CORRECTIVE ACTION PLAN

February 2019

MOUNTAIN VIEW

COLLECTION SYSTEM PLAN

PREPARED FOR:

CITY OF MOUNTAIN VIEW, ARKANSAS
P.O. BOX 360
MOUNTAIN VIEW, AR 72560

PREPARED BY:

CWB ENGINEERS, INC.
1915 HWY 25 B
HEBER SPRINGS, AR 72543

CWB
Engineers, Inc.

CWB Project # 18-068

CERTIFICATE OF AUTHORIZATION
CWB
ENGINEERS, INC.
No.1716
ARKANSAS

STATE OF
ARKANSAS
REGISTERED
PROFESSIONAL
ENGINEER
No.12366
CLINT W. BELL
2-8-19

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INTRODUCTION

The City of Mountain View, Arkansas has agreed to a Consent Administrative Order (CAO) LIS No. 18-091 from the Arkansas Department of Environmental Quality (ADEQ). In order to address the deficiencies in the collection system, the CAO required the submission of a Collection System Plan. The City of Mountain View has continually struggled with Inflow/Infiltration in the Collection System. The CAO lists 27 overflows from February 1, 2015 to February 28, 2018 and denotes excessive inflow/infiltration into the collection system as a limiting factor for effluent compliance. This Collection System Plan will outline the steps necessary to mitigate the current issues in the city's collection system. Additionally, the following plan will detail the steps and associated dates to complete the Comprehensive Sanitary Sewer Flow Monitoring and Infiltration and Inflow Study required by the CAO.

COLLECTION SYSTEM BACKGROUND

The City of Mountain View has expended significant funds in constructing facilities to facilitate wet weather flows in its collection system. However, as with most systems in Arkansas, the city continues to struggle to alleviate overflows and large peak flows in the collection system. There continue to be instances of NPDES permit violations and overflow from the collection system directly attributable to extreme rainfall events. As with any wastewater system, the collection system cannot be economically designed to carry all rainfall events. The City of Mountain View will implement a two-year storm event as the basis for hydraulic design in the system. As a result, the city will design all sewer improvements to handle a minimum of a two-year event. Furthermore, Mountain View and their consultants will monitor the system according to these design parameters. Therefore, the City of Mountain View shall evaluate, monitor, and address all overflows resulting from a rainfall event equal to a two-year storm or less. Any overflows occurring as a result of rainfall greater than the two-year storm will be monitored and reported, but no corrective action will be necessary.

PLAN OF ACTION

The City of Mountain View intends to proceed with the actions described in the paragraphs below.

System Assessment and Flow Monitoring Study "Study" – The City of Mountain View has entered into a contract with CWB Engineers, Inc. to develop and submit for ADEQ approval a System Assessment and Flow Monitoring Study. The Study will include:

- Delineation of the system into distinct Collection system basins. (Note – This work has been completed and 6 basins have been identified)
- Perform site evaluation for flow meters and selection of flow meter equipment. (Note – This work is complete)
- Installation of 6 flow meters and 1 rain gauge. (Note – this work is complete)
- Calibration of equipment and initial setup of Data Delivery Service, which is real-time monitoring of the flow data. (Note – this step in underway)

- 90-day monitoring with monthly calibration, maintenance, and continual monitoring of data via real-time service.
- Removal of 6 flow meters and 1 rain gauge.
- Completion of the data analysis of rainfall data and resulting flows.
- Development of a report compiling rainfall data and resulting flows, graphs, hydrographs, and peaking factors for each of the basins.
- Prioritization of the basins based on peaking factors, flow volumes, and Inflow/Infiltration (I/I).
- Recommendations and Conclusions for future efforts and intensive study areas.

Flow monitoring equipment will be installed in each system basin in order to measure and record wet weather and dry weather flows. Using this information, CWB will identify and rank from maximum to minimum each sub-basin's contribution of I/I flow to the system. From this ranking, CWB Engineers will prioritize the sub-basins with excessive I/I. Additionally, field activities will be conducted to identify overflows and hydraulic capacity issues in the collection system.

Lift Station Analysis - CWB Engineers will review operating data for each of the City's pump stations to determine normal operating conditions and pumping records following rainfall events, estimate peak flows (including escaped SSO volumes, if any), estimate the capacity of critical system components, identify hydraulic deficiencies (if any) including components of the system with limiting capacity, evaluate preliminary short and long term capacity enhancements to address each hydraulic deficiency identified, make preliminary evaluation of alternatives for corrective action, and prioritize corrective action.

Capital Improvement Plan (CIP) – The Capital Improvement Plan will detail the estimated capital improvements necessary to achieve compliance with the proper maintenance and operation of its wastewater collection system as it applies to capacity related SSO's and bypasses (wet weather overflows). The CIP will include both capacity related projects and I/I rehab projects in the system. The CIP will be developed based on CWB historical averages and project costs. This planning document will be used to gain proper funding, if necessary, and provide a milestone schedule to ADEQ.

Sanitary Sewer Evaluation Study (SSES) - Based on analysis of the data collected and prepared, CWB will identify basin areas requiring a more intensive review. A Sewer System Evaluation Study (SSES) will be completed in each of these basins to provide a more detailed evaluation. The SSES will include the following activities, as deemed necessary by the Engineer:

- GIS/Mapping – Identification and geolocation of assets.
- Smoke Testing – Rainfall simulation through smoke testing of mainlines and manholes.
- Manhole Inspections – Visual Inspections of all manholes with logs of defects.

- Television Inspections – Closed circuit televising of mainlines to identify defects and rehabilitation methods.
- Dyed Water Flooding – Identification of cross connections and direct stormwater sources.

The SSES report shall include a description of the methodology for the performance of the SSES and shall detail the steps the City will take to fully and expeditiously implement system corrective action. The final SSES report shall include a milestone schedule for the City of Mountain View.

Dry Weather Overflows – The City of Mountain View is not aware of any "chronic" overflow areas in its wastewater collection system caused by capacity limitations in transporting dry weather flows. As with any system, the city does experience dry weather overflows on occasion. The city will continue to monitor the collection system and react in a timely manner to all dry weather overflows. Also, as Mountain View continues to correct wet weather overflows, the system will improve and positively impact the number of occurrences of dry weather overflows.

Sanitary Sewer Overflows (SSOs) – CWB Engineers will work will the city to develop best management practices for addressing SSOs. This will include developing an Sanitary Sewer Overflow Response Plan (SSO Plan), implementing a Fats, Oils, and Grease (FOG) program, and implementing a public relations effort to educate citizens on the collection system. Upon implementation, all overflows will be addressed according to the overflow response plan to be developed by CWB Engineers.

MILESTONE SCHEDULE

Action	Final Date
Start System Assessment and Flow Study	January 2019
Complete System Assessment and Flow Study	July 2019
Complete Lift Station Analysis	July 2019
Develop Capital Improvement Plan	August 2019
Develop Milestone Schedule for ADEQ	September 2019
Initiate Funding Options, if required	September 2019
Secure Funding *	July 2020
Final Compliance Date	December 31, 2025

*Funding timeline depends on source of funds – could be additional 12 months.

CONCLUSIONS

The Mountain View staff and city officials are committed to resolving the issues related to the collection system and sanitary sewer overflows (SSOs). CWB Engineers has had numerous meetings with the staff, the mayor, and the council regarding the CAO and the city's desire to address the collection system. The schedule outline above gives an estimated timeframe for the project progress milestones, to which the City of Mountain View and CWB Engineers, Inc. are devoted to meeting and, where possible, exceeding. CWB Engineers will continue to monitor the efforts and update ADEQ throughout the project, especially with regards to any changes in dates or action items.