

1 Introduction

To support ongoing wastewater collection system capital improvements as well as management and operation of their system, the City of Santa Rosa updated its system-wide wastewater collection system master plan (completed in 2006). This document provides a description of the updated model development, calibration, and quality assurance procedures used in developing an expanded model of Santa Rosa's sewer collection system to support this master plan update. Additionally, this document provides a summary of the subsequent system characterizations, alternatives evaluations and cost estimates that will provide the City with an updated master plan and list of capital improvements designed to meet the minimum Level of Service (LOS) for Santa Rosa's sewer collection system for the chosen Level of Control (LOC).

The following provides an overview for the contents of the rest of this report:

- Section 2 provides an overview of the course taken to update the model. This includes reviewing the previous skeletal model, and comparing those extents to the new model extents. This section will also describe the calibration process and results, as well as the hydraulic characterization of the existing wastewater collection system.
- Section 3 documents the specific procedures used to develop future flow estimates, and to allocate them across the model network. This section also describes any updates made to the calibrated model to support the alternatives evaluations.
- Section 4 discusses the selection of the LOC based on "Knee of the Curve" analysis and a review of other regional municipalities and utilities have chosen.
- Section 5 describes the alternative developed to support the master plan update as well as the estimated costs for any recommended improvements.
- Section 6 reviews the Capital Improvement Plan (CIP) and recommends future projects based on the alternative discussed in Section 5



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