

2 INTRODUCTION

2.1 PURPOSE

The purpose of this document is to develop a comprehensive wastewater plan for the City of Lee's Summit, Missouri (City).

The Wastewater Master Plan provides the City with a document that addresses the City's wastewater needs and challenges for the next nine years (through 2015) as well as the ultimate build-out of the City. Specifically, the following tasks are addressed:

- A. Estimate wastewater flows for Year 2015 and ultimate build-out based on the City's Comprehensive Development Plan.
- B. Prepare a hydraulic model of the City's entire wastewater collection and conveyance system. Conduct system analysis of existing system, identifying bottlenecks. Identify solutions to correct areas where capacity issues result in potential sewer backups and overflows.
- C. Identify sewer service recommendations related to growth to Year 2015 and to ultimate build-out. Utilize model to establish existing and future capital improvements related to projected growth.
- D. Evaluate limitations and opportunities available from Little Blue Valley Sewer District and Middle Big Creek Sewer District in conveyance and treatment of the City's wastewater.
- E. Based on results of previous and current wastewater system evaluations, prepare recommendations related to reduction, rehabilitation, and/or conveyance of infiltration and inflow in the City's wastewater system. Make recommendations related to infiltration and inflow reduction on private property.
- F. Review and make recommendations related to City's implementation of the Environmental Protection Agency's CMOM (Capacity, Management, Operation, and Maintenance) program.
- G. Develop prioritized capital improvements with a schedule for improvements related to the Year 2015 and ultimate build-out growth conditions.

2.2 PLANNING PROCESS

The wastewater planning process is primarily driven by the City's land use plan. In Lee's Summit, the Comprehensive Plan is the document created and adopted by the City to guide future development decisions related to where to locate residential, commercial, and industrial land uses. It also provides guidance on population density within these land use types. This information is important in establishing future wastewater usage as the City develops to its ultimate build-out.

Once adopted by the Lee's Summit Planning Commission, this Wastewater Master Plan becomes an integral part of the Comprehensive Development Plan. Likewise, the Wastewater Capital Improvement Plan, included in this Master Plan, will be reviewed and adopted by the Lee's Summit City Council for use in its overall Capital Improvement Plan.

2.3 MASTER PLANNING CONSULTANT

The City contracted with the consulting team of Archer Engineers and CH2M Hill for the completion of the Wastewater Master Plan.

2.4 PREVIOUS REPORTS

The following reports, written prior to the Wastewater Master Plan, were utilized as reference for this master plan:

- A. 1998 Wastewater System Evaluation, 1998, George Butler Assoc., Inc.
- B. Lee's Summit Comprehensive Plan, 2004, City of Lee's Summit, Missouri
- C. Interceptor Capacity Evaluation – Little blue Valley Sewer District, May 9, 2005, Archer Engineers
- D. Scruggs Road Pump Station – Phase 11 Improvements – Preliminary Design Report – City of Lee's Summit, Missouri, October 2006, CTE.
- E. Preliminary Engineering Report – Middle Big Creek Sub-District, September 22, 2006, Archer Engineers

2.5 ABBREVIATIONS AND ACRONYMS

The following list of abbreviations and acronyms is provided as a reference for common abbreviations used in this report:

cfs	Cubic Feet per Second
CIP	Capital Improvements Plan
City	City of Lee's Summit
CMOM	EPA's Capacity, Management, Operation, and Maintenance Program
EDU	Equivalent Dwelling Unit
EFHB	Excess Flow Holding Basin
EPA	United States Environmental Protection Agency
gpd	Gallons Per Day
gpm	Gallons Per Minute
I/I	Inflow and Infiltration
JCUWWD	Johnson County Unified Wastewater Districts
LBVSD	Little Blue Valley Sewer District
MBC	Middle Big Creek Sub-District
MDNR	Missouri Department of Natural Resources
mgd or MGD	Million Gallons per Day
PDWF	Peak Dry Weather Flow
PBF	Peak Base Flow
SSES	Sanitary Sewer Evaluation Study
SSO	Sanitary Sewer Overflow