

BATON ROUGE SSO PROGRAM
2002 CONSENT DECREE



2002 ANNUAL REPORT

January 29, 2003



Department of Public Works

City of Baton Rouge
Parish of East Baton Rouge

Post Office Box 1471
Baton Rouge, Louisiana
70821

January 29, 2003

CERTIFIED – RETURN RECEIPT REQUESTED

Chief,
Water Enforcement Branch (6EN-W)
Compliance Assurance and Enforcement Division
U.S. Environmental Protection Agency, Region VI
1445 Ross Avenue
Dallas, Texas 75202-2733

Re: City of Baton Rouge and Parish of East Baton Rouge
Consent Decree-Civil Action No. 01-978-B-M3
Annual Report - **Period Ending December 31, 2002**

Gentlemen:

Pursuant to Paragraph 52 of the Consent Decree, the City of Baton Rouge and Parish of East Baton Rouge hereby submits the Annual Report covering activities for the year ending December 31, 2002. This report addresses the following items:

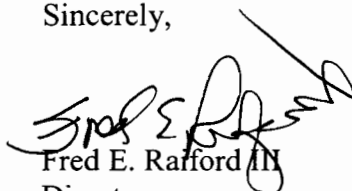
- Remedial Measures Action Plan (RMAP)
- Treatment Facility Assessment
- Environmental Results Monitoring (ERM)
- Interim Relief Measures Activities
- Outreach and Awareness Program
- Plan Modification Needs
- Stipulated Penalties

These items are described in Sections XII, XIII, XIV, XVI, XV and XXI of the Consent Decree.

I certify that the information contained in or accompanying this document is true, accurate and complete. As to identified portions of this document for which I cannot personally verify their

truth and accuracy, I certify as the official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification, that this is true, accurate and complete.

Sincerely,



Fred E. Raiford III
Director

Cc: Honorable Bobby Simpson, Mayor-President
Mr. Paul Thompson, Chief Administrative Officer
Mr. Bruce Hammatt, LDEQ
Chief, Environmental Enforcement Section, US DOJ
Mr. Carlos Zequeira, (6RC-EA)
Ms. Vivian Hare, (6EN-WC)
Ms. Peggy Hatch, LDEQ
Mr. Mike Hill
Mr. Jim Thompson
Mr. Jerome Klier
Mr. Jeff Broussard
Mr. Kent A. Mudd
Mr. Robert Groht
Mr. David Ratcliff
Mr. Bill McHie, MWH

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Table of Contents

	Page
I Remedial Measures Action Plan (RMAP)	1
II Treatment Facility Assessment	4
III Environmental Results Monitoring (ERM).....	4
IV Interim Relief Measures Activities	5
V Outreach and Public Awareness Program.....	6
VI Plan Modification Needs	8
VII Stipulated Penalties	8

APPENDIX A – First RMAP Schedule

APPENDIX B – Second RMAP Schedule

APPENDIX C – Environmental Results Monitoring – Laboratory Report

APPENDIX D – Interim Relief Measures Documentation

APPENDIX E – Outreach and Awareness Program Documentation

LIST OF TABLES

Table Number	Title	Page
1	First RMAP Project Status	2
2	Second RMAP Project Status	2-3
3	Infiltration & Inflow Reduction Activities	4
4	WQ Sampling Results for Phase I, 1 st Quarter	5
5	Monthly Average Percent Removal	6
6	Summary of Stipulated Penalties	9

LIST OF FIGURES

Figure Number	Title
1	Sampling Locations
2	WWTP Monthly Average Percent Removal

Baton Rouge Consent Decree 2002 Annual Report

This Annual Report covering the period from January 1, 2002 to December 31, 2002 is submitted in accordance with Paragraph 52 of the Consent Decree. The report addresses all items identified in Consent Decree Exhibit I regarding the Annual Report format and content.

I Remedial Measures Action Plan (RMAP)

The City/Parish identified a comprehensive remedial action plan for the collection system during consent decree negotiations, identified as Alternative 1 (the original SSO Plan) in the Consent Decree. Shortly thereafter, a VE study was commissioned to explore cost-saving alternatives, and the VE study identified seven options of the original SSO Plan for further considerations. Three of those options (3, 4 and 7) were considered equivalent low-cost options. Through a series of Metro Council and public meetings, Option 7, the Composite Plan, was selected.

The First RMAP, submitted on January 10, 2001, consists of the projects common to the three lowest cost options. Table 1 lists the projects in the First RMAP and identifies the status of each project. Construction start dates for many projects are behind the original schedule due to land acquisition/right-of-way issues and additional alternative analysis being conducted on certain specific projects to reduce construction costs. However, we are confident that the Consent Decree milestone dates will be met.

The Second RMAP, submitted on November 20, 2002, consists of the projects required to complete the selected overall remedial action plan, Option 7. Table 2 lists the projects in the Second RMAP and identifies the status of those projects. The City/Parish met with EPA and LDEQ at EPA Region 6 offices on October 31, 2002 for a program status presentation. That presentation included an update of RMAP projects. The implementation schedules for the First and Second RMAP projects, indicating total project time (design and construction), are presented in Appendices A and B.

The Consent Decree RMAP milestones are as follows:

	<u>Consent Decree Date</u>	<u>Actual Date</u>
Start construction of 1 st RMAP remedial measures	January 15, 2001	January 10, 2001
Submit 2 nd remedial measures action plan (RMAP)	December 1, 2002	November 20, 2002
Complete construction of 1 st RMAP remedial measures	May 4, 2007	
Complete construction of 33% of total RMAP	July 1, 2007	
Complete construction of 66% of total RMAP	July 1, 2011	
Complete design of 2 nd RMAP remedial measures	June 3, 2013	
Complete construction of 100% of the total RMAP	January 1, 2015	

The City/Parish was in compliance with Section XII Collection System Remedial Program during this reporting period. There were no problems encountered in the Collection System Remedial Program during this reporting period, and there are no plan modification needs. Non-compliance is not anticipated during the next reporting period.

**Table 1
First RMAP Project Status**

Project Description	Design Status	Construction				Percent Complete
		Start Date		Completion Date		
		Sched.	Actual	Sched.	Actual	
N-01 Choctaw Basin Return System	0%	01/01/03		10/19/04		
N-02 PS 49/52 Area Upgrades	15%	03/10/03		06/25/04		
N-04 PS 47 Area Upgrades	0%	04/07/03		07/23/04		
N-05 PS 24 Area Upgrades	25%	02/09/04		05/27/05		
N-06 PS 43 Area Upgrades	25%	10/22/01		11/08/02		
N-07 PS 39/55 Area Upgrades	5%	04/07/03		07/23/04		
N-09 PS 44/46 Area Upgrades	25%	02/09/04		05/27/05		
N-10 PS 240 Area Upgrades	65%	11/12/01		02/28/03		
N-11 PS 65 Area Upgrades	20%	11/12/01		02/28/03		
N-12 North Sewer Rehab Projects	0%	01/21/02		11/07/03		
N-13 North Choctaw Basin System	0%	03/18/02		01/02/04		
N-99 Further Investigations (North Area)	5%	06/03/02		05/04/07		
C-03 PS 2 Area Rehabilitation	0%	11/21/01		02/28/03		
S-01B SWWTP-Influent Pump Station	100%	10/16/00	01/10/01	08/02/02		99%
S-08 Industriplex Area Upgrades	60%	03/20/01		07/08/02		
S-11 PS 40 Area Upgrades	0%	11/12/01		02/28/03		
S-14 Kleinpeter Area Upgrades	0%	02/15/02		03/06/03		
S-16 PS 136 Area Upgrades	75%	04/09/01		01/24/03		
S-99 Further Investigations (South Area)	0%	10/01/01		09/26/03		

**Table 2
Second RMAP Project Status**

Project Description	Design Status	Construction				Percent Complete
		Start Date		Completion Date		
		Sched.	Actual	Sched.	Actual	
BFU1 Ballasted Flocculation Unit for N-08	0%	03/02/04		06/15/05		
BFU2 Ballasted Flocculation Unit for N-03	0%	04/12/05		01/27/07		
BFU3 Ballasted Flocculation Unit for C-02	0%	03/25/08		01/09/10		
BFU4 Ballasted Flocculation Unit for SWWTP	0%	03/01/05		06/14/06		
N-03 North Park Area Upgrades	0%	04/12/05		01/27/07		
N-08 PS 45 Area Upgrades	0%	01/16/04		04/30/05		
C-01 PS 59 Area Upgrades	0%	03/27/07		01/10/09		
C-02 PS 23/PS 60 Area Upgrades	0%	03/25/08		01/09/10		
C-04 PS 4 Area Upgrades	0%	01/14/11		04/28/12		
C-05 PS 5 Area Upgrades	0%	12/23/09		01/06/11		
C-06 PS 15/PS 48 Area Upgrades	0%	01/16/12		04/30/13		
C-07 PS 1 Area Upgrades	0%	01/13/09		04/28/10		
S-01A PS 58 Area Upgrades	0%	01/15/08		04/29/09		
S-02 East Highland Road Area Upgrades	0%	01/13/09		04/28/10		
S-03 PS 58 Area Upgrades #1	0%	12/23/09		01/06/11		
S-04 PS 66 Area Upgrades	0%	12/22/10		01/05/12		
S-05 PS 58 Area Upgrades #2	0%	01/16/12		04/30/13		
S-06 PS 31 Area Upgrades	0%	01/15/10		04/30/11		
S-07 PS 944 Area Upgrades	0%	12/20/07		01/02/09		

Table 2 (continued)
Second RMAP Project Status

Project Description	Design Status	Construction				Percent Complete
		Start Date		Completion Date		
		Sched.	Actual	Sched.	Actual	
S-09 Gardere/GSRI Area Upgrades	0%	12/20/07		01/02/09		
S-10 Tiger Bend/Antioch Area Upgrades	0%	01/17/11		05/01/12		
S-12 PS 177 Area Upgrades	0%	12/19/08		01/02/10		
S-13 PS 170/PS274 Area Upgrades	0%	12/19/08		01/02/10		
S-15 Hoo Shoo Too & Jefferson Hwy Area Upgrades	0%	12/20/07		01/02/09		
S-17 South Siegen Area Upgrades	0%	01/15/08		04/29/09		
S-18 PS 40 Area Upgrades	0%	01/15/08		04/29/09		
S-19 PS 53 Area Upgrades	0%	01/14/09		04/29/10		
S-20 PS 56 Area Upgrades	0%	01/13/09		04/28/10		
S-21 BPS 100 Area Upgrades	0%	01/16/12		04/30/13		
S-22 BPS 508 Area Upgrades	0%	01/15/13		04/30/14		
S-23 PS 120 Area Upgrades	0%	01/14/11		04/28/12		
S-24 PS 50 Area Upgrades #2	0%	01/14/11		04/28/12		
S-25 PS 236 Area Upgrades	0%	01/15/10		04/30/11		
T-01 SWWTP Tunnel Pump Station	0%	05/10/04		08/17/06		
T-02 CWWTP Tunnel Pump Station	0%	05/10/04		02/16/06		
T-03 Tunnel - CWWTP to PS 2	0%	11/10/04		08/09/06		
T-04 Tunnel - SWWTP to Highland	0%	11/11/04		11/16/06		
T-05 Bluebonnet Tunnel Highland - South of I-10	0%	05/10/05		11/27/07		
T-06 Brightside/Perkins/Ben Hur Tunnel	0%	05/09/07		07/22/09		
T-07 Southeast Baton Rouge Minor Tunnels	0%	11/10/06		02/18/10		
T-08 Old Hammond Highway Minor Tunnels	0%	05/11/09		06/20/11		
T-09 Tunnels South of Old Hammond to Bluebonnet	0%	05/10/05		12/30/08		
T-10 Tunnels North of PS 2, Central Service Area	0%	02/08/08		05/20/11		
T-11 Perkins Road Tunnel, Pecue to Bluebonnet	0%	11/09/05		03/19/08		
T-12 Highland Road Tunnel West of Gardere	0%	05/10/05		02/19/08		
T-13 Pecue Lane Tunnel	0%	05/09/06		10/21/08		
T-14 Sherwood Forest Boulevard Tunnel	0%	08/11/08		03/08/11		
T-15 Tunnels South of PS 2 in Central Area	0%	05/09/07		04/08/09		
T-16 Tunnel Tie-ins (Phases 1, 2, & 3)	0%	05/26/08		02/21/13		
T-17 Highland Road East Tunnels	0%	11/09/05		12/30/09		
T-18 Pump Station Demolition (Phases 1 & 2)	0%	03/26/12		07/16/14		

In accordance with Paragraph 35 of the Consent Decree, the City/Parish shall spend at least \$3 million per year for sewer repairs, sewer rehabilitation, and other capital needs related to reduction of Infiltration and Inflow ("I & I") into the North, Central, and South Plant Collection Systems. The following table identifies the funds expended during 2002 to meet this requirement.

Table 3
Infiltration & Inflow Reduction Activities

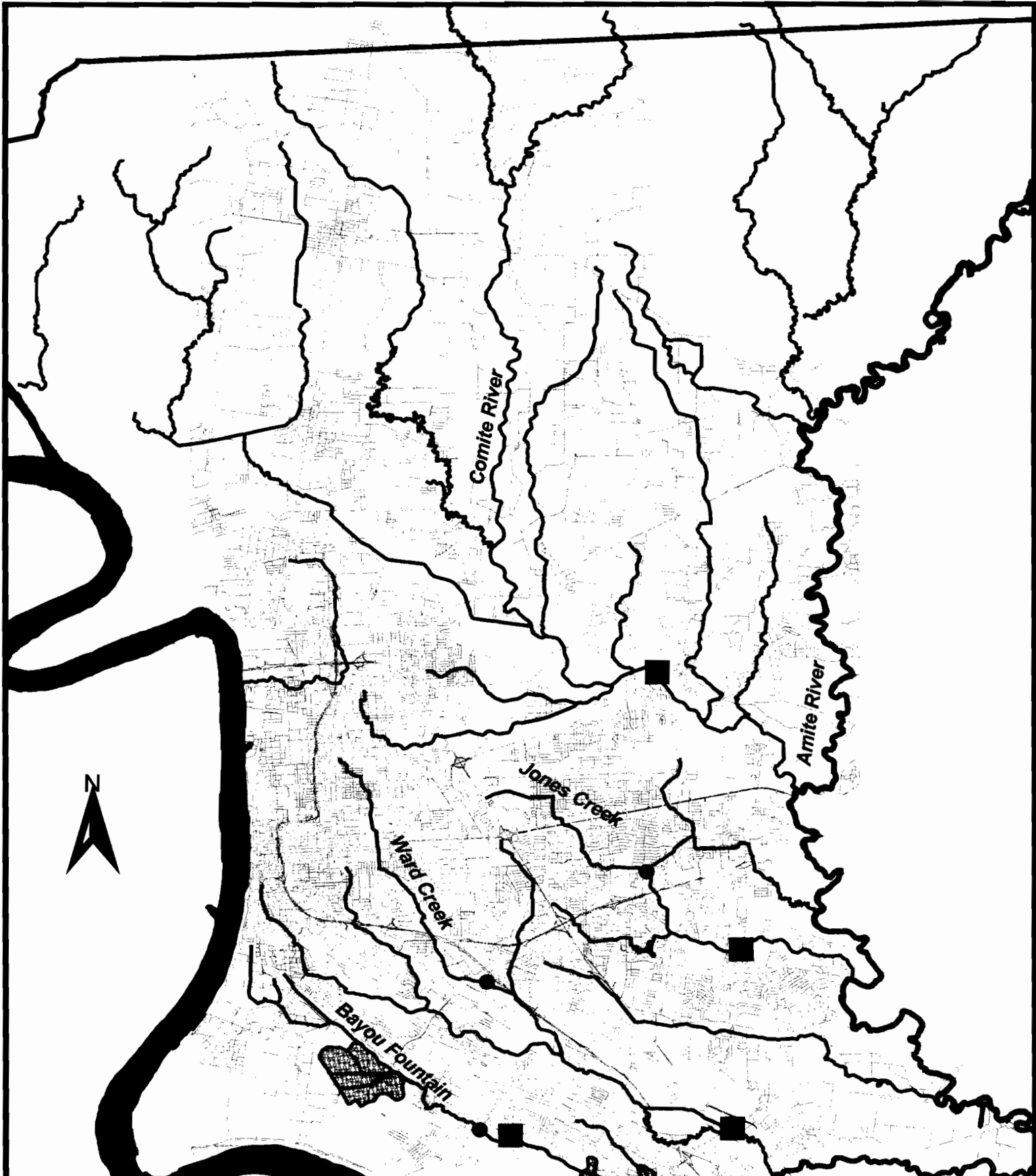
PROJECT	DESCRIPTION	2002 % COMPLETE	ACTUAL % COMPLETE	CONSTRUCTION COST/BID	EXPENDITURES 2002
99-SSO-03	Parish Wide Trunk Line Project	77%	100%	\$1,111,500	\$969,066
99-SSO-06	Comprehensive Rehab Project by Point Repair	38%	100%	\$345,766	\$157,332
99-SSO-07	Comprehensive Rehab Project by Trenchless Rehab	55%	100%	\$1,013,554	\$563,142
99-SSO-16	Parish Wide Point Repair	100%	100%	\$194,003	\$185,797
99-SSO-17	Parish Wide Point Repair	14%	14%	\$309,342	\$41,216
99-SSO-22	Audubon Terrace/Morning Glen Rehab	31%	31%	\$694,835	\$216,668
01-SSO-47	Oak Hills Sewer Rehab	86%	86%	\$772,205	\$663,759
01-SSO-64	Ferndale Rehab Project	100%	100%	\$204,842	\$204,842
02-CDR-01	Aster St. Rehab Project	0%	0%	\$239,250	\$0
02-CDR-02	Annual Point Repair Project	0.60%	0.60%	\$1,113,193	\$6,680.00
02-CDR-03	Point Repair 62	0%	0%	\$219,378.50	\$0
02-WWC-RBL1	Annual Rehab by Lining	54%	54%	\$524,350	\$281,444
TOTAL EXPENDITURES IN 2002				\$6,742,218	\$3,289,947

II Treatment Facility Assessment

The Treatment Facility Assessment was submitted March 26, 2002. In the Treatment Facility Assessment, all process units and conveyance elements were determined to have capacity for current and projected design flows at all three WWTPs. Also, all WWTPs have the ability to meet their permit effluent limits. Based on these findings, no WWTP facility improvements or expansion are required. The Treatment Facility Assessment also indicated that the monthly LSU Process Control meetings are having a beneficial impact on plant performance.

III Environmental Results Monitoring (ERM)

The objective of the ERM program is to measure the environmental impacts of the SSO Program by monitoring sewage indicating pollutants in major receiving waters prior to and following completion of remedial measures within each drainage basin. The four sampling locations, identified in Figure 1, include all major tributaries in East Baton Rouge Parish which enter the Amite River System – and eventually Lake Ponchartrain.



Legend

Sampling Locations

- Highland Road & Ward Creek
- Grand Lakes Dr. & Bayou Fountain
- O'Neal Lane & Jones Creek
- Greenwell Springs Rd. & Comite River
- USGS Monitoring Stations
- ⚡ Major Waterways
- Existing Sanitary Sewers
- Parish Streets
- Parish Boundary

ERM Program

Figure 1 - Sampling Locations

On December 31, 2002, the City/Parish conducted the first quarterly Phase I Baseline Monitoring event, as part of the Consent Decree Environmental Results Monitoring (ERM) Program. Prior to that event, a practice run was conducted to train sampling personnel, and sampling was conducted for an earlier rain event. Unfortunately, that sampling event was not successful because the sample hold times exceeded EPA standards (due to laboratory error).

The December 31 rain event was approximately one inch of rain over a four-hour period during the early morning hours, ending around 5:00 a.m. Sampling at the four designated sites occurred between the hours of 10:20 a.m. and 11:25 a.m. on December 31, 2002. Samples were drawn from the approximate center of each stream, poured into laboratory-prepared containers, and delivered to the laboratory. All samples were analyzed for the parameters established in the ERM plan; Fecal coliform, Fecal Streptococcus, and Enterococcus.

The laboratory report is provided in Appendix C. Results of laboratory analyses are summarized in Table 4. According to the water quality criteria set forth in LAC 33.IX.11, the fecal coliform content of a stream designated for primary contact recreation shall not exceed 200 col/100 mL. During the non-recreational period of November 1 through April 30, fecal coliform content should not exceed 1,000 col/100 mL. Water quality criteria for fecal streptococcus and enterococcus are not available. As shown in Table 4, the fecal coliform criterion was exceeded at three of the four sample locations. Further analysis of these results will be made following future water quality sampling events.

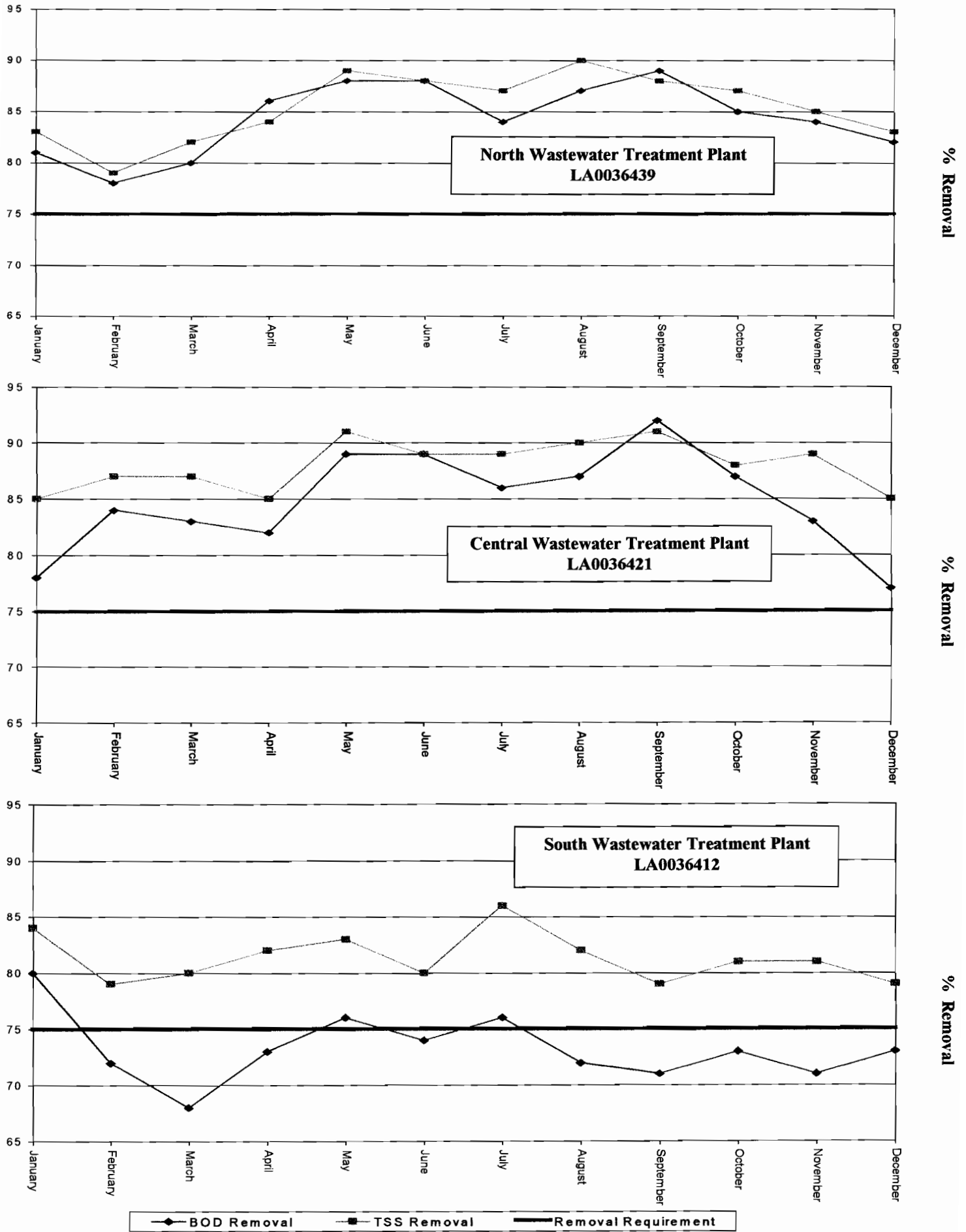
Table 4
WQ Sampling Results for Phase I, 1st Quarter

Parameter	Sampling Location			
	1-Comite River	2-Jones Creek	3-Ward Creek	4-Bayou Fountain
Fecal Coliform	TNTC*	TNTC*	TNTC*	630 col/100 mL
Fecal Streptococcus	>200 col/100 mL	>200 col/100 mL	>200 col/100 mL	>200 col/100 mL
Enterococcus	>200 col/100 mL	>200 col/100 mL	>200 col/100 mL	>200 col/100 mL
*Too numerous to count (>2000 colonies/100 mL)				

IV Interim Relief Measures Activities

Paragraph 39 of the Consent Decree provides interim effluent limits of 75% removal of BOD and TSS (based on 30-day average removal rates), until completion of all RMAP construction projects, as an interim relief to the 85% removal requirement of the three WWTP NPDES permits. During 2002 the North and Central WWTPs have been in compliance with the 75% interim effluent limits. In fact, 50% of the time, both treatment plants met the permit limit of 85% removal of BOD, and more than 50% of the time they met the permit 85% removal limit for TSS, as illustrated by Table 5 and Figure 2.

Figure 2. WWTP Monthly Average Percent Removal



The South WWTP has been in compliance with the 75% interim effluent limit for TSS all year, but has not met the 75% interim effluent limit for BOD for 9 months of the year. The South WWTP has been experiencing operational difficulties related to snail infestation and failure of four trickling filter distributor arms, as documented in Appendix D. We have ordered snail screening collection equipment for the South WWTP (similar to equipment installed at the Central WWTP), and will be taking construction bids for replacement of the trickling filter distributor arms in January 2003. We anticipate the treatment plant will be operating within interim effluent limits by August of 2003.

**Table 5
Monthly Average Percent Removal**

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
North Plant- LA0036439												
BOD	81	78	80	86	88	88	84	87	89	85	84	82
TSS	83	79	82	84	89	88	87	90	88	87	85	83
Central Plant- LA0036421												
BOD	78	84	83	82	89	89	86	87	92	87	83	77
TSS	85	87	87	85	91	89	89	90	91	88	89	85
South Plant- LA0036412												
BOD	80	72	68	73	76	74	76	72	71	73	71	73
TSS	84	79	80	82	83	80	86	82	79	81	81	79

V Outreach and Public Awareness Program

All parties entered into the Consent Decree on March 14, 2002. Copies of the Consent Decree and its exhibits were made available to each engineering, consulting and construction firm retained to do work related to the Consent Decree. Interested parties can download and/or print the entire Consent Decree through the City-Parish website (see Appendix E). Various meetings have been held with the Mayor and Metropolitan Council as well as in various Metropolitan Council Districts regarding the SSO Program status. During the City/Parish budgeting process this year, the Mayor-President presented information about the SSO Program and the Consent Decree (see Appendix E). The City/Parish is also requesting SRF loan funds from the Louisiana Department of Environmental Quality (LDEQ) for certain RMAP projects. As part of that process, the City/Parish has advertised for a public hearing (to be held in February 2003) and prepared a facilities plan and environmental information document (EID) to be made available for public review at local libraries prior to the public hearing. The public hearing will provide a forum to explain the purpose and need of the projects, discuss the proposed alternatives and allow input from the public (see Appendix E). Fred Raiford, Director of the Department of Public Works (DPW), has also made frequent public appearances answering questions relating to the status of the SSO Program. The information presented in this section demonstrates that the City/Parish has been in compliance with Section XV Outreach and Public Awareness Program during the reporting period.

Proposed Consent Decree Activity Descriptions:

1. Prepare program update brochures on the Sanitary Sewer Overflow Plan (mail to all sewer customers and make available to the public throughout the life of the program (Appendix E).
2. Attend neighborhood meetings in the various Metropolitan Council Districts and make our Sewer Improvement Program presentation to them and receive input from the citizens concerning the program. Booklets describing the program and the alternatives are given to all citizens in attendance.
3. Meet regularly with the Mayor and the Metropolitan Council members to keep them informed of the program's status.
4. The Public Information Office will work with the Department of Public Works to produce an information program on the Consent Decree and the Sewer Improvement Program. The program will be broadcast on Cable Channel 21.
5. A copy of the Consent Decree and its exhibits along with program update brochure will be posted on the City-Parish website at ci.baton-rouge.la.us (Appendix E). The City-Parish will also post on its website notification of any Sanitary Sewer Overflows that reach the waters of the United States as soon as practical to keep the public informed.
6. The Director of the Department of Public Works will make frequent appearances on television, radio and before neighborhood and civic groups. The Sewer Improvement Program is major topic of conversation at most of these appearances. The Director will provide information on the status of the Sewer Improvement Program and answer related questions.
7. The City-Parish will include a description of the Sewer Capital Improvement Program and the status of the Sanitary Sewer Overflow Corrective Action Plan in each year's Budget Message from the Mayor-President. The Budget Message is published annually in our official journal, made available in all parish libraries and is posted on the City-Parish website.
8. The City-Parish will include the status report on the Sanitary Sewer Overflow Corrective Action Plan in its Budget Highlights Pamphlet (widely distributed at clubs and neighborhood meetings, and is available at all library branches).
9. Produce a fact sheet about the Supplemental Environmental Projects (SEPs) that are included in the Consent Decree, and make it available on our website (Appendix E).
10. Copies of the Consent Decree and its exhibits will be made available to all interested parties.

<u>Activity</u>	<u>Date / Status</u>
1. Program update brochures on SSO Plan	July 2001
2. Neighborhood meetings in various Metropolitan Council Districts	ongoing
3. Meet with Mayor and the Metropolitan Council members on program status	ongoing
4. Information program on the Consent Decree and the Sewer Improvement Program	developing
5. Post Consent Decree on City-Parish website Post SSO's reaching US water on City-Parish website	June 2002
6. DPW Director public appearances	ongoing
7. SCIP and SSO CAP information in the Mayor-President's Budget Message	Nov 2002
8. SSO CAP information in Budget Highlights Pamphlet	developing
9. Fact sheet about the SEPs on City-Parish website	Dec 2002
10. Consent Decree copies made available	ongoing

VI Plan Modification Needs

The City/Parish has not identified any deficiencies in the Cross Connection Elimination Plan, the Preventive Maintenance Program, or the Remedial Measures Action Plan. A deficiency in the reporting procedures for the Sanitary Sewer Overflow Response Plan (SSORP) was discovered during this reporting period. The reporting forms did not have a place to identify the actions taken to prevent the recurrence of the discharge. We have revised the forms, will be utilizing the new forms immediately, and will request a formal modification to the SSO Response Plan. Additionally, there was some confusion regarding reporting requirements of the consent decree and those required by the operating permit. Through discussions with LDEQ, we have resolved those issues, and will reflect those changes in our revised SSO Response Plan.

VII Stipulated Penalties

As of December 31, 2002 the City/Parish has paid one stipulated penalty of \$216,000 for settlement of claims under the 1988 Consent Decree, as identified in Paragraph 66 of this Consent Decree. Table 6 identifies submittal and activity deadlines subject to stipulated penalties, as identified in Section XXI of the Consent Decree, and will be used for reporting penalties owed and paid in each annual report.

Table 6
Summary of Stipulated Penalties

Stipulated Penalties	Deadline	Completion	Total Owed*	Total Paid*
Past Stipulated Penalties	15-Apr-02	12-Apr-02	\$216,000	\$216,600
Failure to Submit Timely Reports				
Quarterly Reports	Various	Various		
Annual Reports	N/A	N/A		
Collection System PMP Plan	30-Mar-01	29-Mar-01		
Treatment Facility Assessment Report	30-Mar-02	26-Mar-02		
SEP Completion Report	15-Sep-04			
Failure to Submit Timely and Complete 2nd RMAP	1-Dec-02	20-Nov-02		
Failure to Meet RMAP and Construction Milestones				
Start of Construction	15-Jan-01	10-Jan-01		
1st RMAP Construction Complete	4-May-07			
1st & 2nd RMAP at 33%	1-July -07			
1st & 2nd RMAP at 66%	1-July -11			
2nd RMAP Design Completion	3-June-13			
Completion of all Construction	1-Jan-15			
Failure to Seal/Eliminate New Cross Connections	N/A	N/A		
Unauthorized Discharges				
Less Than 1 million gallons and Non-compliance*	N/A	N/A		
Less Than 1 million gallons and Compliance (Post-remedial)*	N/A	N/A		
1 million gallons or more	N/A	N/A		
Non-compliant Discharges				
Daily Maximum Limits	N/A	N/A		
Weekly Average Limits	N/A	N/A		
Monthly (30-day Average) Limits	N/A	N/A		
Failure to Meet SEP Milestone Dates				
Donwood/Oak Manor Project	14-Mar-03			
Pleasant Hills/Green Acres Project	14-Jun-03			
Sharon Hills/Cedar Glen/Pleasant Hills Project	14-Aug-03			
Stumberg Lane Project	14-Mar-03			
Total			\$216,000	\$216,000

* If City/Parish was in compliance with the Preventive Maintenance Plan (PMP) and also followed the Sanitary Sewer Overflow Response Plan (SSORP) during the entire reporting period the penalty is eliminated or reduced.

Appendix A

Appendix B

Second RMAP Projects Implementation Schedule

Description	Early Start	Early Finish	Target Start	Target Finish	1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015																							
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
+BFU1 - Ballasted Flocculation Unit for N-08	03/03/03	06/15/05	03/03/03	06/15/05																								
+BFU2 - Ballasted Flocculation Unit for N-03	02/02/04	01/27/07	02/02/04	01/27/07																								
+BFU3 - Ballasted Flocculation Unit for C-02	01/15/07	01/09/10	01/15/07	01/09/10																								
+BFU4 - Ballasted Flocculation Unit for SWWTP	03/01/04	06/14/06	03/01/04	06/14/06																								
+C-01 - PS59 Area Upgrades	01/16/06	01/10/09	01/16/06	01/10/09																								
+C-02 - PS23/PS60 Area Upgrades	01/15/07	01/09/10	01/15/07	01/09/10																								
+C-04 - PS4 Area Upgrades	01/15/10	04/28/12	01/15/10	04/28/12																								
+C-05 - PS5 Area Upgrades	01/15/09	01/06/11	01/15/09	01/06/11																								
+C-06 - PS15/PS48 Area Upgrades	01/17/11	04/30/13	01/17/11	04/30/13																								
+C-07 - PS1 Area Upgrades	01/15/08	04/28/10	01/15/08	04/28/10																								
+N-03 - North Park Area Upgrades	02/02/04	01/27/07	02/02/04	01/27/07																								
+N-08 - PS45 Area Upgrades	09/23/99 A	06/28/05	09/23/99	04/30/05																								
+S-01A - PS58 Area Upgrades	01/15/07	04/29/09	01/15/07	04/29/09																								
+S-02 - East Highland Road Area Upgrades	01/15/08	04/28/10	01/15/08	04/28/10																								
+S-03 - PS58 Area Upgrades #1	01/15/09	01/06/11	01/15/09	01/06/11																								
+S-04 - PS66 Area Upgrades	01/15/10	01/05/12	01/15/10	01/05/12																								
+S-05 - PS58 Area Upgrades #2	01/17/11	04/30/13	01/17/11	04/30/13																								
+S-06 - PS31 Area Upgrades	01/15/09	04/30/11	01/15/09	04/30/11																								
+S-07 - PS944 Area Upgrades	01/15/07	01/02/09	01/15/07	01/02/09																								
+S-09 - Gardere/GSRI Area Upgrades	01/15/07	01/02/09	01/15/07	01/02/09																								
+S-10 - Tiger Bend / Antioch Area Upgrades	01/15/10	05/01/12	01/15/10	05/01/12																								
+S-12 - PS177 Area Upgrades	01/15/08	01/02/10	01/15/08	01/02/10																								
+S-13 - PS170 / PS274 Area Upgrades	01/15/08	01/02/10	01/15/08	01/02/10																								

Early bar
 Target bar
 Progress bar
 Start milestone point
 Finish milestone point

Appendix C



01/16/2003

LELAP Certification: 01978

Corporate: 1717 Seaboard Drive • Baton Rouge, LA 70810 • 800-364-1930
 Louisiana Division: Baton Rouge, LA • (225) 769-1930
 Alabama Division: Mobile, AL • (334) 344-9915
 Texas Division: Bryan, TX • (979) 778-2828

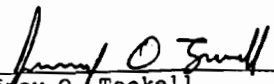
Chris Young
 MWH Americas
 7742 Office Park Blvd Ste.C-2
 Baton Rouge, LA 70808-

Samples collected by MWH Americas
 Samples delivered by MWH Americas
 AET Project No.: 74167
 Louisiana Division

Parameter	Analytical Result	Date Tested	Time Tested	Analyst	Method Number
**Client ID: Comite/Greenwell Spgs 12/31/2002 10:20am Lab ID:74167/01 Matrix: Water					
Enterococcus	>200 col/100ml	12/31/2002	3:30pm	KRD	9230C
Fecal Coliform	TNTC(>2000) col/100ml	12/31/2002	11:05am	KRD	9222D
Streptococcus	>200 col/100ml	12/31/2002	1:30pm	MAH	9230C
**Client ID: Jones Creek/ONeal Lane 12/31/2002 10:47am Lab ID:74167/02 Matrix: Water					
Enterococcus	>200 col/100ml	12/31/2002	3:30pm	KRD	9230C
Fecal Coliform	TNTC(>2000) col/100ml	12/31/2002	11:05am	KRD	9222D
Streptococcus	>200 col/100ml	12/31/2002	1:30pm	MAH	9230C
**Client ID: Wards Creek/Highland Rd 12/31/2002 11:10am Lab ID:74167/03 Matrix: Water					
Enterococcus	>200 col/100ml	12/31/2002	3:30pm	KRD	9230C
Fecal Coliform	TNTC(>2000) col/100ml	12/31/2002	11:05am	KRD	9222D
Streptococcus	>200 col/100ml	12/31/2002	1:30pm	MAH	9230C
**Client ID: Bayou Fountain/Grand Lakes Dr 12/31/2002 11:25am Lab ID:74167/04 Matrix: Water					
Enterococcus	>200 col/100ml	12/31/2002	3:30pm	KRD	9230C
Fecal Coliform	630 col/100ml	12/31/2002	11:05am	KRD	9222D
Streptococcus	>200 col/100ml	12/31/2002	1:30pm	MAH	9230C

All of the above tests were performed as outlined in the U.S. E.P.A. "Methods for Chemical Analysis of Water and Wastes," 1983, "Standard Methods for the Examination of Water and Wastewater," 1989, and U.S. E.P.A. "Test Methods for the Evaluation of Solid Waste--SW846," 1992. Other methods as approved by the client are utilized. Detection limits are affected by dilution factors. (**=-non AET personnel.) Please note: Unless otherwise directed, the samples listed above will be retained no longer than 60 days and will be disposed of by laboratory staff.

Certification:


 Jeffrey O. Teekell
 Laboratory Director



Corporate: 1717 Seaboard Drive • Baton Rouge, LA 70810 • 800-364-1930
Louisiana Division: Baton Rouge, LA • (225) 769-1930
Alabama Division: Mobile, AL • (334) 344-9915
Texas Division: Bryan, TX • (979) 778-2828

01/16/2003

Quality Control Report
AET Project No.: 74167

Parameter	Analytical Result	True Value	Lower Limit	Upper Limit	Test Date	Batch Number
Fecal Coliform	Pos.	col/100mlpos			12/31/2002	271

Quality Control samples are placed in routine sample sets daily so that you may better interpret your test results. * EPA publication

Appendix D



Department of Public Works

City of Baton Rouge
Parish of East Baton Rouge

Post Office Box 1471
Baton Rouge, Louisiana
70821

File Copy

FILE COPY

November 14, 2002

U. S. Environmental Protection Agency
Enforcement and Compliance Assurance Division
Water Enforcement Branch (6EN-WC)
1445 Ross Avenue
Dallas, Texas 75202-2733

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Attention: Ms. Vivian Hare

Re: Discharge Monitoring Reports, Sanitary Sewer Overflow Reports, Bypass Summary Reports, and Executive Certification

LPDES Permit Numbers:

LA0036439 AI #4843

LA0036421

LA0036412 AI #4841

Dear Ms. Hare:

We are forwarding herewith Discharge Monitoring Reports, Sanitary Sewer Overflow Reports, Bypass Summary Reports, and Executive Certification for the above referenced LPDES Permit numbers for the month of October 2002. The South Treatment Plant failed to meet EPA permit limit of 30 mg/L and 75% removal on BOD for the month of October 2002 for the following reasons:

- High influent plant flows caused by heavy rains.
- Trickling Filters #1 - #4 operational problems
- Trickling Filters #5, #7 and #8 out of service because of structural damage
- Snail infestation affecting secondary clarifier performance

We are taking the following corrective actions. Trickling Filters #1 - #4, gearbox, VFD on order (estimated time 4 to 6 months). We are in the final stages of preparing specifications for emergency bids to procure and install new distribution arms for Trickling Filters #1 - #4, and anticipate they will be operational by August 2003. We accepted bids on November 12, 2002 for snail screen equipment at the South WWTP.

[Handwritten signature]

NOV 20 2002

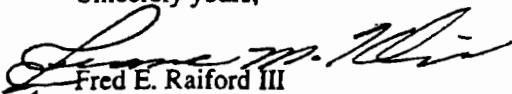
[Handwritten text]

Discharge Monitoring Reports, Sanitary Sewer Overflow Reports, Bypass Summary
Reports, and Executive Certification
November 14, 2002
Page 2

This system should be operational within six months. In September 2002 we installed a temporary Ferric Chloride feed system to improve secondary clarifier performance, and continue to make operational improvements to optimize this temporary solution.

If we can be of further service, please let us know.

Sincerely yours,


Fred E. Raiford III
Director of Public Works

FER/RG/pas

xc: Jerome M. Klier, Deputy Director of Public Works
Michael Ponder, Parish Attorney
Kent Mudd, Special Projects Engineer - DPW
Robert Groht, Jr., Wastewater Treatment Plant Manager
Bob Wilks, Wastewater Process Control Supervisor
Garcia Dialekwa, Wastewater Laboratory Supervisor
Carla Pierson, Acting Wastewater Project Specialist
LA Department of Environmental Quality

Enclosure(s):

FEDERAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGE MONITORING REPORT (DMR)

NAME: CITY OF SALEM WASTE
 ADDRESS: WASTE TREATMENT PLANT
 2443 RIVER ROAD
 MADRID, OHIO 43052
 FACILITY: CITY OF SALEM WASTE
 LOCATION: SCOTLANDVILLE
 CONTACT: ROBERT GROHT, JR.

PERMIT NUMBER: LAJ038019
 DISCHARGE NUMBER: 001 R

MONITORING PERIOD						
YEAR	MO	DAY	TO	YEAR	MO	DAY
02	10	31		02	10	31

NOTE: Read instructions before completing this form.

PARAMETER	SAMPLE MEASUREMENT / PERMIT REQUIREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
SS, 5-DAY (20 DEG. C)	19,593*			(25)		124*	155*	(10)		DAILY	COMP24
SS, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE	13511			(26)		19*	20*	(10)	0	DAILY	COMP24
SS, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE	6.88			(10)		7.56	9.0	(10)	0	DAILY	GRAB
SOLIDS, TOTAL SUSPENDED	32,326			(25)		129	134	(10)		DAILY	COMP24
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE	3,639			(26)		17	23	(10)	0	DAILY	COMP24
PLUM, IN CONDUIT OR LINE TREATMENT PLANT	23.72	71.48		(03)						CONT	TOTAL
CHLORINE, TOTAL RESIDUAL							0.41	(10)	0	DAILY	GRAB
CHLORINE, FREE COMPL							0.46	(10)	0	DAILY	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER Robert Groht, Jr. Wastewater Manager	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.	TELEPHONE 225 389-3240	DATE		
			SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT Robert Groht, Jr.	AREA CODE 02	YEAR 11

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 2002 DECEMBER 01-979-3-13 INTERIM LIMITS FOR SS & TSS EFFECTIVE 4/1/02 - 12/31/10. THE DESIGN FLOW OF THIS PLANT IS ALSO THE MAXIMUM MONTHLY FLOW. SAMPLE TYPE FOR FLOW INCLUDES TOTALIZED FLOW.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

OMB No. 2040-0004

NAME: CITY OF BATON ROUGE
ADDRESS: NORTH TREATMENT PLANT
2443 RIVER ROAD
BATON ROUGE LA 70802
FACILITY: CITY OF BATON ROUGE
LOCATION: SCOTTSBORO LA 70807
EPA: NORTH BRIDGE ST.

120036439
PERMIT NUMBER

001
DISCHARGE NUMBER

MONITORING PERIOD
FROM: YEAR 02 MO 10 DAY 01 TO YEAR 02 MO 10 DAY 31

F - FUGAL
INDICATE BASIS BY CHECKING

NOTE: Read instructions before completing this form.

PARAMETER	X	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
BOD ₅ , FORMAL REMOVAL (FORMAL)					85			(23)		DAILY	COMP24
PERMIT REQUIREMENT										DAILY	COMP24
SOLIDS, FORMAL						32	42	(15)	0	DAILY	GRAB
PERMIT REQUIREMENT										DAILY	GRAB
SOLIDS, SUSPENDED					87			(23)		DAILY	COMP24
PERMIT REQUIREMENT										DAILY	COMP24
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	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.				Robert Groht, Jr. <i>RG</i>		TELEPHONE		DATE		
Robert Groht, Jr. Wastewater Manager					SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		225 389-3240		02 11 13		
TYPED OR PRINTED					AREA CODE NUMBER		YEAR MO DAY				

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 CONSENT DECREE 01-978-S-13 INTERIM LIMITS FOR BOD & TSS EFFECTIVE 4/1/02 - 12/31/13. THE DESIGN FLOW IS 130 WHICH IS ALSO THE MAXIMUM MONTHLY FLOW. SAMPLE TYPE FOR FLOW INCLUDES TOTALIZING FLOW METER.

DISCHARGE MONITORING REPORT (DMR)

NAME CITY OF BATON ROUGE
 ADDRESS CENTRAL TREATMENT PLANT
 2443 RIVER ROAD
 BATON ROUGE LA 70802
 FACILITY CITY OF BATON ROUGE
 LOCATION BATON ROUGE LA 70802
 ATTN: ROBERT GROHT JR.

LA0036421
 PERMIT NUMBER

001
 DISCHARGE NUMBER

MAJOR

P - FINAL

TOTAL FACILITY DISCHARGE

MONITORING PERIOD						
YEAR	MO	DAY	TO	YEAR	MO	DAY
92	10	31		02	10	31

NOTE: Read instructions before completing this form.

PARAMETER	X	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE	
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS				
COD, 5-DAY (20 DEG. C) 00310 3 0 1 LBS/DY/INFLUENT	X	SAMPLE MEASUREMENT	13,490*		(26)		142*	174*	(19)		DAILY	COMP24
		PERMIT REQUIREMENT	REPORT NO AVG		LBS/DY		REPORT NO AVG	REPORT WPLY AVG	MG/L		DAILY	COMP24
COD, 5-DAY (20 DEG. C) 00310 1 0 2 APPLICANT GROSS VALUE	X	SAMPLE MEASUREMENT	1,978*		(16)		19*	20*	(19)	0	DAILY	COMP24
		PERMIT REQUIREMENT	7905		LBS/DY		NO AVG	WPLY AVG	MG/L		DAILY	COMP24
PHOSPHORUS, TOTAL 00310 1 0 0 APPLICANT GROSS VALUE	X	SAMPLE MEASUREMENT				6.51		7.48	(12)	0	DAILY	GRAB
		PERMIT REQUIREMENT				5.0		9.0			DAILY	GRAB
SOLIDS, TOTAL SUSPENDED 00310 3 0 1 LBS/DY/INFLUENT	X	SAMPLE MEASUREMENT	18,544		(26)		158	184	(19)		DAILY	COMP24
		PERMIT REQUIREMENT	REPORT NO AVG		LBS/DY		REPORT NO AVG	REPORT WPLY AVG	MG/L		DAILY	COMP24
SOLIDS, TOTAL SUSPENDED 00310 1 0 2 APPLICANT GROSS VALUE	X	SAMPLE MEASUREMENT	2,389		(26)		19	23	(19)	0	DAILY	COMP24
		PERMIT REQUIREMENT	7905		LBS/DY		NO AVG	WPLY AVG	MG/L		DAILY	COMP24
PHOSPHORUS, IN CONDUIT OR IN TREATMENT PLANT 00310 1 0 0 APPLICANT GROSS VALUE	X	SAMPLE MEASUREMENT	14.16	36.30	(53)						CONT	TOTAL
		PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MAX	MGD							CONT
CHLORINE, TOTAL RESIDUAL 00310 4 0 2 MIL/INFLUENT, PROD. COMPL.	X	SAMPLE MEASUREMENT						0.48	(19)	0	DAILY	GRAB
		PERMIT REQUIREMENT						0.75			DAILY	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Robert Groht, Jr.
 Wastewater Manager
 TYPED OR PRINTED

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.

Robert Groht, Jr.
 TELEPHONE 225 389-3240
 DATE 02 11 92
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
 AREA CODE NUMBER YEAR MO DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 CONSENT DECREE NO 88-191-A EFF 12/31/93. MODIFIED PERMIT EFFECTIVE 11/1/96, BUT LIMITS REMAIN 1/1/7...
 TO CONSENT DECREE LIMITS IN EFFECT UNTIL 12/31/96 ON BOD5 AND TSS. CONSENT DECREE 81-971-A-80 EFF 12/31/92 - 12/31/94.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGE MONITORING REPORT (DMR)

NAME CITY OF BATON ROUGE
 ADDRESS CENTRAL TREATMENT PLANT
 2443 RIVER ROAD
 BATON ROUGE LA 70802
 FACILITY CITY OF BATON ROUGE
 LOCATION BATON ROUGE LA 70802
 APPLICANT ROBERT GROHT JR.

449036421 PERMIT NUMBER
 001 DISCHARGE NUMBER

MAJOR
 F - FISCAL
 TOTAL FACILITY DISCHARGE

MONITORING PERIOD						
YEAR	MO	DAY	TO	YEAR	MO	DAY
02	10	31		02	10	31

NO DISCHARGE
 NOTE: Read instructions before completing this form.

PARAMETER	SAMPLE MEASUREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
BOD, PERCENT REMOVAL (TOTAL)					87			(23)		DAILY	COMP24
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT				MO AVERAGE			84-CENT		DAILY	COMP24
SOLIFORM, FECAL GENERAL						15	26	(13)	0	DAILY	GRAB
EFFLUENT GROSS VALUE	PERMIT REQUIREMENT				MO AVERAGE	200	400	/ 1000L		DAILY	GRAB
SOLIDS, SUSPENDED					88			(23)		DAILY	COMP24
PERCENT REMOVAL	PERMIT REQUIREMENT				MO AVERAGE			84-CENT		DAILY	COMP24
EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

During the monitoring period, we had five invalid BOD test results. The incubator, where the BOD Standard is stored, malfunctioned, causing the Standard to be contaminated.

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
 Robert Groht, Jr.
 Wastewater Manager
 TYPED OR PRINTED

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.

Robert Groht, Jr.
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE 225 389-3240
 DATE 02 11 13
 AREA CODE NUMBER YEAR MO DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)
 CONSENT DECREE NO 88-191-A EFF 12/31/93. MODIFIED PERMIT EFFECTIVE 11/1/96, BUT LIMITS REMAIN 1/1/97 ON...
 TO CONSENT DECREE LIMITS IN EFFECT UNTIL 12/31/96 ON BODS AND TSS. CONSENT DECREE 01-978-6-13 EFFECTIVE...
 12/1/96 - 12/31/14

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGE MONITORING REPORT (DMR)

NAME CITY OF BATON ROUGE
 ADDRESS SOUTH TREATMENT PLANT
 2443 REVER ROAD
 BATON ROUGE LA 70802
 FACILITY CITY OF BATON ROUGE
 LOCATION BATON ROUGE LA 70802
 OWNER ROBERT GROHT JR.

LA0036412 PERMIT NUMBER
 001 8 DISCHARGE NUMBER

MONITORING PERIOD						
YEAR	MO	DAY	TO	YEAR	MO	DAY
02	10	01		02	10	31

STATUS: P - FINAL
 LOCATED SANITARY WASTE LINE

NO. OF DISCHARGES: []
 NOTE: Read instructions before completing this form.

PARAMETER	SAMPLE MEASUREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE		
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS					
COD, 5-DAY (20 DEG. C) 00310 4 0 0 EFFLUENT GROSS VALUE	MEASUREMENT	48,744*		(26)		148*	164*	(13)		DAILY	COMP24		
	PERMIT REQUIREMENT			LBS/DY		WHO AVG	WEEKLY AVG	MG/L			COMP24		
COD, 5-DAY (20 DEG. C) 00310 1 0 0 EFFLUENT GROSS VALUE	MEASUREMENT	11,815*		(26)		40**	45*	(10)	0	DAILY	COMP24		
	PERMIT REQUIREMENT			LBS/DY		WHO AVG	WEEKLY AVG	MG/L			COMP24		
SOLIDS, TOTAL SUSPENDED 00330 1 0 0 EFFLUENT GROSS VALUE	MEASUREMENT			(12)	6.82		7.56	(12)	0	DAILY	GRAB		
	PERMIT REQUIREMENT			INST MAX			9.0	INST MAX			GRAB		
SOLIDS, TOTAL SUSPENDED 00330 5 0 0 EFFLUENT GROSS VALUE	MEASUREMENT	64,215		(26)		162	173	(19)		DAILY	COMP24		
	PERMIT REQUIREMENT			LBS/DY		WHO AVG	WEEKLY AVG	MG/L			COMP24		
SOLIDS, TOTAL SUSPENDED 00330 1 0 0 EFFLUENT GROSS VALUE	MEASUREMENT	10,667		(26)		30	36	(19)	0	DAILY	COMP24		
	PERMIT REQUIREMENT			LBS/DY		WHO AVG	WEEKLY AVG	MG/L			COMP24		
FLOW, IN CONDUIT OR LAGO TREATMENT PLANT 00050 1 0 0 EFFLUENT GROSS VALUE	MEASUREMENT	39.48	89.00	(03)						CONT	TOTAL		
	PERMIT REQUIREMENT			MGD							CONTINUOUS		
MELONINE, TOTAL RESIDUAL 00050 4 0 0 EFFLUENT GROSS VALUE	MEASUREMENT			(19)			0.41	(19)	0	DAILY	GRAB		
	PERMIT REQUIREMENT			MG/L			INST MAX				GRAB		
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	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.							TELEPHONE		DATE			
Robert Groht, Jr. Wastewater Manager TYPED OR PRINTED								225 389-3240		02	11	13	
COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)							SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		AREA CODE	NUMBER	YEAR	MO	DAY
CONSENT DECREASE 01-115-8-11 EFFECTIVE 4/1/02 - 12/31/14 INTERIM LIMITS FOR BOD 5 TSS PERCENT & FLOW. DESIGN FLOW IS 54 MGD WHICH IS ALSO THE MAXIMUM MONTHLY FLOW.							Robert Groht, Jr.						

** Explanation - STP LA0036412
November 13, 2002
Page 2

installation, estimated time 6 to 8 months. We accepted bids on November 12, 2002 for snail screen equipment at the South WWTP. This system should be operational within six months. We are in the final stages of preparing specifications for emergency bids to procure and install new distribution arms for the four largest trickling filters, and anticipate they will be operational by August 2003.

Louisiana State University is currently studying the process units and making recommendations for control measures.

PLANT NAME North Treatment Plant Collection System **BYPASS / OVERFLOW SUMMARY**

LPDES PERMIT No. LA0036439 AI# 4843

DATE(S) OF BYPASS/OVERFLOW	SEWAGE RECEIVING ONLY PRIMARY TREATMENT	COMBINED SEWAGE FROM TAILPIPE	NO TREATMENT
October 30, 2002 Overflow	BOD _____ #/DAY _____	BOD _____ #/DAY _____	BOD <u>271</u> #/DAY <u>63</u>
	TSS _____ #/DAY _____	TSS _____ #/DAY _____	TSS <u>2,266</u> #/DAY <u>529</u>
	Q _____	Q _____	Q <u>0.028</u>
	BOD _____ #/DAY _____	BOD _____ #/DAY _____	BOD _____ #/DAY _____
	TSS _____ #/DAY _____	TSS _____ #/DAY _____	TSS _____ #/DAY _____
	Q _____	Q _____	Q _____
	BOD _____ #/DAY _____	BOD _____ #/DAY _____	BOD _____ #/DAY _____
	TSS _____ #/DAY _____	TSS _____ #/DAY _____	TSS _____ #/DAY _____
	Q _____	Q _____	Q _____
	BOD _____ #/DAY _____	BOD _____ #/DAY _____	BOD _____ #/DAY _____
	TSS _____ #/DAY _____	TSS _____ #/DAY _____	TSS _____ #/DAY _____
	Q _____	Q _____	Q _____
	BOD _____ #/DAY _____	BOD _____ #/DAY _____	BOD _____ #/DAY _____
	TSS _____ #/DAY _____	TSS _____ #/DAY _____	TSS _____ #/DAY _____
	Q _____	Q _____	Q _____

REVISED 4/10/02

PLANT NAME South Treatment Plant

BYPASS / OVERFLOW SUMMARY

LPDES PERMIT No. LA0036412 AI# 4841

DATE(S) OF BYPASS/OVERFLOW	SEWAGE RECEIVING ONLY PRIMARY TREATMENT	COMBINED SEWAGE FROM TAILPIPE	NO DISINFECTION
October 3, 2002 Partial Secondary Bypass	BOD _____ #/DAY _____ TSS _____ #/DAY _____ Q _____	BOD _____ #/DAY _____ TSS _____ #/DAY _____ Q _____	BOD * _____ #/DAY _____ TSS * _____ #/DAY _____ Q <u>1.40</u>
October 6, 2002 Overflow	BOD <u>45</u> #/DAY <u>30</u> TSS <u>34</u> #/DAY <u>22</u> Q <u>0.079</u>	BOD _____ #/DAY _____ TSS _____ #/DAY _____ Q _____	BOD _____ #/DAY _____ TSS _____ #/DAY _____ Q _____
	BOD _____ #/DAY _____ TSS _____ #/DAY _____ Q _____	BOD _____ #/DAY _____ TSS _____ #/DAY _____ Q _____	BOD _____ #/DAY _____ TSS _____ #/DAY _____ Q _____
	BOD _____ #/DAY _____ TSS _____ #/DAY _____ Q _____	BOD _____ #/DAY _____ TSS _____ #/DAY _____ Q _____	BOD _____ #/DAY _____ TSS _____ #/DAY _____ Q _____
	BOD _____ #/DAY _____ TSS _____ #/DAY _____ Q _____	BOD _____ #/DAY _____ TSS _____ #/DAY _____ Q _____	BOD _____ #/DAY _____ TSS _____ #/DAY _____ Q _____

REVISED 4/10/02

* Sample not collected.

CITY OF BATON ROUGE / PARISH OF EAST BATON ROUGE
 SANITARY SEWER OVERFLOWS MONITORING REPORT

October 2002

North Sewer District Collection System

NPDES Permit # LA0036439 / LADEQ Permit # WP0487

DATE	ADDRESS	CAUSE	ACTION	REC WATERS	AMT (GALS)	PS	BOD	SS	pH
14	6061 Plank Road	Stoppage at six inch tie-in; sewer discharged in rear of trailer park.	Line cleared, area washed down, deodorized & disinfected. Will TV line for possible problem at tie-in.	Hurricane Creek	100	54	142	101	7.17

Central Sewer District Collection System

NPDES Permit # LA0036421 / LADEQ Permit # WP0488

DATE	ADDRESS	CAUSE	ACTION	REC WATERS	AMT (GALS)	PS	BOD	SS	pH
3	S. 22nd @ Tulip Street	Manhole top displaced allowing sewer to overflow due to surcharge conditions caused by heavy rains (Hurricane Lili)	Replaced manhole top, washed down area, deodorized & disinfected.	Mississippi River	500	59	48	109	6.75
7	635 Maximillian	Main line stoppage; sewer discharged into storm drain.	Line cleared, area/storm drain flushed with water, deodorized & disinfected.	Mississippi River	75	59	132	155	6.97
17	3403 Ontario	Main line stoppage; sewer discharged from manhole.	Line cleared, area washed down, deodorized & disinfected.	Mississippi River	50	60	190	174	7.08
21	2323 S. Acadian Thruway	Pump Station No. 96 down due to mechanical failure; sewer discharged from cleanout into parking lot.	Contacted pump mechanic, washed down area, deodorized & disinfected.	City Park Lake	100	96	196	186	7.20

South Sewer District Collection System

NPDES Permit # LA0036412 / LADEQ Permit # WP0489


DATE	ADDRESS	CAUSE	ACTION	REC WATERS	AMT (GALS)	PS	BOD	TSS	pH
1	7137 Renoir	Main line stoppage; sewer discharged from manhole.	Line cleared, area washed down, deodorized & disinfected.	Mississippi River	75	58	176	143	6.99
2	4604 Ritterman	Main line stoppage; sewer discharged into backyard.	Line cleared, area washed down, deodorized & disinfected.	Mississippi River	200	49	182	178	7.15
3	1426 Sherwood Forest	Manhole overflowed due to surcharge conditions caused by heavy rains (Hurricane Lili)	Area washed down, deodorized & disinfected.	Jones Creek	500	50	72	216	6.34
3	Lee @ Burbank	Manhole overflowed due to surcharge conditions caused by heavy rains (Hurricane Lili)	Area washed down, deodorized & disinfected.	Bayou Fountain	500	53	72	216	6.34
6	308 E. Boyd	PS No. 68 down due to power failure.	Contacted pump mechanic, flushed canal with fresh water, deodorized & disinfected.	Mississippi River	1200	68	101	142	6.81
6	764 Plantation Ridge	PS No. 161 down due to power failure; sewer discharged from manhole.	Contacted pump mechanic, flushed area with water, deodorized & disinfected.	Bayou Fountain	200	161	114	126	6.82
9	2915 Topaz	Main line stoppage; sewer discharged from manhole on to sidewalk & into storm drain.	Line cleared, area washed down, deodorized & disinfected.	Mississippi River	100	49	128	258	6.98
15	3163 Marydon	Manhole overflowed; apparently there was a stoppage in the line however the manhole was flowing and no sewer was discharging when investigator arrived on site.	Area washed down, deodorized & disinfected.	Hurricane Creek	50	51	162	155	6.39
16	1846 Tudor	Main line stoppage; sewer discharged into ditch.	Line cleared, ditch flushed with water, deodorized & disinfected.	Jones Creek	200	58	166	144	7.03

South Sewer District Collection System

NPDES Permit # LA0036412 / LADEQ Permit # WP0489

DATE	ADDRESS	CAUSE	ACTION	REC. WATERS	AMT (GALS)	B5	B05	TSS	pH
16	1522 Brookhollow	Main line stoppage; sewer discharged into ditch.	Line cleared, area washed down, deodorized & disinfected.	Bayou Fountain	75	229	164	136	7.19
16	12258 Perkins Road	PS No. 221 down due to power failure; sewer discharged from manhole.	Contacted pump mechanic, flushed area with fresh water, deodorized & disinfected.	Bayou Fountain	250	221	164	136	7.19
20	1413 Beckenham	Main line stoppage; sewer discharged from manhole.	Line cleared, area washed down, deodorized & disinfected.	Dawson Creek	109	267	166	154	7.01
20	3821 Deerfield Lane	PS No. 136 down due to mechanical failure; sewer discharged from manhole.	Contacted pump mechanic, flushed area with fresh water, deodorized & disinfected.	Jones Creek	400	136	172	164	6.85
21	1904 E. Magna Carta	Main line stoppage; sewer discharged into canal.	Line cleared, canal flushed with water, deodorized & disinfected.	Jones Creek	200	58	172	160	6.64
21	1842 Tudor	Main line stoppage; sewer discharged into canal.	Line cleared, canal flushed with water, deodorized & disinfected.	Jones Creek	200	58	172	160	6.64
23	18990 W. Lake Terrace	Main line stoppage; sewer discharged from manhole.	Line cleared, area washed down, deodorized & disinfected.	Azalea Lakes	50	372	152	174	7.07

Executive Certification



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.

Robert Gault, Jr.
/s/

Signature of Principal Executive
Officer or Authorized Agent

BRSSO 4.1



Department of Public Works

City of Baton Rouge
Parish of East Baton Rouge

Post Office Box 1471
Baton Rouge, Louisiana
70821

November 13, 2002

Chief
Water Enforcement Branch (6EN-W)
Compliance Assurance and Enforcement Division
U.S. Environmental Protection Agency - Region 6
1445 Ross Avenue Suite 1200
Dallas, TX 75202-2733

PROJECT

**Re: Baton Rouge Consent Decree
SSO Corrective Action Plan
Civil Action No. 01-978-B-M3**

Dear Sir or Madam:

As a follow up to our meeting of October 31, 2002 in Dallas, we would like to provide some additional information regarding recent discharge monitoring reports (DMRs) and other wastewater treatment plant issues. As mentioned at our meeting, we are working diligently to address some special and unforeseen circumstances, and trust that you will take into account our efforts to deal with these problems.

ANTICIPATED BYPASS

On July 11, 2002 we submitted written notification to EPA and LDEQ of an anticipated bypass at the North Wastewater Treatment Plant, as required by the permit, to facilitate replacement of bar screens as part of a warranty issue related to the initial installation. The length of the bypass was extended due to an unanticipated sixteen to eighteen inch layer of silt in the channel bottom. Two private contractors were quickly mobilized to remove the silt and allow the vendor's contractor to complete the replacement work. Once the replacement procedure was completed, we sent a letter to EPA and LDEQ, as requested, on August 14, 2002 to provide details about the bypass.

This was not an unauthorized discharge, which by consent decree definition is the discharge of wastewater from the collection systems from any point other than the outfall specified in the permit, and therefore not subject to the stipulated penalties identified in Paragraph 71 of the Consent Decree. No permit limits were violated, and therefore we do

not believe that this was a non-compliant discharge as defined by the consent decree and discussed in Paragraph 73.

INVALID BOD TESTS

The August DMRs for the North, Central and South WWTPs indicated that we had to invalidate certain BOD test results and therefore were missing some daily BOD results. The tests were invalid due to the control results being outside the standard ranges as specified in EPA Standard Methods. For example, the blank DO uptake after 5 days must be between 0.0 - 0.2 mg/l, the BOD standard percent recovery must be between 84 - 114 % and the BOD seed must be between 0.6 - 1.0 mg/l. Since our test results were outside of the acceptable ranges, we could not include them in our DMR calculations. We suspect the problem was contamination of the de-ionized (DI) water system.

In August, once we realized there was a contamination problem, we started sending samples to an outside laboratory for analysis. At the same time we investigated the problem and took corrective actions, as indicated below:

- Replaced de-ionized (DI) water system tank and tubing
- Ordered new BOD bottles
- Replaced DI water system filters, cartridges, carbon tank and UV light
- Sanitized DI water system
- Replaced DO meter probe membrane cap
- Purchased DI water from local supplier

During September our standards and controls were within the acceptable ranges for all but 6 days, and we utilized the outside lab results to report those days. We now believe we have resolved the problem, and have stopped sending samples to the outside lab. We will continue to monitor the situation and use outside labs as necessary.

Enclosed with this letter are copies of our laboratory BOD results and similar results from Entek Laboratories for August and September.

SOUTH WWTP NPDES PERMIT NON-COMPLIANCE

Snail Infestation

All three wastewater treatment plants experience periodic, intense snail infestations. The problems caused by the snails include loss of biomass on the filter media, snail shells causing pipe blockages and filling up the final clarifiers, and snail body parts elevating

effluent BOD levels. Trickling filters across the country have similar problems. We have solicited the advice of many national experts, such as Dr. Orrie Albertson and Dr. Sansalone at LSU, and have experimented with various control methods, including:

- Chlorination
- Re-circulation
- Flooding
- Caustic Treatment
- Discontinuing unscreened recycle from the secondary clarifier

One of the specific LSU studies was to examine and provide recommendations for the control of snail infestations. In November 2001, with the assistance of Dr. Sansalone, we installed an experimental snail screen at the Central WWTP to capture the snails from the secondary clarifier sludge return line before re-introduction into the treatment works. The attached photos and biomass recovery graph indicate the success of this screen in capturing snails. Based on the data from this installation, Dr. Sanslone has recommended the installation of a similar screen at the South Wastewater Treatment Plant. We accepted bids on November 12, 2002 for snail screen equipment at the South WWTP and expect this system to be operational within six months. This will improve our ability to meet effluent BOD permit limits at the South WWTP.

Trickling Filter Mechanical Failure

There are 8 trickling filters at the South WWTP; four 125-ft diameter tanks and four 90-ft diameter tanks. The four largest trickling filters have had a history of structural and mechanical problems ranging from broken center column supports, bent vanes, motor and gear box failure, broken guy rod support brackets, as identified in the attached documentation. Similar type units have performed well at the North and Central WWTPs (although those units are smaller in diameter) so we did not anticipate the problems at the South WWTP. Since the first of this year the four largest trickling filter units have operated intermittently, and since March 2002 these units have been completely out of service. This has directly affected our ability to provide biological treatment on a consistent basis at the South WWTP.

Initial problems with the trickling filter rotary distributors were identified soon after installation and led to the center columns being lengthened and strengthened in 1999. Since then structural and mechanical problems continued and plant staff continued to repair and replace items as needed. In the fall of 2001 we came to realize that the problems with the trickling filter distribution arms were not normal wear and tear, but

rather a basic equipment design problem. We then contacted the design engineer and the manufacturer to assist us in resolving the problem.

In March 2002 a site visit and meeting with the design engineer and the manufacturer identified specific problems and prompted an independent metallurgist evaluation of some of the failed parts (copy enclosed). Based on that report and the site visit, the design engineer recommended repairs and additional supports. However, instead of patchwork repairs, we believe the best long-term solution is to replace the distributor arms completely. We are in the final stages of preparing specifications for emergency bids to procure and install new distribution arms for the four largest trickling filters, and anticipate they will be operational by August 2003.

We wrote the manufacturer (recently purchased by GL & V / Dorr-Oliver) to solicit their assistance in resolving the problem. Their response indicates they are a separate corporation and they do not accept any responsibility for the equipment provided by the company they acquired. Therefore, in the interest of correcting the problem as soon as possible, we have initiated the replacement of these units and will pursue legal options at a later time.

In the interim, plant operators have salvaged working parts from 2 of the units in order to put one trickling filter back on line. They are also working on putting another filter online as soon as possible in order to allow some flow to be treated through the trickling filters - even if inefficiently. Additionally, under the direction of Dr. Sansalone of LSU, we evaluated various coagulants and flocculants to improve the secondary clarifier settling rates. Ferric chloride was identified as the most viable chemical additive. In September 2002 we installed a temporary Ferric Chloride feed system and continue to make operational improvements to optimize this temporary solution.

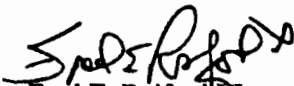
LSU ASSISTANCE

We indicated that we had contracted with LSU to assist us with operational issues at the wastewater treatment plants. The attached letter from Dr. Sansalone at LSU describes the type of assistance LSU is providing. Also attached is a sample monthly report from one of our "Process Control Meetings" held at the Central WWTP. The meeting includes treatment plant operators, lab personnel, managers and consultants. It provides an opportunity for plant personnel to discuss problems, share solutions and brainstorm possible corrective actions. Dr. Sansalone leads the group in planning / experimenting with operational changes with a sound technical basis.

Chief, Water Enforcement Branch (6EN-W)
Baton Rouge Consent Decree - Page 5

Again, we would like to thank you for the opportunity to meet with you and your staff to explain the issues we have been faced with and appreciate your assistance in these matters. If you have any questions about any of the information presented here, or we can provide any additional information, please do not hesitate to contact me.

Very truly yours,


Fred E. Raiford III
Director of Public Works

Attachments: Invalid BOD Test Results
Snail Infestation Documentation
Trickling Filter Documentation
LSU Assistance

Cc: The Honorable Bobby Simpson, Mayor President
Ms Vivian Hare (EPA Region 6)
Mr. Bob Quance (EPA Region 6)
Ms. Peggy Hatch (LDEQ)
Mr. Bruce Hammit (LDEQ)
Mr. Kent Mudd
Mr. Jerome Klier
Mr. Jeff Broussard
Mr. Robert Groht
Mr. William McHie (MWH)

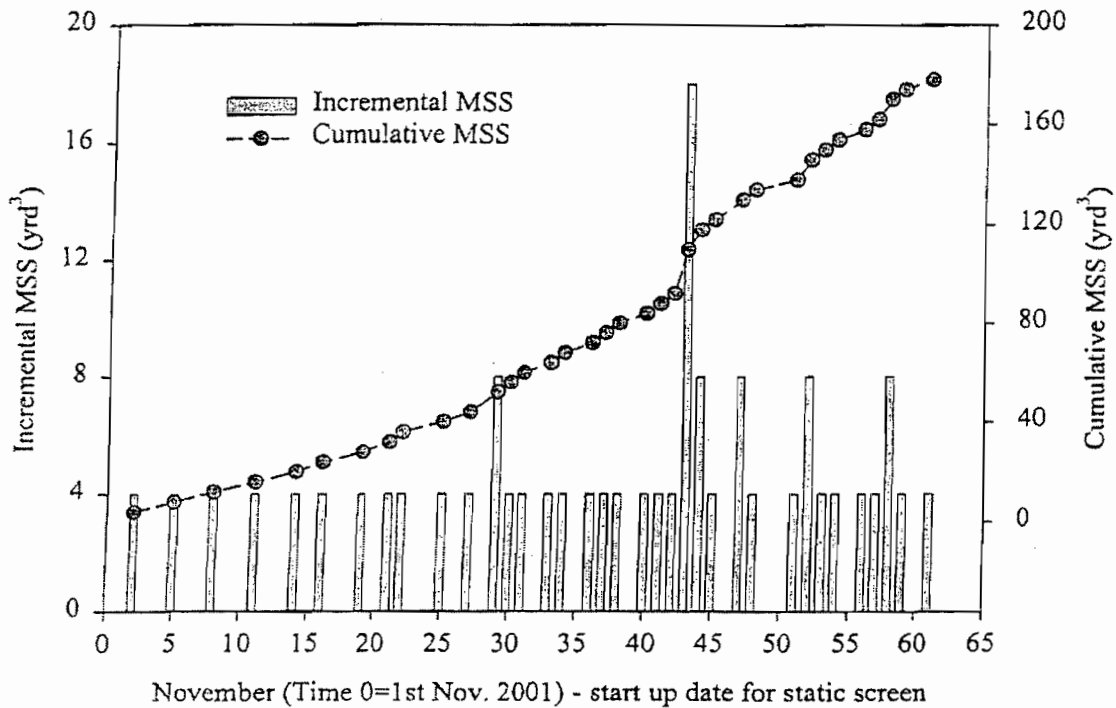
**SNAIL
INFESTATION
DOCUMENTATION**

CENTRAL TREATMENT PLANT OPERATION LOG – December 2001

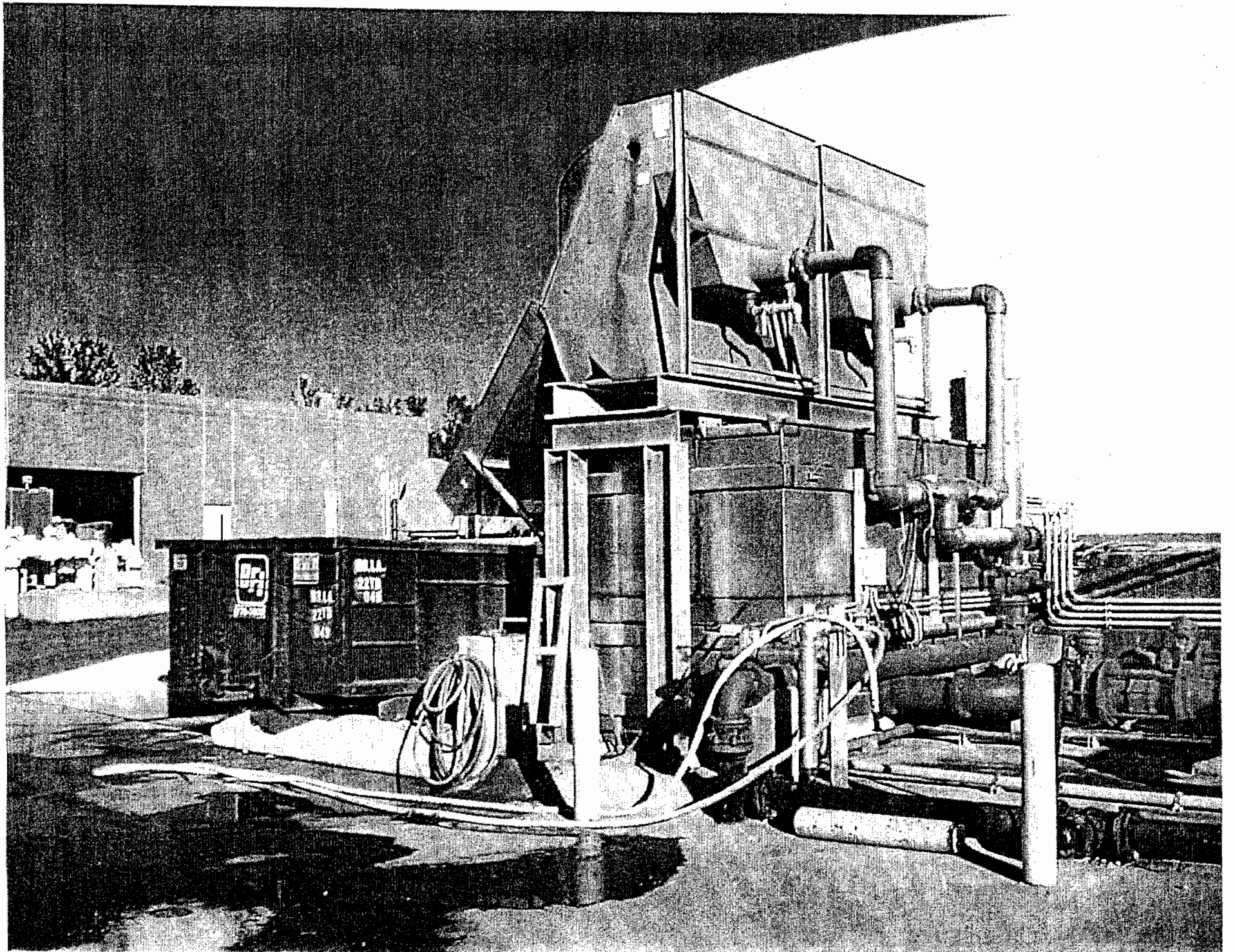
No operational issues that affected treatment.

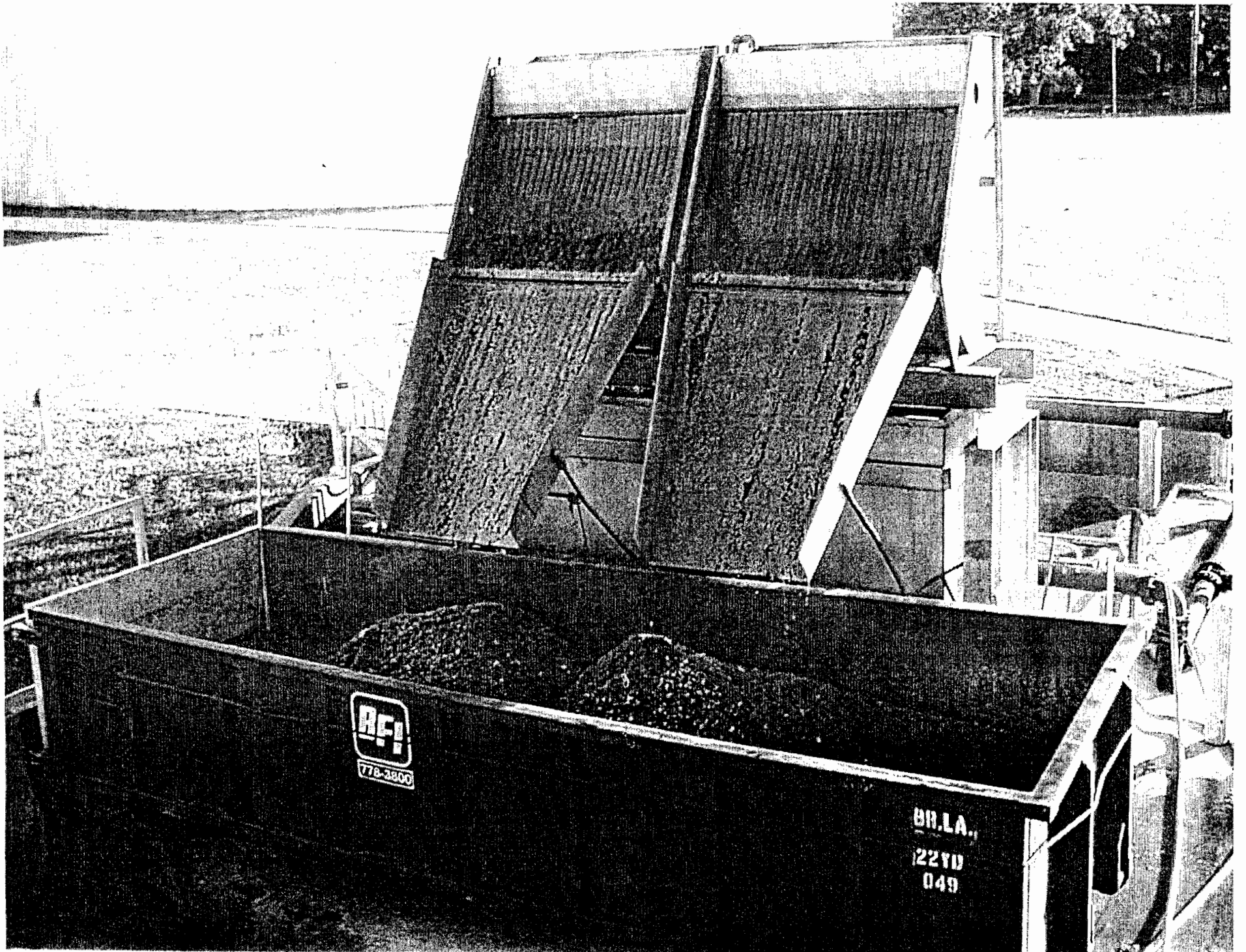
SOUTH TREATMENT PLANT OPERATION LOG – December 2001

No log provided



Snail/Biomass Recovery as MSS (Metz suspended snails) at CTP







**TRICKLING
FILTER
DOCUMENTATION**



ENVIRONMENTAL
EQUIPMENT &
SYSTEMS, INC.

FIELD SERVICE INSPECTION REPORT

DATE: June 25, 1998	DATE OF SERVICE: June 17-18, 1998
PLANT NAME: Baton Rouge South CSD WWTP	SERVICE ORDER NUMBER: 1044-E
ADDRESS: 2850 Gardere Lane, Baton Rouge, LA	EQUIPMENT ORDER NUMBER: 1044
CUSTOMER: City of Baton Rouge, LA	CUSTOMER PURCHASE ORDER: 4972
JOBSITE CONTACT: J.C. Blanchard & David White	JOBSITE PHONE: (504) 388-3136
FIELD TECHNICIAN: John Coble	

Contacts: J.C. Blanchard-CDM; David White-Maintenance Foreman, City of Baton Rouge.

Rotary Distributor #8:

Distributor was shut down and when put in operation, it would immediately tilt so much that the arms would drag the media. In doing some checking, I found the center column to have cracks where all the gussetts were added at the mounting flange. Also, most of the welds were broken at the flange and column. Where the center column flange had been grouted, most of the grout had cracked and had fallen out, exposing the anchor bolts. It appears that the grouting had been done at two different times and with different mixes of grout. The first, inner part of grout was very hard. The outer part was not so good. Also, the inner grout appears to have shrunk, leaving a small space at the bottom of the flange. 7" of grout was used.

I was to inspect the other distributors, but J.C. Blanchard was very reluctant in shutting down any of the three for inspection until #8 had been repaired and in operation. I did make a running inspection of #5, which tilts some. The grout is falling out around the center column flange, but I did not see any metal cracks.

#6 - did not see any metal cracks, but there is leakage at the center column flange and grout. There appears to be movement at the flange and grout.

#7 - did not see any grout or metal cracks.

This was not a very good inspection. I could have missed some things by not being able to shut the units down. It appears the correct fix on the distributors could be quite involved.

CC: NAA, JAZ, RLA, RLP



File: South WWT
Trickling Filters

35 CORPORATE DRIVE
TRUMBULL, CT 06611
(203) 452-0299
(203) 452-0313 FAX

August 11, 1998

RECEIVED

AUG 14 1998

COMMUNICATIONS DIVISION

Mr. Justin S. Haydel, P.E.
Camp, Dresser & McKee, Inc.
500 Laurel Street - Fourth Floor
Baton Rouge, LA 70801

Dear Justin:

As a follow-up to our conversation earlier this week, I have enclosed a proposed fix for the trickling filter that is currently out of service at the South Plant.

As background, our principals, engineering staff, and field service engineers have made numerous visits to the plant to review the operation of the trickling filters. We have installed baffles to help solve the problem of tipping during low flow periods, have releveled the arms, and have recentered the columns.

It appears that approximately seven inches of grout was used under the center columns to level the units at the South Plant. The recommended amount of grout for an installation of this type is approximately two inches. The use of excess grout appears to have resulted in shrinkage and cracking. This, in turn, allows the center column to flex and causes the arms to dip. This dipping has occurred despite the installation of reinforcing gussets.

We believe the enclosed suggested plan for reworking the column and grout will correct the problems that have been encountered. However, our suggestions have been offered based upon our knowledge of the facts and situation. CDM and Cajun Contractors may have additional information which might require other changes or modifications. Accordingly, we need you to review the suggested plan for rework to assure you are satisfied with the proposed "fix".

We look forward to bringing this project to a satisfactory conclusion. As you know, the equipment that EE&S supplied at the Central and North Plants has worked well. We are confident that we can resolve any open issues at the South Plant.

Thank you for your help and cooperation. Please call me after you have had a chance to review this package.

Sincerely,

Norman A. Aldrich
President

cc: Ron Hebert - ETEC
Euclid Michel, Jr. - Cajun Contractors

CITY-PARISH DEPARTMENTAL MEMORANDUM

Date June 28, 2001

To: Kent Mudd, Special Projects Engineer
From: Robert Groht, WWT&D Manager
Subject: STP Trickling Filters No. 5-6-7-8 - Breakdown

Enclosed are pictures of the No. 6 T.F. showing the broken guy rod support bracket. The breaking guy cables and brackets on T. F's 5-8 seem to be a constant thorn in David White's side. They are manufactured by Environmental Equipment Systems (EES). He tells me that the guy rod turnbuckles break 4-6 times per year and now the brackets are starting to fail as well. It appears that the welds on the bracket are very shallow and there is not much metal to metal penetration. Also, the brackets are made of aluminum which could be the problem.

David feels that he is spending a lot of time repairing equipment that should not be breaking down. Metal fatigue, broken and cracked welds indicate serious design problems that should be addressed with EES and Camp, Dresser & McKee, Inc.

I will be conducting interviews with the Central and North plant maintenance supervisors to find out if they're having the same type problems. I do know that the guy rods at the turnbuckles are breaking pretty regularly at the other two plants as well.

Is there anything we can get the manufacturer or the contractor to do to help us with this problem? If so, please let me know.

rg/RG

xc: David White, Plant Mechanic II
Dennis Tweedy, Plant Mechanic II
Gary Metz, Plant Mechanic II



500 Laurel Street, 4th Floor
Baton Rouge, Louisiana 70801
tel: 225 387-3822
fax: 225 383-7735

March 25, 2002

Mr. Kent A. Mudd, P.E.
Sewer Division
Department of Public Works
329 Chippewa Street
Suite 200
Baton Rouge, LA 70805-7686

Subject: Minutes-of-Meeting
South WWTP Trickling Filters 5 - 8
CDM PN: 6137-98033B

Dear Mr. Mudd:

This letter is to document our meeting last Friday (March 22, 2002) in our office at 8:30 am. The attached sign in sheet witnesses those in attendance.

1. The meeting was opened by me explaining that CDM's structural engineer, Roger Wood, and GL&V/Dorr-Oliver's engineer, John Maury, visited the South WWTP trickling filters to inspect the damage to the rotary distributors on both Wednesday and Thursday (prior to the meeting). I also explained that we understand the gravity of situation and we intend to assist the City/Parish in resolving this problem as fast as possible.
2. A meeting "agenda" was handed out with a shop drawing type sketch, which is a cross-sectional view of a typical rotary distributor.
3. Mr. Wood explained what he thought was happening at the rotary distributors from a structural standpoint. He went through his observations with the group. Roger stated that the clutch was set to disengage the drive motor when one man holds an arm. He figures this equates to about 3,000 ft-lbs. The rotary distributors are capable of about 16,000 ft-lbs. The arms are set to roll to a stop, thereby eliminating any abrupt stops.
4. Since the drive is disengaged at a very low torque, and the arms are allowed to roll to a stop, Roger rules out problems caused by torque related forces at this time.
5. The twisting of the vanes on TF #5 was discussed as an unexplainable consequence of some one-time event. City staff first noticed the twisted vanes shortly after the replacement of the center columns. Roger commented that this could have happened during the installation of the new center columns.



Mr. Kent Mudd
March 25, 2002
Page 2

6. The problems with the tie rods were discussed. It appears that the tie rods are being subjected to high yield stresses (stretching). Roger recommends supporting the 1" diameter tie rods. The head of a failed bolt was passed around and it was agreed that this bolt head would be sent to a metallurgist for evaluation. The information we will request from the metallurgist is what type of material is it and what caused the failure. (It appears the bolt failed in tension)
7. The A-Frames of the distributor center columns are made of aluminum and have numerous problems, most notably problems with failed welds. It was recommended that the A-Frames be replaced with new A-Frames made of 316 stainless steel.
8. Dr. Sansalone stressed the importance of evaluating the foundation support system.
9. Mr. White also stressed the need to check the level of the flanges on TF #5 due to the twisted vanes.
10. I explained that CDM would issue a letter report with our recommendations and the estimated costs to repair the trickling filters. The time frame for delivery of the report is about 3-weeks since we need the metallurgist's report first.
11. Mr. Tweedy mentioned that he feels it is only a matter of time before the tie rods for the TFs at the NWWTP start to fail.
12. It was agreed that the tie rods be supported at the North plant as well.
13. As part of the letter report, CDM will inform the City/Parish as to which TFs (at all 3 plants) can hold water.

Kent, I believe this is the bulk of what was discussed and/or agreed to. Please let me know if you feel I left anything out, or need to include something.

Very truly yours,

Justin Haydel, P.E.
Associate
Camp Dresser & McKee Inc.

JSH/lcs

Attachment



500 Laurel Street, 4th Floor
Baton Rouge, Louisiana 70801
tel: 225 387-3822
fax: 225 383-7735

April 24, 2002

Mr. Kent Mudd, P.E.
Wastewater Engineer
Wastewater Improvements
329 Chippewa Street
Baton Rouge, LA 70805

Subject: Trickling Filters 5 through 8
South Wastewater Treatment Plant
Baton Rouge, Louisiana

Dear Kent:

This letter is in regards to our conclusions and recommendations' regarding the trickling filters 5 through 8 at the South WWTP.

Findings of Field Visits & Investigations

CDM's Roger Wood along with John Maury of GL&V / Dorr-Oliver and members of the City of Baton Rouge Department of Public Works visited the South Wastewater Treatment Plant for the purpose of viewing damage to trickling filters 5 through 8 operating mechanisms. The first visit was made on March 20, 2002. A second visit was made the following day for more detailed observations. The observed damage was as follows:

1. Weld failures at the manifold support frame gusset plates to which the guy rods connect.
2. Failures of attachment bolts to the drive ring. One failed bolt was retrieved for testing.
3. Failure of the base plates of the manifold support frame.
4. Twisting of vanes connecting the center column to the motor support at TF-5.
5. Abrasion of the center column by rubbing of the wear blocks.
6. The indication of a slight seam beneath the center column base plate



Mr. Kent Mudd
April 24, 2002
Page 2 of 4

It is also our understanding that there has been failure of the guy rods and some bolt failures at the center column base plate.

The four trickling filters have had a history of problems. Environmental Equipment & Systems, Inc. (EE&S) inspected them in January of 1999. They found the vanes connecting the center column to the motor support were twisted at trickling filters 5 and

They believed this to be due to the outer end of one arm dipping and hitting an electrical conduit thus preventing the arm from moving and twisting the vanes. They stated that the torque overload units appeared to have never been properly lubricated and covered with surface rust.

They found that the center column base plates had been set on approximately 7 inches of grout. Some of the grout installation had failed which they believed allowed the center column and arms to tip. They also found that the guy rod connections were not assembled as shown on EE&S erection drawings.

After this inspection, the center columns were lengthened to reduce the grout thickness below the base plate to two (2) inches. The electrical conduit was relocated to eliminate it from being an obstruction to the rotating arms.

We learned from the Public Works staff that the clutch has been set to disengage when a person at the outer end holds the arm. The arms are set to roll to a stop when the mechanism is turned off. We also learned that the twisting of the vanes at TF-5 was noticed shortly after the center column was replaced.

The metallurgist's opinion, after examining the failed bolt fracture surface, was the failure was due to metal fatigue. (The metallurgist's report is attached). It is our opinion that the weld failures at the manifold support frame gusset plates are also consistent with metal fatigue. The number of loading cycles necessary to produce metal fatigue is dependant on the loading intensity. A highly stressed member requires fewer cycles to produce metal fatigue than a moderately stressed member does. Usually, we are not concerned with fatigue failures for member subject to less than 100,000 loading cycles. If this equipment were run continuously for one year, the arms would rotate 130,000 times. In four years, this would amount to 500,000 cycles. This indicates that, if a loading impulse occurred at each revolution of the arms, fatigue failure could be a problem. The loading impulse at each revolution could



Mr. Kent Mudd
April 24, 2002
Page 3 of 4

be due to the arms dipping at each revolution because of an out of vertical center column or a soft area under the center column base plate that compresses as the arm goes by it. A loading cycle could also be caused by flutter in the guy rods. A small deflection in a long guy rod can produce a significant tensile force in the rod. Such flutter could be caused by wind or by vertical movement of the supported rotating arm. Tensile stresses from flutter in the guy rods could also be the reason for prior failure of the rods.

CONCLUSIONS & RECOMMENDATIONS

We conclude that the twisting of the vanes at TF-5 was a one-time event. We found no other indications of excessive torque at the trickling filters. We find nothing in the settings of the mechanism that could cause additional twisting of the vanes or twisting of the vanes at the other three trickling filters.

The manifold support frame is of aluminum construction. They have experienced a number of problems including cracked welds, fractured bolts, and base plate problems. We recommend that all manifold support frames be replaced with new redesigned manifold support frames of stainless steel (See Figure 1). The bolts to the drive ring should be increased in size. This would require re-tapping the drive ring.

The trickling filters have had a number of problems with the center columns becoming out of vertical. This included center column base plate problems and dipping of the arms as they go through a full rotation. The problem could be addressed by trying to correct individual elements such as re-leveling the center column base plate and leveling the rotating arms by adjusting the guy rods. Due to the large diameter of the trickling filter and the tendency of the mechanisms to become out of level, the best approach appears to be to provide additional support to the arms at the outer wall (See Figure 2). The additional support would consist of adding a wheel at the end of each arm. The wheel would not necessarily be detailed to take the full tributary load. It could be detailed to provide additional support if the equipment started to become unbalanced. The track for the wheel could be a concrete beam placed adjacent to the tank wall. It could be fastened to the wall with steel reinforcing bars set in adhesive anchors. The design drawings for the outer wall were reviewed and all indications are the wall is structurally adequate to take the additional load.

The guy rods for the rotating arms are very long and can be significantly stressed by flutter or deflection. We recommend that a support member be provided between the guy rods and the rotating arms for the longer guy rods (See Figure 2) to reduce potential flutter.



Mr. Kent Mudd
April 24, 2002
Page 4 of 4

Costs to implement the repairs are estimated at:

Support Frames and Guy Rod Supports -	\$50,000
Releveling Distributors/Regrouting -	\$50,000
Concrete Beam to Support Wheel -	\$50,000
<u>Retrofit Distributors with Wheels -</u>	<u>\$22,000</u>
Preliminary Estimated Total	\$172,000

Kent, this estimate is real rough. I need a little more time to refine it, but I think it is in the ballpark. We are prepared to meet with you at your earliest convenience. Attached is the metallurgist's report and GL&V/Dorr-Oliver's report. Please let me know if you have any questions or concerns.

Very Truly Yours,

Camp Dresser & McKee, Inc.,

A handwritten signature in cursive script that reads "Justin Haydel".

Justin Haydel, P.E.
Associate

cc: Jerry Klier/Deputy Director
Robert Groht/Wastewater Manager
Ronnie Hebert/ETEC
John Maury/GL&V-Dorr Oliver
Roger Wood/CDM Denver

BATON ROUGE, LOUISIANA
TRIP REPORT
MARCH 20-22, 2002

At the request of Justin Heydel of Camp, Dresser and McKee, GL&V/Dorr-Oliver participated in a review of equipment supplied to the Baton Rouge South plant by Environmental Equipment & Systems (EE&S) in 1996.

On March 20 I traveled to the Baton Rouge office of CDM and then on to the Baton Rouge, South WWTP to investigate (4) 125' Distributors on which weld cracking, material cracking and some guy rod failures have been reported. The Distributors were originally furnished on EE&S Order 1044. I was joined by Roger Wood and Mike Bachand of CDM. Mr. Wood and I also went to the plant for a second look on Thursday, March 21.

The Distributors are numbered 5-8. They are in a square pattern and are numbered counterclockwise starting at the Southwest corner.

The following observations were made during the two visits:

- Units 5 and 8 were stopped and had no liquid flowing to them. Units 6 and 7 had flow but were stopped, not rotating. Plant personnel advised us that they had stopped rotation on all units to prevent further damage.
- The vanes in the center column of Unit 5 were deformed. The top of each vane was approximately 1 inch to the right of the bottom as viewed from the outside of the column. That would correspond with the application of counterclockwise torque to the column. The other 3 columns had not yielded.
- Several guy rods (the rods which support the arm vertically) on different units have failed and been repaired. Failures have occurred in the threaded portions and at points where the rods are welded to plates to form splices as part of the manufacturing process.
- We observed that the lower 2 of the 4 bolts which hold the top guy rod plate assembly to the lugs on the main drive gear had failed. The heads had come off each of them, leaving a relatively flat surface. Plant personnel reported that these bolts have broken on other units. They thought the other failures were also failures of the lower pair of bolts only, but were not certain of that. A bolt head was taken from the site and will be sent to a lab for analysis as to the manner of failure and to confirm the material of which the bolts are made.
- 2 angles run from each of the gear lugs down to the top rim of the distribution manifold (the center box to which the arms are attached). The angles are tied together with a short horizontal angle half way down, forming a letter "A". The feet of the "A" are welded to a small plate which is bolted to the upper rim of the distribution manifold. On Unit 8 we found 2 of these plates cracked. They were attached to the

same "A". They had cracked straight across just outboard of the toes of the "A" angles. One plate, the one on the leading side of the "A", had a horizontal crack near the center of its thickness on the leading edge of the plate. The plate appeared to have delaminated.

- Cracks were seen in the welds which connect the guy rod attachment plate to the "A" frame. We observed severe cracking in these welds on Unit 8. The cracks we saw appear to have initiated near the center or top area of the vertical weld and propagated until they covered most of the upper portion of the weld but not to have extended down to the bottom of the weld. Several of these plates have been broken completely away on other units.
- When Unit 5 was rocked by having someone bounce up and down near the end of one arm, the center column base plate moved somewhat on the support pier. We could see water move in and out of the interface between the plate and the pier as the unit rocked. We also rocked unit 6 which had water running through it. I thought I could feel some movement of the base plate but was not certain. The media had been moved away in Unit 5 but not in Unit 6, so the interface was not visible.
- All units are reported to be running out of level.
- Plant personnel advise that they set the clutches on the drives just high enough to avoid nuisance tripping. They said that at that setting the arms can be held back by one man without undue exertion. We roughly estimate that torque at 3,000 ft-lb; drive design torque is 16,000 ft-lb.
- Plant personnel reported that they had seen cracking of welds and/or metal of the supports which hold the guide blocks located below the distribution manifold. We did not observe these but we did see that the guide blocks had polished the metal of the center column, so they obviously rub against the column extensively. Some contact is to be expected but this does indicate the presence of unbalanced loading which can contribute to fatigue and/or a loose condition at the anchors. Conversely, unbalanced loading can be exacerbated by lack of firm support at the pier.
- We were told that the guy rods need frequent adjustment and that in some cases it has been necessary to cut off part of the threaded ends to allow enough adjustment. This is indicative of yielding of the guy rod material and is further evidence of very high loads in the guy rods. Theoretical design loads in rods are not excessive. High loads may have been caused by other causes such as overtightening of rods in an attempt to keep them straight (eliminate their catenary), impact loads and/or thermal expansion.

Mr. Wood and I met after each of the two field visits. Based on discussions of our observations and some structural calculations we had the following understanding of the problems and tentative recommendations:

- Deformation of vanes on Unit 5 is believed to have been caused by overtorque. Based on input from plant personnel and the fact that no other columns have been damaged we believe this was a one time occurrence, not expected to be repeated and not related to other problems. I do not feel the column needs to be repaired or replaced.
- The long guy rods should be supported in two places along their length. This should substantially reduce high loads in the rods themselves and in the upper support structure. It will also minimize the impact loads on the structure.

- "A" frames should be replaced, using stainless steel components.
- Bolts which attach the upper guy rod supports to the drive gear lugs should be replaced with ASTM A 490 high strength bolts.
- Units should be properly leveled and regouted.
- It may be advisable to add a track on the periphery of the tank and a wheel at the tip of each arm. Because there are so many interrelated mechanical, operating and maintenance issues, it is difficult to say whether the structural improvements alone will solve the problem. Wheels and a track would effectively move the position of the snubbers from their present location under the distribution manifold to the point where deflection of the system would be most effectively contained.

A meeting was held at the CDM offices on the morning of March 22. Representatives of the City of Baton Rouge, representatives of CDM and the writer were present. The observations mentioned above were discussed. It was agreed that the bolts would be analyzed and a formal report delivered from CDM to the City of Baton Rouge in approximately 3 weeks.

John Maury
April 24, 2002



Department of Public Works

City of Baton Rouge
Parish of East Baton Rouge

Post Office Box 1471
Baton Rouge, Louisiana
70821

June 26, 2002

Mr. John Maury, P.E.
Manager
Engineering & Technical Support
GL&V/Dorr-Oliver
612 Wheeler's Farm Road
Milford, CT 06460-1676

Subject: Baton Rouge South WWTP – Trickling Filter Rotary Distributors 5 – 8

Dear Mr. Maury:

As you are aware, the subject trickling filter distributors are currently out of service due to major structural damage. Since the distributors are out of service, East Baton Rouge Parish is having difficulty maintaining compliance at our South WWTP. Please let us know immediately if GL&V/Dorr-Oliver intends to fix the distributors and what your timetable is for accomplishing the work. We are looking for a response before July 15, 2002. If we do not receive a response before that time, we will take necessary action to fix these distributors to bring the plants into compliance with our permits.

Sincerely,

Fred E. Raiford, III
Director of Public Works

xc: Jerry Klier
Jeff Broussard
Bob Cicero
Kent A. Mudd
Robert Groht



GL&V/Dorr-Oliver Canada Inc.
174 West Street South,
Orillia, Ontario, Canada L3V-6L4

Phone: 706-325-6181 Fax: 705-325-2347

DATE: July 14/02

PAGES: 1

FAXED
TO: Kent Mudd
7/15/02

COMPANY: City of Baton Rouge

ATTENTION: Mr. Fred E. Raiford III
Director of Public Works

FAX No: 225-389-7618

REFERENCE: Trickling Filters 5 to 8 - South Wastewater Treatment Plant

FROM: Ian Gordon

CC: Kent Mudd / Baton Rouge
John Maury / GLV/Dorr-Oliver
Mike Smith / GLV/Dorr-Oliver
Ronnie Ebert / ETEC

Dear, Mr. Raiford,

As I am the Manager of Field Services, and Warranty, for GL&V/Dorr Oliver, your letter of June 26th has been turned over to me for review and response.

I have reviewed all of the correspondence and reports to date, and unfortunately wish to advise you that our position has not changed, and remains the same as outlined in Mr. Maury's letters of May 15th and May 23rd, 2002.

The equipment that you refer to in your letter was designed, manufactured and sold by the EE&S Corporation. We, GL&V/Dorr Oliver did not purchase the company EE&S and its assets and liabilities, we only purchased their backlog of work.

As previously stated, although there is some personnel now working at GL&V/Dorr Oliver that worked at EE&S, we are a separate corporation and are not related in any way or means to the EE&S Corporation.

Therefore to answer your question, GL&V/Dorr Oliver unfortunately can not accept fiscal or accomplishment responsibility to fix the current problems you are having with Trickling Filters 5 through 8, purchased by you from the EE&S Corporation.

If you any further questions or concerns please feel free to contact the writer direct.

Ian Gordon
Manager Field Services

Date: August 20, 2002

City-Parish Departmental Memorandum

To: Bob Wilks, Process Supervisor

From: David White, Plant Mechanic II

Subject: Trickle Filter History

Here is the information you requested.

- 1-7-02 #3 would not run. Checked bearings – OK. Reset breaker.
- * 4-9-02 #1 Removed gear sprocket for replacement \$31.92
- 4-10-02 #1 Drive chain was removed due to broken sprocket
- 4-12-02 #1 Replaced sprocket and QD bushing \$31.92
- * 4-12-02 #1 Removed drive chain
- * 5-8-02 #4 Changed sprocket and QD bushing. No entry in ops log book. \$31.92
- 5-15-02 #1 Preventive Maintenance changed oil and replaced old guide bearings
- 5-16-02 #2 Preventive Maintenance changed oil and replaced old guide bearings
- * 5-17-02 #1 Installed new sprocket and QD bushing. Checked oil levels in 1 thru 4. \$31.92 No entry in logbook.
- 5-21-02 # 3 Preventive Maintenance changed oil and replaced old guide bearings
- 5-22-02 #4 Preventive Maintenance changed oil and replaced old guide bearings
- * 6-18-02 #1 would not run, removed drive chain, gearbox bad Walters shift on.
- 6-19-02 #1 removed motor and gearbox. Installed new motor and gearbox. \$988.59
- * 6-28-02 #3 removed motor and gearbox. Installed rebuilt gearbox. Checked oil levels in other 3 gearboxes. \$988.59
- * 7-3-02 #2 Removed motor and gearbox. Rebuilt gearbox and installed. \$988.59
- * 7-8-02 # 3 Went down on Sunday 7-7-02 Replaced sprocket and QD bushing. \$31.92
- * 7-8-02 # 3 Bolts in sprocket and QD bushing sheared, replaced bolts. \$4.00
- 7-9-02 #1, 2, 3, 4, Checked alignment of sprockets. OK.
- * 7-10-02 # 3 Removed motor and gearbox. Installed rebuilt gearbox. Replaced sprocket and QD bushing. \$1020.51
- * 7-10-02 #2 Sprocket and QD bushing busted into. Replaced both. \$31.92
- 7-11-02 #3 removed chain from gear drive. Removed blind plates from water orifices and installed on anti-rotation orifices to see if water would help turn filters. Did this to relieve torque from drive system. Worked OK.
- 7-12-02 #1 & 2 Swapped blind plates.
- 7-15-02 #4 Swapped blind plates.
- 7-15-02 #3 checked oil level per Dennis Tweedy.
- * 7-22-02 #2 Gears stripped in gearbox. Rebuilt gearbox and replaced. \$988.59
- 7-30-02 #1 Operations said it would not run. Checked out, unit ran OK.
- * 8-2-02 #3 gearbox froze-up. Installed new gearbox and motor. \$988.59
- 8-5-02 #4 Inspected chain and gearbox.

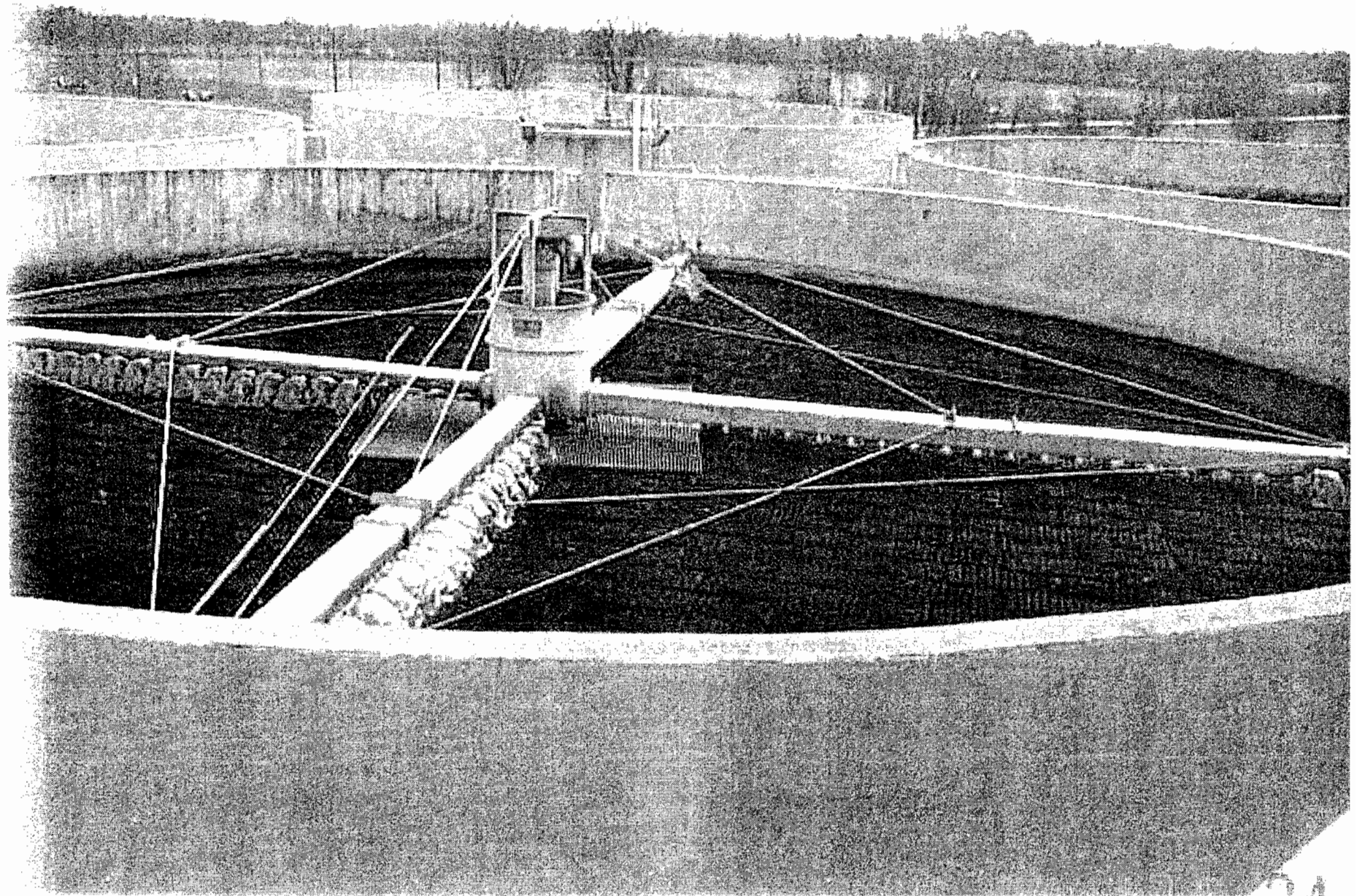
- * 8-12-02 #4 Changed sprocket and QD bushing. \$31.92
- * 8-14-02 #4 Changed sprocket and QD bushing. \$31.92
- * 8-18-02 #1 Replaced sprocket and QD bushing. Adjusted chain tension. \$31.92
- * 8-18-02 #4 Replaced sprocket and QD bushing. Shimmed gearbox to level and align sprockets. \$31.92
- * 8-19-02 #4 Motor in bind. Replaced small sprocket and QD bushing. Screws in sprocket also broken. \$35.92
- * 8-20-02 #4 Replaced bolts in sprocket. \$4.00

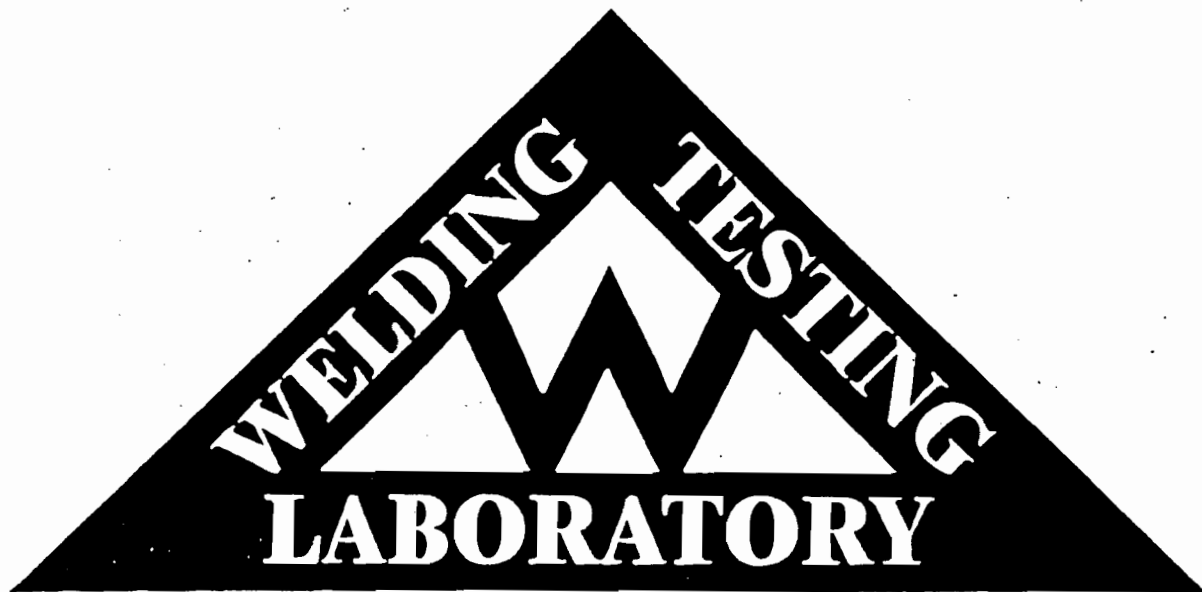
Total replacement cost of parts since January 1, 2002 is \$6505.40. This is mechanical parts only. Does not include electrical parts. Does not include labor.

Electrical Malfunctions since January 1, 2002.

- * 1-9-02 #3 VFD tripped. Reset drive.
- * 1-28-02 #3 Found shutdown. Pushed start button and re-started. Found no problem?
- * 1-29-02 #3 Replaced VFD. VFD had failed and would not reset. \$499.97
- * 2-14-02 #3 VFD tripped on over-current.
- * 3-14-02 #3 Shut-down. Found poor connection at start button.
- * 4-7-02 #1 VFD failed. Replaced VFD. \$499.97
- 6-15-02 1 thru 4 Reset Minimum and maximum HZ. Minimum set at 10, Maximum set at 50
- 7-1-02 1 thru 4 Reset Maximum HZ. Back to 20
- 7-28-02 1 thru 4 Reset HZ. Maximum at 40.
- * 8-14-02 #1 Found shutdown on several occasions. Seal in contact around start button in drive was bad. Installed jumper around start button until VFD drive can be replaced. Will cost \$499.97 to replace bad VFD drive.

Total Replacement cost for Electrical malfunctions will be \$1499.91 once #1 VFD is replaced.





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**Metallurgical Examination
of a Fractured Bolt**

Prepared for:

**Camp Dresser & McKee, Inc.
500 Laurel Street, 4th Floor
Baton Rouge, LA 70801**

Attn: Mr. Justin Haydel

**Report No.: L18975
April 4, 2001**



A COMPLETE METALLURGICAL, WELDING, AND NON-DESTRUCTIVE TESTING LABORATORY

April 4, 2002

Camp Dresser & McKee Inc.
500 Laurel Street, 4th Floor
Baton Rouge, LA 70801

Attn: Justin Haydel

Re: **Welding Testing Laboratory Report No.: L18975**
Metallurgical Examination of a Fractured Bolt

Sample Description

On March 28th, 2002, we were requested to make an on-site visit to a water treatment facility to examine bolt failures which were plaguing successful operation of a water distribution system.

Figures 1-4 provide pictorial descriptions of where repeated bolt failures were occurring. The bolts essentially mount a bracket to the top of a rotating tower frame. The bracket is used to support tie rods which are used to suspend a water distribution channel.

One of the failed bolt heads that was retrieved was submitted to our laboratory to determine the mechanism of failure.

Stereo Examination

The bolt fracture occurred at the transition between the head and the threaded shank. The fracture was essentially normal to the axis of the shank. With only the head portion of the fracture, the bolt diameter was estimated to be 5/8" or 11/16" approximately.

Macro features consisting of ratchet and beach marks clearly indicate a fatigue mode of failure with an OD origin only on one quadrant (figures 5-7). Given the loading conditions on the bolt, the side of the origin is likely at the 12:00 o'clock position in service. The bulk of the cross sectional area appeared to have failed by fatigue suggested a low nominal stress but likely a high cycle frequency.

Markings on the backside of the bolt indicate the material is 316 stainless steel (figure 8).

Electron Microscopy Examination

The bolt fracture was cleaned and subjected to a fractographic examination in a Scanning Electron microscope. Figure 9 provides a low magnification view of ratchet marks which represent individual fatigue crack initiation sites. These initiation sites were confined to only one side of the bolt which confirm a unidirectional bending moment. This also makes logical sense realizing the application of the failed bolts. No anomalies were observed at the initiation region.

Figure 10 provides a low magnification view of the side of the bolt opposite figure 9. As with many fatigue failures, the final fracture area presented in figure 10 which was approximately 15-20% of the total fracture surface, showed a ductile (dimpled) overload. Once the time dependent fatigue crack propagated to a critical flaw size, the balance of the cross sectional area could no longer support the applied stress and failed by an overload mechanism.

The fatigue crack portion of the failure was also confirmed by the presence of classical striations over the majority of the fracture (figures 11 and 12). Striations represent individual cyclic loadings experienced by the bolt.

Chemical properties

A chemical analysis of the bolt was performed by Optical Emission techniques and results recorded below. The chemistry is typical for 316 stainless steel.

Element	(wt %)
C	0.034
Mn	1.41
P	0.031
S	0.009
Si	0.51
Ni	10.4
Cr	17.1
Mo	2.0
Cu	0.55
V	0.02
Nb	<0.01
Ti	<0.01
Al	<0.01
Co	0.08
W	<0.01
Fe	Balance

Metallographic Examination

A cross section was removed through the bolt head and metallographically prepared. The section was made such that it would incorporate the origin of the fracture. Figure 13 provides a photomicrograph of the section after etching in an appropriate reagent. Macroscopic flow lines suggested the bolt head was manufactured by likely an upset forging technique. No anomalies were observed macroscopically.

Closer examination under the light microscope revealed a work hardened microstructure without any subsequent annealing treatment. Microhardness measurements varied depending on location but ranged from 280 HVN along the fracture to approximately 380 HVN in the head. The relatively high hardness would be expected in the strain hardened condition. Without knowing the specification for which the bolts were ordered, we cannot comment whether the processing was according to requirements. We can comment that the condition of the bolt would suggest a relatively high yield/tensile strength and thus a higher fatigue resistance as opposed to a bolt in the annealed condition (i.e. SA192, B8M, Class 1).

Conclusions

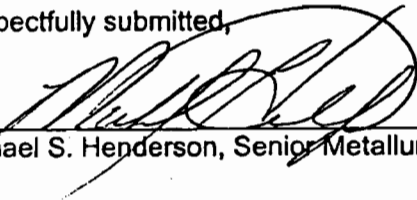
- The bolt fracture represents a classical fatigue failure. Fatigue by definition is a phenomenon whereby a component will fail upon exposure to a certain number and magnitude of fluctuating stresses. When the fatigue life of a material is reached, a fatigue crack(s) will initiate and generally propagate until reaching a critical size at which time the remaining cross section will typically fail instantaneously.
- The metallurgical examinations revealed no defects or other anomalies with the bolt that may have augmented fracture. In fact, the relatively high estimated strength of the bolt would indicate the condition of the bolt yielded moderately good fatigue resistance.
- Thus, the data would therefore suggest several possible scenario's as indicated below for consideration. They are in no certain order and failure could be attributed to any one or a combination of.
 - The design of the bolted plate assembly is simply insufficient for the intended service.
 - There could be operational parameters or equipment issues which are translating fluctuating stresses to the bolts which are above that intended by design (i.e. some misalignment causing excessive vibration).
 - Improperly torqued or loose bolts can also result in premature fatigue failure by increasing the amplitude of cyclic stresses. The fact that repeated bolt failures (and at other locations) have occurred, this may not be an issue but worthy of mention.

We should note that not only were multiple bolt failures observed at different locations, but also the "A" frame was observed cracked. These are good indicators that the assembly as a whole is likely exposed to considerable fatigue loadings.

- The remedial action with regard to the bolt failures would be the consideration of a higher strength bolt, more bolts per bracket, or larger diameter bolts. Any one of these or better yet a combination of two or all three of the recommendations would improve the fatigue life expectancy.

If we can be of further assistance, please feel free to call (225) 357-4014 or email mike@weldtest.com

Respectfully submitted,



Michael S. Henderson, Senior Metallurgist

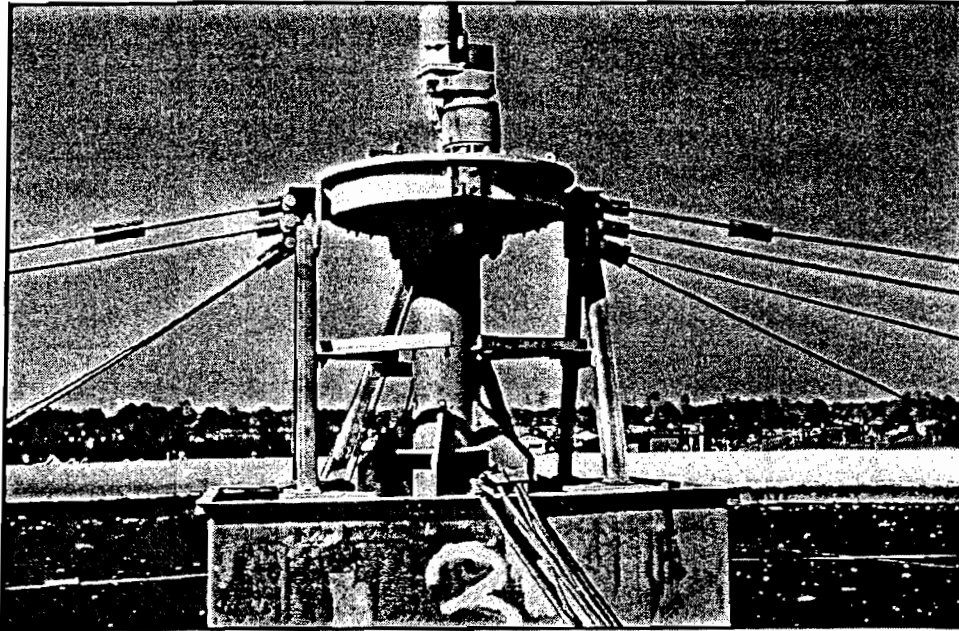
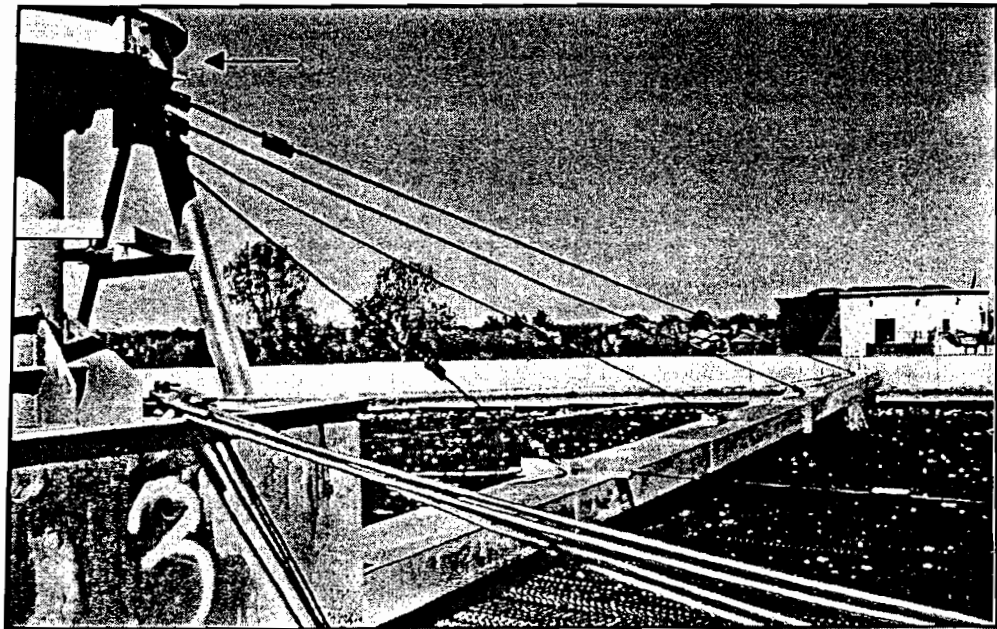


Figure 1
Photograph of one of the typical tower assemblies.

Figure 2
Another view which illustrates the mounting bracket where bolt failures are occurring.



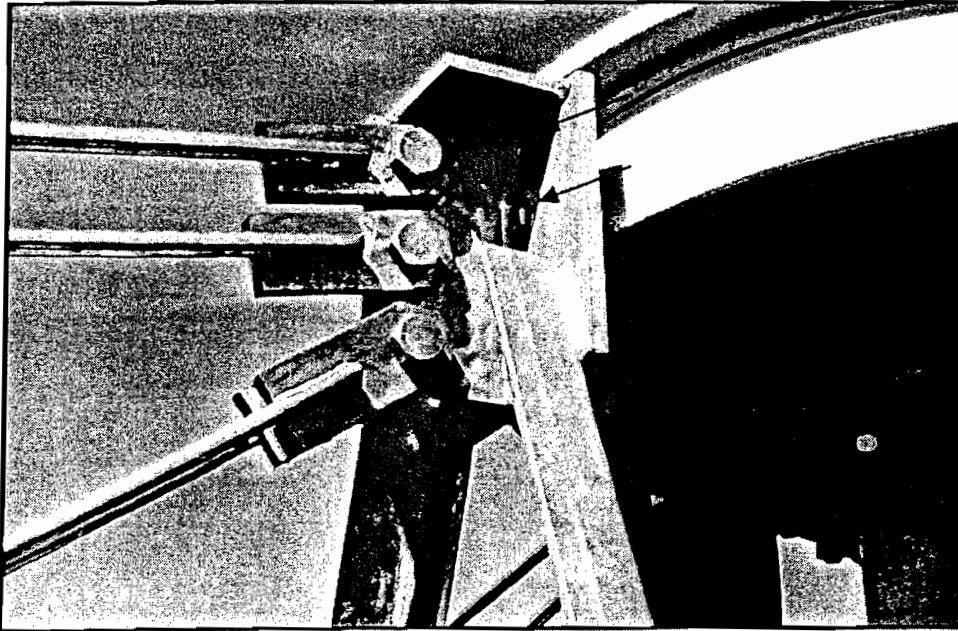
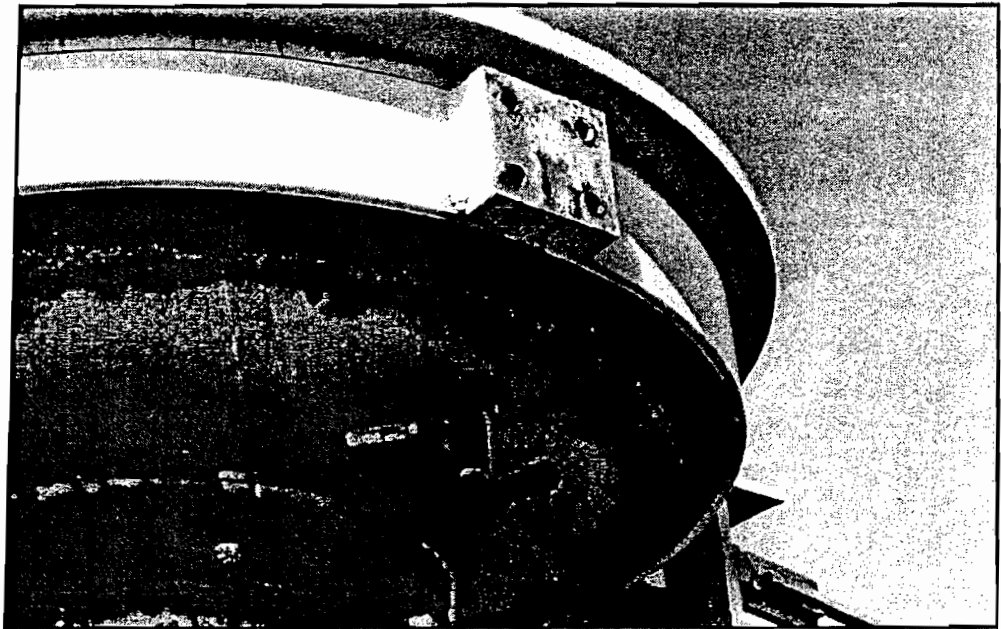


Figure 3
Closer view of a mounted bracket. Arrows show the bolts which are failing.

Figure 4

Closer view of the bracket which accepts the threaded bolts.



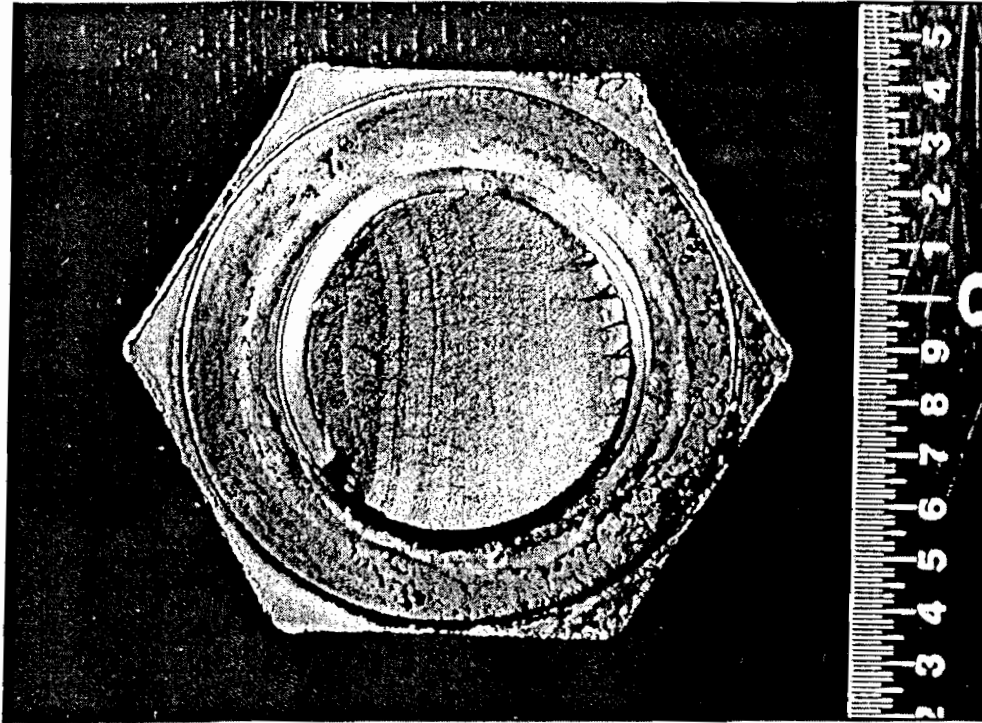
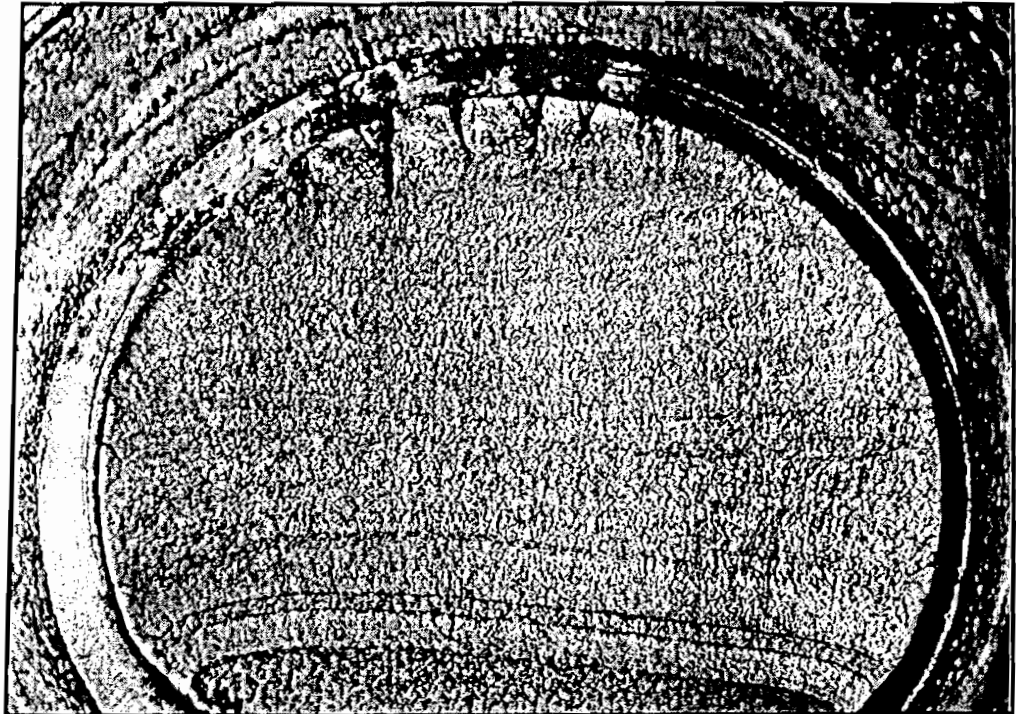


Figure 5
Photomacrograph of the head portion of the bolt fracture as-received.

Figure 6
Closer view showing ratchet marks at top which are representative of fatigue initiation sites. Beach marks are apparent.



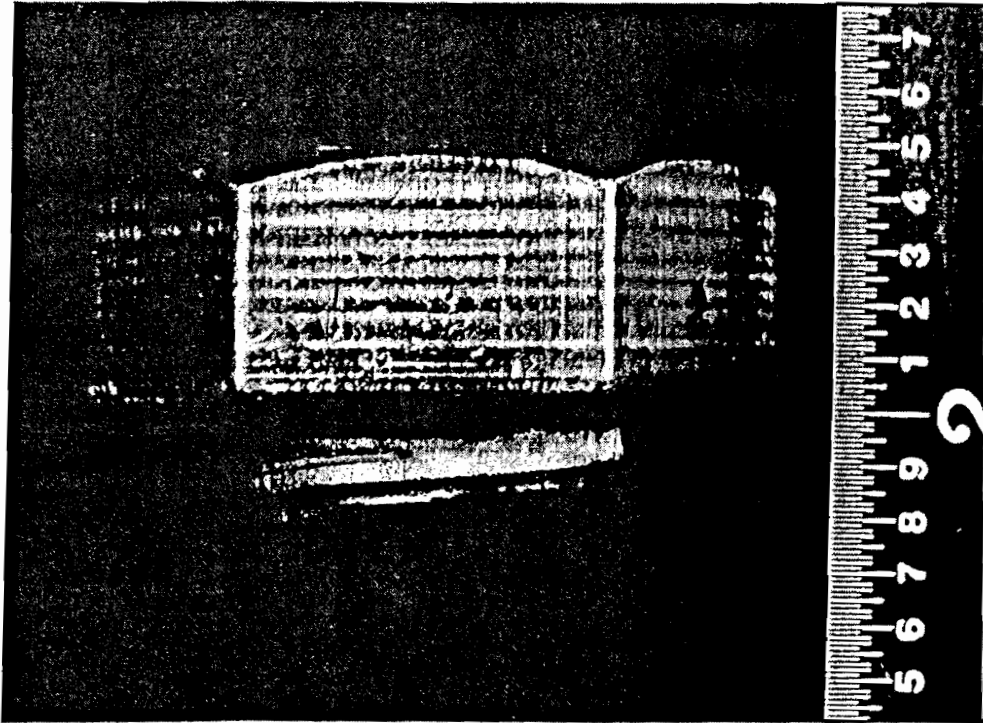


Figure 7
Side view.

Figure 8

Markings on the
bolt head.



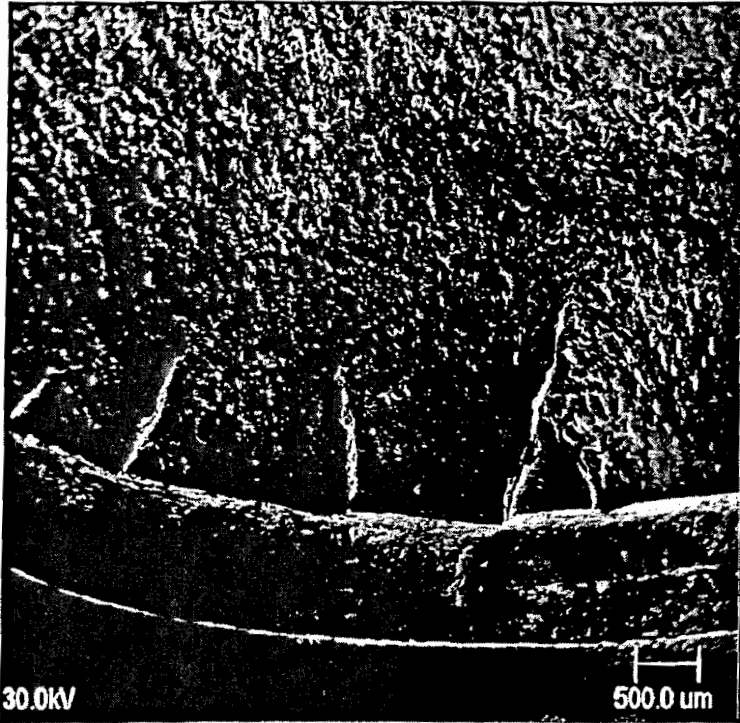


Figure 9

SEM image of the fatigue crack initiation area.

Figure 10
180° opposite figure 9 where final, ductile fracture occurred.

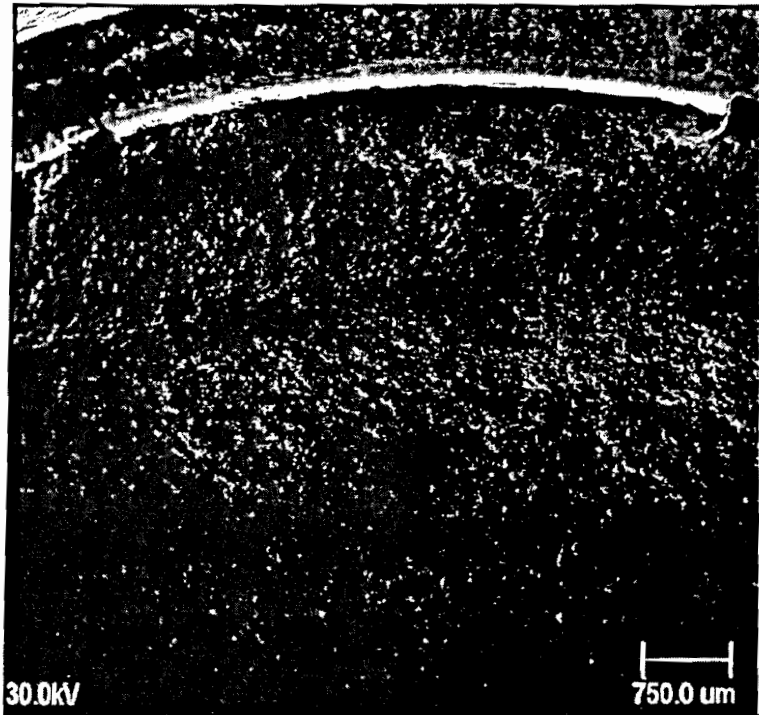


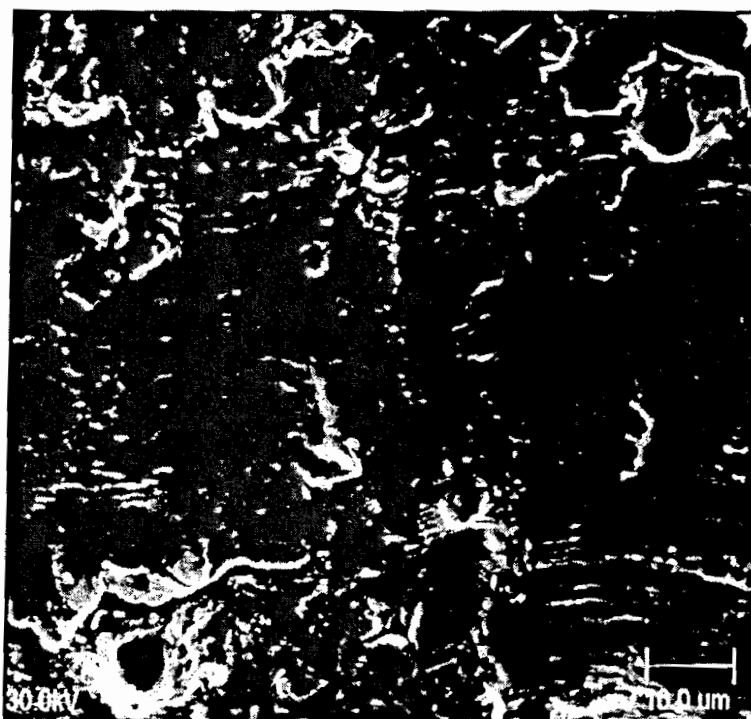


Figure 11

Fatigue striations apparent across the majority of the fracture surface.

Figure 12

Same as figure 11, different location.



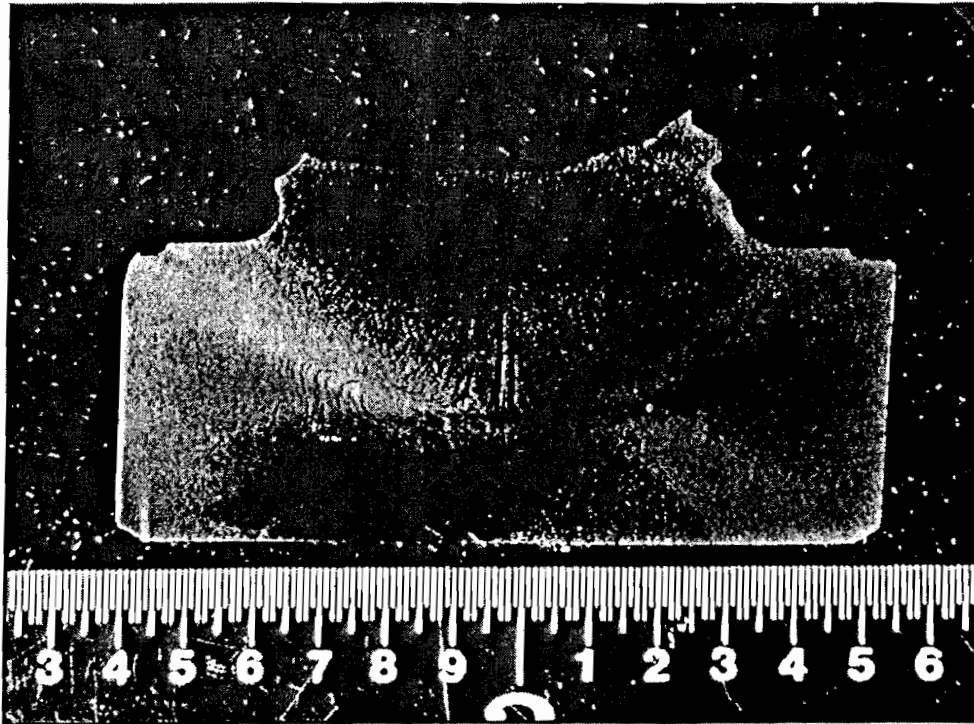


Figure 13

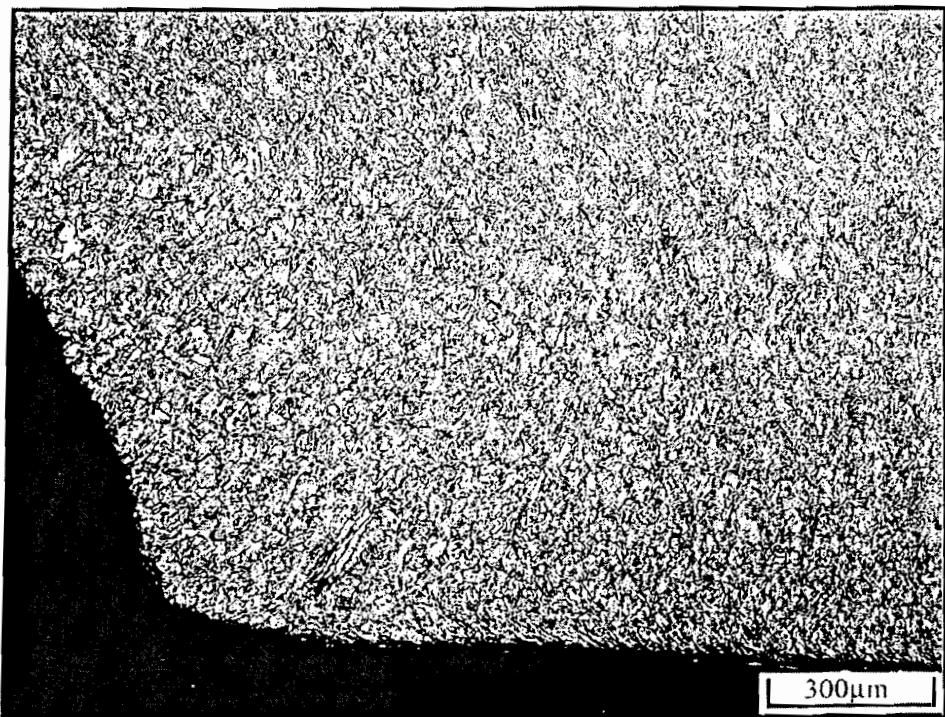
Etchant: Oxalic

Photomicrograph of the bolt head cross section after preparation. No anomalies observed.

Figure 14

Etchant: Oxalic

Low magnification photomicrograph of the initiation area. No anomalies observed.



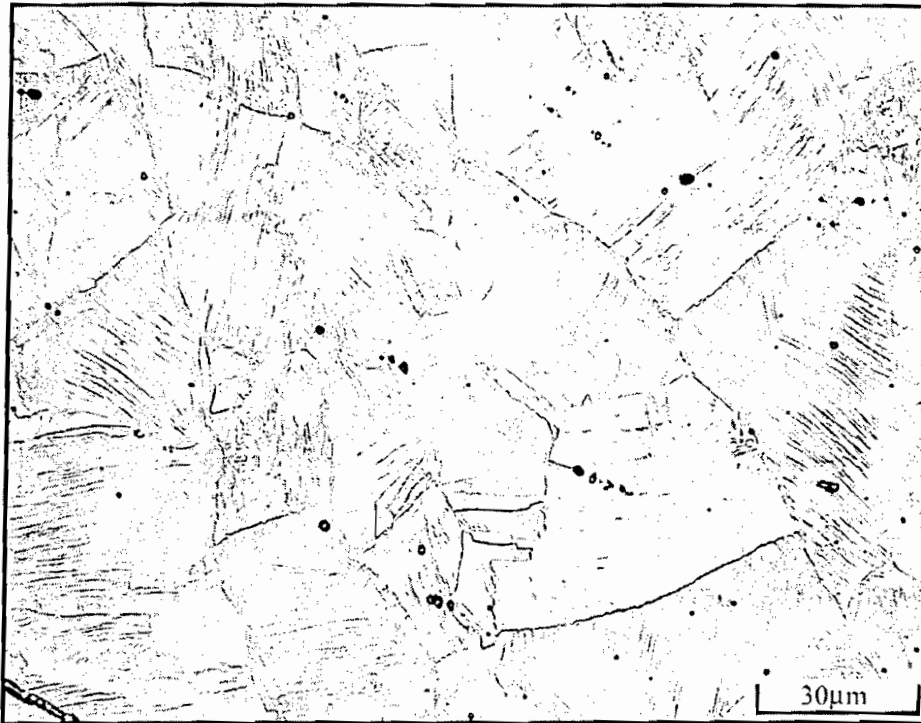


Figure 15 Etchant: Oxalic
Higher mag image of the typical microstructure showing a strain hardened condition.

**LSU
ASSISTANCE**



LOUISIANA STATE UNIVERSITY
AND AGRICULTURAL AND MECHANICAL COLLEGE
Department of Civil & Environmental Engineering

08 November 2002

To: Mr. Fred E. Raiford III, Director of Department of Public Works
City of Baton Rouge, Parish of East Baton Rouge

From: Dr. John Sansalone, P.E., Associate Professor, Louisiana Land and Exploration Professor
Department of Civil and Environmental Engineering, Louisiana State University

Re: Wastewater operations and process research and improvements at the South (STP) and
Central (CTP) WWTP for Department of Public Works (DPW) in Baton Rouge by
Louisiana State University (LSU)

Since late 1998, LSU has become actively engaged with DPW to provide operations and process research and improvements at the STP and CTP. DPW has allowed LSU to openly conduct research, analyses and studies and make recommendations with the sole purpose of improving operations, processes, effluent quality and efficiency at STP and CTP. There are 5 studies that LSU has focused on since late 1998. These are:

1. Examine and provide recommendations for use of bio-augmentation of hydrogen sulfide control, corrosion control, BOD₅ and TSS control at the STP.
2. Examine and provide recommendations for existing practices for hydrogen sulfide mitigation at the STP from the very extensive force main transporting wastewater to the STP.
3. Examine and provide recommendations for control of snail infestation in the trickling filters at STP and CTP.
4. Examine and provide recommendations for solids management from the STP and CTP.
5. Examine and provide recommendations for operations and process improvement at CTP and STP to control effluent BOD₅ and TSS. Develop and hold monthly process control meetings for the CTP, STP and NTP (North WWTP).

This report will dedicate a brief summary to each of these areas with respect to recommendations and progress, after providing a graphically summary of treatment results for CTP and STP.

Monthly effluent trends for Central WWTP for 2002 (to date), 2001 and 2000.

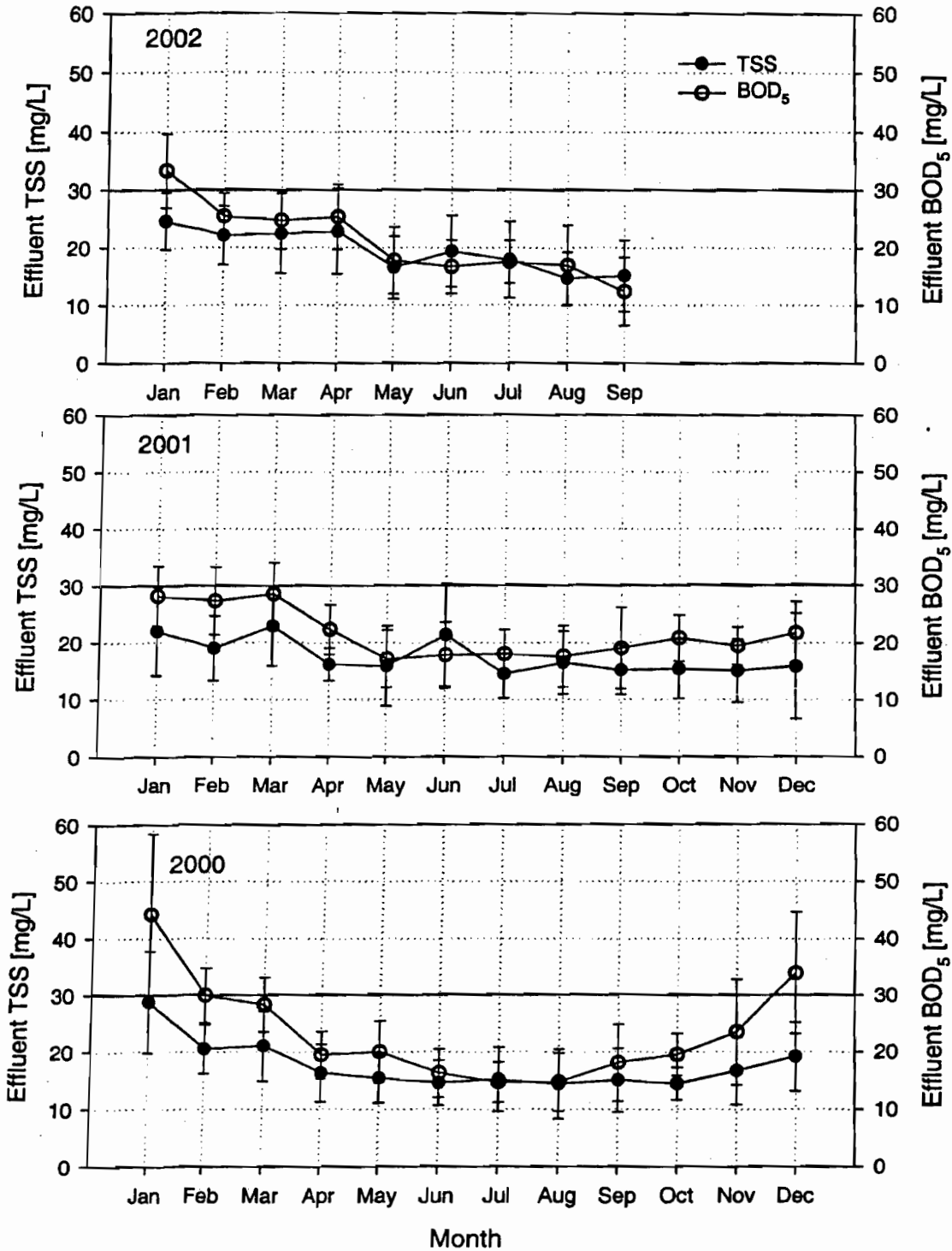


Figure 1. Effluent trends at CTP for 2000-2002. Symbols represent monthly means of daily data and error bars represent standard deviations for daily data across each month.

Monthly effluent trends for South WWTP for 2002 (to date), 2001 and 2000.

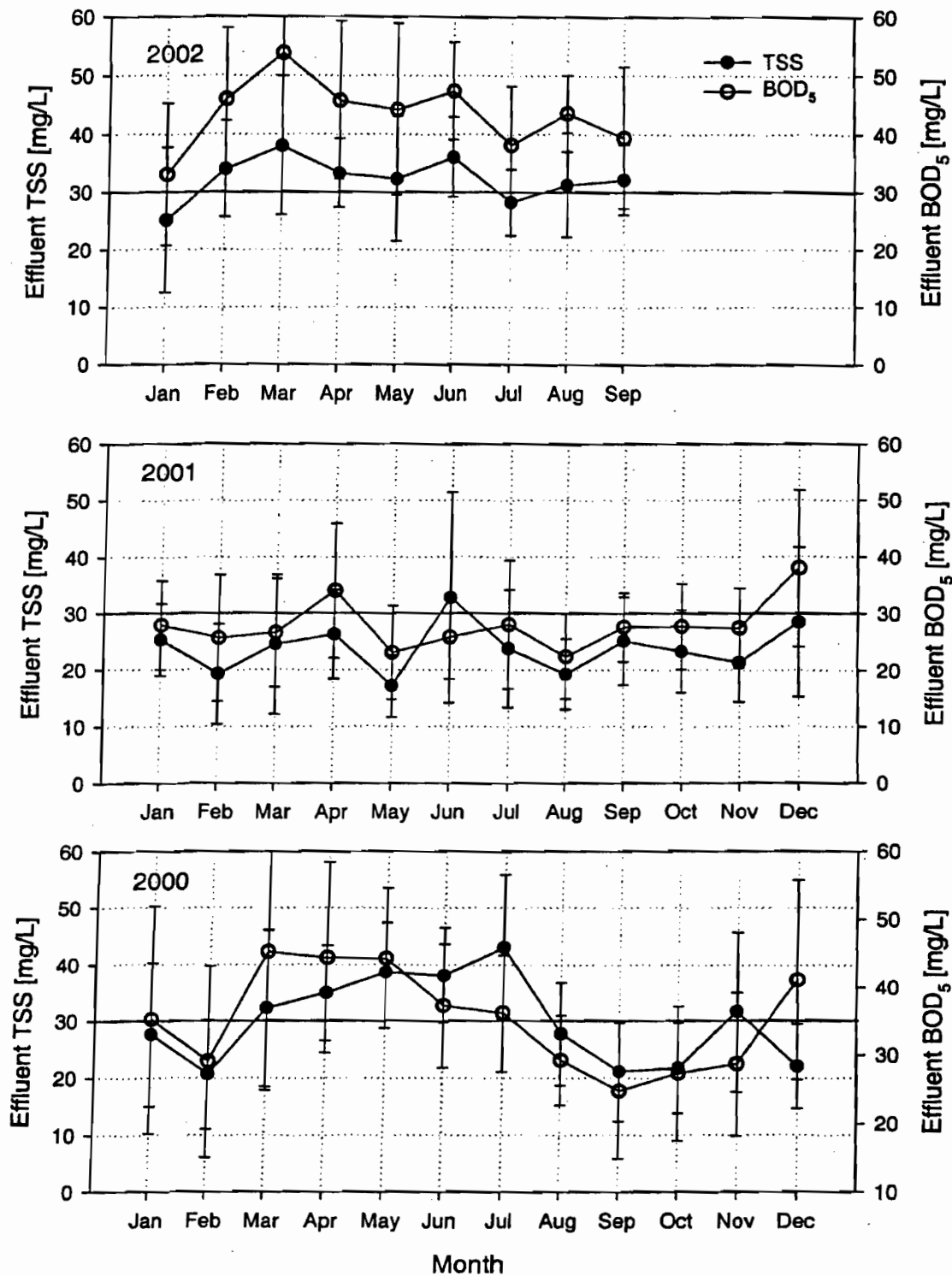


Figure 2. Effluent trends at STP for 2000-2002. (same symbol representation as Figure 1)

1. "Batch reactor experiments evaluating bio-augmentation for H₂S, TSS and BOD₅ reduction" (1998-1999).

Executive Summary: Preliminary wastewater batch reactor experiments were completed to evaluate the effect of suspended growth microbial treatment on reduction of aqueous sulfides, gaseous hydrogen sulfide (H₂S), total suspended solids (TSS) and biological oxygen demand (BOD₅). These experiments were designed to mimic the effect of suspended growth matter activities resulting from microbial additions. A series of three anaerobic and three aerobic reactors were designed, fabricated and operated for the purposes of this study. Each series contained a control reactor and two experimental reactors, one reactor supplied with a field dosage (1x) level of microbes and the second experimental reactor supplied with 10 times the field dosage (10x) level of microbes. All wastewater supplied to the reactors was obtained in separate 30-liter batches from Pump Station 262 (PS 262) in the Iberville Terrace subdivision. Each reactor was supplied with 4-L of well-mixed wastewater and then operated for a period of 24-hours at a constant temperature of 28°C. Samples and replicates from each reactor were obtained at 0 and 24-hours for the purpose of analyzing aqueous sulfides, H₂S, TSS and BOD₅ to compare experimental reactor results to the control reactor. 5 complete reactor runs utilizing both anaerobic and aerobic reactors were carried out for 5 separate wastewater batches obtained on consecutive weekdays from PS 262.

For all reactor runs the effects of the microbial dosage level (1x and 10x) were compared to the control reactor that operated with wastewater having no bio-augmentation. Results indicate that both microbial dosage levels produced no statistically significant difference under either anaerobic or aerobic conditions for aqueous sulfides, H₂S, TSS and BOD₅. Based on these results it is our conclusion that suspended growth generated as a result of microbial augmentation is not effective for the purpose of reducing aqueous sulfides, H₂S, TSS and BOD₅.

Within the limits of this experimental work there is no indication that the bio-augmentation strategy is or would be successful. Increased anaerobic biological activity that could hypothetically produce benefits with respect to TSS and BOD₅ levels drive redox and pH levels down, further aggravating the sulfide/H₂S problem. There may be some potential for in-line benefits from bio-augmentation under aerobic conditions, but the bacterial consortium did not produce a significant impact on TSS and BOD₅ levels in this study. This study will provide a foundation for future research efforts to investigate feasible and cost-effective treatment for in-line reduction of sulfides/H₂S, TSS, and BOD₅.

Current status (November 2002): Bio-augmentation practices have been ended by DPW since early 1999. The bio-augmentation provider has sued DPW, LSU and Southern University over termination of the bio-augmentation contract. Litigation is currently active.

2. "Economical treatment for mitigation of municipal sewer forcemain H₂S and resulting corrosion" (1999-2000).

Executive Summary: Primary causes of septicity are the variable pipe flow conditions and extended sewage residence times in the force main. These conditions promote the production of H₂S under the anaerobic conditions present within the force main system. The City of Baton Rouge/Parish of East Baton Rouge has experienced continuing problems with odor in the force main leading to the South wastewater treatment plant (STP) and corrosion at the head works of the STP. Attempts to mitigate the effects of H₂S have been made by both microbial addition and the current use of hydrogen peroxide. There were two distinct phases of this study encompassing five objectives (1) the determination of the effect of rainfall on force main flow, (2) the determination of residence time distributions from peripheral force main injection locations to the STP, (3) the quantification of dispersion within the force main system, (4) The determination, through bench-scale experimental simulation, which additives were most effective in control of H₂S, (5) implications of objective 4 for the current H₂O₂ dosing regime, employed at the STP.

The first phase consisted of determination of residence time distribution (RTD) within the system and the quantification of dispersion within the force main system. To determine the worse case RTD within the system, it was first necessary to determine the effects of infiltration and inflow on force main performance. RTD analysis was performed by injecting a fluorescent tracer into wet well collection stations at the periphery of the force main and recovering the tracer at the head works of the STP. Phase two consisted of an experimental bench scale analysis of several treatment alternatives for the mitigation of force main H₂S including air, hydrogen peroxide (H₂O₂), sodium hypochlorite (NaOCl), calcium nitrate (Ca(NO₃)₂), calcium hydroxide (Ca(OH)₂) and ferric chloride (FeCl₃). Attempts at H₂S mitigation from two separate approaches were made. The first approach was to treat the entire force main to prevent formation of H₂S. The second approach targeted destruction of H₂S prior to arrival at the STP.

Study results indicate that (1) rainfall has a highly significant effect on force main flow ($P < 10^{-4}$), (2) residence times within the force main system are exceedingly long with an average geometric mean of 31.9-hours, (3) the system operates in a plug flow regime despite multiple pump stations and junctions capable of causing significant mixing, (4) NaOCl and H₂O₂ were the most effective chemical control strategies found for the mitigation of H₂S. Nonetheless, the quantity of each of these chemicals required to prevent the formation of H₂S is too large to be considered feasible, (5) The current strategy of protecting appurtenances only by injecting a solution of 50% H₂O₂ is potentially effective, but the volume of H₂O₂ injected (100 to 300-gallons per day) is completely reduced (no remaining oxidizing ability) within a period of 15-minutes in a rapid-mixing scenario. Technical alternatives to the current practice include changing the mixing regime of the additive, moving the injection point closer to the head works of the STP so that a degree of oxidizing capability remains as the wastewater enters the head works or increasing the dosage of H₂O₂ at the present location at a significant increase in annual expense.

Current status (November 2002): H₂O₂ is currently being dosed at the rate of 100 to 300 gallons per day upstream of the headworks at the STP. Odor complaints have been negligible since 1999. The potential experimental use of FeCl₃ applied at the headworks or just upstream is contemplated as an oxidant and coagulant in lieu of H₂O₂.

3. "Characterization and control of *Physa sp. Gastropoda* in trickling filters" (1999-2001)

Executive Summary: Trickling filters are a warm, humid, organically rich environment of high surface area that supports a diverse ecology that included bacteria and invertebrates such as mollusca snails. Snails are considered nuisance organisms that potentially impact trickling filter and wastewater treatment performance. In the warm humid climate of south Louisiana, aquatic snails are ubiquitous. Snail infestation of 11 trickling filters was examined for any role snails may play in treatment performance and how snail control, if required, could be facilitated. Trickling filters were sampled at two wastewater plants in Baton Rouge on a weekly basis for six months for snails and biomass. BOD₅ conversion across trickling filters and wastewater plants were examined with respect to snail populations. Statistical analyses including correlation analysis, ANOVA and MANOVA were applied. Multivariate measures of association included Wilk's Lamda, Pillai's trace, Hotelling-Lawley trace and Roy's largest root. Although snail populations were as high as 2.4×10^4 snails/m³ in trickling filter media results indicate that statistically, snail population and biomass are uncorrelated with the treatment parameters. Snail population is also independent of biomass growth, which indicates snails do not have significant adverse effect on the trickling filter performance and do not have significant adverse impact on the efficiency of treatment plant when examining counts and biomass growth.

Test of differences in means indicated no significant difference among trickling filters in terms of snail count and biomass growth at CTP. However, significant differences in snail counts and biomass exist between the trickling filters at STP due to frequent mechanical breakdowns and instability. Through investigating snail population and biomass in different sections and layers in trickling filters at the CTP, it was clear that snails were not evenly distributed among trickling filter media. Inner media sections and lower layer sections were shown to be the predominant locations of snails. This is consistent with the ecology in trickling filters that snails reside mainly in the lower part of trickling filter media where environmental conditions such as temperature and humidity remain relatively constant compared to peripheral and surface layers.

However, snail infestation proved to have no adverse effect on the treatment performance of trickling filters and BOD₅ conversion across the entire plant. Objectives of recirculation were to improve treatment stability, generate sufficient flow to trickling filters and to control snail populations through hydraulic flushing. Through automated recirculation of trickling filter effluent to the top of the trickling filters, CTP has reduced effluent total BOD₅ from a mean of 28.4-mg/L in 1999 to a mean of 23-mg/L in 2000. Starting in March 2000, CTP began to regulate the recirculation with scheduled flushing. Total organic loading at CTP was 7 kg BOD₅/m³·hr. The SK value for flushing was 992. A recirculating flow model was developed to examine stability across the plant. Of the variable studied, inflow had the highest correlation to the recirculating flow to the trickling filters and the primary factor that influences recirculation. Recirculating valve position and pump speed is proportional to the recirculating flow.

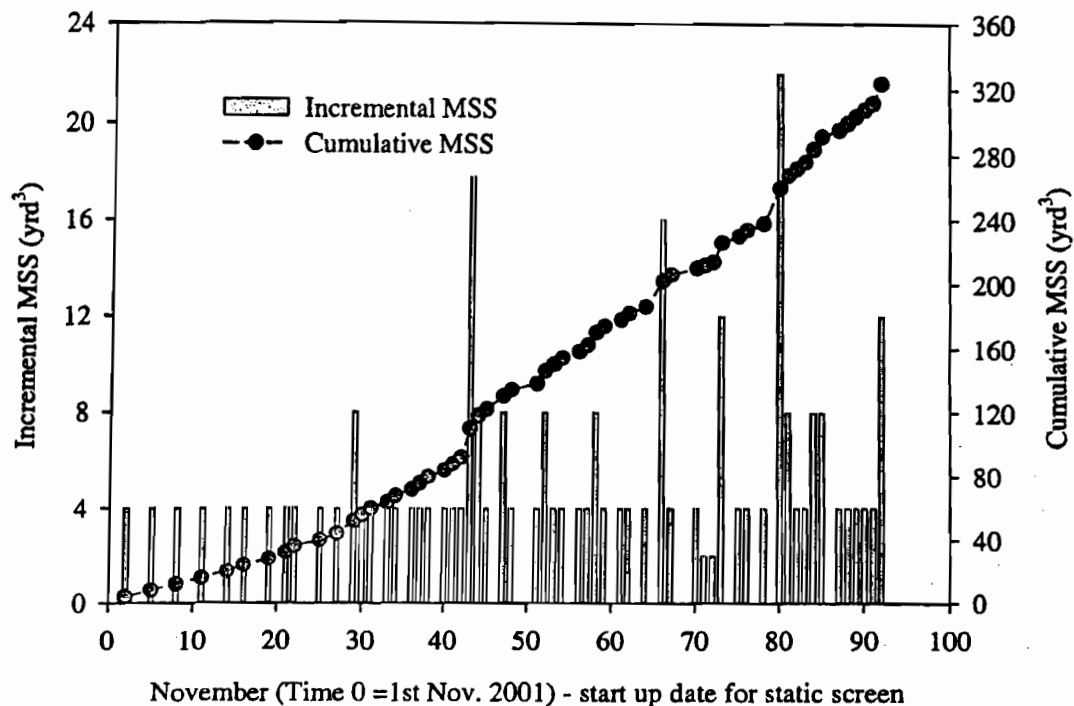


Figure 3. Snail/biomass recovery as MSS (Metz suspended snails) at CTP. Incremental spikes above the 4-yr³ increment level are due to wet weather loadings at CTP. Dry weather control of snails in two trickling filters is implemented through controlled recirculation of trickling filter effluent.

Current status (November 2002): Currently, recirculating flow is used to promote biomass growth and control; and is augmented with static straining screens to control snails as a nuisance at CTP. The static screens at CTP are reducing the inventory of snail-based sludge material so this material does not make it to the digesters. In addition the static screens are capturing the continual influx of snails especially during wet weather flows. One trickling filter has been removed from operation at CTP and the plant has excellent stability due to continuous operation of two trickling filters and recirculation. Both recirculation and static straining screens have been recommended for STP and are in planning stages. Static screen location recommendations have been made and recirculation configuration recommendations have been made. Both static screens and recirculation are critical for STP, in particular, controlled recirculation of trickling filter effluent.

4. "Management of Wastewater Solids and Sludge Through Optimized Clarification and Anaerobic Sludge Digestion" (2001-2002).

Executive Summary: This research focused on two objectives. The first objective was to improve solids clarification and handling throughout the wastewater plant. A task of this objective was to improve performance of the final clarifiers through application of coagulation and flocculation. This was prompted in early 2002 due to the structural failure of the four trickling filters in the new side of the STP. Extensive lab jar test experiments/analyses of coagulants-flocculants were carried out to improve clarification of trickling filter effluent at the STP due to the expected long term down time (12 months) of trickling filters at STP. Trickling filter effluent was sampled from the "new" (forcemain) and "old" (gravity) sides of STP at the final clarifier distribution boxes. Coagulants and flocculants tested included (1) ferric chloride, (2) ferric sulfate, (3) alum, (4) "floc-cite", (5) Cytec cationic polymer (MX40), Polydyne cationic polymers (6) C-6238 and (7) C-6220 and in each run a "control" of quiescent settling with no chemical additions or mixing was run. The most viable chemicals to facilitate coagulation and flocculation processes in the final clarifiers at STP were ferric chloride (FC) and cationic polymer (CP). Field scale application of cationic polymer in the final clarifiers was problematic and recent jar tests of the primary influent led to a recommendation of FC dosing at the headworks in the range of 10-20 mg/L for coagulation-flocculation.

The second objective investigated anaerobic sludge digestion of clarifier sludge and grit materials using a force-fed fast rate portable anaerobic digester (PAD). The objective was to develop and demonstrate the operation and viability of a small-scale anaerobic digester that utilizes a force-fed fast rate digestion process for treatment of wastewater and sludge under a range of flow conditions. A 1000-gallon digester was operated at CTP since September 2000, loaded at a steady state rate of 500-gallons per day of primary wastewater sludge. Performance has demonstrated that chemical oxygen demand (COD) levels are reduced significantly in a 48-hour residence time without any heating or temperature control to date. Operation of the digester has involved no temperature control despite ambient temperatures that have varied from 30 to less than 0°C over a 9 month period. Greater than 90% of the influent COD is in the form of particulate COD while greater than 90% of the effluent COD from the reactor is in soluble form. Distributions of influent and effluent COD illustrate a 77% reduction of the mean total COD for a 48-hour residence time. Particulate COD reductions in the digester are approximately 90%.

Current status (November 2002): A flow-based dosing and pH feedback system has been put in place at STP and primary wastewater is currently dosed with approximately 10 mg/L of FeCl_3 (FC) as of 1 November 2002 based on jar tests. As required, this may be increased to 20 mg/L. If demonstrated effective at field scale, this system will remain in place until trickling filter structural repairs can be completed. Specific recommendations for reduction of biosolids inventory, changes to biosolids handling process, the need to reduce polymer costs, monitoring of sludge density and reduction of water in sludge/digesters and quantification of biosolids inventory across plant operations/processes have been agreed to at process meetings. Funds are being sought for the PAD to examine the potential for methane production at CTP and STP. Instability, lack of recirculation for trickling filters effluent and structural failure of the trickling filters are major issues.

5. Assessment and Optimization for Wastewater Treatment (2002-2003)

Executive Summary: Since January 2000, LSU has been working with DPW to improve wastewater treatment plant compliance at the CTP and STP. Over the last two years efforts have focused on both specific treatment challenges encountered at these plants and an overall improvement in treatment performance and reliability of treatment performance at these plants. These efforts have led to ongoing efforts between DPW personnel and LSU to improve treatment performance and for LSU to develop monthly reports and Process Control Meetings over the last 18 months. These meetings are held during the first week of every month for wastewater and sewer personnel from Department of Public Works (DPW), Sewer Operations (SOGA), and the PI (LSU). The PI has established the following objectives for each meeting.

- (1) Provide a report that quantitatively analyzes wastewater treatment performance in terms BOD₅ (5-day biochemical oxygen demand) and TSS (total suspended solids) of each plant for the month based on daily data of these treatment parameters as well as flow.
- (2) Compares these analyses to monthly regulatory limits (30 mg/L for BOD₅ and 30 mg/L for TSS) from each plant based on the fit of a normal probability distribution for the treatment plant performance data, to illustrate a monthly mean, standard deviation and continuously frequency distribution of compliance/regulatory violation.
- (3) Examine monthly means and standard deviations for each plant for BOD₅ and TSS on a seasonal and annual basis in comparison to regulatory limits.
- (4) Examine wet weather impacts on each plant. The impact on BOD₅ and TSS are examined using wastewater flow data and rainfall data.
- (5) Provide a graded consensus-based scorecard to DPW, SOGA, LSU, and any consultants as to their specific assignments and goals agreed upon from the previous month.
- (6) Provide an open forum for identifying, discussing, debating and developing directions for operational/treatment issues and challenges for all plants
- (7) Finally, develop a set of assignments and goals that include operational and treatment changes for the coming month for DPW, SOGA, and LSU based on (6) and (7) above.

Meeting attendance usually ranges from 15 to 20 individuals with the monthly reports provided in terms of a presentation and as a paper copy to all present. The expertise and participation of everyone from operators to plant supervisors to engineers at DPW and SOGA is considered fundamental at these Process Control Meetings in formulating a strategy for the coming month.

Current status (November 2002): Monthly assessments, evaluations, and analyses from which a monthly Process Control Reports are developed for CTP and STP. An electronic archived copy of each monthly report, and attached drawings, figures and plots in portable document format (pdf) form are provided to DPW for storage and retrieval purposes.

CONCLUSION: CTP and NTP are in reasonably good condition, operations and processes continue to be optimized, and specific issues addressed as the need arises. Despite historical design/construction issues that continually challenge the STP, as well as major equipment issues at STP (i.e. structural failure of over 50% of the trickling filter capacity and trickling filter instability), recent operational and process changes are positive at STP and across DPW. Recommendations for STP need to be implemented. LSU will continue to work with DPW as issues arise for operation, process and control needs, as well as for dry weather flow and wet weather (storm water) flow/quality issues and interactions.

PROCESS CONTROL MEETING

Central WWTP (CTP)

10 January 2002

DPW-SU-LSU

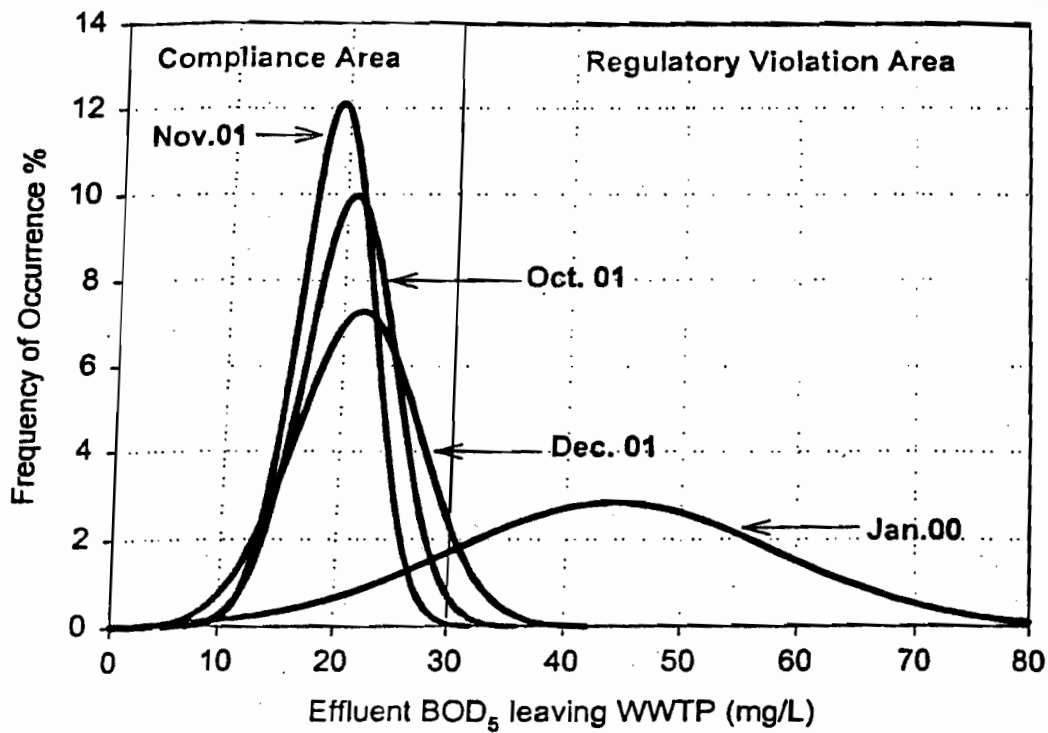
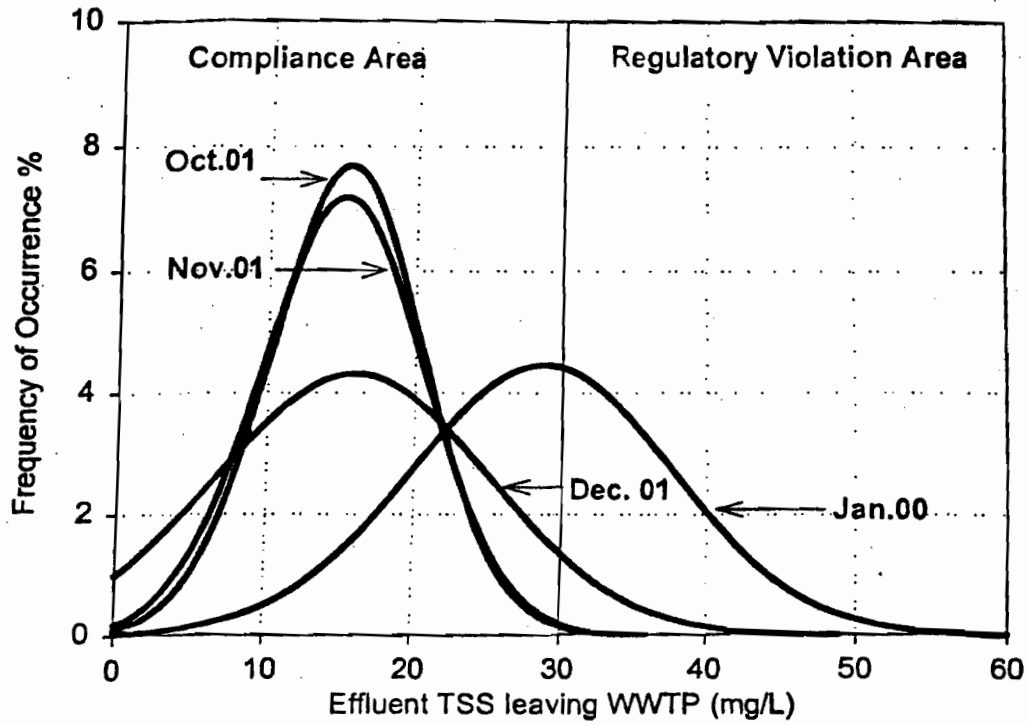
“Optimization of Wastewater Treatment”

Presentation by LSU for Central and South Plant

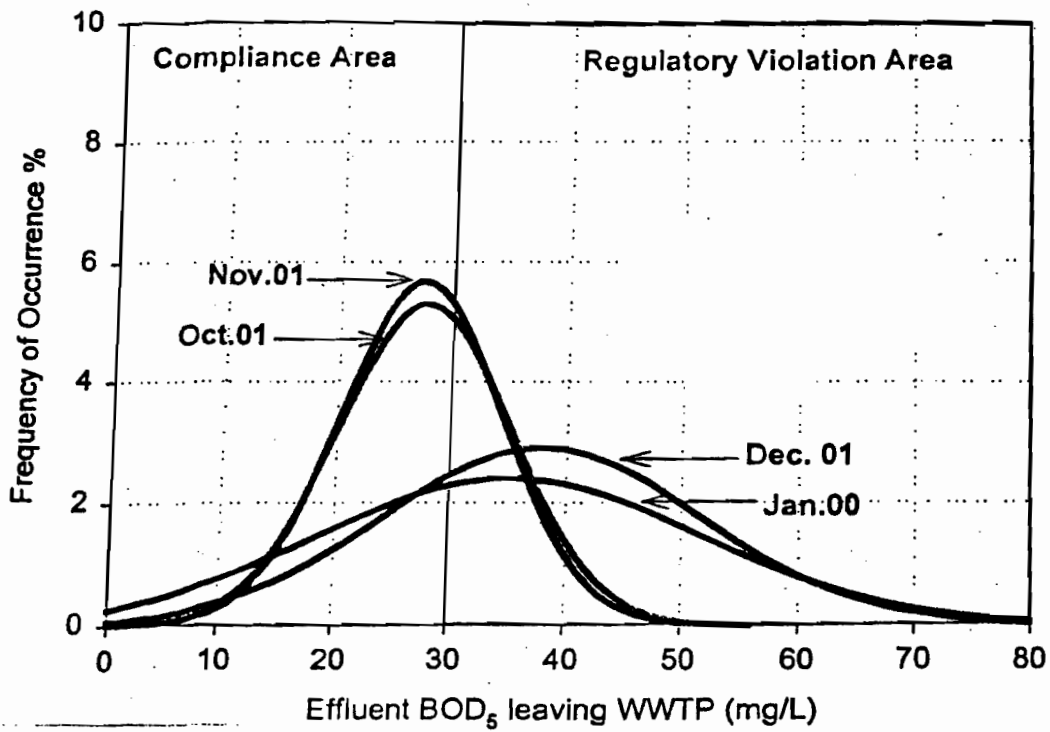
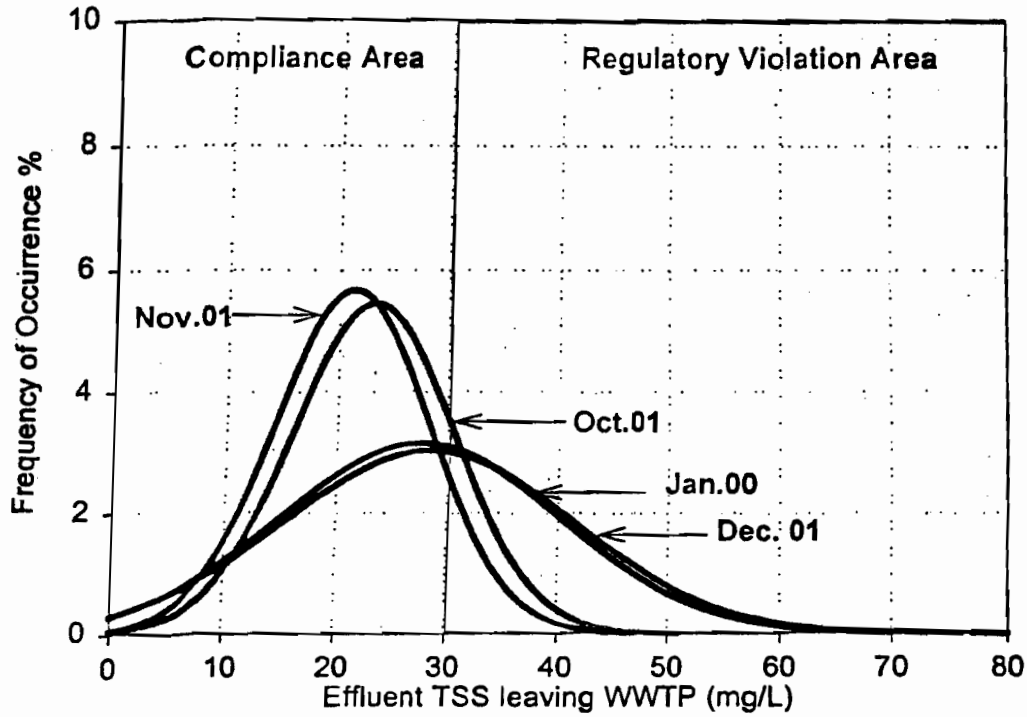
- Report card and grades from November 2001
- Treatment performance for December 2001
- Performance to date in 2001 vs. 2000 vs. 1999
- CODs
- Operations log for the month of December 2001
- Rainfall effect on the plant performance
- Report card from December 2001 and upcoming goals for January 2002

PROCESS MEETING CHECKLIST FOR NOVEMBER 2001:

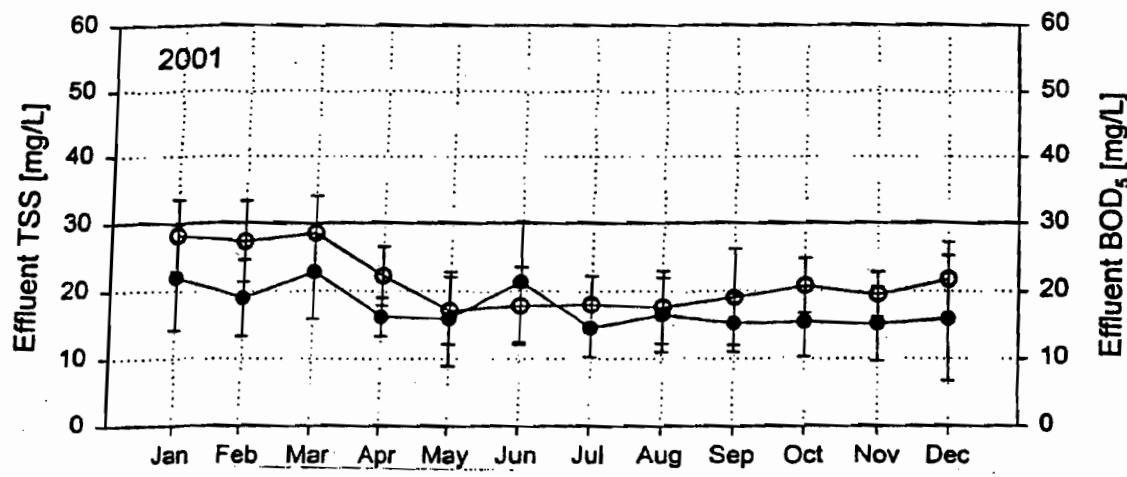
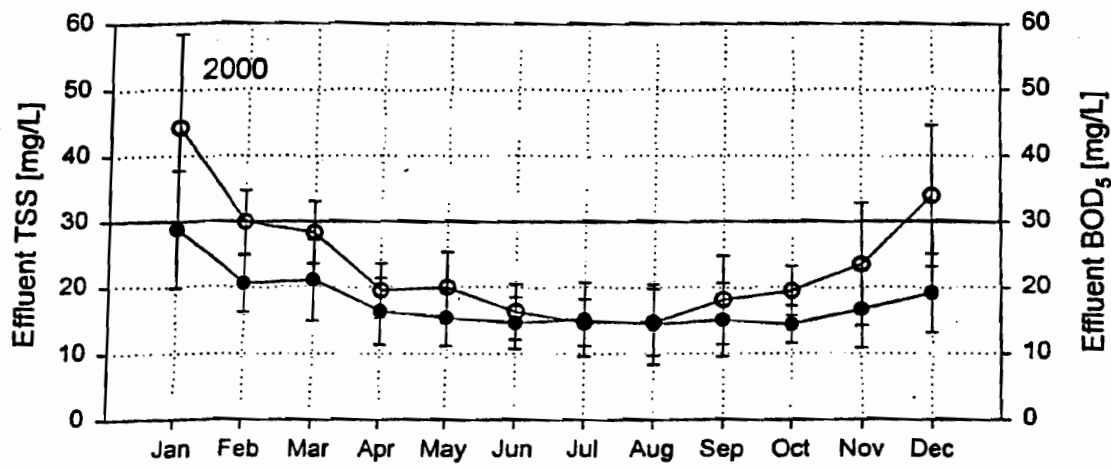
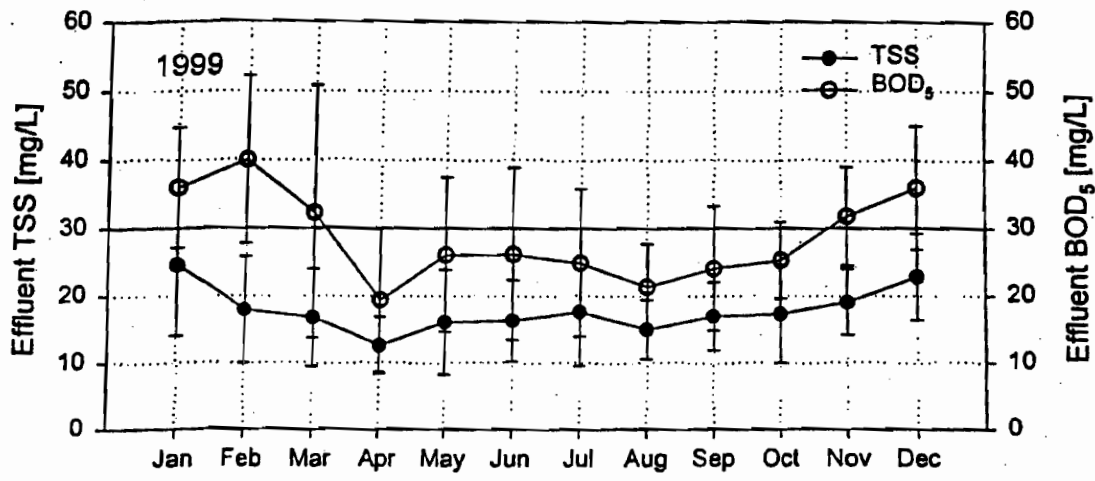
1. Rainfall data – Kent/Sparkle A
2. Gary's snail strainer – Gary A+
3. D.O. /Temperature – David S. C
4. Continue biosolids operations at CTP – Ken A
5. Digester #4 at STP – Kent A
6. TF structural design – Robert/Kent; David W. A
7. Semi for STP – Hugh B
8. Program ORP at STP – David S. A
9. CTP: 20/20 – Ken A
10. STP: 25/25 – Robert C
11. STP: Flushing (rigorous) – Robert A
12. COD – LSU A
13. Vacuum pump repair – John Ward F
14. Begin compiling historical rain data, for 1999 ~2000 – LSU A
15. Coffee/Coke/Cookies/Cups - CCCC



Effluent TSS and BOD₅ distribution for CTP

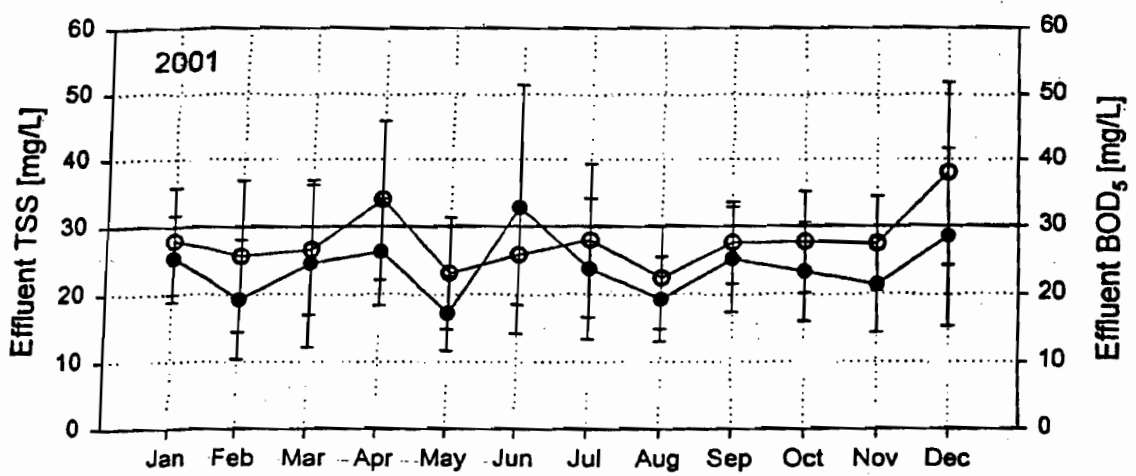
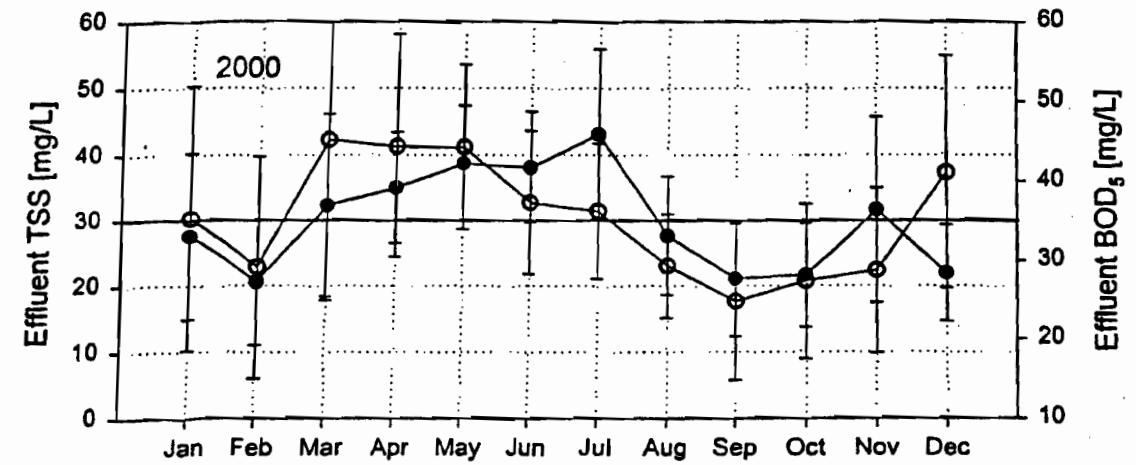
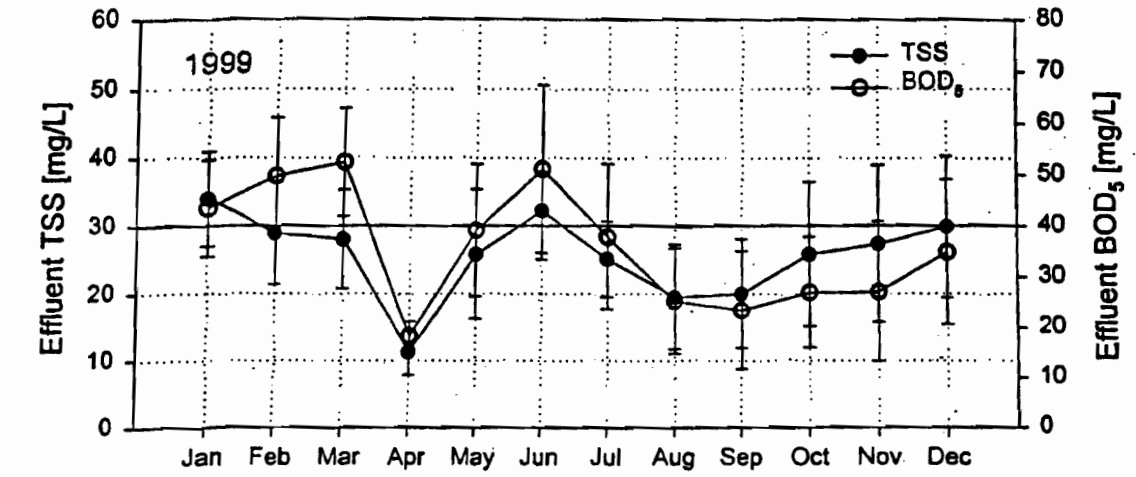


Effluent TSS and BOD₅ distribution for STP

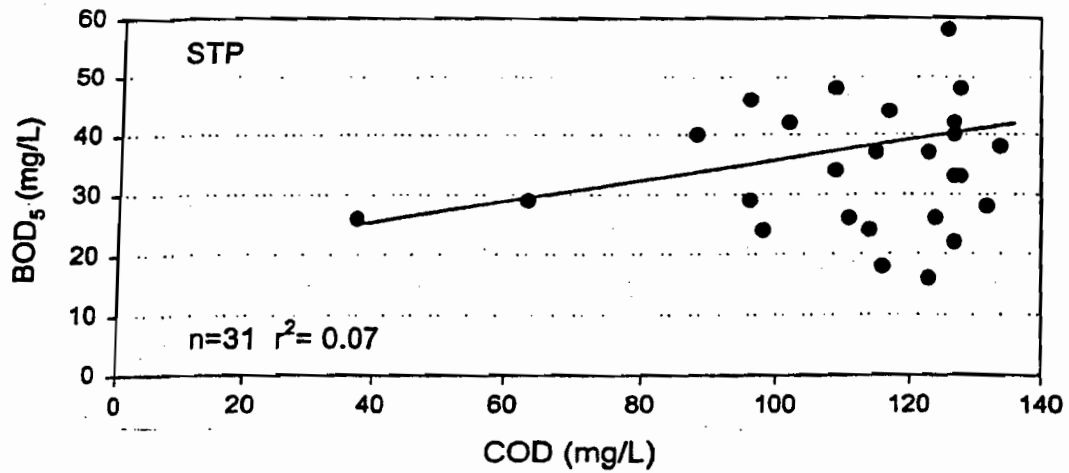
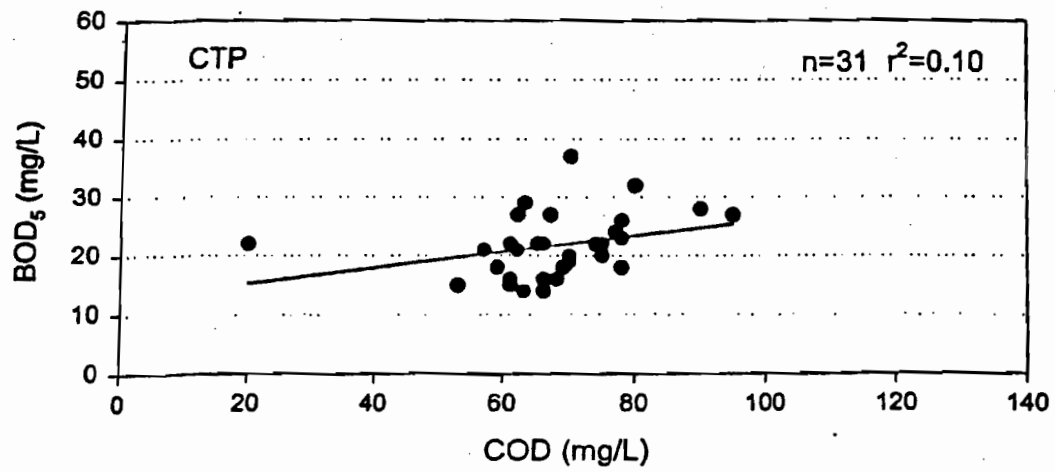
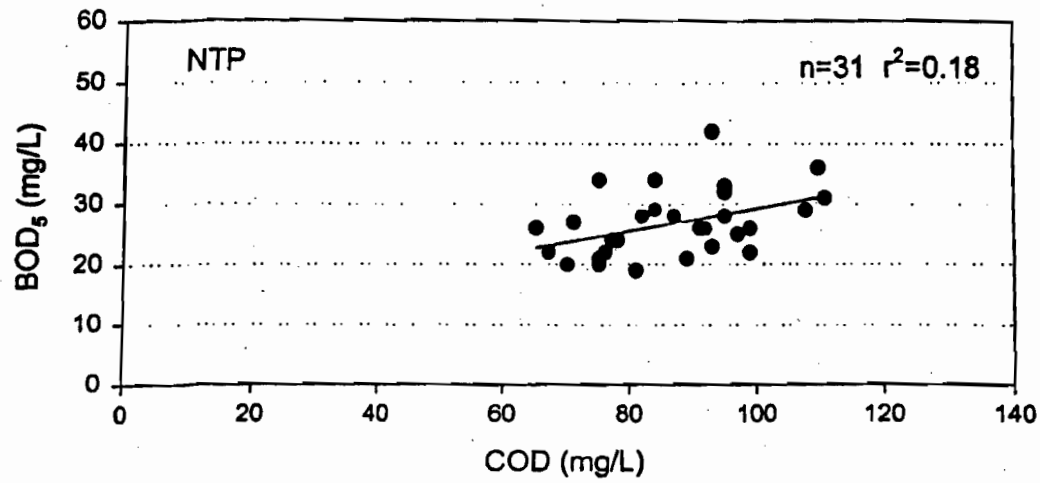


Month

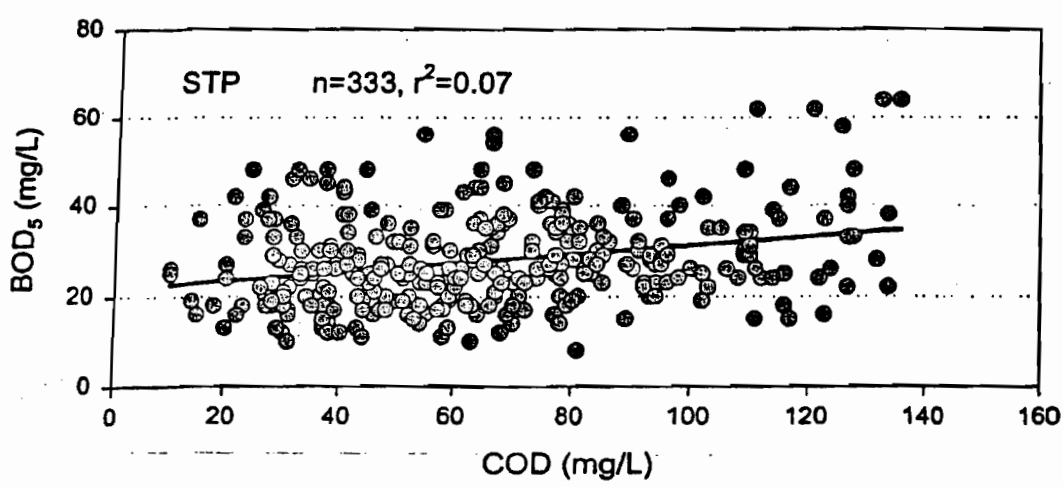
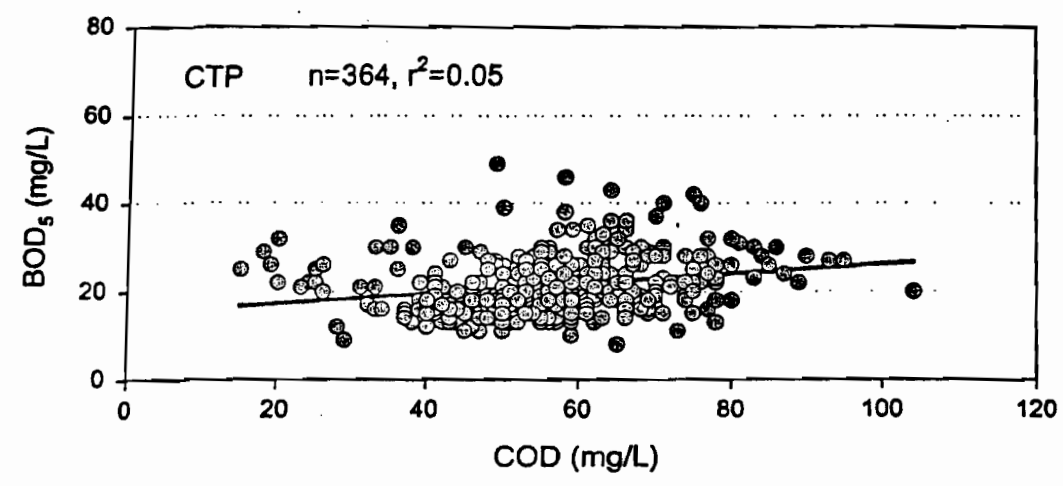
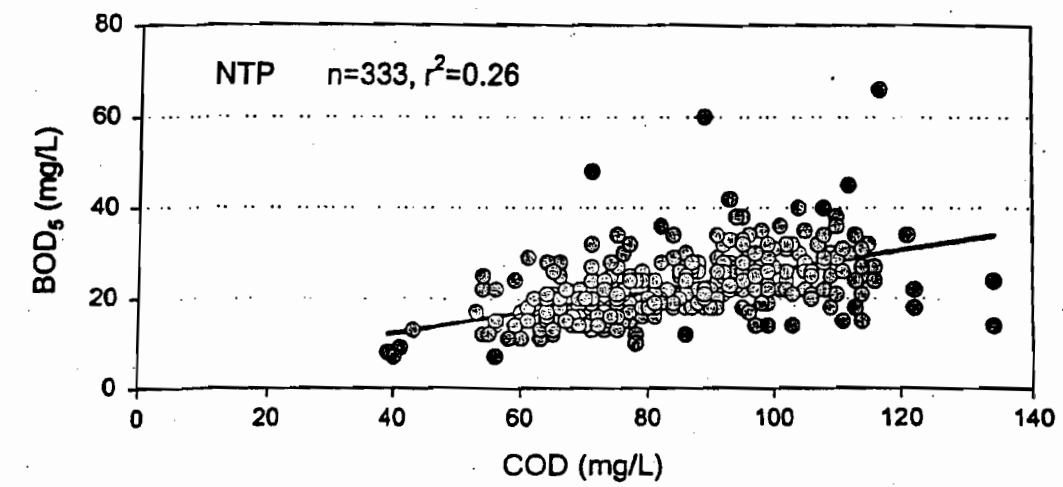
Effluent Trends at CTP in Baton Rouge, LA



Effluent Trends at STP in Baton Rouge, LA



Correlation of effluent COD and BOD₅ for the month of December 2001



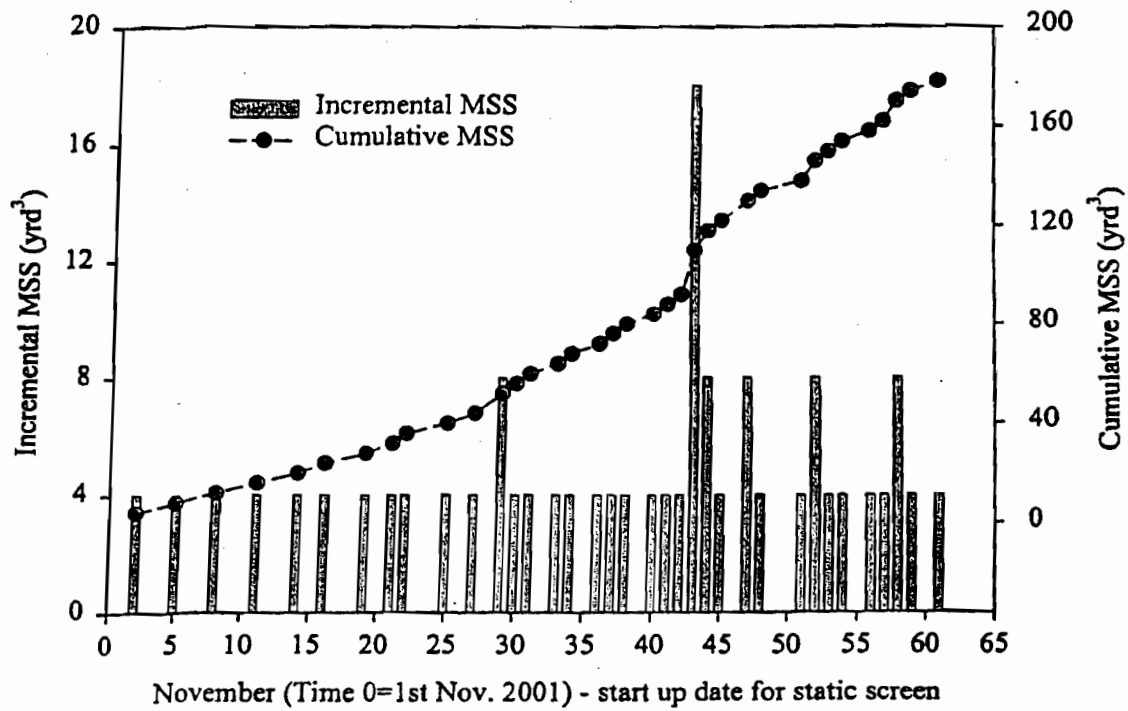
Correlation of effluent COD and BOD₅

CENTRAL TREATMENT PLANT OPERATION LOG – December 2001

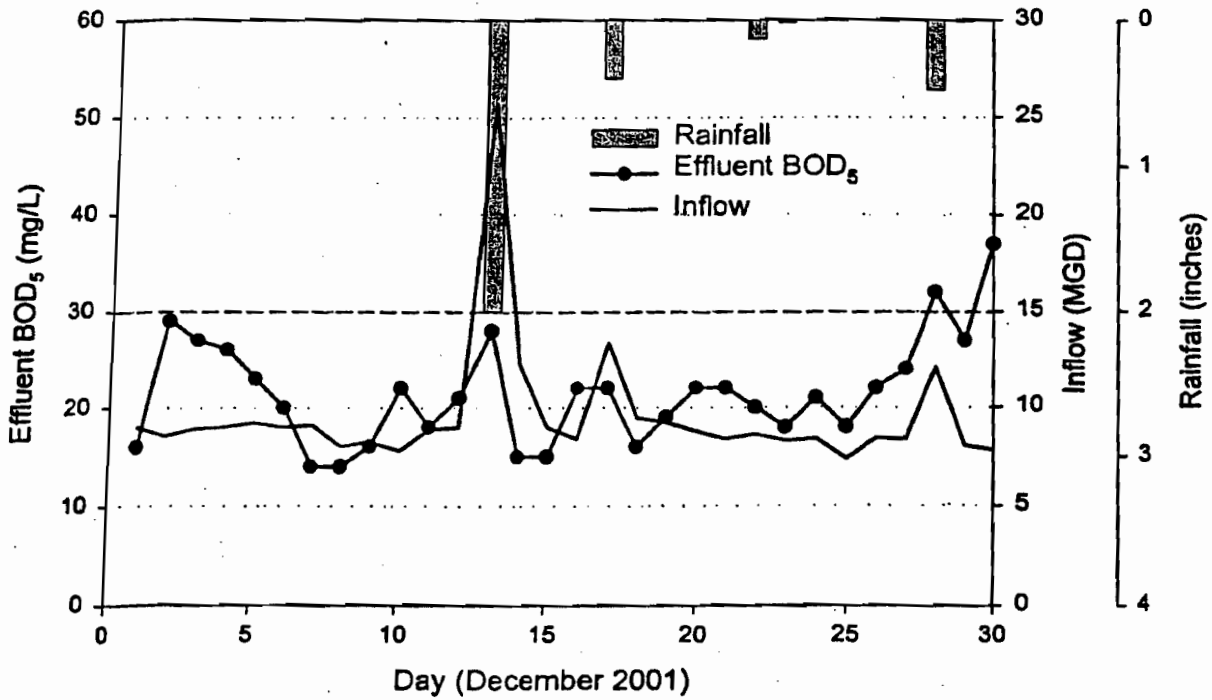
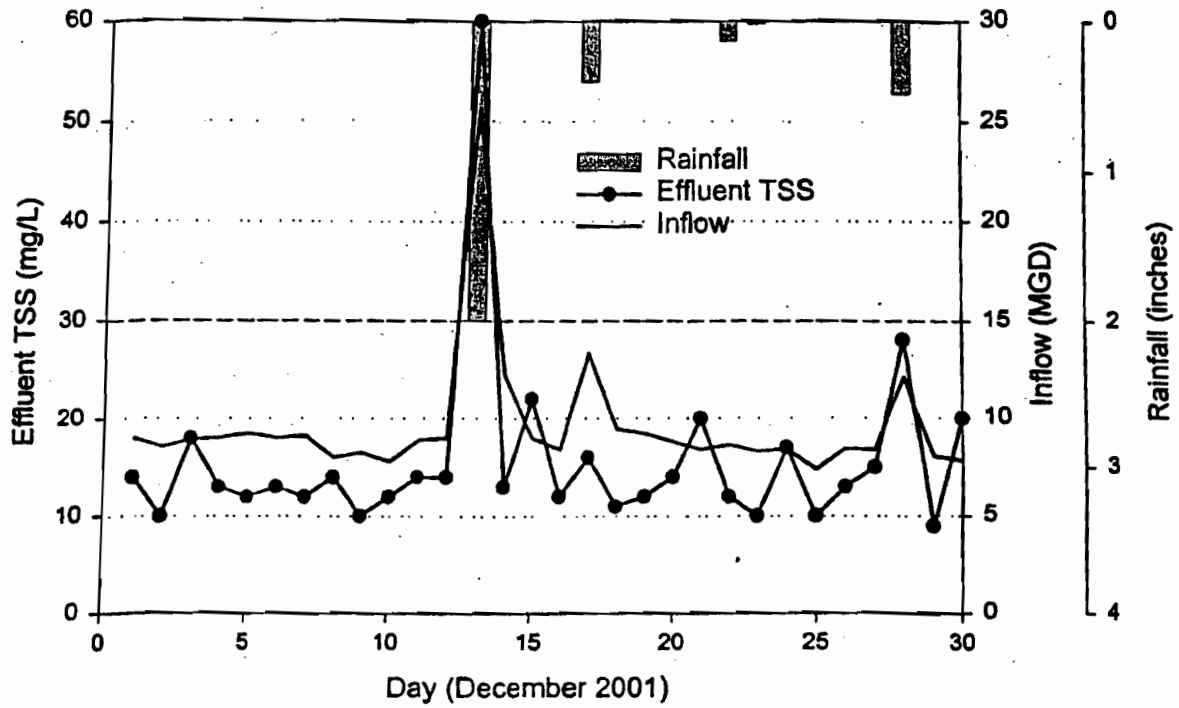
No operational issues that affected treatment.

SOUTH TREATMENT PLANT OPERATION LOG – December 2001

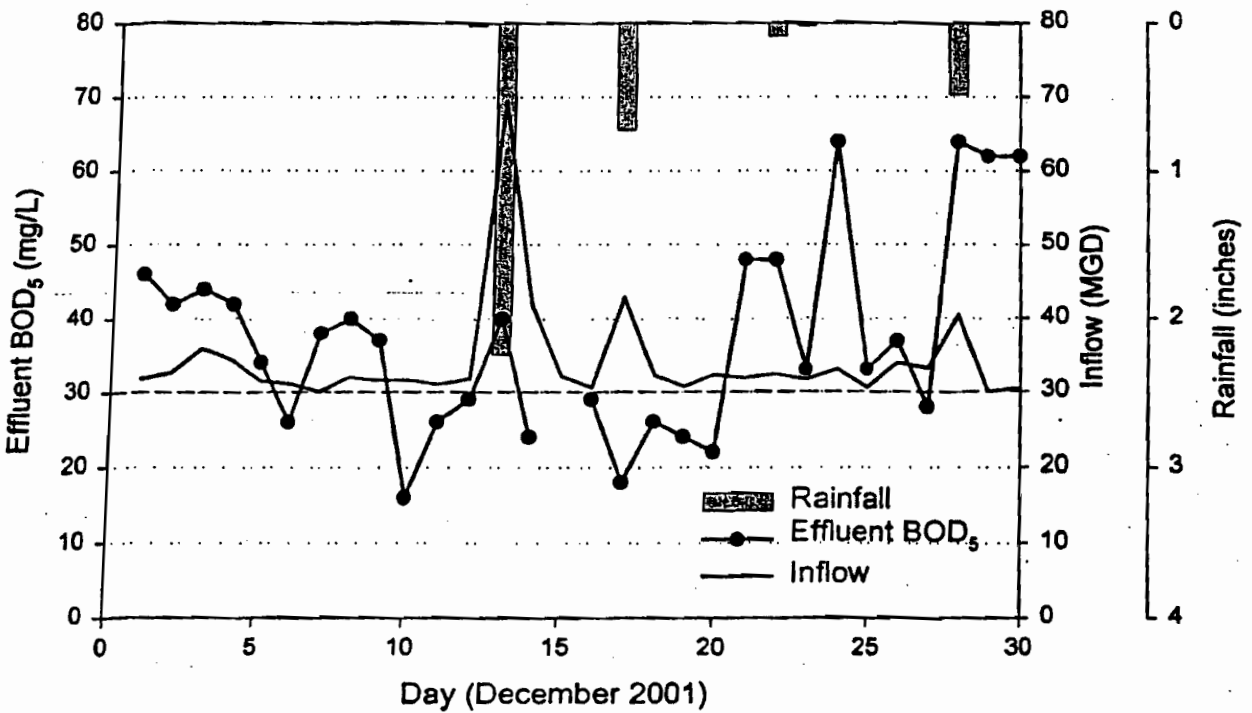
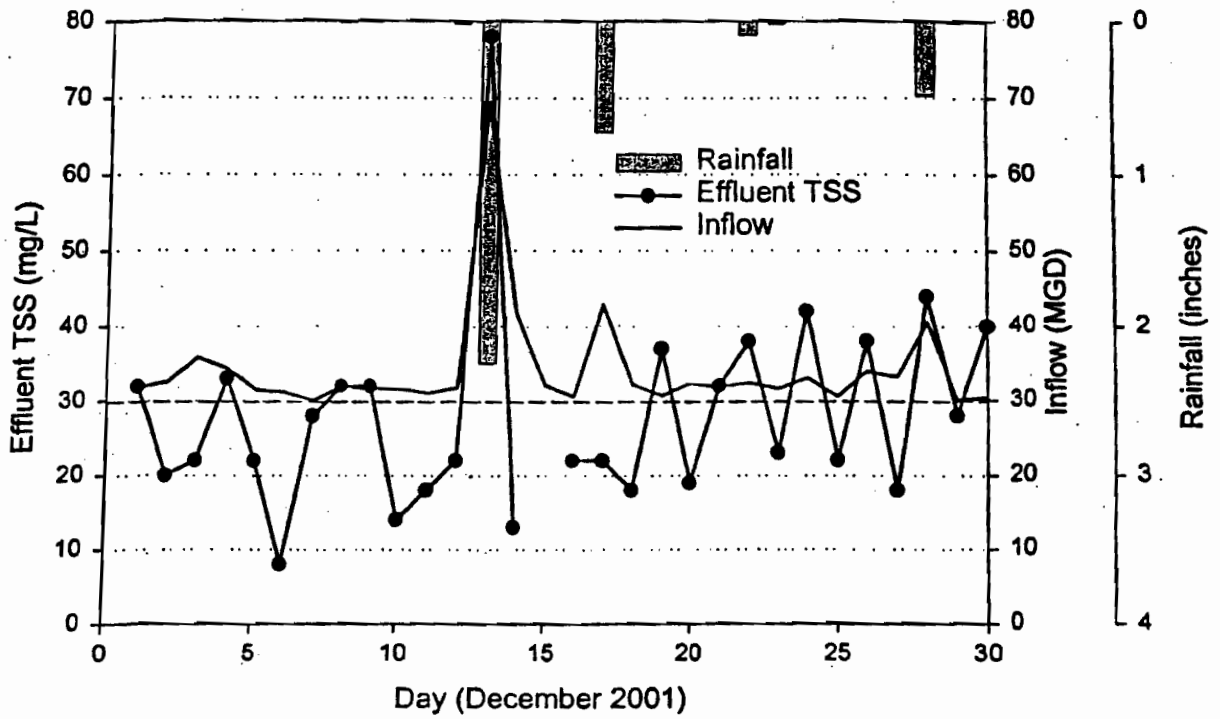
No log provided



Snail/Biomass Recovery as MSS (Metz suspended snails) at CTP



Rainfall effect on the plant performance - CTP (December 2001)



Rainfall effect on the plant performance - STP (December 2001)

PROCESS MEETING CHECKLIST FOR DECEMBER 2001:

1. Rainfall data: Kent/Sparkle
2. Complete yearlong COD analyses: LSU
3. Chlorine issue at STP final clarifiers: Michael
4. Sludge inventory walkthrough @ STP: LSU/DPW
5. Flow monitoring upstream for wet weather (59,1): Ken
6. Trickling filter codes sent by email to CDM: Robert
7. Trickling filter #6 structural repair decision: DPW/Contractor
8. Rating for trickling filter drive motors: CDM
9. Cookies/Coffee/Coke/Cups: Scooter
10. Garcia to report on sludge loads: Garcia
11. MSS data collection and plotting: Gary/LSU
12. Operator's discretion to place PCs back on line at CTP: Ken/Gerald

Appendix E

BUDGET MESSAGE FROM THE MAYOR-PRESIDENT

November 5, 2002

Honorable Members of the Metropolitan Council
and the People of Baton Rouge:

I am pleased to present to you the 2003 East Baton Rouge City-Parish *Annual Operating Budget*. Fiscal accountability has been and continues to be a priority of this Administration. As you spend time in reviewing our proposed budget, I invite you to join me in making certain that quality public services are delivered to our community and the citizens in the most cost-effective manner possible.

Recent sales tax revenues and appropriate reductions in expenditures during 2002 have seemingly allowed for modest increases in this year's budget. However, rising health care costs and retirement contributions, along with salary increases from regular merit and longevity raises, have restricted us to preparing a budget with little or no growth for the year 2003.

To insure effective and efficient management and skilled governance of our budgeting process, I have established the Mayor's Commission on Revenues and Expenditures (MCORE). This talented panel, comprised of members of the Baton Rouge community who reflect a diverse group of representatives from private industry, state and local government, the Metropolitan Council, labor, the clergy, education, the media, and citizens at-large, has been charged with evaluating our processes and making recommendations to improve the financial soundness and future of the parish and the general quality of life of its citizens. The MCORE participants are entitled to our sincere gratitude for their generous contribution of time and talent.

The redevelopment of the heart of our city and the strong growth and development opportunities throughout the parish, along with the stabilization and emerging improvement of our economy, are calming reminders that there are many positive things taking place in the City of Baton Rouge and Parish of East Baton Rouge.

I again ask for your support as you read and review the detail of this budget and as we meet the challenges and embrace the opportunities that await us in the coming year of 2003.

ECONOMIC OUTLOOK

Projections for many of our most important revenues, such as sales taxes, are based on estimates of future economic conditions. The economic outlook for the coming year affects estimates of revenue, which, in turn, dictate the amount of funds available for spending. This message begins, therefore, with excerpts from the *Louisiana Economic Outlook*, published annually by the College of Business Administration at Louisiana State University and the College of Business Administration at Southeastern Louisiana University.

The 2002 Louisiana Economic Outlook projects the following conditions for Baton Rouge's four-parish Metropolitan Statistical Area (MSA) during 2003-2004:

The Baton Rouge MSA—comprised of East Baton Rouge, West Baton Rouge, Livingston, and Ascension Parishes—is the second largest in the state, with 311,700 non-agricultural workers in 2002. The petrochemical industry is a huge factor in this MSA's economy. Several very large chemical plants are located here, and Baton Rouge is home of the nation's largest refinery—ExxonMobil—located just north of the state capital building.

BUDGET MESSAGE FROM THE MAYOR-PRESIDENT

SPECIAL REVENUE FUNDS

The 2003 budgets for Special Revenue Funds increased by \$5,943,390 or 5.87% from the 2002 funding level of \$101,220,050. This is primarily the result of an increase in federal and state grant assistance. Grant receipts are projected to be \$4.4 million more than last year due to increases in Workforce Investment and Emergency Preparedness grant funds. Additionally, pay adjustments for Library and EMS personnel discussed previously in this message resulted in increases to those respective budgets. The budget for the Library also includes eight additional positions for staffing of the Zachary Branch scheduled to open in November 2003.

DEBT SERVICE FUNDS

Debt service requirements for 2003 increased \$396,690 over the prior year. This is the result of annual fluctuations in structured payments on bonds sold in prior years. This amount is lower than previously anticipated as a result of savings from refinancings during 2002, which are discussed later in the message under "Debt Management."

CAPITAL PROJECTS FUND

The *Annual Operating Budget* includes capital projects that are funded on a pay-as-you-go basis, other than those financed through Enterprise Funds. Capital improvements funding for the library system will decrease by \$1.1 million since major expansion projects are being completed.

General Capital Expenditure Fund

In the 2002 budget, a new fund was created entitled "General Capital Expenditure Fund," which is funded by transfers from the General Fund totaling \$3,427,020. The 2003 budget continues our investment in infrastructure improvements and capital equipment with an appropriation of \$6,163,730 funded from our General Fund surplus. This includes \$2,948,000 for infrastructure and capital improvements throughout the parish, including replacement of the Evangeline Street Fire Station; \$1,500,000 for the replacement of 80 police vehicles; \$1,250,000 for major building improvements, including a new facility at the Baker Lot and several chiller retrofits; \$377,400 for miscellaneous street and road improvements; \$50,330 for computer hardware and furnishings in DPW and City Court; and \$38,000 for two replacement vehicles in the City Constable's Office.

ENTERPRISE FUNDS

Comprehensive Sewerage System Fund

The Comprehensive Sewerage System Fund is the largest of the Special Funds. Operations of the sewer system are funded from four main revenue sources. These include a one-half percent sales and use tax, sewer user fees, sewer impact fees, and a \$4 million subsidy from the General Fund supported from gaming revenues. These financial resources provide for the operation and maintenance of the parish-wide system, which includes three major treatment plants and over 2,000 miles of sewer lines.

The 2003 proposal for the system reflects an increase from the 2002 budget of \$1.96 million or 2.75%. This funding level is consistent with the funding allowance included in the long-range financial model for the sanitary sewer improvement program required under the consent decree. The increases are mostly attributable to additional funding in the amount of

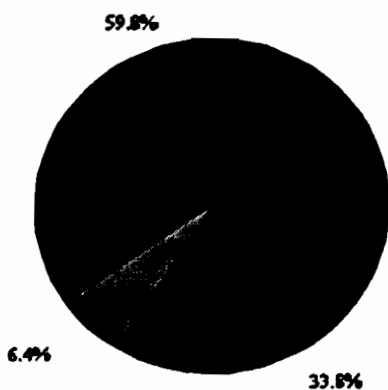
BUDGET MESSAGE FROM THE MAYOR-PRESIDENT

\$500,000 for the Asset Management Program, \$468,000 for repair and maintenance of plant equipment, \$300,000 for pump station wet well cleaning, \$250,000 for emergency sewer line point repairs, \$557,000 to a private vendor for user fee billing and collection costs, and \$509,000 for post employment benefits that are being allocated to various funds for the first time in 2003. These increases are partially offset by a scheduled reduction in debt service requirements of \$849,000. Proceeds from the issuance of debt will be used to fund the Sanitary Sewer Overflow Corrective Action Plan, which is discussed later in this message.

Total financial resources for the sewer system operating budget and the uses of these funds are illustrated in Figures 5 and 6. The General Fund category includes the General Fund subsidy, interest earnings, and other miscellaneous fees. Any excess sources are transferred to the Sewer Capital Improvements Program.

FIGURE 5

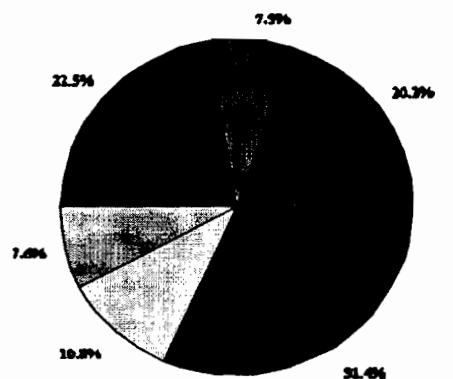
**SEWER OPERATIONS
SOURCE OF FUNDS
\$88,542,280**



User Fees
 General Fund/Other
 Sewer Sales Tax

FIGURE 6

**SEWER OPERATIONS
USE OF FUNDS
\$73,267,350**



Wastewater Treatment
 Debt Service
 Administration/Other
 Wastewater Collection
 Preventive Maintenance
 Depreciation

CAPITAL IMPROVEMENTS

We are in the process of completing a number of capital improvements in our parish, and some very significant projects will begin in the near future. Details of these items can be found in the section of the budget entitled "Capital Improvement Programs." However, I would like to provide an update on some of these projects.

SEWER CAPITAL IMPROVEMENT PROGRAMS

On March 14, 2002, the City-Parish entered into a new consent decree with the United States Environmental Protection Agency (EPA) and the Louisiana Department of Environmental Quality (DEQ) relative to sanitary sewer overflow (SSO) improvements in East Baton Rouge Parish. This new consent decree replaces the one that East Baton Rouge Parish has

BUDGET MESSAGE FROM THE MAYOR-PRESIDENT

operated under since 1988. The new consent decree requires the City-Parish to make sewer infrastructure improvements to reduce sanitary sewer overflows. This consent decree prevents the federal government from imposing potential penalties of \$43 million on the City-Parish and allows until December 31, 2014, for completion of the Sewer Capital Improvements Program. The execution of this consent decree by all parties also avoided a protracted and expensive lawsuit.

Program Description

The objective of the Sanitary Sewer Improvement Program, and in particular the SSO Corrective Action Plan, is to identify the most cost-effective methods of controlling overflows in the sewer collection system, while providing continuous service to all existing customers and potential future customers. This program will provide the City-Parish with the ability to protect public health through the control of SSOs, improve customer service, provide capacity for future growth, and implement a long-term maintenance program to protect existing and future capital investments. Goals of the program include:

- # Protecting the public health through the control of sewer overflows, back-ups, and stoppages, thereby keeping sewage out of homes and yards.
- # Reducing claims against the City-Parish resulting from backups, overflows, and stoppages.
- # Complying with national, state, and local laws including the Clean Water Act, EPA Region Six SSO policies, and Louisiana DEQ Policies.
- # Developing a comprehensive hydraulic sewer model of the sanitary sewer gravity collection system and the pressurized sewer transmission system for the purpose of assessing the capacity of the system and evaluating corrective actions and future capacity requirements.
- # Reducing peak wet weather flow factors in a cost effective manner through the development of inspection procedures and design criteria for sewer rehabilitation, relief sewers, and new sewer construction.
- # Developing procedures for inspecting and ranking areas in need of rehabilitation.
- # Determining the cost effectiveness of current and future sewer and manhole rehabilitation projects through the collection of pre-rehabilitation and post-rehabilitation flow data.
- # Resolving dry- and wet-weather flow issues in order to provide sewer and treatment capacity for future growth.

A financing model has been implemented to fund the Sanitary Sewer Improvement Program. A 10% sewer user fee increase will go into effect on January 1, 2003, and an annual 4% user fee increase will be levied thereafter for the life of the program. The City-Parish will continue to seek low interest loans and federal and state grants to subsidize the program.

This budget will fund the following programs:

- Operations and Maintenance - Continue the preventive maintenance program. The 2003 operating budget will provide \$2,000,000 for this program and \$1,207,940 for repair and maintenance of plant equipment.

BUDGET MESSAGE FROM THE MAYOR-PRESIDENT

- Sewer Rehabilitation - Rehabilitate existing sewer infrastructure in selected areas. Emphasis will be placed on the inspection of sewers to determine priorities of needs, concentrating on structural rehabilitation, and the establishment of a cycle of inspection and renewal/replacement.
- Capital Improvements - Construct facilities to contain sanitary sewer overflows until they can be released into the system for treatment, and construct additional conveyance facilities to avoid overloading during peak wet weather flow conditions. Upgrade and construct new pump stations and force mains to provide the additional capacity required during wet weather conditions. The estimated cost to implement the SSO construction program is \$618 million.

ONE-HALF PERCENT ROAD AND STREET IMPROVEMENT PROGRAM

An election was held on November 17, 2001, in which our citizens approved the renewal and continuation of the one-half percent road and street improvement tax that has been in effect since 1990. The tax was extended for 5½ years beginning July 1, 2002, with 40% dedicated for street rehabilitation and 60% dedicated for street construction.

The rehabilitation portion of the tax will generate an estimated \$65,500,000 that will allow for the rehabilitation of approximately 275 miles of streets and roads. Since the inception of the program, approximately 1,450 miles or 85% of the parish's street and road system have been rehabilitated.

The construction portion of the tax will generate an estimated \$98,250,000 that will provide additional funds for the ten projects approved during the last election and also allow for the construction of seven new projects. The projects and their estimated costs are as follows:

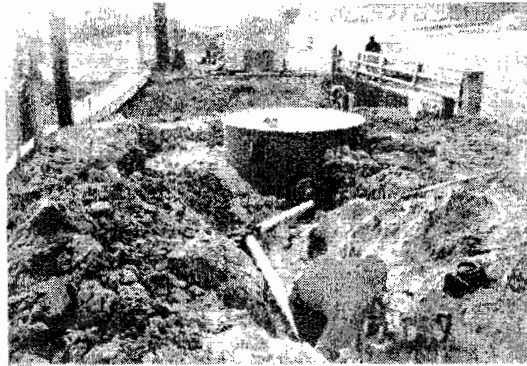
<u>Street</u>	<u>Location</u>	<u>Cost</u>
Completion of 10 Existing Projects		\$19,000,000
George O'Neal Road	Jones Creek Road to O'Neal Lane	6,250,000
O'Neal Lane	George O'Neal Road to South Harrell's Ferry Road	13,950,000
Comite Drive	Plank Road to Comite River	17,550,000
Lobdell Avenue	Jefferson Highway to Goodwood Boulevard	5,500,000
South Harrell's Ferry Road	South Sherwood Forest Boulevard to Millerville Road	22,500,000
Picardy Avenue	Essen Lane to Bluebonnet Boulevard	4,000,000
South Choctaw Drive	Flannery Road to Central Thruway	<u>9,500,000</u>
TOTAL PROJECT COSTS		<u>\$98,250,000</u>

Under the first five-year construction program, the following streets were completed:

- Bluebonnet Road Realignment (I-10 to Airline Highway)
- Nicholson Drive Realignment (Skip Bertman Drive to Burbank Drive)
- South Choctaw Drive Improvement (Monterrey Drive to Dumont Drive)
- Stumberg Lane Improvement (Jefferson Highway to Coursey Boulevard)

What is SSO Action Plan?

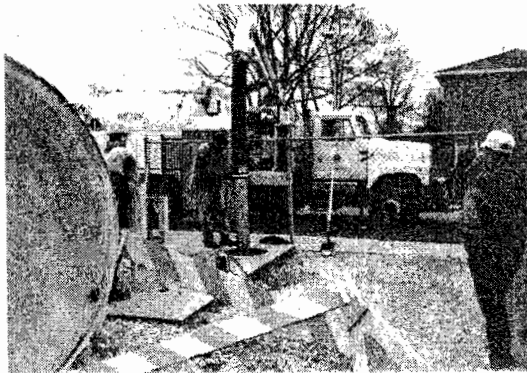
A Sanitary Sewer Overflow is the unintentional release of sewage from a collection system before it reaches the treatment plant. The City-Parish is negotiating an agreement with the federal government that will involve extensive rehabilitation of the current Sewer System and construction of new facilities in order to minimize Sanitary Sewer Overflows.



City of Baton Rouge Parish of East Baton Rouge

Sanitary Sewer Overflow Action Plan

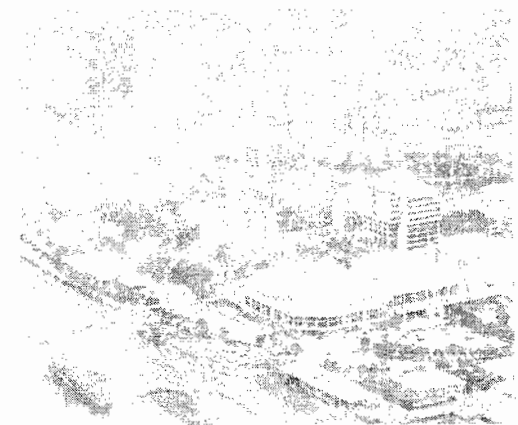
2001



System Fact Sheet

- 1,600 miles of Sewer Lines
- 440 pump stations
- 35,000 manholes
- 3 treatment plants-combined capacity 320 million gallons/day
- 400,000 parish population
- 470 square miles in parish
- Some sewer lines date back to late 1800's

Program Update



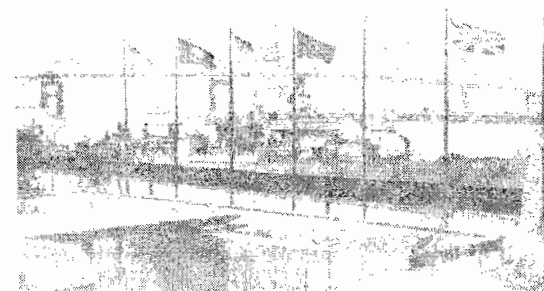
Appendix "A"

Accomplishments

- Improved treatment plants to secondary standards.
- Expanded treatment plant capacity from 40 million gallons per day to 320 million gallons per day.
- Eliminated 134 neighborhood wastewater treatment plants.
- Utilized contractors to repair sewer cave-ins.
- Implemented the Liberty Pump Program to reduce backups into homes.
- Implemented the Asset Management Program, which is a proactive method of evaluating the condition of the Sewer System, in order to spend our funds on projects that will have the maximum benefit.
- Contracted with the Army Corps of Engineers to value engineer the SSO Action Plan
- Assigned each treatment plant its own account number to improve accountability.
- Managed operating budgets effectively to make more funds available for construction.

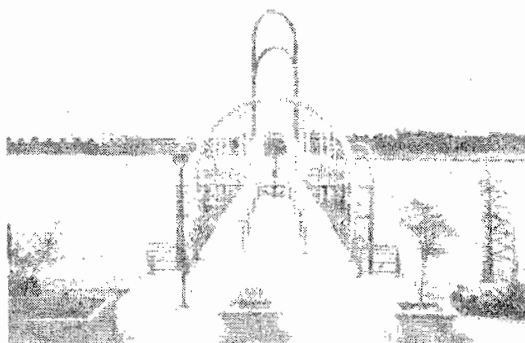
Current & Future Efforts

- Finalize the Consent Decree.
- Select SSO Alternative that has the best combination of operation and maintenance, sewer rehabilitation and capital improvements.
- Determine the best way to pay for the selected alternative.
- Implement a preventive maintenance plan for the collection and treatment systems.
- Continue our outreach efforts to keep the citizens informed about the sewer program.



Program Goals

- Preserve Our Citizens' Health.
- Improve Customer Service.
- Protect Water Quality.
- Improve Sewer Infrastructure.
- Implement Long-Term Maintenance Program.
- Determine The Most Cost-Effective Method Of Controlling SSOs.
- Provide Capacity For Future Growth.





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[Metro 21 Channel Schedule](#)

[East Baton Rouge Parish Library](#)

[Employment Opportunities](#)

[The Character First Program](#)

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[The B.R. Clean Air Coalition](#)

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Welcome to the official web site of the City of Baton Rouge and the Parish of East Baton Rouge. Our mission is to connect you to information, services, and the people who represent the Metropolitan Government of the City/Parish of Baton Rouge, Louisiana.

[E.B.R. Parish Wastewater Improvement Program Past * Present * Future Consent Decree](#)



[Supplemental Environmental Projects](#)



[Transportation Improvements & Street Rehabilitation Program 2002-2007](#)

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10/21/02 2003 Brownfields [Grant Proposals Now Underway](#)

9/4/02 [Flood Awareness Facts-Flood Warning Program](#) for EBR Parish

8/26/02 [Centroplex Convention Center Groundbreaking Ceremony](#)

You are *virtual citizen* number **8 8 4 2 7 7** on Baton Rouge's official web site.

Supplemental Environmental Projects (SEPs) Public Information / Fact Sheet

The following information was made available to the public as a new item in December 2002 on the official website of City/Parish of East Baton Rouge:

The City/Parish Department of Public Works will oversee the design and construction of SEPs in eight subdivisions:

- Donwood
- Oak Manor
- Pleasant Hills (Section 1)
- Green Acres
- Sharon Hills
- Cedar Glen
- Pleasant Hills (Section 3)
- Stumberg Lane

What is a Supplemental Environmental Project?

The United States Environmental Protection Agency (EPA) requires owners of Publicly Owned Treatment Works (POTWs) like the City of Baton Rouge and Parish of East Baton Rouge (City/Parish) to fully comply with all Federal and State environmental laws and regulations, and to pay any penalties when such laws or regulations are violated. However, in order to further protect and enhance the overall community's public health and the environment, the EPA may allow certain environmentally beneficial projects, or Supplemental Environmental Projects (SEPs), to be included as part of the penalty settlement. **SEPs are projects voluntarily undertaken to provide some additional level of public health or environmental benefit** that is usually unrelated to the non-compliance violation.

Why are we doing these projects?

In order to meet the requirements of the Federal Clean Water Act (CWA) and avoid significant fines and penalties, the City/Parish has entered into a Consent Decree with the U.S. Environmental Protection Agency and the Louisiana Department of Environmental Quality (LDEQ). **SEPs will be implemented in the above listed subdivisions as part of this Consent Decree.**

What will actually be built?

Currently, the sanitary sewerage facilities in these areas consist of individual septic tanks at each residence, which are discharged to local ditches and streams (individually, or through piped collection systems), which ultimately drain into the Comite and Amite Rivers. The SEPs will eliminate these discharges to local drainage systems and **redirect this flow through new sewer lines to existing or new pump stations** – eventually to be treated at the City/Parish treatment plants.

What are the benefits?

By eliminating these septic tank discharges to neighborhood waterways, **a localized potential pollution source is eliminated** (the nutrient loading

from the septic tank effluent which degrades water quality) and a **source of potential pollution is removed** (from upsets or inadequate treatment by the septic tank). Additionally, these SEPs will also improve the air quality in the affected and surrounding neighborhoods by eliminating offensive odor point sources.

What areas will be affected?

The eight subdivisions to be included in the SEPs were combined into four projects. The projects, their location, and the current effluent receiving stream are listed below.

Projects	Location	Current Receiving Stream
Donwood / Oak Manor	Florida Blvd. east of Flannery Rd.	Lively Bayou
Pleasant Hills / Green Acres	Foster Rd. north of Hooper Rd. and east of Cypress Bayou	Cypress Bayou
Sharon Hills / Cedar Glen / Pleasant Hills	Hooper Rd. west of Cypress Bayou	Cypress Bayou
Stumberg Lane	adjacent to Stumberg Lane	Jack's Bayou

When will these projects be implemented?

The expected construction start and finish dates and the estimated cost for each of the four projects is listed below.

Projects	Expected Start of Construction	Expected Finish of Construction	Estimated Cost
Donwood / Oak Manor	March 2003	March 2004	\$125,000
Pleasant Hills / Green Acres	June 2003	June 2004	\$250,000
Sharon Hills / Cedar Glen / Pleasant Hills	June 2003	August 2004	\$650,000
Stumberg Lane	March 2003	March 2004	\$100,000

What is the current status of these projects?

An update on the status of the projects is provided below:

Donwood/Oak Manor

Construction is expected to start in March of 2003 and to be completed in approximately twelve months. Engineering Design for this project is being performed by City-Parish engineers and is nearly complete.

Pleasant Hills/Green Acres

Construction on this project is expected to start in June 2003 and take approximately one year to complete. C-K Associates Inc. was selected to design the project, and will provide topographical surveys, preliminary drawings, right-of-way surveys and maps and the final project contract documents. The preliminary drawings and topographical survey portion of this contract is 95% complete.

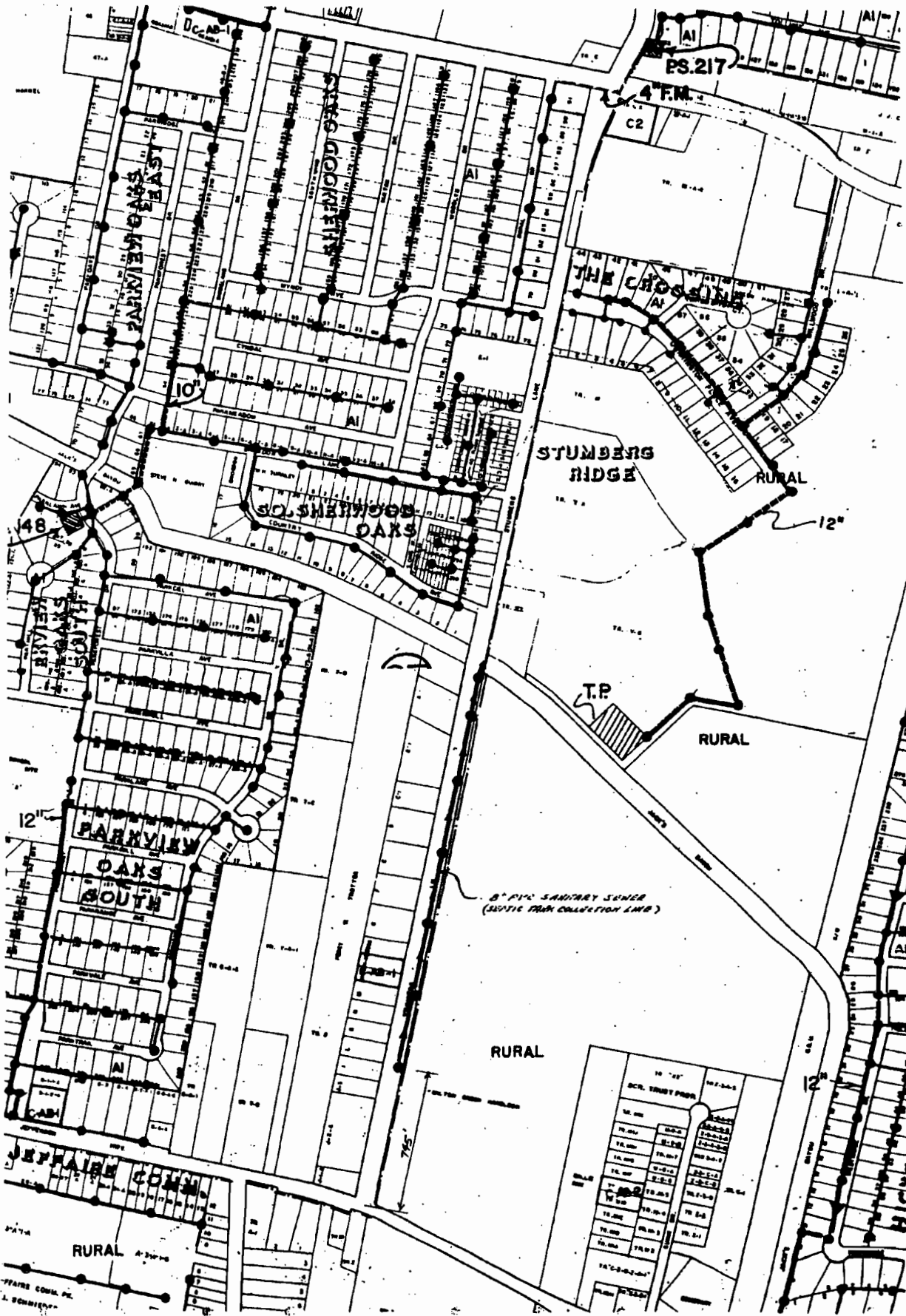
Sharon Hills/Cedar Glen/Pleasant Hills

C-K Associates Inc. is also providing similar engineering services for this project. The preliminary drawings and topographical survey portion of this contract is 95% complete. It is anticipated that construction will begin in June 2003 and be completed in August 2004.

Stumberg Lane

Construction is expected to start in March of 2003 and be completed in one year. Engineering design is being performed by City- Parish engineers and is almost complete.

For more information, see Consent Decree, Exhibit J – Supplemental Environmental Project Plan Requirements on this City/Parish website.



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THE CROSSING

STUMBERG RIDGE

RURAL

30 SHERWOOD OAKS

RURAL

PARKVIEW OAKS SOUTH

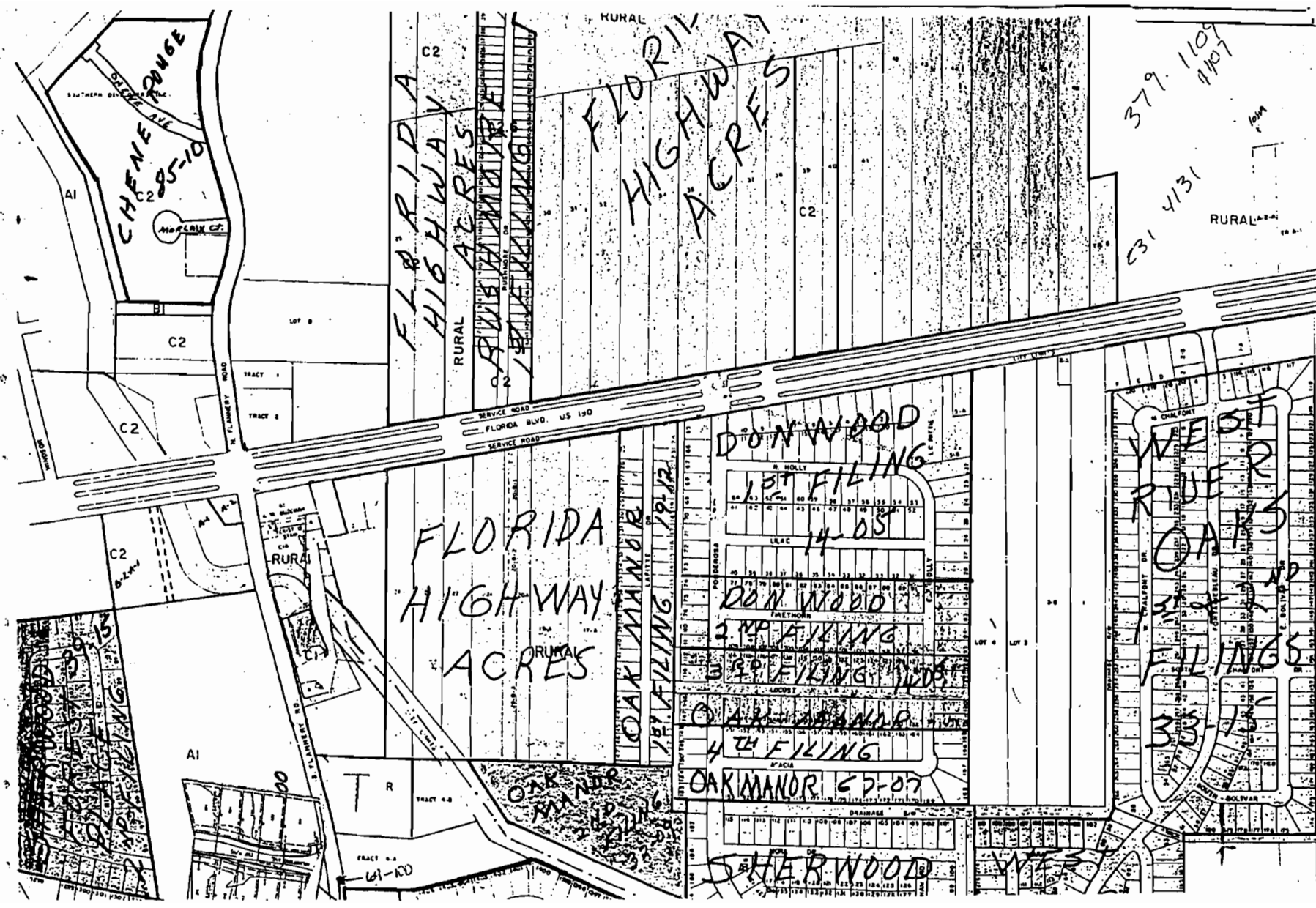
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DON WOOD
1ST FILING
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DON WOOD
2ND FILING
3RD FILING

OAK MANOR
4TH FILING
OAK MANOR 67-07

WEST RIVER OAKS
33-15
FILLINGS

SHERWOOD

VINES

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OAK MANOR 1ST FILING

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TRACT 4-A

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TRACT I

TRACT II

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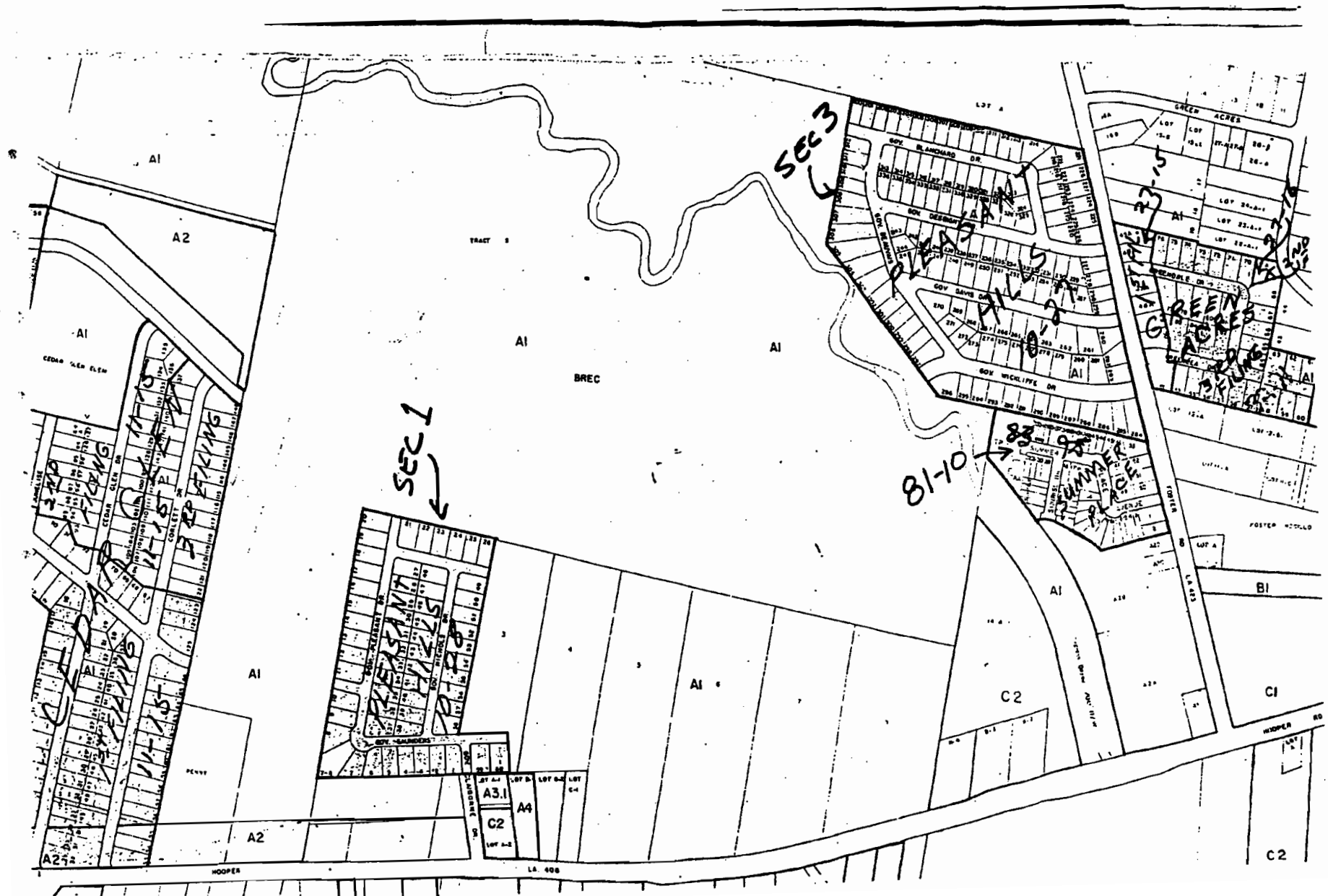
TRACT 4-A

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SEC 1

SEC 3

81-10

GREEN ACRES

SUMMIT PLACE

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TRACT 1

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PUBLIC MEETING

ENVIRONMENTAL INFORMATION DOCUMENT

&

FACILITY PLAN

**FOR THE CITY OF BATON ROUGE/
PARISH OF EAST BATON ROUGE, LOUISIANA**

FOR

STATE REVOLVING FUND (SRF) PROJECTS

The City of Baton Rouge / Parish of East Baton Rouge proposes to complete certain environmental projects related to the Sewage Collection and Treatment System, including:

- Industriplex Area Upgrades
- Pump Station 136 Area Upgrades
- Deep Gravity Sewer Lines

As part of the environmental review, an Environmental Information Document (EID) and has been prepared with general project information and environmental impacts. In conjunction with the EID a Facility Plan was also prepared. *The EID and Facility Plan are both available to the public at the Department of Public Works, Engineering Division, Room 408, Municipal Building, 300 North Boulevard, 4th Floor, Baton Rouge, Parish of East Baton Rouge.* Based on the information presented in this document, the City/Parish is requesting that a Finding of No Significant Impact (FNSI) be issued by EPA.

Federal regulations also require that a public meeting be held as part of the environmental review process. The purpose of the meeting is also to present and explain the purpose and need of the project, the proposed alternatives and to solicit input from the public. The meeting will take place at:

4:00 p.m.
Wednesday January 29, 2003
Metro Council
City of Baton Rouge / Parish of EBR
222 St Louis Street, #364
Baton Rouge, Louisiana 70802

Following the presentation, representatives of the Department of Public Works will be available to receive comments and answer questions related to the projects. All interested citizens are invited and encouraged to attend.