

Alabama Department of Environmental Management  
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July 18, 2016

Mr. Don Sims, General Manager  
West Morgan-East Lawrence Water Authority  
P. O. Box 2254  
Decatur, Alabama 35609

RE: **Sanitary Survey**  
PWSID #0001092  
Morgan County

Dear Mr. Sims:

I was in Morgan County on July 13, 2016 to conduct the sanitary survey of the West Morgan-East Lawrence Water Authority. Please thank Mr. Self, Ms. Slater, and Mr. Byrd for the assistance provided during my inspection.

The purpose of the Sanitary Survey is to inspect a water system in regards to production and delivery of potable water in eight specific areas ensuring compliance with state and federal regulations. The eight areas, which are discussed below, are Source, Treatment, Distribution, Storage, Pumping Facilities, System Operation and Maintenance, Monitoring/Reporting requirements. A copy of the completed Sanitary Survey Evaluation Form is enclosed.

### General

The West Morgan-East Lawrence Water Authority utilizes an 8.0-MGD water treatment plant. The system has an average daily demand of 5,000,000 gallons and a maximum daily demand of 7,000,000 gallons. The system is interconnected with West Lawrence Co-Op, the Courtland Water Department, the Falkville Water Works, the Trinity Water System, the VAW Water System, Inc., the Moulton Water Works Board, the Town Creek Water System and the Decatur Utilities.

### Source

Water from the Tennessee River is treated at the system's treatment plant. The intake structure was visited. This facility has been properly maintained. The West Morgan-East Lawrence Water Authority has completed the four required activities of the Source Water Assessment Program: delineation of the source water assessment area, contaminant inventory,



susceptibility analysis and public awareness. The system is required to update its contaminant inventory when it renews its operating permit.

### **Treatment**

The water treatment plant, which was visited, is used on an as need basis. The water is treated with chlorine for disinfection (2.0 ppm), alum for coagulation (29 ppm), chlorine dioxide (1.0 ppm) for removal of organics, and lime (pre – 2.5 ppm and post - 4.5 ppm) for pH adjustment. The chemical treatment equipment was operating properly. Mechanical treatment of the water consists of flash mixing, flocculation, sedimentation, MIEX (to facilitate the removal of organics from the raw water), and membrane filtration. The system has been issued ADEM Construction Permit #16-039 to install GAC contactors at the water treatment plant to reduce the concentrations of PFOA/PFOS. The raw water had the following characteristics during my visit: a turbidity of 4.0 NTU, a pH of 8.3, an alkalinity of 69, a CO<sub>2</sub> concentration of 2.0 mg/L, an iron concentration of 0.02 mg/L, and a manganese concentration of 0.109 mg/L. The finished water had the following characteristics: a chlorine residual of 2.03 mg/L, a turbidity of 0.03 NTU, a pH of 8.0, an alkalinity of 59, a CO<sub>2</sub> concentration of 2.0 mg/L, an iron concentration of 0.01 mg/L, and a manganese concentration of 0.007 mg/L.

### **Distribution**

Potable water is supplied to approximately 8,710 customers. Adequate chlorine residuals were detected from the distribution system. The system attempts to maintain a minimum operating pressure of 80 psi which is greater than the minimum operating pressure of 20 psi required by ADEM Admin Code R. 335-7.

### **Storage**

The West Morgan-East Lawrence Water Authority maintains eight water storage facilities with a total capacity of 5,300,000 gallons. At this time, only four of the facilities are in service. The protective exterior paint on the visited sites was in good condition. Security fencing has been erected around each site.

### Pumping Facilities

The system utilizes four (4) booster stations with a total pumping capacity of 3,710 gpm. These facilities appeared to be operating properly. Their doors were locked. The perimeter of the Highway 157 booster station should be fenced for additional security.

### System Operation and Maintenance

Aspects of West Morgan-East Lawrence Water Authority's operations were discussed. A review of the Standard Operating Procedures, staffing logs for the treatment plant, instrument calibration schedules and monthly operating reports (MORS) was conducted. These documents were complete and easily accessible. Completed MORs are submitted prior to the 10<sup>th</sup> of the following month deadline.

### Monitoring/Reporting

The West Morgan-East Lawrence Water Authority must maintain the following documents: a Bacteriological Sampling Site Plan (BSSP), a Cross-Connection Control Policy (CCCP), a Disinfectants/Disinfection Byproducts Site Sampling Plan (D/DBP), a Consumer Confidence Report (CCR), and the results of required chemical analysis the system performed. The system's BSSP and CCCP are kept at the offices of the West Morgan-East Lawrence Water Authority. These documents contained all the necessary information.

During the inspection the system's Lead and Copper Rule (LCR) sampling protocols and guidance documents were reviewed. Based on this review, the water system appears to be in compliance with all LCR sampling protocols and guidance documents requirements. All certified laboratories that conduct lead and copper analysis are now required to notify ADEM within 24 hours of any action level exceedance; this will help ensure that you meet all of the public notification and education requirements as soon as possible. **Also, future ADEM inspections and sanitary surveys will include a review of the system's lead and copper sampling plan. Please make sure the plan is available for review along with the materials inventory of the distribution system and the lead and copper monitoring results."**

### Additional Comments

The Department encourages the West Morgan-East Lawrence Water Authority to review an emergency water conservation policy. The policy should address prolonged and short term crisis like a drought or storm event. It should include how the consumers are to be notified

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upon its activation and what actions will be required of them. **The Department should be notified (e.g. by letter in case of drought or by phone in case of hurricane) should the water conservation plan be enacted.**

Based on this Sanitary Survey, the overall rating for the System is **SATISFACTORY**. No major deficiencies were noted during the inspection. If you have any questions concerning this letter or my visit please contact me at (334) 271-7790.

Sincerely,



Marc A. Chapman  
Surface Source Section  
Drinking Water Branch

Cc: Morgan County Health Department

Alabama Department of Environmental Management - Drinking Water Branch  
Public Water System Sanitary Survey Evaluation Form - Surface Water System

SURFACE  
 GROUND  
 PURCHASE

System Name West Morgan - East Lawrence Water Authority County Morgan

PWSID # 000 1092 Survey Date (Mo/Day/Yr) 7 13 16

SOURCE	Quantity	STORAGE	Quantity
1. SWAP	\$	27. Capacity	\$
2. Security	\$	28. Protection/Security	\$
3. Pumping Capacity	\$	29. Bypass/Drain/Overflow/Sample Tap	\$
4. Intake Structure	\$	30. Maintenance Program	\$
5. Pumps	\$	31. Facility Security	\$
6. Screens	\$	32. Routine Maintenance Program	\$
<b>TREATMENT</b>			
8. Flash Mix	\$	33. Preventative Maintenance Program	\$
9. Flocculation	\$	34. Supplies/Spare Parts	\$
10. Sedimentation	\$	35. Inst. Calibration Schedule	\$
11. Filtration	\$	36. Waste Disposal	\$
12. Mechanical Equipment Condition	\$	37. SOP Manual	\$
13. Chemical Storage	\$	<b>OPERATION AND CONTROL</b>	
14. Chemical Feed	\$	38. Certified Operators	\$
<b>DISTRIBUTION</b>			
15. Finished Water Pumping Capacity	\$	39. Laboratory Equipment	\$
16. Water Quality	\$	40. SCM/SCD	\$
17. Pressure	\$	41. On-Line Turbidimeters	\$
18. Fire Flow	\$	42. Computer Capabilities	\$
19. Distribution System Condition	\$	43. Operation Data Reports	\$
20. Cross Connection Control Pol.	\$	44. Monitoring/Reporting/Record Kping	\$
21. Valve/Hydrant Maintenance	\$	<b>EMERGENCY OPERATION</b>	
22. Flushing Program	\$	45. Stand By Generators	\$
23. Leak Detection/Repair	\$	46. Emergency/Contingency Plan	\$
24. System Map	\$	<b>A. Average Daily Production (Gallons)</b>	
25. BSSP	\$	<u>5.8 mgd</u>	
26. Disinfectant Residual	\$	<b>B. Maximum Daily Production (Gallons)</b>	
		<u>7.0 mgd</u>	

Additional Comments

C. Raw Water Pumping Capacity (Total) \_\_\_\_\_ MGD  
 D. Finished Water Pumping Capacity (Total) \_\_\_\_\_ MGD  
 E. Filtration Rate(s) \_\_\_\_\_ gpm/sq.ft.  
 F. Backwash Rate(s) \_\_\_\_\_ gpm/sq.ft.  
 G. Filter Backwash Observed (Y/N) \_\_\_\_\_  
 H. Backwash Criteria  
 a. Turbidity \_\_\_\_\_  
 b. Loss of Head \_\_\_\_\_  
 c. No. of Hours \_\_\_\_\_  
 I. Field Tests  
 C12 7.0  
 pH 7.9  
 psi 80  
 L. Overall Rating S  
 J. Water Purchased  
 Total # of Connections 14  
 # of Purchase Conn. 1  
 Total Gallons Purchased / Month 2.8 mgd  
 K. Storage Capacity  
 Storage Capacity 7 Number of Tanks  
 Total Storage (Gallons) 4,800,000

ADEM Inspector Mare Chapman Initials MWC  
 System Representative Stanley Self

