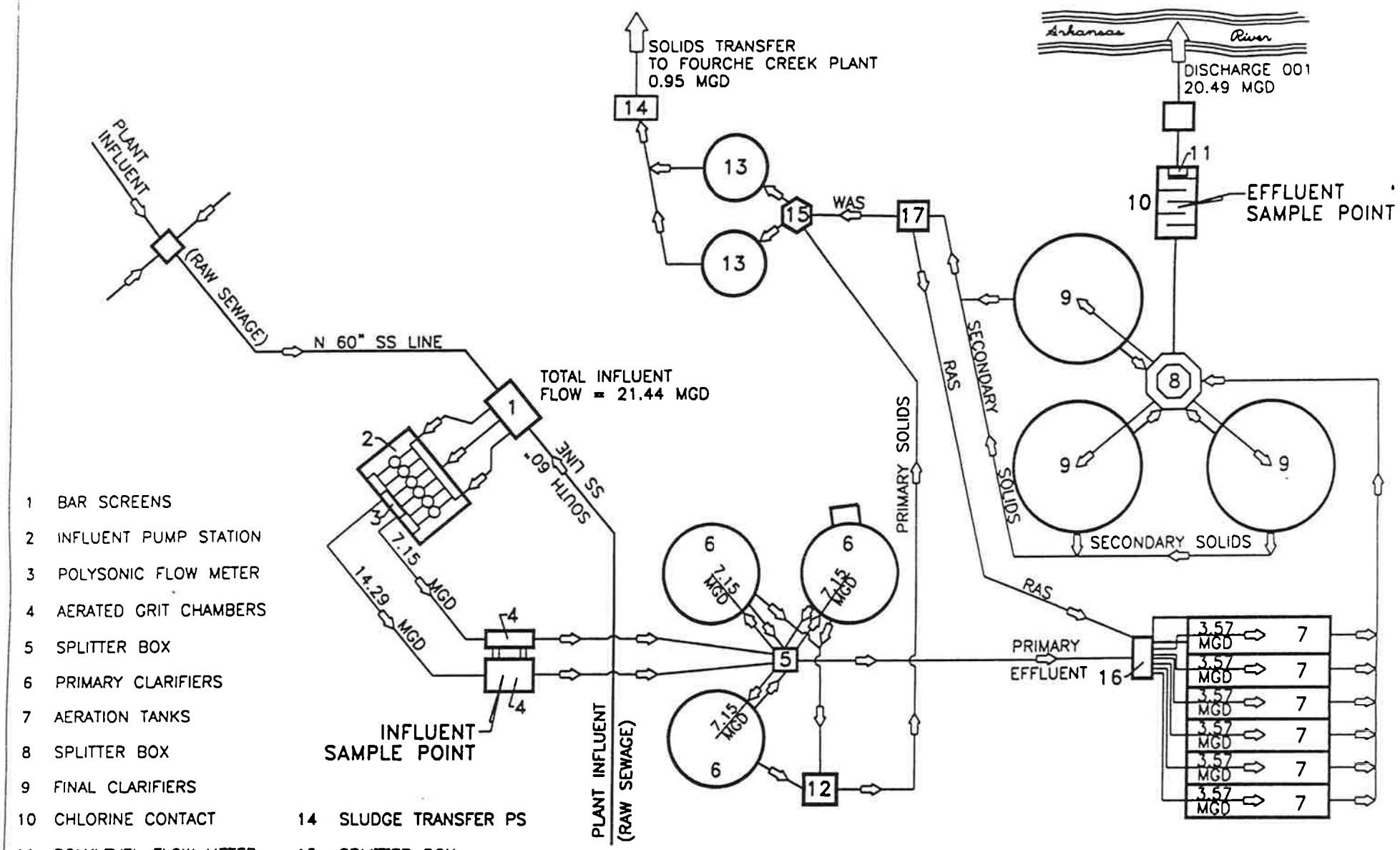
FOURCHE CREEK WASTEWATER TREATMENT PLANT

N
W E
S
NOT TO SCALE

PREPARED BY:
ANGIE O'NEAL
DATE:
27 MARCH 1997
O:\TS\DFT\SUPVR\
PLANS\TPS.DWG

APPENDIX

B



Schematic of Wastewater Flow

Little Rock Wastewater Utility

ADAMS FIELD TREATMENT PLANT

NOT TO

PREPARED BY TECHNICAL SERVICES: ANGIE O'NEAL

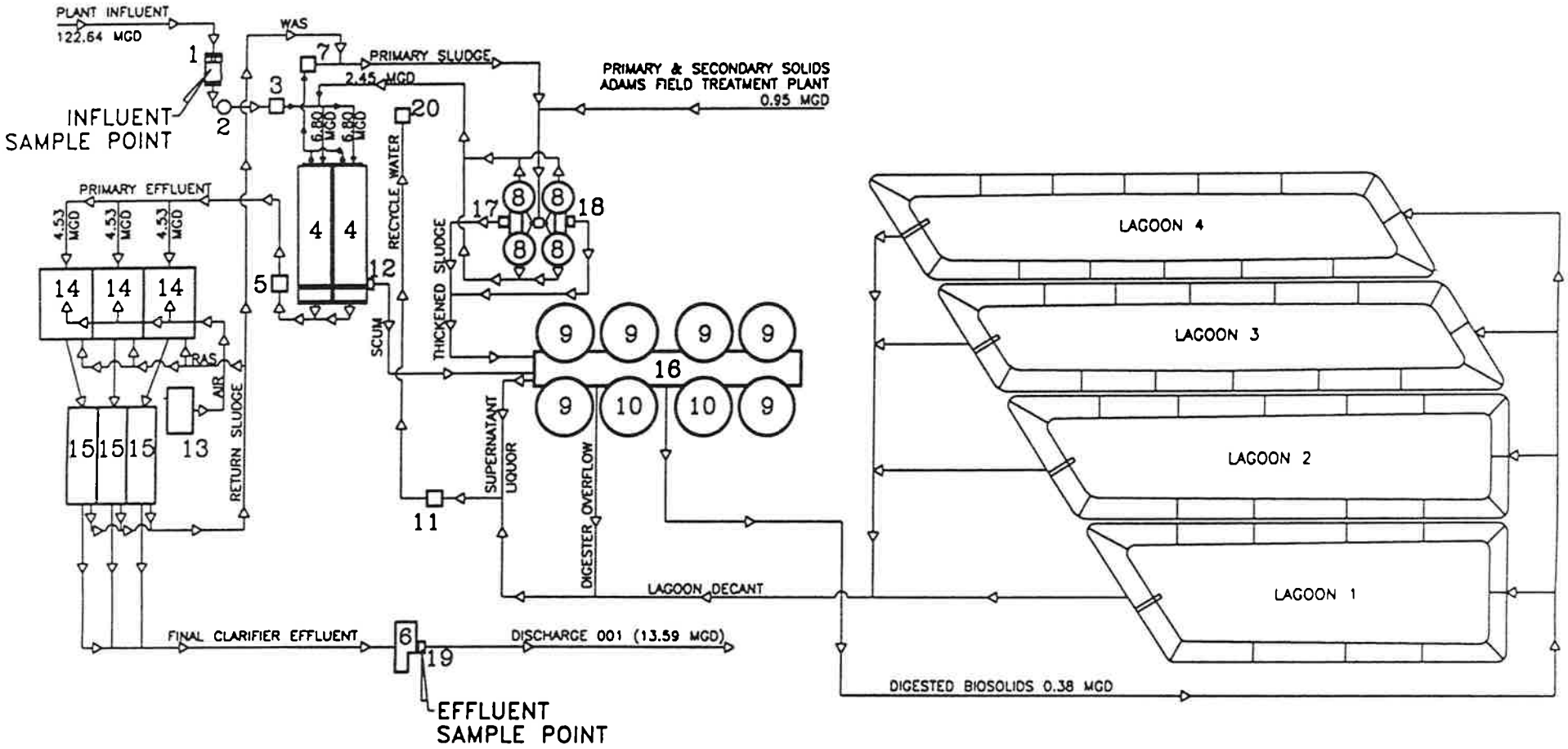
DATE: 28 MARCH 1997

CUSTOMER: ALLEN GENTRY

APPENDIX

C

1	ARC SC[illegible]	6	CHLORINATION FACILITY	11	RECYCLE PUMP STATION	16	DIGESTER COMPLEX
2	DEGRITTING FACILITY	7	PRIMARY SLUDGE PUMP STATION	12	SCUM PUMP STATION	17	THICKENER SLUDGE PUMP STATION #1
3	PARSHALL FLUME	8	GRAVITY THICKENERS	13	BLOWER BUILDING	18	THICKENER SLUDGE PUMP STATION #2
4	PRIMARY CLARIFIERS	9	PRIMARY DIGESTERS	14	AERATION TANKS	19	EFFLUENT FLOW METER
5	PRIMARY EFFLUENT PUMP STATION	10	SECONDARY DIGESTERS	15	FINAL CLARIFIERS	20	RECYCLE METER



Schematic of Wastewater Flow

Little Rock Wastewater Utility

FOURCHE CREEK TREATMENT PLANT

NOT TO

PREPARED BY TECHNICAL SERVICES: ANGIE O'NEAL
DATE: 28 MARCH 1997
CUSTOMER: ALLEN GENTRY

APPENDIX

D

THE WASTE MANAGEMENT PLAN

FOR

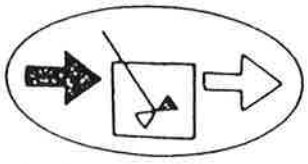
LAND APPLICATION
OF
LITTLE ROCK, ARKANSAS' DIGESTED MUNICIPAL SLUDGE

by

THONE BROTHER TRUCKING, INC
RUSSELLVILLE, ARKANSAS

8 May 1988

Preapred by
Dee Mitchell, P.E.



EE ENVIRONMENTAL ENGINEERS INC.
307 Edmondson • Springdale, Ark. • 72764 • (501) 751-3563

WASTE MANAGEMENT PLAN FOR LAND APPLICATION OF LITTLE ROCK DIGESTED SLUDGE

1. INTRODUCTION

The digested sludge from Little Rock's wastewater treatment facility is temporarily stored in a sludge holding lagoon for thickening. The sludge slowly settles and separates from the water in the lagoon. The separated water from the sludge is pumped back to the treatment plant and treated to remove the contaminants. The thickened sludge accumulates until it fills the holding lagoon at which time it must be removed and disposed of in a permanent manor.

At this time, the sludge holding lagoon contains 10.1 million gallon of thickened sludge and is at near capacity. The thickened digested sludge will be removed from the storage lagoon by Thone Brothers Trucking and 7.1 million gallons of it will be transported to farm pasture land for disposal by soil injection.

The remaining 3 million gallons of the sludge will be dewatered, in place, to less than 70 percent moisture, then transported to the Little Rock Municipal Sanitary Landfill. This dried sludge will be incorporated into the top soil for use as a soil conditioner and fertilizer to aid in reestablishing a grass covering crop.

Properly applied, digested municipal sludge is beneficial to the soil providing both fertilizers and organic soil conditioners to the pasture land. Analyses has shown that this sludge is non-toxic and nonhazzardous and using nominal precautions, will pose no health problem to the handler.

2. LAND APPLICATION PERMIT

A copy of the land application permission from the Arkansas Department of Pollution Control and Ecology is kept in this section of the land application management plan. The truck drivers and other responsible personal should read this section carefully. Thone Brothers Trucking, Inc. may be fined or have various sanctions imposed by DPC&E for violations of this permit.

3. SLUDGE CHARACTERISTICS AND APPLICATION RATES

The 10.1 million gallons of thickened digested sludge is contained in an approximately 12 million gallon lagoon. This sludge contains about 5 percent solids and is very liquid is nature.

3.1 SLUDGE CHARACTERISTICS

The digester sludge has the following characteristics.

Total Solids (%)	4.67
TKN (mg/l as N)	289.3
Nitrate (mg/l as N)	00
Nitrite (mg/l as N)	00
Total Nitrogen (mg/l)	289.3

A more detailed analyses performed by Environmental Services Company of Springdale and Little Rock Arkansas are in the appendix of this report.

3.2 ESTIMATED TOTAL NITROGEN QUANTITY

The nitrogen available for plant growth is the sum of the TKN, Nitrate nitrogen, and Nitrite nitrogen. This sludge has an undetectable concentration of Nitrite and Nitrate. Therefore, the total quantity of available nitrogen in the 10.1 million gallons of sludge may be calculated by:

TKN mg/l X 8.34 lbs/gal X 10.1 million gallons

or,

289.3 mg/l X 8.34 X (10.1) = 24,369 lbs

Of this amount, 16,889 lbs will be disposed of on farm fields and the remaining 7,480 lbs will be used at the landfill.

3.3 FARM FIELD AREA REQUIRED

Using 150 lbs of total nitrogen applied to each acre of the field, the area required for disposal is calculated by:

Area = (Total available Nitrogen) / (150 lbs/acre)

or,

Area = 16,889 lbs / 150 lbs/acre

Therefore, Area = 112.6 acres of farm fields.

3.4 HEAVY METAL APPLICATION RATES

The application rate of heavy metals in a sludge to a soil are based upon the cat ion exchange capacity of the soil. The Armold Field has a CEC of 8 meq/gm in one soil sample and 9 meq/gm in a second sample.

Thus, the acceptable total lbs of heavy metal which can be applied to this field is:

Lead	1,000 lbs/acre
Zinc	500 lbs/acre
Copper	250 lbs/acre
Nickel	100 lbs/acre
Cadmium	10 lbs/acre

The liquid application rate of the sludge to the field can be calculated by:

Liquid Rate = Volume of sludge applied / Area
= 7,100,000 gallons / 112.6 acres
= 63,055 gallons per acre.

Using this liquid application rate, and the metal concentrations as given in the analyses in the appendices, the following metal application rates were determined:

Zinc	2.1 lb/acre
Copper	6.5 lb/acre
Nickel	0.3 lb/acre
Cadmium	< 0.1 lb/acre

The sludge can be applied about 40 years at this rate before the heavy metals will limit the application.

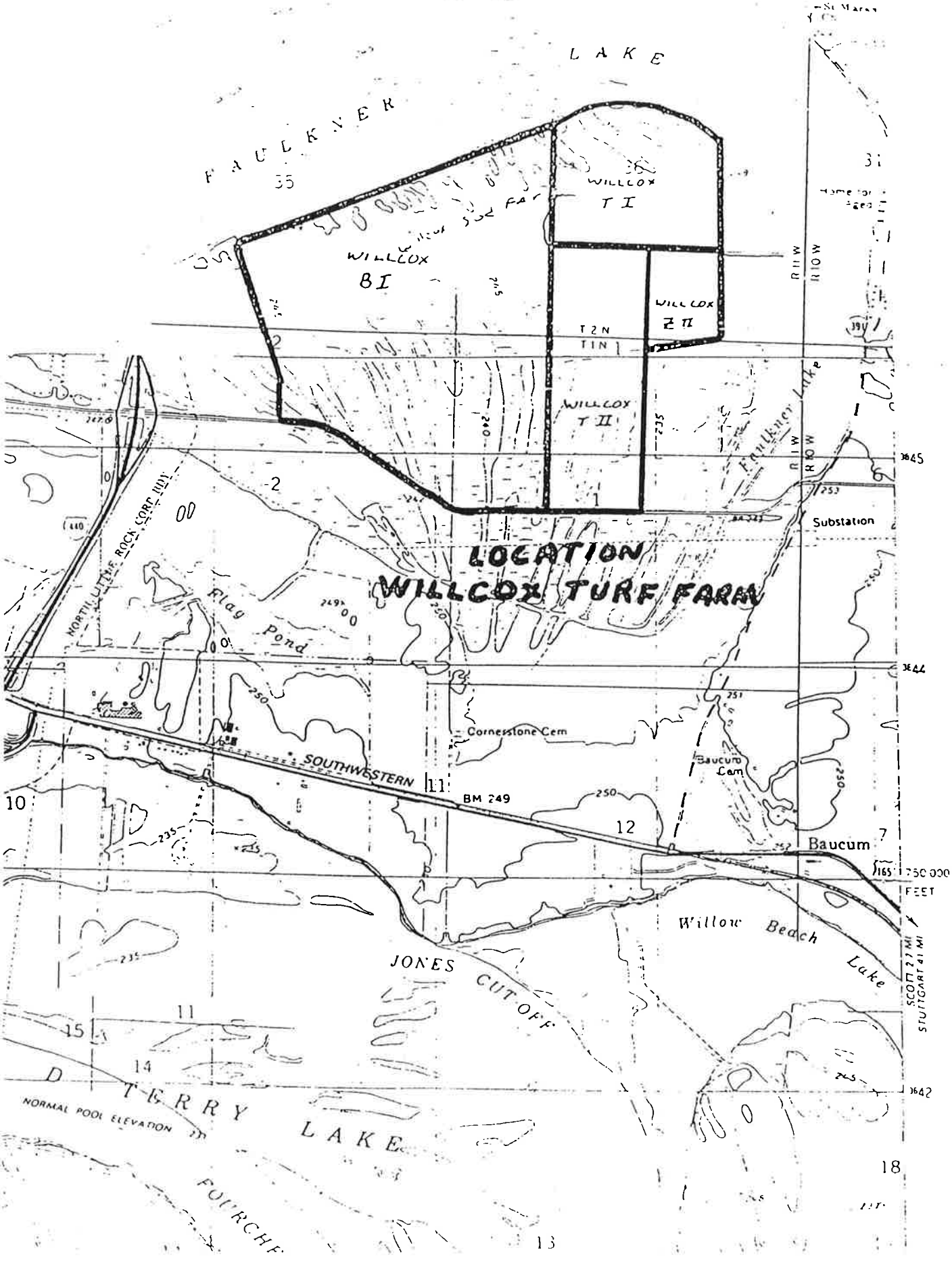
4. DESCRIPTION OF THE LAND FOR SLUDGE APPLICATION

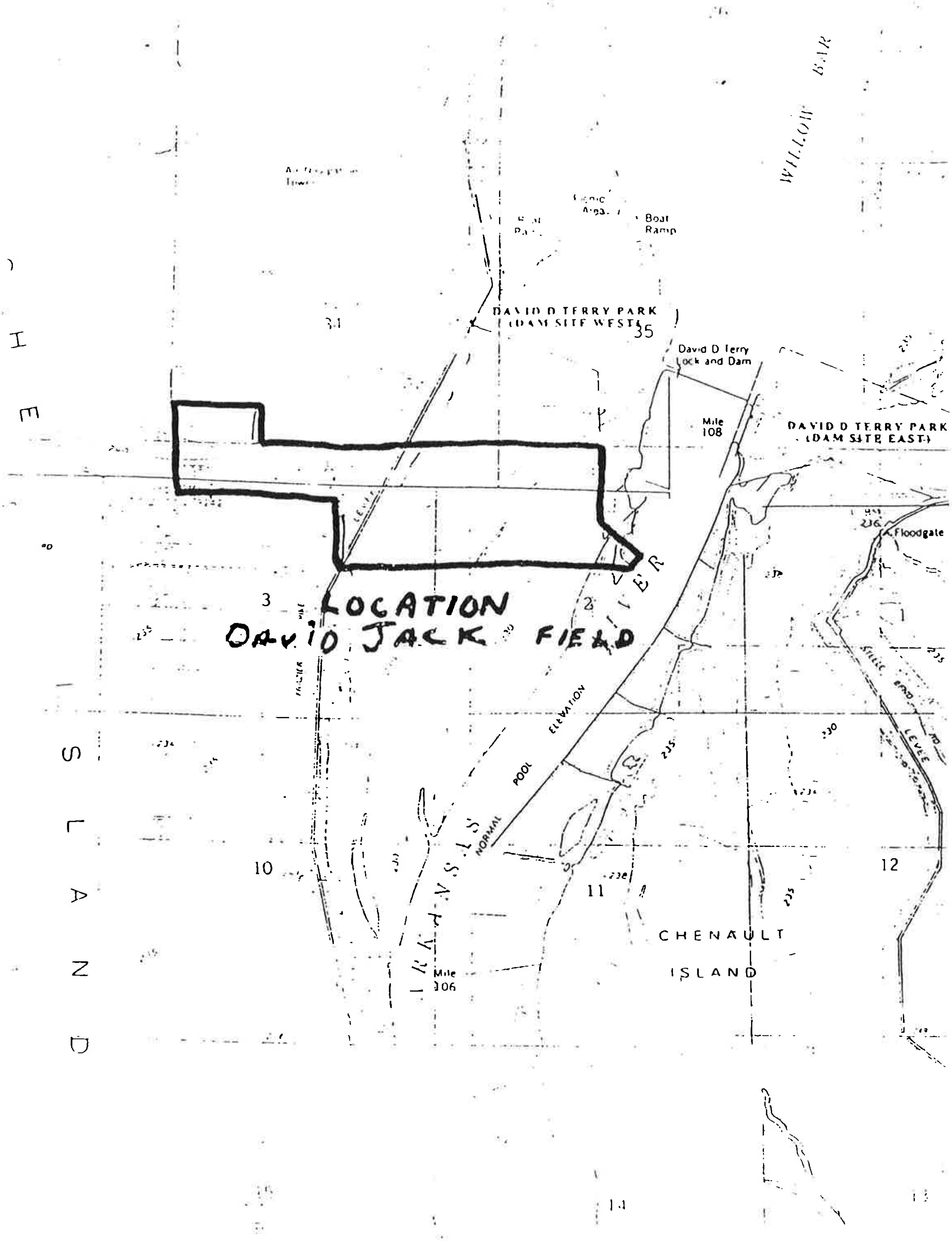
The digested sludge will be applied either to The ~~Arnold~~ JACK Field, or to the Willcox Turf Farm. Unless the turf farm is needed the sludge will be applied to the ~~Arnold~~ JACK Field. The location of these two fields are shown in the following location maps. A description of each field's location is as follows:

FIELD #	DESCRIPTION		
The ~~Arnold~~ JACK Field	SEC 34 & 35	T1N	R11W
	SEC 2 & 3	T1S	R11W
	APPROXIMATELY 148 ACRES		
Willcox Turf Farm			
B I	SEC 35 & 36	T2N	R11W
T I	SEC 36	T2N	R11W
	SEC 1	T1N	R11W
T II	SEC 1	T1N	R11W
Z II	SEC 1	T1N	R11W
	APPROXIMATELY 393 ACRES		

A letter from ~~Ivan Arnold~~ DAVID JACK giving permission for Thone Brothers Trucking to spread the digested sludge is in the appendices of this report.

Soil analyses performed by the the Soil Testing and Research Laboratory are also appended to this report.


LAKE
FAULKNER
WILLCOX
BI
WILLCOX
TI
WILLCOX
TII
WILLCOX
ZII
T2N
T1N
R11W
R10W
Faulkner Lake
Substation
LOCATION
WILLCOX TURF FARM
Clay Pond
NORTH LITTLE ROCK CONN. RWY
SOUTHWESTERN
Cornerstone Cem
Baucum Cem
Baucum
BM 249
Willow Beach
Lake
JONES CUT OFF
TERRY LAKE
NORMAL POOL ELEVATION
SCOTT 2.1 MI
STUTTGART 41 MI
FEET


Boat Ramp
DAVID D TERRY PARK (DAM SITE WEST)
35
David D Terry Lock and Dam
Mile 108
DAVID D TERRY PARK (DAM SITE EAST)
Floodgate
WILLOW BAR
LOCATION
DAVID JACK FIELD
3
2
1
10
11
12
NORMAL POOL ELEVATION
LEVEE
CHENAULT ISLAND
Mile 106
ISLAND

5. INCLEMENT WEATHER

The sludge is now stored in a lagoon and will be removed and immediately applied to the pasture land, therefore, no inclement weather storage facility will be required. However, precautions will be taken to insure that the weather does not adversely effect the application.

1) No sludge will be spread when there is a 35 percent or better chance of precipitation.

2) No sludge will be spread when the soil is in a saturated condition.

6. INSTRUCTIONS TO OPERATORS AND DRIVERS

The operator is responsible for maintaining the site management log and for seeing that the driver records the appropriate information in the log. The following instructions are to the drivers responsible for the actual land application.

1. At no time will the truck loaded with sludge be dumped on the land. Should the truck become stuck in the mud or breakdown for some unforeseeable reason, another truck shall be called to the site and the sludge load will be transferred.

2. The sludge shall not be spread over the land when the soil is very wet and in a saturated condition.

3. The land application shall not be undertaken while it is raining nor while a more than 35 percent chance of rain is in the immediate weather forecast.

4. The sludge shall be distributed as evenly as possible over the plot of land. The driver will have the tractor in motion when the injection begins so that no excess sludge is deposited before the injection tractor begins moving.

5. The sludge shall not be injected into excessively steep slopes. The grade shall be such that there is no probability that the sludge will run down the slope.

6. The sludge shall not be spread within 100 feet of a stream, lake, spring, pond, or well.

7. Every effort should be made by the driver to spread the sludge in an environmentally safe manor. However, it is wise to be prepared for accidents and for accidental spills. Should an accidental spill occur, the driver shall make every effort possible to contain the spill in as small an area as possible so that it can be removed as soon as practical and possible. The driver will notify the following person, of the spill or accident as soon as possible:

NAME: _____

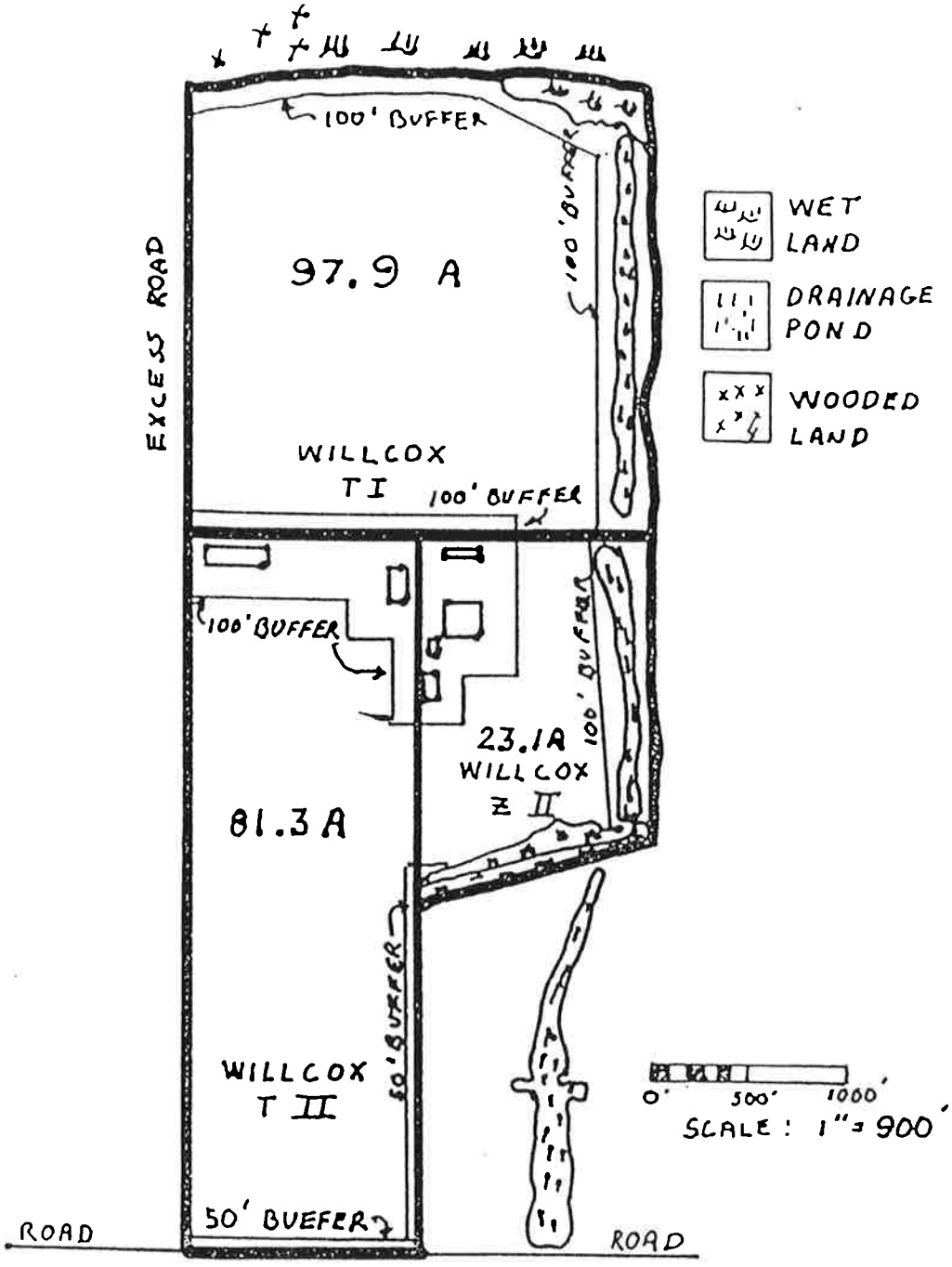
TITLE: _____ PHONE: _____

LOCATION: _____

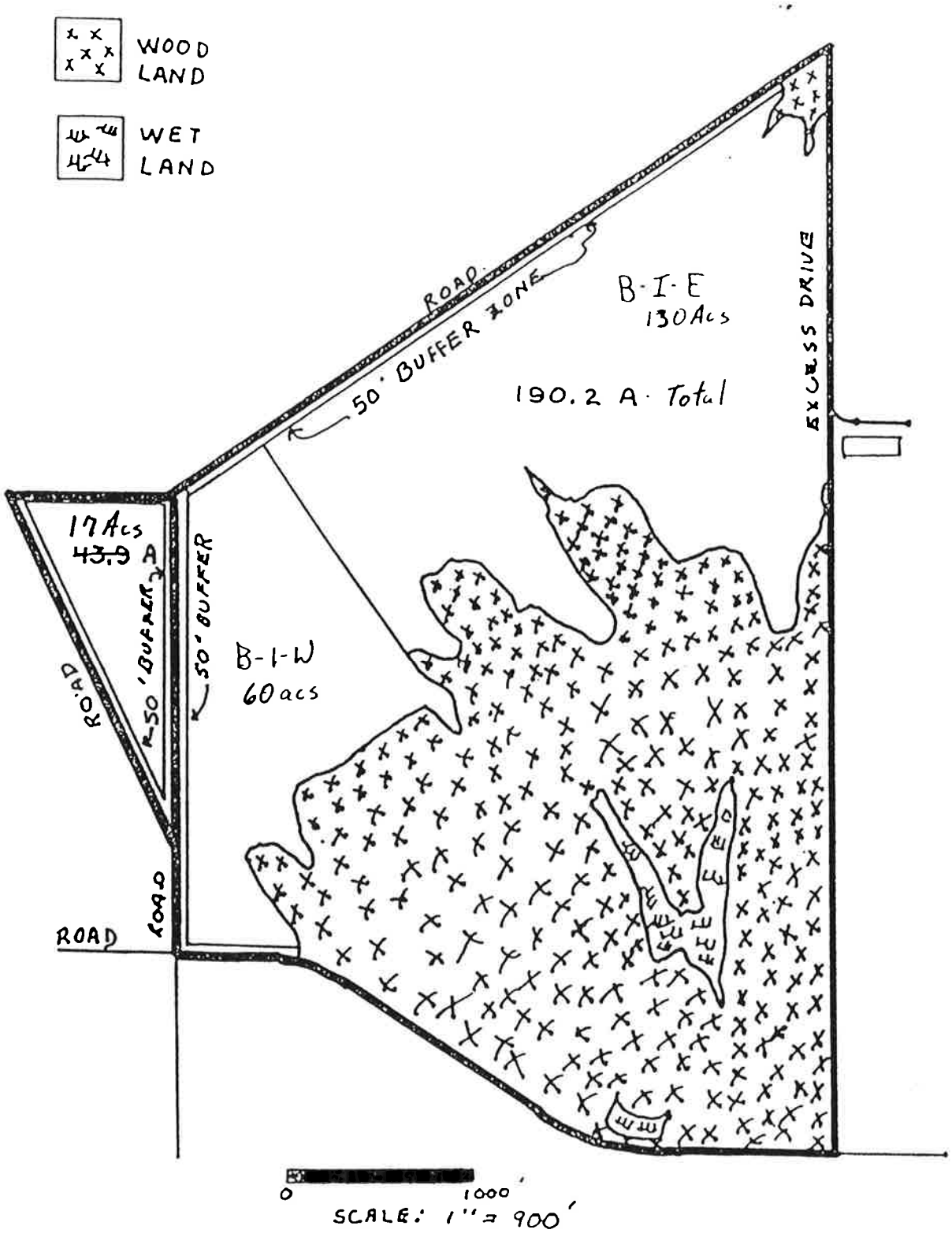
OFF DUTY PHONE: _____

7. PLOT PLANS

The plot plans of the farm fields are shown in the following figures. Note that the acreage shown on the drawings are for available acres after the buffer zones for waterways, forest land, houses, and boarders have been deducted from the actual area.



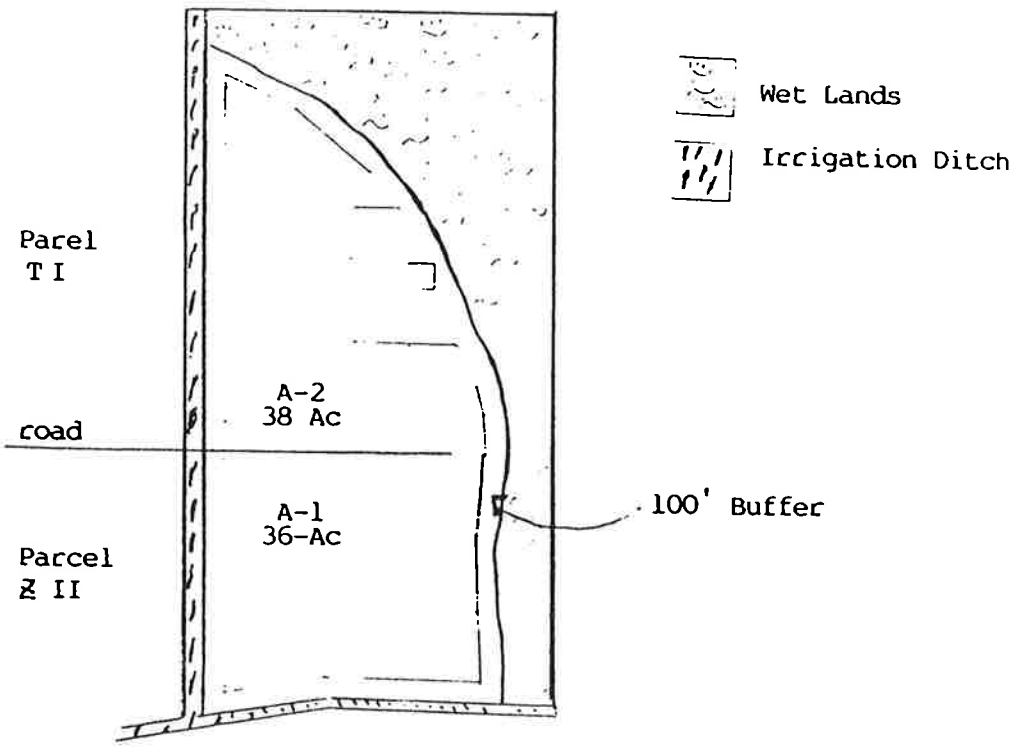
WILLCOX TURF FARM


WOOD LAND
WET LAND
ROAD
50' BUFFER ZONE
B-I-E
130 Acs
190.2 A. Total
EXCESS DRIVE
17 Acs
43.9 A
50' BUFFER
50' BUFFER
B-1-W
60 acs
ROAD
ROAD
0
1000'
SCALE: 1" = 900'

COOPER B I

WILCOX SODAND TURF FARM

AUGUST 1988



SCALE 1"= 1000'

APPENDIX

E

BIOSOLIDS P0LLUTANT CONCENTRATIONS 1994 - 1996

All results are in mg/kg

Date	As	Cd	Cr	Cu	CN-	Pb	Hg	Mo	Ni	Se	Ag	Zn
11/22/94	36.7	8.9	110	429	17.8	182	3.4	13.7	41.2	3.4	144	1430
11/28/94	35.9	7.2	104	442	21.6	200	3.9	16.0	47.9	4.0	160	1506
12/05/94	21.5	6.1	81	503	20.7	184	--	46.1	46.1	3.8	154	1433
02/06/95	50.0	2.8	125	495	11.1	167	4.4	18.5	74.1	4.6	162	1455
02/07/95	49.7	2.8	103	492	10.8	188	3.8	28.1	75.0	4.7	169	1463
02/20/95	21.3	4.7	166	533	--	225	3.8	35.5	59.2	5.9	166	1528
03/10/95	--	--	--	--	18.3	--	3.1	--	--	--	--	--
03/13/95	--	--	--	--	4.0	--	3.1	--	--	--	--	--
08/09/95	--	1.8	145	459	8.5	176	--	21	73	--	157	1416
08/25/95	19	3.1	113	463	11.3	169	3.5	19	34	0.2	165	1408
09/01/95	20	6.4	128	367	1.4	106	3.2	17	21	0.2	149	1185
09/11/95	15	4.7	132	248	7.8	125	3.6	15	47	0.2	109	1015
09/21/95	31	4.8	112	265	6.4	161	3.3	14	64	8.5	112	1083
09/25/95	23	4.1	128	340	8.9	146	4.0	14	46	2	132	1176
07/05/96	43	5.2	72	410	--	133	2.8	26	27	12	--	1300
07/08/96	30	5.0	77	420	--	132	3.5	17	28	13	--	1310
07/19/96	35.2	4.7	72	392	--	124	3.4	25	27	15	--	1300
07/22/96	38.3	5.1	78	400	--	134	3.2	22	27	11	--	1290
08/05/96	18.0	5.0	80	438	--	150	4.1	25	29	0.2	--	1370
08/12/96	19.0	5.3	86	396	--	143	2.9	21	31	0.2	--	1340
Average	**29.8**	**4.9**	**106.2**	**416**	**12.4**	**158**	**3.5**	**21.8**	**44.3**	**5.1**	**148**	**1334**

APPENDIX

F

Dassault Falcon Jet	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.0147	0.240	0.406	2.400	0.049	0.0107	0.041	0.008	0.194	
1995	0.0148	0.509	0.472	0.357	0.103	0.0085	0.039	0.028	0.332	
1996	0.0194	0.446	0.611	0.332	0.133	0.1000	0.039	0.014	0.194	
Average	0.0163	0.398	0.496	1.030	0.095	0.0397	0.040	0.017	0.240	
	lbs/day =	0.054	0.067	0.140	0.013	0.0054	0.005	0.002	0.033	0.000
Timex Corporation	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.1059	0.233	0.198	0.460	0.229	0.0100	0.170	0.005	0.115	
1995	0.1799	0.250	0.280	0.476	0.303	0.0090	0.011	0.002	0.105	
1996	1.5230	0.180	0.124	0.458	0.388	0.0090	0.014	0.002	0.042	
Average	0.6029	0.221	0.201	0.465	0.307	0.0093	0.065	0.003	0.087	
	lbs/day =	1.111	1.009	2.337	1.542	0.0469	0.327	0.015	0.439	0.000
Orbit Valve Corporation	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.0420				0.338					1.100
1995	0.0438				0.131					0.500
1996	0.0397				0.159					0.164
Average	0.0418				0.209					0.588
	lbs/day =	0.000	0.000	0.000	0.073	0.0000	0.000	0.000	0.000	0.205
Interstate Highway Sign	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.0098	0.004	0.003	0.060	0.037	0.0060	0.015	0.002	0.087	
1995	0.0124	0.015	0.005	0.079	0.108	0.0045	0.045	0.004	0.350	
1996	0.0178	0.148	0.153	0.104	0.455	0.0120	0.125	0.078	0.023	
Average	0.0133	0.056	0.054	0.081	0.200	0.0075	0.062	0.028	0.153	
	lbs/day =	0.006	0.006	0.009	0.022	0.0008	0.007	0.003	0.017	0.000
Munsey Products	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.0179	0.009	0.548	1.029	0.073	1.0350	0.021	0.012	0.004	
1995	0.0170	0.239	0.110	0.069	0.169	0.0120	0.120	0.025	0.020	
1996	0.0163	0.044	0.090	0.050	0.160	0.0340	0.070	0.003	0.010	
Average	0.0171	0.097	0.249	0.383	0.134	0.3603	0.070	0.013	0.011	
	lbs/day =	0.014	0.035	0.054	0.019	0.0513	0.010	0.002	0.002	0.000

Reed Machine Company	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.0003	0.100	0.010	0.047	0.010	0.1120	0.050	0.003	0.020	
1995	0.0004									
1996										
Average	0.0004	0.100	0.010	0.047	0.010	0.1120	0.050	0.003	0.020	
	lbs/day =	0.000	0.000	0.000	0.000	0.0003	0.000	0.000	0.000	0.000
Ace Plating Works	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.0001	0.334	0.253	0.120	0.234	0.0390	0.050	0.003	0.951	
1995	0.0003	0.330	0.351	0.110	0.199	0.0410	0.050	0.003	0.230	
1996	0.0004	0.143	0.263	0.184	0.187	0.0740	0.075	0.075	0.010	0.305
Average	0.0003	0.269	0.289	0.138	0.207	0.0513	0.058	0.027	0.397	
	lbs/day =	0.001	0.001	0.000	0.000	0.0001	0.000	0.000	0.001	0.000
Baptist Medical Center	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.2466					0.0082				
1995	0.2689					0.0002				
1996	0.3900					0.0027				
Average	0.3018					0.0037				
	lbs/day =	0.000	0.000	0.000	0.000	0.0093	0.000	0.000	0.000	0.000
Doctor's Hospital	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.0777					0.0095				
1995	0.0918					0.0010				
1996	0.0663					0.1000				
Average	0.0786					0.0368				
	lbs/day =	0.000	0.000	0.000	0.000	0.0241	0.000	0.000	0.000	0.000
St. Vincent Med Center	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.1927					0.0096				
1995	0.1484					0.0563				
1996	0.1096					0.1300				
Average	0.1502					0.0653				
	lbs/day =	0.000	0.000	0.000	0.000	0.0818	0.000	0.000	0.000	0.000

U of A Med Center	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.2414					0.0012				
1995	0.2925					0.0421				
1996	0.2810					0.0016				
Average	0.4294					0.1100				
	lbs/day =	0.000	0.000	0.000	0.000	0.3939	0.000	0.000	0.000	0.000
McClelland VA Hospital	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.1723					0.0087				
1995	0.1834					0.0188				
1996	0.1980					0.0001				
Average	0.1846					0.0092				
	lbs/day =	0.000	0.000	0.000	0.000	0.0142	0.000	0.000	0.000	0.000
Stone Container Corporation	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.0360	1.704								
1995	0.0550	1.060								
1996	0.0500	0.946								
Average	0.0470	1.237								
	lbs/day =	0.485	0.000	0.000	0.000	0.0000	0.000	0.000	0.000	0.000
MacMillan Bloedel Containers	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.0222	2.540								
1995	0.0322	2.941								
1996	0.0368	1.596								
Average	0.0304	2.359								
	lbs/day =	0.598	0.000	0.000	0.000	0.0000	0.000	0.000	0.000	0.000
Silverwood Products	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.0282									
1995	0.0292	3.610				0.0990				
1996	0.0309	3.677				0.3000				
Average	0.0294									
	lbs/day =	0.000	0.000	0.000	0.000	0.0000	0.000	0.000	0.000	0.000

Hillcrest Camshaft	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.0022	0.019	0.010	1.118	0.250	0.0040	0.371	0.004	0.020	
1995	0.0027	0.010	0.012	0.414	0.350	0.0040	0.152	0.004	0.015	
1996	0.0030	0.028	0.010	0.089	0.106	0.0020	0.055	0.004	0.013	
Average	0.0026	0.019	0.011	0.540	0.235	0.0033	0.193	0.004	0.016	
	lbs/day =	0.000	0.000	0.012	0.005	0.0001	0.004	0.000	0.000	0.000
Wheatland Tube	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.0254				2.093		0.045			
1995	0.0174				0.579		0.140			
1996	0.0185				0.434		0.040			
Average	0.0204				1.035		0.075			
	lbs/day =	0.000	0.000	0.000	0.176	0.0000	0.013	0.000	0.000	0.000
Arkansas Painting and Specialties	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.0010	0.020	0.055	0.040	0.647	0.0030	0.025	0.002	0.016	
1995	0.0007	0.009	0.110	0.020	0.059	0.0070	0.050	0.003	0.020	
1996	0.0009	0.016	0.026	0.011	0.431	0.0010	0.026	0.002	0.019	
Average	0.0009	0.015	0.064	0.024	0.379	0.0037	0.034	0.002	0.018	
	lbs/day =	0.000	0.000	0.000	0.003	0.0000	0.000	0.000	0.000	0.000
Southwest Hospital	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.0188					0.0050				
1995	0.0159					0.0050				
1996	0.0144					0.0570				
Average	0.0164					0.0223				
	lbs/day =	0.000	0.000	0.000	0.000	0.0030	0.000	0.000	0.000	0.000
Arkansas Container Corporation	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.0033									
1995	0.0045	2.252								
1996	0.0061	4.872								
Average	0.0046	3.562								
	lbs/day =	0.138	0.000	0.000	0.000	0.0000	0.000	0.000	0.000	0.000

Gesco Chemical Company	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.0008	5.060	0.116	0.335	12.460	0.0070	1.753	0.250		
1995	0.0003	1.981	0.378	0.423	13.771	0.0210	1.725	0.021		
1996	0.0003	1.710	0.100	0.260	10.900	0.0035	1.600	0.003		
Average	0.0005	2.917	0.198	0.339	12.377	0.0105	1.693	0.091		
	lbs/day =	0.011	0.001	0.001	0.046	0.0000	0.007	0.000	0.000	0.000
Arkansas Children's Hospital	Flow (MGD)	Cu(mg/L)	Ni(mg/L)	Cr(mg/L)	Zn(mg/L)	Ag(mg/L)	Pb(mg/L)	Cd(mg/L)	CN-(mg/L)	B(mg/L)
1994	0.0766					0.0390				
1995	0.1321					0.0480				
1996	0.1119					0.0070				
Average	0.1069					0.0313				
	lbs/day =	0.000	0.000	0.000	0.000	0.0279	0.000	0.000	0.000	0.000
Total lbs/day by industry		2.419	1.120	2.554	1.902	0.659	0.373	0.023	0.492	0.205
Total Flow by industry (MGD)		0.7657	0.6542	0.6542	0.7165	1.9720	0.6747	0.6542	0.6538	0.0418

APPENDIX

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ADAMS FIELD WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

ANTIMONY (TOTAL)

TREATMENT PLANT DESIGN FLOW = 36 MGD

								Removal
		Plant Influent	Plant Influent Q	Influent Loading	Final Effluent	Final Effluent Q	Effluent Mass	Efficiency
1994	Mar	**0.20**	27.47	45.8200	**0.20**	26.52	44.2354	3.4583
	May	**0.20**	18.19	30.3409	**0.20**	17.24	28.7563	5.2226
	Aug	**0.20**	14.96	24.9533	**0.20**	14.01	23.3687	6.3503
	Nov	**0.20**	15.71	26.2043	**0.20**	14.63	24.4028	6.8746
1995	Feb	**0.20**	25.74	42.9343	**0.20**	24.57	40.9828	4.5455
	May	**0.20**	16.27	27.1384	**0.20**	15.11	25.2035	7.1297
	Aug	**0.20**	17.47	29.1400	**0.20**	16.24	27.0883	7.0406
	Nov	0.20	15.01	25.0367	**0.20**	13.87	23.1352	7.5949
1996	Feb	**0.20**	19.78	32.9930	**0.20**	18.60	31.0248	5.9656
	May	**0.20**	25.27	42.1504	**0.20**	24.15	40.2822	4.4321
	Aug	**0.29**	19.88	48.0818	**0.29**	18.50	44.7441	6.9416
	Nov	**0.03**	23.87	5.9723	**0.03**	23.60	5.9047	1.1311

ADAMS FIELD WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF ANTIMONY

		Plant Influent	Plant Influent Q	Influent Loading	Final Effluent	Final Effluent Q	Effluent Mass	Removal Efficiency
		mg/L	MGD	lbs/day	(mg/L)	MGD	lbs/day	%
	MIN	0.03	14.96	5.9723	0.03	13.87	5.9047	1.1311
	MAX	0.29	27.47	48.0818	0.29	26.52	44.7441	7.5949
	MEAN	0.19	19.97	31.7304	0.19	18.92	29.9274	5.5573
	MEDIAN	0.20	18.99	29.7404	0.20	17.87	27.9223	6.1579

ADAMS FIELD WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

ARSENIC (TOTAL)

TREATMENT PLANT DESIGN FLOW = 36 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	0.008	30.65	2.0450	**0.002**	29.70	0.4954	75.7749
	Feb	**0.002**	28.40	0.4737	**0.002**	27.45	0.4579	3.3451
	Mar	0.006	27.47	1.3746	**0.002**	26.52	0.4424	67.8194
	Apr	0.023	17.98	3.4489	0.006	17.03	0.8522	75.2914
	May	0.021	18.19	3.1858	0.006	17.24	0.8627	72.9208
	Jun	**0.002**	12.73	0.2123	**0.002**	11.78	0.1965	7.4627
	Jul	**0.002**	21.59	0.3601	**0.002**	20.64	0.3443	4.4002
	Aug	0.011	14.96	1.3724	0.005	14.01	0.5842	57.4319
	Sep	0.012	13.58	1.3591	0.007	12.63	0.7373	45.7474
	Oct	0.004	15.01	0.5007	0.003	13.77	0.3445	31.1959
	Nov	0.003	15.71	0.3931	0.002	14.63	0.2440	37.9164
	Dec	0.010	18.69	1.5587	**0.010**	17.56	1.4645	6.0460
1995	Jan	0.008	25.43	1.6967	0.004	24.33	0.8116	52.1628
	Feb	**0.002**	25.74	0.4293	**0.002**	24.57	0.4098	4.5455
	Mar	0.004	25.43	0.8483	0.003	24.25	0.6067	28.4801
	Apr	0.003	35.46	0.8872	0.002	34.31	0.5723	35.4954
	May	0.007	16.27	0.9498	0.004	15.11	0.5041	46.9312
	Jun	0.009	18.73	1.4059	0.008	17.51	1.1683	16.9010
	Jul	0.009	29.07	2.1820	**0.002**	27.82	0.4640	78.7333
	Aug	**0.001**	17.47	0.1457	**0.001**	16.24	0.1354	7.0406
	Nov	**0.001**	15.01	0.1252	**0.001**	13.87	0.1157	7.5949
1996	Jun	0.001	18.64	0.1555	0.002	17.42	0.2906	-86.9099
	Jul	**0.001**	17.43	0.1454	**0.001**	16.54	0.1379	5.1061
	Aug	**0.001**	19.88	0.1658	**0.001**	18.50	0.1543	6.9416
	Oct	**0.001**	24.89	0.2076	**0.001**	23.55	0.1964	5.3837

ADAMS FIELD WASTEWATER TREATMENT PLANT - DAT ANALYSIS OF ARSENIC

	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
MIN	0.001	12.73	0.1252	0.001	11.78	0.1157	-86.9099
MAX	0.023	35.46	3.4489	0.010	34.31	1.4645	78.7333
MEAN	0.006	20.98	1.0252	0.003	19.88	0.5037	27.7503
MEDIAN	0.004	18.69	0.8483	0.002	17.51	0.4579	28.4801

ADAMS FIELD WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

BARIUM (TOTAL)

TREATMENT PLANT DESIGN FLOW = 36 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1991	Sep	0.33	13.55	37.2923	0.09	12.73	9.5551	74.3777
1992	Aug	0.22	13.06	23.9625	0.11	12.11	11.1097	53.6371
1993	Sep	0.19	17.56	27.8256	0.06	16.61	8.3116	70.1295
1994	Aug	0.11	14.96	13.7243	0.05	14.01	5.8422	57.4319
1995	Sep	0.14	12.58	14.6884	**0.03**	11.25	2.8148	80.8369
1996	Aug	0.47	19.88	77.9256	**0.31**	18.50	47.8299	38.6211

ADAMS FIELD WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF BARIUM

		Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
	MIN	0.11	12.58	13.7243	0.03	11.25	2.8148	38.6211
	MAX	0.47	19.88	77.9256	0.31	18.50	47.8299	80.8369
	MEAN	0.24	15.27	32.5698	0.11	14.20	14.2439	62.5057
	MEDIAN	0.21	14.26	25.8940	0.08	13.37	8.9334	63.7807

ADAMS FIELD WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

BORON (TOTAL)

TREATMENT PLANT DESIGN FLOW = 36 MGD

		Plant Influent	Plant Influent Q	fluent Loadin	Final Effluent	Final Effluent Q	Effluent Mass	Removal Efficiency
		mg/L	MGD	lbs/day	(mg/L)	MGD	lbs/day	%
1991	Sep	0.20	13.55	22.6014	0.20	12.73	21.2336	6.0517
1992	Aug	0.37	13.06	40.3005	0.35	12.11	35.3491	12.2863
1993	Aug	0.14	15.69	18.3196	0.10	14.74	12.2932	32.8963
1994	Sep	0.19	13.58	21.5189	0.15	12.63	15.8001	26.5755
1995	Sep	0.16	12.58	16.7868	0.16	11.25	15.0120	10.5723
1996	Aug	0.15	19.88	24.8699	0.15	18.50	23.1435	6.9416

ADAMS FIELD WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF BORON

		Plant Influent	Plant Influent Q	fluent Loadin	Final Effluent	Final Effluent Q	Effluent Mass	Removal Efficiency
		mg/L	MGD	lbs/day	(mg/L)	MGD	lbs/day	%
	MIN	0.14	12.58	16.7868	0.10	11.25	12.2932	6.0517
	MAX	0.37	19.88	40.3005	0.35	18.50	35.3491	32.8963
	MEAN	0.20	14.72	24.0662	0.19	13.66	20.4719	15.8873
	MEDIAN	0.18	13.57	22.0601	0.16	12.68	18.5169	11.4293

ADAMS FIELD WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

CADMIUM (TOTAL)

TREATMENT PLANT DESIGN FLOW = 36 MGD

Year	Month	Plant Influent	Plant Influent Q	Influent Loading	Final Effluent	Final Effluent Q	Effluent Mass	Removal Efficiency
		mg/L	MGD	lbs/day	(mg/L)	MGD	lbs/day	%
1994	Jan	0.0005	30.65	0.1278	0.0001	29.70	0.0248	80.6199
	Feb	0.0007	28.40	0.1658	0.0008	27.45	0.1831	-10.4628
	Mar	0.0006	27.47	0.1375	0.0008	26.52	0.1769	-28.7222
	Apr	0.0009	17.98	0.1350	0.0005	17.03	0.0710	47.3798
	May	0.0010	18.19	0.1517	**0.0003**	17.24	0.0431	71.5668
	Jun	0.0003	12.73	0.0319	0.0014	11.78	0.1375	-331.8408
	Jul	**0.0003**	21.59	0.0540	0.0017	20.64	0.2926	-441.7323
	Aug	0.0012	14.96	0.1497	0.0016	14.01	0.1869	-24.8663
	Sep	0.0016	13.58	0.1812	0.0022	12.63	0.2317	-27.8811
	Oct	0.0019	15.01	0.2378	0.0010	13.77	0.1148	51.7164
	Nov	0.0018	15.71	0.2358	**0.0003**	14.63	0.0366	84.4791
	Dec	0.0015	18.69	0.2338	0.0020	17.56	0.2929	-25.2720
1995	Jan	0.0054	25.43	1.1453	0.0026	24.33	0.5276	53.9345
	Feb	0.0030	25.74	0.6440	0.0016	24.57	0.3279	49.0909
	Mar	0.0007	25.43	0.1485	0.0008	24.25	0.1618	-8.9826
	Apr	0.0004	35.46	0.1183	0.0008	34.31	0.2289	-93.5138
	May	0.0014	16.27	0.1900	**0.0003**	15.11	0.0378	80.0992
	Jun	0.0029	18.73	0.4530	0.0099	17.51	1.4457	-219.1432
	Jul	0.0001	29.07	0.0242	**0.0001**	27.82	0.0232	4.3000
	Aug	**0.0001**	17.47	0.0146	**0.0001**	16.24	0.0135	7.0406
	Nov	0.0006	15.01	0.0751	**0.0001**	13.87	0.0116	84.5992
1996	Jun	**0.0001**	18.64	0.0155	**0.0001**	17.42	0.0145	2.1107
	Jul	**0.0001**	17.43	0.0145	**0.0001**	16.54	0.0138	1.9028
	Aug	**0.0001**	19.88	0.0166	**0.0001**	18.50	0.0154	2.3805
	Oct	**0.0001**	24.89	0.0208	**0.0001**	23.55	0.0196	3.8576

ADAMS FIELD WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF CADMIUM

	Plant Influent	Plant Influent Q	Influent Loading	Final Effluent	Final Effluent Q	Effluent Mass	Removal Efficiency
	mg/L	MGD	lbs/day	(mg/L)	MGD	lbs/day	%
MIN	0.0001	12.73	0.0145	0.0001	11.78	0.0116	-441.7323
MAX	0.0054	35.46	1.1453	0.0099	34.31	1.4457	84.5992
MEAN	0.0011	20.98	0.1889	0.0012	19.88	0.1853	-23.4936
MEDIAN	0.0007	18.69	0.1375	0.0008	17.5100	0.1148	2.3805

ADAMS FIELD WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

CHROMIUM (TOTAL)

TREATMENT PLANT DESIGN FLOW = 36 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	0.0033	30.65	0.8435	0.0016	29.70	0.3963	53.0179
	Feb	0.0034	28.40	0.8053	**0.0003**	27.45	0.0687	91.4716
	Mar	0.0024	27.47	0.5498	0.0015	26.52	0.3318	39.6614
	Apr	0.0077	17.98	1.1546	0.0017	17.03	0.2415	79.0886
	May	0.0105	18.19	1.5929	0.0018	17.24	0.2588	83.7525
	Jun	0.0073	12.73	0.7750	0.0027	11.78	0.2653	65.7739
	Jul	0.0052	21.59	0.9363	0.0021	20.64	0.3615	61.3924
	Aug	0.0304	14.96	3.7929	0.0019	14.01	0.2220	94.1469
	Sep	0.0109	13.58	1.2345	0.0016	12.63	0.1685	86.3480
	Oct	0.0185	15.01	2.3159	0.0025	13.77	0.2871	87.6029
	Nov	0.0121	15.71	1.5854	0.0051	14.63	0.6223	60.7488
	Dec	0.0045	18.69	0.7014	0.0045	17.56	0.6590	6.0460
1995	Jan	0.0079	25.43	1.6755	0.0029	24.33	0.5884	64.8790
	Feb	0.0058	25.74	1.2451	0.0022	24.57	0.4508	63.7931
	Mar	0.0040	25.43	0.8483	0.0046	24.25	0.9303	-9.6638
	Apr	0.0026	35.46	0.7689	0.0022	34.31	0.6295	18.1288
	May	0.0057	16.27	0.7734	0.0021	15.11	0.2646	65.7846
	Jun	0.0042	18.73	0.6561	0.0026	17.51	0.3797	42.1275
	Jul	0.0060	29.07	1.4547	0.0030	27.82	0.6961	52.1465
	Aug	0.0170	17.47	2.4769	0.0030	16.24	0.4063	83.5954
	Nov	0.0050	15.01	0.6259	0.0010	13.87	0.1157	81.5190
1996	Jun	0.0160	18.64	2.4873	0.0090	17.42	1.3075	47.4316
	Jul	0.0050	17.43	0.7268	0.0010	16.54	0.1379	81.0212
	Aug	0.0110	19.88	1.8238	**0.0010**	18.50	0.1543	91.5401
	Oct	0.0080	24.89	1.6607	0.0020	23.55	0.3928	76.3459

ADAMS FIELD WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF CHROMIUM

	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
MIN	0.0024	12.73	0.5498	0.0003	11.78	0.0687	-9.6638
MAX	0.0304	35.46	3.7929	0.0090	34.31	1.3075	94.1469
MEAN	0.0086	20.98	1.3404	0.0026	19.88	0.4135	62.7080
MEDIAN	0.0060	18.69	1.1546	0.0021	17.51	0.3615	65.7739

ADAMS FIELD WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

COPPER (TOTAL)

TREATMENT PLANT DESIGN FLOW = 36 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	0.049	30.65	12.5254	0.008	29.70	1.9816	84.1795
	Feb	0.018	28.40	4.2634	0.007	27.45	1.6025	62.4120
	Mar	0.028	27.47	6.4148	0.007	26.52	1.5482	75.8646
	Apr	0.041	17.98	6.1481	**0.001**	17.03	0.1420	97.6898
	May	0.053	18.19	8.0403	0.010	17.24	1.4378	82.1175
	Jun	0.032	12.73	3.3974	0.008	11.78	0.7860	76.8657
	Jul	0.032	21.59	5.7619	0.007	20.64	1.2050	79.0875
	Aug	0.038	14.96	4.7411	0.006	14.01	0.7011	85.2132
	Sep	0.041	13.58	4.6435	0.005	12.63	0.5267	88.6580
	Oct	0.052	15.01	6.5095	0.007	13.77	0.8039	87.6505
	Nov	0.076	15.71	9.9576	0.005	14.63	0.6101	93.8733
	Dec	0.034	18.69	5.2997	**0.010**	17.56	1.4645	72.3665
1995	Jan	0.073	25.43	15.4823	0.005	24.33	1.0146	93.4470
	Feb	0.029	25.74	6.2255	0.007	24.57	1.4344	76.9592
	Mar	0.034	25.43	7.2109	0.005	24.25	1.0112	85.9765
	Apr	0.015	35.46	4.4360	0.009	34.31	2.5753	41.9459
	May	0.055	16.27	7.4630	0.003	15.11	0.3781	94.9343
	Jun	0.048	18.73	7.4980	0.011	17.51	1.6064	78.5760
	Jul	0.101	29.07	24.4868	0.015	27.82	3.4803	85.7871
	Aug	0.058	17.47	8.4506	0.006	16.24	0.8126	90.3835
	Nov	0.050	15.01	6.2592	0.018	13.87	2.0822	66.7342
1996	Jun	0.051	18.64	7.9283	0.006	17.42	0.8717	89.0053
	Jul	0.055	17.43	7.9951	0.005	16.54	0.6897	91.3733
	Aug	0.076	19.88	12.6007	0.008	18.50	1.2343	90.2044
	Oct	0.044	24.89	9.1336	0.002	23.55	0.3928	95.6993

ADAMS FIELD WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF COPPER

	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
MIN	0.015	12.73	3.3974	0.001	11.78	0.1420	41.9459
MAX	0.101	35.46	24.4868	0.018	34.31	3.4803	97.6898
MEAN	0.047	20.98	8.1149	0.007	19.88	1.2157	82.6802
MEDIAN	0.048	18.69	7.2109	0.007	17.51	1.0146	85.7871

ADAMS FIELD WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

CYANIDE (TOTAL)

TREATMENT PLANT DESIGN FLOW = 36 MGD

		Plant Influent	Plant Influent Q	Influent Loading	Final Effluent	Final Effluent Q	Effluent Mass	Removal Efficiency
1994	Jan	0.02	30.65	5.1124	0.02	29.70	4.9540	3.0995
	Feb	0.02	28.40	4.7371	0.02	27.45	4.5787	3.3451
	Mar	0.02	27.47	4.5820	0.02	26.52	4.4235	3.4583
	Apr	0.02	17.98	2.9991	0.02	17.03	2.8406	5.2836
	May	0.02	18.19	3.0341	0.02	17.24	2.8756	5.2226
	Jun	0.02	12.73	2.1234	0.02	11.78	1.9649	7.4627
	Jul	0.02	21.59	3.6012	0.02	20.64	3.4428	4.4002
	Aug	0.02	14.96	2.4953	0.02	14.01	2.3369	6.3503
	Sep	0.02	13.58	2.2651	0.02	12.63	2.1067	6.9956
	Oct	0.02	15.01	2.5037	0.02	13.77	2.2968	8.2612
	Nov	0.10	15.71	13.1021	0.02	14.63	2.4403	81.3749
	Dec	0.02	18.69	3.1175	0.02	17.56	2.9290	6.0460
1995	Jan	0.02	25.43	4.2417	0.02	24.33	4.0582	4.3256
	Feb	0.02	25.74	4.2934	0.02	24.57	4.0983	4.5455
	Mar	0.02	25.43	4.2417	0.02	24.25	4.0449	4.6402
	Apr	0.02	35.46	5.9147	0.02	34.31	5.7229	3.2431
	May	0.02	16.27	2.7138	0.02	15.11	2.5203	7.1297
	Jun	0.02	18.73	3.1242	0.02	17.51	2.9207	6.5136
	Jul	0.02	29.07	4.8489	0.02	27.82	4.6404	4.3000
	Aug	0.02	17.47	2.9140	0.02	16.24	2.7088	7.0406
	Sep	0.02	12.58	2.0983	0.02	11.25	1.8765	10.5723
	Oct	0.80	12.94	86.3357	0.02	12.31	2.0533	97.6217
	Nov	0.02	15.01	2.5037	0.02	13.87	2.3135	7.5949
	Dec	0.02	21.47	3.5812	0.02	20.21	3.3710	5.8687
1996	Jan	0.02	27.46	4.5803	0.02	26.30	4.3868	4.2243
	Feb	0.02	22.00	3.6696	0.02	20.91	3.4878	4.9545
	Mar	0.02	24.46	4.0799	0.02	23.30	3.8864	4.7424
	Apr	0.02	25.26	4.2134	0.02	24.16	4.0299	4.3547
	May	0.02	25.27	4.2150	0.02	24.15	4.0282	4.4321
	Jun	0.02	18.64	3.1092	0.02	17.42	2.9057	6.5451
	Aug	0.02	19.88	3.3160	0.02	18.50	3.0858	6.9416
	Nov	0.02	23.87		0.02	23.60		

ADAMS FIELD WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF CYANIDE

	Plant Influent	Plant Influent Q	Influent Loading	Final Effluent	Final Effluent Q	Effluent Mass	Removal Efficiency
	mg/L	MGD	lbs/day	(mg/L)	MGD	lbs/day	%
MIN	0.02	12.58	2.0983	0.02	11.25	1.8765	3.0995
MAX	0.80	35.46	86.3357	0.02	34.31	5.7229	97.6217
MEAN	0.05	21.17	6.5699	0.02	20.10	3.3332	10.9965
MEDIAN	0.02	20.6750	3.6012	0.02	19.36	3.0858	5.2836

ADAMS FIELD WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

LEAD (TOTAL)

TREATMENT PLANT DESIGN FLOW = 36 MGD

Year	Date	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	0.006	30.65	1.5337	**0.001**	29.70	0.2477	83.8499
	Feb	**0.001**	28.40	0.2369	**0.001**	27.45	0.2289	3.3451
	Mar	0.006	27.47	1.3746	**0.001**	26.52	0.2212	83.9097
	Apr	0.010	17.98	1.4995	0.002	17.03	0.2841	81.0567
	May	0.030	18.19	4.5511	0.002	17.24	0.2876	93.6815
	Jun	0.021	12.73	2.2295	0.003	11.78	0.2947	86.7804
	Jul	0.010	21.59	1.8006	0.001	20.64	0.1721	90.4400
	Aug	0.012	14.96	1.4972	**0.001**	14.01	0.1168	92.1959
	Sep	0.016	13.58	1.8121	0.002	12.63	0.2107	88.3744
	Oct	0.015	15.01	1.8778	0.003	13.77	0.3445	81.6522
	Nov	0.035	15.71	4.5857	0.003	14.63	0.3660	92.0178
	Dec	0.003	18.69	0.4676	**0.005**	17.56	0.7323	-56.5900
1995	Jan	0.019	25.43	4.0296	0.002	24.33	0.4058	89.9290
	Feb	0.007	25.74	1.5027	0.002	24.57	0.4098	72.7273
	Mar	0.006	25.43	1.2725	0.002	24.25	0.4045	68.2134
	Apr	0.006	35.46	1.7744	0.003	34.31	0.8584	51.6215
	May	0.021	16.27	2.8495	0.003	15.11	0.3781	86.7328
	Jun	0.013	18.73	2.0307	0.003	17.51	0.4381	78.4262
	Jul	0.013	29.07	3.1518	0.002	27.82	0.4640	85.2769
	Aug	0.010	17.47	1.4570	0.002	16.24	0.2709	81.4081
	Nov	0.026	15.01	3.2548	0.005	13.87	0.5784	82.2298
1996	Jun	0.010	18.64	1.5546	0.002	17.42	0.2906	81.3090
	Jul	0.020	17.43	2.9073	0.002	16.54	0.2759	90.5106
	Aug	0.018	19.88	2.9844	0.004	18.50	0.6172	79.3204
	Oct	0.010	24.89	2.0758	0.002	23.55	0.3928	81.0767

ADAMS FIELD WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF LEAD

		Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
	MIN	0.001	12.73	0.2369	0.001	11.78	0.1168	-56.5900
	MAX	0.035	35.46	4.5857	0.005	34.31	0.8584	93.6815
	MEAN	0.014	20.98	2.1725	0.002	19.88	0.3716	73.9798
	MEDIAN	0.012	18.69	1.8121	0.002	17.51	0.3445	82.2298

ADAMS FIELD WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

MANGANESE (TOTAL)

TREATMENT PLANT DESIGN FLOW = 36 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1991	Sep	0.585	13.55	66.1091	0.345	12.73	36.6280	44.5946
1992	Aug	0.281	13.06	30.6066	0.134	12.11	13.5337	55.7820
1993	Sep	0.354	17.56	51.8434	0.266	16.61	36.8483	28.9239
1994	Aug	0.707	14.96	88.2098	0.225	14.01	26.2898	70.1963
1995	Sep	0.520	12.58	54.5569	0.360	11.25	33.7770	38.0885
1996	Aug	0.230	19.88	38.1338	0.190	18.50	29.3151	23.1257

ADAMS FIELD WASTEWATER TREATMENT PLANT - DATA ANALYSIS OFMANGANESE

		Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
	MIN	0.230	12.58	30.6066	0.134	11.25	13.5337	23.1257
	MAX	0.707	19.88	88.2098	0.360	18.50	36.8483	70.1963
	MEAN	0.446	15.27	54.9100	0.253	14.20	29.3986	43.4518
	MEDIAN	0.4370	14.26	53.2002	0.246	13.37	31.5461	41.3416

ADAMS FIELD WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

MERCURY (TOTAL)

TREATMENT PLANT DESIGN FLOW = 36 MGD

		Plant Influent	Plant Influent Q	Influent Loading	Final Effluent	Final Effluent Q	Effluent Mass	Removal Efficiency
1994	Jan	0.0003	30.65	0.0767	0.0002	29.70	0.0495	35.3997
	Feb	0.0004	28.40	0.0947	0.0006	27.45	0.1374	-44.9824
	Mar	0.0004	27.47	0.0916	0.0004	26.52	0.0885	3.4583
	Apr	0.0003	17.98	0.0450	0.0002	17.03	0.0284	36.8558
	May	0.0007	18.19	0.1062	0.0002	17.24	0.0288	72.9208
	Jun	0.0002	12.73	0.0212	0.0003	11.78	0.0295	-38.8060
	Jul	0.0006	21.59	0.1080	0.0003	20.64	0.0516	52.2001
	Aug	0.0003	14.96	0.0374	0.0003	14.01	0.0351	6.3503
	Sep	0.0010	13.58	0.1133	0.0002	12.63	0.0211	81.3991
	Oct	0.0003	15.01	0.0376	0.0002	13.77	0.0230	38.8408
	Nov	0.0007	15.71	0.0917	0.0002	14.63	0.0244	73.3927
	Dec	0.0005	18.69	0.0779	0.0003	17.56	0.0439	43.6276
1995	Jan	0.0002	25.43	0.0424	0.0002	24.33	0.0406	4.3256
	Feb	0.0002	25.74	0.0429	0.0002	24.57	0.0410	4.5455
	Apr	0.0002	35.46	0.0591	0.0003	34.31	0.0858	-45.1354
	May	0.0002	16.27	0.0271	0.0002	15.11	0.0252	7.1297
	Jun	0.0003	18.73	0.0469	0.0002	17.51	0.0292	37.6757
	Jul	0.0017	29.07	0.4122	0.0008	27.82	0.1856	54.9647
	Aug	0.0002	17.47	0.0291	0.0002	16.24	0.0271	7.0406
	Sep	0.0033	12.58	0.3462	0.0003	11.25	0.0281	91.8702
	Oct	0.0011	12.94	0.1187	0.0003	12.31	0.0308	74.0551
	Nov	0.0003	15.01	0.0376	0.0002	13.87	0.0231	38.3966
	Dec	0.0010	21.47	0.1791	0.0002	20.21	0.0337	81.1737
1996	Jan	0.0002	27.46	0.0458	0.0002	26.30	0.0439	4.2243
	Feb	0.0009	19.78	0.1485	0.0002	18.60	0.0310	79.1035
	Mar	0.0005	24.46	0.1020	0.0002	23.30	0.0389	61.8970
	Apr	0.0003	25.26	0.0632	0.0002	24.16	0.0403	36.2365
	Jun	0.0002	18.64	0.0311	0.0002	17.42	0.0291	6.5451
	Jul	0.0003	17.43	0.0436	0.0002	16.54	0.0276	36.7374
	Sep	0.0002	18.39	0.0307	0.0002	17.29	0.0288	5.9815
	Dec	0.0002	40.00	0.0667	0.0002	37.17	0.0620	7.0750

ADAMS FIELD WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF MERCURY

		Plant Influent	Plant Influent Q	Influent Loading	Final Effluent	Final Effluent Q	Effluent Mass	Removal Efficiency
		mg/L	MGD	lbs/day	(mg/L)	MGD	lbs/day	%
	MIN	0.0002	12.58	0.0212	0.0002	11.25	0.0211	-45.1354
	MAX	0.0033	40.00	0.4122	0.0008	37.17	0.1856	91.8702
	MEAN	0.0006	21.18	0.0895	0.0003	20.04	0.0456	30.7903
	MEDIAN	0.0003	18.69	0.0632	0.0002	17.51	0.0310	36.7374

ADAMS FIELD WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

MOLYBDENUM (TOTAL)

TREATMENT PLANT DESIGN FLOW = 36 MGD

Year	Date	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	0.007	30.65	1.7893	0.005	29.70	1.2385	30.7854
	Feb	0.007	28.40	1.6580	0.009	27.45	2.0604	-24.2706
	Mar	0.008	27.47	1.8328	0.008	26.52	1.7694	3.4583
	Apr	0.015	17.98	2.2493	0.011	17.03	1.5623	30.5413
	May	0.012	18.19	1.8205	0.012	17.24	1.7254	5.2226
	Jun	0.036	12.73	3.8221	0.028	11.78	2.7509	28.0265
	Jul	0.029	21.59	5.2218	0.038	20.64	6.5412	-25.2687
	Aug	0.013	14.96	1.6220	0.024	14.01	2.8042	-72.8918
	Sep	0.025	13.58	2.8314	0.028	12.63	2.9494	-4.1649
	Oct	0.014	15.01	1.7526	0.015	13.77	1.7226	1.7084
	Nov	0.007	15.71	0.9171	0.008	14.63	0.9761	-6.4290
	Dec	0.004	18.69	0.6235	0.004	17.56	0.5858	6.0460
1995	Jan	0.012	25.43	2.5450	0.007	24.33	1.4204	44.1899
	Feb	0.008	25.74	1.7174	0.004	24.57	0.8197	52.2727
	Mar	0.009	25.43	1.9088	0.013	24.25	2.6292	-37.7419
	Apr	0.007	35.46	2.0702	0.006	34.31	1.7169	17.0655
	May	0.015	16.27	2.0354	0.014	15.11	1.7642	13.3210
	Jun	0.015	18.73	2.3431	0.017	17.51	2.4826	-5.9512
	Jul	0.024	29.07	5.8187	0.016	27.82	3.7123	36.2000
	Aug	0.027	17.47	3.9339	0.029	16.24	3.9278	0.1548
	Nov	0.004	15.01	0.5007	0.005	13.87	0.5784	-15.5063
1996	Jun	0.014	18.64	2.1764	0.009	17.42	1.3075	39.9218
	Jul	0.039	17.43	5.6693	0.022	16.54	3.0348	46.4701
	Aug	0.006	19.88	0.9948	0.003	18.50	0.4629	53.4708
	Oct	0.007	24.89	1.4531	0.007	23.55	1.3748	5.3837

ADAMS FIELD WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF MOLYBDENUM

		Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
	MIN	0.004	12.73	0.5007	0.003	11.78	0.4629	-72.8918
	MAX	0.039	35.46	5.8187	0.038	34.31	6.5412	53.4708
	MEAN	0.015	20.98	2.3723	0.014	19.88	2.0767	8.8806
	MEDIAN	0.012	18.69	1.9088	0.011	17.51	1.7254	5.3837

ADAMS FIELD WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

NICKEL (TOTAL)

TREATMENT PLANT DESIGN FLOW = 36 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	0.005	30.65	1.2781	0.003	29.70	0.7431	41.8597
	Feb	0.003	28.40	0.7106	0.002	27.45	0.4579	35.5634
	Mar	0.005	27.47	1.1455	0.003	26.52	0.6635	42.0750
	Apr	0.004	17.98	0.5998	0.003	17.03	0.4261	28.9627
	May	0.008	18.19	1.2136	0.005	17.24	0.7189	40.7642
	Jun	0.005	12.73	0.5308	0.003	11.78	0.2947	44.4776
	Jul	0.005	21.59	0.9003	0.004	20.64	0.6886	23.5201
	Aug	0.007	14.96	0.8734	**0.002**	14.01	0.2337	73.2429
	Sep	0.008	13.58	0.9061	0.004	12.63	0.4213	53.4978
	Oct	0.005	15.01	0.6259	0.003	13.77	0.3445	44.9567
	Nov	0.006	15.71	0.7861	0.005	14.63	0.6101	22.3955
	Dec	0.002	18.69	0.3117	**0.005**	17.56	0.7323	-134.8850
1995	Jan	0.008	25.43	1.6967	0.003	24.33	0.6087	64.1221
	Feb	0.006	25.74	1.2880	0.004	24.57	0.8197	36.3636
	Mar	0.008	25.43	1.6967	0.005	24.25	1.0112	40.4001
	Apr	0.006	35.46	1.7744	0.005	34.31	1.4307	19.3692
	May	0.007	16.27	0.9498	0.005	15.11	0.6301	33.6641
	Jun	0.013	18.73	2.0307	0.007	17.51	1.0222	49.6612
	Jul	0.013	29.07	3.1518	0.007	27.82	1.6241	48.4692
	Aug	0.007	17.47	1.0199	0.005	16.24	0.6772	33.6005
	Nov	0.005	15.01	0.6259	0.004	13.87	0.4627	26.0759
1996	Jun	0.005	18.64	0.7773	0.005	17.42	0.7264	6.5451
	Jul	0.002	17.43	0.2907	**0.001**	16.54	0.1379	52.5531
	Aug	0.005	19.88	0.8290	0.003	18.50	0.4629	44.1650
	Oct	**0.001**	24.89	0.2076	**0.001**	23.55	0.1964	5.3837

ADAMS FIELD WASTEWATER TRETMENT PLANT - DATA ANALYSIS OF NICKEL

	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
MIN	0.001	12.73	0.2076	0.001	11.78	0.1379	-134.8850
MAX	0.013	35.46	3.1518	0.007	34.31	1.6241	73.2429
MEAN	0.006	20.98	1.0488	0.004	19.88	0.6458	31.0721
MEDIAN	0.005	18.69	0.9003	0.004	17.51	0.6301	40.4001

ADAMS FIELD WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

SELENIUM (TOTAL)

TREATMENT PLANT DESIGN FLOW = 36 MGD

		Plant Influent	Plant Influent Q	Influent Loading	Final Effluent	Final Effluent Q	Effluent Mass	Removal Efficiency
1994	Jan	**0.005**	30.65	1.2781	**0.005**	29.70	1.2385	3.0995
	Feb	**0.005**	28.40	1.1843	**0.005**	27.45	1.1447	3.3451
	Mar	**0.005**	27.47	1.1455	**0.005**	26.52	1.1059	3.4583
	Apr	**0.005**	17.98	0.7498	**0.005**	17.03	0.7102	5.2836
	May	0.006	18.19	0.9102	**0.005**	17.24	0.7189	21.0189
	Jun	**0.005**	12.73	0.5308	**0.005**	11.78	0.4912	7.4627
	Jul	**0.005**	21.59	0.9003	**0.005**	20.64	0.8607	4.4002
	Aug	**0.005**	14.96	0.6238	**0.005**	14.01	0.5842	6.3503
	Sep	**0.005**	13.58	0.5663	**0.005**	12.63	0.5267	6.9956
	Oct	**0.005**	15.01	0.6259	0.006	13.77	0.6891	-10.0866
	Nov	**0.005**	15.71	0.6551	**0.005**	14.63	0.6101	6.8746
	Dec	**0.005**	18.69	0.7794	**0.005**	17.56	0.7323	6.0460
1995	Jan	**0.005**	25.43	1.0604	**0.005**	24.33	1.0146	4.3256
	Feb	**0.005**	25.74	1.0734	**0.005**	24.57	1.0246	4.5455
	Mar	**0.005**	25.43	1.0604	**0.005**	24.25	1.0112	4.6402
	Apr	**0.005**	35.46	1.4787	0.005	34.31	1.4307	3.2431
	May	**0.005**	16.27	0.6785	**0.005**	15.11	0.6301	7.1297
	Jun	**0.005**	18.73	0.7810	**0.005**	17.51	0.7302	6.5136
	Jul	**0.005**	29.07	1.2122	**0.005**	27.82	1.1601	4.3000
	Aug	**0.001**	17.47	0.1457	**0.001**	16.24	0.1354	7.0406
	Nov	**0.001**	15.01	0.1252	**0.001**	13.87	0.1157	7.5949
1996	Jun	**0.002**	18.64	0.3109	**0.002**	17.42	0.2906	6.5451
	Jul	**0.002**	17.43	0.2907	**0.002**	16.54	0.2759	5.1061
	Aug	**0.002**	19.88	0.3316	**0.002**	18.50	0.3086	6.9416
	Oct	**0.002**	24.89	0.4152	**0.002**	23.55	0.3928	5.3837

ADAMS FIELD WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF SELENIUM

		Plant Influent	Plant Influent Q	Influent Loading	Final Effluent	Final Effluent Q	Effluent Mass	Removal Efficiency
		mg/L	MGD	lbs/day	(mg/L)	MGD	lbs/day	%
	MIN	0.001	12.73	0.1252	0.001	11.78	0.1157	-10.0866
	MAX	0.006	35.46	1.4787	0.006	34.31	1.4307	21.0189
	MEAN	0.004	20.98	0.7565	0.004	19.88	0.7173	5.5023
	MEDIAN	0.005	18.69	0.7498	0.005	17.51	0.7102	5.3837

ADAMS FIELD WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

SILVER (TOTAL)

TREATMENT PLANT DESIGN FLOW = 36 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	0.0126	30.65	3.2208	0.0019	29.70	0.4706	85.3880
	Feb	0.0168	28.40	3.9792	0.0025	27.45	0.5723	85.6168
	Mar	0.0178	27.47	4.0780	0.0031	26.52	0.6856	83.1866
	Apr	0.0248	17.98	3.7188	0.0035	17.03	0.4971	86.6328
	May	0.0417	18.19	6.3261	0.0043	17.24	0.6183	90.2268
	Jun	0.0133	12.73	1.4120	0.0020	11.78	0.1965	86.0846
	Jul	0.0054	21.59	0.9723	0.0009	20.64	0.1549	84.0667
	Aug	0.0054	14.96	0.6737	0.0042	14.01	0.4907	27.1613
	Sep	0.0020	13.58	0.2265	0.0008	12.63	0.0843	62.7982
	Oct	0.0174	15.01	2.1782	0.0027	13.77	0.3101	85.7647
	Nov	0.0310	15.71	4.0617	0.0025	14.63	0.3050	92.4899
	Dec	0.0039	18.69	0.6079	**0.0020**	17.56	0.2929	51.8185
1995	Jan	0.0330	25.43	6.9988	0.0064	24.33	1.2986	81.4450
	Feb	0.0138	25.74	2.9625	0.0031	24.57	0.6352	78.5573
	Mar	0.0296	25.43	6.2778	0.0038	24.25	0.7685	87.7579
	Apr	0.0049	35.46	1.4491	0.0035	34.31	1.0015	30.8879
	May	0.0252	16.27	3.4194	0.0013	15.11	0.1638	95.2091
	Jun	0.0271	18.73	4.2332	0.0044	17.51	0.6425	84.8214
	Jul	0.0050	29.07	1.2122	**0.0020**	27.82	0.4640	61.7200
	Aug	0.0100	17.47	1.4570	**0.0020**	16.24	0.2709	81.4081
	Nov	0.0110	15.01	1.3770	**0.0020**	13.87	0.2314	83.1991
1996	Jun	0.0150	18.64	2.3319	**0.0020**	17.42	0.2906	87.5393
	Jul	0.0140	17.43	2.0351	**0.0020**	16.54	0.2759	86.4437
	Aug	0.0130	19.88	2.1554	**0.0020**	18.50	0.3086	85.6833
	Oct	0.0080	24.89	1.6607	0.0020	23.55	0.3928	76.3459

ADAMS FIELD WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF SILVER

	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
MIN	0.0020	12.73	0.2265	0.0008	11.78	0.0843	27.1613
MAX	0.0417	35.46	6.9988	0.0064	34.31	1.2986	95.2091
MEAN	0.0161	20.98	2.7610	0.0027	19.88	0.4569	77.6901
MEDIAN	0.0138	18.69	2.1782	0.0020	17.51	0.3928	84.8214

ADAMS FIELD WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

ZINC (TOTAL)

TREATMENT PLANT DESIGN FLOW = 36 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	0.068	30.65	17.3822	0.018	29.70	4.4586	74.3499
	Feb	0.062	28.40	14.6851	0.030	27.45	6.8680	53.2315
	Mar	0.145	27.47	33.2195	0.059	26.52	13.0494	60.7175
	Apr	0.120	17.98	17.9944	0.034	17.03	4.8290	73.1637
	May	0.138	18.19	20.9352	0.033	17.24	4.7448	77.3359
	Jun	0.101	12.73	10.7230	0.014	11.78	1.3754	87.1730
	Jul	0.102	21.59	18.3662	0.034	20.64	5.8527	68.1334
	Aug	0.142	14.96	17.7168	0.022	14.01	2.5706	85.4909
	Sep	0.131	13.58	14.8367	0.008	12.63	0.8427	94.3203
	Oct	0.215	15.01	26.9144	0.034	13.77	3.9046	85.4925
	Nov	0.225	15.71	29.4798	0.036	14.63	4.3925	85.0999
	Dec	0.115	18.69	17.9256	0.023	17.56	3.3684	81.2092
1995	Jan	0.121	25.43	25.6624	0.038	24.33	7.7107	69.9535
	Feb	0.083	25.74	17.8177	0.038	24.57	7.7867	56.2979
	Mar	0.097	25.43	20.5724	0.024	24.25	4.8539	76.4058
	Apr	0.071	35.46	20.9973	0.058	34.31	16.5964	20.9591
	May	0.141	16.27	19.1325	0.016	15.11	2.0163	89.4615
	Jun	0.129	18.73	20.1509	0.014	17.51	2.0445	89.8542
	Jul	0.235	29.07	56.9743	0.020	27.82	4.6404	91.8553
	Aug	0.106	17.47	15.4442	0.011	16.24	1.4899	90.3533
	Sep	0.120	12.58	12.5901	0.028	11.25	2.6271	79.1335
	Oct	0.113	12.94	12.1949	0.010	12.31	1.0267	91.5813
	Nov	0.144	15.01	18.0264	0.029	13.87	3.3546	81.3906
	Dec	0.127	21.47	22.7406	0.036	20.21	6.0679	73.3171
1996	Jan	0.165	27.46	37.7877	0.057	26.30	12.5025	66.9139
	Feb	0.199	19.78	32.8281	0.077	18.60	11.9445	63.6148
	Mar	0.142	24.46	28.9675	0.050	23.30	9.7161	66.4586
	Apr	0.205	25.26	43.1870	0.180	24.16	36.2690	16.0188
	May	0.153	25.27	32.2450	0.029	24.15	5.8409	81.8858
	Jun	0.135	18.64	20.9868	0.032	17.42	4.6490	77.8477
	Jul	0.170	17.43	24.7123	0.010	16.54	1.3794	94.4180

ADAMS FIELD WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF ZINC

	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
MIN	0.062	12.58	10.7230	0.008	11.25	0.8427	16.0188
MAX	0.235	35.46	56.9743	0.180	34.31	36.2690	94.4180
MEAN	0.136	20.93	23.3289	0.036	19.85	6.4120	74.3045
MEDIAN	0.131	18.7300	20.5724	0.030	17.56	4.6490	77.8477

APPENDIX

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FOURCHE CREEK WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

ANTIMONY (TOTAL)

TREATMENT PLANT DESIGN FLOW = 16 MGD

								Removal
		Plant Influent	Plant Influent Q	Influent Loading	Final Effluent	Final Effluent Q	Effluent Mass	Efficiency
Year	Month	mg/L	MGD	lbs/day	(mg/L)	MGD	lbs/day	%
1994	Mar	**0.20**	26.47	44.1520	**0.20**	26.00	43.3680	1.7756
	May	**0.20**	10.55	17.5974	**0.20**	9.79	16.3297	7.2038
	Aug	**0.20**	14.60	24.3528	**0.20**	14.77	24.6364	-1.1644
	Nov	**0.20**	13.32	22.2178	**0.20**	13.54	22.5847	-1.6517
1995	Feb	**0.20**	13.97	23.3020	**0.20**	14.12	23.5522	-1.0737
	May	**0.20**	12.22	20.3830	**0.20**	11.62	19.3822	4.9100
	Aug	**0.20**	12.29	20.4997	**0.20**	11.32	18.8818	7.8926
	Nov	**0.20**	15.04	25.0867	**0.20**	13.87	23.1352	7.7793
1996	Feb	**0.20**	11.36	18.9485	**0.20**	10.5	17.5140	7.5704
	May	**0.20**	9.18	15.3122	**0.20**	8.08	13.4774	11.9826
	Nov	**0.03**	12.7	3.1775	**0.03**	12.46	3.1175	1.8898

FOURCHE CREEK WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF ANTIMONY

		Plant Influent	Plant Influent Q	Influent Loading	Final Effluent	Final Effluent Q	Effluent Mass	Removal Efficiency
		mg/L	MGD	lbs/day	(mg/L)	MGD	lbs/day	%
	MIN	0.03	9.18	3.1775	0.03	8.08	3.1175	-1.6517
	MAX	0.20	26.47	44.1520	0.20	26.00	43.3680	11.9826
	MEAN	0.18	13.79	21.3663	0.18	13.28	20.5435	4.2831
	MEDIAN	0.20	12.70	20.4997	0.20	12.46	19.3822	4.9100

FOURCHE CREEK WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

ARSENIC (TOTAL)

TREATMENT PLANT DESIGN FLOW = 16 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	0.008	9.96	0.6645	0.004	8.83	0.2946	55.6727
	Feb	0.005	30.76	1.2827	0.002	30.49	0.5086	60.3511
	Mar	**0.002**	26.47	0.4415	**0.002**	26.00	0.4337	1.7756
	Apr	0.008	16.83	1.1229	0.003	16.50	0.4128	63.2353
	May	0.009	10.55	0.7919	0.007	9.79	0.5715	27.8252
	Jun	0.002	21.16	0.3529	0.004	22.12	0.7379	-109.0737
	Jul	**0.002**	12.40	0.2068	0.003	12.69	0.3175	-53.5081
	Aug	0.005	14.60	0.6088	0.005	14.77	0.6159	-1.1644
	Sep	0.005	11.99	0.5000	0.006	11.52	0.5765	-15.2961
	Oct	0.006	12.04	0.6025	0.003	12.50	0.3128	48.0897
	Nov	0.008	13.32	0.8887	**0.002**	13.54	0.2258	74.5871
	Dec	0.007	14.97	0.8739	0.007	14.30	0.8348	4.4756
1995	Jan	**0.002**	13.44	0.2242	**0.002**	13.14	0.2192	2.2321
	Feb	**0.002**	13.97	0.2330	**0.002**	14.12	0.2355	-1.0737
	Mar	0.002	12.61	0.2103	**0.002**	12.68	0.2115	-0.5551
	Apr	0.002	14.91	0.2487	**0.002**	15.36	0.2562	-3.0181
	May	0.003	12.22	0.3057	**0.002**	11.62	0.1938	36.6067
	Jun	0.007	12.41	0.7245	0.008	11.22	0.7486	-3.3268
	Jul	0.006	12.80	0.6405	0.004	11.86	0.3956	38.2292
	Aug	**0.001**	12.29	0.1025	**0.001**	11.32	0.0944	7.8926
	Nov	**0.001**	15.04	0.1254	**0.001**	13.87	0.1157	7.7793
1996	Jun	0.002	12.36	0.2062	0.003	12.03	0.3010	-45.9951
	Jul	**0.001**	11.34	0.0946	**0.001**	11.03	0.0920	2.7337
	Aug	**0.001**	8.77	0.0731	**0.001**	9.54	0.0796	-8.7799
	Oct	**0.001**	13.85	0.1155	**0.001**	14.43	0.1203	-4.1877

FOURCHE CREEK WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF ARSENIC

		Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
	MIN	0.001	8.77	0.0731	0.001	8.83	0.0796	-109.0737
	MAX	0.009	30.76	1.2827	0.008	30.49	0.8348	74.5871
	MEAN	0.004	14.44	0.4657	0.003	14.21	0.3562	7.4203
	MEDIAN	0.002	12.80	0.3529	0.002	12.69	0.3010	2.2321

FOURCHE CREEK WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

BARIUM (TOTAL)

TREATMENT PLANT DESIGN FLOW = 16 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1991	Sep	0.26	13.22	28.6662	0.06	15.01	7.5110	73.7984
1992	Aug	0.20	10.09	16.8301	0.14	9.73	11.3607	32.4975
1993	Sep	0.20	7.04	11.7427	0.10	8.41	7.0139	40.2699
1994	Aug	0.18	14.60	21.9175	0.14	14.77	17.2455	21.3166
1995	Sep	0.19	13.90	22.0259	0.03	13.40	3.3527	84.7785
1996	Aug	0.49	8.77	35.8395	0.31	9.54	24.6647	31.1800

FOURCHE CREEK WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF BARIUM

		Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
	MIN	0.18	7.04	11.7427	0.03	8.41	3.3527	21.3166
	MAX	0.49	14.60	35.8395	0.31	15.01	24.6647	84.7785
	MEAN	0.25	11.27	22.8370	0.13	11.81	11.8581	47.3068
	MEDIAN	0.20	11.66	21.9717	0.12	11.57	9.4359	36.3837

FOURCHE CREEK WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

BORON (TOTAL)

TREATMENT PLANT DESIGN FLOW = 16 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1991	Sep	0.20	13.22	22.0510	0.20	15.01	25.0367	-22.5849
1992	Aug	0.10	10.09	8.4151	0.14	9.73	11.3607	-29.1941
1993	Aug	0.16	11.46	15.2922	0.18	11.65	17.4890	-19.1689
1994	Sep	0.20	11.99	19.9993	0.17	11.52	16.3331	30.5777
1995	Aug	0.19	13.9	22.0259	0.21	13.40	23.4688	-10.3800
1996	Aug	0.17	8.77	12.4341	0.17	9.54	13.5258	-12.4482

FOURCHE CREEK WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF BORON

		Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
	MIN	0.10	8.77	8.4151	0.14	9.54	11.3607	-29.1941
	MAX	0.20	13.90	22.0510	0.21	15.01	25.0367	30.5777
	MEAN	0.17	11.57	16.7029	0.18	11.81	17.8690	-10.5331
	MEDIAN	0.18	11.73	17.6458	0.18	11.59	16.9110	-15.8085

FOURCHE CREEK WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

CADMIUM (TOTAL)

TREATMENT PLANT DESIGN FLOW = 16 MGD

		Plant Influent	Plant Influent Q	Influent Loading	Final Effluent	Final Effluent Q	Effluent Mass	Removal Efficiency
		mg/L	MGD	lbs/day	(mg/L)	MGD	lbs/day	%
1994	Jan	0.0017	9.96	0.1412	0.0004	8.83	0.0295	79.1401
	Feb	0.0029	30.76	0.7440	0.0007	30.49	0.1780	76.0739
	Mar	0.0008	26.47	0.1766	0.0007	26.00	0.1518	14.0536
	Apr	0.0004	16.83	0.0561	**0.0003**	16.50	0.0413	26.4706
	May	0.0008	10.55	0.0704	0.0004	9.79	0.0327	53.6019
	Jun	**0.0003**	21.16	0.0529	**0.0003**	22.12	0.0553	-4.5369
	Jul	**0.0003**	12.40	0.0310	**0.0003**	12.69	0.0318	-2.3387
	Aug	**0.0003**	14.60	0.0365	0.0017	14.77	0.2094	-473.2648
	Sep	0.0014	11.99	0.1400	0.0035	11.52	0.3363	-140.2002
	Oct	**0.0003**	12.04	0.0301	**0.0002**	12.50	0.0209	30.7863
	Nov	**0.0003**	13.32	0.0333	**0.0003**	13.54	0.0339	-1.6517
	Dec	0.0027	14.97	0.3371	0.0017	14.30	0.2027	39.8550
1995	Jan	0.0036	13.44	0.4035	0.0029	13.14	0.3178	21.2426
	Feb	0.0024	13.97	0.2796	0.0022	14.12	0.2591	7.3491
	Mar	0.0034	12.61	0.3576	0.0009	12.68	0.0952	73.3825
	Apr	0.0025	14.91	0.3109	0.0004	15.36	0.0512	83.5171
	May	0.0022	12.22	0.2242	**0.0003**	11.62	0.0291	87.0332
	Jun	0.0022	12.41	0.2277	0.0069	11.22	0.6457	-183.5616
	Jul	0.0007	12.80	0.0747	**0.0001**	11.86	0.0099	86.7634
	Aug	0.0003	12.29	0.0307	**0.0001**	11.32	0.0094	69.2975
	Nov	0.0006	15.04	0.0753	0.0006	13.89	0.0695	7.6463
1996	Jun	**0.0001**	12.36	0.0103	**0.0001**	12.03	0.0100	2.6699
	Jul	0.0007	11.34	0.0662	**0.0001**	11.03	0.0092	86.1048
	Aug	**0.0001**	8.77	0.0073	**0.0001**	9.54	0.0080	-8.7799
	Oct	**0.0001**	13.85	0.0116	**0.0001**	14.43	0.0120	-4.1877

FOURCHE CREEK WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF CADMIUM

		Plant Influent	Plant Influent Q	Influent Loading	Final Effluent	Final Effluent Q	Effluent Mass	Removal Efficiency
		mg/L	MGD	lbs/day	(mg/L)	MGD	lbs/day	%
	MIN	0.0001	8.77	0.0073	0.0001	8.83	0.0080	-473.2648
	MAX	0.0036	30.76	0.7440	0.0069	30.49	0.6457	87.0332
	MEAN	0.0012	14.44	0.1572	0.0010	14.21	0.1140	1.0586
	MEDIAN	0.0007	12.80	0.0747	0.0004	12.69	0.0413	21.2426

FOURCHE CREEK WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

CHROMIUM (TOTAL)

TREATMENT PLANT DESIGN FLOW = 16 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	0.0030	9.96	0.2492	0.0011	8.83	0.0810	67.4933
	Feb	0.0024	30.76	0.6157	0.0004	30.49	0.1017	83.4796
	Mar	0.0028	26.47	0.6181	0.0013	26.00	0.2819	54.3958
	Apr	0.0047	16.83	0.6597	0.0022	16.50	0.3027	54.1093
	May	0.0082	10.55	0.7215	0.0013	9.79	0.1061	85.2884
	Jun	0.0076	21.16	1.3412	0.0022	22.12	0.4059	69.7393
	Jul	0.0066	12.40	0.6825	0.0022	12.69	0.2328	65.8871
	Aug	0.0100	14.60	1.2176	0.0021	14.77	0.2587	78.7555
	Sep	0.0054	11.99	0.5400	0.0017	11.52	0.1633	69.7526
	Oct	0.0095	12.04	0.9539	0.0007	12.50	0.0730	92.3501
	Nov	0.0080	13.32	0.8887	0.0096	13.54	1.0841	-21.9820
	Dec	0.0067	14.97	0.8365	0.0150	14.30	1.7889	-113.8606
1995	Jan	0.0070	13.44	0.7846	0.0028	13.14	0.3068	60.8929
	Feb	0.0065	13.97	0.7573	0.0028	14.12	0.3297	56.4605
	Mar	0.0047	12.61	0.4943	0.0017	12.68	0.1798	63.6290
	Apr	0.0051	14.91	0.6342	0.0014	15.36	0.1793	71.7205
	May	0.0065	12.22	0.6624	0.0014	11.62	0.1357	79.5191
	Jun	0.0033	12.41	0.3415	0.0032	11.22	0.2994	12.3288
	Jul	0.0060	12.80	0.6405	0.0100	11.86	0.9891	-54.4271
	Aug	0.0100	12.29	1.0250	0.0030	11.32	0.2832	72.3678
	Nov	0.0050	15.04	0.6272	0.0010	13.87	0.1157	81.5559
1996	Jun	0.0150	12.36	1.5462	0.0090	12.03	0.9030	41.6019
	Jul	0.0050	11.34	0.4729	**0.0010**	11.03	0.0920	80.5467
	Aug	0.0090	8.77	0.6583	**0.0010**	9.54	0.0796	87.9133
	Oct	0.0050	13.85	0.5775	**0.0010**	14.43	0.1203	79.1625

FOURCHE CREEK WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF CHROMIUM

		Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
	MIN	0.0024	8.77	0.2492	0.0004	8.83	0.0730	-113.8606
	MAX	0.0150	30.76	1.5462	0.0150	30.49	1.7889	92.3501
	MEAN	0.0065	14.44	0.7419	0.0032	14.21	0.3558	52.7472
	MEDIAN	0.0065	12.80	0.660	0.0017	12.69	0.2328	69.7393

FOURCHE CREEK WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

COPPER (TOTAL)

TREATMENT PLANT DESIGN FLOW = 16 MGD

		Plant Influent	Plant Influent Q	Influent Loading	Final Effluent	Final Effluent Q	Effluent Mass	Removal Efficiency
1994	Jan	0.041	9.96	3.4057	0.007	8.83	0.5155	84.8638
	Feb	0.028	30.76	7.1831	0.011	30.49	2.7972	61.0591
	Mar	0.026	26.47	5.7398	0.011	26.00	2.3852	58.4435
	Apr	0.029	16.83	4.0705	0.011	16.50	1.5137	62.8127
	May	0.038	10.55	3.3435	0.009	9.79	0.7348	78.0220
	Jun	0.045	21.16	7.9413	0.017	22.12	3.1362	60.5083
	Jul	0.036	12.40	3.7230	0.008	12.69	0.8467	77.2581
	Aug	0.049	14.60	5.9664	0.006	14.77	0.7391	87.6125
	Sep	0.042	11.99	4.1999	0.004	11.52	0.3843	90.8495
	Oct	0.057	12.04	5.7236	0.009	12.50	0.9383	83.6073
	Nov	0.079	13.32	8.7760	0.007	13.54	0.7905	90.9929
	Dec	0.047	14.97	5.8679	0.008	14.30	0.9541	83.7405
1995	Jan	0.061	13.44	6.8375	0.009	13.14	0.9863	85.5752
	Feb	0.050	13.97	5.8255	0.009	14.12	1.0598	81.8067
	Mar	0.039	12.61	4.1015	0.001	12.68	0.1058	97.4217
	Apr	0.029	14.91	3.6061	0.004	15.36	0.5124	85.7906
	May	0.071	12.22	7.2360	0.007	11.62	0.6784	90.6249
	Jun	0.054	12.41	5.5890	0.011	11.22	1.0293	81.5830
	Jul	0.062	12.80	6.6186	0.010	11.86	0.9891	85.0554
	Aug	0.084	12.29	8.6099	0.143	11.32	13.5005	-56.8019
	Nov	0.053	15.04	6.6480	0.014	13.87	1.6195	75.6398
1996	Jun	0.060	12.36	6.1849	0.005	12.03	0.5017	91.8892
	Jul	0.083	11.34	7.8498	0.017	11.03	1.5638	80.0780
	Aug	0.116	8.77	8.4844	0.005	9.54	0.3978	95.3112
	Oct	0.030	13.85	3.4653	0.002	14.43	0.2407	93.0542

FOURCHE CREEK WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF COPPER

		Plant Influent	Plant Influent Q	Influent Loading	Final Effluent	Final Effluent Q	Effluent Mass	Removal Efficiency
		mg/L	MGD	lbs/day	(mg/L)	MGD	lbs/day	%
	MIN	0.026	8.77	3.3435	0.001	8.83	0.1058	-56.8019
	MAX	0.116	30.76	8.7760	0.143	30.49	13.5005	97.4217
	MEAN	0.052	14.44	5.8799	0.014	14.21	1.5568	76.2719
	MEDIAN	0.049	12.80	5.8679	0.009	12.69	0.9383	83.7405

FOURCHE CREEK WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

CYANIDE (TOTAL)

TREATMENT PLANT DESIGN FLOW = 16 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	0.079	9.96	6.5622	0.020	8.83	1.4728	77.5558
	Feb	0.020	30.76	5.1308	0.020	30.49	5.0857	0.8778
	Mar	0.020	26.47	4.4152	0.020	26.00	4.3368	1.7756
	Apr	0.020	16.83	2.8072	0.020	16.50	2.7522	1.9608
	May	0.020	10.55	1.7597	0.020	9.79	1.6330	7.2038
	Jun	0.020	21.16	3.5295	0.020	22.12	3.6896	-4.5369
	Jul	0.020	12.40	2.0683	0.020	12.69	2.1167	-2.3387
	Aug	0.020	14.60	2.4353	0.020	14.77	2.4636	-1.1644
	Sep	0.020	11.99	1.9999	0.020	11.52	1.9215	3.9199
	Oct	0.020	12.04	2.0083	0.020	12.50	2.0850	-3.8206
	Nov	0.020	13.32	2.2218	0.020	13.54	2.2585	-1.6517
	Dec	0.020	14.97	2.4970	0.020	14.30	2.3852	4.4756
1995	Jan	0.020	13.44	2.2418	0.020	13.14	2.1918	2.2321
	Feb	0.020	13.97	2.3302	0.020	14.12	2.3552	-1.0737
	Mar	0.020	12.61	2.1033	0.020	12.68	2.1150	-0.5551
	Apr	0.020	14.91	2.4870	0.020	15.36	2.5620	-3.0181
	May	0.020	12.22	2.0383	0.020	11.62	1.9382	4.9100
	Jun	0.020	12.41	2.0700	0.020	11.22	1.8715	9.5890
	Jul	0.020	12.8	2.1350	0.020	11.86	1.9782	7.3438
	Aug	0.020	12.29	2.0500	0.020	11.32	1.8882	7.8926
	Sep	0.020	13.9	2.3185	0.020	13.40	2.2351	3.5971
	Oct	0.020	11.66	1.9449	0.020	10.82	1.8048	7.2041
	Nov	0.020	15.04	2.5087	0.020	13.87	2.3135	7.7793
	Dec	0.020	14.5	2.4186	0.020	13.45	2.2435	7.2414
1996	Jan	0.0100			0.010			
	Feb	0.020	11.36	1.8948	0.020	10.5	1.7514	7.5704
	Mar	0.020	18.74	3.1258	0.020	18.31	3.0541	2.2946
	Apr	0.020	12.38	2.0650	0.020	11.87	1.9799	4.1195
	May	0.020	9.18	1.5312	0.020	8.08	1.3477	11.9826
	Jun	0.020	12.36	2.0616	0.020	12.03	2.0066	2.6699
	Aug	0.020	8.77	1.4628	0.020	9.54	1.5913	-8.7799
	Nov	0.020	12.7	2.1184	0.020	12.46	2.0783	1.8898

FOURCHE CREEK WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF CYANIDE

	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
MIN	0.010	8.77	1.4628	0.010	8.08	1.3477	-8.7799
MAX	0.079	30.76	6.5622	0.020	30.49	5.0857	77.5558
MEAN	0.022	14.20	2.5271	0.020	13.83	2.3067	5.1338
MEDIAN	0.020	12.70	2.1350	0.020	12.68	2.1150	2.6699

FOURCHE CREEK WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

LEAD (TOTAL)

TREATMENT PLANT DESIGN FLOW = 16 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	0.008	9.96	0.6645	**0.001**	8.83	0.0736	88.9182
	Feb	0.011	30.76	2.8219	**0.001**	30.49	0.2543	90.9889
	Mar	0.004	26.47	0.8830	**0.001**	26.00	0.2168	75.4439
	Apr	0.009	16.83	1.2633	0.003	16.50	0.4128	67.3203
	May	0.011	10.55	0.9679	**0.001**	9.79	0.0816	91.5640
	Jun	0.020	21.16	3.5295	0.007	22.12	1.2914	63.4121
	Jul	0.013	12.40	1.3444	0.002	12.69	0.2117	84.2556
	Aug	0.017	14.60	2.0700	0.001	14.77	0.1232	94.0492
	Sep	0.013	11.99	1.3000	**0.001**	11.52	0.0961	92.6092
	Oct	0.026	12.04	2.6108	0.001	12.50	0.1043	96.0069
	Nov	0.026	13.32	2.8883	0.002	13.54	0.2258	92.1806
	Dec	0.009	14.97	1.1236	0.001	14.30	0.1193	89.3862
1995	Jan	0.034	13.44	3.8110	0.003	13.14	0.3288	91.3734
	Feb	0.061	13.97	7.1071	0.002	14.12	0.2355	96.6861
	Mar	0.017	12.61	1.7878	0.001	12.68	0.1058	94.0850
	Apr	0.010	14.91	1.2435	**0.001**	15.36	0.1281	89.6982
	May	0.020	12.22	2.0383	**0.001**	11.62	0.0969	95.2455
	Jun	0.018	12.41	1.8630	0.002	11.22	0.1871	89.9543
	Jul	0.016	12.80	1.7080	0.002	11.86	0.1978	88.4180
	Aug	0.022	12.29	2.2550	0.004	11.32	0.3776	83.2532
	Nov	0.011	15.04	1.3798	0.004	13.87	0.4627	66.4652
1996	Jun	0.018	12.36	1.8555	**0.001**	12.03	0.1003	94.5928
	Jul	0.024	11.34	2.2698	0.004	11.03	0.3680	83.7889
	Aug	0.022	8.77	1.6091	0.002	9.54	0.1591	90.1109
	Oct	0.010	13.85	1.1551	0.002	14.43	0.2407	79.1625

FOURCHE CREEK WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF LEAD

		Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
	MIN	0.004	8.77	0.6645	0.001	8.83	0.0736	63.4121
	MAX	0.061	30.76	7.1071	0.007	30.49	1.2914	96.6861
	MEAN	0.018	14.44	2.0620	0.002	14.21	0.2480	86.7588
	MEDIAN	0.017	12.80	1.7878	0.002	12.69	0.1978	89.9543

FOURCHE CREEK WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

MANGANESE (TOTAL)

TREATMENT PLANT DESIGN FLOW = 16 MGD

Year	Month	Plant Influent	lant Influent	fluent Loadin	Final Effluent	inal Effluent	Effluent Mass	Removal Efficiency
		mg/L	MGD	lbs/day	(mg/L)	MGD	lbs/day	%
1991	Sep	0.450	13.22	49.6147	0.040	15.01	5.0073	89.9075
1992	Aug	0.398	10.09	33.4919	0.108	9.73	8.7640	73.8325
1993	Sep	0.310	7.04	18.2012	0.041	8.41	2.8757	84.2004
1994	Aug	0.463	14.60	56.3767	0.04	14.77	4.9273	91.2601
1995	Sep	0.546	13.9	63.2956	0.152	13.40	16.9869	73.1626
1996	Aug	0.250	8.77	18.2855	0.020	9.54	1.5913	91.2976

FOURCHE CREEK WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF MANGANESE

		Plant Influent	lant Influent	fluent Loadin	Final Effluent	inal Effluent	Effluent Mass	Removal Efficiency
		mg/L	MGD	lbs/day	(mg/L)	MGD	lbs/day	%
	MIN	0.250	7.04	18.2012	0.020	8.41	1.5913	73.1626
	MAX	0.546	14.60	63.2956	0.152	15.01	16.9869	91.2976
	MEAN	0.403	11.27	39.8776	0.067	11.81	6.6921	83.9435
	MEDIAN	0.424	11.66	41.5533	0.041	11.57	4.9673	87.0540

FOURCHE CREEK WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

MERCURY (TOTAL)

TREATMENT PLANT DESIGN FLOW = 16 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	0.0002	9.96	0.0166	0.0004	8.83	0.0295	-77.3092
	Feb	0.0003	30.76	0.0770	0.0003	30.49	0.0763	0.8778
	Mar	0.0015	26.47	0.3311	0.0002	26.00	0.0434	86.9034
	Apr	0.0002	16.83	0.0281	0.0002	16.50	0.0275	1.9608
	May	0.0002	10.55	0.0176	0.0002	9.79	0.0163	7.2038
	Jun	0.0004	21.16	0.0706	0.0003	22.12	0.0553	21.5974
	Jul	0.0004	12.40	0.0414	0.0003	12.69	0.0318	23.2460
	Aug	0.0002	14.60	0.0244	0.0002	14.77	0.0246	-1.1644
	Sep	0.0002	11.99	0.0200	0.0002	11.52	0.0192	3.9199
	Oct	0.0003	12.04	0.0301	0.0002	12.50	0.0209	30.7863
	Nov	0.0002	13.32	0.0222	0.0002	13.54	0.0226	-1.6517
	Dec	0.0004	14.97	0.0499	0.0002	14.30	0.0239	52.2378
1995	Jan	0.0003	13.44	0.0336	0.0002	13.14	0.0219	34.8214
	Feb	0.0003	13.97	0.0350	0.0002	14.12	0.0236	32.6175
	Mar	0.0002	12.61	0.0210	0.0006	12.68	0.0635	-201.6653
	Apr	0.0002	14.91	0.0249	0.0002	15.36	0.0256	-3.0181
	May	0.0002	12.22	0.0204	0.0002	11.62	0.0194	4.9100
	Jun	0.0003	12.41	0.0310	0.0002	11.22	0.0187	39.7260
	Jul	0.0004	12.8	0.0427	0.0002	11.86	0.0198	53.6719
	Aug	0.0002	12.29	0.0205	0.0002	11.32	0.0189	7.8926
	Sep	0.0002	13.9	0.0232	0.0002	13.40	0.0224	3.5971
	Oct	0.0003	11.66	0.0292	0.0003	10.82	0.0271	7.2041
	Nov	0.0003	15.04	0.0376	0.0002	13.87	0.0231	38.5195
	Dec	0.0002	14.5	0.0242	0.0002	13.45	0.0224	7.2414
1996	Jan	0.0002	13.00	0.0217	0.0002	11.02	0.0184	15.2308
	Feb	0.0009	11.36	0.0853	0.0002	10.5	0.0175	79.4601
	Mar	0.0003	18.74	0.0469	0.0002	18.31	0.0305	34.8630
	Apr	0.0004	12.38	0.0413	0.0002	11.87	0.0198	52.0598
	Jun	0.0002	12.36	0.0206	0.0002	12.03	0.0201	2.6699
	Jul	0.0006	11.34	0.0567	0.0002	11.03	0.0184	67.5779
	Sep	0.0002	18.31	0.0305	0.0002	17.27	0.0288	5.6800
	Dec	0.0002	17.07	0.0285	0.0002	17.19	0.0287	-0.7030

FOURCHE CREEK WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF MERCURY

	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
MIN	0.0002	9.96	0.0166	0.0002	8.83	0.0163	-201.6653
MAX	0.0015	30.76	0.3311	0.0006	30.49	0.0763	86.9034
MEAN	0.0003	14.67	0.0439	0.0002	14.22	0.0275	13.4676
MEDIAN	0.0003	13.16	0.0296	0.0002	12.92	0.0229	7.5670

FOURCHE CREEK WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

MOLYBDENUM (TOTAL)

TREATMENT PLANT DESIGN FLOW = 16 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	0.006	9.96	0.4984	0.008	8.83	0.5891	-18.2062
	Feb	0.005	30.76	1.2827	0.006	30.49	1.5257	-18.9467
	Mar	0.004	26.47	0.8830	0.004	26.00	0.8674	1.7756
	Apr	4.000	16.83	561.4488	0.006	16.50	0.8257	99.8529
	May	0.012	10.55	1.0558	0.001	9.79	0.0816	92.2670
	Jun	0.007	21.16	1.2353	0.006	22.12	1.1069	10.3970
	Jul	0.002	12.40	0.2068	0.003	12.69	0.3175	-53.5081
	Aug	0.008	14.60	0.9741	0.010	14.77	1.2318	-26.4555
	Sep	0.004	11.99	0.4000	0.009	11.52	0.8647	-116.1802
	Oct	0.008	12.04	0.8033	0.005	12.50	0.5213	35.1121
	Nov	0.007	13.32	0.7776	0.004	13.54	0.4517	41.9133
	Dec	0.005	14.97	0.6242	0.005	14.30	0.5963	4.4756
1995	Jan	0.006	13.44	0.6725	0.005	13.14	0.5479	18.5268
	Feb	0.007	13.97	0.8156	0.005	14.12	0.5888	27.8045
	Mar	0.005	12.61	0.5258	0.004	12.68	0.4230	19.5559
	Apr	0.005	14.91	0.6217	0.005	15.36	0.6405	-3.0181
	May	0.010	12.22	1.0191	0.007	11.62	0.6784	33.4370
	Jun	0.005	12.41	0.5175	0.005	11.22	0.4679	9.5890
	Jul	0.008	12.8	0.8540	0.004	11.86	0.3956	53.6719
	Aug	0.012	12.29	1.2300	0.005	11.32	0.4720	61.6219
	Nov	0.007	15.04	0.8780	0.003	13.87	0.3470	60.4768
1996	Jun	0.004	12.36	0.4123	0.002	12.03	0.2007	51.3350
	Jul	0.008	11.34	0.7566	0.002	11.03	0.1840	75.6834
	Aug	0.004	8.77	0.2926	0.001	9.54	0.0796	72.8050
	Oct	0.004	13.85	0.4620	0.003	14.43	0.3610	21.8592

FOURCHE CREEK WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF MOLYBDENUM

	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
MIN	0.002	8.77	0.2068	0.001	8.83	0.0796	-116.1802
MAX	4.000	30.76	561.4488	0.010	30.49	1.5257	99.8529
MEAN	0.166	14.44	23.1699	0.005	14.21	0.5746	22.2338
MEDIAN	0.006	12.80	0.7776	0.005	12.69	0.5213	21.8592

FOURCHE CREEK WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

NICKEL (TOTAL)

TREATMENT PLANT DESIGN FLOW = 16 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	0.004	9.96	0.3323	0.005	8.83	0.3682	-10.8183
	Feb	0.005	30.76	1.2827	0.003	30.49	0.7629	40.5267
	Mar	0.003	26.47	0.6623	0.004	26.00	0.8674	-30.9659
	Apr	0.005	16.83	0.7018	0.008	16.50	1.1009	-56.8627
	May	0.006	10.55	0.5279	0.004	9.79	0.3266	38.1359
	Jun	0.004	21.16	0.7059	0.004	22.12	0.7379	-4.5369
	Jul	0.003	12.40	0.3102	0.002	12.69	0.2117	31.7742
	Aug	0.009	14.60	1.0959	**0.002**	14.77	0.2464	77.5190
	Sep	0.007	11.99	0.7000	0.005	11.52	0.4804	31.3714
	Oct	0.005	12.04	0.5021	0.005	12.50	0.5213	-3.8206
	Nov	0.006	13.32	0.6665	0.004	13.54	0.4517	32.2322
	Dec	0.003	14.97	0.3745	**0.002**	14.30	0.2385	36.3171
1995	Jan	0.007	13.44	0.7846	0.007	13.14	0.7671	2.2321
	Feb	0.009	13.97	1.0486	0.004	14.12	0.4710	55.0783
	Mar	0.008	12.61	0.8413	0.006	12.68	0.6345	24.5837
	Apr	0.006	14.91	0.7461	0.004	15.36	0.5124	31.3213
	May	0.011	12.22	1.1211	0.01	11.62	0.9691	13.5545
	Jun	0.007	12.41	0.7245	0.005	11.22	0.4679	35.4207
	Jul	0.007	12.80	0.7473	0.006	11.86	0.5935	20.5804
	Aug	0.009	12.29	0.9225	0.005	11.32	0.4720	48.8292
	Nov	0.008	15.04	1.0035	0.007	13.87	0.8097	19.3068
1996	Jun	0.006	12.36	0.6185	0.003	12.03	0.3010	51.3350
	Jul	0.008	11.34	0.7566	0.005	11.03	0.4600	39.2086
	Aug	0.012	8.77	0.8777	0.004	9.54	0.3183	63.7400
	Oct	0.002	13.85	0.2310	**0.001**	14.43	0.1203	47.9061

FOURCHE CREEK WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF NICKEL

	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
MIN	0.002	8.77	0.2310	0.001	8.83	0.1203	-56.8627
MAX	0.012	30.76	1.2827	0.010	30.49	1.1009	77.5190
MEAN	0.006	14.44	0.7314	0.005	14.21	0.5284	25.3588
MEDIAN	0.006	12.80	0.7245	0.004	12.69	0.4720	31.7742

FOURCHE CREEK WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

SELENIUM (TOTAL)

TREATMENT PLANT DESIGN FLOW = 16 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	**0.005**	9.96	0.4153	**0.005**	8.83	0.3682	11.3454
	Feb	**0.005**	30.76	1.2827	**0.005**	30.49	1.2714	0.8778
	Mar	**0.005**	26.47	1.1038	0.006	26.00	1.3010	-17.8693
	Apr	**0.005**	16.83	0.7018	**0.005**	16.50	0.6881	1.9608
	May	**0.005**	10.55	0.4399	**0.005**	9.79	0.4082	7.2038
	Jun	**0.005**	21.16	0.8824	**0.005**	22.12	0.9224	-4.5369
	Jul	**0.005**	12.40	0.5171	**0.005**	12.69	0.5292	-2.3387
	Aug	**0.005**	14.60	0.6088	**0.005**	14.77	0.6159	-1.1644
	Sep	**0.005**	11.99	0.5000	**0.005**	11.52	0.4804	3.9199
	Oct	**0.005**	12.04	0.5021	0.007	12.50	0.7298	-45.3488
	Nov	0.005	13.32	0.5554	**0.005**	13.54	0.5646	-1.6517
	Dec	**0.005**	14.97	0.6242	**0.005**	14.30	0.5963	4.4756
1995	Jan	**0.005**	13.44	0.5604	**0.002**	13.14	0.2192	60.8929
	Feb	**0.005**	13.97	0.5825	**0.005**	14.12	0.5888	-1.0737
	Mar	**0.005**	12.61	0.5258	**0.002**	12.68	0.2115	59.7780
	Apr	**0.005**	14.91	0.6217	**0.005**	15.36	0.6405	-3.0181
	May	**0.005**	12.22	0.5096	**0.005**	11.62	0.4846	4.9100
	Jun	**0.005**	12.41	0.5175	**0.005**	11.22	0.4679	9.5890
	Jul	**0.005**	12.80	0.5338	**0.005**	11.86	0.4946	7.3438
	Aug	**0.001**	12.29	0.1025	0.001	11.32	0.0944	7.8926
	Nov	**0.001**	15.04	0.1254	**0.001**	13.87	0.1157	7.7793
1996	Jun	**0.002**	12.36	0.2062	**0.002**	12.03	0.2007	2.6699
	Jul	**0.002**	11.34	0.1892	**0.002**	11.03	0.1840	2.7337
	Aug	**0.002**	8.77	0.1463	**0.002**	9.54	0.1591	-8.7799
	Oct	**0.002**	13.85	0.2310	**0.002**	14.43	0.2407	-4.1877

FOURCHE CREEK WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF SELENIUM

		Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
	MIN	0.001	8.77	0.1025	0.001	8.83	0.0944	-45.3488
	MAX	0.005	30.76	1.2827	0.007	30.49	1.3010	60.8929
	MEAN	0.004	14.44	0.5194	0.004	14.21	0.5031	4.1361
	MEDIAN	0.005	12.80	0.5175	0.005	12.69	0.4846	2.6699

FOURCHE CREEK WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

SILVER (TOTAL)

TREATMENT PLANT DESIGN FLOW = 16 MGD

Year	Month	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	0.0075	9.96	0.6230	0.0024	8.83	0.1767	71.6305
	Feb	0.0010	30.76	0.2565	0.0028	30.49	0.7120	-177.5423
	Mar	0.0027	26.47	0.5961	0.0016	26.00	0.3469	41.7929
	Apr	0.0032	16.83	0.4492	0.0024	16.50	0.3303	26.4706
	May	0.0037	10.55	0.3256	0.0012	9.79	0.0980	69.9039
	Jun	0.0040	21.16	0.7059	0.0009	22.12	0.1660	76.4792
	Jul	0.0005	12.40	0.0517	0.0005	12.69	0.0529	-2.3387
	Aug	0.0017	14.60	0.2070	0.0017	14.77	0.2094	-1.1644
	Sep	0.0054	11.99	0.5400	0.0016	11.52	0.1537	71.5318
	Oct	0.0094	12.04	0.9439	0.0015	12.50	0.1564	83.4329
	Nov	0.0086	13.32	0.9554	0.0011	13.54	0.1242	86.9980
	Dec	0.0078	14.97	0.9738	0.0017	14.30	0.2027	79.1806
1995	Jan	0.0130	13.44	1.4572	0.0028	13.14	0.3068	78.9423
	Feb	0.0177	13.97	2.0622	0.0032	14.12	0.3768	81.7268
	Mar	0.0140	12.61	1.4723	0.0012	12.68	0.1269	91.3810
	Apr	0.0073	14.91	0.9078	0.0010	15.36	0.1281	85.8879
	May	0.0088	12.22	0.8969	0.0024	11.62	0.2326	74.0664
	Jun	0.0083	12.41	0.8590	0.0024	11.22	0.2246	73.8571
	Jul	**0.0020**	12.80	0.2135	**0.0020**	11.86	0.1978	7.3438
	Aug	0.0080	12.29	0.8200	**0.0020**	11.32	0.1888	76.9731
	Nov	0.0050	15.04	0.6272	**0.0020**	13.87	0.2314	63.1117
	Jun	0.0070	12.36	0.7216	**0.0020**	12.03	0.2007	72.1914
	Jul	0.0100	11.34	0.9458	0.0400	11.03	3.6796	-289.0653
	Aug	0.0070	8.77	0.5120	**0.0020**	9.54	0.1591	68.9200
	Oct	0.0050	13.85	0.5775	0.0040	14.43	0.4814	16.6498

FOURCHE CREEK WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF SILVER

		Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
	MIN	0.0005	8.77	0.0517	0.0005	8.83	0.0529	-289.0653
	MAX	0.0177	30.76	2.0622	0.0400	30.49	3.6796	91.3810
	MEAN	0.0067	14.44	0.7480	0.0035	14.21	0.3706	37.1344
	MEDIAN	0.0070	12.80	0.7059	0.0020	12.69	0.2007	71.6305

FOURCHE CREEK WASTEWATER TREATMENT PLANT

MASS LOADING ANALYSIS WORKSHEET

ZINC (TOTAL)

TREATMENT PLANT DESIGN FLOW = 16 MGD

Year	Date	Plant Influent mg/L	Plant Influent Q MGD	Influent Loading lbs/day	Final Effluent (mg/L)	Final Effluent Q MGD	Effluent Mass lbs/day	Removal Efficiency %
1994	Jan	0.101	9.96	8.3897	0.018	8.83	1.3256	84.2002
	Feb	0.097	30.76	24.8842	0.034	30.49	8.6457	65.2561
	Mar	0.076	26.47	16.7777	0.024	26.00	5.2042	68.9818
	Apr	0.111	16.83	15.5802	0.019	16.50	2.6146	83.2185
	May	0.113	10.55	9.9425	0.015	9.79	1.2247	87.6819
	Jun	0.126	21.16	22.2358	0.019	22.12	3.5051	84.2365
	Jul	0.113	12.40	11.6860	0.015	12.69	1.5875	86.4152
	Aug	0.201	14.60	24.4746	0.008	14.77	0.9855	95.9736
	Sep	0.102	11.99	10.1997	0.011	11.52	1.0568	89.6384
	Oct	0.131	12.04	13.1542	0.049	12.50	5.1083	61.1663
	Nov	0.137	13.32	15.2192	0.012	13.54	1.3551	91.0962
	Dec	0.129	14.97	16.1056	0.012	14.30	1.4311	91.1140
1995	Jan	0.190	13.44	21.2970	0.033	13.14	3.6164	83.0193
	Feb	0.121	13.97	14.0977	0.011	14.12	1.2954	90.8115
	Mar	0.123	12.61	12.9356	0.015	12.68	1.5863	87.7372
	Apr	0.096	14.91	11.9375	0.035	15.36	4.4836	62.4413
	May	0.209	12.22	21.3002	0.018	11.62	1.7444	91.8104
	Jun	0.137	12.41	14.1794	0.013	11.22	1.2165	91.4209
	Jul	0.186	12.80	19.8559	0.073	11.86	7.2206	63.6349
	Aug	0.166	12.29	17.0148	0.012	11.32	1.1329	93.3416
	Sep	0.200	13.90	23.1852	0.018	13.40	2.0116	91.3237
	Oct	0.155	11.66	15.0729	0.014	10.82	1.2633	91.6184
	Nov	0.129	15.04	16.1809	0.016	13.87	1.8508	88.5618
	Dec	0.102	14.5	12.3349	0.029	13.45	3.2530	73.6275
1996	Jan	0.268	13.00	29.0566	0.038	11.02	3.4925	87.9805
	Feb	0.207	11.36	19.6117	0.023	10.50	2.0141	89.7300
	Mar	0.120	18.74	18.7550	0.032	18.31	4.8866	73.9452
	Apr	0.196	12.38	20.2368	0.026	11.87	2.5739	87.2812
	May	0.130	9.18	9.9530	0.019	8.08	1.2804	87.1359
	Jun	0.182	12.36	18.7610	0.010	12.03	1.0033	94.6522
	Jul	0.160	11.34	15.1321	0.07	11.03	6.4393	57.4460
	Aug	0.200	8.77	14.6284	0.01	9.54	0.7956	94.5610

FOURCHE CREEK WASTEWATER TREATMENT PLANT - DATA ANALYSIS OF ZINC

	Plant Influent	Plant Influent Q	Influent Loading	Final Effluent	Final Effluent Q	Effluent Mass	Efficiency
MIN	0.076	8.77	8.3897	0.008	8.08	0.7956	57.4460
MAX	0.268	30.76	29.0566	0.073	30.49	8.6457	95.9736
MEAN	0.147	14.12	16.6930	0.023	13.70	2.7251	83.4706
MEDIAN	0.131	12.71	15.8429	0.018	12.59	1.7976	87.7096

APPENDIX

I

Adams Field/Fourche Creek Treatment Plants
Average Monthly Flow
for Plant Influent and Final Effluent
01/01/94 TO 12/31/94

DATE	AFTP Inf Mo.Ave.Flow MGD		AFTP Eff Mo.Ave.Flow MGD		FCTP Inf Mo.Ave.Flow MGD		FCTP EFF Mo.Ave.Flow MGD	
01/31/94	28.55	-	27.48	-	17.52	-	16.81	-
02/28/94	26.62	-	25.67	-	17.14	-	16.55	-
03/31/94	29.51	-	28.56	-	18.71	-	18.06	-
04/30/94	22.61	-	21.66	-	16.79	-	16.50	-
05/31/94	19.71	-	18.76	-	12.79	-	12.89	-
06/30/94	18.69	-	17.74	-	15.77	-	16.18	-
07/31/94	15.90	-	14.95	-	14.08	-	14.09	-
08/31/94	15.76	-	14.81	-	12.80	-	12.34	-
09/30/94	15.15	-	14.27	-	12.32	-	12.03	-
10/31/94	15.40	-	14.25	-	12.87	-	12.79	-
11/30/94	23.28	-	22.13	-	15.37	-	15.30	-
12/31/94	26.65	-	25.53	-	15.95	-	15.80	-
ARI AVG	21.49	-	20.48	-	15.18	-	14.95	-
MINIMUM	15.15	-	14.25	-	12.32	-	12.03	-
MAXIMUM	29.51	-	28.56	-	18.71	-	18.06	-

Adams Field/Fourche Creek Treatment Plants
Average Monthly Flow
for Plant Influent and Final Effluent
01/01/95 TO 12/31/95

DATE	AFTP Inf Mo.Ave.Flow MGD		AFTP Eff Mo.Ave.Flow MGD		FCTP Inf Mo.Ave.Flow MGD		FCTP EFF Mo.Ave.Flow MGD	
01/31/95	26.90	-	25.80	-	5.94	-	13.67	-
02/28/95	21.34	-	20.22	-	16.72	-	17.26	-
03/31/95	25.75	-	24.59	-	14.78	-	12.68	-
05/31/95	20.93	-	19.74	-	12.49	-	11.89	-
06/30/95	16.27	-	15.11	-	12.41	-	11.22	-
07/31/95	15.60	-	14.40	-	12.80	-	11.86	-
08/31/95	14.33	-	13.17	-	12.39	-	11.32	-
09/30/95	13.62	-	12.36	-	13.90	-	13.40	-
10/31/95	14.92	-	13.65	-	11.66	-	10.82	-
11/30/95	14.81	-	13.62	-	15.04	-	13.87	-
12/31/95	17.90	-	16.73	-	14.50	-	13.45	-
ARI AVG	18.40	-	17.22	-	12.97	-	12.86	-
MINIMUM	13.62	-	12.36	-	5.94	-	10.82	-
MAXIMUM	26.90	-	25.80	-	16.72	-	17.26	-

Adams Field/Fourche Creek Treatment Plants
Average Monthly Flow
for Plant Influent and Final Effluent
01/01/96 TO 12/31/96

DATE	AFTP Inf Mo.Ave.Flow MGD		AFTP Eff Mo.Ave.Flow MGD		FCTP Inf Mo.Ave.Flow MGD		FCTP EFF Mo.Ave.Flow MGD	
01/31/96	21.82	-	20.66	-	14.32	-	13.13	-
02/29/96	19.07	-	17.98	-	11.85	-	10.76	-
03/31/96	23.30	-	22.18	-	13.76	-	12.85	-
04/30/96	24.35	-	23.33	-	14.59	-	14.05	-
05/31/96	26.76	-	25.67	-	12.23	-	11.40	-
06/30/96	20.72	-	19.52	-	12.74	-	11.97	-
07/31/96	20.18	-	19.08	-	11.98	-	11.42	-
08/31/96	20.10	-	18.75	-	9.44	-	9.04	-
09/30/96	22.11	-	21.24	-	8.64	-	8.45	-
10/31/96	21.06	-	20.90	-	12.70	-	12.40	-
11/30/96	27.05	-	31.71	-	16.68	-	16.43	-
12/31/96	29.69	-	28.46	-	17.75	-	17.61	-
ARI AVG	23.02	-	22.46	-	13.06	-	12.46	-
MINIMUM	19.07	-	17.98	-	8.64	-	8.45	-
MAXIMUM	29.69	-	31.71	-	17.75	-	17.61	-

APPENDIX

J

CITY OF LITTLE ROCK
DOMESTIC / NON-INDUSTRIAL BACKGROUND CONCENTRATIONS

DATE	Location	B mg/l	CN mg/l	Cd ug/l	Cu ug/l	Cr ug/l	Ni ug/l	Pb ug/l	Ag ug/l	Zn mg/l	Mo ug/l	As ug/l	Se ug/l	Hg ug/l
Nov-89	B-new	0.14	**0.02**	0.3	52			3	0.2	0.158	**1**			
Nov-89	A-old	**0.01**	**0.02**	**0.1**	87			106	0.2	0.248	**1**			
Oct-90	B-new	**0.10**	**0.02**	1.4	30	2.0	4	5	0.9	0.094	1			
Oct-90	A-old	**0.10**	**0.02**	1.1	64	5.0	6	35	1.1	0.158	1			
Aug-91	B-new	**0.02**	**0.02**	1.2	8	4.6	7	6	3.1	0.107	1			
Aug-91	A-old	**0.02**	**0.02**	1.4	15	2.6	8	22	6.0	0.161	**1**			
Aug-92	B-new	0.21	**0.02**	2.8	20	2.1	3	**1**	4.5	0.088	1			
Aug-92	A-old	0.17	**0.02**	2.6	28	2.2	3	2	5.8	0.098	1			
Aug-93	B-new	0.22	**0.02**	2.2	46	1.8	8	1	0.4	0.114	1			
Aug-93	A-old	0.21	0.02	1.7	62	2.4	8	25	0.3	0.237	2			
Aug-94	B-new	0.13	**0.02**	**0.3**	23	2.2	**2**	**1**	0.4	0.069	3	8	5	0.3
Aug-94	A-old	0.16	**0.02**	2.1	34	6.2	4	24	0.3	0.123	2	3	5	0.6
Aug-95	B-new	0.16	**0.02**	0.7	30	2.0	4	2	2.0	0.087	**1**	2		
Aug-95	A-old	0.24	**0.02**	0.6	89	3.0	4	36	2.0	0.123	**1**	2		
Aug-96	B-new	0.14	**0.02**	**0.1**	36	1.0	5	6	**2.0**	0.100	**1**	**1**	2	**0.2**
Aug-96	A-old	0.25	**0.02**	**0.1**	62	3.0	5	21	**2.0**	0.330	**1**	**1**	2	**0.2**
Min		0.01	0.02	0.1	8	1.0	2	1	0.2	0.069	1	1	2	0.2
Max		0.25	0.02	2.8	89	6.2	8	106	6.0	0.330	3	8	5	0.6
Mean		0.14	0.02	1.2	43	2.9	5	19	2.0	0.143	1	3	4	0.3
Median		0.15	0.02	1.2	35	2.3	5	6	1.6	0.119	1	2	4	0.2

APPENDIX

K

AFTP Plant Influent & Final Eff

LITTLE ROCK WASTEWATER UTILITY
221 EAST CAPITOL AVENUE
LITTLE ROCK, ARKANSAS 72202-2412

MEMORANDUM

TO: 035NPDES ADR File
031NPDES ADR File
005NPDES ADR File - AF Final Eff
001NPDES ADR File - AF Influent

FROM: Susan Samples, Sampling/Inspection Coordinator Susan J. Samples

DATE: December 5, 1996

SUBJECT: Corrected Analytical Data Reports from Arkansas Analytical

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Attached are corrected copies of the Priority Pollutant scan for the organic fractions: volatiles and base/neutral/acid extractables prepared by Arkansas Analytical. The first reports were missing several compounds from these two fractions. Also attached is the fax sent from LRWU to Arkansas Analytical that identifies the missing data from the original reports.

cc: Clyde Frost, Operations Superintendent
Lynn Hyke, Operations Superintendent
Alan Gentry, Industrial Tech II
Jeff Davis, Industrial Tech II ✓
EAD Compiler (Route to Stanley Suel)
AA Correspondence File
Reader's File

Arkansas Analytical, Inc • 501 North University • Little Rock, AR 72205 • (501) 664-5661 • FAX (501) 664-5891

)/03/96

ttle Rock Wastewater Utility
)01 Temple Street
ttle Rock, AR 72202

Corrected Copy

ttn: Susan Samples

NALYTICAL RESULTS

Priority Pollutants

	Lab Number:	962862	962863	
	Sample ID:	**005NPDES-010** - AF Final RL	**001NPDES-010** AE Draft	
	Bottle Number:	A39-20,21,17,18,19	A39-11,12,13,15,16	Minimum
	Date Collected:	9/2596, 0800,9-26-96, 0800	9/25/96,0800; 9/26/96, 088	Quantification
	Date Received:	9-26-96, 0825	9-26-96, 0825	Level (MQL)
		ug/L(ppb)	ug/L(ppb)	ug/L(ppb)
OLATILES				
	Acrolein	ND	ND	50
	Acrylonitrile	ND	ND	50
	Chloromethane	ND	ND	50
	Bromomethane	ND	ND	50
	Vinyl chloride	ND	ND	50
	Chloroethane	ND	ND	10
	Methylene chloride	ND	ND	10
	1,1-Dichloroethene	ND	ND	10
	1,1-Dichloroethane	ND	ND	10
	trans-1,2-Dichloroethene	ND	ND	10
	Chloroform	ND	ND	10
	1,2-Dichloroethane	ND	ND	10
	1,1,1-Trichloroethane	ND	ND	10
	Carbon tetrachloride	ND	ND	10
	Bromodichloromethane	ND	ND	10
	1,2-Dichloropropane	ND	ND	10
	cis-1,3-Dichloropropene	ND	ND	10
	Trichloroethene	ND	ND	10
	Benzene	ND	ND	10
	Dibromochloromethane	ND	ND	10
	1,1,2-Trichloroethane	ND	ND	10
	trans-1,3-Dichloropropene	ND	ND	10
	2-Chloroethylvinyl ether	ND	ND	10
	Bromoform	ND	ND	10
	1,1,2,2-Teterachloroethane	ND	ND	10
	Tetrachloroethene	ND	ND	10
	Toluene	ND	ND	10
	Chlorobenzene	ND	ND	10
	Ethyl benzene	ND	ND	10

'D means not detected at or above MQL noted.

	Percent Surrogate Recovery		
	Dibromofluoromethane	94	88
	d8-Toluene	96	91
	4-BFB	99	90
	Analyzed by:	Lessie Redican	Lessie Redican
	Date , Time analyzed:	9-28-96, 2101	9-28-96, 2101

ttle Rock Wastewater Utility
001 Temple Street
ittle Rock, AR 72202

Corrected Copy

ttn: Susan Samples

NALYTICAL RESULTS — **Priority Pollutants**

Lab Number:	962862	962863	
Sample ID:	**005NPDES-010** AF Final Eff.	**001NPDES-010** AF Influent	
Bottle Number:	A39-20,21,17,18,19	A39-11,12,13,15,16	Minimum
Date Collected:	9/2596, 0800,9-26-96, 0800	9/25/96,0800; 9/26/96, 088	Quantification
Date Received:	9-26-96, 0825	9-26-96, 0825	Level (MQL)
	ug/L(ppb)	ug/L(ppb)	ug/L(ppb)
ASE NEUTRALS, ACID EXTRACTABLES			
Acenaphthene	ND	ND*	10
Acenaphthylene	ND	ND*	10
Anthracene	ND	ND*	10
Benzo(a)anthracene	ND	ND*	10
Benzo(b)fluoranthene	ND	ND*	10
Benzo(k)fluoranthene	ND	ND*	10
3,4-benzofluoranthene	ND	ND*	10
Benzo(a)pyrene	ND	ND*	10
Benzo(ghi)perylene	ND	ND*	10
Benzidine	ND	ND*	10
Benzyl butyl phthalate	ND	ND*	10
Bis(2-chloroethyl)ether	ND	ND*	10
Bis(2-chloroethoxy)methane	ND	ND*	10
Bis(2-chloroisopropyl)ether	ND	ND*	10
Bis(2-ethylhexyl)phthalate	ND	ND*	10
4-Bromophenyl phenyl ether	ND	ND*	10
Butylbenzyl phthalate	ND	ND*	10
2-Chloronaphthalene	ND	ND*	10
4-Chlorophenyl phenyl ether	ND	ND*	10
Chrysene	ND	ND*	10
1,2-diphenylhydrazine	ND	ND*	10
Dibenzo(a,h)anthracene	ND	ND*	10
Di-n-butyl phthalate	ND	ND*	10
1,2-Dichlorobenzene	ND	ND*	10
1,3-Dichlorobenzene	ND	ND*	10
1,4-Dichlorobenzene	ND	ND*	10
3,3'-Dichlorobenzidine	ND	ND*	10
Diethyl phthalate	ND	ND*	10
Dimethyl phthalate	ND	ND*	10
2,4-Dinitrotoluene	ND	ND*	10
2,6-Dinitrotoluene	ND	ND*	10
Di-n-octylphthalate	ND	ND*	10
Fluoranthene	ND	ND*	10
Fluorene	ND	ND*	10
Hexachlorobutadiene	ND	ND*	10

*ID means not detected at or above MQL noted.;ND*means not detected at or above 10 times MQL noted due to dilution.*

LITTLE ROCK WASTEWATER UTILITY
221 EAST CAPITOL AVENUE
LITTLE ROCK, ARKANSAS 72202-2412

MEMORANDUM

TO: Mark Owen, Pretreatment/Biosolids Coordinator

FROM: Susan Samples, Sampling/Inspection Coordinator Susan G. Samples

DATE: November 15, 1996

SUBJECT: Biannual Priority Pollutant Scan (Partial)
Analytical Data Report for 001NPDES and 005NPDES

Attached is a copy of the Analytical Data Report received from Arkansas Analytical for the Adams Field plant influent and final effluent partial priority pollutant scan. The sample date for both samples is September 25, 1996. The data report includes test results for the priority pollutants listed in 40 CFR Part 122 Appendix D Table II. If you have any questions concerning this report, please do not hesitate to call me.

cc: Jeff Davis, Industrial Tech II ✓
EAD Compiler (Route to Stanley Suel)
001NPDES ADR File
005NPDES ADR File
Reader's File

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ock Wastewater Utility
emple Street
ock, AR 72202

Susan Samples

YTICAL RESULTS

Priority Pollutants

Lab Number	962862	962863	
Sample ID:	005NPDES-010 AF A-C9((	001NPDES-010 AF 4	
Bottle Number:	A39-20,21,17,18,19	A39-11,12,13,15,16	Minimum
Date Collected:	9/2596, 0800,9-26-96, 0800	9/25/96,0800; 9/26/96, 088	Quantification
Date Received:	9-26-96, 0825	9-26-96, 0825	Level (MQL)
	ug/L(ppb)	ug/L(ppb)	ug/L(ppb)
ICIDES			
Aldrin	ND	ND	0.05
alpha-BHC	ND	ND	0.05
beta-BHC	ND	ND	0.05
delta-BHC	ND	ND	0.05
gamma-BHC	ND	ND	0.05
Chlordane	ND	ND	0.2
4,4'-DDD	ND	ND	0.1
4,4'-DDE	ND	ND	0.1
4,4'-DDT	ND	ND	0.1
Dieldrin	ND	ND	0.1
Endosulfan I	ND	ND	0.1
Endosulfan II	ND	ND	0.1
Endosulfan sulfate	ND	ND	0.1
Endrin	ND	ND	0.1
Endrin aldehyde	ND	ND	0.1
Heptachlor	ND	ND	0.05
Heptachlor epoxide	ND	ND	0.05
Toxaphene	ND	ND	5
PCB-1016	ND	ND	1
PCB-1221	ND	ND	1
PCB-1232	ND	ND	1
PCB-1242	ND	ND	1
PCB-1248	ND	ND	1
PCB-1254	ND	ND	1
PCB-1260	ND	ND	1

means not detected at or above MQL noted.

Surrogate Recovery		
TCMX	49.8	61.3
DCBP	55.5	41.9
Analyzed by:	Jeff Curry JC	Jeff Curry JC
Date, time analyzed:	10-4-96, 1634	10-4-96, 1706

:k Wastewater Utility
nple Street
:k, AR 72202

san Samples

r CONTROL RESULTS
ıbers:962862,962863

Priority Pollutants

	ug/L Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Minimum Quantification Level(MQL) ug/L(ppb)
LES					
Chloromethane	ND	4	59	66	50
Vinyl Chloride	ND	0	70	71	50
Bromomethane	ND	2	114	84	50
Chloroethane	ND	26	104	82	10
Trichlorofluoromethane	ND	1	95	84	10
1,1-Dichloroethene	ND	4	103	89	10
Methylene Chloride	ND	11	107	94	10
1,1-Dichloroethane	ND	10	141	114	10
t-1,2-Dichloroethene	ND	7	109	94	10
Chloroform	ND	8	105	88	10
1,1,1-Trichloroethane	ND	7	112	98	10
Carbon tetrachloride	ND	0	90	86	10
1,2-Dichloroethane	ND	1	91	88	10
Benzene	ND	0	96	92	10
Trichloroethene	ND	1	90	88	10
1,2-Dichloropropane	ND	2	93	93	10
Bromodichloromethane	ND	0	94	89	10
2-Chloroethyl vinyl ether	ND	ns	ns	ns	10
cis-1,3-Dichloropropene	ND	2	104	99	10
Toluene	ND	4	96	92	10
t-1,3-Dichloropene	ND	2	100	97	10
1,1,2-trichloroethane	ND	2	100	93	10
Tetrachloroethene	ND	5	96	86	10
Chlorodibromomethane	ND	1	87	80	10
Chlorobenzene	ND	6	100	90	10
Ethylbenzene	ND	7	110	100	
Bromoform	ND	4	78	68	10
1,1,2,2-Tetrachloroethane	ND	4	90	78	10
1,3-Dichlorobenzene	ND	12	108	100	10
1,4-Dichlorobenzene	ND	7	102	98	10
1,2-Dichlorobenzene	ND	7	120	110	10

*ıns not detected at or above MQL noted.; * does not meet lab acceptability criteria.*

Percent Surrogate Recovery				
Dibromofluoromethane	92	0	75*	70*
d8-Toluene	98	2	83*	77*
4-BFB	95	0	82*	78*

Analyzed by: Lessie Redican
Date . Time analyzed: 9-28-96, 2101

ıck Wastewater Utility
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ıck AR 72202

ısan Samples

Y CONTROL RESULTS
mbers:962862,962863

JEUTRALS, ACID EXTRACTABLES	ug/L Blank	Percent Variance Duplicates	Priority Pollutants Percent Recovery Matrix Spike	Percent Recovery Control Spike	Minimum Quantification Level(MQL) ug/L(ppb)
n-Nitroso-di-methylamine	ND	12	36	52	10
Phenol	ND	28	23	40	10
Bis(2-Chloroethyl)ether	ND	27	62	78	10
2-Chlorophenol	ND	29	47	66	10
1,3-Dichlorobenzene	ND	19	27	36	10
1,4-Dichlorobenzene	ND	24	30	38	10
1,2-Dichlorobenzene	ND	26	31	39	10
Bis(2-Chloroisopropyl)ether	ND	20	47	30	10
n-Nitrosodi-n-propylamine	ND	20	45	65	10
Hexachloroethane	ND	24	28	41	10
Nitrobenzene	ND	15	45	72	10
Isophorone	ND	18	47	77	10
2-Nitrophenol	ND	18	48	74	10
2,4-Dimethylphenol	ND	7	43	46	10
Bis(2-Chloroethoxy)methane	ND	14	48	79	10
2,4-Dichlorophenol	ND	23	32	69	10
1,2,4-Trichlorobenzene	ND	23	29	43	10
Naphthalene	ND	19	40	53	10
Hexachlorobutadiene	ND	22	26	37	10
4-Chlor-3-methylphenol	ND	19	65	90	10
Hexachlorocyclopentadiene	ND	16	10	19	10
2,4,6-Trichlorophenol	ND	16	54	80	10
2-Chloronaphthalene	ND	17	44	60	10
Dimethyl phthalate	ND	10	43	60	10
2,6-Dinitrotoluene	ND	13	55	82	10
Acenaphthylene	ND	12	34	48	10
Acenaphthene	ND	17	46	64	10
2,4-Dinitrophenol	ND	14	64	80	10
4-Nitrophenol	ND	122*	32	18	10
2,4-Dinitrotoluene	ND	11	57	78	10
Diethylphthalate	ND	8	54	71	10
4-Chlorophenyl phenyl ether	ND	11	51	75	10
Fluorene	ND	10	52	72	10

*ans not detected at or above MQL noted.; *does not meet lab acceptability criteria.*

:k Wastewater Utility
nple Street
:k, AR 72202

san Samples

/ CONTROL RESULTS
ıbers:962862,962863

Priority Pollutants

	ug/L Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Minimum Quantification Level(MQL) ug/L(ppb)
EUTRALS, ACID EXTRACTABLES(continued)					
4,6-Dinitro-2-methylphenol	ND	18	80	98	10
n-Nitrosodiphenylamine	ND	15	58	81	10
Hexachlorobenzene	ND	18	52	77	10
Pentachlorophenol	ND	15	74	78	10
Phenanthrene	ND	15	64	81	10
Anthracene	ND	11	62	80	10
Di-n-butyl phthalate	ND	17	59	66	10
Fluoranthene	ND	12	76	88	10
Benzidine	ND	D	D	D	10
Pyrene	ND	4	62	73	10
Butyl benzyl phthalate	ND	0	50	57	10
3,3'-Dichlorobenzidine	ND	7	NR	44	10
Benzo(a)anthracene	ND	8	57	64	10
Chrysene	ND	6	76	80	10
Bis(2-ethylhexyl)phthalate	ND	2	46	54	10
Di-n-octyl phthalate	ND	2	52	56	10
Benzo(b)fluoranthene	ND	0	69	77	10
Benzo(k)fluoranthene	ND	10	69	72	10
Benzo(a)pyrene	ND	7	66	72	10
Indeno(1,2,3-cd)pyrene	ND	4	76	82	10
Dibenzo(a,h)anthracene	ND	8	70	79	10
Dibenzo(g,h,i)perylene	ND	5	74	79	10
Azobenzene	ND	27	53	86	10
4-Bromophenyl phenyl ether	ND	14	61	80	10
Percent Surrogate Recovery					
2-Fluorophenol	44	24	35	50	
d6-Phenol	26	27*	15	37	
2,4,6-Tribromophenol	71	15	44	84	
d5-Nitrobenzene	118	34*	34	74	
2-Fluorobiphenyl	62	15	31	72	
d14-Terphenyl	58	7	48	87	
Analyzed by:	Lessie Redican				
Date,time analyzed	10-8-96, 1652				

s not detected at or above MQL noted.; NR means not recovered; D means detected.

· matrix interference.

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usan Samples

TY CONTROL RESULTS
mbers:962862,962863

Priority Pollutants

:IDES	ug/L Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Minimum Quantification Level(MQL) ug/L(ppb)
Aldrin	ND	10.1	59.2	43.5	0.05
alpha-BHC	ND	6.6	69.5	71.2	0.05
beta-BHC	ND	6.08	81.1	79	0.05
delta-BHC	ND	6.12	86.8	83.4	0.05
gamma-BHC	ND	8.67	75.1	69.2	0.05
Chlordane	ND	NS	NS	NS	0.2
4,4'-DDD	ND	8.27	65	71.4	0.1
4,4'-DDE	ND	4.86	72.5	70	0.1
4,4'-DDT	ND	5.66	61.3	65.4	0.1
Dieldrin	ND	6.15	80.3	73.2	0.1
Endosulfan I	ND	5.14	78	74	0.1
Endosulfan II	ND	1.05	67.7	66.4	0.1
Endosulfan sulfate	ND	8.7	68.8	69	0.1
Endrin	ND	1.37	84.6	80.4	0.1
Endrin aldehyde	ND	5.9	85.8	79.6	0.1
Heptachlor	ND	11.9	70.7	56.2	0.05
Heptachlor epoxide	ND	6.68	84.3	76.4	0.05
Toxaphene	ND	NS	NS	NS	5
PCB-1016	ND	NS	NS	NS	1
PCB-1221	ND	NS	NS	NS	1
PCB-1232	ND	NS	NS	NS	1
PCB-1242	ND	NS	NS	NS	1
PCB-1248	ND	NS	NS	NS	1
PCB-1254	ND	NS	NS	NS	1
PCB-1260	ND	NS	NS	NS	1

ns not detected at or above the MQL noted.; NS means not spiked.

Percent Surrogate Recovery				
TCMX	57.4	4.96	61.3	54.4
DCBP	37.2	37.9	50	46.8

Analyzed by: Jeff Curry JC
Date, time analyzed: 10-4-96, 1352

APPENDIX

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FCTP
Plant influent
& final effluent

LITTLE ROCK WASTEWATER UTILITY
221 EAST CAPITOL AVENUE
LITTLE ROCK, ARKANSAS 72202-2412

MEMORANDUM

TO: 035NPDES ADR File - FC Final Eff
031NPDES ADR File - FC Plant Inf
005NPDES ADR File
001NPDES ADR File

FROM: Susan Samples, Sampling/Inspection Coordinator Susan J. Samples

DATE: December 5, 1996

SUBJECT: Corrected Analytical Data Reports from Arkansas Analytical

---

Attached are corrected copies of the Priority Pollutant scan for the organic fractions: volatiles and base/neutral/acid extractables prepared by Arkansas Analytical. The first reports were missing several compounds from these two fractions. Also attached is the fax sent from LRWU to Arkansas Analytical that identifies the missing data from the original reports.

cc: Clyde Frost, Operations Superintendent
Lynn Hyke, Operations Superintendent
Alan Gentry, Industrial Tech II
Jeff Davis, Industrial Tech II
EAD Compiler (Route to Stanley Suel)
AA Correspondence File
Reader's File

2/03/96

ittle Rock Wastewater Utility
001 Temple Street
ittle Rock, AR 72202

Corrected Copy

ttn: Susan Samples

NALYTICAL RESULTS — Priority Pollutants

	Lab Number:	962884	962885	
	Sample ID:	035NPDES-011 - FC Final 4th	031NPDES-012 FC Final	
	Bottle Number:	A39-32,33,34,36,38	A39-26,27,28,30,31	Minimum
	Date Collected:	9/26-27/96; 9-27-96	9/26-27/96; 9-27-96	Quantification
	Date Received:	9-27-96	9-27-96	Level (MQL)
		ug/L(ppb)	ug/L(ppb)	ug/L(ppb)
OLATILES				
	Acrolein	ND	ND	50
	Acrylonitrile	ND	ND	50
	Chloromethane	ND	ND	50
	Bromomethane	ND	ND	50
	Vinyl chloride	ND	ND	50
	Chloroethane	ND	ND	10
	Methylene chloride	ND	ND	10
	1,1-Dichloroethene	ND	ND	10
	1,1-Dichloroethane	ND	ND	10
	trans-1,2-Dichloroethene	ND	ND	10
	Chloroform	ND	ND	10
	1,2-Dichloroethane	ND	ND	10
	1,1,1-Trichloroethane	ND	17.6	10
	Carbon tetrachloride	ND	ND	10
	Bromodichloromethane	ND	ND	10
	1,2-Dichloropropane	ND	ND	10
	cis-1,3-Dichloropropene	ND	ND	10
	Trichloroethene	ND	89.8	10
	Benzene	ND	ND	10
	Dibromochloromethane	ND	ND	10
	1,1,2-Trichloroethane	ND	ND	10
	trans-1,3-Dichloropropene	ND	ND	10
	2-Chloroethylvinyl ether	ND	ND	10
	Bromoform	ND	ND	10
	1,1,2,2-Teterachloroethane	ND	ND	10
	Tetrachloroethene	ND	ND	10
	Toluene	ND	20.8	10
	Chlorobenzene	ND	ND	10
	Ethyl benzene	ND	ND	10

*ND means not detected at or above MQL noted; *does not meet lab acceptablity criteria.*

Percent Surrogate Recovery		
Dibromofluoromethane	122*	99
d8-Toluene	130*	107
4-BFB	127*	106
Analyzed by:	Lessie Redican	Lessie Redican
Date , Time analyzed:	9-28-96, 2101	9-28-96, 2101

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ittle Rock Wastewater Utility
001 Temple Street
ittle Rock, AR 72202

Corrected Copy

.ttn: Susan Samples

.NALYTICAL RESULTS

Priority Pollutants

Lab Number:	962884	962885	
Sample ID:	035NPDES-011 FC Final 4/4	031NPDES-012 FC Int	
Bottle Number:	A39-32,33,34,36,38	A39-26,27,28,30,31	Minimum
Date Collected:	9/26-27/96; 9-27-96	9/26-27/96; 9-27-96	Quantification
Date Received:	9-27-96	9-27-96	Level (MQL)
	ug/L(ppb)	ug/L(ppb)	ug/L(ppb)
BASE NEUTRALS, ACID EXTRACTABLES			
Acenaphthene	ND	ND*	10
Acenaphthylene	ND	ND*	10
Anthracene	ND	ND*	10
Benzidine	ND	ND*	10
Benzo(a)anthracene	ND	ND*	10
Benzo(b)fluoranthene	ND	ND*	10
Benzo(k)fluoranthene	ND	ND*	10
3,4-benzofluoranthene	ND	ND*	10
Benzo(a)pyrene	ND	ND*	10
Benzo(ghi)perylene	ND	ND*	10
Benzyl butyl phthalate	ND	ND*	10
Butylbenzyl phthalate	ND	ND*	10
Bis(2-chloroethyl)ether	ND	ND*	10
Bis(2-chloroethoxy)methane	ND	ND*	10
Bis(2-chloroisopropyl)ether	ND	ND*	10
Bis(2-ethylhexyl)phthalate	ND	ND*	10
4-Bromophenyl phenyl ether	ND	ND*	10
2-Chloronaphthalene	ND	ND*	10
4-Chlorophenyl phenyl ether	ND	ND*	10
Chrysene	ND	ND*	10
Dibenzo(a,h)anthracene	ND	ND*	10
Di-n-butyl phthalate	ND	ND*	10
1,2-diphenylhydrazine	ND	ND*	10
1,2-Dichlorobenzene	ND	ND*	10
1,3-Dichlorobenzene	ND	ND*	10
1,4-Dichlorobenzene	ND	ND*	10
3,3'-Dichlorobenzidine	ND	ND*	10
Diethyl phthalate	ND	ND*	10
Dimethyl phthalate	ND	ND*	10
2,4-Dinitrotoluene	ND	ND*	10
2,6-Dinitrotoluene	ND	ND*	10
Di-n-octylphthalate	ND	ND*	10
Fluoranthene	ND	ND*	10
Fluorene	ND	ND*	10
Hexachlorobutadiene	ND	ND*	10

ND means not detected at or above MQL noted.; ND means not detected at or above 10 times MQL noted due to dilution.*

ittle Rock Wastewater Utility
001 Temple Street
ittle Rock, AR 72202

Corrected Copy

.ttn: Susan Samples

.NALYTICAL RESULTS

Priority Pollutants

Lab Number:	962884	962885	
Sample ID:	035NPDES-011 FC Final Eff	031NPDES-012 FC Influent	
Bottle Number:	A39-32,33,34,36,38	A39-26,27,28,30,31	Minimum
Date Collected:	9/26-27/96; 9-27-96	9/26-27/96; 9-27-96	Quantification
Date Received:	9-27-96	9-27-96	Level (MQL)
	ug/L(ppb)	ug/L(ppb)	ug/L(ppb)
BASE NEUTRALS, ACID EXTRACTABLES			
Hexachloroethane	ND	ND*	10
Hexachlorobenzene	ND	ND*	10
Hexachlorocyclopentadiene	ND	ND*	10
Indeno(1,2,3-cd)pyrene	ND	ND*	10
Isophorone	ND	ND*	10
Naphthalene	ND	ND*	10
Nitrobenzene	ND	ND*	10
N-Nitroso-n-propylamine	ND	ND*	10
N-Nitrosodimethylamine	ND	ND*	10
N-nitrosodiphenylamine	ND	ND*	10
Phenanthrene	ND	ND*	10
Pyrene	ND	ND*	10
1,2,4-Trichlorobenzene	ND	ND*	10
p-chloro-m-cresol	ND	ND*	10
2-Chlorophenol	ND	ND*	10
2,4-Dichlorophenol	ND	ND*	10
2,4-Dimethylphenol	ND	ND*	10
2,4-Dinitrophenol	ND	ND*	10
4,6-dinitro-o-cresol	ND	ND*	10
2-Nitrophenol	ND	ND*	10
4-Nitrophenol	ND	ND*	10
Pentachlorophenol	ND	ND*	10
Phenol	ND	ND*	10
2,4,6-Trichlorophenol	ND	ND*	10

VD means not detected at or above MQL noted; ND means not detected at or above 10 times MQL noted due to dilution.*

Percent Surrogate Recovery		
2-Fluorophenol	31	MI
d6-Phenol	25	MI
2,4,6-Tribromophenol	58	MI
d5-Nitrobenzene	73	18
2-Fluorobiphenyl	44	53
d14-Terphenyl	54	MI
Analyzed by:	Lessie Redican	Lessie Redican
Date,time analyzed	10-8-96, 1652	10-15-96, 1158

MI means matrix interference.

LITTLE ROCK WASTEWATER UTILITY
221 EAST CAPITOL AVENUE
LITTLE ROCK, ARKANSAS 72202-2412

MEMORANDUM

TO: Mark Owen, Pretreatment/Biosolids Coordinator

FROM: Susan Samples, Sampling/Inspection Coordinator Susan J Samples

DATE: November 15, 1996

SUBJECT: Biannual Priority Pollutant Scan (Partial)
Analytical Data Report for 031NPDES and 035NPDES

Attached is a copy of the Analytical Data Report received from Arkansas Analytical for the Adams Field plant influent and final effluent partial priority pollutant scan. The sample date for both samples is September 26, 1996. The data report includes test results for the priority pollutants listed in 40 CFR Part 122 Appendix D Table II. If you have any questions concerning this report, please do not hesitate to call me.

cc: Alan Gentry, Industrial Tech II ✓
EAD Compiler (Route to Stanley Suel)
031NPDES ADR File
035NPDES ADR File
Reader's File

'96

Rock Wastewater Utility
Temple Street
Rock, AR 72202

Susan Samples

.YTICAL RESULTS

Priority Pollutants

Lab Number:	962884	962885	
Sample ID:	035NPDES-011	031NPDES-012	
Bottle Number:	A39-32,33,34,36,38	A39-26,27,28,30,31	
Date Collected:	9/26-27/96; 9-27-96	9/26-27/96; 9-27-96	
Date Received:	9-27-96	9-27-96	Minimum Quantification Level (MQL)
'ICIDES	ug/L(ppb)	ug/L(ppb)	ug/L(ppb)
Aldrin	ND	ND	0.05
alpha-BHC	ND	ND	0.05
beta-BHC	ND	ND	0.05
delta-BHC	ND	ND	0.05
gamma-BHC	ND	ND	0.05
Chlordane	ND	ND	0.2
4,4'-DDD	ND	ND	0.1
4,4'-DDE	ND	ND	0.1
4,4'-DDT	ND	ND	0.1
Dieldrin	ND	ND	0.1
Endosulfan I	ND	ND	0.1
Endosulfan II	ND	ND	0.1
Endosulfan sulfate	ND	ND	0.1
Endrin	ND	ND	0.1
Endrin aldehyde	ND	0.48	0.1
Heptachlor	ND	ND	0.05
Heptachlor epoxide	ND	ND	0.05
Toxaphene	ND	ND	5
PCB-1016	ND	ND	1
PCB-1221	ND	ND	1
PCB-1232	ND	ND	1
PCB-1242	ND	ND	1
PCB-1248	ND	ND	1
PCB-1254	ND	ND	1
PCB-1260	ND	ND	1

ıeans not detected at or above the MQL noted.

Surrogate Recovery		
TCMX	58.7	63
DCBP	50.4	36
Analyzed by:	Jeff Curry	Jeff Curry
Date, time analyzed:	10-4-96, 1738	10-4-96, 1810

Rock Wastewater Utility
Temple Street
Rock, AR 72202

Susan Samples

ITY CONTROL RESULTS
lumbers:962884,2885

Priority Pollutants

TILES	ug/L Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Minimum Quantification Level(MQL) ug/L(ppb)
Chloromethane	ND	4	59	66	50
Vinyl Chloride	ND	0	70	71	50
Bromomethane	ND	2	114	84	50
Chloroethane	ND	26	104	82	10
Trichlorofluoromethane	ND	1	95	84	10
1,1-Dichloroethene	ND	4	103	89	10
Methylene Chloride	ND	11	107	94	10
1,1-Dichloroethane	ND	10	141	114	10
t-1,2-Dichloroethene	ND	7	109	94	10
Chloroform	ND	8	105	88	10
1,1,1-Trichloroethane	ND	7	112	98	10
Carbon tetrachloride	ND	0	90	86	10
1,2-Dichloroethane	ND	1	91	88	10
Benzene	ND	0	96	92	10
Trichloroethene	ND	1	90	88	10
1,2-Dichloropropane	ND	2	93	93	10
Bromodichloromethane	ND	0	94	89	10
2-Chloroethyl vinyl ether	ND	ns	ns	ns	10
cis-1,3-Dichloropropene	ND	2	104	99	10
Toluene	ND	4	96	92	10
t-1,3-Dichloropene	ND	2	100	97	10
1,1,2-trichloroethane	ND	2	100	93	10
Tetrachloroethene	ND	5	96	86	10
Chlorodibromomethane	ND	1	87	80	10
Chlorobenzene	ND	6	100	90	10
Ethylbenzene	ND	7	110	100	
Bromoform	ND	4	78	68	10
1,1,2,2-Tetrachloroethane	ND	4	90	78	10
1,3-Dichlorobenzene	ND	12	108	100	10
1,4-Dichlorobenzene	ND	7	102	98	10
1,2-Dichlorobenzene	ND	7	120	110	10

*eans not detected at or above MQL noted.; * does not meet lab acceptability criteria.*

Percent Surrogate Recovery				
Dibromofluoromethane	92	0	75*	70*
d8-Toluene	98	2	83*	77*
4-BFB	95	0	82*	78*
Analyzed by:	Lessie Redican			
Date , Time analyzed:	9-28-96, 2101			

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:ock Wastewater Utility
emple Street
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Susan Samples

ITY CONTROL RESULTS
umbers:962884,2885

Priority Pollutants

NEUTRALS, ACID EXTRACTABLES	ug/L Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Minimum Quantification Level(MQL) ug/L(ppb)
n-Nitroso-di-methylamine	ND	12	36	52	10
Phenol	ND	28	23	40	10
Bis(2-Chloroethyl)ether	ND	27	62	78	10
2-Chlorophenol	ND	29	47	66	10
1,3-Dichlorobenzene	ND	19	27	36	10
1,4-Dichlorobenzene	ND	24	30	38	10
1,2-Dichlorobenzene	ND	26	31	39	10
Bis(2-Chloroisopropyl)ether	ND	20	47	30	10
n-Nitrosodi-n-propylamine	ND	20	45	65	10
Hexachloroethane	ND	24	28	41	10
Nitrobenzene	ND	15	45	72	10
Isophorone	ND	18	47	77	10
2-Nitrophenol	ND	18	48	74	10
2,4-Dimethylphenol	ND	7	43	46	10
Bis(2-Chloroethoxy)methane	ND	14	48	79	10
2,4-Dichlorophenol	ND	23	32	69	10
1,2,4-Trichlorobenzene	ND	23	29	43	10
Naphthalene	ND	19	40	53	10
Hexachlorobutadiene	ND	22	26	37	10
4-Chlor-3-methylphenol	ND	19	65	90	10
Hexachlorocyclopentadiene	ND	16	10	19	10
2,4,6-Trichlorophenol	ND	16	54	80	10
2-Chloronaphthalene	ND	17	44	60	10
Dimethyl phthalate	ND	10	43	60	10
2,6-Dinitrotoluene	ND	13	55	82	10
Acenaphthylene	ND	12	34	48	10
Acenaphthene	ND	17	46	64	10
2,4-Dinitrophenol	ND	14	64	80	10
4-Nitrophenol	ND	122*	32	18	10
2,4-Dinitrotoluene	ND	11	57	78	10
Diethylphthalate	ND	8	54	71	10
4-Chlorophenyl phenyl ether	ND	11	51	75	10
Fluorene	ND	10	52	72	10

*leans not detected at or above MQL noted.; *does not meet lab acceptability criteria.*

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ock Wastewater Utility
emple Street
ock, AR 72202

usan Samples

TY CONTROL RESULTS
imbers:962884,2885

Priority Pollutants

	ug/L Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Minimum Quantification Level(MQL) ug/L(ppb)
NEUTRALS, ACID EXTRACTABLES(continued)					
4,6-Dinitro-2-methylphenol	ND	18	80	98	10
n-Nitrosodiphenylamine	ND	15	58	81	10
Hexachlorobenzene	ND	18	52	77	10
Pentachlorophenol	ND	15	74	78	10
Phenanthrene	ND	15	64	81	10
Anthracene	ND	11	62	80	10
Di-n-butyl phthalate	ND	17	59	66	10
Fluoranthene	ND	12	76	88	10
Benzidine	ND	D	D	D	10
Pyrene	ND	4	62	73	10
Butyl benzyl phthalate	ND	0	50	57	10
3,3'-Dichlorobenzidine	ND	7	NR	44	10
Benzo(a)anthracene	ND	8	57	64	10
Chrysene	ND	6	76	80	10
Bis(2-ethylhexyl)phthalate	ND	2	46	54	10
Di-n-octyl phthalate	ND	2	52	56	10
Benzo(b)fluoranthene	ND	0	69	77	10
Benzo(k)fluoranthene	ND	10	69	72	10
Benzo(a)pyrene	ND	7	66	72	10
Indeno(1,2,3-cd)pyrene	ND	4	76	82	10
Dibenzo(a,h)anthracene	ND	8	70	79	10
Dibenzo(g,h,i)perylene	ND	5	74	79	10
Azobenzene	ND	27	53	86	10
4-Bromophenyl phenyl ether	ND	14	61	80	10

eans not detected at or above MQL noted.; NR means not recovered; D means detected.

Percent Surrogate Recovery				
2-Fluorophenol	44	24	35	50
d6-Phenol	26	27*	15	37
2,4,6-Tribromophenol	71	15	44	84
d5-Nitrobenzene	118	34*	34	74
2-Fluorobiphenyl	62	15	31	72
d14-Terphenyl	58	7	48	87
Analyzed by:	Lessie Redican			
Date,time analyzed	10-8-96, 1652			

eans matrix interference.

96

Rock Wastewater Utility
Temple Street
Rock, AR 72202

Susan Samples

ITY CONTROL RESULTS
umbers:962884,2885

ICIDES	ug/L Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Minimum Quantification Level(MQL) ug/L(ppb)
			Priority Pollutants		
Aldrin	ND	10.1	59.2	43.5	0.05
alpha-BHC	ND	6.6	69.5	71.2	0.05
beta-BHC	ND	6.08	81.1	79	0.05
delta-BHC	ND	6.12	86.8	83.4	0.05
gamma-BHC	ND	8.67	75.1	69.2	0.05
Chlordane	ND	NS	NS	NS	0.2
4,4'-DDD	ND	8.27	65	71.4	0.1
4,4'-DDE	ND	4.86	72.5	70	0.1
4,4'-DDT	ND	5.66	61.3	65.4	0.1
Dieldrin	ND	6.15	80.3	73.2	0.1
Endosulfan I	ND	5.14	78	74	0.1
Endosulfan II	ND	1.05	67.7	66.4	0.1
Endosulfan sulfate	ND	8.7	68.8	69	0.1
Endrin	ND	1.37	84.6	80.4	0.1
Endrin aldehyde	ND	5.9	85.8	79.6	0.1
Heptachlor	ND	11.9	70.7	56.2	0.05
Heptachlor epoxide	ND	6.68	84.3	76.4	0.05
Toxaphene	ND	NS	NS	NS	5
PCB-1016	ND	NS	NS	NS	1
PCB-1221	ND	NS	NS	NS	1
PCB-1232	ND	NS	NS	NS	1
PCB-1242	ND	NS	NS	NS	1
PCB-1248	ND	NS	NS	NS	1
PCB-1254	ND	NS	NS	NS	1
PCB-1260	ND	NS	NS	NS	1
Percent Surrogate Recovery					
TCMX	57.4	4.96	61.3	54.4	
DCBP	37.2	37.9	50	46.8	

eans not detected at or above the MQL noted.; NS means not spiked.

Analyzed by: Jeff Curry JC
Date, time analyzed: 10-4-96, 1352

APPENDIX

M

(Guidance Provided by Allen Gilliam, State Pretreatment Coordinator)

Given:

Receiving Stream - Arkansas River, Segment 3C
(Qb) 7Q10 = 576 mgd = 890 cfs
TSS = 10.5 ppm
Hardness = 125 ppm

819 cfs 2012

Adam's POTW design flow (Qd) = 36 mgd = 55.62 cfs
Fourche Creek's POTW design flow (Qd) = 16 mgd = 24.72 cfs

Metal	Adams Field Max. Daily Level	Adams Field Avg. Month Level	Fourche Creek Max. Daily Level	Fourche Creek Avg. Month Level
As	2.38	1.19	6.90	3.44
Cd	0.054	0.027	0.107	0.053
Cr	11.2	5.59	23.5	11.7
Cu	0.214	0.106	0.619	0.309
CN-	0.058	0.029	0.116	0.058
Pb	0.198	0.098	0.395	0.197
Hg	0.0001	0.00007	0.00027	0.00014
Ni	4.99	2.49	9.98	4.98
Se	0.056	0.028	0.112	0.056
Ag	0.057	0.028	0.165	0.082
Zn	1.70	0.85	4.94	2.46

WQS mg/L

In Stream

Req WQS 12 mg/L

36

.027

.032

APPENDIX

N

LITTLE ROCK WASTEWATER UTILITY
221 EAST CAPITOL AVENUE
LITTLE ROCK, ARKANSAS 72202-2412

MEMORANDUM

TO: Local Limit Development Zinc Study

FROM: Jeff Davis, EAD Pretreatment/Biosolids Coordinator

DATE: July 11, 1997

SUBJECT: Summary of Zinc Inhibition Study

Oxygen Uptakes rates were ran on activated sludge from the Adams Field and Fourche Creek Wastewater Treatment Plants. Increments of zinc at concentrations of 0.2mg/L, 0.3mg/L and 0.4mg/L were added to samples of the activated sludge and comparisons of the oxygen uptake rates were performed between the blank and zinc aliquoted samples. Attached are graphs produced from the testing conducted in this study.

Review of the graphs show that oxygen uptake was not inhibited at the concentrations tested. Deviations in the linears can be attributed to the dissolved oxygen meters being used in the testing. Meters D and C consistently ran a little higher than meters B and A regardless of the concentration in the bottles being tested by the meters. This study indicates that 0.4 mg/l zinc is not inhibitory to the aerobic process at either treatment plant and 0.4 should be allowed in place of the 0.3 default number listed as an inhibitory factor in the local limit development guidelines.

The zinc concentration in each activated sludge sample collected is listed in the tables under sample blank. To determine the actual zinc concentration in each bottle that an oxygen uptake rate was charted take the sample blank concentration and add the spike addition.

cc: Stan Suel, EAD Supervisor
Fred Oswald, Oswald Engineering
Susan Ledbetter, Sampling/Inspection Coordinator
EAD Compiler File
Readers File

e-mail: Rick Barger, Director of Operations

LITTLE ROCK WASTEWATER UTILITY
221 EAST CAPITOL AVENUE
LITTLE ROCK, ARKANSAS 72202-2412

MEMORANDUM

TO: Local Limit Development Zinc Study

FROM: Jeff Davis, EAD Pretreatment/Biosolids Coordinator

DATE: June 19, 1997

SUBJECT: Test Procedures to Determine Zinc Inhibition on Activated Sludge

Take 4 BOD bottles and add 0.2mg/L(60 microliters), 0.3 mg/L(90 microliters), and 0.4mg/L(120 microliters) of zinc standard(1002ug/ml) to three of the bottles.

Calibrate 4 dissolved oxygen meters using the same aerated water for the standard.

Record standard D.O. to enable meter drift to be checked at the end of test.

Take activated sludge sample collected from the head of the aeration tank, preserve portion for zinc metal analysis, and aerate at least 2 liters for 10 to 15 minute to allow initial D.O. to be above 8.0 mg/L. Turn off aerator and check with a calibrated probe and assure initial D.O. level is adequate to chart respiration before pouring sample into individual BOD bottles to measure oxygen depletion over time.

Immediately upon obtaining desired D.O., record as initial D.O. and pour mixed sample into 4 BOD bottles consecutively.

At one minute intervals record the D.O. of all 4 bottles until oxygen has been depleted to below 1.0mg/L in the blank bottle.

After oxygen depletion put probes back in standard to determine if drift occurred, record D.O. post test standard reading.

Graph the D.O readings over time to determine if respiration is inhibited from zinc additives.

Compare graphs and report deviations of oxygen uptake rate that is not linear to the activated sludge blank. A decrease in the oxygen uptake rate in the spiked bottles when compared to the blank will reveal inhibition from the zinc additive. If no change occurs in the oxygen uptake rate then the test shows that zinc additives did not inhibit the aerobic process.

The report format is intended to include a graph showing oxygen uptake over time for each test run (six total). Each graph will have four linears; blank and zinc concentrations. Attached to the graphs will be a summary indicated the results of the study.

Analyst CEB
Date Started ~~15 Jun 1997, 14:04~~ July 9, 1997
Worksheet MIXED LIQUOR Zn STUDY
Comment 3 FOURCHE & 3 ADAMS
Methods Zn

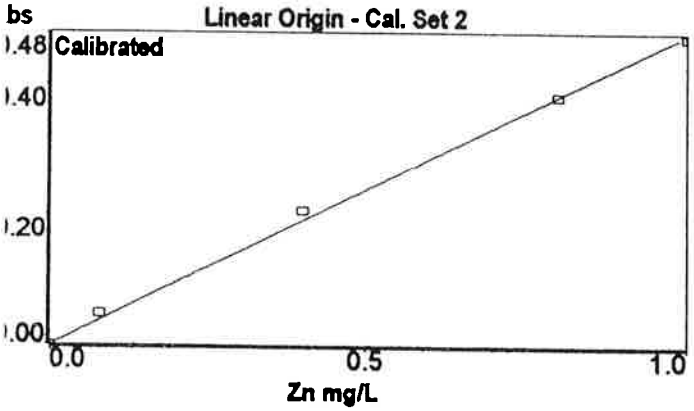
Method: Zn Water Matrix (Flame)

Sample ID	Conc mg/L	%RSD	Mean Abs	Readings	
CAL ZERO	0.000	0.9	0.0058	0.0057	0.0058
STANDARD 1	0.080	0.6	0.0493	0.0491	0.0495
STANDARD 2	0.401	0.1	0.2068	0.2066	0.2069
STANDARD 3	0.802	0.2	0.3832	0.3826	0.3839
STANDARD 4	1.002	0.4	0.4727	0.4714	0.4741

QC Test: Correlation coefficient 0.9988 within 0.9950 limit

Curve Fit = Linear Origin
Characteristic Conc = 0.009 mg/L
r = 0.9988

Calculated Conc	=	0.012	0.103	0.432	0.801	0.988
Residuals	=	-0.012	-0.023	-0.031	0.001	0.014



Sample ID	Conc mg/L	%RSD	Mean Abs	Readings	
ADAMS 6/25	0.926	0.3	0.4430	0.4419	0.4440
FOURCHE 6/25	0.430	0.1	0.2058	0.2055	0.2060
ADAMS 6/26	0.757	0.7	0.3621	0.3604	0.3638
FOURCHE 6/26	0.421	0.5	0.2015	0.2009	0.2022
ADAMS 6/27	OVER	0.0	0.4995	0.4995	

W0545: Sample result OVER the calibration range

FOURCHE 6/27	0.464	0.3	0.2220	0.2216	0.2224
ADAMS 6/27 DF=2	0.594	0.0	0.2839	0.2840	0.2838
=	1.188				

ENVIRONMENTAL ASSESSMENT DEPARTMENT
ACTIVATED SLUDGE ZINC INHIBITION STUDY
JUNE, 1997

Sample Location: FCTP Activated Sludge Headworks
Date and Time Collected: 06/25/97 @ 12:52 p.m.
Date and Time Performed: 06/25/97 @ 1:20 p.m.
Initial D.O. of Activated Sludge After Aeration: 7.2 mg/L **Aeration Time:** 20 Minutes

Activated Sludge D.O. Measurements				
	FCTP Activated Sludge			
Time Interval	Sample Blank	Spiked Sample		
1 min Increment	0.430 mg/l	+0.2 mg/L Zn	+0.3 mg/L Zn	+0.4 mg/L Zn
1	5.2	6.6	6.0	5.2
2	4.5	5.9	5.3	4.6
3	3.8	5.1	4.5	3.9
4	3.2	4.3	3.9	3.3
5	2.6	3.4	3.1	2.6
6	1.9	2.6	2.4	2.0
7	1.4	2.0	1.9	1.5
8	0.8	1.3	1.2	0.9
9	0.4	0.8	0.8	0.5
10				
11				
D.O. Meter Drift	0.0	0.3	0.3	0.0
Meter	B	C	D	A

Sample Location: AFTP Activated Sludge Headworks
Date and Time Performed: 06/25/97 @ 2:00 p.m.
Date and Time Performed: 06/25/97 @ 2:30 p.m.
Initial D.O. of Activated Sludge After Aeration: **8.1** mg/L **Aeration Time:** **20** Minutes

Activated Sludge D.O. Measurements				
	AFTP Activated Sludge			
Time Interval	Sample Blank	Spiked Sample		
1 min Increment	0.926 mg/l	+0.2 mg/L Zn	+0.3 mg/L Zn	+0.4 mg/L Zn
1	6.5	7.5	7.1	6.7
2	6.0	7.2	6.5	6.2
3	5.3	6.6	5.9	5.6
4	4.7	6.1	5.4	5.1
5	4.1	5.4	4.7	4.4
6	3.4	4.6	4.1	3.8
7	2.8	3.9	3.6	3.3
8	2.2	3.1	3.0	2.7
9	1.6	2.4	2.4	2.2
10	1.0	1.7	1.9	1.6
11	0.4	1.1	1.3	1.1

D.O. Meter Drift	0.0	0.3	0.3	0.0
Meter	B	C	D	A

ENVIRONMENTAL ASSESSMENT DEPARTMENT
ACTIVATED SLUDGE ZINC INHIBITION STUDY
JUNE, 1997

Sample Location: FCTP Activated Sludge Headworks
Date and Time Collected: 06/26/97 @ 1:05 p.m.
Date and Time Performed: 06/26/97 @ 1:30 p.m.
Initial D.O. of Activated Sludge After Aeration: 6.0 mg/L **Aeration Time:** 15 Minutes

Activated Sludge D.O. Measurements				
	FCTP Activated Sludge			
Time Interval	Sample Blank	Spiked Sample		
1 min Increment	0.421 mg/L	+0.2 mg/L Zn	+0.3 mg/L Zn	+0.4 mg/L Zn
1	5.3	6.1	6.1	5.2
2	4.7	5.4	5.6	4.7
3	4.2	4.7	4.6	4.2
4	3.6	4.1	4.0	3.7
5	3.1	3.6	3.5	3.2
6	2.6	3.0	3.0	2.7
7	2.1	2.5	2.4	2.2
8	1.6	2.0	1.9	1.7
9	1.1	1.5	1.4	1.2
10	0.7	1.0	1.1	0.8
11	0.4	0.6	0.6	0.5

D.O. Meter Drift	0.0	0.2	0.0	0.0
Meter	A	D	C	B

Sample Location: AFTP Activated Sludge Headworks
Date and Time Performed: 06/26/97 @ 2:00 p.m.
Date and Time Performed: 06/26/97 @ 2.35 p.m.
Initial D.O. of Activated Sludge After Aeration: 7.2 mg/L **Aeration Time:** 20 Minutes

Activated Sludge D.O. Measurements				
	AFTP Activated Sludge			
Time Interval	Sample Blank	Spiked Sample		
1 min Increment	0.755 mg/L	+0.2 mg/L Zn	+0.3 mg/L Zn	+0.4 mg/L Zn
1	5.5	6.2	6.4	5.6
2	5.1	5.6	5.7	5.1
3	4.6	5.0	5.1	4.6
4	4.1	4.4	4.5	4.2
5	3.5	3.9	4.0	3.6
6	3.2	3.5	3.5	3.3
7	2.6	2.8	2.9	2.7
8	2.2	2.4	2.5	2.4
9	1.7	2.0	2.0	1.9
10	1.3	1.5	1.6	1.5
11	0.9	1.1	1.1	1.1

D.O. Meter Drift	0.1	0.2	0.2	0.1
Meter	A	C	D	B

ENVIRONMENTAL ASSESSMENT DEPARTMENT
ACTIVATED SLUDGE ZINC INHIBITION STUDY
JUNE, 1997

Sample Location: FCTP Activated Sludge Headworks
Date and Time Collected: 06/27/97 @ 1:10 p.m.
Date and Time Performed: 06/27/97 @ 4:45 p.m.
Initial D.O. of Activated Sludge After Aeration: 8.4 mg/L **Aeration Time:** 15 Minutes

Activated Sludge D.O. Measurements				
	FCTP Activated Sludge			
Time Interval	Sample Blank	Spiked Sample		
1 min Increment	0.464 mg/L	+0.2 mg/L Zn	+0.3 mg/L Zn	+0.4 mg/L Zn
1	6.8	6.0	5.8	5.8
2	6.0	5.8	5.1	5.1
3	5.0	5.0	4.3	4.3
4	4.2	4.3	3.7	3.7
5	3.4	3.6	3.0	3.0
6	2.7	2.9	2.3	2.4
7	1.9	2.2	1.7	1.7
8	1.1	1.4	1.0	1.1
9	0.6	1.0	0.5	0.6
10				
11				
D.O. Meter Drift	0.1	0.1	0.0	0.0
Meter	C	D	A	B

Sample Location: AFTP Activated Sludge Headworks
Date and Time Collected: 06/27/97 @ 1:15 p.m.
Date and Time Performed: 06/27/97 @ 2:10 p.m.
Initial D.O. of Activated Sludge After Aeration: 8.1 mg/L **Aeration Time:** 15 Minutes

Activated Sludge D.O. Measurements				
	AFTP Activated Sludge			
Time Interval	Sample Blank	Spiked Sample		
1 min Increment	1.188 mg/L	+0.2 mg/L Zn	+0.3 mg/L Zn	+0.4 mg/L Zn
1	7.1	6.2	6.1	7.1
2	6.5	5.6	5.6	6.4
3	5.7	4.9	5.0	5.7
4	4.8	4.2	4.2	4.9
5	3.9	3.4	3.5	4.1
6	3.1	2.7	2.8	3.3
7	2.3			2.7
8	1.5	1.3	1.5	2.0
9	0.7	0.6	0.7	1.2
10	0.2	0.0	0.1	0.6
11				
D.O. Meter Drift	-0.1	0.0	0.0	-0.2
Meter	C	A	B	D

Fourche Creek Treatment Plant
Activated Sludge Zn Inhibition Study
Performed June 25, 1997