

TABLE OF CONTENTS

SUMMARY 3

Water System Recommendations 3

Wastewater System Recommendations 4

Additional Recommendations 4

2004-2008 Capital Improvements 5

Water Improvements 5

Wastewater Improvements 5

2009-2013 Capital Improvements 5

Water Improvements 5

Wastewater Improvements 6

2014-2018 Capital Improvements 6

Financial Summary 6

Plan Methodology 6

INTRODUCTION 8

Purpose of Plan 8

Content and Methodology 8

Area Description 9

District Background 9

Existing Water Distribution Facilities 10

Existing Wastewater Collection Facilities 10

Existing Water Demands 11

Existing Wastewater Generation 11

BUILDOUT PROJECTIONS 12

Land Use Modification Plans 12

PHASING PROJECTIONS 13

2004- 2008 13

2009-2013 16

2014-2018 18

2014-2018 19

Water System Model 20

Demand Scenarios 20

Wastewater System Model 21

Demand Scenarios 21

REQUIREMENTS FOR PUBLIC SERVICES 22

Planning and Design Criteria 22

Guidelines for System Improvements and Expansion 24

Water System Recommendations 24

2004-2008 24

2009-2013 25

2014-2018 25

Wastewater System Recommendations 26

2004-2008 27

2009-2013 27

2014-2018 27

Water Distribution System Capital Improvements Plan 29

2004-2008 29

**Heber Public Utility District
Service Area Plan**

2009-2013	29
2014-2018	30
<i>Wastewater Collection System Capital Improvements Plan</i>	31
2004-2008	31
2009-2013	31
2014-2018	32
<i>Treatment Facility Improvements</i>	33
<i>Water Treatment Facility Improvements</i>	33
<i>Wastewater Treatment Facility Improvements</i>	33
<i>Public Parks</i>	34
<i>Existing Lighting Services</i>	34
<i>Summary of Proposed Improvements</i>	34
FINANCING	35
WATER ENTERPRISE FUND	35
<i>Assumptions</i>	35
<i>Background</i>	37
<i>Projected Water Revenue Requirements</i>	39
<i>Development and Recommendation of Rate Changes</i>	46
<i>Rate Comparison</i>	48
WASTEWATER ENTERPRISE FUND	52
<i>Assumptions</i>	52
<i>Background</i>	54
<i>Projected Wastewater Revenue Requirements</i>	56
<i>Project Financing</i>	60
<i>Development and Recommendation of Rate Changes</i>	63
<i>Rate Comparison</i>	64
<i>Wastewater Utility Fund Budgets and Debt Service Schedule</i>	66
GENERAL FUND.....	68
<i>Assumptions</i>	68
<i>Background</i>	69
<i>Property Tax Revenue Projection</i>	69
<i>Projected General Fund Budget</i>	69
DISCLOSURE STATEMENT	71
APPENDIX	73
<i>Methodology</i>	73
<i>Water and Wastewater Treatment Facility Demands, Capacities, and Improvement Schedules</i>	75
<i>HPUD Board of Directors Minutes Approving Water and Wastewater Rates</i>	76
<i>HPUD Organization Chart</i>	80
<i>HPUD Audited Financial Statements</i>	81

SUMMARY

The Heber Public Utility District (District) contracted Nolte Associates, Inc. to prepare a Service Area Plan. The purpose of this plan is to furnish the District with a master planning tool for the services that it provides. These services include water treatment and distribution, wastewater collection and treatment, lighting, and park operations and maintenance. This plan assesses the services currently provided and outlines the infrastructure improvements required to supply those services to anticipated developments within the District's sphere of influence. Also contained in this Service Area Plan is a financial plan to fund the District's operations and infrastructure improvements to provide service to the District's customers over the next five years. The plan is based on anticipated growth in the area over the next 15 years in 5-year increments.

This plan contains a Capital Improvements Plan (CIP) for the water treatment facility, water distribution system, wastewater collection system, and wastewater treatment facility. This plan contains estimated costs for treatment facility improvements, but does not include a detailed study of each facility. This plan does not address water purveyance to the Heber Public Utility District by the Imperial Irrigation District or other agency.

Street lighting and parks services are included in the financial plan. The capital costs for expanding these facilities shall be borne by developers and not by the District. As such, a CIP for these facilities has not been prepared or included in this plan.

Water System Recommendations

- A key part of the future distribution system will be a looped 20- and 30-inch pipe that surrounds the existing service area. This loop will ultimately be the backbone of the system, ensuring adequate pressures throughout the distribution network.
- The District should encourage developments closest to the existing water distribution network to connect first. This will permit connection fees and operating revenues, while keeping pipeline capital costs low by reducing and postponing the linear footage of pipeline necessary to serve the proposed developments.
- The loop will connect with a system of 12-inch pipelines that will provide service to customers inside and outside of the loop
- Distribution pipelines should be constructed in phases corresponding to growth patterns in the District

- Connect parallel pipelines and remove dead ends by looping
- Prepare a fire hydrant replacement program
- Increase system operating pressure as developments occur south of the existing township
- The District should prepare a detailed technical Master Plan for the Expansion of the water treatment facility, including potable water storage and distribution pumping.
- The District should maintain treatment facility capacity greater than the anticipated maximum day demand.

Wastewater System Recommendations

- The District should encourage developments closest to the wastewater treatment facility to connect first. This will permit connection fees and operating revenues, while keeping pipeline capital costs low by reducing and postponing the linear footage of pipeline necessary to serve the proposed developments.
- The existing wastewater collection system capacity will not support new developments. All wastewater from new developments will have to travel to the treatment facility via new pipelines.
- The District should begin a program of video inspection of the gravity pipelines to identify deteriorating pipelines and areas with groundwater infiltration
- The District shall prepare a detailed technical study of the wastewater treatment facility.
- The District will increase treatment facility capacity as necessary and as scheduled in this document to ensure that flows are less than 80% of permitted capacity.

Additional Recommendations

- The District should reexamine development and infrastructure improvement plans every five years. The district should employ the water and wastewater system models to help determine what improvements should be made
- The District should update and calibrate the water and wastewater models every few years to ensure their accuracy

2004-2008 Capital Improvements

This phase represents the most accurate outlook for development. During this phase, improvements will be concentrated in areas northwest and east of the existing Township. The developments include housing, commercial developments, and one school.

Water Improvements

The first portions of the 20- and 30-inch loop will be constructed. These large improvements will be a base for future growth, while providing capacity for fire flows at the new developments. Several connections will be made between existing parallel pipelines to improve system performance. The District should also begin the fire hydrant replacement program as part of its annual small capital outlay, replacing a few hydrants every year. The water treatment facility has only 700,000 gallons of excess capacity. It will need to significantly increase its capacity. The treatment capacity increase schedule is shown in the Appendix.

Wastewater Improvements

All future developments will require new pipelines to the treatment facility. Large diameter pipelines near the treatment facility will convey consolidated flows from all future developments. During this phase, the improvements will take place north and east of the existing Township. The treatment facility has approximately 420,000 gpd of excess capacity. Generation from proposed developments will eclipse that capacity within the first five years. The wastewater treatment facility will need to increase its capacity. The treatment capacity increase schedule is shown in the Appendix.

2009-2013 Capital Improvements

Further development during this phase will again take place east and west of the existing Township. These developments will include commercial centers and single-family housing.

Water Improvements

The remaining portions of the 20-inch loop will be completed during this phase. Significant expansion of the network will take place southeast of the Township to serve Heber Ranch and the Scaroni Property. Minor improvements will be made to provide service to new service areas northwest of the Township. Additional capacity at the water treatment facility will be required.

Wastewater Improvements

Gravity additions will be made east of the Township to service the Imperial Center. Additional capacity at the wastewater treatment facility will be required.

2014-2018 Capital Improvements

This time period represents a conservative conceptual outlook at a full build-out scenario. With these improvements, the water distribution network and the wastewater collection system will be completed. Additional capacity improvements will be required at both treatment facilities.

Table S-1 Capital Improvements Summary

Year	Water Distribution System Improvements	Water Treatment Improvements	Water Treatment and Distribution System Improvements	Wastewater Collection System Improvements	Wastewater Treatment Improvements	Wastewater Treatment and Distribution System Improvements
2004-2008	\$ 6,027,600	\$ 9,000,000	\$ 15,027,600	\$ 4,245,120	\$ 3,600,000	\$ 7,845,120
2009-2013	\$ 5,471,500	\$ 22,500,000	\$ 27,971,500	\$ 2,506,600	\$ 9,570,000	\$ 12,076,600
2014-2018	\$ 3,379,200	\$ 3,000,000	\$ 6,379,200	\$ 2,148,000	\$ 2,400,000	\$ 4,548,000
Total	\$ 14,878,300	\$ 34,500,000	\$ 49,378,300	\$ 8,899,720	\$ 15,570,000	\$ 24,469,720

Financial Summary

Capacity fees will be a primary means of funding the proposed water and wastewater improvements. The water system improvements will require the District to incur long term debt to finance the projects outlined in the Capital Improvements Plan. The wastewater system, due in large part to the excess capacity at the wastewater treatment facility, will not have to incur long term debt to finance those projects. The capital improvements can be paid for through connection fees. Significantly increased property tax revenue will permit the District’s General Fund to fund administrative, parks, and lighting services, as well as establish a cash reserve.

Plan Methodology

The water distribution and wastewater collection system improvements schedule were determined with the assistance of system modeling software. With information from the District on the existing systems’ infrastructure, water usage history and wastewater flows, the hydraulic models were developed and calibrated to represent the existing system. Landowners in the service area were contacted to determine development plans, including the type and schedule for the development. For areas where development is not planned, single-family housing is assumed. This provides a conservative outlook for a conceptual full build out scenario. Using the calibrated model of the existing system as a base, the demands from the planned developments

and the assumed housing were placed into the model to determine what the fully built water distribution and wastewater collection system would look like.

With the full build out system established, the improvements required to serve the developments planned in the first five years were determined. These improvements are pieces of the eventual, fully constructed systems. Using this method, the District will avoid installing parallel water lines and relief sewers in the future. For the next five-year phase, the anticipated additional demands were examined to determine what additional infrastructure would be necessary.

INTRODUCTION

Purpose of Plan

The purpose of this plan is to furnish the Heber Public Utility District (District) with a master plan tool for providing services to existing and future customers. These services include and are limited to water treatment, water distribution, wastewater collection, wastewater treatment, street lighting, and park operations and maintenance. This plan is based on anticipated growth in the area over the next 15 years in 5-year increments.

This plan establishes a Capital Improvements Plan for water distribution and wastewater collection systems. The improvements are separated into five-year increments, based on scheduled and anticipated demand increases within the respective systems. This plan also includes a timeline for capital improvements to the water treatment facility and wastewater treatment facility to ensure that there is sufficient capacity for the projected additional demands. The plan includes estimated costs for treatment facility improvements, but a detailed study of each facility is not included and is not within the scope of work. This plan does not address the purveyance of untreated water to the Heber Public Utility District from the Imperial Irrigation District.

This plan's financial analysis addresses the operations and maintenance costs of the street lighting and parks services. The capital costs for constructing new facilities shall be borne by developers; therefore a Capital Improvements Plan for these services is not included and has not been prepared.

Summary tables of the projected water demands and wastewater generations are presented in this document. Detailed tables of water demands and wastewater generations can be found in the Appendix.

This Service Area Plan has been developed concurrently with an Annexation Plan by The Holt Group for the District.

Content and Methodology

This plan has been assembled according to State Guidelines and the *Service Area Plan Guidelines (1995)* provided by Imperial County LAFCo. The basis of this Service Area Plan is the anticipated developments outlined in Figure 1. These developments drive the necessary improvements to the water and wastewater systems and the financial plan to fund the necessary improvements. From the anticipated development types and schedule, the improvements required

for the water and wastewater systems were determined. These improvements were assembled into a Capital Improvements Plan for the water and wastewater systems. The CIP's were then used as the basis for the financial analyses. Also shown on Figure 1 are the existing Sphere of Influence (SOI), the proposed expanded SOI, and the existing District Service Boundary.

Key items in the development of this Service Area Plan are the water and wastewater system models. These models are aimed to simulate the two systems under various loading scenarios. These models will allow the District to schedule and prepare infrastructure improvements in the water distribution and wastewater collection systems to accommodate additional demands as developments come forward.

Area Description

Heber is an unincorporated community of Imperial County, California, located six miles north of the United States-Mexico Border between the cities of El Centro and Calexico on Highway 86. Heber is 60 miles west of Yuma, AZ and 120 miles east of San Diego, CA. Its northern border is one mile south of Interstate 8 (McCabe Road) and Highway 111 is its easterly boundary. Jasper Road and the City of Calexico form its southern boundary. See Figure 1.

The central service area can be characterized as residential and industrial, with agriculture surrounding the Township of Heber. The Union Pacific Railroad has an important branch that traverses the Township from the northwest to the southeast. The topography of the area is essentially flat, with the ground surface generally sloped downward toward the north. The Imperial Irrigation District has several canals, drains, and laterals in the northeast portion of the Township.

District Background

The District's residents elect a five member Board of Directors. A General Manager reports directly to the Board of Directors and is charged with overseeing District operations and employees. The District contracts legal counsel that reports to the Board of Directors and the General Manager. Operations, administration, parks, and consultants hired by the District report to the General Manager. Refer to the Appendix for an organizational chart of the District dated December 2001.

The District has a total of 8 full time employees, including three office and five operations staff members. The District is searching for a General Manager. The District has temporary help on occasion as needed. FY2004 expenses for salaries, wages, and fringe benefits totals \$412,000.

This cost is divided among the Water Enterprise Fund, Wastewater Enterprise Fund, and General Fund.

Existing Water Distribution Facilities

The existing distribution facilities are generally small pipelines, with diameters ranging from 3 to 10 inches. There is a small amount of 18-inch pipe along Dogwood Road south of Main Street, and 12-inch pipe in the new Heberwood Estates development. Pipe materials are a mix of asbestos cement and polyvinyl chloride (PVC). Most of the older system is of small diameter, asbestos cement pipes. During the mid and late 1980's, several 8-inch, 10-inch, and 12-inch pipelines were installed parallel to these pipelines. The normal system operating pressure is 45 psi. Please refer to Figure 2 in the Appendix for a map of the existing distribution system.

Many of the fire hydrants are of substandard design. For much of the area, the pipelines surrounding the hydrants are less than six inches in diameter, causing substantial pressure drops in the outlying portions of the network. The Imperial County Fire Marshal reports that the old part of the Township uses cast iron hydrants that are substandard. In general, available fire flows are below acceptable levels. This is a result of the small diameter pipelines in the network and the system's age. Available fire flows in single family home areas should be approximately 2,500 gpm; in multifamily, commercial, industrial, and school areas, 4,000 gpm should be available. Currently the water distribution system cannot deliver these flow volumes. The District will replace some of the substandard hydrants every year through the small capital outlay until all of the substandard hydrants are replaced.

Existing Wastewater Collection Facilities

Most of the system's pipelines are 8-inch diameter pipe, generally of vitrified clay and polyvinyl chloride, with some 12-inch pipe along Hawk Avenue. The pipeline system flows via gravity pipelines and forcemains toward the wastewater treatment facility east of Rockwood Street, one block north of Sixth Avenue. Due to the shallow groundwater, flat topography and the location of wastewater treatment facility, several lift stations are required throughout the system. Including the lift station at the treatment facility, there are seven pump stations in the system. Most of these are above ground, positive suction stations. Figure 6 shows the existing wastewater collection system.

Existing Water Demands

Most of the District's water customers are single and multi family units. Other customers include the geothermal plant, schools, and the County Roads facility. The average daily water consumption in the district is 750,000 gpd. As is the case with most communities in the Imperial Valley, water consumption rises significantly in the summer months. Due to climate, irrigation of parks, schools, and landscaping, water consumption increases substantially. According to District records, the average daily consumption in winter months is less than 500,000 gpd. During summer months, the average daily consumption is over 1,000,000 gpd.

Existing Wastewater Generation

Similar to the water system, the wastewater is generated from residences with a few other sources such as schools, the geothermal plant, and small stores. The average daily wastewater flow to the treatment facility is approximately 350,000 gallons per day. This remains stable throughout the year; it does not increase substantially during hot summer months. During peak hours in the morning, the rate of wastewater flowing into the treatment facility is generally double the average daily flow.

BUILDOUT PROJECTIONS

Land Use Modification Plans

Anticipating land use changes is key to establishing a Capital Improvements Plan for the District. Knowing the planned uses for properties not currently served by the District allows it to plan infrastructure improvements to service those areas with water and sewer services. Timing the land use changes, and thus the water and wastewater improvements, is the basis for the Capital Improvements Plan for each system.

Landowners were contacted to determine their plans for development in the service area. Areas for which no plans for development exist were relegated to the Full Build Out scenario. These areas are assumed to be developed with single family housing.

For this plan, a full buildout was used as the basis for expanding the water and wastewater systems. The full buildout scenario contains all of the developments shown in Figure 1 and single family housing comprising the remaining areas within the Sphere of Influence described in the Introduction. Single family housing has been assumed for areas outside of the developments shown in Figure 1 and after 2013 because it is a likely and conservative scenario for most of those areas. The District should reexamine the anticipated developments every few years to reevaluate the needs to expand the pipeline, pumping, and treatment facilities.

PHASING PROJECTIONS

Shown in Figure 1, there are several planned housing developments in the areas northwest and east of the existing Township. These developments have a proposed number of housing units. Tables 1 and 2 outline the anticipated additional water demands and wastewater generation for the areas with known developments, respectively. For years beyond 2008, four houses per acre were assumed for areas without known development plans. Refer to the Appendix for detailed water demand and wastewater generation formulation tables.

2004- 2008

In this time period, development plans are known for several areas near the existing Township. These housing, school, and commercial plans are considered fixed to continue toward construction and occupancy. Developments in this time period are a base upon which the District should develop construction improvement plans. Diagrams 1 and 2 highlight this phase's plans. In the diagrams, blue text is for additional demand during that phase and black text is for demand that is already present at the beginning of the phase.

Table 1 2004-2008 Additional Water Demand

Development	Type	Total Additional Average Day Water Demand (gpd)	Total Additional Max Day Water Demand (gpd)	Total Additional Peak Hour Water Demand (gpd)
McCabe Ranch 1	Residential and Comm.	145,350	363,375	436,050
Heberwood Estates	Residential	193,200	483,000	579,600
Chelsea	Residential	25,600	64,000	76,800
Correll Estates	Residential	121,900	304,750	365,700
Heber Elementary School	School	12,000	30,000	36,000
Heber Meadows	Residential	251,600	629,000	754,800
Heber 142	Residential and Comm.	688,550	1,721,375	2,065,650
Imperial Center	Commercial	18,500	46,250	55,500
Heber Foundation	Residential	11,040	27,600	33,120
Total		1,467,740	3,669,350	4,403,220

Diagram 1 2004-2008 Additional Average Daily Water Demand

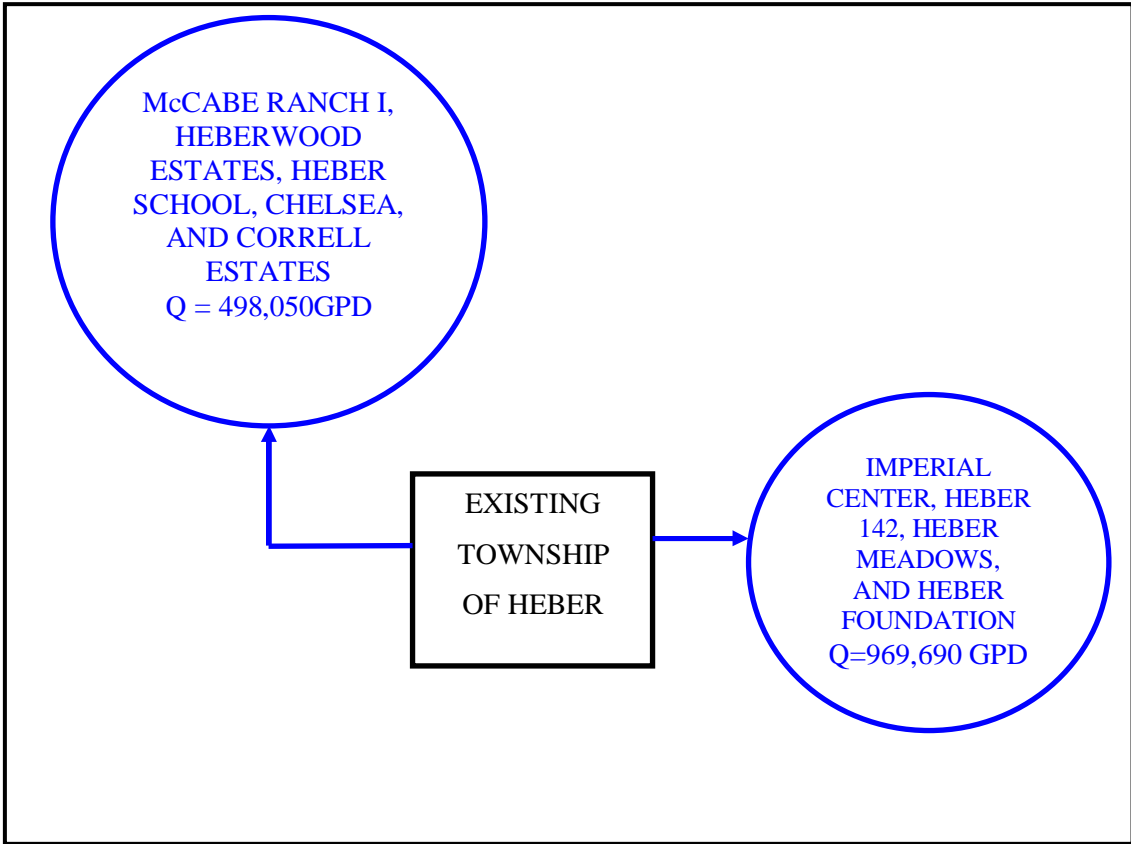
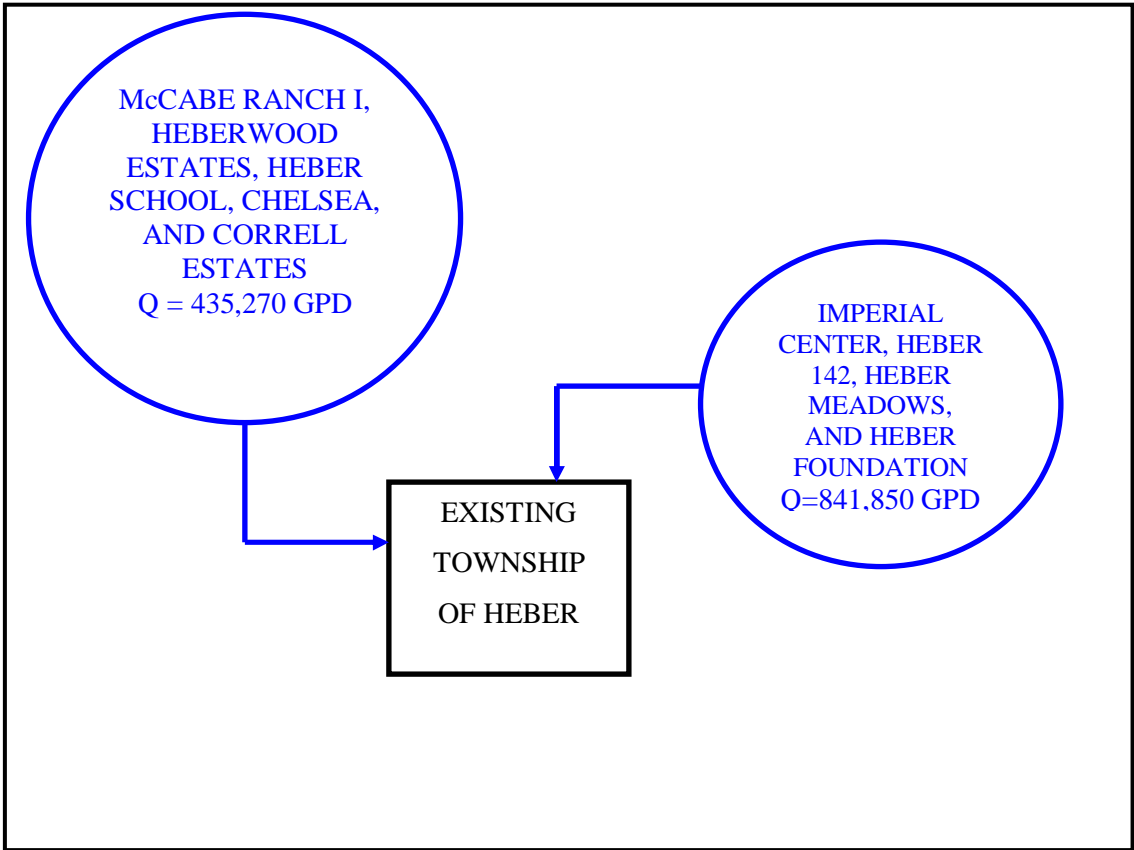


Table 2 2004-2008 Additional Wastewater Generation

Development	Type	Total Additional Average Day Wastewater Generation (gpd)	Total Additional Peak Hour Wastewater Generation (gpd)
McCabe Ranch 1	Residential and Comm.	126,870	252,750
Heberwood Estates	Residential	168,000	336,000
Chelsea	Residential	22,400	44,800
Correll Estates	Residential	106,000	212,000
Heber Elementary School	School	12,000	12,000
Heber Meadows	Residential	219,600	439,200
Heber 142	Residential and Comm.	601,350	1,197,750
Imperial Center	Commercial	11,300	11,300
Heber Foundation	Residential	9,600	19,200
Total		1,277,120	2,525,000

Diagram 2 2004-2008 Additional Average Day Wastewater Generation



2009-2013

This time period includes a few planned developments for housing and commercial developments in the service area. In general, this time period extends beyond the planning horizon that can be considered reliable and fixed. Diagrams 3 and 4 highlight the development plans for this phase. As stated earlier regarding the Diagrams, blue text is for additional demand during that phase and black text is for demand that is already present at the beginning of the phase.

Table 3 2009-2013 Additional Water Demand

Development	Type	Total Additional Average Day Water Demand (gpd)	Total Additional Max Day Water Demand (gpd)	Total Additional Peak Hour Water Demand (gpd)
McCabe Ranch 2	Residential and Comm.	430,460	1,076,150	1,291,380
Scaroni Property	Residential and Comm.	805,320	2,013,300	2,415,960
Heber Ranch	Residential and Comm.	1,610,640	4,026,600	4,831,920
Total		2,846,420	7,116,050	8,539,260

Diagram 3 2009-2013 Additional Average Day Water Demand

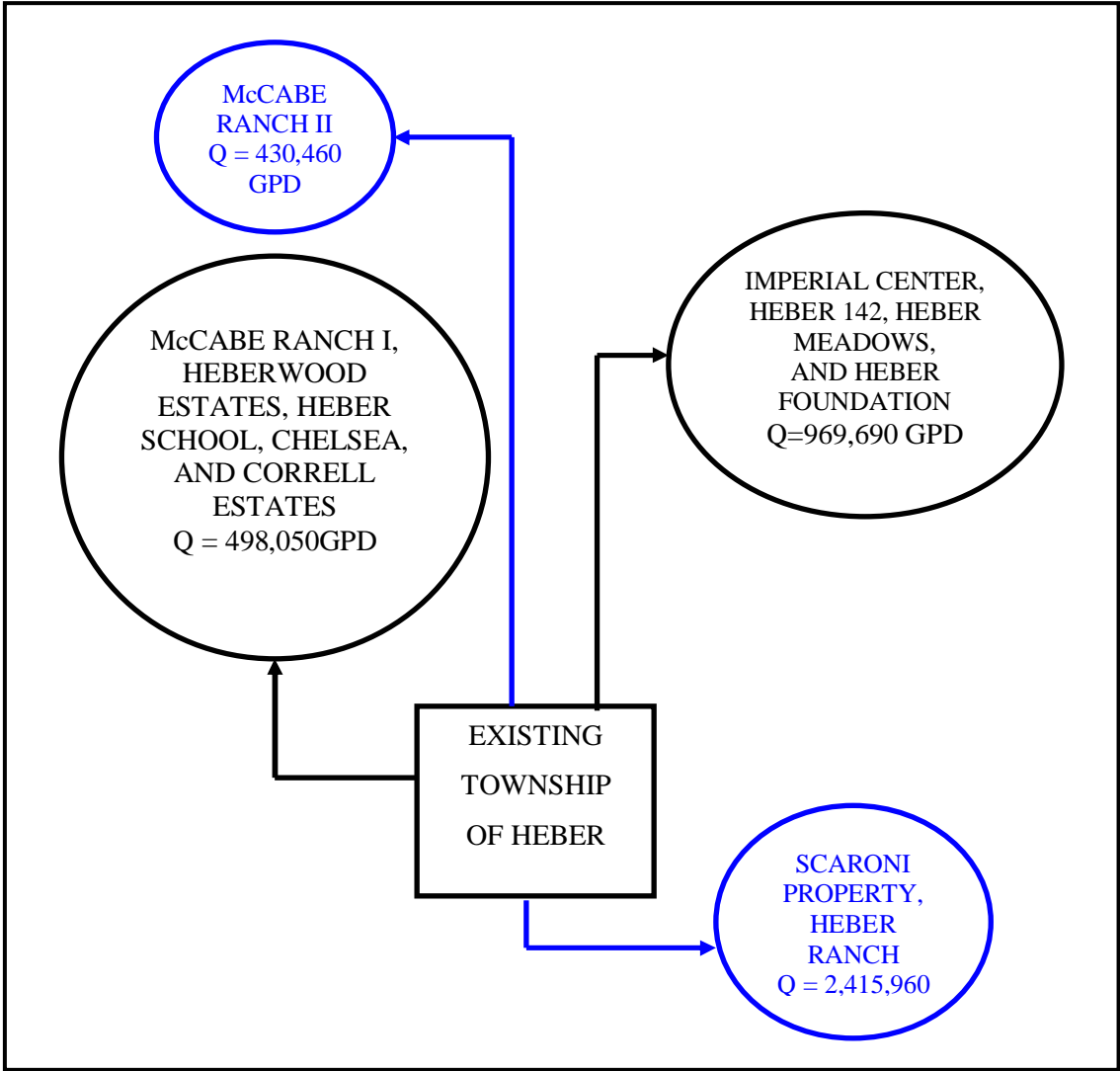
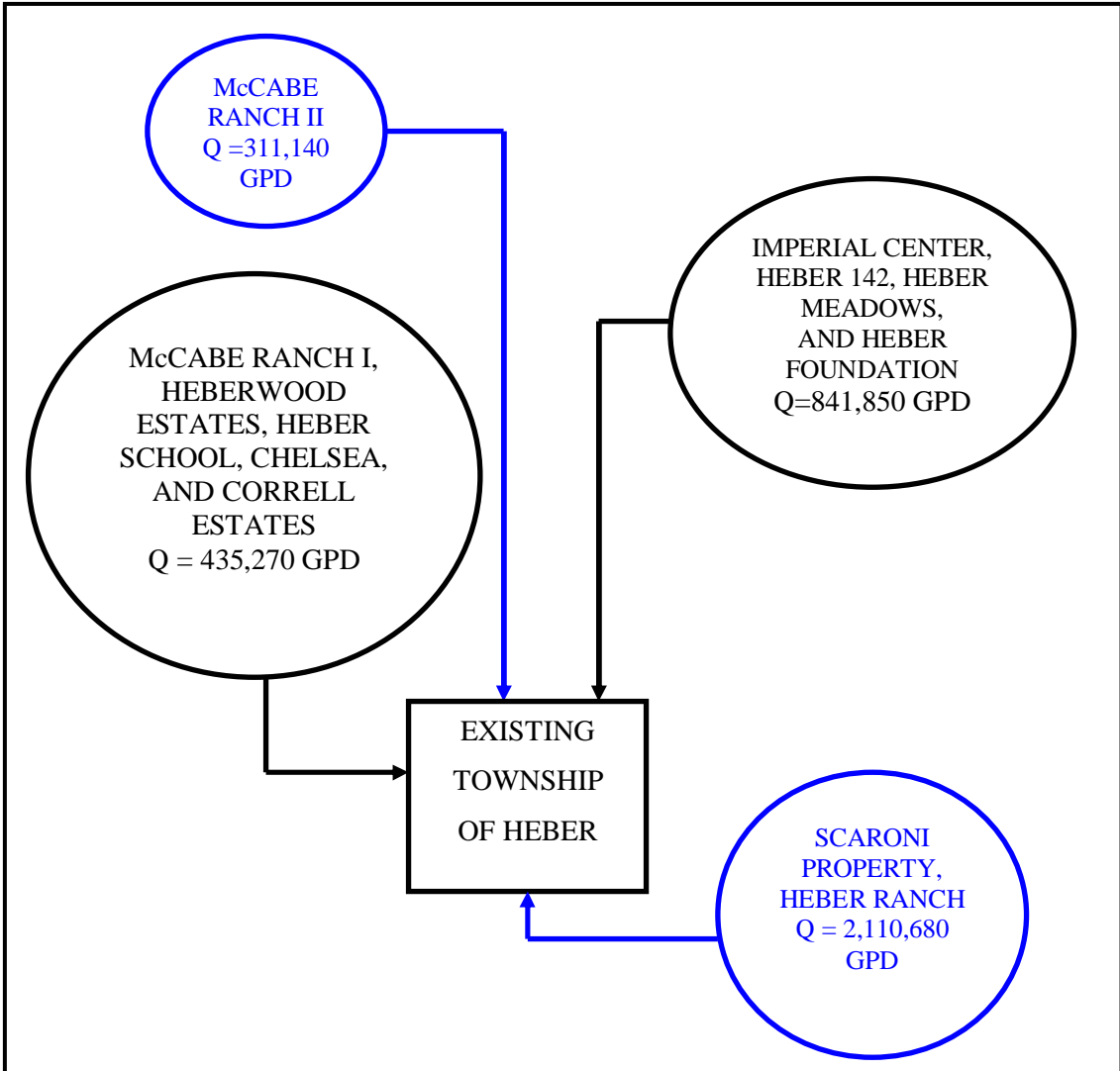


Table 4 2009-2013 Additional Wastewater Generation

Development	Type	Total Additional Average Day Wastewater Generation (gpd)	Total Additional Peak Hour Wastewater Generation (gpd)
McCabe Ranch 2	Residential and Comm.	311,140	613,180
Scaroni Property	Residential and Comm.	703,560	1,400,520
Heber Ranch	Residential and Comm.	1,407,120	2,801,040
Total		2,421,820	4,814,740

Diagram 4 2009-2013 Additional Wastewater Generation



2014-2018

This time period provides a conceptual full build-out scenario upon which the District can base future growth plans beyond the initial 5 and 10 years. This represents a scenario for the District in which single family homes are assumed for areas that do not have specified development plans. Although single family homes will not constitute the entire remaining area in the District, it does present a conservative demand scenario for the future. Based on the full build-out demand, the District will have a conceptual outlook for an eventual distribution network. The District should reexamine the anticipated improvements within the next five years to formulate a more accurate and precise version of what these improvements will be.

Water System Model

The water distribution system was modeled using WaterCAD v. 4.5 from Haestad Methods. The model employed the Hazen-Williams formula.

Information on the existing distribution network was obtained through various sources. Among them were construction drawings for improvements during the last few decades:

Water and Sewer Pipelines - Waddell Engineering June 1984

Water and Sewer Pipelines - Waddell Engineering March 1987

Water and Wastewater Improvements - Garver Engineers September 2000

Potable Water and Sanitary Sewer Pipelines - Nolte Associates, Inc. July 2002

The model was calibrated by comparing pressures and flows in the model and in the physical system at several locations in the network, generally at locations away from the water treatment facility. To adjust the model to match the physical system, several system properties could be modified. These modifications included system demands and pipeline roughness coefficients.

Demand Scenarios

Several scenarios were examined using this model. Average Day, Peak Hour, and Maximum Day Plus Fire flow demand scenarios were developed for years 2004 (existing), 2008, 2013, and 2018. These flow conditions were based on scheduled and assumed developments as shown in Figure 1. Infrastructure (pipelines) and projected demands were placed into the model to determine what infrastructure improvements would be needed to match the anticipated demand scenarios.

The improvements were divided into five-year increments for the Capital Improvements Plan. System improvements were selected based on the anticipated growth shown in Figure 1.

Wastewater System Model

The wastewater collection system was modeled using SewerCAD v.5.0 from Haestad Methods. Information on the existing distribution network was obtained through various sources. Among them were a system map and construction drawings for improvements during the last few decades.

General Plan Sewage Facilities - Bryant, Jehle & Associates June 1969

Water and Sewer Pipelines - Waddell Engineering June 1984

Water and Sewer Pipelines - Waddell Engineering March 1987

Water and Wastewater Improvements – Garver Engineers September 2000

Potable Water and Sanitary Sewer Pipelines - Nolte Associates, Inc. July 2002

Demand Scenarios

Several scenarios were examined using this model. Average Day and Peak Hour flow scenarios were developed for years 2004 (existing), 2008, 2013 and 2018. These flow conditions were based on scheduled and anticipated developments as outlined in Figure 1. Infrastructure was placed into the model to determine what improvements would be needed to match the anticipated demand scenarios.

REQUIREMENTS FOR PUBLIC SERVICES

Planning and Design Criteria

The planning and design criteria set forth in this section are used to assess the capabilities of the existing water and wastewater infrastructure to meet current and future service demands. The criteria are also used to recommend facilities and infrastructure for resolving identified deficiencies. These criteria are recommended and are not intended to be restrictive or absolute. They are based on generally accepted criteria of the water and wastewater industry and professional judgment. Table 5 shows the criteria for the water distribution system. Table 6 shows the criteria for the wastewater collection system.

Table 5 Water Distribution System Criteria

Item	Criteria
Maximum pipeline velocity	
Max day plus fireflow	15 feet per second
Peak hour	7 feet per second
Hazen Williams roughness coefficient (including normal aging, bends, and valve losses)	
New pipe (<10 years old)	140
Old pipe (>10 years old)	100
Pipe materials	PVC or HDPE
Minimum new pipe diameter	8 inches
Normal operating pressure	45 psi
Maximum system pressure	80 psi
Minimum pressure	
Fireflow conditions	20 psi
Peak hour flow conditions	35 psi
Minimum valve spacing	600 feet
Pipeline service life	40 years

Table 6 Wastewater Collection System Criteria

Item	Criteria
Pipeline velocity	
Minimum in gravity pipelines (peak hour flow)	2 fps
Minimum forcemain velocity	2 fps
Maximum forcemain velocity	7 fps
Design flow depth	
8-15 inch pipeline	1/2 pipe diameter
> 15 inch pipeline	3/4 pipe diameter
Mannings roughness coefficient	
New pipe (HDPE or PVC)	0.011
Existing pipe	0.013
Hazen Williams roughness coefficient	
New pipe (<10 years old)	140
Old pipe (>10 years old)	100
Maximum manhole spacing	400 feet
Pipeline service life	40 years
Lift Stations	
Minimum capacity	2 times peak hour flow (including backup)
Minimum storage	4 hours of peak hour flow
Emergency back up	Portable generator
Number of starts per hour	1/2 of manufacturer's recommendation
Minimum pipe slope	
6 inch diameter	0.005
8 inch diameter	0.004
10 inch diameter	0.003
12 inch diameter	0.0022
15 inch diameter	0.0018
18 inch diameter	0.0015
21 inch diameter	0.0012
24 inch diameter	0.0009

Guidelines for System Improvements and Expansion

The District is developing guidelines for improvements to the water and wastewater systems.

The guidelines should be approved by the District's Board of Directors in summer 2004.

Water System Recommendations

The existing distribution system does not extend to the proposed developments and does not have the capacity to serve them. A key part of the future distribution system will be a looped 20-inch pipe that surrounds the existing service area. Portions of this pipeline near the treatment facility will have a diameter of 30-inches to accommodate the high flows exiting the treatment facility before branching to other distribution pipes. This pipeline will ultimately be the backbone of the system. This pipeline will help ensure adequate pressures throughout the distribution network. This pipeline should be constructed in phases corresponding to growth patterns in the district. This means that the pipeline will be constructed piecemeal as developments in the area proceed. Branching off the loop should be 12-inch pipelines that will connect to the proposed developments.

The District has 700,000 gallons of excess capacity at the water treatment facility during maximum day demand. Therefore, additional capacity will be required to support all of the anticipated developments. Capacity increases will take place in stages over the first phase.

The improvements through 2018 represent a conceptual look at what the distribution network should look like at full build-out. The most accurate projection for development and required infrastructure improvements is the first five-year phase. It is recommended that the District reexamine development and infrastructure improvement plans every five years. Likewise, the district should employ the water system model to help determine what improvements should be made. The District should update and calibrate the model every few years to ensure its accuracy.

2004-2008

During this time period, development of housing and a school northwest and east of the existing service area are planned. Commercial and residential construction is also planned in areas east of the Township. The number of services should more than triple. For this reason, most of the improvements lie northwest and east of the existing Township. Here, the 20-inch and 30-inch loop will begin. The 30-inch portion of the loop will be used in areas near the treatment plant. The larger diameter is required because of the higher flows that this pipe will handle between the treatment facility and when other pipes can absorb more of the flow. In this phase, the northern

and much of the east and west segments of the 20-inch and 30-inch loop will be constructed, along with the 12-inch pipelines that will complement the loop.

The distribution network has several pipelines that flow parallel and adjacent to each other for long distances, but do not connect. This does not maximize the performance of the pipelines. Periodic connections of parallel pipelines will enhance the system's performance at a minimal cost. Another gain is a decrease in "dead-ends" where water remains stagnant for long periods of time, which can result in poor water quality.

The District should implement a program to replace old fire hydrants. The District should work with the Imperial County Fire Department to establish a replacement schedule for the remaining substandard hydrants. This program will be financed annually by small capital outlays as shown in the Financial section of the document.

Capacity upgrades will be necessary at the water treatment facility to permit the District to supply sufficient potable water to future customers. These improvements will be done in a modular fashion, adding treatment units and processes prior to allowing new developments to connect to the system. The existing demand, capacity, and schedule for these improvements are outlined in the Appendix.

2009-2013

During this phase, large commercial and housing developments are anticipated in the areas southeast and northwest of the existing service area. More additions to the network should also be continued in the northern part of the service area.

Water consumption will also increase substantially during this period. The additional demand requires the completion of the 20-inch and 30-inch loop. A 30-inch pipeline should be built from the treatment plant to the intersection of Heber Road and Dogwood Road. The existing pipeline is too small. With the additional flow, the pressure losses in the existing pipe will substantially lower the pressure of the entire network.

2014-2018

This time period represents a conceptual full build-out scenario for the District. The development in this period is unknown. For purposes of this plan, single-family housing was anticipated in the remaining undeveloped portions of the District's service area. As recommended earlier, the District should reexamine the development plans every five years.

The surface elevation of the service area rises as one heads south toward Calxico. Because of this, there will be substantially lower pressure in the southeast portion of the system. Therefore, the District should increase the normal operating pressure of the system. This will help ensure that adequate pressures are available in that area, especially during fire.

If redevelopment of portions of the existing Township occurs, it can be a very cost effective opportunity to replace and increase the sizes of pipelines to enhance the service reliability to existing and future customers. In such a case, the District should reexamine the models to see what improvements should be made.

Wastewater System Recommendations

The most important finding of this study is that the existing collection system does not have the capacity for additional developments. New developments should connect to the wastewater treatment facility through new pipelines. The existing pipelines nearest the treatment facility do not have the capacity to handle additional demands. Therefore, several new trunk sewers are proposed for the conceptual full build-out scenario. These new trunk sewers should be large diameter pipelines. This allows for future growth and permits the pipelines to be placed at a flatter slope, reducing the need for lift stations. Because of a high groundwater table within and the flat topography throughout the service area, additional lift stations will be required.

The District should begin a program of video inspection of their existing gravity pipelines to determine which pipes are in poor condition and have infiltration problems. This can help determine which pipes should be replaced or lined to ensure reliable service, prevent spills, avoid costly pipeline failure, and reduce the volume of infiltration entering the existing system. Likewise, the District should regularly flush all of their gravity pipelines at least once per year to remove grease buildups and other blockages.

The District's wastewater treatment facility has excess capacity. Due to the high level of anticipated development, additional capacity will be added at two stages over the next five years. Treatment capacity will be added in a modular fashion, so that all units at the facility hydraulically balance.

The District should calibrate the wastewater collection system model every three years. Similarly, when a development is proposed, the model should be reexamined to verify that proper service is provided without adverse effects on the existing system and its customers.

2004-2008

This time period provides the most definite scenario for growth. The demands produced by these developments should be considered first, but within the overall conceptual vision of the ultimate build-out scenario. This phase will be the first step in the construction of that system.

During this time, there will be a large amount of residential and commercial developments, as well as a 600-student elementary school north of Correll Estates. Growth is projected to take place west, northwest and east of the existing Township.

New large diameter pipes are required for areas close to the wastewater treatment facility. This will allow developments after this phase to connect into the system, and will prevent the future construction of relief sewers through inhabited portions of the community. Pump Stations are required for areas north of the wastewater treatment facility, where surface elevations are lower and the topography substantially inhibits the use of gravity pipelines.

The treatment facility will need to increase its capacity during the next five years. The existing demand, capacity, and schedule for these improvements are shown in the Appendix.

2009-2013

During this phase, large residential and commercial developments are planned for areas southeast of the existing Township. Additional residential developments are planned for an area northwest of the existing Township. Much of the infrastructure needed for these areas has been outlined for construction during the 2004-2008 phase. During this phase, a 15-inch pipeline should be constructed north of Correll Road. Several large diameter pipelines will be required to serve Heber Ranch's and the Scaroni Property's developments. Additional treatment plant capacity will be necessary.

2014-2018

This time period represents a conceptual full build-out for the District's service area. Here, a complete wastewater system has been outlined. For purposes of this model, single family housing was assumed for the remaining undeveloped areas. This provides a conservative estimate for future growth, upon which the District should plan its infrastructure improvements.

The District should reexamine development plans for its service area at least every five years. Based on this, proper adjustments should be made to the wastewater model and future infrastructure plans.

If the existing wastewater treatment plant is replaced during the next few decades, it should be located north of the existing service area where surface elevations are lower. This will allow greater use of gravity pipelines and less dependence on pumping stations and forcemains. This can substantially lower operations and maintenance costs for the collection system. The capacity of the District's treatment facility will need to increase.

If a major redevelopment project takes place within the existing Township, the District should look at this as an inexpensive opportunity to replace and/or upsize existing pipelines. At such a time, the model should be reexamined to maximize the effects of such improvements.

Water Distribution System Capital Improvements Plan

This section contains estimated costs for the proposed improvements that were outlined in the Water System Recommendations section. The improvements have been divided into five-year phases: 2004-2008, 2009-2013, and 2014-2018. The Capital Improvements for the water distribution system during 2004-2008, 2009-2013, and 2014-2018 are shown in Tables 7, 8, and 9 respectively.

2004-2008

During this time period, the majority of the improvements will take place northwest and northeast of the existing Township. Here, much of the 20-inch and 30-inch loop will be constructed. Several pipeline connections should take place within the existing distribution network at locations shown on Figure 3. Table 7 below outlines the estimated costs for the improvements.

Table 7 2004-2008 Water Distribution System Capital Improvements

Street	Location	Description	Size (in)	Length (ft)	Cost per LF	Total Estimated Cost (\$2004)
Fransworth Rd	Between Correll and Unnamed Road North of Correll	Pipeline	20"	2,650	\$150	\$397,500
Fransworth Rd	Between Correll and W Heber	Pipeline	30"	2,700	\$200	\$540,000
Dogwood Rd	Between Correll and Unnamed Road North of Correll	Pipeline	12"	2,650	\$80	\$212,000
Dogwood Rd	South of Correll	Pipeline	12"	450	\$80	\$36,000
Ware Rd	Between Correll and Unnamed Road North of Correll	Pipeline	20"	2,660	\$150	\$399,000
Rockwood Rd	South of Correll	Pipeline	12"	700	\$80	\$56,000
Pitzer Rd	Between Correll and W Heber	Pipeline	12"	2,740	\$80	\$219,200
Unnamed East of Pitzer	Between Correll and W Heber	Pipeline	20"	2,820	\$150	\$423,000
Hwy 111- Frontage	Between Correll and W Heber	Pipeline	12"	2,830	\$80	\$226,400
Unnamed North of Correll	Between Fransworth and Dogwood	Pipeline	20"	2,610	\$150	\$391,500
Unnamed North of Correll	Between Dogwood and Ware	Pipeline	20"	2,750	\$150	\$412,500
Correll Rd	Between Fransworth and Rockwood	Pipeline	12"	5,360	\$80	\$428,800
Correll Rd	Between Rockwood and Unnamed Road East of Pitzer	Pipeline	20"	5,150	\$150	\$772,500
Correll Rd	Between Unnamed East of Pitzer and Hwy 111	Pipeline	20"	2,840	\$150	\$426,000
Correll Rd	Beneath 111 to Imperial Center	Pipeline	20"	200	\$500	\$100,000
W Heber Rd	Between Dogwood and Fransworth	Pipeline	30"	2,600	\$200	\$520,000
W Heber Rd	Between Pitzer and Hwy 111	Pipeline	12"	5,340	\$80	\$427,200
Hwy 86 and Pitzer Rd		Connection	10"	40	\$125	\$5,000
Heber Rd		Connection	8"	40	\$125	\$5,000
Heffernan Rd/9th St		Connection	10"	40	\$125	\$5,000
Heffernan Rd		Connection	10"	40	\$125	\$5,000
Fawcett Rd		Connection	10"	40	\$125	\$5,000
Eleventh St/Heber Ave		Connection	10"	40	\$125	\$5,000
Clifford Ave		Connection	10"	40	\$125	\$5,000
Pitzer Rd		Connection	10"	40	\$125	\$5,000
Total 2004-2008				27,170		\$6,027,600

2009-2013

Here, the majority of the 20-inch and 30-inch pipeline loop will be completed. The additional demands in this phase will come from the commercial and residential developments east and west

**Heber Public Utility District
Service Area Plan**

of the existing Township. The additional 30-inch pipeline near the treatment facility will be necessary to ensure the supply of water during fire to the commercial areas. Table 8 below outlines the estimated costs for the improvements shown in Figure 4.

Table 8 2009-2013 Water Distribution System Capital Improvements

Street	Location	Description	Size (in)	Length (ft)	Cost per LF	Total Estimated Cost (\$2004)
Fransworth Rd	Between McCabe Rd and Unnamed Road North of Correll	Pipeline	12"	2,640	\$80	\$211,200
Dogwood Rd	Between McCabe Rd and Unnamed Road North of Correll	Pipeline	12"	2,670	\$80	\$213,600
Dogwood Rd	Between Fawcett and WTP	Pipeline	30"	2,280	\$200	\$456,000
Dogwood Rd	Between Unnamed South of Fawcett and Fawcett	Pipeline	20"	2,800	\$150	\$420,000
Unnamed East of Pitzer	Between Heber and Unnamed South of Fawcett	Pipeline	20"	5,420	\$150	\$813,000
Unnamed East of Pitzer	South of Unnamed South of Fawcett	Pipeline	12"	2,740	\$80	\$219,200
Hwy 111-Frontage	Between Heber Rd and Jasper Rd	Pipeline	12"	8,200	\$80	\$656,000
McCabe Rd	Between Fransworth and Dogwood	Pipeline	12"	2,640	\$80	\$211,200
Fawcett Rd	Between Pitzer and Hwy 111	Pipeline	12"	5,310	\$80	\$424,800
Unnamed South of Fawcett	Between Unnamed East of Pitzer and Hwy 111	Pipeline	12"	2,660	\$80	\$212,800
Unnamed South of Fawcett	Between Dogwood and Pitzer	Pipeline	20"	8,070	\$150	\$1,210,500
Jasper Rd	Between Pitzer and Hwy 111	Pipeline	12"	5,290	\$80	\$423,200
Total 2009-2013				50,720		\$5,471,500

2014-2018

This time period represents a conceptual outlook at the scenario at which the service area is completely developed. As stated earlier, the Service Area Plan should be updated every few years to determine what infrastructure improvements will be required. Table 9 below shows the estimated capital costs for the improvements outlined in Figure 5.

Table 9 2014-2018 Water Distribution System Capital Improvements

Street	Location	Description	Size (in)	Length (ft)	Cost per LF	Total Estimated Cost (\$2004)
Hwy 86/Corfman Rd	Between McCabe Rd and Willoughby Rd	Pipeline	12"	16,100	\$80	\$1,288,000
Fransworth Rd	Between Willoughby Rd and Heber Rd	Pipeline	12"	8,100	\$80	\$648,000
Dogwood	Between Willoughby Rd and Unnamed South of Fawcett	Pipeline	12"	3,000	\$80	\$240,000
Ware Rd	Between McCabe Rd and Unnamed North of Correll	Pipeline	12"	2,680	\$80	\$214,400
Pitzer Rd	Between McCabe Rd and Correll Rd	Pipeline	12"	5,350	\$80	\$428,000
Unnamed East of Pitzer	Between McCabe Rd and Correll Rd	Pipeline	12"	5,300	\$80	\$424,000
Hwy 111	Between McCabe and Correll	Pipeline	12"	5,250	\$80	\$420,000
McCabe Rd	Between Fransworth and Hwy 86	Pipeline	12"	2,600	\$80	\$208,000
McCabe Rd	Between Dogwood and Hwy 111	Pipeline	12"	10,750	\$80	\$860,000
Unnamed North of Correll	Between Ware and Hwy 111	Pipeline	12"	8,000	\$80	\$640,000
Unnamed North of Correll	Between Fransworth and Hwy 86	Pipeline	12"	2,600	\$80	\$208,000
Correll Rd	Between Fransworth and Hwy 86	Pipeline	12"	2,600	\$80	\$208,000
Heber Rd	Between Fransworth and Hwy 86	Pipeline	12"	2,600	\$80	\$208,000
Fawcett Rd	Between Dogwood and Corfman	Pipeline	12"	5,230	\$80	\$418,400
Unnamed South of Fawcett	Between Dogwood and Corfman	Pipeline	12"	5,230	\$80	\$418,400
Willoughby Rd	Between Dogwood and Corfman	Pipeline	12"	5,230	\$80	\$418,400
Total 2014-2018				42,240		\$3,379,200

Wastewater Collection System Capital Improvements Plan

This section contains estimated costs for the proposed improvements that were outlined in the Wastewater System Recommendations section. The improvements have been divided into five-year phases: 2004-2008, 2009-2013, and 2014-2018. The Capital Improvements for the wastewater collection system during 2004-2008, 2009-2013, and 2014-2018 are shown in Tables 10, 11, and 12 respectively.

2004-2008

Improvements for this phase are the first step in the eventual collection system. The developments for this phase are the most certain, but the infrastructure plans for this should also permit additional growth beyond this time period. Here, substantial developments are planned for areas northwest and east of the existing Township. The developments include single family and multi family housing, a school, and commercial developments.

As stated earlier, future developments will require new pipelines leading toward the wastewater treatment facility. The pipelines close to the facility will be large diameters due to consolidated flows from the surrounding area. New lift stations are also required because of the high groundwater level and the flat topography. Table 10 below outlines the estimated wastewater improvement costs for the 2004-2008 phase. The proposed improvements are shown on Figure 7.

Table 10 2004-2008 Wastewater Collection System Capital Improvements

Street	Location	Description	Size (in)	Length (ft)	Cost per LF	Total Estimated Cost (\$2004)
Fransworth Rd	Between Correll and Unnamed Road N. of Correll	Pipeline	18"	2,560	\$120	\$307,200
Fransworth Rd	Between W. Heber Rd and Correll Road	Pipeline	18"	2,750	\$120	\$330,000
Rockwood Rd	Between Correll Rd to WWTP	Pipeline	30"	1,070	\$200	\$214,000
Unnamed East of Pitzer	Between W. Heber Rd and Correll Rd	Pipeline	18"	2,776	\$120	\$333,120
Correll Road	Between Fransworth Rd and Rockwood Rd	Pipeline	30"	5,550	\$200	\$1,110,000
Correll Road	Between Unnamed East of Pitzer and Rockwood Rd	Pipeline	30"	5,230	\$200	\$1,046,000
Correll Road	Between Unnamed East of Pitzer and Hwy 111	Pipeline	12"	2,560	\$80	\$204,800
Correll Road	Beneath 111 to Imperial Center	Pipeline	12"	200	\$500	\$100,000
Correll Road	East of WWTP	Lift Station			\$300,000	\$300,000
Correll Road	West of WWTP	Lift Station			\$300,000	\$300,000
Correll Road	Imperial Center	Lift Station			\$250,000	\$300,000
Total 2004-2008				22,696		\$4,245,120

2009-2013

During this phase, a large commercial and residential development is planned southeast of the existing Township. A residential development is also planned for northwest of the existing Township. Most of the infrastructure required for these developments will already be in place; they would have been constructed between 2004 and 2008 as part of that phase's improvements.

Refer to Figure 8. The estimated cost for the improvements to the wastewater collection system is shown in Table 10 below.

Table 11 2009-2013 Wastewater Collection System Capital Improvements

Street	Location	Description	Size (in)	Length (ft)	Cost per LF	Total Estimated Cost (\$2004)
Pitzer Road	Between Canal and Unnamed South of Fawcett	Pipeline	15"	2,620	\$100	\$262,000
Unnamed East of Pitzer	Between Fawcett Rd and W. Heber Rd	Pipeline	18"	2,780	\$120	\$333,600
Unnamed East of Pitzer	Between Unnamed South of Fawcett and Fawcett Rd	Pipeline	15"	2,640	\$100	\$264,000
Scaroni Road	Along Hwy 111 South of Unnamed South of Fawcett	Pipeline	15"	1,040	\$100	\$104,000
Unnamed N. of Correll Rd	Between Fransworth Rd and Railroad	Pipeline	15"	2,580	\$100	\$258,000
Fawcett Rd	Between Pitzer Rd and Unnamed East of Pitzer	Pipeline	12"	2,790	\$80	\$223,200
Fawcett Rd	Between Unnamed East of Pitzer and Hwy 111	Pipeline	12"	2,510	\$80	\$200,800
Unnamed South of Fawcett	Between Hwy 111 and Pitzer Road	Pipeline	15"	5,230	\$100	\$523,000
Fransworth Road	Intersection between Fransworth Road and Unnamed Road N of Correll Rd	Lift Station			\$300,000	\$300,000
Unnamed South of Fawcett	Intersection between Unnamed South of Fawcett and Unnamed East of Pitzer	Lift Station			\$300,000	\$300,000
Total 2009-2013				19,570		\$2,506,600

2014-2018

Improvements during this phase will complete the full build-out scenario for the wastewater collection system. This is a conceptual look at the ultimate collection system, upon which the District should plan infrastructure improvements. This conceptual look should be reexamined periodically through the use of the model and by contacting developers, so that a more reliable outlook for development can be ascertained. The improvements are outlined in Table 12 below. Refer to Figure 9 for the conceptual full build-out system.

Table 12 2014-2018 Wastewater Collection System Capital Improvements

Street	Location	Description	Size (in)	Length (ft)	Cost per LF	Total Estimated Cost (\$2004)
Fransworth Road	Between W Heber Road and Fawcett Road	Pipeline	18"	2,750	\$120	\$330,000
Fransworth Road	South of Fawcett Road	Pipeline	15"	5,470	\$100	\$547,000
Unnamed East of Pitzer	North of Correll Road	Pipeline	18"	2,550	\$120	\$306,000
Unnamed N. of Correll Rd	Between Railroad and Unnamed East of Pitzer	Pipeline	15"	2,580	\$100	\$258,000
Unnamed N. of Correll Rd	Between Fransworth Rd and Hwy 86	Pipeline	12"	2,595	\$80	\$207,600
Unnamed N. of Correll Rd	West of Unnamed East of Pitzer	Pipeline	15"	5,200	\$100	\$520,000
Unnamed N. of Correll Rd	East of Unnamed East of Pitzer	Pipeline	12"	2,690	\$80	\$215,200
Correll Road	Between Fransworth Rd and Hwy 86	Pipeline	12"	2,610	\$80	\$208,800
Fawcett Road	Between Fransworth Rd and Corfman Rd	Pipeline	12"	2,630	\$80	\$210,400
Fawcett Road	Between Fransworth Rd and S Dogwood Rd	Pipeline	12"	2,560	\$80	\$204,800
Willoughby Road	East of Fransworth Rd	Pipeline	12"	4,040	\$80	\$323,200
Total 2014-2018				24,905		\$2,148,000

Treatment Facility Improvements

The water demand and wastewater generation are projected to increase substantially during the next five years. It is beyond the scope of this Plan to detail specific improvements to the water and wastewater treatment facilities. Sufficient capacity is necessary at each of the treatment plants prior to connecting additional customers. Refer to the Appendix for a table showing the existing capacity, demand, and expansion schedule for the treatment facilities. Improvements to treatment plants should not be completed to increase capacity just above projected demand. For treatment facilities to properly work, process units should be the same size. The District shall prepare a detailed study that addresses how to expand the capacities of the water and wastewater treatment facilities.

Water Treatment Facility Improvements

The water treatment facility's 2003 capacity is 1.3 MGD. Two new treatment units are under construction that will replace the existing treatment infrastructure. Each of the two new units has a capacity of 2.0 MGD. Therefore, upon completion of construction, the District will have an excess capacity of approximately 700,000 gallons. One of the new treatment units should be kept as a standby. The maximum day water demand is projected to increase by approximately 3.7 MGD over the next five years. The maximum day water demand should be less than the treatment facility's capacity. Therefore, the District should increase the capacity of the water treatment facility by approximately 3 MGD over the next five years. The financing of these improvements is outlined in the following section. These improvements will be financed primarily by bonds. The District will receive substantial connection fee revenue to offset some of the initial capital costs. In addition, the District may enter special funding agreements with specific developers to fund improvements that are required for those developments to take place.

Wastewater Treatment Facility Improvements

The wastewater treatment facility's 2003 capacity is 0.81 MGD. This is approximately double the current average day wastewater generation. The average day wastewater generation is projected to increase by approximately 1.3 MGD over the next five years. The average day wastewater generation should be less than the treatment facility's capacity. Therefore, the District should increase the capacity of the water treatment facility by approximately 1.2 MGD over the next five years. The existing demand, capacity, and schedule for these improvements are shown in the Appendix. The capacity increases for these improvements will be financed by a

combination of short term debt, connection fee revenue, or pay special agreement with specific developers. The finance schedule for these improvements is outlined in the following section.

Public Parks

The District provides service to two public parks: The Tito Huerta Park and the Children’s Park. Combined, they have a combined area of 6.5 acres. The District has no improvements proposed for the parks. As parks are constructed concurrently with development within the District’s Sphere of Influence, the District assumes responsibility for operating and maintaining the park. For FY2003, approximately \$51,000 was allocated for park expenses, including salaries, fringe benefits, training, accounting, and legal expenses.

Existing Lighting Services

Development companies install street lighting facilities to serve their developments. Once construction is completed, the District assumes ownership and responsibility from the developer for the public lighting. The District currently provides lighting to approximately 830 acres. Approximately 1,750 acres in the surrounding township area are in planning stages for commercial, public, and residential developments in the next fifteen years. The District will assume responsibility for lighting services once construction for each development is complete. It is foreseen that the areas served will total 6,100 acres by 2024.

Summary of Proposed Improvements

Table 13 below summarizes the improvements for the water and wastewater systems. The large capital expenditures during the first five-year phase can be attributed to three main factors. First, the first phase is a step into the eventual full build-out. While the infrastructure may seem oversized for the proposed developments, their construction allows for proper planning that will reduce costs in the long-term. Moreover, they will remove the need for infrastructure such as relief sewers, parallel water lines, and costlier construction in developed areas. Second, significant development is occurring simultaneously in two distinct locations. Development will take place northwest of the existing Township and the east of the Township. This mandates that infrastructure improvements occur in two areas, significantly raising capital costs. Third, the District has minimal excess capacity in its water treatment facility.

Table 13 Capital Improvements Summary

Year	Water Distribution System Improvements	Water Treatment Improvements	Water Treatment and Distribution System Improvements	Wastewater Collection System Improvements	Wastewater Treatment Improvements	Wastewater Treatment and Distribution System Improvements
2004-2008	\$ 6,027,600	\$ 9,000,000	\$ 15,027,600	\$ 4,245,120	\$ 3,600,000	\$ 7,845,120
2009-2013	\$ 5,471,500	\$ 22,500,000	\$ 27,971,500	\$ 2,506,600	\$ 9,570,000	\$ 12,076,600
2014-2018	\$ 3,379,200	\$ 3,000,000	\$ 6,379,200	\$ 2,148,000	\$ 2,400,000	\$ 4,548,000
Total	\$ 14,878,300	\$ 34,500,000	\$ 49,378,300	\$ 8,899,720	\$ 15,570,000	\$ 24,469,720

FINANCING

The finances for the water and wastewater services provided by the District are maintained in water and wastewater enterprise funds, respectively. District administration, street lighting, and parks operation and maintenance are maintained in the District's General Fund.

Water and wastewater rates and fees should be examined periodically, especially when planning substantial capital improvement projects. This helps to assure the District's ability to continue to serve existing customers, serve future customers, and remain in good financial condition. This financial analysis of the water and wastewater systems to recommends rate and fee modifications for FY2004 through FY2009.

This section aims to determine what changes, if any, need to be made to the existing water and wastewater rates, rate structure, and fees to support the projects and services outlined in this Service Area Plan. Following the improvements recommended in this Service Area Plan, this section determines what annual revenues will be required to offset anticipated expenditures through FY2009.

Water Enterprise Fund

Assumptions

Several key assumptions make up a substantial portion of the foundation of this analysis. The basis of this analysis is the Capital Improvements Plan (CIP) of this Service Area Plan. The project schedules for the first five years of the CIP will be a principle component of the anticipated expenditures outlined in the plan.

The following were assumed to complete this study:

- Actual revenues and expenditures for FY2003 will be as projected in the Fiscal Year's budget. Actual revenues and expenditures for FY2004 will be as projected in this document. At the time of writing this document, the FY2004 General Purpose Financial statements had not been audited.
- The growth rate outlined in this Service Area Plan will be the actual customer growth rate.
- New accounts will contribute revenue for six months of the first fiscal year of their existence and for 12 months per year thereafter
- Interest income based on a 2.0% interest rate

- Infrastructure projects will be 100% financed through revenue bonds at 5% with a payback period of 25 years
- Total miscellaneous income will total \$5,000 annually
- Average water consumption greater than 20,000 gallons/account for the year will be 3,229 for residential customers, zero for multifamily customers, 117,600 for commercial, 94,500 for industrial, and 894,000 for government.
- Capacity Fees will be utilized fully before financing projects with bonds
- New commercial establishments will average 3 acres in size, i.e. every three acres of commercial development will average new commercial establishment.
- Multi-family dwelling units will each be assessed the capacity fee for connecting to the water system. Each multi-family unit will have its own account.
- Monthly service charges shall increase in dollar increments, such as \$1 or \$2, per direction of the District. Service charges for FY2004 are \$2 above those for FY2003, per direction of the District.
- Water rates will be modified on January 1 of each Fiscal Year. This has been typical for previous rate increases.
- Personnel costs increase at a rate of 6% per year
- Personnel additions as outlined in study
- The costs of chemical purchases, training, autos/trucks, plant, fuel, engineering, laboratory, licenses/permit costs will increase 10% annually
- Utility costs (electricity, phones, etc.) will increase 20% annually
- All other operating expenditures will increase 6% annually
- Capital outlay for small equipment, vehicles, software, etc. will be \$20,000 in FY2005 and will increase 10% annually throughout the study period

The following documents were used as bases for this study:

- Service Area Plan Capital Improvements Plan
- FY2000, 2001, 2002 General Purpose Financial Statements
- Planned improvements and staffing additions from the District's General Manager
- Pumping, billing, and collection records from District
- NADBank Construction Assistance Grant Agreement No. 40-36/03

Background

There are two funds associated with the water system financial analysis:

Water Enterprise Fund

Water Capacity Fee Fund

The Water Enterprise Fund is used by the District to handle operations, maintenance, salaries, debt service, and equipment purchases to provide potable water to its customers. This is the principle fund that the water system uses. The Water Capacity Fee Fund is used to finance capital projects associated with growth. It receives funds from connection fees paid from new development. A third fund, the Water Capital Projects Fund is comprised money received from grants and loans, generally from Federal and International agencies such as NADBank and USDA, to finance capital projects. This fund is not expected to be utilized for funding the proposed projects. As such, it is not analyzed in this document. Table 14 below shows the balances in each of the funds analyzed in this study.

Table 14 Water Fund Balances

Fund	End FY 2002 Balance
Water Enterprise Fund	\$ 101,826
Water Capacity Fund	\$ 122,133

The District established the Water Enterprise Fund in 1998. Previously, the water system was funded through a combination of water charges and property taxes. The goal of the Water Enterprise Fund is to create an independent fund that will finance water services without financial assistance from property taxes. Some entanglements remain between the General Fund and the Enterprise Fund in debt service that began prior to the formation of the Enterprise Fund. For purposes of this study, the enterprise fund will handle all future revenues, expenditures, and bond issuances in relation to water services. Property taxes do not contribute revenue to the Water Enterprise Fund.

Description of Existing Water Rates

This section outlines the existing rates charged to water customers. The District’s Board of Directors last approved water rates in 2003. Table 15 below shows the rates by customer class for fiscal years 1998 to 2002.

Table 15 Historical and Existing Monthly Water Rates

Rate Code and Description	1998 Rate	2000 Rate	2001 Rate	2002 Rate
(01) WA Flat Q" Residential	\$ 18.75	\$ 19.69	\$ 20.60	\$ 21.50
(06) WA Meter Q" Residential	20.75	22.84	23.85	24.85
(07) WA Meter Q" Residential	21.75	22.84	23.85	24.85
(22) WA Meter 2" Apartment	130.50	137.03	143.10	149.10
(27) WA Meter 2-2" Apartment	261.00	274.06	286.20	298.20
(32) WA Meter 2" Commercial	130.50	137.03	143.10	149.10
(33) WA Meter 1" Commercial	117.00	122.85	128.25	133.65
(36) WA Meter Q" Commercial	33.00	34.65	36.20	37.75
(42) WA Meter 2" Industrial	130.50	137.03	143.10	149.10
(43) WA Meter Q" Industrial	33.00	34.65	36.20	37.75
(51) WA Flat Q" Public Agency	33.00	34.65	36.20	37.75
(52) WA Meter 2" Public Agency	130.50	137.03	143.10	149.10
(53) WA Meter Q" Public Agency	33.00	34.65	36.20	37.75
(73) WA Meter 1" Res (McCabe)	43.50	45.68	47.70	49.70
(75) WA Meter 2-2" Res. (McCabe)	99.00	103.96	108.60	113.20

Additionally, \$0.35/1,000 gallons are charged for water consumed in excess of 20,000 gallons per month.

There are several customer classes for water billing, all of which are flat rate monthly charges. The District has attempted to consolidate the number of customer classes in recent years. The rates for water service have increased for all customer classes by consistent amounts for several years. Table 16 below outlines the connection fees to be paid to the District to begin water service. Connection fees were modified in 2003. Minutes of the 24 September 2003 Board of Directors meeting adjusting connection fees and user rates are located in the Appendix.

Table 16 Existing Water Connection Fees

Customer Class	2004 (Existing)
For All Connections Less Than 1 Inch	\$ 3,500
For All 1 Inch Connections	3,500
For All 1.5 Inch Connections	4,000
For Each 2 inch Connection	7,500

Projected Water Revenue Requirements

Existing Debt Service

The water system is paying off debt from an issuance of \$112,000 worth of general obligation bonds in 1972 to construct much of the existing distribution system. Current annual payments are \$4,000. Annual payments will increase to \$5,000 in 2005 and to \$6,000 in 2009. This bond was issued with ad valorem property taxes pledged as security.

The District issued \$1,173,000 worth of Certificates of Participation during FY2001 to finance the construction of a new water distribution pipelines. The certificates are owned by the United States Department of Agriculture, and are to be repaid by the District over the subsequent 39 years from the date of issuance. The annual payments for the study period of this rate study are approximately \$63,000. Table 17 outlines the existing debt the water debt service requirements.

The District charges its customers one of the lowest rates for water in the Imperial Valley. The revenues from some of the last few fiscal years have not exceeded operating expenses and annual debt service. The North American Development Bank has contributed substantial transition funding to the District for debt service assistance and repair and replacement expenses. These grants are shown in Table 18.

Table 17 Existing Water Debt Service Schedule

Fiscal Year	1972 Series General Obligation	1989 Office and Water Plant Series	2002 Series USDA	Total Yearly Payment from Enterprise Fund
2003	\$ 4,000	\$ 34,932	\$ 63,000	\$ 97,932
2004	4,000	38,392	63,000	\$ 101,392
2005	5,000	36,455	63,000	\$ 99,455
2006	5,000	34,480	63,000	\$ 97,480
2007	5,000	37,505	63,000	\$ 100,505
2008	5,000	35,135	63,000	\$ 98,135
2009	6,000	37,765	63,000	\$ 100,765

The District does not meet the income/debt threshold is necessary for revenue bond issuances. The income/debt ratio should be greater than 1.2. This threshold has not been met during the last few fiscal years. The budgeted debt/income ratio should be above that level to provide the District with a financial buffer for unforeseen circumstances (emergency operations costs, cooler temperatures that lower water sales, etc.) Project financing may be difficult, the District may be forced to pay higher interest levels on its debt, or the bonds may be called early if the threshold is not met.

Table 18 NADBank Transition Assistance Grants

Fiscal Year	Debt Service Assistance	Repair and Replacement Assistance
2002	\$ -	\$ 100,000
2003	\$ 26,000	-
2004	33,000	-
2005	48,000	-
2006	36,275	-
2007	54,200	-
2008	38,500	-
Total	\$ 235,975	\$ 100,000

Capital Improvements

The District has received several grants and loans in recent years from the United States Department of Agriculture and the North American Development Bank to improve its water treatment facility and distribution system. These improvements either are underway or have recently been completed at the time of writing this report.

The Service Area Plan’s Capital Improvements Plan outlines the capital projects for the water system. The water distribution system and treatment facility are slated to undergo a substantial expansion to serve new developments northwest and east of the existing customers within the next five years. The anticipated capital expenditures for expanding the water distribution system are distributed evenly through FY2009. The capital expenditures for expanding the water treatment facility (including pumping and storage) are shown on Table 19. The costs for each project are divided into engineering and construction segments. The amounts shown are in 2004 dollars.

Table 19 Water System Capital Improvements

Water Distribution System		2004 Estimated Price	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project							
All Water Distribution Pipelines	Engineering	\$6,027,600	\$120,552	\$120,552	\$120,552	\$120,552	\$120,552
	Construction	\$5,424,840	\$1,084,968	\$1,084,968	\$1,084,968	\$1,084,968	\$1,084,968
Water Treatment Facility Improvements	Engineering	\$9,000,000					
	Construction	\$8,100,000	\$300,000	\$300,000	\$300,000	\$0	\$0
Total Estimated Cost (\$2004)		\$15,027,600	\$4,205,520	\$4,205,520	\$4,205,520	\$1,205,520	\$1,205,520
Water System Total Estimated Cost (\$2004)			\$4,205,520	\$4,205,520	\$4,205,520	\$1,205,520	\$1,205,520
Water System Total Estimated Cost (Adjusted for Inflation (3%))			\$4,331,686	\$4,461,636	\$4,595,485	\$1,356,823	\$1,356,823

Project Financing

The District plans to finance the proposed projects by existing and projected capacity fees and future bond issuances. For purposes of this study, an annual interest rate of 5% and a payback period of 25 years are assumed for revenue bond issuances. Table 20 shows the finance schedule for the proposed projects.

This study assumes that revenue bonds will be issued only after available most capacity fees have been used. The District is planning substantial improvements during the study period. Capital funding requirements for these projects total just over \$15 Million. Bonds will need to be issued three times during the study period.

Most of the capacity fee balance and revenue will be used during FY2005 to partly finance the proposed capital projects. In FY2005, \$1,100,000 of revenue bonds will be issued to finance the remaining project costs. Bonds totaling \$1,200,000 will be issued in FY2006 to cover the capital debt financing for projects during FYs 2007 and 2008. In total, \$2,300,000 of revenue bonds will be issued through FY2007 to finance the improvement projects. No additional debt will be required after FY2007.

Water Capacity Fees

This study is based on the Water Capacity Fee balance of \$124,576 on July 1, 2003. Annual capacity fee income is estimated at \$3.3M for FY 2005 and \$3.6M for FY2006. Capacity fee income is projected to be \$4.3M (FY2007), \$3.8M (FY2008), and \$3.3M (FY2009). This projection is based on all of the anticipated customers being added at the recommended rates shown in Table 22. This study assumes that the funds available from capacity fees will be used prior to revenue bond issuances.

Table 20 Water System Project Financing

Fiscal Year	2004	2005	2006	2007	2008	2009	Total
Requirements							
Capital Funding	\$0	\$4,331,686	\$4,461,636	\$4,595,485	\$1,356,823	\$1,356,823	\$14,745,630
Sources							
Existing Available Funding Sources							
Capacity Fee Balance July 1	124,576	127,067	69,609	53,501	73,571	2,523,219	15,107,909
Capacity Fee Income	2,492	3,342,541	3,633,892	4,320,070	3,806,471	3,276,964	13,966,872
Capacity Fee Expenditures	-	<u>\$3,400,000</u>	<u>\$3,650,000</u>	<u>\$4,300,000</u>	<u>\$1,356,823</u>	<u>\$1,260,049</u>	
Capacity Fee Balance June 30	127,067	69,609	53,501	73,571	2,523,219	4,540,134	
Funds to be Financed	\$0	\$931,686	\$811,636	\$295,485	\$0	\$96,774	2,038,807
New Available Funding Sources							
Bond Balance (July 1)	-	-	168,314	560,886	279,423	286,408	-
Bonds (2004, 25 years at 5%)	-	-	-	-	-	-	1,100,000
Bonds (2005, 25 years at 5%)	-	1,100,000	-	-	-	-	1,200,000
Bonds (2006, 25 years at 5%)	-	-	1,200,000	-	-	-	-
Bonds (2007, 25 years at 5%)	-	-	-	-	-	-	-
Bonds (2008, 25 years at 5%)	-	-	-	-	-	-	-
Bond Expenditures	-	931,686	811,636	295,485	0	96,774	2,038,807
Interest from Bonds	-	-	<u>4,208</u>	<u>14,022</u>	<u>6,986</u>	<u>7,160</u>	25,216
Bond Balance (June 30)	-	\$ 168,314	\$ 560,886	\$ 279,423	\$ 286,408	\$ 196,794	

Personnel Additions

The water collection and treatment systems will require additional staffing during the next five fiscal years. Table 21 lists the anticipated additional staffing needs through FY2009. The District will need to hire one operator in FY2005 that will charge 50% of the time to the wastewater enterprise fund. The remaining 50% will be charged to the water enterprise fund. The cost of these new positions will increase by 6% per year. The staff position for this employee will begin in FY2004 at half-time and will be charged to the Wastewater Enterprise fund. The position will grow to full time in FY2005 with the costs evenly divided between the two funds. The Water Enterprise Fund could not financially support costs from additional employees during FY2004 under the forecasted rate increase for FY2004.

Table 21 Proposed Water Staff Additions

Position	2005	2006	2007	2008	2009
Facility Operator (1/2)	\$ 15,000	\$ 15,900	\$ 16,854	\$ 17,865	\$ 18,937
Total Cost	\$ 15,000	\$ 15,900	\$ 16,854	\$ 17,865	\$ 18,937

Operating Expenses

Total operating expenses include personal services, supplies and services, and general and administrative costs. The District’s FY2002, 2003, and 2004 General Purpose Financial Statements were used as a base for these costs. From those base costs, personal services costs are increased 6% annually through 2009. Chemical purchases, auto, training, plant, fuel, engineering, licenses, and permits are increased 10% annually through 2008. Utility costs are estimated to rise 20% annually. All other expenses are projected to increase at 6% annually. Table 25 shows the projected total operating costs of the water system through FY2009.

Development and Recommendation of Rate Changes

This section outlines the requirements and guidelines for changes to the water rates and shows and describes the rate changes. It also compares the recommended rates to those charged by nearby communities.

Budget Requirements and Guidelines

Several key criteria were used as guidelines and regulations to establish new water rates. The Rate increases were determined utilizing the following guidelines:

- The water utility fund should have positive net income
- Operating income must be at least 1.2 times the net debt service
- Maintain rate increases to a minimum so that the impact to customers is minimized
- Increase monthly charge rates by dollar increments

Recommendation of Rate and Fee Modifications

Utilizing these criteria, the rate and fee increases shown in Tables 22 and 23 are necessary to ensure quality water treatment, provide adequate fire protection, and implement various infrastructure improvements.

Over the next five fiscal years, rates will increase \$1 annually for residences. Water rates were increased by \$2 in FY2004, per direction of the District, to help the District maintain positive income and adequate debt coverage. The FY2004 increase was not sufficient to provide the District with an income to debt service ratio of 1.2. During the following Fiscal Years the ratio is projected to be sufficient. The monthly rate increases are not due to capital expenses associated with growth; they are necessary to meet the operating revenue and existing debt requirements of the water enterprise fund.

Table 22 Recommended Water Rate Modifications

Customer Class	2004 (Existing)	2005	2006	2007	2008	2009
Single Family Residential (<1" meter)	\$ 27.85	\$ 28.85	\$ 29.85	\$ 30.85	\$ 31.85	\$ 31.85
Single Family Residential (2")	60.90	62.90	63.90	64.90	65.90	65.90
Mutliple Family Residential, Commercial, Irrigation, Public Agency (<1")	41.00	42.00	43.00	44.00	45.00	45.00
Mutliple Family Residential, Commercial, Irrigation, Public Agency (1")	141.05	143.05	145.05	147.05	149.05	149.05
Mutliple Family Residential, Commercial, Irrigation, Public Agency (2")	157.10	159.10	161.10	163.10	165.10	165.10
Per 1,000 Gallon Charge over 20,000 Gallons	0.37	0.38	0.39	0.40	0.40	0.41

Table 23 Recommended Water Capacity Fee Modifications

Customer Class	2004 (Existing)	2005	2006	2007	2008	2009
For All Connections Less Than 1 Inch	\$ 3,500	\$ 3,500	\$ 3,500	\$ 4,000	\$ 4,000	\$ 4,250
For All 1 Inch Connections	3,500	4,500	4,500	5,000	5,000	5,250
For All 1.5 Inch Connections	4,000	5,000	5,500	6,000	6,000	6,250
For Each 2 inch Connection	7,500	8,500	8,500	9,000	9,000	9,250

Rate Comparison

The recommended rates are compared with existing rates from nearby communities below in Table 24 and in Chart 1 on the following page for single family homes. Heber’s existing monthly residential rate and the recommended rate are than those for El Centro, Imperial, Brawley, and Seeley. As shown, the recommended rates will be significantly lower than some of the other rates in the Imperial Valley.

Table 24 Monthly Water Rate Comparison

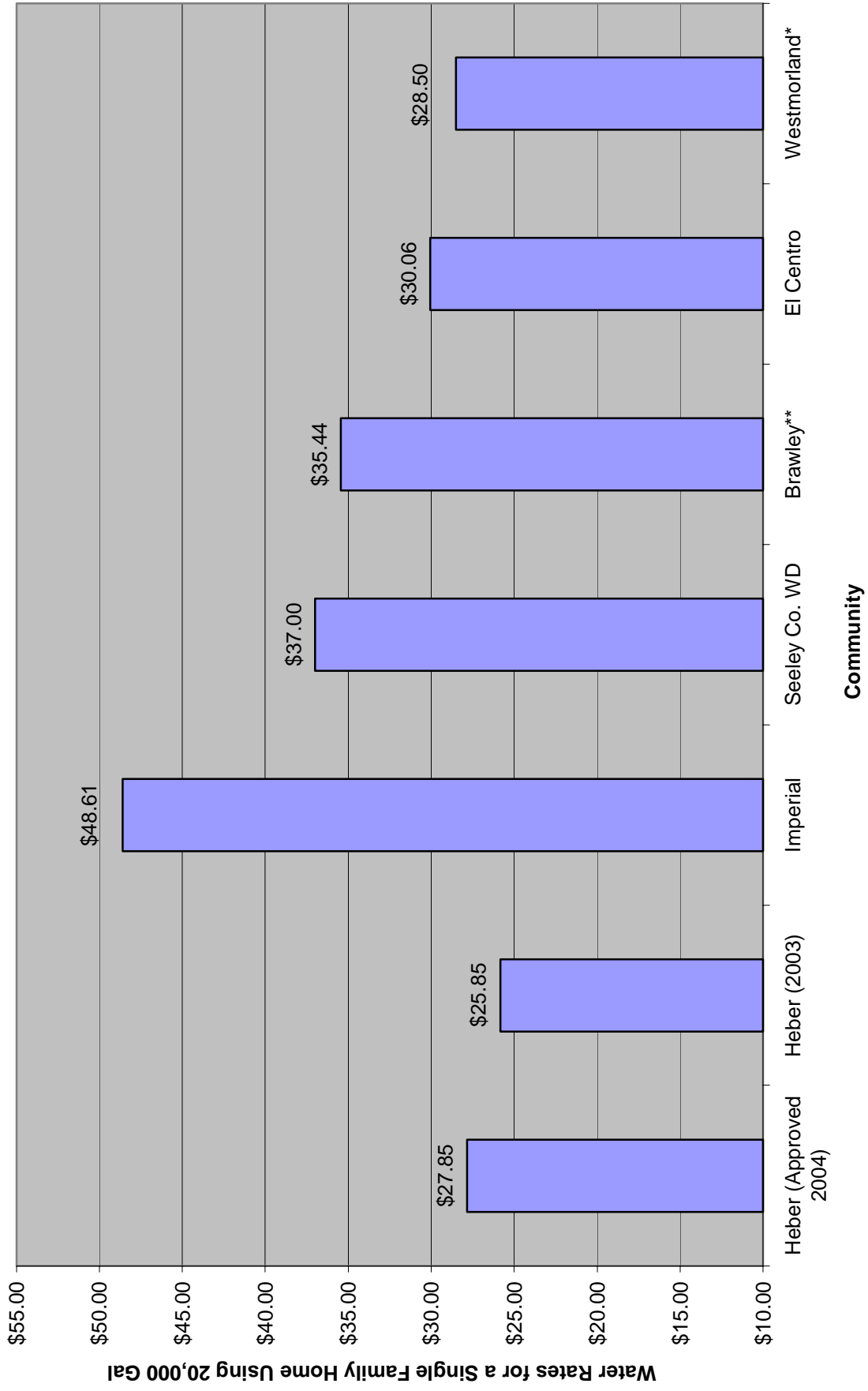
Community	Total Monthly Cost for 20,000 gallons
Heber (Approved 2004)	\$27.85
Heber (2003)	\$25.85
Imperial	\$48.61
Seeley Co. WD	\$37.00
Brawley**	\$35.44
El Centro	\$30.06
Westmorland*	\$28.50

Values based on 20,000 gallon water usage for a single family home

*Based on inside city limit rate

**Based on front footage less than 50 feet

Figure 1 Monthly Water Rate Comparisons (August 2003)



Water Utility Fund Budgets and Debt Service Schedule

This section contains the projected Water Enterprise fund budgets and the annual net debt service throughout the lives of the bond issuances. The recommended rate increases are used in developing the projected operating income.

The projected budgets were formulated using the projected expenditures outlined in Table 19, the debt service and NADBank assistance in Tables 17 and 18 respectively, the rate and fee increases outlined in Tables 22 and 23, and the growth scenario and revenue formulation in the Appendix. In each Fiscal Year beyond FY2004, the operating income is at least 1.2 times the net debt service and the fund has positive income. The projected Water Enterprise Fund Budgets, including projected annual debt service, are shown in Table 25.

Detailed growth scenarios and the revenue formulation and analysis are presented in the Appendix.

Table 25 Projected Water Enterprise Fund Budget

Fiscal Year		2003	2004	2005	2006	2007	2008	2009
Operating Revenues								
Service Fees		\$ 328,520	\$ 375,545	\$ 564,018	\$ 928,148	\$ 1,327,887	\$ 1,726,717	\$ 2,070,893
Single Family Residential		255,000	297,523	370,743	510,685	680,409	859,969	999,080
Mutli-Family Residential		17,000	16,014	117,817	326,011	539,654	744,704	933,464
Commercial		15,000	20,159	28,636	37,297	46,178	55,192	64,091
Industrial		25,020	24,970	29,211	33,528	37,945	42,439	48,053
Public Agencies		16,500	16,878	17,610	20,627	23,700	24,413	26,205
Penalty		4,667	500	500	500	500	500	500
Interest			1,144	218	1,792	8,126	20,375	39,372
Reconnection Charge		667						
Miscellaneous Revenue		1,400						
Other Revenue		30,000	5,000	5,000	5,000	5,000	5,000	5,001
Total Operating Income		365,254	382,189	569,735	935,440	1,341,513	1,752,592	2,115,766
Operating Expenses								
	Percent Increase							
Personal Services		153,553	162,766	187,532	198,784	210,711	223,354	236,755
Salaries and Wages	6	105,944	112,301	119,039	142,081	150,606	159,642	169,221
Salaries and Wages (Staff Additions)		-	-	15,000	-	-	-	-
Fringe Benefits	6	47,609	50,466	53,493	56,703	60,105	63,712	67,534
Supplies, Services, General and Admin		177,717	198,511	222,265	249,469	280,700	316,641	358,100
Office Services	6	2,500	2,650	2,809	2,978	3,156	3,346	3,546
Supplies	6	8,300	8,798	9,326	9,885	10,479	11,107	11,774
Postage	6	1,250	1,325	1,405	1,489	1,578	1,673	1,773
Chemical Purchases	10	22,500	24,750	27,225	29,948	32,942	36,236	39,860
Miscellaneous/County Fees	6	2,000	2,120	2,247	2,382	2,525	2,676	2,837
Training	10	5,400	5,940	6,534	7,187	7,906	8,697	9,566
Sponsorships	6	-	-	-	-	-	-	-
Autos/Trucks	10	667	734	807	888	977	1,074	1,182
Plant	10	12,500	13,750	15,125	16,638	18,301	20,131	22,145
Fuel	10	2,400	2,640	2,904	3,194	3,514	3,865	4,252
Office Repairs	6	600	636	674	715	757	803	851
Accounting/Auditing	6	2,500	2,650	2,809	2,978	3,156	3,346	3,546
Engineering	10	31,000	34,100	37,510	41,261	45,387	49,926	54,918
Legal	6	3,750	3,975	4,214	4,466	4,734	5,018	5,319
Operations	6	8,400	8,904	9,438	10,005	10,605	11,241	11,916
Planning	6	2,250	2,385	2,528	2,680	2,841	3,011	3,192
Laboratory	10	2,300	2,530	2,783	3,061	3,367	3,704	4,075
Waste Collection	6	-	-	-	-	-	-	-
Memberships	6	1,300	1,378	1,461	1,548	1,641	1,740	1,844
Mileage Reimbursement/Allowance	6	350	371	393	417	442	468	496
Meals	6	1,250	1,325	1,405	1,489	1,578	1,673	1,773
Travel & Conference	6	6,000	6,360	6,742	7,146	7,575	8,029	8,511
Licenses/Permits	10	1,500	1,650	1,815	1,997	2,196	2,416	2,657
General Insurance	6	2,000	2,120	2,247	2,382	2,525	2,676	2,837
Equipment Rental	6	500	530	562	596	631	669	709
Utilities	20	50,000	60,000	72,000	86,400	103,680	124,416	149,299
Raw Water Purchases	6	6,500	6,890	7,303	7,742	8,206	8,698	9,220
Capital Outlay (Equipment)	0	6,667						
Total Operating Expenses		337,937	361,277	409,797	448,253	491,411	539,995	594,855
Operating Income (Loss)		27,317	20,912	159,938	487,186	850,101	1,212,597	1,520,911
Changes in Assets and Liabilities		-	-	-	-	-	-	-
Interest Income		-	1,144	218	1,792	8,126	-	1
Capital Outlay- sml eq, hydrants, vehic	10			30,000	33,000	36,300	39,930	43,923
NADBank Repair/Replace Assistance								
Existing Debt Service		(97,932)	(101,392)	(99,455)	(97,480)	(100,505)	(98,135)	(98,135)
New Debt Service		-	-	-	(78,045)	(163,185)	(163,185)	(163,185)
2005 Series					(78,045)	(78,045)	(78,045)	(78,045)
2006 Series						(85,140)	(85,140)	(85,140)
2007 Series						-	-	-
NADBank Debt Service Assistance		26,000	33,000	48,000	36,275	54,200	38,500	38,501
Net Debt Service Paid Out		71,932	68,392	51,455	139,250	209,490	222,820	222,819
Operating Income/Net Debt Service		0.38	0.31	3.11	3.50	4.06	5.44	6.83
Net Increase (Decrease) in Cash and Cash Equivalents		(44,615)	(46,335)	78,701	316,728	612,437	949,847	1,254,170
Cash and Cash Equivalents - July 1		101,826	57,211	10,876	89,576	406,304	1,018,742	1,968,589
Cash and Cash Equivalents - June 30		\$ 57,211	\$ 10,876	\$ 89,576	\$ 406,304	\$ 1,018,742	\$ 1,968,589	\$ 3,222,759

Wastewater Enterprise Fund

Assumptions

Several key assumptions make up a substantial portion of the foundation of this analysis. The basis of this study is the Capital Improvements Plan (CIP) of this Service Area Plan. The projects scheduled for the first five years of the CIP will be a principle component of the anticipated expenditures outlined in the plan.

The following were assumed to complete this study:

- Actual revenues and expenditures for FY2003 will be as projected in the 2003 Fiscal Year's budget. Actual revenues and expenditures for FY2004 will be as projected in this document. As of the writing of this document, the FY2004 financial statements had not been audited.
- The growth anticipated in this Service Area Plan is what will actually take place. The first five year phase's growth assumptions in this Service Area Plan will take place at the rate shown in the Appendix.
- New accounts will contribute revenue for six months of the first fiscal year of their existence and for 12 months per year thereafter
- Interest income will be based on a 2.0% interest rate
- Infrastructure projects will be 100% financed through revenue bonds at 5% with a payback period of 25 years
- Capacity Fees will be utilized fully before financing projects with bonds
- Monthly wastewater rates will be modified on January 1 of each Fiscal Year, as has been done in previous years.
- Monthly wastewater rates will be adjusted by even dollar amounts, such as \$1 or \$2.
- Personnel costs increase at a rate of 6% per year
- Personnel additions are as outlined in study
- The costs of chemical purchases, training, autos/trucks, plant, fuel, engineering, laboratory, licenses/permit costs will increase 10% annually
- Utility costs (electricity, phones, etc.) will increase 20% annually
- All other operating expenditures will increase 6% annually
- Capital outlay for small equipment, vehicles, software, etc. will be \$20,000 in FY 2004 and will increase 10% annually throughout the study period

- Late penalties will contribute \$500 annually to revenues

The following documents were used as bases for this study:

- This Service Area Plan's Wastewater Capital Improvements Plan
- FY2000, 2001, 2002 General Purpose Financial Statements
- FY2003 Wastewater Enterprise Fund Budget
- Planned improvements and staffing additions from the District's General Manager
- Pumping, billing, and collection records from District
- NADBank Construction Assistance Grant Agreement No. 14-34/00

Background

There are two funds associated with the wastewater rate study:

- Wastewater Enterprise Fund
- Wastewater Capacity Fee Fund

The Wastewater Enterprise Fund is used by the District to handle operations, maintenance, salaries, debt service, and equipment purchases. This is the principle fund that the wastewater system uses. The Wastewater Capacity Fee Fund is used to finance capital projects associated with growth. It receives funds from connection fees paid from new development. A third fund, the Wastewater Capital Projects Fund, is comprised solely of money received from grants and loans, generally from Federal and International agencies such as NADBank and USDA, to finance capital projects. Table 26 below shows the balances in each of the funds analyzed in this study.

Table 26 Wastewater Fund Balances

Fund	End FY 2002 Balance
Wastewater Enterprise Fund	\$74,000
Wastewater Capacity Fe Fund	\$113,000

The District established the Wastewater Enterprise Fund in 1998. Previously, the wastewater system was funded through a combination of wastewater charges and property taxes. The goal of the Wastewater Enterprise Fund is to create an independent fund that will finance wastewater services without financial assistance from property taxes. Some entanglements remain between the General Fund and the Enterprise Fund in debt service that began prior to the formation of the Enterprise Fund. For purposes of this study, the enterprise fund will handle all future revenues, expenditures, and bond issuances in relation to wastewater services.

Description of Existing Wastewater Rates

This section outlines the existing rates charged to wastewater customers. The District’s Board of Directors last approved wastewater rates in 2003. Table 27 below shows the rates by customer class for fiscal years 1998 to 2003.

Table 27 Historical Monthly Wastewater Rates

Customer Class	1998	2000	2001	2002	2003
Single Family Residential	\$ 22.00	\$ 23.00	\$ 24.00	\$ 25.00	\$ 26.00
Mutliple Family Residential, Commercial, Irrigation, Public Agency	33.00	34.50	36.00	37.50	39.00
Heber Village No. 24	792.00	828.00	864.00	900.00	936.00

There are three customer classes for wastewater billing, all of which are flat rate monthly charges. The rates for wastewater service have increased for all customer classes by consistent amounts for several years. Table 28 below outlines the connection fees to be paid to the District to begin wastewater service. Connection fees have not been adjusted for several years. Minutes of the 24 September 2003 Board of Directors meeting adjusting connection fees and user rates are located in the Appendix.

Table 28 Historical Wastewater Connection Fees

Connection Fee	
For All Residential Connections (4")	\$ 2,500
For All 6 inch Connections	3,500
For All 8 inch Connections	5,000

For connections over 8 inches in diameter, the charge shall be a minimum of \$7,000 plus cost to the District for all necessary labor and materials, and in addition thereto the sum of 10% of such actual costs.

Projected Wastewater Revenue Requirements

Existing Debt Service

The California Department of Commerce loaned the District \$195,231 in 1988 to finance an infrastructure expansion project. The District makes monthly payments of \$1,810.85. The District was scheduled to completely repay the 180-month loan as of the end of FY 2003.

The wastewater system is paying off debt from an issuance of \$180,000 worth of general obligation bonds in 1968 to construct much of the existing collection system. Remaining annual principal installments are \$6,000. This debt will be completely repaid as of June 30, 2009. This bond was issued with ad valorem property taxes pledged as security.

The District issued \$1,008,500 worth of Certificates of Participation during FY2001 to retire outstanding certificates totaling \$285,000 and to provide funds to finance the construction of a new wastewater treatment facility. The certificates are owned by the United States Department of Agriculture, and are to be repaid by the District over the subsequent 39 years from the date of issuance. The annual payments for the study period of this rate study include \$10,000 of principal plus accrued interest at a fixed rate of 4.50%. The annual payments will increase at several times by the year of maturity, FY2004. The outstanding certificates totaling \$285,000 mentioned above proceed from certificates issued in 1986 for the purchase of land for water and sewer expansion (\$55,000) and from certificates issued in 1989 for the construction of a new office building and rehabilitation of the water treatment facility. Table 29 outlines the existing debt the wastewater debt service requirements.

The revenues from some of the last few fiscal years have not exceeded operating expenses and annual debt service. The North American Development Bank has contributed substantial transition funding to the District for debt service assistance and repair and replacement expenses. These grants are shown in Table 30. The budgeted debt/income ratio should be above 1.2 to provide the District with a financial buffer for unforeseen circumstances (emergency operations costs, cooler temperatures that lower water sales, etc.).

Table 29 Existing Wastewater Debt Service Schedule

Fiscal Year	1968 Series General Obligation	2000 Series USDA	Total Yearly Payment from Enterprise Fund
2003	\$ 6,000	\$ 54,257.50	\$ 54,258
2004	6,000	53,807.50	53,808
2005	6,000	53,357.50	53,358
2006	6,000	52,907.50	52,908
2007	6,000	52,557.50	52,558
2008	6,000	52,007.50	52,008
2009		51,332.50	51,333

Table 30 NADBank Transition Assistance Grants

Fiscal Year	Debt Service Assistance	Repair and Replacement Assistance
2000	\$ 54,000	\$ 55,000.00
2001	42,000	15,000.00
2002	26,000	30,000.00
2003	58,000	-
2004	2,725	-
Total	\$ 182,725	\$ 100,000

Capital Improvements

This Service Area Plan contains a Capital Improvements Plan that outlines most of the capital projects for the wastewater system. The wastewater collection system is slated to undergo a substantial expansion to serve new developments northwest and east of the existing customers within the next five years. The anticipated improvements, outlined and described in the Service Area Plan, are shown on Table 31 on the following page. The wastewater treatment facility will also undergo a major expansion beginning in FY2005. The costs to expand the treatment facility, \$3.6 Million, were distributed among three of the five fiscal years of this analysis. The anticipated expenditures are distributed through FY2009. The costs for each project are divided into engineering and construction segments. The amounts shown are in 2004 dollars except where noted.

Table 31 Wastewater System Improvements

Wastewater Treatment Plant Project	2004 Estimated Price	Wastewater Treatment Plant Project					
		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Wastewater Treatment Plant Expansion	\$3,600,000		\$240,000				
Engineering	\$360,000		\$2,160,000	\$120,000	\$1,080,000		
Construction	\$3,240,000						
Total Estimated Cost (\$2004)	\$3,600,000	\$0	\$2,400,000	\$120,000	\$1,080,000	\$0	\$0
Wastewater Collection System Projects		Wastewater Collection System Projects					
Project	2004 Estimated Price	Project					
		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Pipeline - Fransworth between Correll and Unnamed Road N. of Correll	\$307,200						
Engineering	\$30,720					\$30,720	
Construction	\$276,480						\$276,480
Pipeline - Fransworth between W. Heber Road and Correll Road	\$330,000						
Engineering	\$33,000					\$33,000	
Construction	\$297,000						\$297,000
Pipeline - Rockwood between Correll Road to WWTP	\$214,000						
Engineering	\$21,400						
Construction	\$192,600	\$21,400					
Pipeline - East of Pitzer between W. Heber Road and Correll Road	\$333,120						
Engineering	\$33,312		\$33,312				
Construction	\$299,808		\$299,808				
Pipeline - Correll Road between Fransworth and Rockwood Road	\$1,110,000						
Engineering	\$111,000			\$111,000			
Construction	\$999,000				\$999,000		
Pipeline - Correll Road between E. of Pitzer and Rockwood Road	\$1,046,000						
Engineering	\$104,600		\$104,600				
Construction	\$941,400			\$941,400			
Pipeline - Correll Road between E. of Pitzer and Highway 111	\$204,800						
Engineering	\$20,480		\$20,480				
Construction	\$184,320			\$184,320			
Lift Station - East of WWTP	\$300,000						
Engineering	\$30,000		\$30,000				
Construction	\$270,000			\$270,000			
Lift Station - West of WWTP	\$300,000						
Engineering	\$30,000				\$30,000		
Construction	\$270,000					\$270,000	
Lift Station - Imperial Center	\$300,000						
Engineering	\$30,000		\$30,000				
Construction	\$270,000			\$270,000			
Total Estimated Cost (\$2004)	\$4,445,120	\$214,000	\$518,200	\$1,776,720	\$1,029,000	\$333,720	\$573,480
Wastewater System Total Estimated Cost (\$2004)	\$8,045,120	\$214,000	\$2,918,200	\$1,896,720	\$2,109,000	\$333,720	\$573,480
Wastewater System Total Estimated Cost (Adjusted for Inflation (3%))		\$227,033	\$3,188,796	\$2,134,775	\$2,444,909	\$398,479	\$684,765

Project Financing

The District will be able to finance the proposed projects by existing and projected capacity fees. Table 32 shows the finance schedule for the proposed projects.

This study assumes that revenue bonds will be issued only after available capacity fees have been used. From Table 31, the District is planning substantial improvements during the study period. Capital funding requirements for these projects total over \$9 Million after adjusting for inflation. Due to the existing capacity at the treatment facility, the District should not have to issue long term debt to finance the proposed improvements. The District should receive connection fees from developers prior to the construction of the facilities in those areas. Failure to do so will cause the District to issue substantial short term debt which will have to be repaid by collected connection fees. This scenario has not been analyzed in this study.

Wastewater Capacity Fees

This study assumes that the Wastewater Capacity Fee balance is \$115,688 on July 1, 2003. Annual capacity fee income is projected to be greater than \$2,500,000 annually. Annual totals are shown on Table 32. This study assumes that the funds available from these fees will be used prior to revenue bond issuances.

Table 32 Wastewater System Project Financing

Fiscal Year	2004	2005	2006	2007	2008	2009	Total
Requirements							
Capital Funding		\$227,033	\$3,188,796	\$2,134,775	\$2,444,909	\$398,479	\$684,765
Sources							
Existing Available Funding Sources							
Capacity Fee Balance July 1	115,688	118,002	2,879,329	3,059,370	4,468,782	5,174,749	13,056,842
Capacity Fee Income	2,314	2,988,360	3,368,837	3,544,187	3,150,876	2,647,495	7,995,513
Capacity Fee Expenditures	\$0	\$227,033	\$3,188,796	\$2,134,775	\$2,444,909	\$398,479	
Capacity Fee Balance June 30	118,002	2,879,329	3,059,370	4,468,782	5,174,749	7,423,765	
Funds to be Financed	\$0	(\$0)	(\$0)	\$0	\$0	\$0	(0)
New Available Funding Sources							
Bond Balance (July 1)	-	-	0	0	0	0	-
Bonds (2004, 25 years at 5%)	-	-	-	-	-	-	-
Bonds (2005, 25 years at 5%)	-	-	-	-	-	-	-
Bonds (2006, 25 years at 5%)	-	-	-	-	-	-	-
Bonds (2007, 25 years at 5%)	-	-	-	-	-	-	-
Bonds (2008, 25 years at 5%)	-	-	-	-	-	-	-
Bonds (2009, 25 years at 5%)	-	-	-	-	-	-	-
Bond Expenditures	-	(0)	(0)	0	0	0	(0)
Interest from Bonds	-	-	0	0	0	0	0
Bond Balance (June 30)	\$	\$	\$	\$	\$	\$	\$

Personnel Additions

The wastewater collection and treatment systems will require additional staffing during the next five fiscal years. Table 33 lists the anticipated additional staffing needs through FY2009. The District will need to hire one operator in FY2004 that will charge 50% of the time to the wastewater enterprise fund. The remaining 50% will be charged to the water enterprise fund. This position will begin half-time in FY2004 and grow to full time in FY2005. In FY2004, the position will be funded entirely by the Wastewater Enterprise Fund. In 2005, the costs for this position will be evenly divided between the water and wastewater enterprise funds. The projected annual cost of these new positions will increase by 6% per year.

Table 33 Proposed Wastewater Staff Additions

Position	2004	2005	2006	2007	2008	2009
Facility Operator (1/2)	\$ 15,000	\$ 15,900	\$ 16,854	\$ 17,865	\$ 18,937	\$ 20,073
Total Cost	\$ 15,000	\$ 15,900	\$ 16,854	\$ 17,865	\$ 18,937	\$ 20,073

Operating Expenses

Total operating expenses include personal services, supplies and services, and general and administrative costs. The District’s FY2002 General Purpose Financial Statements and FY2003 Wastewater Enterprise Fund Budget were used as a basis for these costs. From those base costs, personal services costs are increased 6% annually through FY2009. Chemical purchases, auto, training, plant, fuel, engineering, licenses, and permits are increased 10% annually through 2009. Utility costs are estimated to rise 20% annually. All other expenses are projected to increase at 6% annually. Table 37 at the end of this report shows the projected total operating costs of the wastewater system through 2008.

Development and Recommendation of Rate Changes

This section outlines the requirements and guidelines for changes to the wastewater rates and shows and describes the rate changes. It also compares the recommended rates to those charged by nearby communities.

Budget Requirements and Guidelines

Several key criteria were used as guidelines and regulations to establish new wastewater rates. The Rate increases were determined utilizing the following guidelines:

- The wastewater utility fund should have positive net income
- Operating income must be at least 1.2 times the net debt service
- Maintain rate increases to a minimum so that the impact to customers is minimized
- Monthly sewer rates shall increase \$1 for FY2004 per direction of the District
- Monthly sewer rates shall increase in even dollar increments, such as \$1 or \$2

Recommendation of Rate and Fee Modifications

Utilizing these criteria, the rate and charge increases shown in Tables 34 and 35 are necessary to ensure quality wastewater treatment, keep risk of sewage spills and other environmental risks to a minimum, and implement various treatment facility improvements.

Over the next five fiscal years, the sewer rates will not rise substantially. With the exception of FY2004, rates will increase \$1 annually. Sewer rates were raised \$2 in FY2004 per direction of the District.

Wastewater Capacity Fees for all 4” connections were raised to \$3,500 per connection in FY2004.

Table 34 Recommended Wastewater Rate Modifications

Customer Class	2004 (Existing)	2005	2006	2007	2008	2009
Single Family Residential	\$ 27.00	\$ 28.00	\$ 29.00	\$ 30.00	\$ 31.00	\$ 31.00
Mutiple Family Residential, Commercial, Irrigation, Public Agency	40.00	41.00	42.00	43.00	44.00	44.00
Heber Village No. 24	960	984	1,008	1,032	1,056	1,056

Table 35 Recommended Wastewater Capacity Fee Modifications

Customer Class	2004 (Existing)	2005	2006	2007	2008	2009
For All Residential Connections (4")	\$ 3,500	\$ 3,500	\$ 3,750	\$ 3,750	\$ 3,750	\$ 3,750
For All 6 inch Connections	4,500	4,500	4,500	4,500	4,500	4,500
For All 8 inch Connections	6,000	6,000	6,000	6,000	6,000	6,000

Rate Comparison

The recommended rates are compared with existing rates from nearby communities below in Table 36 and in Chart 2 on the following page for single family homes. Heber’s existing rate and the recommended rate are generally among the lowest in the Imperial Valley. Westmorland, El Centro, Imperial, Brawley, and Seeley have rates higher than the recommended rates for Heber. However, the recommended rates are comparable to the other rates in the County.

Table 36 Monthly Wastewater Rate Comparisons

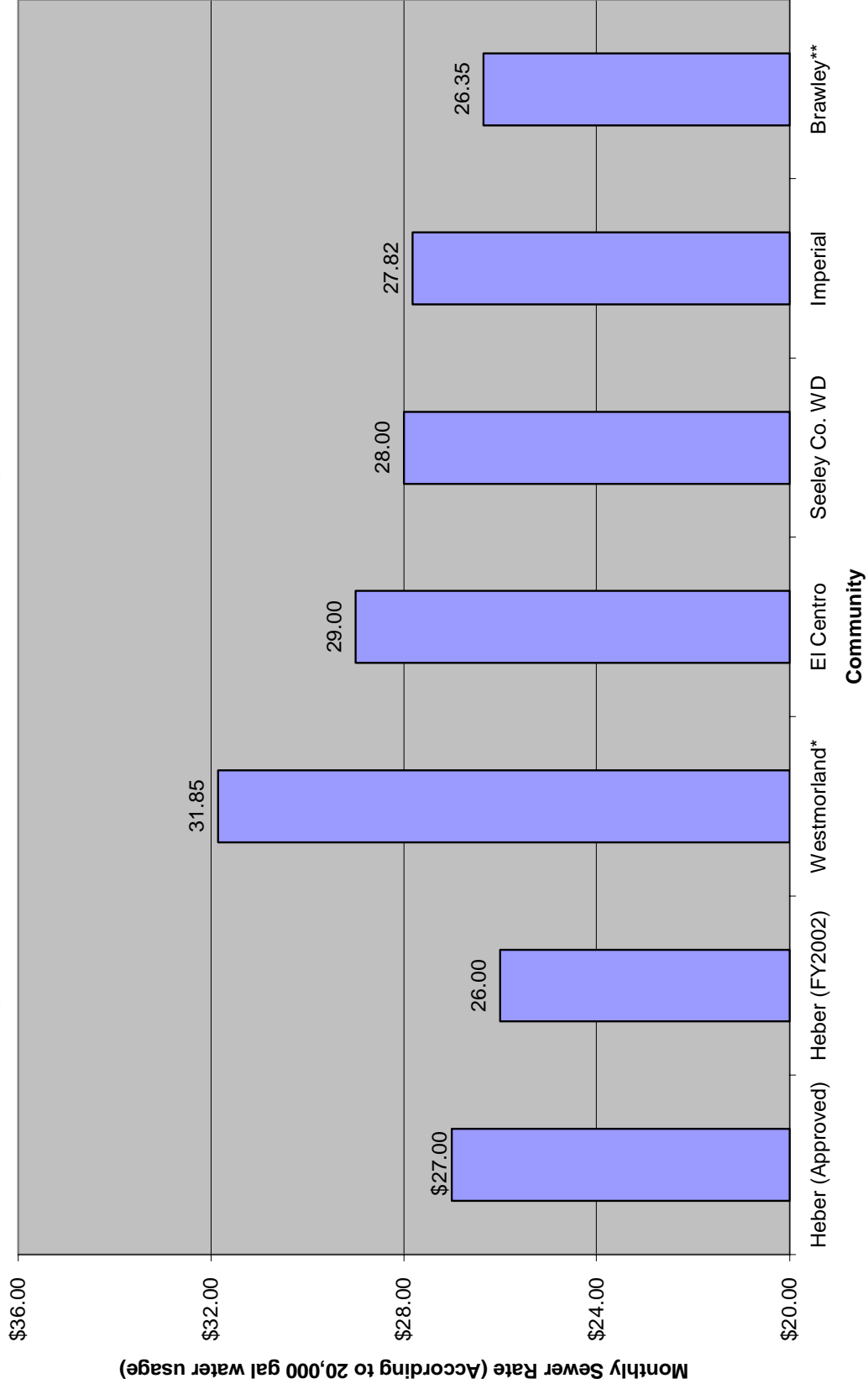
Community	Monthly Sewer Bill
Heber (Approved)	\$ 27.00
Heber (FY2002)	26.00
Westmorland*	31.85
El Centro	29.00
Seeley Co. WD	28.00
Imperial	27.82
Brawley**	26.35

Values based on 20,000 gallon water usage for a single family home

*Based on inside city limit rate

**Based on front footage less than 50 feet

Figure 2 Monthly Sewer Rate Comparison (August 2003)



Wastewater Utility Fund Budgets and Debt Service Schedule

This section contains the projected wastewater Enterprise Fund budgets and the annual net debt service through FY2009. The future budgets were formulated using the revenues and expenditures projected from the assumptions presented in this study, the debt service and bond revenue in Table 32, and the rate increases outlined in Tables 34 and 35. In each fiscal year, the operating income is at least 1.2 times the net debt service and the fund has positive income. For FY2004, the rate increase was predetermined by the District. Table 37 on the following page shows the projected Wastewater Enterprise Fund budgets through FY2009.

Additional growth scenarios and revenue formulation and analysis are presented in the Appendix.

Table 37 Proposed Wastewater Enterprise Fund Budget

Fiscal Year		2003	2004	2005	2006	2007	2008	2009
Operating Revenues								
Service Fees		\$232,380	\$ 310,302	\$ 477,222	\$ 819,912	\$ 1,200,418	\$ 1,585,742	\$ 1,911,968
Single Family Residential		197,720	276,978	342,198	477,408	641,712	815,892	950,832
Mutli-Family Residential		22,560	14,838	114,348	317,832	526,860	727,776	912,384
Commercial		4,640	6,636	7,788	9,972	15,262	23,534	28,424
Industrial		3,800	7,110	7,782	8,970	10,206	11,490	12,672
Public Agencies		3,660	4,740	5,106	5,730	6,378	7,050	7,656
Penalty		4,667	500	500	500	500	500	500
Reconnection Charge		667	-	-	-	-	-	-
Interest		-	1,695	1,224	2,353	9,607	23,834	45,177
Miscellaneous Revenue		56,000						
Other Revenue		1,400						
Total Opeating Income		295,114	312,497	478,946	822,765	1,210,525	1,610,076	1,957,645
Operating Expenses								
	Percent Increase							
Personal Services		126,262	148,838	157,768	167,234	177,268	187,904	199,179
Salaries and Wages	6	79,541	84,313	105,272	111,589	118,284	125,381	132,904
Salaries and Wages (Staff Additions)		-	15,000	-	-	-	-	1
Fringe Benefits	6	46,721	49,524	52,496	55,645	58,984	62,523	66,275
Supplies, Services, General and Admin		153,317	171,435	192,091	215,696	242,732	273,767	309,473
Office Services	6	2,500	2,650	2,809	2,978	3,156	3,346	3,546
Supplies	6	4,300	4,558	4,831	5,121	5,429	5,754	6,100
Postage	6	1,250	1,325	1,405	1,489	1,578	1,673	1,773
Chemical Purchases	10	10,500	11,550	12,705	13,976	15,373	16,910	18,601
Miscellaneous/County Fees	6	2,600	2,756	2,921	3,097	3,282	3,479	3,688
Training	10	5,400	5,940	6,534	7,187	7,906	8,697	9,566
Sponsorships	6	-	-	-	-	-	-	-
Autos/Trucks	10	667	734	807	888	977	1,074	1,182
Plant	10	10,000	11,000	12,100	13,310	14,641	16,105	17,716
Fuel	10	2,400	2,640	2,904	3,194	3,514	3,865	4,252
Office Repairs	6	600	636	674	715	757	803	851
Accounting/Auditing	6	2,500	2,650	2,809	2,978	3,156	3,346	3,546
Engineering	10	26,000	28,600	31,460	34,606	38,067	41,873	46,061
Legal	6	3,750	3,975	4,214	4,466	4,734	5,018	5,319
Operations	6	-	-	-	-	-	-	-
Planning	6	2,250	2,385	2,528	2,680	2,841	3,011	3,192
Laboratory	10	25,000	27,500	30,250	33,275	36,603	40,263	44,289
Waste Collection	6	-	-	-	-	-	-	-
Memberships	6	500	530	562	596	631	669	709
Mileage Reimbursement/Allowance	6	350	371	393	417	442	468	496
Meals	6	1,250	1,325	1,405	1,489	1,578	1,673	1,773
Travel & Conference	6	6,000	6,360	6,742	7,146	7,575	8,029	8,511
Licenses/Permits	10	3,000	3,300	3,630	3,993	4,392	4,832	5,315
General Insurance	6	2,000	2,120	2,247	2,382	2,525	2,676	2,837
Equipment Rental	6	500	530	562	596	631	669	709
Utilities	20	40,000	48,000	57,600	69,120	82,944	99,533	119,439
Raw Water Purchases	6	-	-	-	-	-	-	-
Capital Outlay (Equipment)	0	6,667						
Total Operating Expenses		286,246	320,272	349,859	382,930	420,000	461,671	508,652
Operating Income (Loss)		8,868	(7,775)	129,086	439,834	790,525	1,148,405	1,448,993
Changes in Assets and Liabilities		-	-	-	-	-	-	-
Interest Income		-	-	-	-	-	-	-
Capital Outlay- sml eq, vehic, software	10		20,000	22,000	24,200	26,620	29,282	32,210
NADBank Repair/Replace Assistance		30,000						
Existing Debt Service		(54,258)	(53,808)	(53,358)	(52,908)	(52,558)	(52,008)	(52,008)
New Debt Service		-	-	-	-	-	-	-
2004 Series								
2005 Series								
2006 Series								
2007 Series								
2008 Series								
2009 Series								
NADBank Debt Service Assistance		26,000	58,000	2,725				
Net Debt Service Paid Out (In)		28,258	(4,193)	50,633	52,908	52,558	52,008	52,008
Operating Income/Net Debt Service		0.31	1.85	2.55	8.31	15.04	22.08	27.86
Net Increase (Decrease) in Cash and Cash Equivalents		10,611	(23,582)	56,454	362,727	711,348	1,067,116	1,364,775
Cash and Cash Equivalents - July 1		74,162	84,773	61,190	117,644	480,371	1,191,719	2,258,834
Cash and Cash Equivalents - June 30		\$ 84,773	\$ 61,190	\$ 117,644	\$ 480,371	\$ 1,191,719	\$ 2,258,834	\$ 3,623,609

General Fund

Assumptions

Several key assumptions make up a substantial portion of the foundation of this analysis. The following were assumed to complete this portion of the study:

- The growth anticipated in this Service Area Plan is what will actually take place.
- The District will receive property tax totaling 0.25% of the projected assessed values
- Projected property values as shown in Table 38
- Existing properties will not have their assessed values changed, i.e. they will not be bought or sold. This is a conservative estimate. If existing properties are sold, then the assessed value will likely increase, which in turn will provide additional revenue to the District
- Interest income will be based on a 2.0% interest rate
- Salaries, wages, benefits, training, equipment repairs, fuel, accounting, engineering, temporary employment services, mileage reimbursement, meal reimbursement, travel and conference, licenses, and utilities will rise at an annual rate of 10% per year
- All other operating expenditures will increase 6% annually
- Capital outlay for office equipment will increase 10% per year, starting at \$12,730 in FY2002
- Royalties will provide income of \$8,000 per year
- Other Revenue will provide income of \$3,500 annually
- No sales of assets
- New service fees will total \$2,000 annually

The following documents were used as bases for this study:

- FY2002 General Purpose Financial Statements

Table 38 Projected Assessed Property Values for New Units

Description	2005	2006	2007	2008	2009
Apartments/Condos	\$ 50,000	\$ 55,000	\$ 60,000	\$ 65,000	\$ 70,000
Commercial	\$ 250,000	\$ 260,000	\$ 270,000	\$ 280,000	\$ 290,000
Industrial	\$ 250,000	\$ 260,000	\$ 270,000	\$ 280,000	\$ 290,000
Residential	\$ 200,000	\$ 210,000	\$ 220,000	\$ 230,000	\$ 240,000

Background

The District's General Fund is used by the District to handle parks and lighting operations and maintenance, administrative and office staff wages and benefits, mailings, billing, legal, and most travel costs. This fund is supported almost entirely by property tax revenue, with some revenue from interest and other fees.

Property Tax Revenue Projection

The major source of revenue for this fund is property tax. Table 39 on the following page shows the projected property tax revenue for new developments from FY2005 through FY2009. This projected revenue is based entirely on the projected number of new units (homes, condos, etc), projected assessed values, and the District receiving 0.025% of the assessed values.

Projected General Fund Budget

Due to the projected development and the resulting increased property values, the District will see substantially increases in its General Fund income over the next five years. Personnel and other expenses will rise as well, but the District's annual excess revenue should increase substantially over the same time period. This will permit the District to accumulate a larger cash reserve that will be necessary due to the District's increased size. The projected budgets for the General Fund are shown in Table 40.

Table 39 Projected New Property Tax Revenues

Account Type	Description	2005	2006	2007	2008	2009
A	Apartments/Condos					
	Estimated Assessed Value of New Properties	\$ 50,000	\$ 55,000	\$ 60,000	\$ 65,000	\$ 70,000
	Property Tax per Unit	\$ 125	\$ 138	\$ 150	\$ 163	\$ 175
	Projected Number of New Units	403	403	387	336	336
	Total New Property Tax Revenue	\$ 50,375	\$ 55,413	\$ 58,050	\$ 54,600	\$ 58,800
C	Commercial					
	Estimated Assessed Value of New Properties	\$ 250,000	\$ 260,000	\$ 270,000	\$ 280,000	\$ 290,000
	Property Tax per Unit	\$ 625	\$ 650	\$ 675	\$ 700	\$ 725
	Projected Number of New Units	4	4	16	15	3
	Total New Property Tax Revenue	\$ 2,500	\$ 2,600	\$ 10,575	\$ 10,267	\$ 2,175
I	Industrial					
	Estimated Assessed Value of New Properties	\$ 250,000	\$ 260,000	\$ 270,000	\$ 280,000	\$ 290,000
	Property Tax per Unit	\$ 625	\$ 650	\$ 675	\$ 700	\$ 725
	Projected Number of New Units	1	1	1	1	1
	Total New Property Tax Revenue	\$ 625	\$ 650	\$ 675	\$ 700	\$ 725
R	Single Family Residential					
	Estimated Assessed Value of New Properties	\$ 200,000	\$ 210,000	\$ 220,000	\$ 230,000	\$ 240,000
	Property Tax per Unit	\$ 500	\$ 525	\$ 550	\$ 575	\$ 600
	Projected Number of New Units	326	391	442	392	268
	Total New Property Tax Revenue	\$ 163,000	\$ 205,275	\$ 243,100	\$ 225,400	\$ 160,800
	Total Annual Additional Property Tax Revenue	\$ 216,500	\$ 263,938	\$ 312,400	\$ 290,967	\$ 222,500

Table 40 Projected General Fund Budget

Fiscal Year		2002	2003	2004	2005	2006	2007	2008	2009
Income									
Interest		\$ 2,317	\$ 2,500	\$ 2,500	\$ 5,560	\$ 9,890	\$ 15,168	\$ 21,416	\$ 27,236
Royalties		7,978	8,000	8,000	8,000	8,000	8,000	8,000	8,000
Other Revenue		3,353	3,500	3,500	3,500	3,500	3,500	3,500	3,500
Payment Center Revenue		446	500	500	500	500	500	500	500
Property Taxes		263,987	263,987	263,987	480,487	744,425	1,056,825	1,347,791	1,570,291
Sale of Assets		-	-	-	-	-	-	-	-
New Service Fee		1,700	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Total Income		279,781	277,987	277,987	494,487	758,425	1,070,825	1,361,791	1,584,291
Expenditures									
	Percent Increase								
Personal Services		84,939	93,433	102,776	113,054	124,359	136,795	150,475	165,522
Salaries and Wages	10	59,079	64,987	71,486	78,634	86,498	95,147	104,662	115,128
Fringe Benefits	10	25,860	28,446	31,291	34,420	37,862	41,648	45,813	50,394
Office Services	6	13,741	14,565	15,439	16,366	17,348	18,389	19,492	20,661
Supplies	6	6,796	7,204	7,636	8,094	8,580	9,095	9,640	10,219
Postage	6	800	848	899	953	1,010	1,071	1,135	1,203
Special Mailings	6	125	133	140	149	158	167	177	188
Miscellaneous	6	5,152	5,461	5,789	6,136	6,504	6,895	7,308	7,747
Training	10	131	144	159	174	192	211	232	255
Sponsorships/Contributions	6	-	1,000	1,060	1,124	1,191	1,262	1,338	1,419
Equipment Repairs	10	-	1,000	1,100	1,210	1,331	1,464	1,611	1,772
Fuel	10	181	199	219	241	265	292	321	353
Office Repairs	6	814	863	915	969	1,028	1,089	1,155	1,224
Director's Fees	6	23,800	25,228	26,742	28,346	30,047	31,850	33,761	35,786
Accounting/Auditing	10	2,240	2,464	2,710	2,981	3,280	3,608	3,968	4,365
Engineering	10	326	359	394	434	477	525	578	635
Legal	6	18,044	19,127	20,274	21,491	22,780	24,147	25,596	27,132
Planning	6	7,874	8,346	8,847	9,378	9,941	10,537	11,169	11,840
Temporary Employment Services	10	-	1,000	1,100	1,210	1,331	1,464	1,611	1,772
Memberships	6	2,010	2,131	2,258	2,394	2,538	2,690	2,851	3,022
Subscriptions	6	27	29	30	32	34	36	38	41
Mileage Reimbursement/Allowance	10	3,295	3,625	3,987	4,386	4,824	5,307	5,837	6,421
Meal Reimbursement/Allowance	10	1,190	1,309	1,440	1,584	1,742	1,917	2,108	2,319
Travel & Conference	10	6,753	7,428	8,171	8,988	9,887	10,876	11,963	13,160
Licenses/Permits	10	-	1,000	1,100	1,210	1,331	1,464	1,611	1,772
General Insurance	6	3,597	3,813	4,042	4,284	4,541	4,814	5,102	5,409
Equipment Rental	6	238	252	267	283	300	318	338	358
Utilities	10	24,826	27,309	30,039	33,043	36,348	39,983	43,981	48,379
Capital Outlay (Office)	10	12,730	14,003	15,403	16,944	18,638	20,502	22,552	24,807
Total Operating Expenses		219,629	242,271	262,938	285,459	310,004	336,765	365,947	397,778
Excess Revenues Over (Under) Expenses		60,152	35,716	15,049	209,028	448,420	734,060	995,844	1,186,513
Net Transfers In (Out)		(102,014)	-	-	-	-	-	-	-
Excess of Revenue and Other Sources Over (Under) Expenditures		(41,862)	35,716	15,049	209,028	448,420	734,060	995,844	1,186,513
Cash and Cash Equivalents - July 1		86,907	45,045	80,761	95,809	304,838	753,258	1,487,317	2,483,161
Cash and Cash Equivalents - June 30		\$ 45,045	\$ 80,761	\$ 95,809	\$ 304,838	\$ 753,258	\$ 1,487,317	\$ 2,483,161	\$ 3,669,675

Disclosure Statement

Numerous assumptions were made to project revenue, expenses, and debt for the Water Enterprise Fund, Wastewater Enterprise Fund, and General Fund over the length of the study period for this analysis. These assumptions were based off of several sources, including but not limited to the Service Area Plan recommendations and the assumptions therein, guidelines and assumptions from the District, and the District's previous years' audited financial statements.

Several factors may influence the projected revenue, expense, and debt of the District's General and Enterprise Funds. These include, but are not limited to the interest rate on bond issuances; the actual number, type, and schedule of additional accounts during the study period; unforeseen regulatory and water quality requirements; abnormal weather that affects water consumption and irrigation; projected expenses, such as utility and permitting costs; and reaction by existing customer base to rises in water usage by consuming less water. Nolte cannot be held liable for the accuracy of the financial projections presented in this report.

APPENDIX

Methodology

For purposes of this study, Nolte closely looked at planned development in Heber over the next 15 years and estimated increases in water demand and wastewater generation. Results from the study will be used to reassess existing water and wastewater facilities and to aid in pipe sizing and locations for new lift stations.

To obtain background information for this study, Nolte contacted the District and local developers to assemble possible future development in the area. Nolte then verified each project's status and obtained detailed totals for housing, schools, and commercial acres. The information was then used to calculate average and max day water demands, as well as average and peak hour wastewater generation.

Nolte assumed that proposed projects will be completed at a constant rate over the course of construction. For instance, Heberwood Estates is planned to be under construction from 2004-2008 and will contain 420 single family homes upon completion. This study assumes that 84 houses will be built in each of 2004, 2005, 2006, 2007 and 2008.

For commercial development, Nolte calculated water demand and wastewater generation by using parking space totals. According to Wastewater Engineering, Metcalf and Eddy, 1991, approximately 2 gpd should be assumed for both water demand and wastewater generation for each parking space present. Nolte assumed that approximately half of commercial acreage is covered by parking lots. Only half of the parking lot area is used for spaces, with the rest taken by roads and landscaping. For each acre (43,560 ft²), a quarter of the area is used for parking spots (approx 11,000 ft²). Assuming the average parking space is 20'x10' (200 ft²), 11,000 ft² divided by 200 ft² gives a value of 55 parking spots per acre. Assuming the 2 gpd value for water and wastewater mentioned above, each acre of commercial zoning is assumed to demand 110 gpd of water and generate 110 gpd of wastewater.

Nolte used Wastewater Engineering, Metcalf and Eddy, 1991, as a guideline to estimate water demands and wastewater generation for residential areas. Residential housing was split into two groups for this project: Single Family and Multiple Family. Single family housing is assumed to use more water than multiple family mostly because of yard irrigation. Multiple family housing usually contains less landscaping and therefore uses less irrigation water. The same theory applies to wastewater, as single families generate an average of 30 gpcd per housing member

more than their multiple family housing counterparts. Both single family and multiple family homes are assumed to contain an average of 4 people.

In schools, water demand is calculated by the number of enrolled students. On average, each student uses approximately 20 gpd. It is assumed that wastewater generation equals 20 gpd as well.

Schools will also be built in McCabe Ranch as part of its community construction. McCabe Ranch I will contain one school, which will be completed by 2006. Nolte assumed that the school will service McCabe Ranch children almost entirely. Plans show that 200 houses will be built by 2007. Nolte safely estimated that there will be an average of one school-aged child in each house. Using those numbers and adding some extra room for expansion, Nolte came up with an estimated student body of 250.

For water, Nolte used a multiplier of 2.5 to calculate maximum day water demand and a peaking factor of 3.0 to calculate peak hour water demand. Nolte also used a multiplier of 2.0 to calculate peak hour wastewater generation per unit using the average daily wastewater generation per unit. Because Nolte assumed the peak hours for water demand to take place from 6-8am, only residential customers were subject to the peak hour usage calculations. Commercial and school customers do not normally experience above-average water demand during those hours.

For restaurants, Nolte assumes 300 customers per day. This number was determined after speaking to a local restaurant manager.

Based on information provided to Nolte by Hale Engineering and Linscott, Law & Greenspan Engineers, 16.3 acres of Heber Meadows and 39 acres of Heber 142 will be used for multifamily housing. Each has a proposed density of 29 units per acre.

29 units per acre is the value used for all multifamily housing in this study.

When presenting estimated costs for treatment plant expansions, including potable water storage and distribution pumping, \$3 per gallon of capacity increase was used.

All information pertaining to proposed development locations, sizes, zoning breakdowns and construction timeframes is based on information given to Nolte from developers in the Heber area. Due to the dynamic nature of this study, findings and other information presented in this report are subject to change.

Water and Wastewater Treatment Facility Demands, Capacities, and Improvement Schedules

Treatment Plant Capacities and Future Improvement Costs

Water Demand							
Year	Additional Max Day Water Demand For New Development gpd	Total Max Day Water Demand gpd	Water Treatment Plant Capacity gpd	Excess Treatment Plant Capacity, Less One 2MGD Unit gpd	Demand as Percentage of Capacity Less 2MGD Unit	Capacity Increase to be Constructed During Time Period gpd ²	Cost of Capacity Increase
2003 (Current) ^{1,3,4}		1,330,000	1,300,000	-30,000	102.3%	2,700,000	\$0
2004	700,600	2,030,600	4,000,000	-30,600	50.8%	1,000,000	\$3,000,000
2005	775,350	2,805,950	5,000,000	194,050	93.5%	1,000,000	\$3,000,000
2006	868,725	3,674,675	6,000,000	325,325	91.9%	1,000,000	\$3,000,000
2007	745,200	4,419,875	7,000,000	580,125	88.4%		\$0
2008	579,475	4,999,350	7,000,000	650	100.0%		\$0
2009-2013	7,116,050	12,115,400	14,500,000	384,600	96.9%	7,500,000	\$22,500,000
2014-2018	1,375,625	13,491,025	15,500,000	8,975	99.9%	1,000,000	\$3,000,000

\$3.00 :Assumed price per gallon of water capacity increase

Wastewater Generation							
Year	Additional Average Day Wastewater Generation From New Development gpd	Total Average Day Wastewater Generation gpd	Wastewater Capacity gpd	Excess Treatment Plant Capacity gpd	Demand as Percentage of Capacity	Capacity Increase to be Constructed During Time Period gpd ²	Cost of Capacity Increase
2003 (Current) ¹		386,000	810,000	424,000.00	47.7%	0	\$0
2004	244,560	630,560	810,000	179,440.00	77.8%	800,000	\$2,400,000
2005	270,560	901,120	1,610,000	708,880.00	56.0%	0	\$0
2006	302,210	1,203,330	1,610,000	406,670.00	74.7%	400,000	\$1,200,000
2007	257,520	1,460,850	2,010,000	549,150.00	72.7%	0	\$0
2008	202,270	1,663,120	2,010,000	346,880.00	82.7%	0	\$0
2009-2013	2,421,820	4,084,940	5,200,000	1,115,060.00	78.6%	3,190,000	\$9,570,000
2014-2018	415,730	4,500,670	6,000,000	1,499,330.00	75.0%	800,000	\$2,400,000

\$3.00 :Assumed price per gallon of wastewater capacity increase

¹ Source: Heber Public Utility District 2003 Flow Records

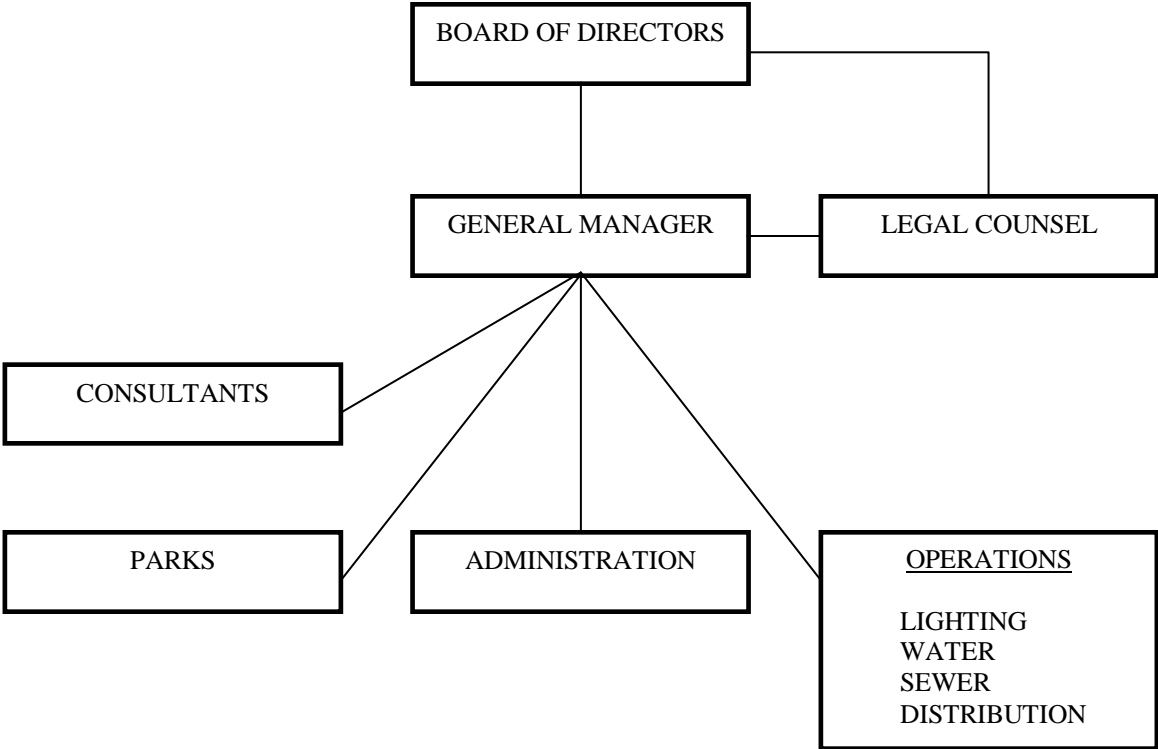
² Constructed capacity Increase in 2008 should be reexamined by 2007

³ Currently under construction and scheduled to be completed by August 2004

⁴ Two units are currently under construction and will replace existing treatment process. Each unit has capacity of 2MGD. One 2MGD unit kept for backup

HPUD Board of Directors Minutes Approving Water and Wastewater Rates

HPUD Organization Chart



Updated: December 2001

HPUD Audited Financial Statements