DONA ANA COUNTY

UTILITY WIDE

SEWER RATE STUDY

MAY 8, 2017

Prepared for:

DONA ANA COUNTY UTILITIES DEPARTMENT

845 N. MOTEL BLVD

LAS CRUCES, NM 87007

Prepared By:

BOHANNAN HUSTON, INC.

425 S. TELSHOR BLVD. SUITE C-103

LAS CRUCES, NM 88011

PREPARED BY:

Tyler Hopkins, P.E.	Date	Rob Richardson, P.E.	Date

TABLE OF CONTENTS

APPENDICES

1 BASIS FOR THE STUDY

1.1 BACKGROUND AND OBJECTIVE

The Dona Ana County (DAC) Utilities Department began operating centralized wastewater collection and treatment facilities in 2003. There are four separate wastewater collection and treatment systems that make up the County's wastewater utility infrastructure. These four systems include Salem, Rincon, Chaparral and South Central and are financially managed as a single entity enterprise fund. At the time the Utility started up, the rates for sewer service were established based on estimates of operations and maintenance costs for the various community facilities that were being implemented. No changes in the sewer rate structure have been made since the Utility's inception. The purpose of this study is to provide a review of the financial condition of the utility under the existing sewer rate structure to determine if changes to the current financial structure of the utility are warranted after 14 years of operation.

1.2 SCOPE OF WORK

In order to accomplish the study's purpose, Bohannan Huston, Inc. (BHI) completed the following seven tasks:

- Task 1 – Compile Existing Revenue and Cost Data
- Task 2 – Determine Operating and Capital Revenue Requirements
- Task 3 – Develop Equitable Rates Based on Customer Class
- Task 4 – Perform Billing and Impact Analysis
- Task 5 –Septage Rate Analysis
- Task 6 – Compile Sewer Rate Study
- Task 7 – Public Participation

Detailed descriptions of the process and results of each of these tasks are described in the following sections.

1.3 ASSUMPTIONS USED IN THE STUDY

A summary of assumptions made for the development of this study are as follows:

- Cost and revenue projections in this study are for a ten year period. Every 5 years the proposed rate schedule should be revisited to determine if any changes are needed based on changes in growth rates, capital improvement projections, etc.

- Because the five service areas are served by a single utility enterprise, one rate structure is developed for all customers of the utility.
- Some sewer utilities have stepped sewer rates depending on the likely percentage of individual customer metered water usage entering the sewer system. Customer metered water usage volumes and meter sizes are not available to DAC at this time as each service area is served by one or more private or mutual domestic water utilities. Therefore, the sewer rates developed as a result of this study are based on sewer utilities cost and revenue data only. Provisions are made for sewer rate surcharge for large volume water users should this data become more readily available to DAC in the future. The rate structure proposed is adequate to meet cost projections without this additional surcharge for high volume users.

1.4 SYSTEM COMPONENTS AND OPERATIONS

DAC currently has 5 separate wastewater service areas: Chaparral, South Central, Rincon, Salem, and La Union. Chaparral, South Central, Rincon, and Salem all have their own separate treatment plants and sanitary sewer collection systems comprising of lift stations, force mains, manholes, and gravity sewer lines. La Union however, does not have its own individual treatment plant, but instead has a contract with the Camino Real Regional Utility Authority (CRRUA) to discharge to their treatment plant. La Union is comprised of lift stations, force mains, manholes, and gravity sewer lines. Figure 1 shows the locations of each of the collection systems with two in the northeastern part of the county and three in the southeastern part of the county. These two areas are approximately 60 miles apart. Table 1-1 is a summary of the major components in the individual service areas.

Table 1-1. Wastewater Service Area Summary

Area	WWTP Capacity (GPD)	Lift Stations
Chaparral	300,000	3
Rincon	66,000	1
Salem	200,000	1
South Central	1,000,000	21
La Union	n/a	3

Customer And Usage Characteristics

1.4.1 Customer Base and Population Projection

Local planning documents were reviewed to determine a reasonable growth rate for the planning area that would not overestimate growth and cause a possible shortfall in actual versus projected revenues. The *Dona Ana Comprehensive Plan 1995 – 2015* (Comprehensive Plan)[1] was adopted by the County in 1994. The service areas of the County's sewer system fall in the South, Central and Border regions of the County as identified in Figure 5 of the Comprehensive Plan. The plan identifies projected populations for each of these areas in Table 1 of the Comprehensive Plan. The corresponding growth rates vary from 1.8 percent to 5.0 percent with an average growth rate of 2.9 percent. However, according to 2000 and 2010 U.S. Census data, and estimated populations for 2011, 2012 and 2013, growth in Dona Ana County has been significantly slower than anticipated by the Comprehensive Plan. Table 1-2 shows the population projection from the Comprehensive Plan compared to actual U.S. Census data and projections.

[1] Dona Ana County and NMSU, *Dona Ana County Comprehensive Plan 1995 – 2015*, 1994.

Table 1-2. Historic and Estimated Dona Ana County Population

	DAC Comprehensive Plan		U.S. Census	
Year	Population	Annual Growth Rate	Population	Annual Growth Rate
1990	135,510	-	135,510	-
2000	189,434	3.4%	174,682	2.6%
2010	261,290	3.3%	209,233	1.8%
2011	-	-	212,772	1.7%
2012	-	-	213,952	0.6%
2013	-	-	213,460	-0.2%
2015	322,387	2.1%	-	-
2020	-	-	-	-
Average Annual Growth Rates:		2.9%		1.3%

In 2005, the State of New Mexico granted the City of Las Cruces (City), the County and New Mexico State University (NMSU) funds to create the *One Valley, One Vision 2040* (Vision 2040)[2] planning document that was completed and adopted in 2012 by the City and the County. The purpose of the Vision2040 document was to establish guiding principles for planning and growth in the region. The plan examined local population projections developed by NMSU, the New Mexico Bureau of Business and Economics Research (BBER), UTEP Border Regional Modeling Project (UTEP), and the City of El Paso's Regional Economic Model (REMI). The population projections varied among the several studies, but the Vision2040 document chose a likely population increase from approximately 200,000 to 325,000 people from 2010 through 2040. This corresponds to an annual regional growth rate of 1.6 percent.

Currently, the County, City, NMSU and several other local municipalities and organizations are in the process of completing the Viva Dona Ana Regional Planning Initiative which will include an update to the Comprehensive Plan as well as several other planning documents dealing with transportation, border economic development, housing, etc. This effort is not expected to be completed until 2015.

In 2012, the City completed the *Water and Wastewater Impact Fee – Land Use Assumptions and Capital Improvements Plan 2011-2016*[3]. The document referenced U.S.

[2] Dona Ana County and City of Las Cruces, *One Valley, One Vision 2040 Regional Plan*, 2012.
[3] Duncan Associates, *Water and Wastewater Impact Fee Land Use Assumptions and Capital Improvements Plan 2011-2016*, 2012.

Census data to show that the City grew at a rate of 2.87 percent from 2000 through 2010, while the County grew at the lower rate of 1.82 percent over the same time period. The Plan chose an average annual population growth of 1.87 percent over a 20-year planning period to project growth in the City.

Based on the Census data and more recent regional available planning documents, the fact that unincorporated regions of the County historically grow at a slower rate than the City, a growth rate of 1.0 percent was chosen to project the expected increase in the customer base for this sewer rate study.

In 2017, DAC had a total of 3,283 residential customer connections, 53 commercial customer connections, and 16 institutional customer connections. Table 1-3 shows the projected number of customer connections for all four service areas over the five year revenue projection period assuming a 1.0 percent growth rate.

Table 1-3. DAC Projected Sewer Connections for All Service Areas

Year	Residential Connections	Commercial Connections	Institutional Connections	Total Projected Connections
2017	3,283	53	16	3,352
2018	3,316	54	16	3,386
2019	3,349	54	16	3,419
2020	3,382	55	16	3,454
2021	3,416	55	17	3,488
2022	3,450	56	17	3,523
2023	3,485	56	17	3,558
2024	3,520	57	17	3,594
2025	3,555	57	17	3,630
2026	3,591	58	17	3,666
2027	3,626	59	18	3,703

2 WASTEWATER REVENUE REQUIREMENTS

2.1 OPERATING AND MAINTENANCE COSTS

BHI worked with the DAC Utility staff to compile existing revenue and cost data for fiscal years 2011 through 2017 to date for each of the five service areas. DAC also provided customer counts by rate class and service area. BHI compiled the data into a tabulated summary for the utility as a whole. The results are included as Appendix A.

2.2 CAPITAL PROJECTS

According to DAC Utility staff there is a number of upcoming capital improvement projects planned. They are Chaparral Phase 1C ($2.0 million), South Central WWTP Improvements ($3.5 million), and South Central Collection System Improvements ($1.5 million). Each of these projects is in various states of planning and design. The funding source for these projects has yet to be determined. The funding source for these projects will determine the debt service requirements that will have an impact on the projected revenue requirements.

2.3 DEBT SERVICES

Table 2-1 shows are the annual payments made by DAC for current loan obligations as well as the estimated future debt service payments for future capital improvement projects.

These are capital improvement projects that were funded through state and federal programs that require a portion of the total amount of funding to be awarded as a loan. Depending on the funding source, the percentage of the loan component can vary. For the purpose of this report it was assumed that funding for the future projects included a 10% loan component and a 2% interest rate as part of estimating the future debt service payments for these projects.

Table 2-1. Annual Debt Service Payments

Existing (Year Ending)	FY2018	FY2019	FY2020	FY2021	FY2022
NMED CWSRL # 1438047 (FY2029)	$289,884	$289,884	$289,884	$289,884	$289,884
NMED CWSRL # 195002/14503R (FY2019)	$ 51,091	$ 51,091			
Mesquite Lease	$ 24,073				
Colonias 2988-CIF (FY2034)	$ 1,750	$ 1,750	$ 1,750	$ 1,750	$ 1,750
Colonias 2985-CIF (FY2034)	$ 7,000	$ 7,000	$ 7,000	$ 7,000	$ 7,000
Colonias 3348-CIF (FY2035)	$ 4,687	$ 4,687	$ 4,687	$ 4,687	$ 4,687
USDA, Loan #92-09 (FY2034)	$ 12,389	$ 12,389	$ 12,389	$ 12,389	$ 12,389

Future[1] (Total Funding)	FY2018	FY2019	FY2020	FY2021	FY2022
South Central WWTP Imp. ($3.5M)	$ 21,405	$ 21,405	$ 21,405	$ 21,405	$ 21,405
South Central Collection Imp. ($1.5M)	$ 9,174	$ 9,174	$ 9,174	$ 9,174	$ 9,174
Chaparral Phase 1C ($2.0M)	$ 12,231	$ 12,231	$ 12,231	$ 12,231	$ 12,231
TOTAL DEBT SERVICE PAYMENTS	**$433,684**	**$409,610**	**$358,520**	**$358,520**	**$358,520**

[1]Assume 10% loan, 2.0% interest rate

2.4 RESERVES

Currently DAC is only contributing to reserve accounts related to debt service requirements. These reserve accounts are necessary to fulfill obligations required by previous capital improvement loans through state and federal funding sources. Once the amount of money stored in these reserves is met, annual payments to the reserve account are no longer required. Currently DAC is making two annual contributions to reserves. One is for La Union in the amount of $11,412.33 and the other is for Salem in the amount of $5,648.63. For FY2016 only partial payments of $4,837.67 and $813.11, respectively, will be required to fulfill their current minimum reserve requirements.

2.5 REVENUE REQUIREMENTS FROM USER RATES

The revenue requirements were projected for the next ten years. These projections were based on historical O&M expenses, existing debt service payments, and estimated debt service payments related to future capital improvement projects. The average for each category of variable O&M expenses was used along with the 10 year average federal inflation rate of 2.35% to project the O&M expenses in these categories. For Expenses related to employee salaries and benefits all vacant positions were projected to be fulfilled in FY2017 and then assumed growth of 4% per year to account for inflation and employee raises. The projected revenue requirements from FY2018 to FY2022 are tabulated in Table 2-2. The full ten year projected revenue requirements are tabulated in Appendix B.

Table 2-2. Revenue Requirements

	FY2018	FY2019	FY2020	FY2021	FY2022
FIXED COSTS					
Utility Reserve	$ -	$ -	$ -	$ -	$ -
FEMA-Fed/State Public Assistance					
Bond Expenses					
Loan Payments					
Debt Services	$ 433,684	$ 409,610	$ 358,520	$ 358,520	$ 358,520
O&M EXPENSES					
Salaries and Benefits	$ 792,004	$ 823,684	$ 856,632	$ 890,897	$ 926,533
Liability Insurance	$ -	$ 34,000	$ -	$ 36,000	$ -
FIXED COST TOTAL	**$1,225,688**	**$1,267,295**	**$1,215,151**	**$1,285,417**	**$1,285,052**
VARIABLE COSTS					
O&M EXPENSES					
Office and Miscellaneous	$ 54,543	$ 55,825	$ 57,137	$ 58,479	$ 59,854
Utilities	$ 215,571	$ 220,637	$ 225,822	$ 231,129	$ 236,560
Professional Services	$ 264,439	$ 270,653	$ 277,013	$ 283,523	$ 290,186
Small Tools and Equipment	$ 9,173	$ 9,388	$ 9,609	$ 9,835	$ 10,066
Operation Parts and Equipment	$ 114,814	$ 117,512	$ 120,274	$ 123,100	$ 125,993
Supplies (Chemicals)	$ 91,949	$ 94,110	$ 96,322	$ 98,585	$ 100,902
Supplies (Fuel)	$ 41,992	$ 42,979	$ 43,989	$ 45,023	$ 46,081
Maintenance	$ 67,508	$ 69,095	$ 70,718	$ 72,380	$ 74,081
Disposal and Testing	$ 35,281	$ 36,110	$ 36,959	$ 37,827	$ 38,716
Gross Receipts Tax	$ 59,122	$ 60,511	$ 61,933	$ 63,389	$ 64,878
Travel Expenses	$ 536	$ 549	$ 562	$ 575	$ 588
CAPITAL EXPENSES					
Construction and Equipment	$ -	$ -	$ -	$ -	$ -
VARIABLE COSTS TOTAL	**$954,928**	**$977,369**	**$1,000,337**	**$1,023,845**	**$1,047,906**
TOTAL EXPENDITURES	**$2,180,616**	**$2,244,664**	**$2,215,489**	**$2,309,262**	**$2,332,958**

3 WASTEWATER RATE AND FEE DESIGN

3.1 CURRENT RATE DESIGN

The current monthly user charges are listed in Table 6.

Table 3-1. Current DAC Monthly Rate Schedule

	FIXED CHARGES	VARIABLE CHARGES
Customer Classification	**Minimum Charge (up to 7,000 gallons)**	**Per 1,000 gallons at 80% of Water Usage**
Residential	$21.00	
Commercial	$42.00	
Institutional	$60.00	$1.40 per 1,000 gallons
Industrial	$100.00	$1.40 per 1,000 gallons
Multi-Use	$21.00 per dwelling unit	

Currently residential and commercial users are charged only the fixed minimum charge. Institutional users are charged the fixed rate along with the variable charge depending on their water use. The majority of institutional users are schools located throughout the county. Data provided by DAC showed that the average institutional monthly bill is approximately $350. The $350 is made up of a $60 fixed rate and approximately $290 in variable charges. The County currently has no industrial customers. The County also has several set-up charges for administrative and set-up costs. Table 3-2 and Table 3-3 show some of the set-up charges for new customers connecting to the system.

Table 3-2. Current DAC Administrative Set-up Charges

Customer Classification	Less than 6 months to Connect	Greater than 6 months to Connect
Residential	$150.00	$300.00
Commercial	$300.00	$600.00
Institutional	$500.00	$1,000.00
Industrial	$700.00	$1,400.00

Table 3-3. Current DAC One-Time Charges

Water Meter Size	One Time Charge
5/8” x 3/4”	$1,000
1”	$1,600
1 1/2"	$2,500
2”	$6,000

From the tables, the minimum set-up charge that would be charged to a new residential customer is $1,150. The rate schedule states that these charges may not be applicable if the sewer system is expanded to connect customers if funded by a local, state or federally funded project. The complete wastewater rate schedule including all administrative, stand-by, deposit, installation, multi-unit, large subdivision, late, reactivation and late charges can be found in Appendix F.

3.2 RATES FROM OTHER COMMUNITIES

Table 3-4 contains residential and commercial rates from similar communities as well as the state-wide average sewer rate.

Table 3-4. Rate Structures from Similar Communities

Community	Number of Connections	Monthly Connection Charge		Residential Customer %
		Residential	Commercial	
Aztec[4]	2,660	$44.50	$45.00	88%
Belen[4]	3,036	$35.87	$35.87	89%
Bloomfield[4]	2,527	$40.38	$60.72	89%
Espanola[5]	4,158	$47.01	$43.52	85%
Grants[4]	3,108	$27.88	$27.88	86%
Hurley[5]	649	$40.80	$45.93	95%
Logan[5]	1,031	$25.00	$31.00	98%
Milan[4]	778	$30.10	$34.00	76%
Red River[4]	582	$45.63	$45.04	83%
Santa Rosa[4]	792	$28.03	$57.83	78%
Average of Similarly Sized Communities:	1,932	$36.52	$42.68	87%
State-Wide Average:	5,318	$23.77	$33.54	89%

[4]New Mexico Environment Department Construction Programs Bureau, *Municipal Water and Wastewater User Charge Survey for 2012 Rates (Based on 6,000 gallons/month)*, 2013.

[5]New Mexico Environment Department Construction Programs Bureau, *Municipal Water and Wastewater User Charge Survey for 2011 Rates (Based on 6,000 gallons/month)*, 2012.

Because the DAC Utility Department essentially owns and operates 4 separate wastewater treatment facilities to serve the needs of 3,000 plus residential, commercial, and institutional users, there is no other municipal wastewater system in the state that can be directly comparable in this regard. The County's wastewater system is unique with regards to geographical separation, percentage of residential customers, and the number of individual systems operated by one entity.

- As discussed in Section 1.4, there are two wastewater service areas in the northwestern part of the county and three in the southern part of the county. Approximately 60 miles separate these two areas.
- Currently there are 3,352 wastewater customers. 3,283 of them are residential customers accounting for over 98% of the customer base.
- In conjunction with the geographic differences, each of the 4 WWTPs require their own staff and equipment as the distance between them makes it difficult to share resources.

3.3 BILLING AND IMPACT ANALYSIS

From the historical expense and revenue information provided by DAC, the wastewater system has had higher expenses than it does revenue. In order to balance this difference, funds from the general fund are being transferred to the utility fund. In the last six years, an average of $500,000 per year has been transferred into the utility fund. In order to minimize or eliminate the general fund subsidy the wastewater usage rates would need to be increased. Three scenarios were analyzed to better understand the extent at which monthly bills would need to be increased and how they would affect revenue generation.

3.3.1 1 YEAR SUBSIDY ELIMINATION

In this scenario, the monthly bills were set for each customer class to eliminate the subsidy in the first year of implementation. This required the monthly bills to more than double what they currently are and increase by 2.5% per year after that to keep pace with rising expenses. Thus, the expected monthly bills for each user group are summarized in Table 3-5.

Table 3-5. Estimated Monthly Bill

Customer Rate	Current	FY18	FY19	FY20	FY21	FY22
Residential[1]	$21	$42.00	$43.05	$44.13	$45.23	$46.36
Commercial[1]	$42	$84.00	$86.10	$88.25	$90.46	$92.72
Institutional[2]	$350	$700.00	$717.50	$734.54	$753.82	$772.67

[1]Fixed rate [2]Fixed rate plus usage

Both the residential and commercial rates are fixed monthly charges and not related to water usage. The institutional user monthly bill would include a fixed rate as well as usage rate. At these rates transfers from the general fund would no longer be necessary as the projected revenues would be greater than the projected expenses for each of the 5 years. The revenue projections for this scenario are summarized in Appendix B.

3.3.2 5 YEAR PROGRESSIVE SUBSIDY ELIMINATION

In this scenario, the monthly bills were raised incrementally to reduce the need for a subsidy year over year and within 5 years the subsidy would be eliminated. This required the monthly bills to increase 18% per year. Table 3-6 shows a summary of the expected monthly bills for each user group from FY2018 to FY2022 for this scenario.

Table 3-6. 5 Year Progressive Rate Increase Monthly Bill

Customer Rate	Current	FY18	FY19	FY20	FY21	FY22
Residential[1]	$21	$24.78	$29.24	$34.50	$40.71	$48.04
Commercial[1]	$42	$49.56	$58.48	$69.01	$81.43	$96.09
Institutional[2]	$350	$413.00	$487.34	$575.06	$678.57	$800.72

[1]*Fixed rate* [2]*Fixed rate plus usage*

Both the residential and commercial rates are fixed monthly charges and the institutional monthly bill would include a fixed rate plus usage charges. The revenue projections for this scenario are summarized in Appendix C.

3.3.3 10 YEAR PROGRESSIVE SUBSIDY ELIMINATION

Another scenario would be to expand the 5 Year Progressive Rate Increase to 10 years to eliminate the need to subsidize from the General Fund. This scenario would require the monthly bills to increase approximately 9% per year. Table 3-7 shows the estimated monthly bill for each user class for this scenario. The revenue projections for this scenario are summarized in Appendix D.

Table 3-7. 10 Year Progressive Rate Increase Monthly Bill

Customer Rate	Current	FY18	FY19	FY20	FY21	FY22
Residential[1]	$21	$22.89	$24.95	$27.20	$29.64	$32.31
Commercial[1]	$42	$45.78	$49.90	$54.39	$59.29	$64.62
Institutional[2]	$350	$381.50	$415.84	$453.26	$494.05	$538.52

Customer Rate	FY23	FY24	FY25	FY26	FY27
Residential[1]	$35.22	$38.39	$41.84	$45.61	$49.71
Commercial[1]	$70.44	$76.78	$91.22	$91.22	$99.43
Institutional[2]	$586.99	$639.81	$697.40	$760.16	$828.58

[1]*Fixed rate* [2]*Fixed rate plus usage*

3.4 RATE ALTERNATIVES

DAC Utilities does not provide water to their wastewater customers and water usage data is not readily available for all customers. This information is typically used to determine what percentage each customer class contributes to wastewater generation, which allows for the rates to be distributed fairly between the customer classes. For example, if the

residential customer class generated 80% of the wastewater, then the residential class as a whole would be responsible for 80% of the costs associated with wastewater treatment. However, this information is not readily available and for this report it is assumed that the current ratio of fixed rates for residential and commercial will be similar. Currently that ratio is approximately 1:2, with the residential fixed rate being $21 and the commercial fixed rate being $42.

3.4.1 1 YEAR SUBSIDY ELIMINATION

If the goal is to eliminate any subsidy to the utility fund, the projected growth and revenue requirements showed that the fixed usage rates would need to be increased as shown by the estimated monthly bills for this scenario in Section 3.3.1. The residential and commercial user classes are charged only a fixed rate.

The institutional user group is charged a fixed rate plus a variable charge. The variable charge is based on 80% of water consumption during the months of December, January, and February at a rate of $1.40 per 1,000 gallons. On average the variable rate charged to institutional customers is approximately $290.00 per month. It is expected that the institutional customers will maintain their current usage levels so any additional revenue generation would need to come from an increase in the fixed rate, variable rate, or a combination of the two. The institutional user class makes up a low percentage of all users so changing the variable rate would have a minimal effect on the overall revenue generation for the utility. Because of this, this scenario was not analyzed with changing the variable rate. For this case that fixed rate was increased from $60 to $410.00 per month to help meet the projected revenue requirements. Table 3-8 shows the minimum fixed rates for this scenario.

Table 3-8. Fixed Rates

Customer Rate	Current	FY18	FY19	FY20	FY21	FY22
Residential	$21	$42.00	$43.05	$44.13	$45.23	$46.36
Commercial	$42	$84.00	$86.10	$88.25	$90.46	$92.72
Institutional	$60	$410.00	$427.50	$445.44	$463.82	$482.67
Industrial	$100	$500.00	$520.00	$540.50	$561.51	$583.05

3.4.2 5 YEAR PROGRESSIVE SUBSIDY ELIMINATION

As with the previous scenario the goal was to eliminate any subsidies to the Utility fund. In this scenario the goal was to eliminate the need for subsidies incrementally over a

5 year period with equal yearly rate increases over that same timeframe. Table 3-9 shows the minimum fixed rates to eliminate any subsidies over a 5 year time period.

Table 3-9. 5 Year Progressive Fixed Rates

Customer Rate	Current	FY18	FY19	FY20	FY21	FY22
Residential	$21	$24.78	$29.24	$34.50	$40.71	$48.04
Commercial	$42	$49.56	$58.48	$69.01	$81.43	$96.09
Institutional	$60	$123.00	$197.34	$285.06	$388.57	$510.72
Industrial	$100	$172.00	$256.96	$357.21	$475.51	$615.10

3.4.3 10 YEAR PROGRESSIVE SUBSIDY ELIMINATION

In this scenario, the fixed rates were set to result in the monthly bills discussed in Section 3.3.3. As discussed in the previous sections, the residential and commercial customers are only charged a fixed rate and would be equal to the expected monthly bill for this scenario. The institutional users are charge charged a fixed rate plus a usage rate based on their water use. Since it is expected that the institutional user's water consumption will remain similar in the future, the fixed rate for institutional users was increased to help meet revenue requirements. Table 3-10 shows a summary of the fixed rates for each user class for this scenario.

Table 3-10. 10 Year Progressive Fixed Rates

Customer Rate	Current	FY18	FY19	FY20	FY21	FY22
Residential	$21	$22.89	$24.95	$27.20	$29.64	$32.31
Commercial	$42	$45.78	$49.90	$54.39	$59.29	$64.62
Institutional	$60	$91.50	$125.84	$163.26	$204.05	$248.52
Industrial	$100	$136.00	$175.24	$218.01	$264.63	$315.45

Customer Rate	FY23	FY24	FY25	FY26	FY27
Residential	$35.22	$38.39	$41.84	$45.61	$49.71
Commercial	$70.44	$76.78	$83.69	$91.22	$99.43
Institutional	$296.99	$349.81	$407.40	$470.16	$538.58
Industrial	$370.84	$431.22	$497.03	$568.76	$646.95

3.5 CONNECTION FEES

The existing connection fees are described in Section 3.1 and are categorized by the water meter size of the service location. Comparatively the City of Las Cruces' wastewater connection fees are based on the sewer service line size, either 4" or 6". Their standard connection fee is $1,560 for a 4" service line and $1,585 for a 6" service line. Additionally, the City charges impact fees based on water meter sizes. They range from $389 for a sewer service with a 3/4"x5/8" water meter connection to $31,088 for a service with an 8" water meter connection.

3.6 CUSTOMER FINANCIAL IMPACT ANALYSIS

A financial impact analysis was complete to consider the effects of an increase in the sewer rates. The full report is attached as Appendix I.

4 SEPTAGE RATE ANALYSIS

4.1 CURRENT RATE AND PREVIOUS STUDY

Currently DAC only accepts septage at the South Central Wastewater Treatment Plant (SCWWTP). The septage is then treated as part of the normal plant processes. Septage typically has a lower water quality and higher levels of debris and solids. The WWTP was not designed to receive and treat septage. This has a negative impact on the operation of the WWTP which increases cost as well as reducing the operational life of equipment.

Presently the SCWWTP facility charges $0.05 per gallon of septage disposed of at the facility. Per the *Dona Ana County Septage Facility Study*[4] completed in April 2006, the recommended rate for 2006 was $0.11 per gallon to cover operation, maintenance, and proposed capital improvements costs. The septage facility was built in 2007 and included three 25,000 gallon storage tanks and four dewatering boxes.

4.2 COMPARABLE RATES

The most comparable septage facility is at the City of Alamogordo wastewater treatment plant. Currently the City of Alamogordo wastewater treatment plant charges $0.20 per gallon of septage disposed at their facility. The septage intake facility at the WWTP was built in 2015.

[4] Bohannan Huston Inc., Aegean Consulting Dona Ana county Septage Facility Study 2006, 2017

4.3 EXISTING AND PROJECTED SEPTAGE VOLUMES

The monthly septage volume received from January 2016 to January 2017 (13 months) was provided by DAC Utility staff for the SCWWTP. An average of 110,000 gallons per month was received during this time frame. An assumed growth of 1% was then projected based on this monthly average volume for the next 5 years.

Table 16. Projected Septage Volumes

Year	Volume (gal)
2016[1]	1,274,240
2017	1,286,982
2018	1,312,851
2019	1,325,979
2020	1,339,239
2021	1,352,631

[1]*Known Volume*

It should be noted it is likely that the volumes reported is less than what is actually being received. Currently there is no way to accurately measure the incoming volumes, which are measured manually in the outlet box receiving septage and is inaccurate.
It is assumed the volumes for the septage will increase by as much as 25% when measured accurately with a calibrated flow meter.

4.4 CAPITAL IMPROVEMENT REQUIREMENTS

The septage handling process installed at the South Central facility in 2007 was not able to maintain pace with the delivered septage volumes on a daily basis and substantial changes have occurred at the facility since to enable the process to continue. Currently the septage is being introduced into one of the aeration basins in the facility and ultimately being dewatered with a new belt press to allow proper dewatering for landfill disposal. The current septage handling process must be renovated to remove it from the aeration basins and sludge holding tanks of the main treatment plant.

Recommended improvements to the facility include the following:

1) Belt Press Building Improvements: Enclosure of existing structure.
2) Septage Receiving Station: An equipment specifically designed for septage offloading that separates rocks, grinds rags and trash debris, and washes this debris and physically removes this from the solids stream for dumpster disposal.

a. Solids Handling Pumps: To allow the remaining septage to be pumped to the belt press, sludge beds, or holding tanks.

3) Sludge Drying Beds: To allow a redundant drying method in case of belt press mechanical failure.
4) Site Piping Improvements: New piping between septage receiving station, holding tanks, sludge beds, and belt press

These total capital cost for these improvements are detailed in Appendix H – Septage Rate Information. The total cost for the improvements including gross receipts tax is $1,192,000. The amortized cost for a 20 year loan at 3.5% is approximately $83,000 per year.

4.5 RECOMMENDED SEPTAGE RATE

To calculate the expected septage rate that will properly provide the revenue necessary to finance this handling system will include the amortized capital costs expected, as well as the expected operation and maintenance costs anticipated.

Operation and maintenance costs anticipated for this facility are summarized in Table 17 below. These O&M costs are further detailed in Appendix H – Septage Rate Information.

Table 17. Septage Facility O&M Cost Summary

Item	Annual Cost
Power	$4,500
Equipment Replacement	$19,000
Labor	$97,000
Sludge Disposal Fees	$56,810
TOTAL	**$177,310**

With an expected capital cost loan payment totaling $83,000 per year and an O&M cost totaling $177,310, the cumulative cost per year of approximately $260,293. With the anticipated volume of accurately measured septage expected to average 140,000 gallons per month, the minimum required septage rate is $0.16 per gallon, and the recommended septage rate is $0.20 per gallon. The septage rate should be increased, at a minimum, to reflect the region adjusted 12-month percent change in the *Consumer Price Index (CPI)* published by the US Bureau of Labor Statistics. It is also recommended that the septage rate be reviewed every 2 years to ensure that the revenue requirements for operating and maintaining the septage facility is being met.

5 PUBLIC PARTICIPATION

To allow DAC's sewer customers the opportunity to discuss and provide feedback to the *Sewer Rate Study*, three public meetings were organized and held in Chaparral, Hatch, and Vado. Notice of these meetings were given to the customers in advance through their monthly bills. The meetings were held at 6:00 PM at each location on April 24th, April 25th, and May 1st, respectively. At each of the meetings a presentation was given by Bohannan Huston giving an overview of the *Sewer Rate Study* and *Customer Financial Impact Analysis Report*. Staff from both Bohannan Huston and DAC participated in the Q&A sessions following the presentation at each of the meetings. A translator was present at each of the meetings providing an English to Spanish translation of the presentation and subsequent discussion.

The number of attendees varied at each of the meetings with 7 public participants at the Chaparral meeting, 1 at the Hatch meeting, and 12 at the Vado meeting. Generally, the attendees indicated they understood the reasoning for the need to increase the sewer rates. However, the Q&A discussion centered on the affordability of a rate increase. This concern was particularly raised by attendees who declared they were living on a fixed income.

Attendees were also provided comment forms addressed to Bohannan Huston that they could write down any comments or concerns about the *Sewer Rate Study* and would be included as part of the final report. These forms were provided in both English and Spanish. As of today, May 4th, no comment forms have been received.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

The current sewer rate structure was implemented during the inception of the DAC Wastewater Utility in 2003. These rates were based on estimated operating and maintenance costs and have not been adjusted since. The wastewater utility has expanded in that time to gain more customers, but the cost of operating and maintaining the utility has increased as well. Financial data from the previous 6 fiscal years has shown that the operating and maintenance expenses have exceeded the revenue by an average of $560,000 per year. This shortfall was made up by transferring funds from the DAC General Fund to the Wastewater Utility which affects other County projects and programs. To

reduce the amount of transfers from the General Fund and eventually eliminating those transfers the sewer rates will need to be increased.

Three scenarios with a goal of eliminating the transfers were developed to determine what the rates would need to be for this to be accomplished. The 3 scenarios were eliminating the transfers with a single rate increase, 5 incremental rate increases spread out over 5 years, and 10 incremental rate increases over a 10 year period. After reviewing the study with DAC staff and commission, a fourth option was suggested that is a combination of the 1 year and 5 year scenarios. This option included a $12.50 rate increase the first year, instead of the $21.00 rate increase from the 1 year scenario, and smaller increases the remaining 4 years of the 5 year plan. These rates are summarized in Table 6-1.

Table 6-1 – Recommended Fixed Rates

Customer Rate	Current	FY18	FY19	FY20	FY21	FY22
Residential	$21	$33.50	$37.25	$40.75	$44.50	$48.25
Commercial	$42	$84.00	$86.25	$88.25	$90.50	$92.75
Institutional	$60	$120.00	$130.25	$140.75	$151.50	$162.75
Industrial	$100	$168.75	$180.50	$192.50	$204.75	$217.25

This initial rate increase is a balanced approach between eliminating the revenue shortfall and minimizing the immediate financial impact on the sewer utility customers.

6.2 RECOMMENDATIONS

Based on the analysis and results of this report as well as feedback from the DAC Commissioners and public participation it is recommended that the fixed rates for DAC's Sewer Utility be adjusted to something similar to those shown in Table 6-1. Beyond the 5 years shown in Table 6-1 the sewer rates should be increased, at a minimum, to reflect the region adjusted 12-month percent change in the *Consumer Price Index (CPI)* published by the US Bureau of Labor Statistics. It is also recommended that the sewer rates be reviewed every 2 years to ensure that the revenue requirements for operating and maintaining the utility are being met.

APPENDICES

APPENDIX A – TABULATED SUMMARIES OF COST AND REVENUE FOR FISCAL YEARS 2011 THROUGH 2016

Appendix A – TABULATED SUMMARY OF COST AND REVENUE, FY11-FY16

	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016
REVENUES						
Wastewater User Charges	$ 845,077	$ 881,593	$ 870,624	$ 909,418	$ 923,680	$ 948,158
Bulk Rate Charges	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000
One Time Fees	$ 51,501	$ 84,450	$ 107,899	$ 87,410	$ 147,540	$ 91,613
Reconnect Fees	$ 1,620	$ 1,980	$ 2,025	$ 1,440	$ 1,485	$ 860
Administrative and Misc. Fees	$ 29,942	$ 48,921	$ 22,156	$ 153,398	$ 79,196	$ 58,443
Late Charges	$ 69,691	$ 59,710	$ 59,122	$ 61,287	$ 77,724	$ 68,206
Investment Interest	$ 5,981	$ 2,021	$ 1,533	$ 1,563	$ 7,235	$ 5,555
	$ -	$ -	$ -	$ -	$ 106,237	$ 1,410,541
O & M Contracts	$ 59,148	$ 46,680	$ 67,453	$ 51,913	$ 32,315	$ 7,072
Gross Receipts Tax	$ 41,057	$ 49,253	$ 48,299	$ 48,292	$ 53,692	$ 55,336
Septage Fees	$ -	$ 216,092	$ 101,983	$ 81,008	$ 136,605	$ 54,226
REVENUES TOTAL	**$1,154,017**	**$1,224,608**	**$1,229,110**	**$1,364,721**	**$ 1,479,105**	**$ 2,695,785**
FIXED COSTS						
Utility Reserve	$ 6,400	$ 8,046	$ 3,137	$ 27,271	$ 17,061	$ 5,651
FEMA-Fed/State Public Assistance	$ -	$ -	$ -	$ -	$ 3,485	$ -
Bond Expenses	$ -	$ -	$ -	$ -	$ 12,389	$ 13,161
Loan Payments	$ -	$ -	$ -	$ -	$ 8,750	$ 9,700
Debt Services	$ 56,834	$ 120,782	$ 48,314	$ 272,695	$ 384,346	$ 401,264
O&M EXPENSES						
Salaries and Benefits	$ 450,683	$ 489,655	$ 529,924	$ 511,675	$ 539,993	$ 531,703
Liability Insurance	$ 28,622	$ -	$ 29,001	$ -	$ 26,118	$ -
FIXED COST TOTAL	**$ 542,540**	**$ 618,483**	**$ 610,376**	**$ 811,640**	**$ 992,143**	**$ 961,479**
VARIABLE COSTS						
O&M EXPENSES						
Office and Miscellaneous	$ 34,984	$ 55,655	$ 49,593	$ 51,075	$ 58,698	$ 69,739
Utilities	$ 181,289	$ 184,166	$ 195,750	$ 208,008	$ 300,522	$ 193,993
Professional Services	$ 213,674	$ 205,690	$ 195,226	$ 204,103	$ 363,445	$ 368,063
Small Tools and Equipment	$ 11,502	$ 9,569	$ 9,678	$ 8,570	$ 6,121	$ 8,332
Operation Parts and Equipment	$ 115,468	$ 242,032	$ 106,520	$ 6,413	$ 91,938	$ 110,696
Supplies (Chemicals)	$ 85,550	$ 77,858	$ 99,862	$ 92,891	$ 85,116	$ 97,752
Supplies (Fuel)	$ 39,614	$ 48,804	$ 47,654	$ 45,650	$ 38,564	$ 25,882
Maintenance	$ 62,833	$ 53,592	$ 60,109	$ 49,893	$ 52,495	$ 116,826
Disposal and Testing	$ 36,450	$ 34,743	$ 33,737	$ 31,201	$ 34,829	$ 35,867
Gross Receipts Tax	$ 41,057	$ 49,253	$ 48,299	$ 48,292	$ 53,692	$ 55,336
Travel Expenses	$ 470	$ 718	$ 44	$ 666	$ 842	$ 404
CAPITAL EXPENSES						
Construction and Equipment	$ 6,917	$ 600,401	$ 296,485	$ 84,605	$ 63,985	$ 1,368,997
VARIABLE COSTS TOTAL	**$ 829,810**	**$1,562,482**	**$1,142,956**	**$ 831,368**	**$ 1,150,247**	**$ 2,451,887**
TOTAL EXPENDITURES	**$1,372,349**	**$2,180,965**	**$1,753,332**	**$1,643,008**	**$ 2,142,389**	**$ 3,413,366**
NET TOTAL INCOME (LOSSES)	**$ (218,332)**	**$ (956,357)**	**$ (524,222)**	**$ (278,287)**	**$ (663,284)**	**$ (717,581)**
TRANSFERS						
From General Fund	$ 89,600	$ 653,083	$ 460,677	$ 225,495	$ 685,755	$ 951,972
Reconciliation	$ 128,732	$ 303,274	$ 63,545	$ 52,792	$ (22,470)	$ (234,391)
TRANSFERS TOTAL	**$ 218,332**	**$ 956,357**	**$ 524,222**	**$ 278,287**	**$ 663,284**	**$ 717,581**
NET INCOME AFTER TRANSFERS	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

APPENDIX B – PROJECTED REVENUE REQUIREMENTS, FY18-FY27

Appendix B - PROJECTED REVENUE REQUIREMENTS, FY18-FY27

	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027
FIXED COSTS					**Projections**					
Utility Reserve	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FEMA-Fed/State Public Assistance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Bond Expenses	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Loan Payments	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Debt Services	$ 433,684	$ 409,610	$ 358,520	$ 358,520	$ 358,520	$ 358,520	$ 358,520	$ 358,520	$ 358,520	$ 358,520
O&M EXPENSES										
Salaries and Benefits	$ 792,004	$ 823,684	$ 856,632	$ 890,897	$ 926,533	$ 963,594	$1,002,138	$1,042,224	$1,083,912	$1,127,269
Liability Insurance	$ -	$ 34,000	$ -	$ 36,000	$ -	$ 38,000	$ -	$ 40,000	$ -	$ 42,000
FIXED COST TOTAL	**$1,225,688**	**$1,267,295**	**$1,215,151**	**$1,285,417**	**$1,285,052**	**$1,360,114**	**$1,360,658**	**$1,440,743**	**$1,442,432**	**$1,527,789**
VARIABLE COSTS										
O&M EXPENSES										
Office and Miscellaneous	$ 54,543	$ 55,825	$ 57,137	$ 58,479	$ 59,854	$ 61,260	$ 62,700	$ 64,173	$ 65,681	$ 67,225
Utilities	$ 215,571	$ 220,637	$ 225,822	$ 231,129	$ 236,560	$ 242,119	$ 247,809	$ 253,633	$ 259,593	$ 265,693
Professional Services	$ 264,439	$ 270,653	$ 277,013	$ 283,523	$ 290,186	$ 297,005	$ 303,985	$ 311,129	$ 318,440	$ 325,924
Small Tools and Equipment	$ 9,173	$ 9,388	$ 9,609	$ 9,835	$ 10,066	$ 10,302	$ 10,544	$ 10,792	$ 11,046	$ 11,305
Operation Parts and Equipment	$ 114,814	$ 117,512	$ 120,274	$ 123,100	$ 125,993	$ 128,954	$ 131,984	$ 135,086	$ 138,260	$ 141,509
Supplies (Chemicals)	$ 91,949	$ 94,110	$ 96,322	$ 98,585	$ 100,902	$ 103,273	$ 105,700	$ 108,184	$ 110,726	$ 113,329
Supplies (Fuel)	$ 41,992	$ 42,979	$ 43,989	$ 45,023	$ 46,081	$ 47,164	$ 48,272	$ 49,406	$ 50,567	$ 51,756
Maintenance	$ 67,508	$ 69,095	$ 70,718	$ 72,380	$ 74,081	$ 75,822	$ 77,604	$ 79,427	$ 81,294	$ 83,204
Disposal and Testing	$ 35,281	$ 36,110	$ 36,959	$ 37,827	$ 38,716	$ 39,626	$ 40,557	$ 41,510	$ 42,486	$ 43,484
Gross Receipts Tax	$ 59,122	$ 60,511	$ 61,933	$ 63,389	$ 64,878	$ 66,403	$ 67,963	$ 69,561	$ 71,195	$ 72,868
Travel Expenses	$ 536	$ 549	$ 562	$ 575	$ 588	$ 602	$ 616	$ 631	$ 646	$ 661
CAPITAL EXPENSES										
Construction and Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
VARIABLE COSTS TOTAL	**$954,928**	**$977,369**	**$1,000,337**	**$1,023,845**	**$1,047,906**	**$1,072,531**	**$1,097,736**	**$1,123,533**	**$1,149,936**	**$1,176,959**
TOTAL EXPENDITURES	**$2,180,616**	**$2,244,664**	**$2,215,489**	**$2,309,262**	**$2,332,958**	**$2,432,645**	**$2,458,393**	**$2,564,276**	**$2,592,368**	**$2,704,748**

APPENDIX C – TABULATED REVENUE PROJECTIONS FOR 100% SUBSIDY ELIMINATION

Appendix C – TABULATED REVENUE PROJECTIONS FOR 100% SUBSIDY ELIMINATION

	FY2018	FY2019	FY2020	FY2021	FY2022
REVENUES			**Projections**		
Wastewater User Charges	$ 1,860,096	$ 1,923,646	$ 1,990,270	$ 2,067,527	$ 2,139,242
Bulk Rate Charges	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000
One Time Fees	$ 34,600	$ 33,000	$ 34,600	$ 36,500	$ 35,600
Reconnect Fees	$ 1,584	$ 1,600	$ 1,616	$ 1,632	$ 1,648
Administrative and Misc. Fees	$ 65,996	$ 66,656	$ 67,323	$ 67,996	$ 68,676
Late Charges	$ 66,616	$ 67,283	$ 67,955	$ 68,635	$ 69,321
Investment Interest	$ 4,021	$ 4,061	$ 4,102	$ 4,143	$ 4,185
O & M Contracts	$ 44,538	$ 44,983	$ 45,433	$ 45,887	$ 46,346
Gross Receipts Tax	$ 59,122	$ 60,511	$ 61,933	$ 63,389	$ 64,878
Septage Fees	$ 99,302	$ 100,295	$ 101,298	$ 102,311	$ 103,334
REVENUES TOTAL	**$ 2,186,573**	**$ 2,251,740**	**$ 2,323,232**	**$ 2,405,708**	**$ 2,479,897**
FIXED COSTS					
Utility Reserve	$ -	$ -	$ -	$ -	$ -
FEMA-Fed/State Public Assistance					
Bond Expenses					
Loan Payments					
Debt Services	$ 433,684	$ 409,610	$ 358,520	$ 358,520	$ 358,520
O&M EXPENSES					
Salaries and Benefits	$ 792,004	$ 823,684	$ 856,632	$ 890,897	$ 926,533
Liability Insurance	$ -	$ 34,000	$ -	$ 36,000	$ -
FIXED COST TOTAL	**$1,225,688**	**$1,267,295**	**$1,215,151**	**$1,285,417**	**$1,285,052**
VARIABLE COSTS					
O&M EXPENSES					
Office and Miscellaneous	$ 54,543	$ 55,825	$ 57,137	$ 58,479	$ 59,854
Utilities	$ 215,571	$ 220,637	$ 225,822	$ 231,129	$ 236,560
Professional Services	$ 264,439	$ 270,653	$ 277,013	$ 283,523	$ 290,186
Small Tools and Equipment	$ 9,173	$ 9,388	$ 9,609	$ 9,835	$ 10,066
Operation Parts and Equipment	$ 114,814	$ 117,512	$ 120,274	$ 123,100	$ 125,993
Supplies (Chemicals)	$ 91,949	$ 94,110	$ 96,322	$ 98,585	$ 100,902
Supplies (Fuel)	$ 41,992	$ 42,979	$ 43,989	$ 45,023	$ 46,081
Maintenance	$ 67,508	$ 69,095	$ 70,718	$ 72,380	$ 74,081
Disposal and Testing	$ 35,281	$ 36,110	$ 36,959	$ 37,827	$ 38,716
Gross Receipts Tax	$ 72,870	$ 74,582	$ 76,335	$ 78,129	$ 79,965
Travel Expenses	$ 536	$ 549	$ 562	$ 575	$ 588
CAPITAL EXPENSES					
Construction and Equipment	$ -	$ -	$ -	$ -	$ -
VARIABLE COSTS TOTAL	**$ 954,928**	**$ 977,369**	**$ 1,000,337**	**$ 1,023,845**	**$ 1,047,906**
TOTAL EXPENDITURES	**$ 2,180,616**	**$ 2,244,664**	**$ 2,215,489**	**$ 2,309,262**	**$ 2,332,958**
NET TOTAL INCOME (LOSSES)	**$ 5,957**	**$ 7,076**	**$ 107,744**	**$ 96,447**	**$ 146,939**

APPENDIX D – TABULATED REVENUE PROJECTIONS FOR 5 YEAR PROGRESSIVE SUBSIDY ELIMINATION

Appendix D – TABULATED REVENUE PROJECTIONS FOR PROGRESSIVE 5 YEAR SUBSIDY ELIMINATION

	FY2018	FY2019	FY2020	FY2021	FY2022
REVENUES			**Projections**		
Wastewater User Charges	$ 1,097,457	$ 1,306,578	$ 1,556,254	$ 1,861,134	$ 2,216,892
Bulk Rate Charges	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000
One Time Fees	$ 34,600	$ 33,000	$ 34,600	$ 36,500	$ 35,600
Reconnect Fees	$ 1,584	$ 1,600	$ 1,616	$ 1,632	$ 1,648
Administrative and Misc. Fees	$ 65,996	$ 66,656	$ 67,323	$ 67,996	$ 68,676
Late Charges	$ 66,616	$ 67,283	$ 67,955	$ 68,635	$ 69,321
Investment Interest	$ 4,021	$ 4,061	$ 4,102	$ 4,143	$ 4,185
O & M Contracts	$ 44,538	$ 44,983	$ 45,433	$ 45,887	$ 46,346
Gross Receipts Tax	$ 59,122	$ 60,511	$ 61,933	$ 63,389	$ 64,878
Septage Fees	$ 99,302	$ 100,295	$ 101,298	$ 102,311	$ 103,334
REVENUES TOTAL	**$ 1,423,934**	**$ 1,634,672**	**$ 1,889,216**	**$ 2,199,315**	**$ 2,557,546**
FIXED COSTS					
Utility Reserve	$ -	$ -	$ -	$ -	$ -
FEMA-Fed/State Public Assistance					
Bond Expenses					
Loan Payments					
Debt Services	$ 433,684	$ 409,610	$ 358,520	$ 358,520	$ 358,520
O&M EXPENSES					
Salaries and Benefits	$ 792,004	$ 823,684	$ 856,632	$ 890,897	$ 926,533
Liability Insurance	$ -	$ 34,000	$ -	$ 36,000	$ -
FIXED COST TOTAL	**$1,225,688**	**$1,267,295**	**$1,215,151**	**$1,285,417**	**$1,285,052**
VARIABLE COSTS					
O&M EXPENSES					
Office and Miscellaneous	$ 54,543	$ 55,825	$ 57,137	$ 58,479	$ 59,854
Utilities	$ 215,571	$ 220,637	$ 225,822	$ 231,129	$ 236,560
Professional Services	$ 264,439	$ 270,653	$ 277,013	$ 283,523	$ 290,186
Small Tools and Equipment	$ 9,173	$ 9,388	$ 9,609	$ 9,835	$ 10,066
Operation Parts and Equipment	$ 114,814	$ 117,512	$ 120,274	$ 123,100	$ 125,993
Supplies (Chemicals)	$ 91,949	$ 94,110	$ 96,322	$ 98,585	$ 100,902
Supplies (Fuel)	$ 41,992	$ 42,979	$ 43,989	$ 45,023	$ 46,081
Maintenance	$ 67,508	$ 69,095	$ 70,718	$ 72,380	$ 74,081
Disposal and Testing	$ 35,281	$ 36,110	$ 36,959	$ 37,827	$ 38,716
Gross Receipts Tax	$ 59,122	$ 60,511	$ 61,933	$ 63,389	$ 64,878
Travel Expenses	$ 536	$ 549	$ 562	$ 575	$ 588
CAPITAL EXPENSES					
Construction and Equipment	$ -	$ -	$ -	$ -	$ -
VARIABLE COSTS TOTAL	**$954,928**	**$977,369**	**$1,000,337**	**$1,023,845**	**$1,047,906**
TOTAL EXPENDITURES	**$2,180,616**	**$2,244,664**	**$2,215,489**	**$2,309,262**	**$2,332,958**
NET TOTAL INCOME (LOSSES)	**$ (756,682)**	**$ (609,992)**	**$ (326,273)**	**$ (109,947)**	**$ 224,588**

APPENDIX E – TABULATED REVENUE PROJECTIONS FOR 10 YEAR PROGRESSIVE SUBSIDY ELIMINIATION

Appendix E – TABULATED REVENUE PROJECTIONS FOR PROGRESSIVE 10 YEAR SUBSIDY ELIMINATION

	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027
REVENUES					**Projections**					
Wastewater User Charges	$1,013,752	$1,114,870	$1,226,631	$1,355,051	$1,490,964	$1,639,942	$1,804,582	$1,984,568	$2,183,978	$2,412,552
Bulk Rate Charges	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
One Time Fees	$34,600	$33,000	$34,600	$36,500	$35,600	$35,000	$36,600	$35,000	$37,600	$39,100
Reconnect Fees	$1,584	$1,600	$1,616	$1,632	$1,648	$1,665	$1,715	$1,698	$1,715	$1,732
Administrative and Misc. Fees	$65,996	$66,656	$67,323	$67,996	$68,676	$69,363	$71,464	$70,757	$71,464	$72,179
Late Charges	$66,616	$67,283	$67,955	$68,635	$69,321	$70,014	$72,136	$71,422	$72,136	$72,857
Investment Interest	$4,021	$4,061	$4,102	$4,143	$4,185	$4,226	$4,354	$4,311	$4,354	$4,398
O & M Contracts	$44,538	$44,983	$45,433	$45,887	$46,346	$46,809	$48,228	$47,750	$48,228	$48,710
Gross Receipts Tax	$59,122	$60,511	$61,933	$63,389	$64,878	$66,403	$67,963	$69,561	$71,195	$72,868
Septage Fees	$99,302	$100,295	$101,298	$102,311	$103,334	$104,368	$105,411	$106,465	$107,530	$108,605
REVENUES TOTAL	**$1,340,230**	**$1,442,964**	**$1,559,593**	**$1,693,232**	**$1,831,618**	**$1,983,423**	**$2,157,043**	**$2,335,068**	**$2,540,671**	**$2,774,397**
FIXED COSTS										
Utility Reserve	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
FEMA-Fed/State Public Assistance										
Bond Expenses										
Loan Payments										
Debt Services	$433,684	$409,610	$358,520	$358,520	$358,520	$358,520	$358,520	$358,520	$358,520	$358,520
O&M EXPENSES										
Salaries and Benefits	$792,004	$823,684	$856,632	$890,897	$926,533	$963,594	$1,002,138	$1,042,224	$1,083,912	$1,127,269
Liability Insurance	$0	$34,000	$0	$36,000	$0	$38,000	$0	$40,000	$0	$42,000
FIXED COST TOTAL	**$1,225,688**	**$1,267,295**	**$1,215,151**	**$1,285,417**	**$1,285,052**	**$1,360,114**	**$1,360,658**	**$1,440,743**	**$1,442,432**	**$1,527,789**
VARIABLE COSTS										
O&M EXPENSES										
Office and Miscellaneous	$54,543	$55,825	$57,137	$58,479	$59,854	$61,260	$62,700	$64,173	$65,681	$67,225
Utilities	$215,571	$220,637	$225,822	$231,129	$236,560	$242,119	$247,809	$253,633	$259,593	$265,693
Professional Services	$264,439	$270,653	$277,013	$283,523	$290,186	$297,005	$303,985	$311,129	$318,440	$325,924
Small Tools and Equipment	$9,173	$9,388	$9,609	$9,835	$10,066	$10,302	$10,544	$10,792	$11,046	$11,305
Operation Parts and Equipment	$114,814	$117,512	$120,274	$123,100	$125,993	$128,954	$131,984	$135,086	$138,260	$141,509
Supplies (Chemicals)	$91,949	$94,110	$96,322	$98,585	$100,902	$103,273	$105,700	$108,184	$110,726	$113,329
Supplies (Fuel)	$41,992	$42,979	$43,989	$45,023	$46,081	$47,164	$48,272	$49,406	$50,567	$51,756
Maintenance	$67,508	$69,095	$70,718	$72,380	$74,081	$75,822	$77,604	$79,427	$81,294	$83,204
Disposal and Testing	$35,281	$36,110	$36,959	$37,827	$38,716	$39,626	$40,557	$41,510	$42,486	$43,484
Gross Receipts Tax	$59,122	$60,511	$61,933	$63,389	$64,878	$66,403	$67,963	$69,561	$71,195	$72,868
Travel Expenses	$536	$549	$562	$575	$588	$602	$616	$631	$646	$661
CAPITAL EXPENSES										
Construction and Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
VARIABLE COSTS TOTAL	**$954,928**	**$977,369**	**$1,000,337**	**$1,023,845**	**$1,047,906**	**$1,072,531**	**$1,097,736**	**$1,123,533**	**$1,149,936**	**$1,176,959**
TOTAL EXPENDITURES	**$2,180,616**	**$2,244,664**	**$2,215,489**	**$2,309,262**	**$2,332,958**	**$2,432,645**	**$2,458,393**	**$2,564,276**	**$2,592,368**	**$2,704,748**
NET TOTAL INCOME (LOSSES)	**$(840,386)**	**$(801,700)**	**$(655,896)**	**$(616,030)**	**$(501,340)**	**$(449,222)**	**$(301,350)**	**$(229,208)**	**$ (51,697)**	**$ 69,649**

APPENDIX F – SUMMARY OF PUBLIC PARTICIPATION INPUT AND COMMENTS

NO PUBLIC PARTICIPATION COMMENT SHEETS RECEIVED

APPENDIX G – CURRENT WASTEWATER RATE SCHEDULE

DOÑA ANA COUNTY WASTEWATER SYSTEM

RATE SCHEDULE 1

ADMINISTRATIVE CHARGES:

APPLICABILITY: County utility customers shall be charged an Administrative Set-up Charge to cover all costs related to the application process, including verifying service, locating the service line installation, and any other tasks necessary to establish availability of service. Other charges as set forth in this Rate Schedule may be required as determined by the Utility Administrator. Applicable gross receipts taxes will be added to all charges.

SERVICE APPLICATION: Customers must request service by completing an Application for Wastewater Service and User Agreement available at the offices of the Doña Ana County Utilities Department or designated agent. All Administrative Charges and other required charges must be paid or payment arrangements made prior to approving the customer's Application for Wastewater Service and User Agreement.

A. Administrative Set-Up Charge:

Customer Classification:		Non-Compliance to Mandatory Connection (> 6 months to connect)
Residential:	$150.00	$300.00
Commercial:	$300.00	$600.00
Institutional:	$500.00	$1,000.00
Industrial:	$700.00	$1,400.00

The Administrative Set-up Charge shall increase when the hook-up of any occupied home or business exceeds six (6) months as required by the Doña Ana County Wastewater Ordinance. For each wastewater service area identified, the County shall conduct an inventory of all dwellings at the time the "Notice of Availability" is announced. The announcement of "Notice of Availability" shall start the six-month mandatory connection period.

B. Stand-By Charge: All applicants that have paid the Administrative Set-Up Charge within the mandatory connection period but have not physically connected to the wastewater system shall be billed the minimum fixed monthly charge for the appropriate customer classification (Rate Schedule 3), beginning on the seventh month. If a customer has not paid the Administrative Set-Up Charge and is not physically connected to the wastewater system, the customer shall pay the increased Administrative Set-up Charge as described in Paragraph A, above, and the minimum fixed monthly charge for the

appropriate customer classification (Rate Schedule 3). All uncollected Stand-by charges must be paid prior to connection to the system.

C. Customer Deposit: A deposit may be required pursuant to Rule No. 16, Security Deposits, Guarantees of Payments. Initial deposit amounts are as follows:

Customer Classification:	
Residential:	$100.00
Commercial:	$150.00
Institutional:	$150.00
Industrial:	$250.00

D. Installation Charges: If a customer's property does not yet have a wastewater service connection to their property, but does have a main wastewater line within 300 feet of their property, the customer is required to pay for service connection installation charges including materials and labor. At the time of application for service, the County will provide the residential and small commercial prospective customer with a set of standards that describe the type of service required. The size of the installation shall be based on the recommendation of the customer's licensed plumber. Only licensed contractors are permitted to connect to the County's main wastewater line. The County shall determine the location of the wastewater service installation. Wastewater services involving an Industrial User, shall require the recommendation of a licensed plumber or engineer and shall comply with all applicable requirements of the customer's discharge permit.

If a customer chooses to have the County or its designated representative connect to the main wastewater line, the County charges will be based on actual costs plus an administrative fee of 10%.

E. Exclusions: Charges described in this Rate Schedule may not be applicable to wastewater system customers where the installation of new connections, wastewater lines and facilities have been completed with the support of federal, state, and/or other grant funds. Further, Dona Ana Village is excluded from this rate schedule until further action by the County. Dona Ana Village rates are presently provided for under a pre-existing and detailed contract which includes Dona Ana Village, the County and the City of Las Cruces as parties.

DOÑA ANA COUNTY WASTEWATER SYSTEM

RATE SCHEDULE 2

ONE - TIME CHARGE:

APPLICABILITY: The One-Time Charge is applicable to all new customers who connect to the County's system. Service will be furnished in accordance with the County's Rules and Regulations addressing wastewater service. Applicable governmental gross receipts taxes will be added to all charges.

A. One-Time Charge:

Water Meter Size:	
5/8" x ¾"	$1,000.00
1"	$1,600.00
1 ½"	$2,500.00
2"	$6,000.00

The One-Time Charge for customers with water meter size greater than 2" shall be determined on a case-by-case basis. The evaluation will include but is not limited to consideration of the volume and characteristics of wastewater discharge, pretreatment requirements, and the cost to the wastewater utility's infrastructure and treatment capacities. The determination shall be described and executed by contract.

B. Multi-unit Service Lines with Individual Meters:

A customer may request individual meters to be installed for a multi-unit property. A master meter shall be required and the One-Time Charge for the applicable meter size will be applied. For each individual meter requested to be installed beyond the master meter, a Multi-Unit Surcharge will be required at $157.50 per unit.

C. Residential Volume Discounts:

In the case of a large subdivision (>40 lots), the County will offer volume discounts for the One-Time Charge (Residential classification only), when payments are made in advance of construction (60 days after subdivision approval). The discounts shall apply according to the following table:

Subdivision Size (Lots)	Discount Per Lot
40-100 Lots	10%
101-200 Lots	15%
>200 Lots	20%

D. Exclusions: Charges described in this Rate Schedule may not be applicable to wastewater system customers where the installation of new connections, wastewater lines and facilities have been completed with the support of federal, state, and/or other grant funds. Further, Dona Ana Village is excluded from this rate schedule until further action by the County. Dona Ana Village rates are presently provided for under a pre-existing and detailed contract which includes Dona Ana Village, the County and the City of Las Cruces as parties.

DOÑA ANA COUNTY WASTEWATER SYSTEM

RATE SCHEDULE 3

MONTHLY USER CHARGES:

APPLICABILITY: The Residential and Commercial Rates are available only for normal wastewater dischargers at individual residences, individual dwelling units, individual farm units, apartments, and commercial establishments. Service shall be provided through a single wastewater service line at a location to be designated by the County.

Service will be furnished in accordance with the County's ordinances and Rules and Regulations addressing wastewater service, available at the County Utilities Department.

SERVICE AREA: The service areas are designated in the Doña Ana County Wastewater Ordinance (Section 5). The Utilities Department maintains maps of the service areas.

A. Monthly Fixed and Variable Charges: The charge for wastewater service provided shall be the sum of Fixed (F) and Variable (V). Applicable governmental gross receipts taxes will be added to all charges.

	FIXED (F)	VARIABLE (V)
Customer Classification:	Minimum Charge (up to 7,000g)	Per 1,000g @ 80% of usage[1]
Residential:	$21.00	$1.40/1000g[2]
Commercial:	$42.00	$1.40/1000g
Institutional:	$60.00	$1.40/1000g
Industrial:	$100.00	$1.40/1000g
Multi-Use	$21.00/dwelling unit	$1.40/1000g

1. Commercial, Institutional, and Industrial Variable Charge: Gallons in excess of 7,000 are charged at the rate of $1.40 per 1,000 gallons as measured by taking 80% of the monthly water usage as determined from water records. Customer usage is measured monthly or estimated where water service data is not available
2. Residential Variable Charge (RVC): Only residential customers within the Santa Teresa – Border Area will be charged the RVC due to the debt burden required for the construction of the water and wastewater systems serving that area. There will be no variable charges for residential customers in all other Service Areas, unless the County determines that a variable charge is necessary for the financial viability of the utility. In the event that the County determines that a variable charge is required, the first 7,000 Gallons is included in the Fixed Monthly Charge as measured by the winter months average from water use records (December, January and February). All Gallons over 7,000 will be charged at the rate of $1.40 per 1,000 gallons.
3. Monthly charges for new customers or customers for which water data is not available will be determined based on similar customer of the same classification. If and when water data is available the monthly charge shall be adjusted.

B. Minimum Charge: The minimum charge under this Schedule shall be the Fixed Monthly Charge regardless of volume of flow measured.

C. Surcharge for Excess Waste Strength: A Surcharge shall be applied to all users for excess wastewater strength above domestic levels as defined by this ordinance. The Utility Administrator shall determine the charge on a case-by-case basis.

D. Exclusions: Dona Ana Village is excluded from this rate schedule until further action by the County. Dona Ana Village rates are presently provided for under a pre-existing and detailed contract which includes Dona Ana Village, the County and the City of Las Cruces as parties.

DOÑA ANA COUNTY WASTEWATER SYSTEM

RATE SCHEDULE 4

SPECIAL CHARGES

APPLICABILITY: Applicable to special services as defined in the County's Rules and Regulations regarding wastewater service. Applicable governmental gross receipts taxes will be added to all charges.

A. Collection Charge: If the customer does not pay for wastewater service within the time specified by the bill, the County shall charge $5.00 or 15% of the outstanding balance, whichever is greater, for each month the bill is unpaid.

B. Reactivation Charge: Whenever service is discontinued for nonpayment of charges, nonuse, or similar reasons, as described in Rule No. 12, Discontinuance and Denying Restoration of Service, a charge of $20.00 shall be assessed by the County for the cost of reactivating service during normal County business hours. If the customer requests reactivation of service after normal business hours, the County shall assess a charge of $40.00.

C. Returned Check Or Bank Draft Charge: The County shall assess a charge of $25.00 to the customer's account balance in the event the customer's check or bank draft is returned for insufficient funds, cancellation of account or for any other reason attributable to the customer.

D. Exclusions: Dona Ana Village is excluded from this rate schedule until further action by the County. Dona Ana Village rates are presently provided for under a pre-existing and detailed contract which includes Dona Ana Village, the County and the City of Las Cruces as parties.

APPENDIX H – SEPTAGE RATE INFROMATION

Appendix H - DAC SCWWTP Septage

O&M COST ANALYSIS

March 15, 2017

POWER

Item	HP	Total run time, hr/week	Daily Power Cons. (kwh/week)	Power Cost ($/kwh)	Annual Power Cost
Belt press, washwater, polymer	10	40	268	$ 0.15	$ 2,100
Solids Transfer Pumps	5	40	134	$ 0.15	$ 1,100
Septage Receiving Station	6	40	161	$ 0.15	$ 1,300
TOTAL			564		$ 4,500

BHP is assumed to be 90% of the motor HP.

EQUIPMENT REPLACEMENT & MATERIALS

Item	Replacement Cost* ($/ea)	Useful Life (years)	Quantity	Annual Replacement Cost
Equipment of 5-yr replacement interval				
Belt Press Misc parts	$ 10,000	1	1	$ 10,000
Receiving Station Parts	$ 5,000	1	1	$ 5,000
Solids Pumps	$ 7,500	5	1	$ 1,500
Polymer	$ 2,500	1	1	$ 2,500
TOTAL				$ 19,000

** including installation of equipment.*

LABOR

Item	Salary	Benefits	Percent of Time Applicable	Annual Labor Cost
Setage Operations Team				
W/WW Operator 3	$ 42,000	$ 25,000	1	$ 67,000
W/WW Operator1	$ 20,000	$ 10,000	1	$ 30,000
TOTAL				$ 97,000

DEWATERED SLUDGE DISPOSAL FEES

Item	Tons Disposed	Cost per Ton	Annual Labor Cost
Landfill Costs*	1,235	$ 46	$ 56,810
TOTAL			$ 56,810

* *$42 (Current cost)+10%=$46*

Summary of Annual Operation and Maintenance Cost Estimate

Item	Unit	Annual Cost
Power	LS	$ 4,500
Equipment replacement	LS	$ 19,000
Labor	LS	$ 97,000
Sludge Disposal Fees	LS	$ 56,810
Total		$ 177,310

Appendix H - DAC SCWWTP Septage

Engineers Preliminary Opinion of Construction Cost

March 15, 2017

Bid Item	Description	Unit	Quantity	Unit Cost	Extension
1	Mobilization and Demobilization- Including equipment transportation and storage,construction staking, traffic control, SWPPP, and all other related administration tasks (Maximum of 15% of total contract)	LS	1	$117,698	$117,698
BELT PRESS BUILDING IMPROVEMENT					
2	Demolition	LS	1	$15,000	$15,000
3	Metal and Insulation	LS	1	$120,000	$120,000
4	Doors	LS	1	$40,000	$40,000
5	Misc. Painting and Coatings	LS	1	$25,000	$25,000
6	Interior Process Piping	LS	1	$20,000	$20,000
7	HVAC	SF	2400	$20	$48,000
8	Electrical System	SF	2400	$10	$24,000
			Belt Press Building Construction Cost Subtotal		$292,000
SEPTAGE RECEIVING STATION					
9	JWC Honey Monster Equipment	LS	1	$190,400	$190,400
10	10'x15'x5' Solids Vault & Shade Structure	LS	1	$50,000	$50,000
11	Solids Pumps & Submersible Mixer	LS	1	$65,000	$65,000
			Septage Receiving Station Construction Cost Subtotal		$305,400
SLUDGE BEDS					
12	Sludge Drying Beds	SF	2400	$60	$144,000
			Sludge Beds Construction Cost Subtotal		$144,000
SITE PIPING IMPROVEMENTS					
13	8"Gravity Sewer, including TBC	LF	400	$35.00	$14,000
14	4' Manholes	EA	4	$3,500.00	$14,000
15	4" PVC Solids Process Piping	LF	450	$25.00	$11,250
16	4" Plug Valves	EA	10	$400.00	$4,000
			Site Piping Construction Cost Subtotal		$43,250
				Subtotal Construction Cost	$902,348
				Contingency, 10%	$90,235
				Estimated Construction Cost	$992,582
				NMGRT (8.3125%)	$82,508
				Total Estimated Probable Construction Cost	**$1,075,091**
				Design Engineering and Construction Admin and Inspection, 12%	$108,282
				NMGRT (8.3125%)	$9,001
				Total Estimated Professional Engineering Fees	**$117,283**
				Total Estimated Probable Bid Cost	**$1,192,373**

Appendix H - DAC SCWWTP Septage

RATE ANALYSIS

March 15, 2017

COST SUMMARY

Item		Annualized Cost
Existing Debt Service	$	-
New Capaital Cost Debt Service	$	82,983
O&M Costs	$	177,310
TOTAL	**$**	**260,293**

RATE ANALYSIS

Item		Annualized Cost
Total Annualized Costs	$	260,293
Volume of Septage (annual Average Recorded)		1,341,822
Volume of Septage (assumed actual measured)		1,677,277
Minimum Proposed Septage Rate	**$**	**0.16**

APPENDIX I – CUSTOMER FINANCIAL IMPACT ANALYSIS

Doña Ana County Utility Sewer Rate Study – Customer Financial Impact Analysis

Prepared by: Bohannan Huston, Inc.
For: Doña Ana County
March 6, 2017

Purpose

The purpose of the Doña Ana County Utility Rate Study Customer Financial Impact Analysis is to consider the effects of potential rate increases on residents of Doña Ana County that are served by the Utility Authority. The current rates for Doña Ana County residents are not particularly high relative to other places in New Mexico. However, residents of the unincorporated portions of Doña Ana County that are served by the Utility Authority have relatively low household income in comparison to Doña Ana County, New Mexico, and the US overall. Rate increases may therefore have a disproportionate impact on this population. This study considers the typical housing costs, including wastewater utilities, and income levels for Doña Ana County households to shed light on the potential financial impacts of utility rate increases.

Methodology

The study utilizes Census data and other resources to examine overall economic conditions in different parts of Doña Ana County. In addition to income data across Doña Ana County, this analysis considers housing costs, including how those costs vary across the County. An overall profile for unincorporated Doña Ana County is provided based on poverty rates and median household income, among other factors. There is a high degree of variability among household expenditures depending on the household composition. To simplify the analysis and provide a standard set of comparisons, expenditures are based on average housing costs by jurisdiction and by Census tract, and are contrasted against the median household income for the same geography.

Note on Sources

All household income data are taken from the 2011-2015 American Community Survey (ACS). Census tract-level housing data are taken from the Center for Neighborhood Technologies' Housing + Transportation Affordability Index (HTAI). Due to the lower degree of certainty surrounding transportation data, only the HTAI housing data, which is itself based on analysis of data contained in the ACS, are included in this analysis. The HTAI provides average housing costs based on an analysis of Census data and assuming a "typical" household profile for all communities in Doña Ana County of 2.79 residents and 1.1 commuters per household.

Study Area

The first step in the analysis was to develop baseline estimates for the households served by the Doña Ana County Utility Authority. Data for Doña Ana County is somewhat distorted by the City of Las Cruces, whose residents have higher incomes than the County overall, as well as subdivisions in unincorporated areas with particularly high standards of living, such as Las Alturas and the A Mountain area. The true household income for the unincorporated portions of Doña Ana County that comprise the study area is therefore a different value entirely.

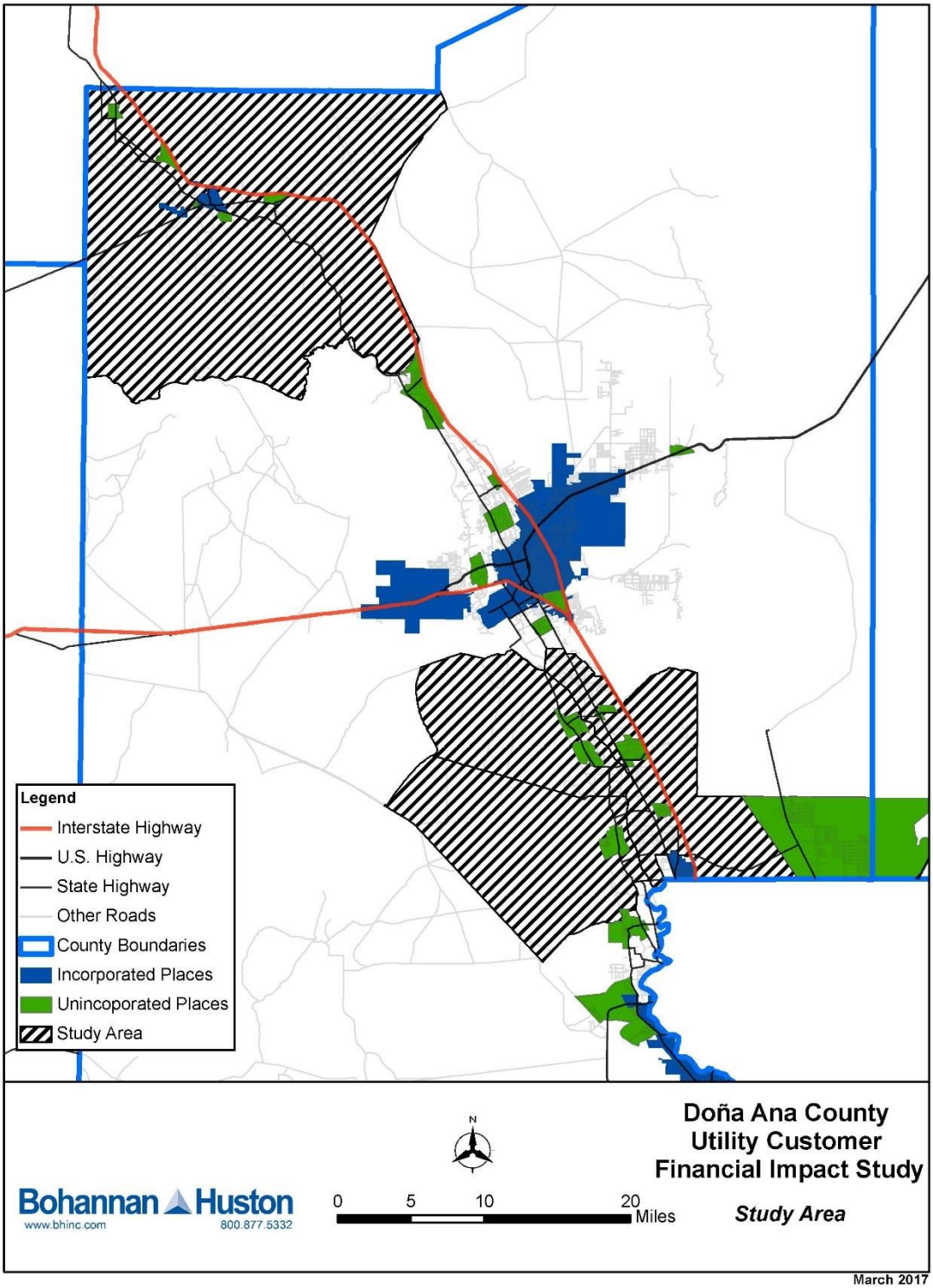
The adjusted median household income for the study area was ascertained by aggregating data at the Census tract level and weighting each tract based on the number of households. These conditions can be contrasted against household incomes for other portions of Doña Ana County, including incorporated communities. Data for individual Census tracts is also displayed in the figures at the end of this document in order to highlight variability within Doña Ana County.[1]

Household Costs and Remaining Income

The US Department of Housing and Urban Development (HUD) defines a household as being cost-burdened if it spends more than 30% of its income on housing. (The Center for Neighborhood Technologies considers households that spend 45% of their income on the combined costs of housing and transportation to be burdened.) Average housing costs are contrasted against the median household income to determine the expenditures and the remaining income for a "typical" household. Through this approach, the study can shed light on which areas within Doña Ana County can be considered cost burdened at present.

[1] The analysis by community does not include all incorporated communities; data for small communities is generally excluded due to the small sample sizes. Despite its relatively small population, Mesilla is included in this analysis because the household income is substantially higher than the County-wide median total.

Figure 1: Doña Ana County Customer Financial Impact Analysis Study Area

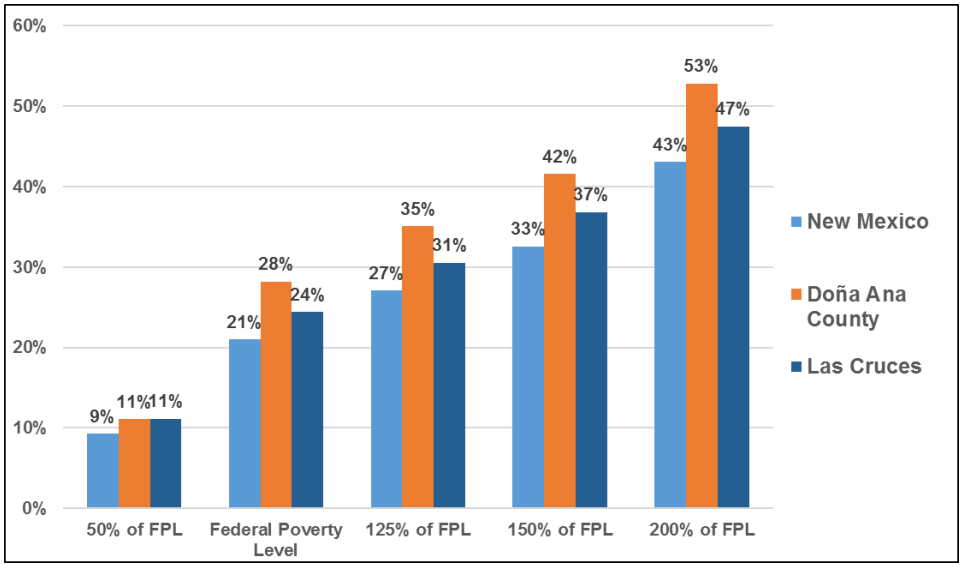


Economic Conditions in Doña Ana County

As shown in Figure 2, a disproportionate percentage of Doña Ana County residents live below or near the federal poverty level in comparison to the state of New Mexico overall. Overall, 28% of Doña Ana County residents live below the federal poverty line, while more than half of residents earn twice the federal poverty level or less. It is important to note that the data shown in Figure 2 displays overall conditions in Doña Ana County *only*. About 37.4% of the population for the study area lives below the poverty line.

The adjusted median household income for the study area is $30,276, compared to nearly $39,000 for Doña Ana County (see Figure 3). By contrast, the median household income for the state of New Mexico is $44,963, while the poverty rate is 21.0%. The median household income for the United States, based on 2011-2015 ACS data, is $53,889 and the poverty rate is 15.5%.[2]

Figure 2: Percent of Residents Below or Near Federal Poverty Level (FPL)[3]



There is a high level of variability for household incomes within Doña Ana County (see Figure 3). The Town of Mesilla and the City of Las Cruces have median household incomes above the overall Doña Ana County value, while the median Sunland Park household earns almost $11,000 less than the median Doña County household. The study area, which comprises about one-seventh of the overall County population, is noteworthy not only for lower incomes and higher poverty levels, but a higher persons-per-household ratio (3.24) than the County overall (2.71).

[2] According to the 2015 1-year ACS data, which cannot be contrasted directly against the Doña Ana County data but provides a more accurate picture of present-day conditions for large population sets, the nationwide median household income is $55,775 and the poverty rate is $14.7.

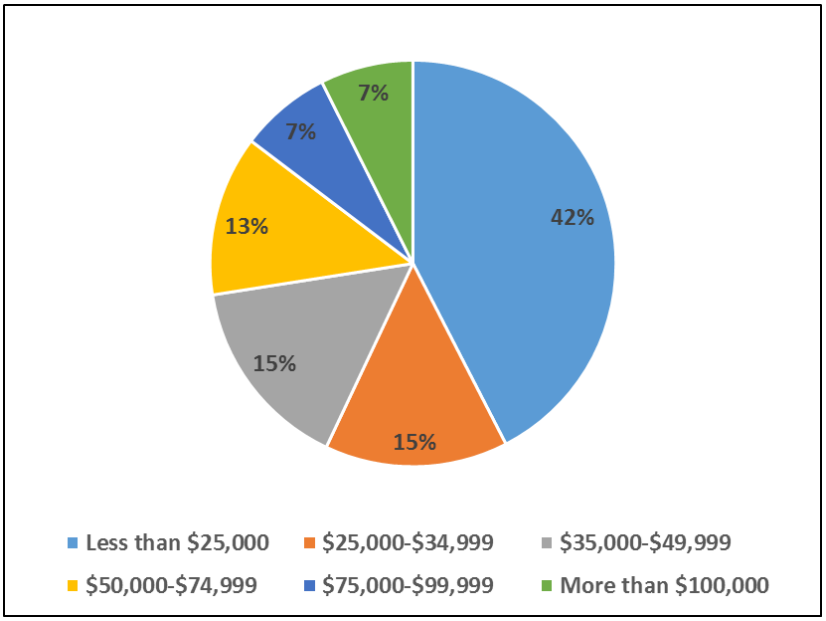
[3] Source: ACS, 2011-2015 Five-Year Data

Figure 3: Population, Household, and Income Characteristics by Location[4]

	Doña Ana County	Las Cruces	Sunland Park	Mesilla	Other Doña Ana County	Study Area
Population - 2010	209,233	97,618	14,106	2,196	64,959	**30,354**
Housing Units - 2010	81,492	42,370	4,060	1,076	23,642	**10,344**
Households - 2010	75,530	39,433	3,884	980	21,871	**9,362**
Persons per Household	2.71	2.43	3.63	2.24	2.84	**3.24**
Median Household Income	$38,853	$41,330	$28,047	$46,000	$39,657	**$30,276**
Individuals with Income Below Poverty Level	28.2%	24.4%	37.1%	20.9%	27.9%	**37.4%**

Figure 4 depicts the share of households by jurisdiction within the study area at various household income levels. About 42% of households in the study area earn less than $25,000 per year, while only about 15% earn more than $75,000.

Figure 4: Household Income Ranges, Doña Ana County Study Area



[4] Housing unit and population data are taken from the 2010 Census. Median household income data is taken the 2011-2015 American Community Survey.

Housing Costs and Available Income

Average annual housing costs for a typical household in various jurisdictions – based on data from the American Community Survey and compiled by the Center for Neighborhood Technologies – are presented in Figure 5. Housing costs include mortgage or rental fees, homeowner's insurances and taxes, and utilities fees. The data reveals general cost burdens for residents of Doña Ana County, though households in unincorporated portions of the County, including the study area, spend a particularly high share of their income on housing expenditures.

HUD suggests that households that spend more than 30% of their income on housing are cost-burdened. Average housing costs require a household in the Doña Ana County making the median income level to spend close to 35% of its income on housing. This does not suggest that *all* households in the study area are cost burdened or that expenditures for all households are as high as the average assumed values provided in Figure 5. However, the data confirms that the combination of low household incomes and high expenditures places financial strain on many families.

Figure 5: Average Household and Transportation Expenditures by Location

Place	Households	Median Household Income	Avg Monthly Household Housing Cost	Avg Annual Household Housing Cost	Household Costs as % of MHI	Percent MHI Remaining
Doña Ana County	75,530	$38,853	$1,025	$12,300	31.7%	68.3%
Las Cruces	39,433	$41,330	$991	$11,892	28.8%	71.2%
Sunland Park	3,884	$28,047	$683	$8,196	29.2%	70.8%
Mesilla	980	$46,000	$1,141	$13,692	29.8%	70.2%
Other Doña Ana County	21,871	$39,657	$1,205	$14,462	36.5%	63.5%
Study Area	**9,362**	**$30,276**	**$877**	**$10,524**	**34.8%**	**65.2%**

Due to increased distances to services and job sites and greater vehicle dependency, households in rural and unincorporated portions of Doña Ana County also have the highest transportation costs in the area. Data from the Center for Neighborhood Technologies indicates that transportation costs for households in the study area are about 12% higher than the Doña Ana County average. It is worth noting that, according to Census data, housing costs are also higher in unincorporated portions of Doña Ana County than in many incorporated areas.

Wastewater Utility Costs

It is valuable to contrast median household income for the Doña Ana County study area against other communities for which utility rate data is available, and to compare Doña Ana County Utility Authority costs against general research on utility costs relative to income. According to the Water Research Foundation, affordability issues arise when water utilities costs exceed 2.5% of the median household income.[5] Demand for utilities appears to be somewhat elastic; data from the Bureau of Labor Statistics National Consumer Expenditures Survey indicate that lower income households generally spend less on energy and utilities than higher income households. Still, those expenditures comprise a larger share of their income.

> It is important to note that the average housing costs values provided in Figure 6 include utilities, such as sewer. Since the amount spent on utilities is known, an increase in rates should be added to the monthly housing costs value to determine the new share of income spent on housing expenditures.

Residents in the Doña Ana County study area pay a lower share of median household income on wastewater utilities than peer communities identified in the Utility Rate Study (see Figure 6). However, since water is provided by a range of mutual domestic water associations with varying rates, it is difficult to make standard assumptions about total utility costs (i.e. water *and* wastewater) across Doña Ana County. Data from the 2013 NMED Water and Sewer Rate Survey indicate that average monthly water rates, assuming 6,000 gallons per month consumed, are about $25.43. Therefore, the combined costs of wastewater and water (using the current fixed rate for wastewater and the annualized New Mexico average for water), are roughly equal to 1.8% of the median household income. Together, this information suggests that rates could be raised without causing a cost burden *specifically* due to utility costs.

Figure 6: Median Household Income and Wastewater Costs[6]

Community	Median Household Income	Monthly Wastewater Utility Costs	Annual Wastewater Utility Costs	Utility Costs as Share of MHI
Española	$30,257	$47.01	$564.12	1.86%
Belen	$29,486	$35.87	$430.44	1.46%
Aztec	$41,414	$44.50	$534.00	1.29%
Milan (Cibola County)	$34,565	$30.10	$361.20	1.04%
Bloomfield	$49,070	$40.38	$484.56	0.99%
Grants	$39,014	$27.88	$334.56	0.86%
Doña Ana County (Study Area)	**$30,276**	**$21.00**	**$252.00**	**0.83%**

[5] Water Research Foundation, http://www.waterrf.org/knowledge/utility-finance/revenue/Pages/faqs.aspx, accessed March 1, 2017. "To address this issue, water utilities have developed customer assistance programs to ensure that necessary water services remain available to those who cannot afford them. Affordability programs can include a variety of fixed or variable discounts and credits as well as specifically tailored (or "lifeline") rates."

[6] Median household income data is taken from the 2011-2015 ACS. Wastewater costs are from the 2013 NMED Water and Sewer Rate Survey, apart from data for Bloomfield, which is from the 2012 Survey. Monthly costs are annualized for comparative purposes.

Discussion

According to analysis from the Pew Charitable Trusts, housing expenditures have increased steadily over the last decade, though median incomes have not.[7] At the national level, median household income in 2014 was 13% below 2004 levels – due largely to the sharp decrease related to the Great Recession – while expenditures increased by 14% in that span.[8] The result of expenditures rising faster than incomes is that low-income families have less disposable income after basic necessities are obtained. Households typically spend about two-thirds of their income on housing (including utilities), food, and transportation. In the Doña Ana County study area, housing expenditures are greater than the national average (35% in the study area compared to about 25% nationally), and meet the definition of cost-burdened. In all likelihood, households must spend well over two-thirds of their incomes on housing, food, and transportation combined.

This analysis demonstrates that household incomes in the study area are low relative to the County overall and to the state of New Mexico, and that housing costs place a strain on financial resources. At the same time, utility rates represent a modest cost for most households and comprise a smaller share of household income for residents of the study area than peer communities across New Mexico. In short, a rate increase will have an impact on the residents of unincorporated areas of Doña Ana County that receive sewer service through the Utility Authority. The economic conditions therefore validate the approach of incremental increases as having the most manageable impact on these residences.

[7] Pew Charitable Trusts Issue Brief: March 30, 2016
http://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2016/03/household-expenditures-and-income

[8] Pew also reports that households in the lower-third of national income generally have a deficit of $2,300 per year when factoring in all expenditures (i.e. housing, transportation, food, medical, childcare, etc.).

Figure 7: Median Household Income by Census Tract, Doña Ana County

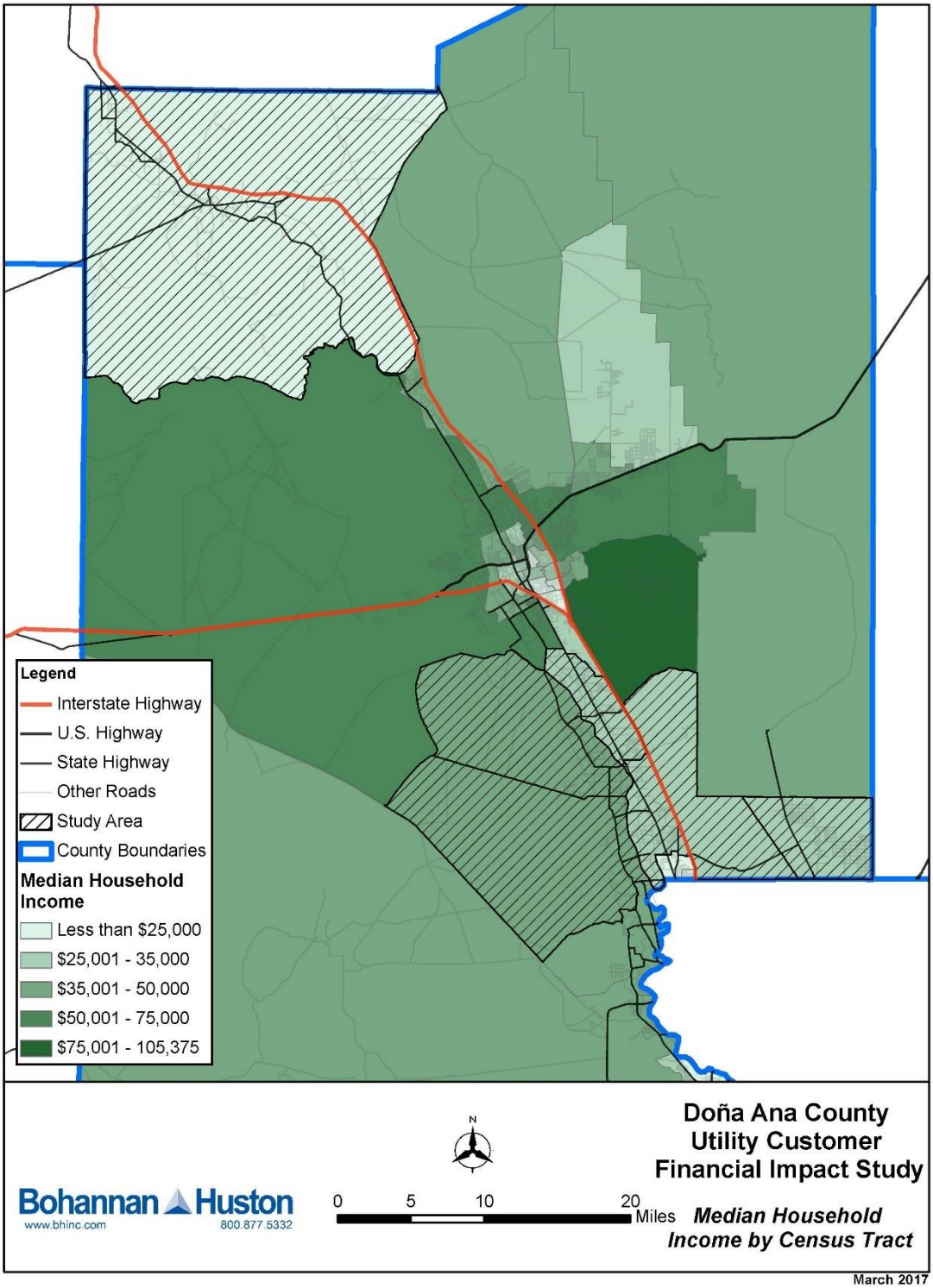


Figure 8: Average Housing Costs by Census Tract, Doña Ana County