

March 9, 2017

Mr. Kyle Barber  
Enforcement Analyst  
Water Division, Enforcement Branch  
Arkansas Department of Environmental Quality  
5301 Northshore Drive  
North Little Rock, AR 72118-5317

FY152150

RE: Interim Operating Plan  
NPDES Permit Number AR0022292, AFIN 04-00052  
City of Decatur, CAO LIS 16-094

Dear Mr. Barber:

This letter serves as the interim operating plan as required by the referenced CAO for the Decatur Wastewater Treatment Plant (WWTP). Following is a description of the operational measures that will be undertaken at the WWP in order to maximize the removal efficiency of all pollutants covered by the permit. The attached *Figure 1* is an overall map of the WWTP with the interim operating measures identified.

#### Flow Diversion

During weekdays, the City is currently diverting flows that exceed the treatment capacity of the WWTP (3.0 MGD) to the equalization pond for temporary storage. This allows the plant operator to more effectively manage the operating efficiency of the plant by maintaining a more consistent flow through the treatment trains. The equalization pond has an estimated available capacity of 1.9 million gallons (MG), which is adequate storage to handle excess flows during weekdays.

On the weekends, the flow to the plant drops significantly, with the majority of the flow coming from the City of Centerton at an average rate of 0.7 MGD. During this time, the plant operator is able to pump the raw wastewater stored in the equalization pond into the WWTP.

This procedure will be continued until the proposed design process improvements are constructed, which will increase the WWTP capacity and eliminate the need for regular flow diversions to the equalization pond.

#### Sludge Storage and Processing

The current WWTP consists of three (3) sequencing batch reactors (SBRs) installed in parallel, followed by an Actiflo phosphorus removal system, UV disinfection, and post aeration. The existing sludge press cannot handle the amount of sludge produced by the current treatment process, and as a result, a significant amount of sludge has accumulated in the SBR tanks and Actiflo system. At times, the sludge blankets in the SBR tanks Actiflo system will "burp" solids, which in turn causes pollutant levels to exceed the permit limits.

In order to reduce the amount of sludge stored in the system, the City will install temporary pumps and piping from the Actiflo sludge return line and post equalization tanks into the existing pond located

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adjacent to the main WWTP. This existing pond has an estimated available capacity of 1.7 million gallons, which is more than adequate to temporarily store the excess sludge until it can be dewatered and processed for disposal. This will allow the SBR tanks and Actiflo to operate more efficiency and reduce the risk of solids being introduced into the effluent stream.

Currently, the existing sludge press is operated 40 hours per week on average. The operating time of the sludge press will be increased up to 80 hours per week as necessary to minimize the accumulation of sludge in the SBR tanks and Actiflo system, and to also process the sludge that will be temporarily diverted to the existing pond.

This procedure will be continued until the design process improvements are constructed and a new sludge press is installed which can process a higher volume of sludge.

#### UV Disinfection System

The existing UV disinfection system has a rated capacity of 3.0 MGD and is fitted with automatic wiper rings. The City has found that the automatic cleaning cycle may not be fully cleaning the UV quartz sleeves, and that manually cleaning the system has improved the disinfection efficiency. If necessary, the City will manually clean the UV system on a weekly basis in order to maximize the disinfection efficiency and reduce potential for fecal coliform limits to be exceeded. This will continue until a new UV system can be installed and placed into operation, which will occur as part of the planned improvements at the WWTP.

#### Plan Implementation

As previously discussed, flow diversion and temporary storage has already been implemented at the WWTP along with the routine manual cleaning of the UV disinfection system. The remaining measures in the plan will be implemented immediately with the goal of maximizing pollutant removal efficiency by May 31, 2017.

Please don't hesitate to let me know if you have any questions or need additional information.

Very Truly Yours,



Nicholas R. Batker, PE, CFM

Encl: Figure 1

Cc: Mayor Robert Tharp  
Mr. James Boston, Director of Public Works  
Ryan Adler – Crossland Heavy Construction



K:\2015\152150- Decatur WWTP Expansion\Drafting\Sheets\Decatur WWTP Interim Operating Plan.dwg 3/9/17 at 1:01pm



INTERIM OPERATING MEASURE:  
IF NECESSARY, MANUALLY  
CLEAN EXIST UV DISINFECTION  
EQUIPMENT WEEKLY TO MAXIMIZE  
DISINFECTION EFFICIENCY

INTERIM OPERATING MEASURE:  
CONSTRUCT TEMP PIPING AND  
PUMP TO DIVERT SLUDGE FROM  
ACTIFLO SYSTEM TO EXIST POND

EXIST SLUDGE  
PRESS BLDG

EXIST POND  
76,000 SF  
3' AVAILABLE DEPTH  
1.7 MG AVAILABLE  
STORAGE

EXIST ACTIFLO SYSTEM

EXIST POST-EQ TANKS  
EXIST SBR TANKS  
EXIST ANOXIC TANKS  
EXIST ANAEROBIC TANKS

EXIST 8" SLUDGE  
RETURN LINE FROM  
ACTIFLO SYSTEM

EXIST 16" INFLUENT LINE

EXIST  
HEADWORKS

EXIST INFLUENT  
PUMP STATION

INTERIM OPERATING MEASURE:  
PUMP RAW WASTEWATER BACK  
INTO WWTP DURING LOW FLOW  
PERIODS (WEEKENDS)

INTERIM OPERATING MEASURE:  
CONSTRUCT TEMP PIPING TO  
DIVERT SLUDGE FROM ACTIFLO  
SYSTEM TO EXIST POND

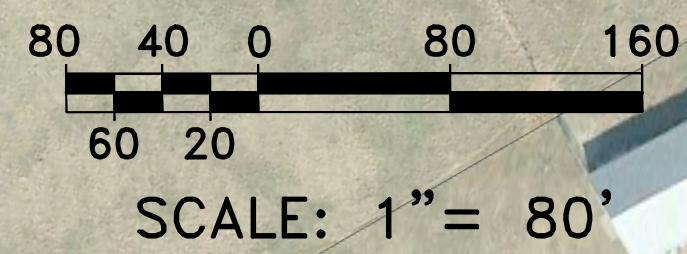
EXIST INFLUENT  
DIVERSION STRUCT

INTERIM OPERATING MEASURE:  
DIVERT FLOWS IN EXCESS OF 3.0 MG/D  
TO EQUALIZATION POND (WEEKDAYS)

EXIST 18" INFLUENT LINE

EXIST EQ POND  
PUMP STATION

EXIST EQUALIZATION  
POND  
108,000 SF  
2.4' AVAILABLE DEPTH  
1.9 MG AVAILABLE  
STORAGE



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ORIGINAL SIGNATURE ON FILE

DECATUR WWTP  
DECATUR, ARKANSAS



NO.	DATE	DESCRIPTION

### INTERIM OPERATING PLAN

PROJECT ENGR: NRB    DRAWN BY: LEW  
DATE: MARCH 2017  
SCALE: 1"=80'    JOB NUMBER: FY152150

FIG. 1