



## Department of Public Works

City of Baton Rouge  
Parish of East Baton Rouge

Post Office Box 1471  
Baton Rouge, La 70821

July 1, 2011

### **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  
Request for Time Extension/Modification of the Compliance Schedule in the Approved RMAP2 Submittal - Consent Decree Section XII (Remedial Measures – Collection System Remedial Program) Paragraph 34-D-iii, and Section XXII (Force Majeure)

Gentlemen:

The City of Baton Rouge and Parish of East Baton Rouge (City/Parish) hereby requests a three (3) year schedule extension and corresponding modification of the approved Second Remedial Measures Action Plan compliance schedule submitted by the City/Parish in September 2008 [report titled - *Second Remedial Measures Action Plan (RMAP2) Submittal for the Baton Rouge Sanitary Sewer Overflow Control and Wastewater Facilities Program*] which was adopted in the *Agreement and Order Regarding the Modification of Consent Decree* (April 2009) by the Department of Justice (DOJ), United States Environmental Protection Agency (EPA), and Louisiana Department of Environmental Quality (LDEQ).

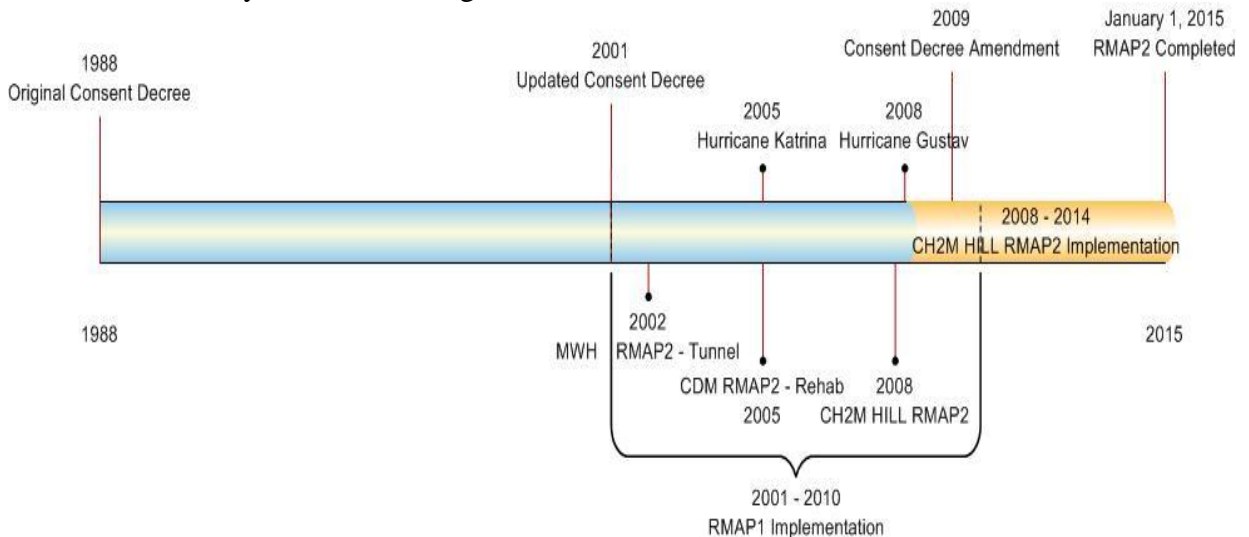
This current extension request and corresponding updated compliance schedule will extend the final compliance date to January 1, 2018. This extended compliance date falls within the 10 - 15 year implementation period for RMAP2 completion for a medium burden utility. The revised schedule includes significant project scope additions (primarily including projects at the North Wastewater Treatment Plant, and for implementation of the supervisory control and data acquisition (SCADA) remote monitoring and telemetry, and Emergency Generators at over 400 pump stations throughout the City/Parish, et. al.) which were not included in or required by the Consent Decree, or mentioned in the approved RMAP2 projects submitted in the *Second Remedial Measures Action Plan (RMAP2) Submittal for the Baton Rouge Sanitary Sewer Overflow Control and Wastewater Facilities Program* (September 2008). Note that this request for extension will not change the objectives stated in Section V of the Consent Decree, or the scope of projects originally adopted by the *Agreement and Order Regarding the Modification of Consent Decree* (April 2009) that are described in the *Second Remedial Measures Action Plan (RMAP2) Submittal for the Baton Rouge Sanitary Sewer Overflow Control and Wastewater Facilities Program* (September 2008). All of the original projects will be

completed (if not already functionally complete) and only the lower priority projects will have schedules that extend beyond the original deadline.

The City/Parish is proposing compliance schedule project adjustments to defer the lower priority rehabilitation projects and those capacity projects in the upper reaches of the system, while accelerating the needed additional North Wastewater Treatment Plant (NWWTP) Master Plan projects. The original compliance schedules for the major South Wastewater Treatment Plant projects and critical capacity projects that should most effectively reduce overflows and ensure wastewater treatment plant permit compliance will be maintained. Since 2008, the City/Parish has already drastically reduced the number and volume of SSOs throughout the City/Parish (see Attachment 3 Exhibit B and C for more details).

The new information that forms the basis for this request has been recently discussed with LDEQ, and they have advised the City/Parish that they are supportive of this request that assigns a higher priority to NWWTP improvements. Both the City/Parish and LDEQ agree that the work at the NWWTP should be accelerated and included in this submittal. However, without adjustments to the other already approved RMAP2 compliance schedule, and a quick approval of the revised RMAP2 compliance schedule attached herein, it won't be feasible to accelerate the additional projects, and these NWWTP Plant Master Plan projects would otherwise be deferred to begin until 2015 and beyond.

The City/Parish and Program Manager have also just completed a major mid-program review of status and progress, identifying critical elements and issues that affect the Program's success. The results of this review were recently presented to both LDEQ and EPA. The City/Parish and CH2M HILL (the current Program Manager) believe that some schedule adjustments are needed to better manage the "bubble" of projects that will be under construction in late 2012 and 2013 highlighted in the *Second Remedial Measures Action Plan (RMAP2) Submittal for the Baton Rouge Sanitary Sewer Overflow Control and Wastewater Facilities Program* (September 2008). The City/Parish has been working under a compressed compliance schedule while executing these projects since 2008, given that there is only 6 years from the 2008 RMAP2 Submittal through the existing program completion compliance deadline of January 1, 2015. See Figure 1 below for more details.



**Figure 1 –Existing Compliance Timeline**

The compressed compliance schedule has caused a “bubble” of projects that threatens to overwhelm the capacity of the administrative and technical resources that are realistically available. This situation is largely due to the delays in the early program, including impacts from hurricanes and other environmental disasters that impacted the Baton Rouge area (Hurricanes Katrina/Rita – 2005, Hurricane Gustav/Ike – 2008). Many of these force majeure events significantly affected project planning, design, easement and right of way acquisition. The City/Parish and Program Manager have worked hard to deal with these delays throughout the life of the program; however, it created an unbalanced construction schedule in the last three years that creates funding and construction management issues. It also will be highly disruptive to the City/Parish community due to the large number of projects concurrently under construction (see Attachment 3- Program Status Data/Case Memo Exhibit A - SSO Program Construction Peak Map for more details).

In addition, the City/Parish has letter correspondences and meeting minutes taken from July 2007 and February 2008, respectively, in which the DOJ/EPA agree to consider an extension request due to these force majeure events at a later date when Program progress could be better evaluated. The City/Parish requests that this be done at this time. Excerpts from the letter and the call notes are below:

**July 10, 2007 EPA Letter (see Attachment 6 – EPA Letter for more details)**

In various discussions between the Parties, the City/Parish requested that some flexibility be added to the 2002 Consent Decree to allow EPA and LDEQ to grant extra time to complete the Second RMAP in an effort to compensate for potential delays caused by the aftereffects of the 2005 Hurricanes Katrina and Rita. The Parties have discussed this issue and agreed to address the issue of the aftereffects of the 2005 Hurricane season in a proposed Agreement and Order Regarding Modification of the Consent Decree. The City/Parish will continue to document Hurricane Katrina related issues, and if they encounter problems as the execution of the RMAP’s progress they will document the problems and request an amendment to the Consent Decree at that time.

**February 12, 2008 Call Notes**

In previous discussions and reports, the possibility of amending the Consent Decree and to what extent to amend it, has been mentioned. The only item remaining would be to address the delays due to the aftermath of hurricanes (such as Katrina, etc.). DOJ/EPA/LDEQ weren’t sure that amending the Consent Decree at this time (2008) was necessary. The City/Parish and DOJ/EPA/LDEQ agreed that that City/Parish would continue executing the RMAP’s as expected and as quickly as possible. The City/Parish will continue to document force majeure related issues, and if they encounter problems as the execution of the RMAP’s progress they will document the problems and request an amendment to the Consent Decree at that time.

The City/Parish has also recently performed an affordability analysis using EPA criteria outlined in the *EPA Combined Sewer Overflows Guidance for Financial Capability Assessment and Schedule Development* (1997) document and has determined that any additional rate increases (in addition to the initial 95% rate increase phased-in from 2000 – 2002, the 10% rate increase in 2003, and then the annual 4% rate increases that have been made every year since 2004 which are scheduled in every year for the remainder of the program) are not feasible and would put a **high burden** on the community in difficult economic times, especially the **low**

July 1, 2011

**income** population (which totals approximately **40%** of the population of the City/Parish) that would be disproportionately impacted.

The City/Parish has put together a number of attachments listed below, which are also included with this submittal for the benefit of DOJ and EPA to help ensure a timely response to the three year extension request.

It is very important that the City/Parish get approval of the extension and updated compliance schedules and resolve these issues at the soonest possible date, in order for the schedule adjustments to have the desired benefits. The City/Parish requests a meeting discussing this submission with DOJ, EPA, and LDEQ as soon as possible, in order to ensure a timely response to this three (3) year extension request.

### **Summary of Attachments**

- 1 – Proposed EPA Compliance Schedule
- 2 – Voluntary RMAP2 Scope Addition Memo
- 3 – Program Status /Case Memo and Exhibits
- 4 – Affordability Analysis
- 5 – LDEQ Emergency Administrative Orders
- 6 – July 10, 2007 EPA Letter

July 1, 2011

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,

William B. Daniel, IV  
Acting Director of Public Works

Cc: Honorable Melvin L. "Kip" Holden, Mayor-President  
Mr. John Carpenter, Chief Administrative Officer  
Mr. Michael Donnellan, US DOJ  
Dr. Al Amendariz, US EPA Region 6 Regional Administrator  
Mr. Lawrence Starfield, US EPA Region 6 Deputy Regional Administrator  
Mr. John Blevins, US EPA Region 6 Compliance Division Director (CEN)  
Ms. Suzanne Murray, US EPA (6RC)  
Ms. Cheryl Seager, US EPA (6RC-E)  
Ms. Carol Peters-Wagnon, US EPA (6EN-WM)  
Ms. Mona Tate, US EPA Region 6  
Mr. Carlos Zequeira, US EPA (6RC-EA)  
Ms. Gladys Gooden-Jackson, US EPA (6EN-WC)  
Mr. Scott McDonald, US EPA Region 6  
Mr. Rusty Herbert, US EPA Region 6  
Ms. Peggy Hatch, LDEQ  
Ms. Cheryl Nolan, LDEQ  
Mr. Perry Theriot, LDEQ  
Mr. Ted Broyles, LDEQ  
Mr. Mary Roper, Parish Attorney  
Mr. Bob Abbott, Parish Attorney's Office  
Mr. Bryan Harmon, DPW  
Mr. Jim Ferguson, DPW  
Mr. Mark LeBlanc, DPW  
Mr. David Guillory, DPW  
Mr. Michael Ellis, CH2MHILL  
Mr. Jim Hawley, CH2M HILL  
Mr. Jim Hawkey, CH2M HILL  
Ms. Jennifer Baldwin, CH2M HILL  
Mr. Gordon Garner, CH2M HILL  
Ms. Karen Johnson, CH2M HILL



# Consent Decree Extension Request for the Baton Rouge Sanitary Sewer Overflow (SSO) Control and Wastewater Facilities Program

Prepared for  
City of Baton Rouge/East Baton Rouge Parish  
Department of Public Works  
June 2011



Prepared by  
**CH2MHILL**

in association with Sigma Consulting Group, Inc.

# **Attachment 1**

## **Proposed EPA Compliance Schedule**

---

## Attachment 1 – Proposed EPA Compliance Schedule

This attachment is proposed to replace the City/Parish’s compliance schedule submitted by the City/Parish in September 2008 [report titled - *Second Remedial Measures Action Plan (RMAP2) Submittal for the Baton Rouge Sanitary Sewer Overflow Control and Wastewater Facilities Program*] which was adopted in the *Agreement and Order Regarding the Modification of Consent Decree* (April 2009) by DOJ, EPA, and LDEQ. This revised EPA milestone compliance schedule is depicted in Tables 1, 2, and 3.

The revised milestone schedule includes significant project scope additions to the RMAP2 program which were not included in, or required by the Consent Decree, or mentioned in the approved RMAP2 projects submitted in the *Second Remedial Measures Action Plan (RMAP2) Submittal for the Baton Rouge Sanitary Sewer Overflow Control and Wastewater Facilities Program* (September 2008). See Attachment 2 – Voluntary RMAP2 Scope Addition Memo for the details about the projects that have been added to the scope of the RMAP2 program, which now will have EPA milestone schedules summarized in the tables below. Note that all of the original projects included in the previously approved RMAP2 will still be completed. Only the lower priority projects will extend beyond their original deadlines.

The City/Parish is proposing compliance schedule project adjustments to defer lower priority rehabilitation projects and those capacity projects in the upper/outer reaches of the system, while accelerating the needed additional North Wastewater Treatment Plant Master Plan projects, and thereby maintaining the original compliance schedules for the major wastewater treatment plant projects and critical capacity projects that should most effectively reduce overflows and ensure wastewater treatment plant permit compliance.

### Category 1: Comprehensive Sewer Basin Rehabilitation

Based on sewer system digital model analysis and flow monitoring, several sub-basins within the collection system require comprehensive rehabilitation. Sewer system comprehensive rehabilitation projects will be implemented to repair or replace components of the system that are defective and permit excessive infiltration and inflow.

Overall, all of the rehabilitation projects were prioritized by working first in the outer areas of the City/Parish and then moving in. However at the same time those areas with a greater frequency of SSO’s were started in advance of those areas with less frequency, so in some cases projects were started closer to the WWTP first if they have high frequencies of SSOs. This logic was continued with the first draft of extension schedule, so those projects that are being adjusted with the extension will be in areas with a lesser frequency of SSO’s.

Table 1 presents the Category 1 comprehensive rehabilitation projects and anticipated delivery milestone schedules. Note that any pump station improvements are included in the projects listed in Category 2, Pump Station and Transmission Improvements on the following pages.



<b>TABLE 1</b>			
Updated EPA Consent Decree RMAP Milestones for Category 1 Projects			
	<b>33%</b> Construction Milestone	<b>66%</b> Construction Milestone	<b>100%</b> Construction Milestone
<b>Milestone Date</b>	4 <sup>th</sup> QTR 2012	4 <sup>th</sup> QTR 2014	4 <sup>th</sup> QTR 2017
<b>Construction Status</b>	Construction Functionally Complete	Construction Functionally Complete	Construction Functionally Complete
<b>Project Descriptions RMAP2 Projects</b>			
Jefferson Hwy – HooShooToo Road	✓		
Staring Lane – Boone Drive Area Rehabilitation Project	✓		
Burbank Drive – Gardere Lane Area Rehabilitation Project	✓		
Oak Villa – Choctaw Street Area Rehabilitation Project	✓		
Scotland Avenue – Progress Road Area Rehabilitation Project	✓		
Elm Grove Garden Road – Harding Boulevard Area Rehabilitation Project	✓		
Sharp Road – Florida Boulevard Area Rehabilitation Project	✓		
Kenilworth Boulevard – Boone Drive Area Rehabilitation Project	✓		
Foster Drive - Government Street Area Rehabilitation Project Phase A and B	✓		
Silverleaf Road – Ford Street Area Rehabilitation Project	✓		
Brookstown Road - Evangeline Street Phase I Area Rehabilitation Project	✓		
Brookstown Road – Evangeline Street Phase II Area Rehabilitation Project	✓		
Bluebonnet Blvd – Jefferson Hwy Phase I Area Rehabilitation Project		✓	
Bluebonnet Blvd – Jefferson Hwy Phase II Area Rehabilitation Project		✓	
Highland Road – Washington Street Area Rehabilitation Project		✓	
Standford Avenue – Morning Glory Road Area Rehabilitation Project	✓		
Airline Highway – Goodwood Blvd Phase I Area Rehabilitation Project		✓	
Airline Highway – Goodwood Blvd Phase II Area Rehabilitation Project		✓	
Acadian Thruway – Claycut Road Area Rehabilitation Project		✓	
Acadian Thruway – Perkins Road Area Rehabilitation Project	✓		
Antioch Road – Chadsford Drive Area Rehabilitation Project		✓	
Jones Creek Road – Tiger Bend Road Area Rehabilitation Project			✓
Scenic Highway – Spanish Town Road Phase I Area Rehabilitation			✓

<b>TABLE 1</b>			
Updated EPA Consent Decree RMAP Milestones for Category 1 Projects			
	<b>33%</b> Construction Milestone	<b>66%</b> Construction Milestone	<b>100%</b> Construction Milestone
<b>Milestone Date</b>	4 <sup>th</sup> QTR 2012	4 <sup>th</sup> QTR 2014	4 <sup>th</sup> QTR 2017
<b>Construction Status</b>	Construction Functionally Complete	Construction Functionally Complete	Construction Functionally Complete
<b>Project</b>			
<b>Scenic Highway – Spanish Town Road Phase II Area Rehabilitation Project</b>			✓
<b>Siegen Lane – Interstate 10 Area Rehabilitation Project</b>			✓
<b>Interstate 110 – Hollywood Street Area Rehabilitation Project</b>			✓
<b>Ardenwood Drive – Winbourne Street Area Rehabilitation Project</b>			✓
<b>Flannery Road – Florida Boulevard Area Rehabilitation Project</b>			✓
<b>East Boulevard – Government Street Area Rehabilitation Project</b>			✓
<b>North 38<sup>th</sup> Street – Gus Young Avenue Area Rehabilitation Project</b>			✓
<b>*Note that the column and corresponding check-marks highlighted in yellow depict those projects whose milestone schedules will be completed outside of the current January 1, 2015 100% milestone.</b>			

## Category 2: Pump Station and Transmission Improvements

The Infoworks™ digital wastewater model was used to identify necessary increases in capacity of existing gravity trunk sewers, pump stations, and force mains in order to accommodate peak wastewater flows remaining in the rehabilitated collection system. Table 2 presents a list of Category 2 projects with corresponding milestone schedules.

<b>TABLE 2</b>			
<b>Updated EPA Consent Decree RMAP Milestones for Category 2 Projects</b>			
	<b>33% Construction Milestone</b>	<b>66% Construction Milestone</b>	<b>100% Construction Milestone</b>
<b>Milestone Date</b>	4 <sup>th</sup> QTR 2012	4 <sup>th</sup> QTR 2014	4 <sup>th</sup> QTR 2017
<b>Construction Status</b>	Construction Functionally Complete	Construction Functionally Complete	Construction Functionally Complete
<b>Project Descriptions RMAP2 Projects</b>			
<b>Capitol Lake – Gayosa Street Area Capacity Improvements</b>	✓		
<b>Gurney Road - Joor Road</b>	✓		
<b>Sullivan Rd./Lovett Rd./Wax Rd. Sewer Upgrades</b>	✓		
<b>Comite Road – Foster Road Sewer Area Upgrades - Phase I</b>	✓		
<b>Comite –Foster Road Sewer Area Upgrades - Phase II</b>	✓		
<b>Foster Road – Hooper Road Sewer Area Upgrade</b>	✓		
<b>Zachary Area Transmission Network Improvements Phase I - 3 Pump Stations and Equalization Basin</b>		✓	
<b>Zachary Area Transmission Network Improvements Phase II – Red Mud Lakes Forcemain to NWWTP</b>		✓	
<b>Zachary Area Transmission Network Improvements Phase III – Forcemain to Highway 964 to Red Mud Lakes</b>		✓	
<b>Zachary Area Transmission Network Improvements Phase IV – Zachary Improvements</b>		✓	
<b>South Boulevard – St. Joseph Street Sewer Area Upgrades</b>	✓		
<b>Downtown Area Pump Station Improvements</b>		✓	
<b>Highland Road – Buchanan Street Sewer Area Upgrades</b>	✓		
<b>Citiplace/Essen Area - PS119 &amp; Forcemain Improvements</b>	✓		
<b>Group Project 1A (Metro Airport Sewer Upgrades)</b>		✓	

<b>TABLE 2</b>			
<b>Updated EPA Consent Decree RMAP Milestones for Category 2 Projects</b>			
	<b>33% Construction Milestone</b>	<b>66% Construction Milestone</b>	<b>100% Construction Milestone</b>
<b>Milestone Date</b>	4 <sup>th</sup> QTR 2012	4 <sup>th</sup> QTR 2014	4 <sup>th</sup> QTR 2017
<b>Construction Status</b>	Construction Functionally Complete	Construction Functionally Complete	Construction Functionally Complete
<b>Group Project 1B (Metro Airport Sewer Area Pump Station &amp; Forcemain Upgrades)</b>		✓	
<b>Perkins/Old Perkins Area - Booster PS 514 Improvements</b>		✓	
<b>Group Project 2 (Old Perkins – Highland Road Area Upgrades)</b>	✓		
<b>Highland Road – Burbank Drive Capacity Improvements</b>		✓	
<b>Nicholson Drive – Highland Road – Perkins Road Capacity Improvements Phase A</b>		✓	
<b>Nicholson Drive – Highland Road – Perkins Road Capacity Improvements Phase B</b>		✓	
<b>Bayou Duplantier Area Sewer Upgrades</b>		✓	
<b>25th Street - North Acadian Thruway</b>	✓		
<b>Government St - South Acadian Thruway Sewer Area Upgrades</b>		✓	
<b>Plank Road – Kleinpeter Road Sewer Area Upgrades</b>		✓	
<b>O’Neal Lane Pipeline Improvements – Group A</b>		✓	
<b>O’Neal Lane Pipeline Improvements – Group B</b>		✓	
<b>Multiple PS - Nicholson Dr - Brightside Dr</b>		✓	
<b>Pump Station 58 Capacity Improvements</b>		✓	
<b>Staring Lane FM (Phase I - Burbank Drive to Highland Road)</b>	✓		
<b>Staring Lane FM (Phase II - Highland road to Perkins Road)</b>		✓	
<b>Staring Lane FM (Phase III - Perkins to PS58)</b>		✓	
<b>Multiple PS - Jefferson Hwy - Park Forest Dr</b>		✓	
<b>Airline Highway Pipeline Improvements</b>			✓
<b>Multiple PS - Highland Road - Kenilworth Parkway</b>			✓

<b>TABLE 2</b>			
Updated EPA Consent Decree RMAP Milestones for Category 2 Projects			
	<b>33%</b> Construction Milestone	<b>66%</b> Construction Milestone	<b>100%</b> Construction Milestone
Milestone Date	4 <sup>th</sup> QTR 2012	4 <sup>th</sup> QTR 2014	4 <sup>th</sup> QTR 2017
Construction Status	Construction Functionally Complete	Construction Functionally Complete	Construction Functionally Complete
Florida Boulevard Pump Station Improvements			✓
Plank Road Pump Station Improvements			✓
Multiple PS - Highway 61 - Plank Road			✓
O'Neal Lane Pump Station Improvements – Group A			✓
O'Neal Lane Pump Station Improvements – Group B			✓
Sherwood Forest Blvd – Goodwood Blvd Pipeline Improvements			✓
Joor Road - Greenwell Springs Road Sewer Area Upgrades			✓
Plank Road - Port Hudson Pride Road Sewer Area Upgrades			✓
Highland Road Pipeline Improvements - Group A			✓
Highland Road Pipeline Improvements - Group B			✓
Oak Villa Boulevard - Monterey Boulevard Sewer Area Upgrades			✓
Lovett Road – Greenwell Springs Road Sewer Area Upgrades – Group A			✓
Lovett Road – Greenwell Springs Road Sewer Area Upgrades – Group B			✓
Hooper Road Pump Station Improvements			✓
Multiple PS - Prescott Rd - Greenwell Springs Rd			✓
Multiple PS - Burbank Drive - Siegen Lane			✓
Pump Station 42		✓	
Pump Station 42 Forcemain - Phase I		✓	
Pump Station 42 Forcemain - Phase II		✓	
Central Consolidated Pump Stations		✓	

<b>TABLE 2</b>			
Updated EPA Consent Decree RMAP Milestones for Category 2 Projects			
	<b>33%</b> Construction Milestone	<b>66%</b> Construction Milestone	<b>100%</b> Construction Milestone
<b>Milestone Date</b>	4 <sup>th</sup> QTR 2012	4 <sup>th</sup> QTR 2014	4 <sup>th</sup> QTR 2017
<b>Construction Status</b>	Construction Functionally Complete	Construction Functionally Complete	Construction Functionally Complete
<b>Central Consolidated Forcemains</b>		✓	
<p><b>*Note that the column and corresponding check-marks highlighted in yellow depict those projects whose milestone schedules will be completed outside of the current January 1, 2015 100% milestone.</b></p> <p><b>**Those projects that are highlighted in blue are those that the City/Parish is proposing to add to the Consent Decree, above and beyond what is required, The City/Parish is including compliance deadlines for each project as well.</b></p>			

### Category 3: Wastewater Treatment and Storage

This category of projects includes wet weather improvements at the City/Parish wastewater treatment plants (WWTP's), as well as storage facilities throughout the service area. In addition, this category of projects now includes several additional projects not required by the Consent Decree that will greatly improve the operation and maintenance of the wastewater collection system, WWTP's, and storage facilities. The Wastewater Treatment Projects that are part of this updated RMAP2 submittal are summarized below:

- Immediate Action Plan (IAP) South WWTP Project that includes screening, trickling filter recirculation pumping, primary treatment improvements, and bio-solids thickening improvements.
- Phase 1 Improvements at the South WWTP for Wet Weather Flow including influent pumping, screening and grit removal for a predicted flow of 345 MGD. Phase 1 also includes 64 million gallons of equalization storage at the South WWTP.
- Phase 2 Improvements at the South WWTP include wet weather flow treatment with a peak capacity of 200 MGD (as previously approved in the November 2006 RMAP2).
- North WWTP Odor Control Project is designed to minimize odors from the North WWTP.
- North WWTP Master Plan Project includes various upgrades to the North WWTP identified in the Wastewater Master Plan, such as SCADA, back-up power, miscellaneous structural, mechanical, and operation and maintenance needs.

In addition, there are two storage projects included in this category that are sized to reduce peak flows to existing North WWTP which are listed below and depicted as well in Table 3. These storage projects are part of the transmission system which permits storage of wet weather peak flows.

- Choctaw Storage Facility
- Hooper Storage Facility

Finally, the Supervisory Control and Data Acquisition (SCADA) project and Standby Power Program should help to greatly improve the overall operation of the treatment facilities and pump stations, while minimizing risks associated with SSOs.

<b>Table 3</b>			
Updated EPA Consent Decree RMAP Milestones for Category 3 Projects			
	<b>33%</b> Construction Milestone	<b>66%</b> Construction Milestone	<b>100%</b> Construction Milestone
<b>Milestone Date</b>	4 <sup>th</sup> QTR 2012	4 <sup>th</sup> QTR 2014	4 <sup>th</sup> QTR 2017
<b>Construction Status</b>	Construction Functionally Complete	Construction Functionally Complete	Construction Functionally Complete
<b>Project Descriptions RMAP2 Projects</b>			
<b>Choctaw Storage and Pump Station Facility</b>		✓	
<b>Hooper Storage Facility</b>		✓	
<b>South WWTP IAP (Consolidated – Screening, Primary Treatment, Trickling Filter Recirculation, Sludge Handling)</b>	✓		
<b>South WWTP IAP (Effluent Pumping Improvements)</b>	✓		
<b>SWWTP Wet Weather Improvements -Phase I</b>		✓	
<b>SWWTP Wet Weather Improvements - Phase II (PDP portion)</b>		✓	
<b>SWWTP Wet Weather Improvements – Phase II (Master Plan portion)</b>			✓
<b>NWWTP Odor Control Project</b>	✓		
<b>NWWTP Master Plan Projects</b>			✓
<b>Sewer System and WWTP Stand-by Power Program</b>			✓
<b>SCADA (Collection System, Operations Data and Control Center)</b>			✓
<b>Choctaw Sewer Collection Maintenance Facility</b>			✓
<p><b>*Note that the column and corresponding check-marks highlighted in yellow depict those projects whose milestone schedules will be completed outside of the current January 1, 2015 100% milestone.</b></p> <p><b>**Those projects that are highlighted in blue are those that the City/Parish is proposing to add to the Consent Decree, above and beyond what is required, The City/Parish is including compliance deadlines for each project as well.</b></p>			



**Attachment 2**  
**Voluntary RMAP2 Scope Addition**

---

## Attachment 2 – Voluntary RMAP2 Scope Addition

DATE: June 1, 2011

Since 2007, the overall original program costs have escalated by approximately 10+% from the original planning estimates to over \$1.3 billion dollars. This does not include the escalation from the original \$500 million RMAP plan done in 2001.

The City/Parish is not only absorbing these cost increases, but has voluntarily added a number of significant projects to the Second Remedial Measures Action Plan (RMAP2) program that will greatly help improve operation and maintenance and reduce sewer overflows even more dramatically. These projects include emergency generators at the 400+ pumping stations; and the installation of a state of the art SCADA real time control system to allow the City/Parish to manage wet weather flows to maximize in system storage and treatment to reduce overflows. Other projects that the City/Parish is implementing or proposing to implement in addition to the Consent Decree required projects include South WWTP Phase 2 Master Plan Project, North WWTP Master Plan Projects, the North Odor Control Project, the Choctaw Sewer Collection Maintenance Facility Project, and the Comite Foster Road Phase 2 Project. These additional projects are estimated to cost over \$106.6 million dollars and were not included in the \$1.3 billion total. General descriptions of these projects are below.

- **Stand-by Power Program** - This project will drastically reduce SSOs caused by power outages at the 400+ pump stations in the system, by providing stand-by power at the pump stations. This program consists of installing generators at every wastewater pump station and wastewater treatment facility throughout the City/Parish that can be put in place during power outages, eliminating the risk of overflows from this cause.
  - **Status:** Generator purchasing began in 2010, and generator installation began in 2011. Program will continue for the duration of SSO Program.
- **SCADA Project** - The SCADA Project will provide telemetry and remote monitoring to all existing pump stations, new pump stations, and those pump stations being replaced. The project provides remote monitoring of operations data & alarms that will be communicated via telemetry to a centralized operations center. The centralized operations center will have control capability for major pump stations and storage facilities in the system, allowing flow control to anticipate and reduce the possibility of overflows and/or reduce their severity. The remote monitoring will help City/Parish staff quickly respond to mechanical and electrical problems at the pump stations.
  - **Status:** SCADA project is currently under design and will advertise for construction in 3<sup>rd</sup> quarter 2011. Project will continue for the duration of SSO Program.

- **South Wastewater Treatment Plant Phase 2 Master Plan Project** – This project includes Master Plan improvements were outlined in the *Draft Wastewater Master Plan* (CH2M HILL, May 2008). The following are project elements that will be included as additive alternates for the South WWTP Phase 2 construction project:
  - Secondary electrical source consisting of on-site engine/generators
  - Improvements to the existing solids thickening and dewatering facilities including new thickened sludge mixing tanks
  - Repair and improvements to existing anaerobic digesters including a new sludge heating system utilizing digester gas and hot water boilers
  - Rehabilitation of existing buildings
  - Construction of a plant SCADA system
  - Construction of new laboratory and administration buildings
  - **Status:** Project is nearly completed with design. The project is expected to advertise for construction in 3<sup>rd</sup> quarter 2011, and construction is currently expected to be completed by the end of 2014
  
- **North Wastewater Treatment Plant Master Plan Projects** – Based on the *Draft Wastewater Master Plan* (CH2M HILL, 2008) and recent plant inspections, the following items were identified to be addressed at the North WWTP:
  - New raw sewage pumping station
  - New preliminary treatment
  - Comprehensive odor control
  - Plant SCADA system
  - Replace gaseous chlorine with sodium hypochlorite
  - General plant rehabilitation (electrical, mechanical, structural)
  - Standby electrical generators
  - Sludge digestion rehabilitation with gas utilization
  - **Status:** Project has not yet begun. If the extension is granted, project will begin immediately. If the extension is not granted, project will begin design in 2014 and begin construction in 2015 at the earliest.
  
- **North Wastewater Treatment Plant Odor Control Project** - the North WWTP Odor Control Project is designed to minimize odors from the WWTP headworks building.
  - **Status:** Project is complete.
  
- **Choctaw Sewer Collection Maintenance Facility** – The Choctaw Administration/Maintenance Facility will consolidate several separate City/Parish facilities to one location. The facility will house the wastewater collections staff, provide warehouse and equipment storage, house the electrical and pump maintenance shops, and include a fueling station for use by City/Parish employees. The site is centrally located in the parish, so the maintenance facility will allow staff to be efficiently deployed to all areas of DPW's sewer network. The pump maintenance shop will include a pump testing pit, which allows the City/Parish to test pumps at the shop rather than testing once installed at the pump station.

- **Status:** Project is currently under design. This project will begin construction in 2014.
- **Comite Drive – Foster Road Phase 2 Project** - This project includes an upgrade to the existing sewer system that runs along Comite Drive. The current sewer system in this area is individual septic systems that discharge into an open ditch along the road. A new sewer collection system is being installed to eliminate these discharges. The project consists of new sewers, forcemains, and pump stations.
  - **Status:** Project is complete.

The City/Parish plans to continually evaluate and improve their sewer collection system and wastewater treatment facilities even after RMAP2 completion. During the RMAP2 engineering and planning process, the City/Parish also was proactively planning for future flows/loads and future regulatory requirements through the year 2032 through the development of the *Draft Wastewater Master Plan*. The *Draft Wastewater Master Plan* includes projects that are needed to handle future flows in the wastewater collection/transmission system and future loads at the WWTPs, in addition to those projects needed to deal with the deteriorating condition of the collection system and WWTPs. Even though the wastewater master planning effort was not a requirement of the Consent Decree, some elements of the *Draft Wastewater Master Plan* have been incorporated into the RMAP2 submittal where practical, and when it met the criteria initially established for the RMAP2 projects during planning. The *Draft Wastewater Master Plan* identified some additional projects for implementation beyond those described in the paragraphs above and those implemented already in the RMAP2 projects, located throughout the wastewater collection system at pump stations and at the South WWTP, that are currently planned to begin following RMAP2 completion. Many of these projects are significant in scope and cost, though they are projects that do not directly improve NPDES permit compliance and reduce SSOs (requirements of the Consent Decree). It was therefore decided that these projects would have a delayed start and will begin once the RMAP2 projects are completed. The estimated cost for these additional master plan projects is approximately \$62.2 million dollars, and at this time are planned to be funded for implementation once RMAP2 project are completed.

In addition to these projects described above that are funded, there is a project that isn't currently funded, but the City/Parish is committed to do in the future as a part of its vision for Baton Rouge. The project is the *Water and Wastewater Center of Excellence*. It is intended to be a continuing education center for those involved with operations, maintenance, and management of drinking water and wastewater treatment systems. In addition this facility would provide various water and wastewater operator training and certification programs. It is the intent of the City/Parish that a facility of this nature would help create and retain a skilled workforce and provide future growth and employment opportunities for those working in the environmental resource community.

**Attachment 3**  
**Program Status/Case Memo**

---

## Attachment 3 – Program Status/Case Memo

This attachment discusses the City/Parish's progress made through the last quarter (March 31, 2011) with Consent Decree implementation, in addition to highlighting key elements of the 3 year extension request. As previously mentioned, the 3 year extension request to the Consent Decree compliance schedule would extend the overall program completion date to January 1, 2018. In order for the proper engineering and management of the projects to occur, the extension needs to be granted soon, not at the end of the program. The RMAP2 "bubble" of projects will be occurring over the next few years. Construction activities will ramp up even more and need to be leveled out systematically and soon. It is the intent of the City/Parish that this document and the other attachments included in with the extension request letter be used to for a prompt evaluation and approval of the request.

### Overall Consent Decree Implementation Status

To date, the City/Parish has made significant progress on its Consent Decree requirements and has been extremely prompt and responsive with Consent Decree deliverables. A general status of the progress made on Consent Decree implementation is below.

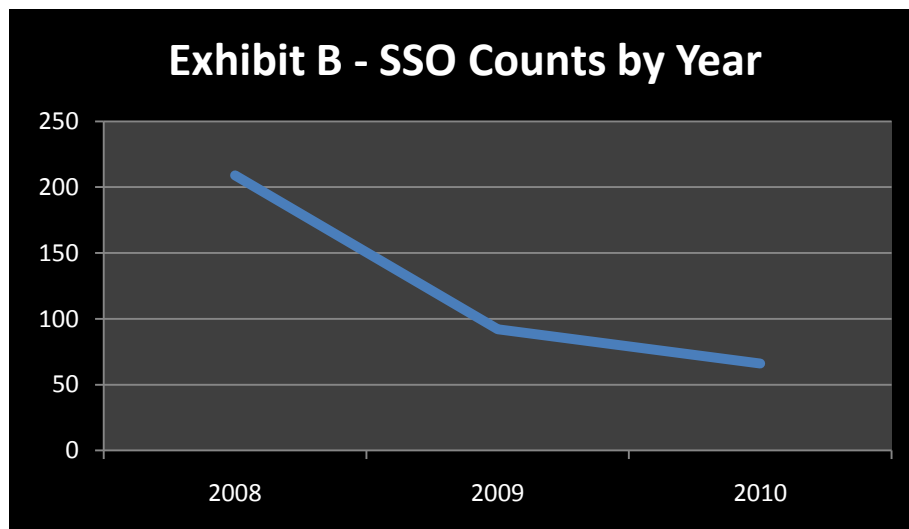
- As of March 31, 2011, the City of Baton Rouge and East Baton Rouge Parish have submitted 49 consent decree administrative deliverables to USEPA and DOJ ahead of or on schedule including: Quarterly EPA Reports, Annual EPA Reports, Collection System and Treatment Plant Preventive Maintenance Plans, Treatment Facility Assessment Report, RMAP2 report, etc.
- The City- Parish has also completed all 5 supplemental environmental projects (SEPs) on or before the milestone dates established in the Consent Decree. These SEPs were a series of environmentally beneficial projects to the community.
- 13 of 14 RMAP 1 projects (projects identified by past tunnel plan that were common to alternatives being evaluated at the time with the EPA in the Consent Decree) completed ahead of, or on schedule even though tunnel plan is obsolete. The Industriplex Project was delayed due to unavoidable utility conflicts, difficult easement acquisitions, alignment changes, and permitting and other utility coordination issues which could not be overcome by reasonable actions by the City/Parish and its construction contractor. At this time, this project is functionally completed and in operation. The City/Parish has asserted that this project is not susceptible to stipulated penalties due to the circumstances of the delay beyond the control of the City/Parish. An RMAP 1 completion report was also included with the 36<sup>th</sup> Quarterly EPA Report delivered to USEPA in April 27, 2011.
- RMAP2 projects (the capital improvement plan projects approved by DOJ/EPA/LDEQ in April 2009 based on modeling and engineering that was completed by the Program Management Consultants, based on comprehensive sewer rehabilitation instead of deep tunnels). RMAP2 program status as of March 31, 2010 is below:
  - 8 projects completed ahead of schedule
  - 27 projects under construction

- 37 projects in design
- The City-Parish has exceeded required wastewater treatment and collection system preventive maintenance goals including annual sewer cleaning, CCTV, manhole inspections, visual inspection of FM, air release valve inspections, pumping system inspections, and storage facility site visits.
- The City/Parish is spending much more money than the required \$3 million annually on infiltration and inflow reduction activities for sewer repairs, sewer rehabilitation, and other capital expenditures related to reducing I/I in the North, South, and Central WWTP collection systems.
- The City/Parish is implementing an aggressive Outreach and Public Awareness Program consisting of the following:
  - Program web site
  - Monthly progress reports (500 sent monthly)
  - 50 neighborhood and civic group meetings
  - Council member information sessions
  - Construction impact program (flyers, door hangers, hot line for questions)
  - Regular meetings with Metro Council to keep them fully informed

#### **Key Elements of the Extension Request:**

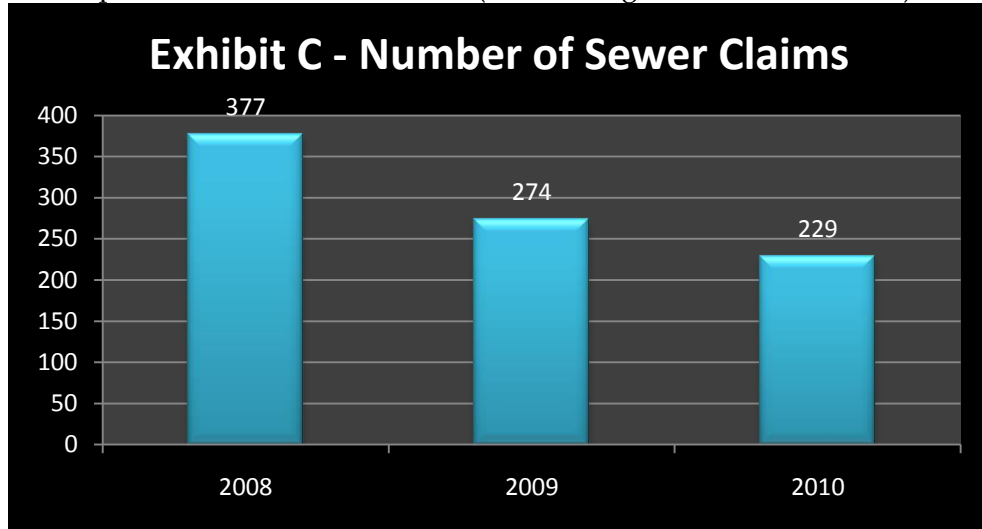
- The City/Parish requested an extension in 2006 after the Hurricanes Katrina- and Rita-related delays were experienced. EPA/DOJ agreed to consider the extension request at a later date when program progress could be better evaluated (noted in an EPA letter dated July 2007 and from February 2008 conference call minutes with DOJ/EPA). Additionally, since that time there have been hurricanes (Gustav and Ike) in 2008 and the recent Gulf of Mexico oil spill in 2010, and the threat of Mississippi River Flood in May 2011 that has disrupted the normal business operations of the City/Parish, diverted staff from their normal work, affected contractor availability and prices, affected the engineering consultant availability and prices, affected availability and prices of equipment supplies, and even has changed the population of the City/Parish. Many of these extreme events occurred during the critical initial planning portion of program, and the City/Parish is now working under a very compressed schedule (less than 6 years from Consent Decree Amendment approval in April 2009 to RMAP2 completion in January 1, 2015). See Attachment 5 - LDEQ Emergency and Administrative Orders for more details.
- Without the 3 year extension, the City/Parish will have over 60+ projects under construction simultaneously in 2012. Almost all of these projects involve the public right-of-way and are potentially disruptive to those who live and work in the City/Parish (1 - Detours and inconvenience to commerce and residents; 2 - Mud, dust, and noise associated with construction). More than 350+ separate contracts for these projects will have to be channeled through the already stressed City/Parish Purchasing Department system. See the Construction Peak Map in Exhibit A for more details.

- Rate increases beyond what is already programmed would stress an already economically disadvantaged community and would put a **High Burden** on ratepayers. See Attachment 4 – Baton Rouge Affordability Analysis for more details.
- The overall program costs have escalated by approximately 10+% from the original planning estimates to \$1.3 billion. The City/Parish is not only absorbing these cost increases, but has voluntarily added a number of significant projects to the program that will help improve operation and maintenance and reduce sewer overflows even more dramatically. These projects include emergency generators at the 400+ pumping stations and the installation of a state of the art SCADA real time control system to allow the City/Parish to maximize in system storage and treatment to reduce overflows. Other projects that the City/Parish is implementing or proposing to implement in addition to the Consent Decree-required projects include the South WWTP Phase 2 Project – Master Plan portion, the North WWTP Master Plan Projects, the North Odor Control Project, the Choctaw Sewer Collection Maintenance Facility Project, and the Comite Foster Road Phase 2 Project. These additional projects are estimated to cost over \$104.6 million dollars and were not included in the \$1.3 billion total. See Attachment 2 – Voluntary RMAP2 Scope Addition for more details.
- The capacity of some necessary local support functions has been exceeded, especially related to servitude and right-of-way acquisition for the projects. Land acquisition is the critical path of the program. The City/Parish has been forced to start some projects without the needed right-of-way or servitudes, causing disruption to contractors and project schedules. The capacity of necessary local appraisers to do the required appraisals has also been exceeded, which has resulted in significant land acquisition delays. This support service cannot be performed by non- local appraisers unfamiliar with Baton Rouge property values.
- The City/Parish has dramatically reduced its number and volume of SSO's from implementation of I/I reduction activities, and implementation of the RMAP2 sewer rehabilitation and capacity improvement projects. *SSO volume was reduced from 2.8 MG in 2008 to 119,000 gallons in 2010 (reduced by 95%). Since 2008 the number of SSOs counted has been reduced by 68%.*



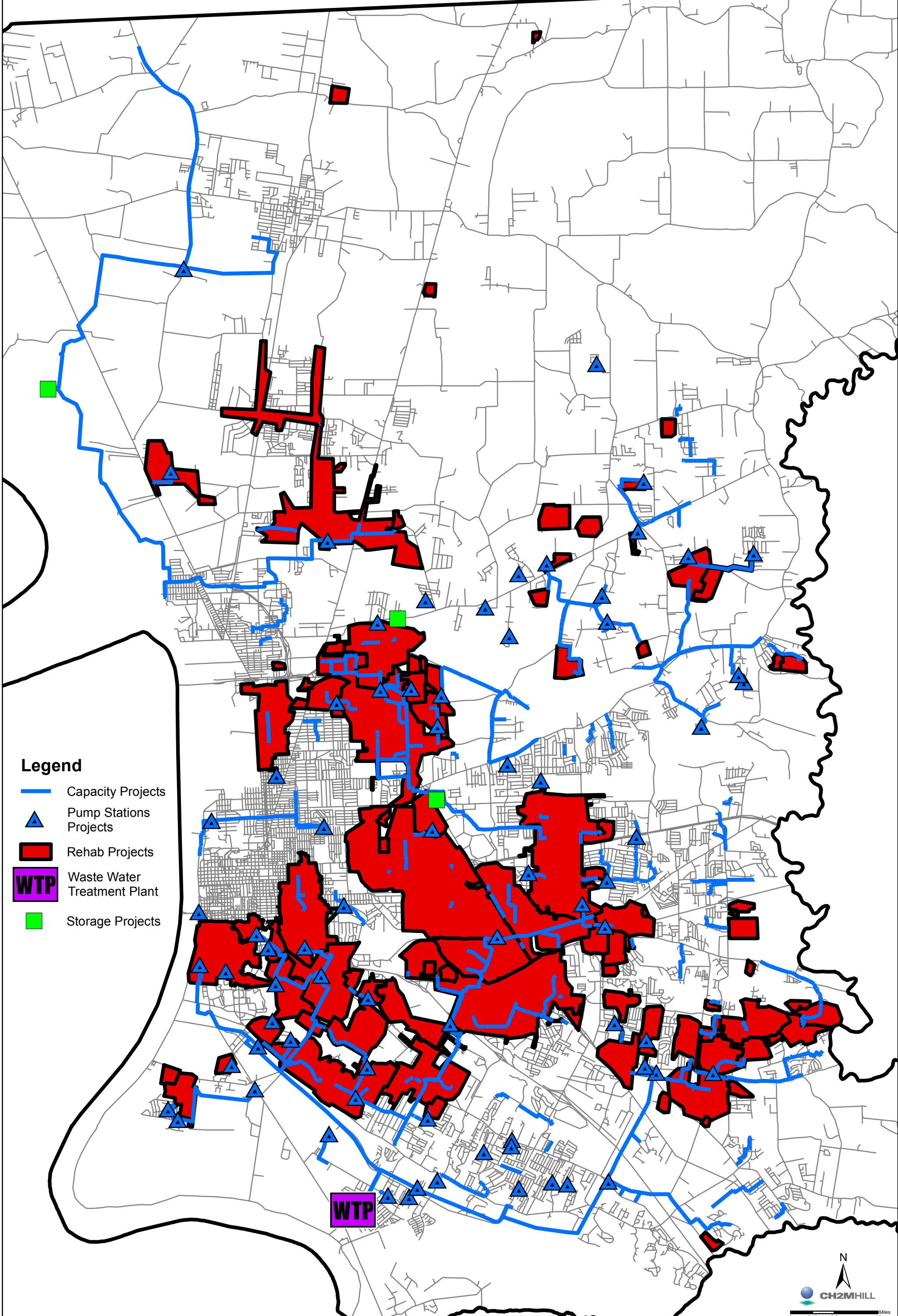


- Since 2008 the number of sewer claims is down 39% and the amount of sewer claims paid since 2008 is down 22% (data through December 31, 2010).



- Permit acquisitions and state approvals have begun to slow down, since the City/Parish cannot force utilities/railroads/state agencies to rush permit approvals and the agencies have been inundated with requests.
- Contractor bonding limitations are being realized as more projects are bid for construction in a short period of time. Local contractors are having trouble bidding on projects due to their bonding limitations, which will reduce the pool of bidders as more projects are bid for construction.
- Limited qualified labor pools are being stretched thin as more projects are bid for construction. The limited qualified labor pools can lead to quality and performance issues during construction, which could potentially cost the City/Parish additional money in the long run.

**Exhibit A**  
**Baton Rouge SSO Control and Wastewater Facilities Program**  
**Construction Peak (2012 - Existing EPA Compliance Schedule)**



**Legend**

- Capacity Projects
- Pump Stations Projects
- Rehab Projects
- WTP Waste Water Treatment Plant
- Storage Projects

**Attachment 4**  
**Baton Rouge Affordability Analysis**

---



## East Baton Rouge Sewerage Commission

Department of Public Works

*Mark J. LeBlanc, MPA, CPA*

*Assistant DPW Director*

### **EPA Affordability Analysis For the East Baton Rouge Sewerage Commission June 1, 2011**

The East Baton Rouge Sewerage Commission (EBROSCO) is under a consent decree with the United States Environmental Protection Agency (EPA) and the Louisiana Department of Environmental Quality (LDEQ) to reduce sanitary sewer overflows (SSOs) in its service area and to meet National Pollution Discharge Elimination System (NPDES) permit requirements at the wastewater treatment plants. Work under the modified consent decree, as approved by EPA and LDEQ on April 22, 2009 is progressing, but EBROSCO is facing tight timelines with respect to right-of-way acquisition, utility relocations, and completion of the construction program by January 1, 2015. There are also increasing financial pressures on funding the \$1.4 billion (originally \$0.5 billion) program through its completion date.

The Affordability Analysis completed, using EPA criteria, shows that for all ratepayers in Baton Rouge, Louisiana a **Medium Burden** exists. But over 40 percent of Baton Rouge residents are below the median household income, a very high percentage compared to other cities. When the impacts on these residents are considered a **High Burden** exists.

With these issues in mind, EBROSCO management is requesting a three (3) year time extension to the consent decree to better manage and meet construction timelines, add additional work to the program (such as projects at the North Treatment Plant, etc.) and avoid additional financial pressure on the system's rate payers, especially low income households.

Detailed calculations and documentation are provided herein.

#### **Financing the SSO Control and Wastewater Facilities Capital Improvements Program (RMAP2):**

In order to finance this massive capital improvements program, a sufficient revenue base must exist in order to pay for the program. EBROSCO is financing SSO CIP 2 (RMAP2) through a combination of debt issuances and some pay-as-you go financing. EBROSCO has two permanent sources of revenue: the sewer user fee and a one-half of one percent (1/2%) sewer sales and use tax.

## EPA Affordability Analysis

June 1, 2011

### Sewer User Fee:

The sewer user fee was adopted by EBROSCO on May 15, 1985 and has been amended three times to increase the base rates and volume rate charges to current and future levels. The sewer user fee provides about two-thirds of the revenue base for the sewer program. **Table 1** presents a brief history of the sewer user fee and its changes as well as current rates, based on the neighborhood average of 8,600 gallons of usage. For 2011, estimated revenues from the sewer user fee are expected to total approximately \$72 million.

**Table 1**

#### **Sewer User Fee History**

Ordinance <u>Date</u>	Ordinance <u>Number</u>	Action <u>Action</u>	Effective <u>Date</u>	Approved <u>Rate Increase</u>	8,600 <u>Gallon Usage</u>
05/15/1985	7853	Enacted	07/01/1985	N/A	\$ 8.01
05/26/1987	8417	Increase	07/01/1987	66%	\$ 13.30
08/25/1999	11542	Increase <sup>(1)</sup>	01/01/2000	32%	\$ 17.55
			01/01/2001	32%	\$ 21.82
			01/01/2002	31%	\$ 25.94
06/12/2002	12334	Increase	01/01/2003	10%	\$ 28.54
			01/01/2004	4%	\$ 29.67
			01/01/2005	4%	\$ 30.85
			01/01/2006	4%	\$ 32.09
			01/01/2007	4%	\$ 33.36
			01/01/2008	4%	\$ 34.70
			01/01/2009	4%	\$ 36.09
			01/01/2010	4%	\$ 37.54
			01/01/2011	4%	\$ 39.04
		Awaiting Effective Date	01/01/2012	4%	\$ 40.60
		Awaiting Effective Date	01/01/2013	4%	\$ 42.23
		Awaiting Effective Date	01/01/2014	4%	\$ 43.92
		Awaiting Effective Date	01/01/2015	4%	\$ 45.67
		Awaiting Effective Date	01/01/2016	4%	\$ 47.50
		Awaiting Effective Date	01/01/2017	4%	\$ 49.40

### Sewer Sales Tax:

In April of 1988, the citizens of East Baton Rouge Parish passed a one-half of one percent (1/2%) sales and use tax dedicated for sewer improvements. The tax went into

## EPA Affordability Analysis

June 1, 2011

effect on January 1, 1989. The sales tax can be for used operations and maintenance, security for debt issuances, and for any lawful sewer improvement. The sewer sales tax was the main financing element for financing the first sewer consent decree construction program. From 1989-2005, sales tax bonds were issued to finance the first consent decree program and the beginning of the SSO CIP 2(RMAP2).

In 2006, the Parish of East Baton Rouge transferred the avails of the sewer sales tax, through an intergovernmental agreement, to EBROSO in order for the tax to be combined with the sewer user fee for debt issuance purposes. Prior to the transfer, debt issuances were secured separately by the sewer sales tax and the sewer user fee. The combination of the two revenue streams provides a more stable covenant for the issuance of sewer revenue/sales tax bonds. Both fees are still accounted for separately as required by local ordinances.

**Table 2** presents sales tax revenue collections for the period 1989-2010. The table shows that the sales tax has had healthy growth over the course of its existence, but it is subject to fluctuations in the economy as evidenced by the negative growth that occurred in 2009 and 2010. When this occurs it places more stress on sewer user fee rate payers because their share of the financing burden is proportionately higher.

<u>Year</u>	<u>Sales Tax Collections</u>	<u>Percent Change</u>
1989	\$ 17,434,982	N/A
1990	\$ 18,804,835	7.86%
1991	\$ 18,963,595	0.84%
1992	\$ 20,173,421	6.38%
1993	\$ 20,931,149	3.76%
1994	\$ 22,380,537	6.92%
1995	\$ 23,663,303	5.73%
1996	\$ 25,234,100	6.64%
1997	\$ 26,196,289	3.81%
1998	\$ 28,055,025	7.10%
1999	\$ 28,682,210	2.24%
2000	\$ 28,955,580	0.95%
2001	\$ 28,612,909	-1.18%
2002	\$ 29,493,488	3.08%
2003	\$ 30,258,456	2.59%
2004	\$ 30,636,066	1.25%

## EPA Affordability Analysis

June 1, 2011

**Table 2**  
**Sales and Use Tax Collections**

<u>Year</u>	<u>Sales Tax Collections</u>	<u>Percent Change</u>
2005	\$ 35,971,547	17.42%
2006	\$ 39,373,365	9.46%
2007	\$ 39,774,063	1.02%
<b>2008</b>	\$ 41,653,496	4.73%
<b>2009</b>	\$ 38,564,115	-7.42%
<b>2010</b>	\$ 37,573,486	-2.57%

*Average annual growth rate without the Katrina years of 2005 and 2006 is 2.83%.*

### **Program Affordability Analysis:**

As stated above, EBROSCO management will request a three year extension to the consent decree to complete the revised SSO CIP 2 (RMAP2) construction program. One of the major factors used by EPA to determine whether an extension should be granted in capital improvement programs is whether the program is affordable to rate payers in the service area. EPA provides a policy and guidance document for preparing an “affordability” analysis for sewer systems. This analysis will discuss the details of the two major financial indicators, as defined by EPA guidelines, the Residential Indicator and the composite Financial Capability Indicator.

### **Summary of Findings:**

**Table 3**, as presented below, shows that EBROSCO has a **Medium Burden**, financially, as indicated by the intersection of its Residential Indicator of 1.60% and its composite Financial Capability Indicator of 2.33%. These indicators were developed by EPA through a guidance document and will be discussed below in greater detail. A Medium Burden would indicate that EBROSCO’s current rate payers are under some financial stress with respect to paying for the \$1.4 billion SSO CIP 2 (RMAP2)

## EPA Affordability Analysis

June 1, 2011

**Table 3**

**EBROSCO Financial Capability Assessment: A Medium Financial Burden with High Burden for Low Income Household Rate Payers**

Residential Indicator (Cost Per Household as a % of MHI1)			
Permittee Financial	Low	Medium	High
Capability Indicators Score	(Below 1.0%)	(Between 1.0 and 2.0%)	(Above 2.0%)
Weak: (Below 1.5)	Medium Burden	High Burden	High Burden
Mid-Range: (Between 1.5 and 2.5)	Low Burden	<u>Medium Burden</u>	<u>High Burden</u>
Strong: (Above 2.5)	Low Burden	Low Burden	Medium Burden

*Note: EBROSCO has a Residential Indicator score of 1.60% and Financial Capability Indicators that average of 2.33%.*

*The intersection of these two indicators determines the financial burden category.*

<sup>1</sup> *MHI = Median Household Income*

**Table 3** also shows that low income EBROSCO rate payers have a High Burden, financially, as indicated by the intersection of its Residential Indicator of 2.12% and its composite Financial Capability Indicator of 2.33%. This hybrid calculation was made utilizing the base of actual rate payers (126,228 as of 12/31/2010) as opposed to just utilizing the number of households. The rate payer base should mirror household demographics in East Baton Rouge Parish. Of the Parish’s 167,360 households in 2009, approximately 41% fall below the Medium Household Income (MHI) of \$44,215 with 31% of the 41% having incomes below \$25,000.

**EPA Affordability Assessment:**

Residential customer affordability is often based on wastewater bills as a proportion of median household income. However, for evaluation of issues related to SSO implementation, EPA uses a more comprehensive method to evaluate affordability of SSO CIP 2 (RMAP2). EPA also takes into consideration a set of regional financial capability indicators to measure a utility’s financial capability. This analysis reviews the future cost increases in terms of the affordability indicators used in EPA’s *Combined Sewer Overflows-Guidance for Financial Capability Assessment and Schedule Development* (EPA 1997) hereafter referred to as “*Guidance*.”

EBROSCO has a plan in effect to fund its SSO CIP 2 (RMAP2) and this analysis will focus on how affordable it is for its rate payers. As indicated in **Table 3**, EBROSCO rate payers are under financial stress with respect to having to fund the program by its 2015 deadline. A consent decree extension would provide financial relief by not having to



## EPA Affordability Analysis

---

June 1, 2011

increase rates above the present plan of increasing rates by 4% per year as called for in the present sewer user fee ordinance.

The *Guidance* uses the following financial indicators listed in its SSO Policy:

- Total annual wastewater and SSO control costs per household as a percent of Median Household Income (MHI)
- Bond ratings
- Overall net debt as a percent of full market property value (debt burden)<sup>1</sup>
- Unemployment rate
- Median Household Income
- Property tax collection rate<sup>1</sup>
- Property tax revenues as a percent of full market property value<sup>1</sup>

The *Guidance* states that these financial indicators “might not present the most complete picture of a permittee’s financial capability to fund SSO controls. Permittees are encouraged to submit any additional documentation that would create a more accurate and complete picture of their financial capability.” For EBROSCO, 2005 and 2006 changed the customer base significantly. At the end of 2004, EBROSCO had 127,864 customers in its base. After Hurricane Katrina in 2005, the customer base increased to 130,564 and by the end of 2006 it was 133,113. This represented a 4% increase from the 2004 end of year levels. EBROSCO has never had this large of a change in its customer base since it was created in 1985. Many of the people displaced by Katrina from the New Orleans area were also economically disadvantaged and had low incomes. Many of these people have permanently relocated to East Baton Rouge Parish and are part of the 41% of the Parish that have MHIs of less than \$44,215 which is based on 2009 data from the U.S. Census Bureau. These changes in customer demographics have and will continue to impact EBROSCO’s financial structure throughout the remainder of the consent decree construction program.

The second goal of the *Guidance* is to assist the permittee, EPA, and state environmental authorities in cooperatively developing SSO control implementation schedules. It does not recommend specific time schedules for implementation of SSO controls, based on a certain set of financial capability indicators, but it does provide general boundaries to aid all parties in negotiating reasonable and effective schedules for the implementation of SSO controls.

This analysis is presented within a mid-program schedule review by EBROSCO and its program manager, CH2M HILL. The program schedule is being analyzed from both a financial and constructability point of view. Improvements and modifications to the North Wastewater Treatment Plant are also being analyzed by EBROSCO staff and

---

<sup>1</sup> EBROSCO is a sewer authority and does not have the authority to levy a property tax. Financial indicators are based on EBROSCO’s sewer user fee rate base and the one-half percent sewer sales and use tax.

## EPA Affordability Analysis

---

June 1, 2011

CH2M HILL in order to determine what modifications will provide environmental relief to customers who live in the vicinity of this plant.

The *Guidance* also states that “when the permittee is a sanitary district, sewer authority, or similar entity, the second phase indicators related to property values and property tax revenues may not be applicable. In those circumstances, the permittee may simply use the remaining indicators or submit other related documentation that will help assess the financial capability to implement the SSO controls.”<sup>2</sup> Because EBROSCO is a sewer authority and does have the legal authority to levy a property tax, those financial indicators will not be used in this assessment.

### **Affordability Assessment Methods:**

Affordability assessment using current EPA methodology involves two different levels of analysis, the Residential Indicator, and Financial Capability Indicators.

#### **Residential Indicator:**

The first level measures household affordability or ability-to-pay and is called the Residential Indicator. The most prevalent household cost measure is annual user charges (AUC) as a percentage of median household income (MHI). EPA defines AUC as total current costs (O&M and Debt Service) plus future estimated costs (O&M and Debt Service) for the implementation of an SSO capital improvements program. The formula is defined below:

$$\frac{\text{Total AUC}}{\text{Annual MHI}} = X \text{ percent}$$

Where:

$X$  = a household affordability ratio used to determine the Residential Indicator

The methodology specifies a threshold determined to be affordable. Variations on this formula can be found, such as; 1) inclusion of water and wastewater charges in the numerator; 2) use of average (mean) household income in the denominator; and 3) weighting of the measures to capture poverty effects. These variations have not been calculated in this memorandum.

**Table 4**, as presented below shows household income data used in the development of the Residential Indicator score for EBROSCO. The MHI for East Baton Rouge Parish is 12.65% below the National MHI. This would yield a score of 2 for the Parish and EBROSCO on the EPA scale.

---

<sup>2</sup> *Combined Sewer Overflows-Guidance for Financial Capability Assessment and Schedule Development*, U.S. Environmental Protection Agency, February 1997, page 20.

## EPA Affordability Analysis

June 1, 2011

**Table 4**

### U.S. and East Baton Rouge Parish, Louisiana Median Household Incomes (MHI)

National Adjusted 2010 MHI <sup>1</sup>	\$	<b>50,618</b>
East Baton Rouge Parish Adjusted MHI 2010 <sup>2</sup>	\$	<b>44,215</b>
East Baton Rouge Parish MHI Relative to National MHI		<b>-12.65%</b>

Indicator Ranking	Indicator Ranking	Score
More than 25% below National Adjusted MHI	Weak	1
+/- 25% of Adjusted National MHI	Mid-range	2
More than 25% above National Adjusted MHI	Strong	3

<sup>1</sup> The U.S Census Bureau's 2007-2009 Data Set for the nation and all fifty states was used for national MHI

<sup>2</sup> The U.S Census Bureau's 2005-2009 Data Set for East Baton Rouge Parish, Louisiana was used for MHI

### Financial Capability Indicators:

The second phase of the assessment involves the calculation of a composite Financial Capability Indicator which assesses the overall financial health of the sewer utility as it operates within a community. This indicator examines a utility's bond rating, unemployment rate in the area, median household income, and other factors to develop a numerical score. As stated above, the factors of debt burden (net debt as a percentage of full market value), property tax revenue collection, and property tax revenues as a percentage of full market value were not used for EBROSCO.

### Results:

#### Residential Indicator:

**Table 5**, below, summarizes the results for the Residential Indicator score for EBROSCO. As defined in the guidelines, EBROSCO received a Residential Indicator score of 1.6% for the calculation of Annual Cost per Household divided by Median Household Income. This is in the **Medium Burden** range, as defined by EPA. *This is the standard definition of the Residential Indicator in the EPA guidelines.*

The use of the standard Residential Indicator can be misleading when examining a sewer utility. For EBROSCO, the number of residential customer accounts (126,228 as of

## EPA Affordability Analysis

June 1, 2011

12/31/2010) does not equate to the number of households (167,360) in East Baton Rouge Parish, as estimated by the Census Bureau. The difference of 41,000 can be attributable to households that are not connected to the sewer system and individual apartments and other residential developments that are counted as households by the Census Bureau, but as one residential account by EBROSCO because their respective complexes are served by only one water meter. The complex owners receive the water and wastewater service bills. There are exceptions to this such as condominium type complexes where each residence has its own water meter and thus its own wastewater service account, but this is more of an exception than is typically the case.

Using this assumption, if the numerator were changed for the Residential Indicator calculation to use Cost per Residential Account and the denominator remains the Median Household Income then the ratio jumps to 2.12% which would place the Residential Indicator burden on EBROSCO customers in the **High Burden** range. This indicates a higher impact on the customers who directly pay the sewer user fee as opposed to those areas of the Parish that do not have sewer services and do not pay the fee or those whose services may or may not be hidden in monthly rental payments.

For EBROSCO, the demographic composition of the customer base has changed as indicated above. Approximately 41% of the households in the Parish have incomes that are below the MHI of \$44,215 for the Parish. This demographic directly impacts the customer base for EBROSCO because these demographics easily translate from households to rate paying customers. It is therefore not unrealistic to say that EBROSCO customers are experiencing a high financial burden with respect to paying for the consent decree construction program.

**Table 5**

**Residential Cost Indicators for EBROSCO**

**Projections Using Annualized Costs with Inflation Adjustment for O&M**

Line #	Cost Category		WW Residential Indicator Calculation
1	<b>Current EBROSCO Costs:</b>		
2	Annual O&M Expense	2011	\$ 45,568,000
3	Annual Debt Service (P&I)	2011	<u>\$ 47,009,900</u>
4	Subtotal-Current Costs		\$ 92,577,900
5	Projected Costs: 2012-2052		
6	Estimated Additional Annualized O&M Expense: 2012-2052 <sup>1</sup>	EBROSCO	\$ 45,768,300
		Model	

## EPA Affordability Analysis

June 1, 2011

7	Additional Annualized Debt Service (P&I) 2012-2052 <sup>2</sup>	EBROSCO Model	\$ 23,866,500
8	Subtotal-2012-2052 Annualized Costs		<u>\$ 69,634,800</u>
9	Current & Projected Costs		<u>\$ 162,212,700</u>
10	Residential Share of Total Costs <sup>3</sup>	72.90%	\$ 118,249,600
11	Total Number of Households <sup>4</sup>		\$ 167,360
12	Cost Per Household (Line 10/Line 11)		<u>\$ 706.56</u>
13	<b>Annual Cost Per MHI - EPA Guidance Standard (Line 12/Line 18)</b>		<b>1.60%</b>
14	<b>High Burden Impact Calculation:</b>		-
15	Total Number of Residential Customer Accounts <sup>5</sup>		126,228
16	Cost Per Residential Customer Account (Line 10/Line 15)		<u>\$ 936.79</u>
17	Annual Cost Per MHI for Residential Customer Accounts (Line 16/Line 18)		<b>2.12%</b>
18	<b>MHI East Baton Rouge Parish, Louisiana</b> <i>(Over 41% of households are below the MHI in EBR Parish<sup>4</sup>)</i>		\$ 44,215
Criteria:			
	Low	< 1.0% of MHI	
	Mid-Range	1.0-2.0% of MHI	
	High	> 2.0% of MHI	
<sup>1</sup> Present Value of Estimated Annual O&M Expenses discounted at 4% through 2052.			
<sup>2</sup> Additional Annualized Debt Service through 2052 to finance the SSO Capital Improvements Program.			
<sup>3</sup> Based on Average Residential Billed Volumes.			
<sup>4</sup> 2005-2009 U.S. Census Bureau Data Set (5 year estimates) East Baton Rouge Parish, Louisiana			
<sup>5</sup> Per Service Fee Business Office, December 2010.			

**Table 5** was compiled and calculated, based on the criteria in the EPA *Guidance* document. A summary of the components of the calculation is as follows:

- Lines 1-3: Current EBROSCO costs include annual O&M expenses and annual debt service for the 2011 fiscal year.
- Lines 5-8: Projected Costs include the following:
  - The present value of *Estimated Additional O&M Expenses* for the period 2012-2052 discounted at a 4% growth rate. This covers the expected useful life of the assets that will be placed into service and the final year (2052) that debt service will be paid on these assets.

## EPA Affordability Analysis

---

June 1, 2011

- The Additional Annualized Debt Service is the difference between current Annual Debt Service and the estimated Maximum Debt Service which is scheduled to occur in 2024.
- Line 9: The Current and Projected Costs are the sum of the Current Annual Costs and the Projected Annualized Costs, as described above. The total costs are projected to be \$162,212,700.
- Line 10: The Residential Share of Total Costs was calculated based on the number of residential customers and non-residential customers as of December 31, 2010. The calculation was made in the following manner:
  - As of December 31, 2010, 92.5% of the customer base was residential while 7.5% was non-residential.<sup>3</sup>
  - The Service Fee Business Office calculates the “neighborhood average” usage for the sewer system at 8,600 gallons of billed volume per month. In order to mitigate the effect that some customers may in fact use less water than the “neighborhood average,” the usage rate was dropped to 7,850 gallons (10.5 Ccf) per month or 94,200 gallons per year.
  - The number of residential customers, 126,228, at December 31, 2010 was multiplied by 94,200 gallons of billed volume per year to yield a residential usage of 11,890,677,600 gallons for 2010.
  - The total billed volume was 16,311,420,000 gallons for 2010.
  - The non-residential billed volume was determined by subtracting billed residential volume, 11,890,677,600 gallons, for 2010 from total billed volume, 16,311,420,000 gallons, yielding a non-residential billed volume in the amount of 4,420,742,400 gallons for 2010.
  - Using this methodology, the proration for residential billed volumes and non-residential billed volumes was 72.9% and 27.10%, respectively as of December 31, 2010.
  - Multiplying the residential share of billed volume of 72.9% by the Current and Projected Costs yields a residential share of \$118,249,600.
- Lines 11-12: The Cost per Household is determined by dividing the Residential Share of Total Costs (\$118,249,600) by the number of households (167,360) in the Parish and yields \$706.56 per year.
- Line 13: The Annual Cost per MHI is 1.60% which places the Residential Indicator in the Medium Burden (Between 1.0 and 2.0%) Range.

### High Burden Impact Calculation:

- Lines 15-16: The Cost per Residential Account is determined by dividing the Residential Share of Total Costs (\$118,249,600) by the number of residential accounts (126,228) and yields \$936.79 per year. *This is not an EPA standard*, but is important because it indicates that a burden exists on those who actually pay the sewer user fee.

---

<sup>3</sup> Source: Finance Department-Service Fee Business Office, December 2010.

## EPA Affordability Analysis

June 1, 2011

- Line 17: The Annual Cost per Median Household Income (MHI) Per Residential Customer is 2.12% which places the Residential Indicator in the High Burden (Above 2.0%) Range.

### Composite Financial Capability Indicator:

**Table 6**, below, presents EBROSCO's composite Financial Capability Indicator and the scores for those variables as defined by the EPA's *Guidance* document.

**Table 6**

### **EBROSCO Financial Capability Indicator Benchmarks & Scoring Summary**

Indicator	Strong	Mid-Range	Weak	Value	Score
Bond Rating	AAA-A (S&P), Aaa-A (Moody's), or AAA-A (Fitch)	BBb (S&P), (Moody's), or BBB (Fitch)	Baa BB-D (S&P), Ba-C (Moody's), or BB- D		
EBROSCO	AA/Aa2/AA-			AA	3
Overall Net Debt as a Percent of Full Market Property Value	Below 2%	2%-5%	Above 5%		
EBROSCO1	N/A	N/A	N/A	N/A	N/A
Unemployment Rate	More than 1 percentage point below the National Average	+/-1 percentage point of the National Average	More than 1 percentage point above the National Average		
East Baton Rouge Parish, Louisiana <sup>2</sup>		7.9%		7.9%	2
Median Household Income	More than 25% above Adjusted National MHI	+/-25% Adjusted National MHI	of More than 25% below Adjusted National MHI		
East Baton Rouge Parish, Louisiana <sup>3</sup>		-12.65%		-12.65%	2
Property Tax Revenues as a % of Full Market Value	Below 2%	2%-4%	Above 4%		
EBROSCO1	N/A	N/A	N/A	N/A	N/A

## EPA Affordability Analysis

June 1, 2011

**Table 6**

### EBROSCO Financial Capability Indicator Benchmarks & Scoring Summary

Indicator	Strong	Mid-Range	Weak	Value	Score
Property Tax Collection Rate	Above 98%	94%-98%	Below 94%		
EBROSCO1	N/A	N/A	N/A	N/A	N/A
				Sum of Scores	7
				Average Score	2.33
<b>Rankings</b>					
Weak	1				
Mid-Range	2				
Strong	3				

<sup>1</sup> Not Applicable to EBROSCO since it is a sewer authority with no property tax levy.

<sup>2</sup> East Baton Rouge Parish, Louisiana (August 2010-January 2011 average) Bureau of Labor Statistics)

<sup>3</sup> The U.S Census Bureau's 2005-2009 Data Set for East Baton Rouge Parish, Louisiana

The findings of **Table 6** can be summarized as follows:

- EBROSCO has a strong bond rating with a “AA” rating from Standard & Poor’s; a “Aa2” rating from Moody’s; and a “AA-” rating from Fitch. These ratings were promulgated by the rating agencies for EBROSCO’s 2010 Sewer Revenue/Sales Tax Bond Issue. This places EBROSCO in the “Strong Benchmark” category and a ranking score of “3.”
- The unemployment rate for East Baton Rouge Parish, Louisiana averaged 7.9% for the period August 2010-January 2011 as published by the Bureau of Labor Statistics. The National Unemployment Rate is 8.8% placing the Parish 0.9% below the National Average. This places the Parish in the “Mid-Range Benchmark” category and a ranking score of “2.”
- The Median Household Income for East Baton Rouge Parish is \$44,215 which places the Parish 12.65% below the National Median Household Income of \$50,618. This places the Parish in the “Mid-Range Benchmark” category and a ranking score of “2.”
- The sum of the scores yielded a “7” and the average score was “2.33” which places EBROSCO in the “Mid-Range” ranking for its Financial Capability Indicator.



## **Summary:**

EBROSCO has a **Medium Burden**, financially, as displayed in **Table 3**, utilizing the traditional EPA Affordability Analysis as set forth in EPA's *Guidance*. This indicates that rate payers are under some financial stress with respect to financing the SSO Capital Improvements Program. Utilizing the High Burden Impact Calculation, EBROSCO rate payers have a **High Burden** with respect to financing the consent decree program by January 1, 2015. Since the rate payer base for EBROSCO is responsible for providing approximately two-thirds of the financial resources for the sewerage system, there is currently a high burden for rate payers, especially those who have incomes below the MHI of \$44,215 for East Baton Rouge Parish. Approximately 41% of the households in the Parish are below this MHI threshold.

As disclosed in EPA's *Guidance* document, there is a case to be made that a consent decree extension would help relieve some of this financial stress and would aid in completing the construction timelines in a more orderly and efficient manner. Though the *Guidance* does not imply that an "automatic extension" would be granted due to a Medium Burden or High Burden finding, it does state that it could be used as a negotiating point in determining what a fair schedule would be.

The *Guidance* document also states that permittees should also include any other documentation that would aid in making its case for a schedule change or other modification. EBROSCO will include a copy of its sewer financial rate model with all other information that it presents in order to show how tight its bond capacity is because of the large amount of projects that have to be financed in such a short period of time. The model, along with this affordability analysis, will aid EBROSCO management in making its case for an extension of time to complete the SSO CIP 2 (RMAP2) program.

## **Appendix A**

### **Project Background:**

EBROSCO has been under a consent decree with the EPA since 1988. Consent Decree 1 required the City-Parish, through EBROSCO, to eliminate subdivision oxidation ponds and package treatment plants and transport those flows to expanded treatment plants (North, Central, and South) for both primary and secondary treatment before discharge into the Mississippi River. The ultimate purpose of this program was to eliminate sewage effluent from entering into smaller receiving streams such as the Amite and Comite Rivers. The cost of Consent Decree 1 was approximately \$400 million.

In January 1998, EBROSCO was informed, by EPA, that it was in violation of its National Pollutant Discharge Elimination System (NPDES) permit due sanitary sewer overflows that were occurring in the system during wet weather events. EBROSCO took the position that it wanted to cooperate with both EPA and LDEQ in developing an SSO plan that would reduce these overflows during wet weather conditions.

## EPA Affordability Analysis

June 1, 2011

### SSO Capital Improvements Plan 1 (Original Alternate 7):

There were several iterations to SSO Capital Improvements Plan 1 (SSOCIP 1) and it was derived from three separate alternatives, Numbers 3, 4, and 7 referenced in the 2001 Consent Decree between EBROSCO, EPA, and LDEQ. Alternates 3 and 4 were very similar and called for some collection system rehabilitation, capacity improvements (transmission and pumping), ballasted flocculation units (BFUs), and the construction of above ground tanks to equalize and store wet weather flows until they could be released and transported to the treatment plants for treatment. Alternate 7 was similar in scope except that it provided for the construction of deep tunnels in the Central and South Treatment Plant Service Areas to store wet weather flows and to provide future capacity for the system. One of the positive points for this alternative was that approximately 60-80 pumping stations were envisioned to be eliminated which would reduce operation and maintenance costs over the life of the project.

EBROSCO, with the assistance of the U.S. Army Corps of Engineers, conducted a value engineering analysis for all three SSO alternatives. The result of this analysis concluded that Alternate 7 had the lowest overall economic costs of the three alternatives. As a result of this analysis, EBROSCO staff recommended Alternative 7 to the East Baton Rouge Sewerage Commission (Metropolitan Council) in 2001 and it was listed as one of the three alternatives that could be used in the consent decree. Alternates 3, 4, and 7 had projects that were common to each other. These projects were referred to as Remedial Measures Action Plan 1 (RMAP 1) in the consent decree. The common projects included limited rehabilitation, capacity projects (transmission and pumping) and the Choctaw Storage Facility.

EBROSCO staff, with the assistance of MWH Americas, Inc., developed a planning level cost estimate for the SSOCIP 1 program. **Table 7** indicates that the preliminary cost estimate was \$678 million and shows the various elements of the program.

<b>Table 7</b>	
<b>Alternate 7 Cost Elements</b>	
Cost	
<u>(\$ Millions)</u>	<u>Description</u>
\$ 535	Tunnel System (40 miles) and 40 Capacity Upgrade Projects (300 miles of new or replaced pipe and 112 modified or new pump stations)
\$ 65	Ballasted Flocculation Systems at the Wastewater Treatment Plants
\$ 48	12 Rehabilitation Projects (primarily in the North Treatment Plant Service Area)

## EPA Affordability Analysis

---

June 1, 2011

---

\$ 30	4 Storage Facilities
-------	----------------------

\$ 678
--------

---

RMAP 1 projects began in 2001 with rehabilitation projects in the North Treatment Plant Service Area. These areas were identified as having high infiltration and inflow problems and projects were put together to address these issues. Design engineering contracts were let for capacity improvement projects that were required to accommodate wet weather flows for a two year twelve hour (2 yr – 12 hr) design storm that was selected as appropriate for Baton Rouge.

The design process for Remedial Measures Action Plan 2 (RMAP 2) projects which included the Central and South Trunk Tunnels and their associated pump stations began in late 2003 and early 2004. As preliminary design data became available, it became evident that program costs and constructability, especially for the tunnels, was becoming an issue.

Another issue that affected program costs was the use of Ballasted Flocculation Units (BFUs) as part of SSOCIP 1. The EPA, through numerous meetings and communications with EBROSCO personnel, began to question the use of Ballasted Flocculation Units (BFUs) as part of the plan. BFUs utilize a high speed physical-chemical treatment process. EBROSCO's plan was to use this process during wet weather events. The BFU's would treat the wet weather flows and blend those flows with effluent being discharged from the primary and secondary treatment process at the treatment plants. The EPA regarded this "blending process" as bypassing treatment because all the influent coming into the treatment plants would not be subject to primary and secondary treatment, and disinfection.

As a result of these communications with EPA, EBROSCO began the process of how to mitigate the additional costs that would be incurred by having to subject both dry weather and wet weather flows to primary and secondary treatment. These additional costs would include the need for storage at the treatment plants and in the field. This process was in its infancy when Mayor Kip Holden came into office in January 2005.

In early 2005, the Mayor instructed his Interim Public Works Director, William Daniel, to evaluate the plan. Mr. Daniel, along with MWH, convened a forum of nationally recognized wastewater engineers from across the country to discuss the existing program and potential modifications. The forum generally concluded that:

- The tunneling program in Alternate 7, based on experience in other states, was extremely risky from a cost standpoint.
- Technological improvements and patent expirations had significantly lowered the cost of comprehensive rehabilitation.

## EPA Affordability Analysis

June 1, 2011

- EPA was likely to require comprehensive rehabilitation at the conclusion of the Alternate 7 tunneling program.

As a result of the forum, EBROSCO, with council approval, commissioned Camp, Dresser & McKee, Inc. (CDM) to conduct a formal ninety day reassessment of the consent decree program.

The ninety day reassessment by CDM concluded that the tunnel program should be abandoned in favor of comprehensive rehabilitation to reduce infiltration and inflow (I/I) into the system and wet weather capacity improvements related to pumping and treatment. CDM worked with EBROSCO staff to prepare a modified plan for submittal to EPA for their approval.

### SSO Capital Improvements Plan 2 (RMAP 2):

In 2006, CH2M HILL was selected by the City-Parish Engineers-Surveyor Selection Board and approved by the Metropolitan Council to be the program manager for the revised and current consent decree program that was submitted to EPA in September 2008 (approved by EPA in April 2009). Using this modified consent decree plan, CH2M HILL developed a comprehensive program to implement the design and construction of this program, commonly referred to as the Revised Remedial Measures Action Plan (RMAP) 2 Construction Program. CH2M HILL's program consists of the following program segments as presented in **Table 8** below. The *cost estimates in Table 2 are as of May 2011*.

<b>Table 8</b>	
<b>CH2M HILL</b>	
<b>Revised RMAP2 Program - Approved by EPA/DOJ/LDEQ April 2009</b>	
Cost	
<u>(\$ Millions)</u>	<u>Description</u>
\$ 257	Comprehensive Rehabilitation
\$ 622	Capacity Improvements Projects
\$ 336	Wet Weather Treatment & Storage
\$ 121	Master Planning Projects (PS Generators, Telemetry, Treatment Plants)
\$ 1,336	

### Cost Comparison:

In order to make an accurate cost comparison between the original Alternate 7 Program and the current RMAP2 program that CH2M HILL is administering, it is necessary to update the 2004 cost base for the original program to a more current time reference.

## EPA Affordability Analysis

June 1, 2011

The most significant comparison factors were construction cost impacts that were associated with Hurricane Katrina, rising fuel costs, and concrete cost. These cost increases came into play irrespective of the program alternative and are reflected in our current program estimates. The 2004 planning level estimates were assumed to represent the true cost of the original program. An important point that must be considered is that the 2004 planning level estimates did not factor in the cost impact of deleting the ballasted flocculation process from the original program. Both of those assumptions would affect the final ultimate cost of Alternate 7.

Public Works Deputy Director Bryan Harmon calculated a cost factor adjustment of 1.6 that (15% inflation to 2008, 20% Engineering News Record Construction Cost Index Adjustment, and approximately 20% for the indirect cost less the engineering fees that were already considered.) was needed to adjust the original program level estimates in order to make a useful comparison between the two programs. In **Table 9** below, Mr. Harmon's 1.6 cost adjustment factor is utilized to adjust the cost of the original program to one that is more representative of what the minimum cost of the Alternate 7 Program may have been.

**Table 9**

**Alternate 7 Cost Elements**

**Adjusted for Inflation and other Costs**

Cost Adjustment <sup>(1)</sup>		
Original Cost	Factor (1.6)	
(\$ Millions)	(\$ Millions)	<u>Description</u>
\$ 535	\$ 860	Tunnel System (40 miles) and 40 Capacity Upgrade Projects (300 miles of new or replaced pipe and 112 modified or new pump stations)
\$ 65	\$ 100	Ballasted Flocculation Systems at the Wastewater Treatment Plants
\$ 48	\$ 80	12 Rehabilitation Projects (primarily in the North Treatment Plants Service Area)
\$ 30	\$ 50	4 Storage Facilities
<b>\$ 678</b>	<b>\$ 1,090</b>	

*(1) Cost Factor Adjustment as calculated by Bryan Harmon in June 2010.*

**Table 10** below presents a side-by-side comparison of the original Alternate 7 Program, adjusted for inflation and other variables (Table 9), and the current RMAP2 Program (Table 8) that we are undertaking, under the modified consent decree (approved by the EPA in April 2009). The most important point that needs to be made about Table 10 is

## EPA Affordability Analysis

June 1, 2011

that the original Alternate 7 Program only provided for **12 rehabilitation** projects. EBROSCO is now aware that in order to reduce sanitary sewer overflows in the collection system, an additional \$250 million (based on current program costs) of rehabilitation would have been needed in the Alternate 7 Program because the system was in such disrepair. Very little rehabilitation (10%-12% of the collection system) was planned under the tunnel program because it was envisioned that the tunnels would capture and hold the excess infiltration/inflow (I/I) until it could be pumped out of the tunnels and treated at the plants using the BFU's and the primary and secondary treatment process. But with the BFU's ruled out by EPA and the fact that our collection system was going to have to be rehabilitated to reduce I/I, the cost differential to get to the 60% to 70% rehabilitation threshold, under the Revised RMAP2 Program, is about \$250 million for the original Alternate 7 Program.

**Table 10**

**Comparison of Alternate 7 to the Revised RMAP2 Program <sup>(1)</sup>**

**Adjusted for Inflation and other Costs**

<u>Description</u>	<u>Column 1</u>	<u>Column 2</u>	
	Alternate 7	Revised	Difference
	Adjusted Cost	RMAP2 Program	Column 2 less
	Table 3	Table 2	Column 1
	<u>(\$ Millions)</u>	<u>(\$ Millions)</u>	<u>(\$ Millions)</u>
Tunnel System	\$ 860	\$ -	\$ (860)
Ballasted Flocculation Systems	\$ 100	\$ -	\$ (100)
Rehabilitation	\$ 80	\$ -	\$ (80)
Wet Weather/Storage Facilities	\$ 50	\$ 336	\$ 286
Master Plan	\$ -	\$ 121	\$ 121
Capacity Improvements	\$ -	\$ 622	\$ 622
Comprehensive Rehabilitation	<u>\$ -</u>	<u>\$ 257</u>	<u>\$ 257</u>
<i>Sub-Totals from Tables 3 &amp; 2</i>	\$ 1,090	\$ 1,336	\$ 246
<b>Additional Comprehensive</b>			
Rehabilitation for Alternate 7	<u>\$ 250</u>	<u>\$ -</u>	<u>\$ (250)</u>
<i>Grand Total</i>	\$ 1,340	\$ 1,336	\$ (4)

<sup>(1)</sup> *These costs do not include costs for program or construction administration.*

## EPA Affordability Analysis

---

June 1, 2011

As **Table 10** indicates, there is a small cost differential between the current program and the adjusted Alternate 7 Program, but it must be emphasized that the Alternate 7 Program was never fully designed, so a true cost can only be estimated, based on the best available information. Many of the engineers who studied Alternate 7 believed that constructing deep tunnels at depths of ninety feet or more would have been difficult in the soil strata of East Baton Rouge Parish. No tunneling projects have been done in the type of soils in the Baton Rouge area. The nature of our local soils could have brought forth unforeseen problems that would have added to the tunnel program's cost. Furthermore, there were only one or two companies with the technology to construct the tunnels. These potential unforeseen costs, as well as the rehabilitation costs, were never factored into the cost of Alternate 7. The current RMAP2 Program utilizes proven technology for all aspects of the program and the soil depths that construction will take place in is well known.

**Attachment 5**

**LDEQ Declaration of Emergency and Administrative  
Orders**

---



# Attachment 5 – LDEQ Declaration of Emergency Administrative Orders

DATE: June 7, 2011

The City of Baton Rouge and Parish of East Baton Rouge (City/Parish) is requesting a three (3) year extension to the compliance schedule at this time. The City/Parish asserts that the numerous unforeseen force majeure events that have occurred and affected the Baton Rouge area since 2005 are a justification that extension is warranted, especially given the tremendous resources and effort the City/Parish has expended in preparation for and response to these events, as well as committing time and resources to the recovery phases of the force majeure events. The City/Parish has made great progress implementing the RMAP1 and RMAP2 projects required by the Consent Decree, even though they have had to deal with these disastrous events.

Since 2005, there have been numerous catastrophic force majeure events to affect the City/Parish staff and residents. These events at times have disrupted the normal business operations of the City/Parish, diverted staff from their normal work, affected contractor availability and prices, affected the engineering consultant availability and prices, affected availability and prices of equipment supplies, and even has changed the population of the City/Parish.

The Louisiana Department of Environmental Quality (LDEQ) has put out numerous Declarations of Emergency and Administrative Orders for these events, many of which have been even extended and are current for 2011. The City/Parish has documented these force majeure issues as the execution of the RMAP2 Program has progressed. The City/Parish acknowledges that they may not have made formal force majeure declarations for all of these events, but asserts that these were indeed force majeure events and intends to help demonstrate that by the attached copies of the actual emergency orders issued by LDEQ. This section includes a list of the first and last documented LDEQ Orders made for the force majeure events below, in addition to the timing of the start and stops of the orders is also listed below:

- Hurricane Katrina August 30, 2005 – March 31, 2011
- Hurricane Rita September 27, 2005 – September 30, 2007
- Hurricane Gustav August 31, 2008 – March 31, 2011
- Hurricane Ike September 12, 2008 – March 1, 2011
- British Petroleum Deep Water Horizon Oil Spill May 5, 2010 – August 31, 2011
- 2011 Threat of Flooding along the Mississippi River and Other State Water Bodies May 10, 2011 – August 7, 2011

**Attachment 6**  
**July 10, 2007 EPA Letter**

---



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

JUL 10 2007

**CERTIFIED MAIL**

**RETURN RECEIPT REQUESTED (7099 3220 001 4433 6870)**

Honorable Melvin "Kip" Holden, Mayor-President  
City of Baton Rouge  
Parish of East Baton Rouge  
Post Office Box 1471  
Baton Rouge, Louisiana 70821

Re: United States and Louisiana v. The City of Baton Rouge and Parish of East Baton Rouge, Civil Action No. 01-97B-M3 (M.D. La.)

Dear Mayor-President Holden:

As you are aware, a Consent Decree was entered in the above referenced civil action by the United States District Court for the Middle District of Louisiana on March 14, 2002 ("the 2002 Consent Decree"). On November 19, 2002, pursuant to Paragraph 31 of the 2002 Consent Decree, the City of Baton Rouge and the Parish of East Baton Rouge ("the City/Parish") submitted to the United States Environmental Protection Agency, Region 6 ("EPA") and the Louisiana Department of Environmental Quality ("LDEQ"), for review, a proposed Second Remedial Measures Action Plan ("the 2002 Second RMAP proposal") in which it selected a remedial measure for the Collection System. Before EPA and LDEQ issued a decision on the 2002 Second RMAP proposal, the City/Parish proposed to revise the submittal. Discussions between the Parties resulted in agreement that the City/Parish would submit to EPA and LDEQ, for review, under Section XVII (Review of Submittals) of the 2002 Consent Decree, a revised Second RMAP proposal which would supersede the 2002 Second RMAP proposal.

The City/Parish commissioned Camp Dresser & McKee Inc, to conduct a formal reassessment of the compliance plan outlined in the 2002 Consent Decree. On August 1, 2005, the City/Parish submitted to EPA and LDEQ a revised Second RMAP proposal titled *Draft Sewer System Model Verification and Revised Second Remedial Action Plan* ("the 2005 Revised Second RMAP proposal") together with a cover letter, dated July 29, 2005. With regard to the 2005 Revised Second RMAP proposal, the City/Parish stated that "the modification proposed herein will achieve the purposes of the Consent Decree in a more permanent, reliable, and less risky manner than the [2002] Second RMAP [proposal]". (July 29, 2005 Letter at page 1)

In July 2006, counsel for the City/Parish confirmed that the 2005 Revised Second RMAP proposal was current and should be considered by EPA and LDEQ for approval. As such, EPA and LDEQ were positioned to make conditional approval of the 2005 Revised Second RMAP proposal, which would have superseded the 2002 Second RMAP proposal. In September 2006, the City/Parish informed EPA and LDEQ that a Peer Review had been conducted, in January 2006, by the new consultant, CH2M Hill. As a result of the Peer Review, the City/Parish was moved to request approval of several new modifications to the Second RMAP proposal, including abandonment of the previous

compliance proposal to convert the Trickling Filter process of the South Wastewater Treatment Plant (WWTP) to an Activated Sludge process, as so described in the 2005 Revised Second RMAP proposal. The City was then directed to provide a written request which outlines the specifics of the new modifications requested of the Second RMAP proposal, for the review and consideration of EPA and LDEQ.

The City/Parish submitted a Report to EPA and LDEQ, dated November 21, 2006, and titled *Sewer System Model Verification and Revised Second Remedial Action Plan* ("the 2006 Revised Second RMAP proposal") together with a cover letter, dated December 13, 2006. EPA and LDEQ have reviewed and considered the 2006 proposal and understand that the 2006 Revised Second RMAP proposal supersedes all other Proposed Second RMAPS.

Pursuant to Paragraph 40(a) of the 2002 Consent Decree, EPA and LDEQ hereby approve the 2006 Revised Second RMAP proposal as the Second RMAP proposal.

In the December 13, 2006 cover letter, the City/Parish states, "[i]n addition to the interim limits for the South WWTP already contained in the current Consent Decree, we are hereby requesting additional interim limits . . . ." (See December 13, 2006 letter at paragraph 6). The Parties have discussed this issue and agreed to address the issue of new interim limits for the South WWTP in a proposed Agreement and Order Regarding Modification of the Consent Decree. Thus, the City/Parish's request for new interim limits for the South WWTP is not approved by this letter.

In various discussions between the Parties, the City/Parish requested that some flexibility be added to the 2002 Consent Decree to allow EPA and LDEQ to grant extra time to complete the Second RMAP in an effort to compensate for potential delays caused by the aftereffects of the 2005 Hurricanes Katrina and Rita. The Parties have discussed this issue and agreed to address the issue of the aftereffects of the 2005 Hurricane season in a proposed Agreement and Order Regarding Modification of the Consent Decree. Thus, the City/Parish's request for extra time to complete the Second RMAP to compensate for potential delays caused by the aftereffects of the 2005 Hurricane season is not approved by this letter.

EPA and LDEQ thank the City/Parish for its time and effort in the development and submission of the 2005 and 2006 Revised Second RMAP proposals. If you should have any questions, then please feel free to contact Mona Bates of EPA at (214) 665-7152 or Peggy Hatch of LDEQ at (225) 219-3715.

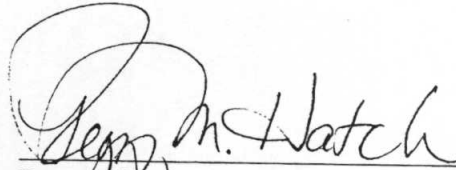
Sincerely,

7/10/07  
Date

Mona M. Bates  
Mona M. Bates  
Louisiana State Program Coordinator  
Water Enforcement Branch (6EN-WM)  
Compliance Assurance and Enforcement Division

7/10/07

Date



Peggy Hatch  
Administrator

Enforcement Division

Louisiana Department of Environmental Quality

Cc: Michael T. Donnellan  
U.S. Department of Justice