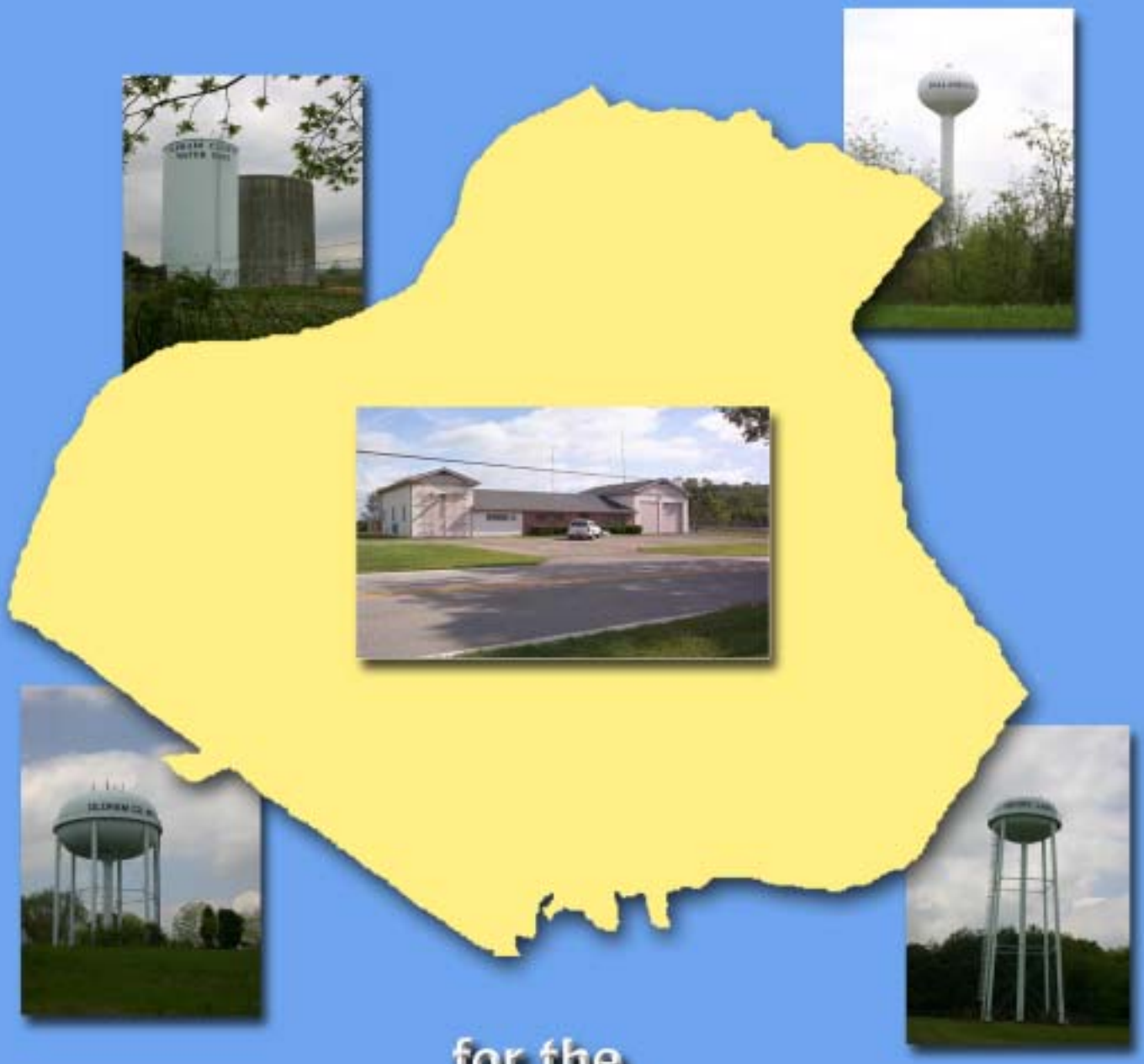
CAPITAL IMPROVEMENT PLAN



for the

OLDHAM COUNTY WATER DISTRICT

December 2005

GRW Engineers, Inc. 11909 Shelbyville Road Suite 100 Louisville Ky. 40243 Tel 502/489-8484
3237-17

1.1 Introduction

The Oldham County Water District (OCWD) currently supplies approximately 4.5 million gallons per day (MGD) of potable water to customers in the eastern two-thirds of Oldham County, including metered connections with the City of LaGrange, Henry County Water District No. 2, and Goshen Utilities. Oldham County has experienced rapid growth for the past 15-20 years. The rapid growth has stressed the existing drinking water infrastructure. Of immediate concern is the ability to provide reliable water supply and adequate pressures to OCWD's existing customers while accommodating additional growth. Long-term concerns include the ability to meet the required water supply requirement for fire flows and the ability to accommodate long-term growth within the service area. It is projected that the population of the OCWD service area will increase in proportion to the overall increase expected for Oldham County. This projected increase over the next 20 years is 67%.

OCWD selected GRW Engineers, Inc. to evaluate the existing infrastructure including the wells, treatment plant and distribution system. From there, a plan was developed to address both short and long term concerns over the next 20 years.

2.1 Water System Master Planning

A series of three studies were conducted over the past 2 years that analyzed the entire distribution process. These studies include the wells and groundwater supply, the water treatment plant, and the distribution system.

2.1.1 Well Field

An aquifer delineation and ground water supply study was completed in December 2005. The study objectives were to:

- Define the nature and extent of the alluvial aquifer.
- Identify groundwater resources that may be a candidate for future development.
- Provide additional data with which to calibrate the groundwater model that was previously developed for purposes of groundwater protection.

The study area was bounded by the Ohio River to the northwest, the town of Westport to the south, and the wooded hills to the east. Information regarding existing wells was collected and reviewed. Where additional data was needed, the aquifer was investigated by means of six soil borings and an electrical resistivity sounding.

The saturated depth of the aquifer varied from 60 feet to 130 feet as presented in Figure 1. It was concluded that the portion of the aquifer in which it is feasible to develop a high-capacity water supply well is the area with a saturated thickness of 90 feet or greater. However, the greatest capacity wells will be possible in the area with the greatest

saturated thickness - near the river. It was recommended that a test well be installed to confirm the feasibility of any specific well site prior to acquisition of that site.

The river bottom area downstream of Westport may also be a potential well field. However, it was not possible to drill in this area because OCWD was not able to obtain permission to enter the property. It was recommended that OCWD consider investigating the river bottom area downstream of Westport when selecting sites for long-term future wells.

2.1.2 Wells and Water Treatment Plant

The water supply and treatment master plan was completed in March 2005. The purpose of this study was to 1) evaluate the condition of the existing wells and treatment plant, 2) assess their ability to meet the growing need for treated water, and 3) evaluate alternatives for increasing the available capacity to meet the future needs of the OCWD service area.

The existing well field contains 7 wells. The firm capacity of the existing wells is 8.5 MGD. The master plan evaluated the need for additional well capacity as well as the capacity of the existing raw water main. It was determined that additional wells and another raw water main are needed. With the addition of the proposed improvements, the wells will be able to deliver the projected peak demand of 13 MGD to the water treatment plant.

The existing water treatment plant has a design capacity of 7.5 MGD. Each part of the treatment process was evaluated and improvements were recommended based on peak future demands. This included the raw water main, chemical feed system (chlorine, phosphate, and fluoride), clearwells, high service pumping, and high service transmission main. It was recommended to expand the plant to 13 MGD.

2.1.3 Distribution System

In November 2005, a study was completed for the distribution system. A hydraulic model of the entire distribution system was created and calibrated to assist in the decision making process. Demands were projected over the next 20 years using historical data and projected population and growth patterns. An extended period simulation (EPS) was used to show typical daily demand patterns. This was helpful to analyze peak and low demand conditions. The model was also used to determine areas of low pressure along with predicating flows and pressures during a fire event.

Using the hydraulic model and working with the OCWD, GRW identified required improvements to the distribution system. These improvements were prioritized into three phases. Phase 1 improvements were identified as the most important and need to be constructed in the near future (0-3 years), phase 2 improvements need to be constructed within the next 10 years, and phase 3 improvements need to be constructed sometime over the next 20 years.

4.1 Conclusion

Phase 1, 2 and 3 improvements are listed in Tables 1, 2 and 3, along with a cost estimate for each project. Over the next 20 years, six (6) new storage tanks with a combined volume of 6,500,000 gallons are proposed to maintain compliance with PSC requirements. A total of around 210,000 linear feet of new water lines have been proposed to help reduce friction loss and provide key loops in the system. All booster pumping stations (with the exception of Greenhaven) will be decommissioned during the next 20 years. These proposed improvements will provide an efficient system that meets growing water demands while maintaining minimum pressure and storage requirements.