

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of)
)
KONA WATER SERVICE COMPANY,) Docket No. 2018-0388
INC.)
)
For a General Rate Increase and For)
Approval of Revisions of Its Tariff)
)

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PUBLIC UTILITIES
COMMISSION

APPLICATION

**EXHIBITS KWSC 1 THROUGH 4
EXHIBITS KWSC WATER 3 THROUGH 12
EXHIBITS KWSC SEWER 3 THROUGH 12
EXHIBITS KWSC-T-100 though KWSC-T-301**

CONFIDENTIALITY LOG

VERIFICATION

and

CERTIFICATE OF SERVICE

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KONA WATER SERVICE COMPANY, INC.

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of)
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KONA WATER SERVICE COMPANY,) Docket No. 2018-0388
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APPLICATION

KONA WATER SERVICE COMPANY, INC. (“KWSC” or “Applicant”) pursuant to Hawaii Revised Statutes (“HRS”) § 269-16, as amended, and Hawaii Administrative Rules (“HAR”) Title 16, Chapter 601, hereby submits this application (the “Application”) requesting that the Hawaii Public Utilities Commission (the “Commission”):

1. Determine this Application to be complete, pursuant to HRS § 269-16 and HAR § 16-601-87;
2. Conduct a public hearing on the island of Hawaii to consider this Application in accordance with HRS §§ 269-12 and 269-16, and HAR § 16-601-30;
3. Find that Applicant’s present rates for its customers are unjust and unreasonable, and will not allow Applicant to recover all of its reasonably incurred expenses, nor allow Applicant a reasonable opportunity to earn a fair return on its prudently incurred investments in utility property;
4. Approve, pursuant to HRS § 269-16, the water and sewer service rates and charges proposed by Applicant as set forth in Exhibits KWSC Water 5 and KWSC Sewer 5, and

authorize Applicant to put into effect the proposed rates after the date of authorization by the Commission;

5. Waive the requirement under HAR § 16-601-75 for audited financial statements and accept Applicant's unaudited financial statements filed herein;

6. Approve the request to modify the terms of Applicant's tariff, as described in Section VI below;

7. Approve the request to replace Applicant's existing unit depreciation rates with group depreciation rates; and

8. Grant such other relief, including any interim rate increase, as may be just and reasonable under the circumstances.

In support of this Application, Applicant provides the following information:

I. COMMUNICATIONS REGARDING THIS APPLICATION

All pleading, correspondence and communications regarding this Application should be addressed as follows:

JEFFREY T. ONO
DAVID Y. NAKASHIMA
JOHN E. DUBIEL
Watanabe Ing LLP
999 Bishop Street, Suite 1250
Honolulu, Hawaii 96813

II. DESCRIPTION AND BACKGROUND OF APPLICANT

Applicant is a Hawaii corporation with its principal place of business at 68-1845 Waikoloa Rd., Unit 216, Waikoloa, Hawaii 96738, and its legal offices at 1720 North First Street, San Jose, California 95112.

Applicant is a public utility that holds a CPCN to provide water and sewer service to a master planned community known as the Kukio Beach Club in North Kona, island of Hawaii, an adjacent residential development known as Manini`owali, and the Kua Bay Beach Park (aka the Kekaha Kai State Park). KWSC also has authority to provide untreated bulk water to: (1) the Kukio Golf & Beach Club for irrigation purposes, on an interruptible “as is/where is” basis,¹ and (2) the West Hawaii Veteran’s Cemetery.² KWSC is also authorized to provide potable water service only (no sewer service) to the planned four-lot Kukio Mauka subdivision, and the adjacent planned five-lot Stroud subdivision.³

The Commission approved KWSC’s purchase of the assets of Kukio Utility Company, Inc. (“KUC”) in the Decision and Order filed on December 1, 2008, in Docket No. 2008-0109. Applicant is wholly owned by Hawaii Water Service Company, Inc. (“Hawaii Water”). Hawaii Water is a public utility that holds a CPCN to provide potable water service in Ka’anapali, Maui,⁴ and wastewater collection and treatment service in Pukalani, Maui.⁵ Hawaii Water also owns all of the stock of Waikoloa Sanitary Sewer Company, dba West Hawaii Sewer Company, Waikoloa Water Co., Inc., dba West Hawaii Water Company and Waikoloa Resort Utilities, Inc., dba Waikoloa Utility Company.⁶

Hawaii Water is a wholly-owned subsidiary of California Water Service Group (“CWSG”), a holding company incorporated in Delaware. CWSG has provided high-quality

¹ See Section D-1 of KWSC’s Rules, Regulations and Rates for Water and Sewer Service (the “KWSC Tariff”) for the conditions on which other customers within KWSC’s service territory may receive untreated bulk water on an interruptible basis, subordinate to potable water needs.

² See the Decision and Order filed on April 20, 2011, in Docket No. 2010-0180.

³ See Decision and Order No. 23492, filed on June 14, 2007, in Docket No. 2006-0414.

⁴ See Decision and Order No. 6230, filed June 9, 1980, in Docket No. 3700.

⁵ Pursuant to the Decision and Order filed on June 12, 2008 in Docket No. 2007-0238, the Commission approved the transfer of Pukalani STP Co., Ltd.’s CPCN to HWSC.

⁶ See Decision and Order filed on August 20, 2008, in Docket No. 2008-0018.

water utility services through its subsidiaries since 1926. Besides Hawaii Water, CWSG's operating subsidiaries include California Water Service Company (water service), New Mexico Water Service Company (water and wastewater services), Washington Water Service Company (water and wastewater services), CWS Utility Services, a non-regulated subsidiary, and HWS Utility Services LLC, a non-regulated subsidiary. CWSG is a public company traded on the New York Stock Exchange under the symbol "CWT." CWSG's audited financial statements are available on the SEC's website.

III. DESCRIPTION OF RATE RELIEF REQUESTED

A. Rate Relief Requested

Applicant seeks the review and approval by the Commission of a 2019 test year (the "Test Year")⁷ net overall revenue increase of \$660,216 for its consolidated operations. (Exhibit KWSC 3, Line 7, column 2). This amounts to an approximate increase of 12.3% from the pro forma revenue amount of \$5,348,358 at present rates for the Test Year, as shown on Exhibit KWSC 3 (line 7, column 1), attached hereto and as further described in the testimony of Robert Stout (Exhibit KWSC-T-100). The proposed increase is comprised of proposed increases of \$452,560 for water service and \$207,656 for sewer service. This amounts to increases of approximately 12.8% for water service and 11.4% for sewer service. If approved, the proposed revenue increase will provide Applicant with a 7.48% rate of return on its prudently incurred system improvements, as shown on Exhibit KWSC 3 (line 30, column 3).

⁷ In Order No. 36181 filed on February 25, 2019, the Commission granted KWSC's Motion to Waive Test Year Requirements, waiving the requirements of HAR §16-601-87(4), and allowing KWSC to utilize a 2019 test year.

B. Justification for Rate Relief Requested

Applicant's current rates do not now and will not in the foreseeable future produce sufficient revenues to allow it a reasonable opportunity to earn a fair rate of return on its prudently incurred investment. For calendar year 2018, on a pro forma basis, Applicant had revenues of approximately \$3,291,746 and a 3.59% rate of return for its water service and revenues of approximately \$1,738,423 and a 13.51% rate of return for its sewer service. (See Exhibits KWSC Water 9 and KWSC Sewer 9). For the Test Year, Applicant projects revenues of approximately \$3,528,828 and a 3.44% rate of return at present rates for its water service, and revenues of approximately \$1,891,531 and a 4.38% rate of return at present rates for its sewer service. (See Exhibits KWSC Water 6 and KWSC Sewer 6).

Moreover, Applicant has made significant capital improvements and plans to make additional capital improvements in the Test Year. These capital improvements are discussed in the testimony of Martin Roush. (Exhibits KWSC-T-300 and KWSC-T-301). Finally, Applicant's operating expenses have increased since its last rate case.

In sum, the instant rate case is designed to allow Applicant to earn a fair and reasonable return on its prudently incurred costs for utility assets providing water, sewer and irrigation service to its customers.

IV. PRESENT AND PROPOSED RATES

The rates currently being charged by Applicant are set forth in Exhibits KWSC Water 4 and KWSC Sewer 4.

Applicant hereby respectfully requests that it be authorized to charge the rates set forth in Exhibits KWSC Water 5 and KWSC Sewer 5. All of the requested rates are greater than Applicant's current rates. In addition to reflecting and passing through to customers increased

costs to the Applicant, the increases reflect increases in Applicant's rate base and a rate of return of 7.48%, as discussed in Section III.A. of the Application.

Applicant's present and proposed rates, as well as the proposed percent increase in rates are as follows:

KWSC Water Service:

Monthly Water Fees	Present Rate	Proposed Rate	Percent Increase
Meter Charge by Meter Size (inches)			
5/8"	\$ 13.80	\$ 15.57	12.8%
3/4"	\$ -	\$ 15.57	100.0%
1"	\$ 26.40	\$ 29.85	13.1%
1 1/2"	\$ 46.20	\$ 52.34	13.3%
2"	\$ 63.10	\$ 71.39	13.1%
3"	\$ 63.10	\$142.79	126.3%
4"	\$166.40	\$237.97	43.0%
6"	\$166.40	\$475.98	186.0%
8"	\$166.40	\$856.74	414.9%
Ready to Serve Charge Monthly Charge Per Installed Meter (Includes usage up to 10,000 gallons per month)			
Residential	\$356.40	\$386.76	8.5%
Cottages	\$267.30	\$290.07	8.5%
Business	\$356.40	\$386.76	8.5%

Quantity Charge (per 1,000 gallons of water consumption)	Present Rate	Proposed Rate	Percent Increase
0 – 10,000 gallons	\$ -	\$ -	0.0%
10,000 – 29,999 gallons	\$3.3688	\$3.6558	8.5%
30,000 – 74,999 gallons	\$6.2063	\$6.7349	8.5%
75,000 and over	\$9.0438	\$9.8141	8.5%
Bulk Interruptible Rate (per 1,000 gallons of untreated water)	\$2.3069	\$2.5034	8.5%

KWSC Sewer Service

Monthly Sewer Fees	Present Rate	Proposed Rate	Percent Increase
Stand-by Charge			
Residential – per dwelling unit per month	\$470.75	\$528.72	12.3%
Commercial per connection per month	\$470.75	\$528.72	12.3%
Quantity Charge			
per 1,000 gallons of domestic water consumption up to 7,000 gallons per month for residential customers and for business customers up to 1” and 40% of metered water consumption for business customers with meters greater than 1”	\$21.2315	\$23.8461	12.3%

Power Cost Charge (“PCC”)

The PCC for Applicant’s water service includes a pump efficiency factor of 18.7100 kWh per thousand gallons. KWSC proposes to revise its pump efficiency factors to 22.4602 kWh per thousand gallons to reflect the most recent changes to the cost to pump water in the KWSC water system.

V. FINANCIAL INFORMATION AND WAIVER REQUEST

In accordance with HAR §§ 16-601-86 and 16-601-87,⁸ Applicant hereby files and incorporates by reference the following exhibits:

- Exhibit KWSC 1 General Description of KWSC’s property and equipment
- Exhibit KWSC 2 Financial Statements

⁸ Because Applicant has annual gross operating revenues of more than \$2,000,000, the requirements set forth in HAR § 16-601-87 are applicable to this application.

Schedules

- A. Amount and kinds of stock authorized by articles of incorporation and amount outstanding.
- B. Terms of preference of preferred stock, whether cumulative or participate or on dividends of assets, or otherwise.
- C. Description of each security agreement, mortgage, and deed of trust on Applicant's property.
- D. Unaudited Financial Statements for the year ended December 31, 2017.
- E. Unaudited Financial Statements for the six (6) months ended June, 2018.
- F. Amount of bonds authorized and issued.
- G. Each note outstanding.
- H. Other indebtedness.
- I. Rate and amount of dividends paid during the five previous calendar years.
- J. The total earnings results for the total utility operations of Hawaii Water.
- K. Option elected by Applicant in computing deferred taxes, investment tax credit and depreciation deduction in determining its federal income tax payments, and whether Applicant has used the same method in calculating federal income taxes for the Test Year for ratemaking purposes.
- L. CWSG's last annual report to stockholders is available on its website, and is incorporated by reference.⁹
- M. CWSG's last proxy statement sent to stockholders is available on its website, and is incorporated by reference.
- N. The latest form 10(k), Annual Report filed with the Securities and Exchange Commission, is available on CWSG's website, and is incorporated by reference.

⁹ <http://ir.calwatergroup.com/Investor-Relations/Financial-Reports/Annual-Reports>.

- O. Statement regarding whether or not the increase reflects and passes through to customers only increased costs to the Applicant for the services or commodities furnished by them.

Exhibit KWSC 3	KWSC Consolidated Revenue Requirement and Rate of Return Summary
Exhibit KWSC 4	KWSC Consolidated Average Rate Base

1. KWSC Water Operations

Exhibit KWSC Water 3	Property and Equipment, and Accumulated Depreciation
Exhibit KWSC Water 4	Present Rate Schedule
Exhibit KWSC Water 5	Proposed Rate Schedule
Exhibit KWSC Water 6	Rate of Return Summary at Present and Proposed Rates Pro Forma for the Test Year Ended December 31, 2019
Exhibit KWSC Water 6.1	Revenue Requirement Support
Exhibits KWSC Water 7 through 7.15	Rate Base Schedules
Exhibits KWSC Water 8 through 8.22	Revenue and Expense Schedules
Exhibit KWSC Water 9	Results of Operations Pro Forma December 31, 2018 at present and proposed rates. Results of operation for calendar year 2016, 2017 and the test year are included on Exhibits KWSC Water 6 and 8.
Exhibit KWSC Water 10	Rate of Return
Exhibit KWSC Water 11	Phase-in Schedule
Exhibit KWSC Water 12	Rate Design

2. KWSC Sewer Operations

Exhibit KWSC Sewer 3	Property and Equipment, and Accumulated Depreciation
Exhibit KWSC Sewer 4	Present Rate Schedule
Exhibit KWSC Sewer 5	Proposed Rate Schedule
Exhibit KWSC Sewer 6	Rate of Return Summary at Present and Proposed Rates Pro Forma for the Test Year Ended December 31, 2019
Exhibit KWSC Sewer 6.1	Revenue Requirement Support
Exhibits KWSC Sewer 7 through 7.15	Rate Base Schedules
Exhibits KWSC Sewer 8 through 8.21	Revenue and Expense Schedules
Exhibit KWSC Sewer 9	Results of Operations Pro Forma December 31, 2018 at present and proposed rates. Results of operation for calendar year 2016, 2017 and the test year are included on Exhibits KWSC Sewer 6 and 8.
Exhibit KWSC Sewer 10	Rate of Return
Exhibit KWSC Sewer 11	Phase-in Schedule
Exhibit KWSC Sewer 12	Rate Design

3. Testimonies and Supporting Exhibits

Exhibit KWSC-T-100 Testimony of Robert Stout

Exhibit KWSC-T-101	Quote to Perform Audit of Financial Statement
Exhibit KWSC-T-102	KWSC Water System Depreciation Study
Exhibit KWSC-T-103	KWSC Wastewater System Depreciation Study
Exhibit KWSC-T-104	Committed Capacity Adjustment
Exhibit KWSC-T-105	True-up Amortization
Exhibit KWSC-T-106	KWSC Water Cost of Service Study
Exhibit KWSC-T-107	KWSC Sewer Cost of Service Study
Exhibit KWSC-T-108	Revised Tariff Pages (black-lined) ¹⁰

¹⁰ Because the only requested change to KWSC's tariff is the removal of Exhibit B (Original Sheet 57), there is no clean copy of the proposed changes, i.e. there will no longer be a Sheet 57 of KWSC's tariff.

Exhibit KWSC-T-200 Testimony of Anthony Carrasco

Exhibit KWSC-T-201 Payroll Allocations (Confidential)

Exhibit KWSC-T-300 Testimony of Martin Roush

Exhibit KWSC-T-301 Capital Project Justifications

4. Request for Waiver.

Pursuant to HAR § 16-601-92, Applicant respectfully requests that its unaudited financial statements (Exhibits KWSC 2, Schedules D and E) submitted with this Application be accepted in lieu of audited financial statements. Because Applicant is a small utility, requiring Applicant to file audited financial statements would result in a hardship. CWSG, Hawaii Water's 100% shareholder, has received an estimate of \$220,000 annually for its auditor, Deloitte & Touche, LLP, to conduct an independent audit of KWSC. If the Commission orders the financial statements to be routinely audited, Applicant will need additional expense recovery in rates to support that effort. CWSG is regularly audited by Deloitte & Touche, LLP. A copy of CWSG's latest annual report showing audited financial statements is available on CWSG's website,¹¹ and is incorporated by reference.

VI. PROPOSED TARIFF CHANGES

Applicant also requests Commission approval to remove the service application form from Applicant's tariff. The proposed tariff change is described in and attached to the Testimony of Robert Stout. (Exhibit KWSC-T-108).

¹¹<http://ir.calwatergroup.com/Investor-Relations/Financial-Reports/Annual-Reports>.

VII. CONCLUSION

WHEREFORE, Applicant respectfully prays as follows:

1. That this Application be deemed a complete application, pursuant to HRS § 269-16 and HAR § 16-601-87;
2. That a public hearing be conducted on the island of Hawaii to consider this Application in accordance with HRS §§ 269-12 and 269-16, and HAR § 16-601-30;
3. That the Commission find that Applicant's present rates for its customers are unjust and unreasonable, and will not allow Applicant to recover all of its reasonably incurred expenses, nor allow Applicant to earn a fair return on its prudently incurred investments in utility property;
4. That the Commission approve, pursuant to HRS § 269-16, the water and sewer rates proposed by Applicant as set forth in Exhibits KWSC Water 5 and KWSC Sewer 5, and authorize Applicant to put into effect the proposed rates after the date of authorization by the Commission;
5. That the Commission waive the requirement under HAR § 16-601-75 for audited financial statements and accept Applicant's unaudited financial statements filed herein;
6. That the Commission approve the request to modify the terms of Applicant's tariff as described in this Application;
7. That the Commission approve the request to replace Applicant's existing unit depreciation rates with group depreciation rates; and

8. That the Applicant be granted such other and further relief as may be just and reasonable under the circumstances, including any interim rate increase.

DATED: Honolulu, Hawaii, February 28, 2019.



JEFFREY T. ONO
DAVID Y. NAKASHIMA
JOHN E. DUBIEL
Attorneys for Applicant
KONA WATER SERVICE COMPANY, INC.

1 **Kona Water Service Company**
2 **Property and Equipment**

3
4 **Property**

5 Kona Water Service Company, Inc. (KWSC) provides potable water and wastewater
6 services within the Company’s authorized service area. In addition, KWSC provides untreated
7 water to properties within and adjacent to its service territory.
8

9 **Plant**

10 **Water System**

11 KWSC’s water system is comprised of five wells (HR-1 through HR-5) with the ability to
12 have a sixth well installed. Wells HR-1 through HR-5 have the capability of producing
13 approximately 2.5 million gallons per day (gpd). KWSC’s water system also consists of two
14 booster pump stations, nine tanks in various locations, and approximately 32,000 linear feet of
15 16 inch pipeline in-service in its system that transmits the water to the distribution systems
16 within its service territory. A portion of the water pumped from wells is directed to the West
17 Hawaii Veteran’s Cemetery and Makalei before it is treated by the Reverse Osmosis treatment
18 system. The rest of the water pumped from the wells flows to the Reverse Osmosis treatment
19 system, where it is treated to serve KWSC’s customers in the residential developments known as
20 the Kukio Beach Club and Manini’owali. KWSC also provides potable water to Kua Bay State
21 Beach Park. The KWSC system has approximately nine water tanks with a capacity of 4.17
22 million gallons. The telemetry controls encompass the wells, reservoirs, transmission lines and
23 Reverse Osmosis system.
24

25 **Wastewater System**

26 KWSC’s wastewater system has seven pump stations located throughout its service
27 territory to facilitate the flow thorough transmission mains to the waste water treatment plant,
28 which has a treatment capacity of approximately 100,000 gpd. Each pump station is equipped
29 with an emergency standby generator. There are approximately 13,700 linear feet of force sewer

Docket No. 2018-0388
Exhibit KWSC-1
Property and Equipment
Witness: Carrasco

- 1 mains in the sewer system. Telemetry controls monitor the functioning of the pump stations and
- 2 the wastewater treatment plant.

Kona Water Service Company, Inc.
Amount and Kinds of Stock Authorized by
Articles of Incorporation and Amount Outstanding

<u>Description</u>	<u># of Shares Authorized</u>	<u># of Shares Issued</u>	<u>PAR Value Per Share</u>	<u>Total PAR Value</u>
Preferred Stock	None	None	N/A	N/A
Common Stock*	10	10	\$100.00	\$1,000.00

*All of the outstanding shares of Kona Water Service Company Inc., are owned by Hawaii Water Service Company, Inc.

Docket No. 2018-0388
Exhibit KWSC 2, Schedule B
Preferred Stock
Witness: Stout

Kona Water Service Company, Inc.
Terms of Preference of Preferred Stock, Whether Cumulative of
Participate or on Dividends of Assets, or Otherwise

None

Kona Water Service Company, Inc.
Description of Each Security Agreement, Mortgage, and Deed of Trust

None

KONA WATER SERVICE COMPANY

**BALANCE SHEET
DECEMBER 31, 2017**

<u>ACCOUNT NUMBER</u>	<u>ASSETS & OTHER DEBITS</u>	<u>BALANCE 12/31/17</u>
	<u>UTILITY PLANT</u>	
303.	Land	0
101.	Utility Plant in Service	35,916,788
105.	Construction Work in Progress	1,192,942
108.	Accum. Depreciation of Utility Plant in Service	<u>(11,471,593)</u>
	Total Utility Plant Less Reserves	25,638,136
	<u>OTHER PROPERTY & INVESTMENTS</u>	
121.	Nonutility Property	3,184,608
122.	Accum. Depreciation of Nonutility Plant	<u>0</u>
	Total Other Property & Investments	3,184,608
	<u>CURRENT & ACCRUED ASSETS</u>	
131.	Cash	0
141.	Customer Accounts Receivable	480,948
142.	Accounts Receivable Other	6,822
143.	Accum. Provision for Uncollectible Accts - Contra	0
145.	Accounts Receivable From Associated Companies	87,229
151.	Other Materials & Supplies	102,548
162.	Prepayments	13,330
173.	Accrued Utility Revenues	131,146
174.	Miscellaneous Other Assets	<u>0</u>
	Total Current & Accrued Assets	822,023
	<u>DEFERRED DEBITS</u>	
184.	Clearing Accounts	0
186.	Miscellaneous Deferred Debits	<u>29,944</u>
	Total Deferred Debits	29,944
	TOTAL ASSETS & OTHER DEBITS	<u><u>29,674,712</u></u>

KONA WATER SERVICE COMPANY

**BALANCE SHEET
 DECEMBER 31, 2017**

<u>ACCOUNT NUMBER</u>	<u>EQUITY CAPITAL & LIABILITIES</u>	<u>BALANCE 12/31/17</u>
	<u>STOCKHOLDER'S EQUITY</u>	
201.	Common Stock	7,449,266
211.	Other Paid-In-Capital	0
215.	Unappropriated Retained Earnings	(5,189,187)
435.	Balance Transferred from Income	614,258
438.	Dividends Declared - Common Stock	<u>0</u>
	Total Stockholder's Equity/(Deficit)	2,874,336
	<u>LONG TERM DEBT</u>	
223.	Advances from Associated Companies	2,827,009
224.	Other Long Term Debt	<u>0</u>
	Total Long Term Debt	2,827,009
	<u>CURRENT & ACCRUED LIABILITIES</u>	
231.	Accounts Payable	129,203
233.	Accounts Payable to Associated Companies	14,007,265
234.	Notes Payable to Associated Companies	0
225.	Capitalized Lease Obligation	0
236.	Accrued Taxes Payable	343,240
239.	Matured Long Term Debt	0
241.	Other Liabilities	<u>0</u>
	Total Current & Accrued Liabilities	14,479,708
	<u>DEFERRED CREDITS</u>	
252.	Advances for Construction	0
253.	Other Deferred Credits	<u>0</u>
	Total Deferred Credits	0
	<u>OPERATING RESERVES</u>	
265.	Misc. Operating Reserves	0
	<u>CONTRIBUTIONS IN AID OF CONSTRUCTION</u>	
271.	Contributions in Aid of Construction	12,909,888
272.	Accum. Amortization of CIAC	<u>(3,416,229)</u>
	Total Contributions in Aid of Construction - Net	9,493,659
	<u>DEFERRED INCOME TAXES</u>	
283.	Accum. Deferred Income Taxes	0
	TOTAL LIABILITIES & OTHER CREDITS	<u>29,674,712</u>

Unaudited Financial Statements for the year ended December 31, 2017
KONA WATER SERVICE COMPANY
 Witness: Stout

INCOME STATEMENT
DECEMBER 31, 2017

<u>ACCOUNT NUMBER</u>		<u>CY 2017</u>
<u>OPERATING REVENUES</u>		
<u>WATER SALES:</u>		
460.	Unmetered Water Revenue	0
461.	Metered Water Revenue	3,500,382
462.	Fire Protection Revenue	0
465.	Sales to Irrigation Customers	84,290
<u>OTHER WATER REVENUES:</u>		
471.	Miscellaneous Service Revenues	2,829
474.	Other Water Revenues - Unbilled Rev Adj	32,042
<u>WASTEWATER SALES</u>		
521.	Flat Rate Revenues	1,081,457
522.	Measured Revenue	617,122
523.	Revenues from Public Authorities	0
524.	Revenues from Other Systems	0
<u>OTHER WASTEWATER REVENUES</u>		
531.	Sale of Sludge	0
536.	Other Wastewater Revenues	7,078
<u>RECLAIMED WATER SALES</u>		
540.	Flat Rate Reuse Revenues	0
541.	Measured Reuse Revenue	0
544.	Reuse Revenues from Other Systems	<u>0</u>
	Total Operating Revenues	5,325,201

KONA WATER SERVICE COMPANY**INCOME STATEMENT
DECEMBER 31, 2017**

<u>ACCOUNT NUMBER</u>		<u>CY 2017</u>
<u>OPERATING EXPENSES - WATER</u>		
610.1	Purchased Water	(584)
615.1	Purchased Power	1,434,095
601.1	Source of Supply - Salaries & Wages	66,420
616.1	Source of Supply - Fuel for Power Production	836
618.1	Source of Supply - Chemicals	0
631.1	Source of Supply - Contractual Svc - Engr	0
642.1	Source of Supply - Equipment Rental	0
675.1	Source of Supply - Misc Expense	10,758
601.2	Source of Supply - Maint - Salaries & Wages	37,632
620.2	Source of Supply - Maint - Materials & Supplies	120
675.2	Source of Supply - Maint - Misc Expense	17,269
601.3	Water Treatment - Salaries & Wages	46,576
618.3	Water Treatment - Chemicals	186,768
620.3	Water Treatment - Materials & Supplies	0
631.3	Water Treatment - Contractual Svc - Engr	0
635.3	Water Treatment - Contractual Svc - Testing	2,720
636.3	Water Treatment - Contractual Svc - Other	0
642.3	Water Treatment - Rental of Equipment	0
675.3	Water Treatment - Misc Expense	17,261
601.4	Water Treatment - Maint - Salaries & Wages	0
620.4	Water Treatment - Maint - Materials & Supplies	2,262
675.4	Water Treatment - Maint - Misc Expense	6,021
601.5	Trans & Distrib - Salaries & Wages	3,968
635.5	Trans & Distrib - Contractual Svc - Testing	0
642.5	Trans & Distrib - Rental of Equipment	0
675.5	Trans & Distrib - Misc Expense	9,325
601.6	Trans & Distrib - Maint - Salaries & Wages	0
675.6	Trans & Distrib - Maint - Misc Expense	5,875
	Total Operating Expenses - Water	<u>1,847,322</u>

Unaudited Financial Statements for the year ended December 31, 2017
KONA WATER SERVICE COMPANY

Witness: Stout

INCOME STATEMENT
DECEMBER 31, 2017

<u>ACCOUNT NUMBER</u>		<u>CY 2017</u>
<u>OPERATING EXPENSES - WASTEWATER</u>		
715.3	Purchased Power	136,816
701.2	Collection - Maint - Salaries & Wages	14,191
720.2	Collection - Maint - Materials & Supplies	808
735.2	Collection - Maint - Contractual Svc - Testing	4,387
775.2	Collection - Maint - Miscellaneous Expense	16,706
701.3	Pumping - Salaries & Wages	37,209
716.3	Pumping - Fuel for Power Production	1,148
718.3	Pumping - Chemicals	0
731.3	Pumping - Contractual Svc - Engr	0
735.3	Pumping - Contractual Svc - Testing	1,348
742.3	Pumping - Rental of Equipment	0
775.3	Pumping - Miscellaneous Expense	7,089
701.4	Pumping - Maint - Salaries & Wages	0
775.4	Pumping - Maint - Misc Expense	0
701.5	Treat & Disposal - Salaries & Wages	67,164
710.5	Treat & Disposal - Purchased WW Treatment	0
711.5	Treat & Disposal - Sludge Removal Expense	3,730
718.5	Treat & Disposal - Chemicals	2,924
720.5	Treat & Disposal - Materials & Supplies	2,564
731.5	Treat & Disposal - Contractual Svc - Engr	0
735.5	Treat & Disposal - Contractual Svc - Testing	985
736.5	Treat & Disposal - Contractual Svc - Other	0
742.5	Treat & Disposal - Rental of Equipment	2,777
750.5	Treat & Disposal - Transportation Expenses	6,576
775.5	Treat & Disposal - Miscellaneous Expense	14,970
701.6	Treat & Disposal - Maint - Salaries & Wages	0
720.6	Treat & Disposal - Maint - Materials & Supplies	3,326
735.6	Treat & Disposal - Maint - Contractual Svc - Test	0
775.6	Treat & Disposal - Maint - Misc Expense	1,407
701.9	Reclaimed Wtr Treat - Salaries & Wages	0
718.9	Reclaimed Wtr Treat - Chemicals	0
720.9	Reclaimed Wtr Treat - Materials & Supplies	0
750.9	Reclaimed Wtr Treat - Transportation Expense	20
758.9	Reclaimed Wtr Treat - Insurance - Wrk Comp	0
701.10	Reclaimed Wtr Treat - Maint - Salaries & Wages	0
720.10	Reclaimed Wtr Treat - Maint - Matis & Supplies	0
720.11	Reclaimed Wtr Distr - Materials & Supplies	0
775.11	Reclaimed Wtr Distr - Miscellaneous Expense	4,284
	Total Operating Expenses - Wastewater	<u>330,431</u>
	Total Operating Expenses	<u>2,177,753</u>
	NET OPERATING INCOME / (LOSS)	3,147,448

KONA WATER SERVICE COMPANY

**INCOME STATEMENT
 DECEMBER 31, 2017**

<u>ACCOUNT NUMBER</u>		<u>CY 2017</u>
<u>OTHER INCOME & EXPENSES:</u>		
403.	Depreciation Expense	466,108
407.	Amortization Expense	0
408.	Taxes Other Than Income	0
415.	Revenues - Jobbing & Contract Work	0
416.	Costs & Expenses - Jobbing & Contract Work	0
419.	Interest and Dividend Income	0
421.	Nonutility Income	467
426.	Miscellaneous Nonutility Expenses	0
427.	Interest Expense / (Income)	<u>158,187</u>
	Total Other Income & Expenses	624,761
<u>GENERAL & ADMINISTRATIVE EXPENSES:</u>		
601.7	Customer Accounts - Salaries & Wages	13,173
670.7	Customer Accounts - Bad Debt Expense	(1,596)
675.7	Customer Accounts - Misc Expense	50
601.8	Admin & General - Salaries & Wages	51,242
604.8	Admin & General - Empl Pensions & Benefits	284,544
620.8	Admin & General - Materials & Supplies	1,752
631.8	Admin & General - Contractual Svc - Engr	0
632.8	Admin & General - Contractual Svc - Acctg	0
633.8	Admin & General - Contractual Svc - Legal	3,150
636.8	Admin & General - Contractual Svc - Other	14,213
641.8	Admin & General - Building/Property Rental	6,400
657.8	Admin & General - Insurance - Gen Liab	71,925
658.8	Admin & General - Insurance - Worker's Comp	12,073
659.8	Admin & General - Insurance - Other	0
667.8	Admin & General - Regulatory Comm Expense	53,994
675.8	Admin & General - Misc Expense	<u>643,227</u>
	Total General & Administrative Expenses	<u>1,154,146</u>
	NET INCOME/(LOSS) BEFORE INCOME TAXES	<u>1,368,541</u>
409	Income Tax Expense / (Benefit)	<u>754,283</u>
	NET INCOME/(LOSS)	<u><u>614,258</u></u>

KONA WATER SERVICE COMPANY

BALANCE SHEET JUNE 30, 2018

ACCOUNT NUMBER	ASSETS & OTHER DEBITS	BALANCE 6/30/2018
	<u>UTILITY PLANT</u>	
303.	Land	0
101.	Utility Plant in Service	35,960,269
105.	Construction Work in Progress	1,602,924
108.	Accum. Depreciation of Utility Plant in Service	<u>(11,760,927)</u>
	Total Utility Plant Less Reserves	25,802,265
	<u>OTHER PROPERTY & INVESTMENTS</u>	
121.	Nonutility Property	3,184,608
122.	Accum. Depreciation of Nonutility Plant	<u>0</u>
	Total Other Property & Investments	3,184,608
	<u>CURRENT & ACCRUED ASSETS</u>	
131.	Cash	0
141.	Customer Accounts Receivable	448,245
142.	Accounts Receivable Other	9,426
143.	Accum. Provision for Uncollectible Accts - Contra	(270)
145.	Accounts Receivable From Associated Companies	87,229
151.	Other Materials & Supplies	104,807
162.	Prepayments	15,059
173.	Accrued Utility Revenues	152,051
174.	Miscellaneous Other Assets	<u>0</u>
	Total Current & Accrued Assets	816,547
	<u>DEFERRED DEBITS</u>	
184.	Clearing Accounts	0
186.	Miscellaneous Deferred Debits	<u>4,278</u>
	Total Deferred Debits	4,278
	TOTAL ASSETS & OTHER DEBITS	<u><u>29,807,698</u></u>

KONA WATER SERVICE COMPANY**BALANCE SHEET****JUNE 30, 2018**

<u>ACCOUNT NUMBER</u>	<u>EQUITY CAPITAL & LIABILITIES</u>	<u>BALANCE 6/30/2018</u>
	<u>STOCKHOLDER'S EQUITY</u>	
201.	Common Stock	7,449,266
211.	Other Paid-In-Capital	0
215.	Unappropriated Retained Earnings	(4,194,064)
435.	Balance Transferred from Income	451,989
438.	Dividends Declared - Common Stock	0
	Total Stockholder's Equity/(Deficit)	3,707,191
	<u>LONG TERM DEBT</u>	
223.	Advances from Associated Companies	2,795,961
224.	Other Long Term Debt	0
	Total Long Term Debt	2,795,961
	<u>CURRENT & ACCRUED LIABILITIES</u>	
231.	Accounts Payable	123,836
233.	Accounts Payable to Associated Companies	13,454,243
234.	Notes Payable to Associated Companies	0
225.	Capitalized Lease Obligation	0
236.	Accrued Taxes Payable	353,152
239.	Matured Long Term Debt	0
241.	Other Liabilities	0
	Total Current & Accrued Liabilities	13,931,231
	<u>DEFERRED CREDITS</u>	
252.	Advances for Construction	0
253.	Other Deferred Credits	0
	Total Deferred Credits	0
	<u>OPERATING RESERVES</u>	
265.	Misc. Operating Reserves	0
	<u>CONTRIBUTIONS IN AID OF CONSTRUCTION</u>	
271.	Contributions in Aid of Construction	12,909,888
272.	Accum. Amortization of CIAC	(3,536,573)
	Total Contributions in Aid of Construction - Net	9,373,315
	<u>DEFERRED INCOME TAXES</u>	
283.	Accum. Deferred Income Taxes	0
	TOTAL LIABILITIES & OTHER CREDITS	<u>29,807,698</u>

Unaudited Financial Statements for the six months ended June 30, 2018
KONA WATER SERVICE COMPANY

Witness: Stout

INCOME STATEMENT
JUNE 30, 2018

<u>ACCOUNT NUMBER</u>		<u>CY 2018</u>
<u>OPERATING REVENUES</u>		
<u>WATER SALES:</u>		
460.	Unmetered Water Revenue	0
461.	Metered Water Revenue	1,594,699
462.	Fire Protection Revenue	0
465.	Sales to Irrigation Customers	51,174
<u>OTHER WATER REVENUES:</u>		
471.	Miscellaneous Service Revenues	1,366
474.	Other Water Revenues - Unbilled Rev Adj	27,442
<u>WASTEWATER SALES</u>		
521.	Flat Rate Revenues	562,248
522.	Measured Revenue	306,963
523.	Revenues from Public Authorities	0
524.	Revenues from Other Systems	0
<u>OTHER WASTEWATER REVENUES</u>		
531.	Sale of Sludge	0
536.	Other Wastewater Revenues	(6,537)
<u>RECLAIMED WATER SALES</u>		
540.	Flat Rate Reuse Revenues	0
541.	Measured Reuse Revenue	0
544.	Reuse Revenues from Other Systems	0
	Total Operating Revenues	<u>2,537,356</u>

KONA WATER SERVICE COMPANY

**INCOME STATEMENT
 JUNE 30, 2018**

<u>ACCOUNT NUMBER</u>		<u>CY 2018</u>
<u>OPERATING EXPENSES - WATER</u>		
610.1	Purchased Water	(90)
615.1	Purchased Power	666,034
601.1	Source of Supply - Salaries & Wages	17,818
616.1	Source of Supply - Fuel for Power Production	0
618.1	Source of Supply - Chemicals	0
631.1	Source of Supply - Contractual Svc - Engr	0
642.1	Source of Supply - Equipment Rental	0
675.1	Source of Supply - Misc Expense	2,732
601.2	Source of Supply - Maint - Salaries & Wages	21,303
620.2	Source of Supply - Maint - Materials & Supplies	0
675.2	Source of Supply - Maint - Misc Expense	469
601.3	Water Treatment - Salaries & Wages	43,303
618.3	Water Treatment - Chemicals	61,385
620.3	Water Treatment - Materials & Supplies	1,536
631.3	Water Treatment - Contractual Svc - Engr	0
635.3	Water Treatment - Contractual Svc - Testing	0
636.3	Water Treatment - Contractual Svc - Other	0
642.3	Water Treatment - Rental of Equipment	0
675.3	Water Treatment - Misc Expense	6,438
601.4	Water Treatment - Maint - Salaries & Wages	0
620.4	Water Treatment - Maint - Materials & Supplies	0
675.4	Water Treatment - Maint - Misc Expense	1,495
601.5	Trans & Distrib - Salaries & Wages	2,454
635.5	Trans & Distrib - Contractual Svc - Testing	0
642.5	Trans & Distrib - Rental of Equipment	0
675.5	Trans & Distrib - Misc Expense	3,887
601.6	Trans & Distrib - Maint - Salaries & Wages	0
675.6	Trans & Distrib - Maint - Misc Expense	<u>2,039</u>
	Total Operating Expenses - Water	830,803

KONA WATER SERVICE COMPANY

**INCOME STATEMENT
 JUNE 30, 2018**

<u>ACCOUNT NUMBER</u>		<u>CY 2018</u>
<u>OPERATING EXPENSES - WASTEWATER</u>		
715.3	Purchased Power	67,406
701.2	Collection - Maint - Salaries & Wages	6,007
720.2	Collection - Maint - Materials & Supplies	1,309
735.2	Collection - Maint - Contractual Svc - Testing	0
775.2	Collection - Maint - Miscellaneous Expense	83
701.3	Pumping - Salaries & Wages	19,754
716.3	Pumping - Fuel for Power Production	1,245
718.3	Pumping - Chemicals	0
731.3	Pumping - Contractual Svc - Engr	0
735.3	Pumping - Contractual Svc - Testing	0
742.3	Pumping - Rental of Equipment	0
775.3	Pumping - Miscellaneous Expense	836
701.4	Pumping - Maint - Salaries & Wages	0
775.4	Pumping - Maint - Misc Expense	0
701.5	Treat & Disposal - Salaries & Wages	29,852
710.5	Treat & Disposal - Purchased WW Treatment	0
711.5	Treat & Disposal - Sludge Removal Expense	2,257
718.5	Treat & Disposal - Chemicals	10,790
720.5	Treat & Disposal - Materials & Supplies	285
731.5	Treat & Disposal - Contractual Svc - Engr	0
735.5	Treat & Disposal - Contractual Svc - Testing	0
736.5	Treat & Disposal - Contractual Svc - Other	1,146
742.5	Treat & Disposal - Rental of Equipment	0
750.5	Treat & Disposal - Transportation Expenses	2,175
775.5	Treat & Disposal - Miscellaneous Expense	5,679
701.6	Treat & Disposal - Maint - Salaries & Wages	0
720.6	Treat & Disposal - Maint - Materials & Supplies	648
735.6	Treat & Disposal - Maint - Contractual Svc - Test	0
775.6	Treat & Disposal - Maint - Misc Expense	1,209
701.9	Reclaimed Wtr Treat - Salaries & Wages	0
718.9	Reclaimed Wtr Treat - Chemicals	0
720.9	Reclaimed Wtr Treat - Materials & Supplies	0
750.9	Reclaimed Wtr Treat - Transportation Expense	0
758.9	Reclaimed Wtr Treat - Insurance - Wrk Comp	0
701.10	Reclaimed Wtr Treat - Maint - Salaries & Wages	0
720.10	Reclaimed Wtr Treat - Maint - Matis & Supplies	0
720.11	Reclaimed Wtr Distr - Materials & Supplies	0
775.11	Reclaimed Wtr Distr - Miscellaneous Expense	1,636
	Total Operating Expenses - Wastewater	<u>152,317</u>
	Total Operating Expenses	<u>983,120</u>
	NET OPERATING INCOME / (LOSS)	1,554,235

KONA WATER SERVICE COMPANY

**INCOME STATEMENT
 JUNE 30, 2018**

<u>ACCOUNT NUMBER</u>		<u>CY 2018</u>
<u>OTHER INCOME & EXPENSES:</u>		
403.	Depreciation Expense	233,126
407.	Amortization Expense	0
408.	Taxes Other Than Income	0
415.	Revenues - Jobbing & Contract Work	0
416.	Costs & Expenses - Jobbing & Contract Work	0
419.	Interest and Dividend Income	0
421.	Nonutility Income	649
426.	Miscellaneous Nonutility Expenses	0
427.	Interest Expense / (Income)	<u>73,732</u>
	Total Other Income & Expenses	307,506
<u>GENERAL & ADMINISTRATIVE EXPENSES:</u>		
601.7	Customer Accounts - Salaries & Wages	6,644
670.7	Customer Accounts - Bad Debt Expense	599
675.7	Customer Accounts - Misc Expense	134
601.8	Admin & General - Salaries & Wages	1,878
604.8	Admin & General - Empl Pensions & Benefits	125,611
620.8	Admin & General - Materials & Supplies	596
631.8	Admin & General - Contractual Svc - Engr	0
632.8	Admin & General - Contractual Svc - Acctg	0
633.8	Admin & General - Contractual Svc - Legal	0
636.8	Admin & General - Contractual Svc - Other	4,256
641.8	Admin & General - Building/Property Rental	6,400
657.8	Admin & General - Insurance - Gen Liab	29,395
658.8	Admin & General - Insurance - Worker's Comp	5,988
659.8	Admin & General - Insurance - Other	0
667.8	Admin & General - Regulatory Comm Expense	29,322
675.8	Admin & General - Misc Expense	<u>301,520</u>
	Total General & Administrative Expenses	<u>512,342</u>
	NET INCOME/(LOSS) BEFORE INCOME TAXES	<u>734,387</u>
409	Income Tax Expense / (Benefit)	<u>282,397</u>
	NET INCOME/(LOSS)	<u><u>451,989</u></u>

Docket No. 2018-0388
Exhibit KWSC 2, Schedule F
Amount of Bonds
Witness: Stout

Kona Water Service Company, Inc.
Amount of Bonds Authorized and Issued

None

CONFIDENTIAL INFORMATION
Deleted Pursuant to Protective Order No. 36174

Docket No. 2018-0388
Exhibit KWSC 2, Schedule G
Each Note Outstanding
Witness: Stout

**Kona Water Service Company, Inc.
Each Note Outstanding**

Type Promissory note with its holding company, California Water Service Group,
to finance capital improvements.

Amount	██████████
Interest Rate	5.50%
Term	30 years
Agreement Date	12/31/2011
Due Date	12/20/2041
Monthly Payment	██████████

Docket No. 2018-0388
Exhibit KWSC 2, Schedule H
Other Indebtedness
Witness: Stout

Kona Water Service Company, Inc.
Other Indebtedness

None

**Kona Water Service Company
Rate and Amount of Dividends Paid during the Five
Previous Calendar Years***

<u>YEAR</u>	<u>AMOUNT</u>
2018	\$546,733
2017	\$674,108
2016	\$126,652
2015	\$0.00
2014	\$0.00

***All dividends were paid by Hawaii Water to CWSG. An explanation of how the dividends were calculated in Confidential Exhibit KWSC 2, Schedule I.1. Hawaii Water considers its method of determining dividends as well as certain underlying information to be confidential. Therefore, the attached Exhibit KWSC 2, Schedule I.1 is filed under seal, subject to Protective Order No.**

Explanation of Dividends paid by Hawaii Water.

[REDACTED]

Hawaii Water Dividend Payment Summary 2016

Period Ending	Amount Paid
Q2 2016	
Q3 2016	
<u>Total</u>	<u>\$ 126,652</u>

STATEMENT OF INCOME
Twelve Months Ended June 30, 2016

	HWSCO 12M <u>This Year</u>
Operating revenue	<u>\$22,090,074</u>
Operating expenses:	
Operations:	
Purchased water	254,194
Purchased power	6,698,827
Pump taxes	0
Administrative and General	4,582,455
GO Allocations	1,029,437
Other operations	3,227,939
Total operations	<u>15,792,853</u>
Maintenance	633,074
Depreciation and amortization	2,388,615
Federal income taxes	140,842
State income taxes	32,213
Taxes other than income taxes	1,608,714
Total operating expenses	<u>20,596,312</u>
Net operating income	1,493,763
Other Income and Expenses:	
Non regulated revenue	8,593
Non regulated expense	0
New Business	(56,307)
Gain on sale on non-utility property	(114,410)
Miscellaneous	(22,645)
Income taxes on other income and exp	75,285
	<u>(109,482)</u>
Interest:	
Interest on long-term debt	0
Other interest	1,274,529
Interest capitalized	(30,787)
Amortization of bond premium and expense, net	0
	<u>1,243,742</u>
NET INCOME	<u><u>140,538</u></u>



STATEMENT OF INCOME
Twelve Months Ended September 30, 2016

HWSCO

12M

This Year

Operating revenue	<u>\$22,333,474</u>
Operating expenses:	
Operations:	
Purchased water	242,391
Purchased power	6,601,321
Pump taxes	0
Administrative and General	4,118,188
GO Allocations	977,835
Other operations	<u>3,275,761</u>
Total operations	15,215,496
Maintenance	618,356
Depreciation and amortization	2,374,447
Federal income taxes	415,448
State income taxes	83,600
Taxes other than income taxes	<u>1,613,400</u>
Total operating expenses	<u>20,320,746</u>
Net operating income	2,012,728
Other Income and Expenses:	
Non regulated revenue	7,931
Non regulated expense	(262)
New Business	(55,674)
Gain on sale on non-utility property	(33,413)
Miscellaneous	(16,082)
Income taxes on other income and exp	<u>39,729</u>
	(57,771)
Interest:	
Interest on long-term debt	0
Other interest	1,283,280
Interest capitalized	(32,131)
Amortization of bond premium and expense, net	<u>0</u>
	1,251,149
NET INCOME	<u><u>703,808</u></u>



Cash balance as of 9/30/2016 3,257,904

Hawaii Water Dividend Payment Summary 2017

Period Ending	Amount Paid	Notes
Q4 2016		Calculated Dec 2016 but paid in Jan 2017
Q1 2017		
Q2 2017		
Q3 2017		
<u>Total</u>	<u>\$ 674,108</u>	

STATEMENT OF INCOME
Twelve Months Ended December 31, 2016

HWSCO
12M
This Year

Operating revenue	<u>\$22,873,033</u>
Operating expenses:	
Operations:	
Purchased water	314,143
Purchased power	6,582,197
Pump taxes	0
Administrative and General	3,994,767
GO Allocations	913,790
Other operations	3,217,357
Total operations	<u>15,022,253</u>
Maintenance	664,044
Depreciation and amortization	2,368,806
Federal income taxes	621,001
State income taxes	124,531
Taxes other than income taxes	1,680,476
Total operating expenses	<u>20,481,109</u>
Net operating income	2,391,923
Other Income and Expenses:	
Non regulated revenue	0
Non regulated expense	0
New Business	(71,124)
Gain on sale on non-utility property	(35,566)
Miscellaneous	(20,563)
Income taxes on other income and exp	51,852
	<u>(75,401)</u>
Interest:	
Interest on long-term debt	0
Other interest	1,281,101
Interest capitalized	(32,502)
Amortization of bond premium and expense, net	0
	<u>1,248,599</u>
NET INCOME	<u><u>1,067,924</u></u>



STATEMENT OF INCOME
Twelve Months Ended March 31, 2017

HWSCO
12M
This Year
\$22,832,121

Operating revenue

Operating expenses:

Operations:

Purchased water	311,282
Purchased power	6,626,824
Pump taxes	0
Administrative and General	3,927,421
GO Allocations	907,996
Other operations	3,247,606
Total operations	<u>15,021,130</u>

Maintenance	688,401
Depreciation and amortization	2,349,000
Federal income taxes	600,432
State income taxes	119,725
Taxes other than income taxes	1,691,477
Total operating expenses	<u>20,470,164</u>

Net operating income

2,361,957

Other Income and Expenses:

Non regulated revenue	0
Non regulated expense	(12,464)
New Business	(47,910)
Gain on sale on non-utility property	(16,988)
Miscellaneous	(19,707)
Income taxes on other income and exp	39,553
	<u>(57,516)</u>

Interest:

Interest on long-term debt	0
Other interest	1,289,973
Interest capitalized	(33,142)
Amortization of bond premium and expense, net	0
	<u>1,256,831</u>

NET INCOME

1,047,611



STATEMENT OF INCOME
Twelve Months Ended June 30, 2017

HWSCO
This Year

Operating Revenue	\$23,268,939
Operating Expenses:	
Operations:	
Purchased Water	323,805
Purchased Power	6,716,271
Pump Taxes	0
Administrative and General	3,851,228
GO Allocation	929,154
Other Prod & Distr Exp	2,828,151
Cust Account Expense	336,489
Rents	122,167
Admin Charges	0
Other Operations	3,286,807
Total Operations	15,107,266
Maintenance	669,610
Depreciation and Amortization	2,344,735
Federal income taxes	711,143
State income taxes	140,492
Taxes Other Than Income Taxes	1,710,428
Total Operating Expenses	20,683,674
Net Operating Income	2,585,265
Other Income and Expense:	
Non regulated revenue	0
Non regulated expense	0
New Business	(39,109)
Gain on sale on non-utility property	(8,242)
Miscellaneous	(16,603)
Income Taxes on other Income and Exp	26,060
	(37,893)
Interest:	
Interest On Long-Term Debt	0
Other Interest	1,309,379
Interest Capitalized	(34,847)
Amort of Bond Prem and Exp, Net	0
	1,274,532
NET INCOME	\$1,272,840



STATEMENT OF INCOME
Twelve Months Ended September 30, 2017

	<u>HWSCO</u> <u>This Year</u>
Operating Revenue	\$24,085,009
Operating Expenses:	
Operations:	
Purchased Water	310,604
Purchased Power	6,789,639
Pump Taxes	0
Administrative and General	3,913,941
GO Allocation	946,653
Other Prod & Distr Exp	3,396,160
Cust Account Expense	342,854
Rents	128,915
Admin Charges	0
Other Operations	<u>3,867,929</u>
Total Operations	15,828,766
Maintenance	824,124
Depreciation and Amortization	2,347,530
Federal income taxes	667,697
State income taxes	135,339
Taxes Other Than Income Taxes	<u>1,767,513</u>
Total Operating Expenses	<u>21,570,970</u>
Net Operating Income	2,514,039
Other Income and Expense:	
Non regulated revenue	(1,308)
Non regulated expense	262
New Business	(81,721)
Gain on sale on non-utility property	(95,206)
Miscellaneous	(17,297)
Income Taxes on other Income and Exp	<u>79,565</u>
	(115,705)
Interest:	
Interest On Long-Term Debt	0
Other Interest	1,333,812
Interest Capitalized	(41,154)
Amort of Bond Prem and Exp, Net	<u>0</u>
	1,292,658
NET INCOME	<u><u>\$1,105,676</u></u>



Hawaii Water Dividend Payment Summary 2018

Period Ending	Amount Paid
Q4 2017	
Q1 2018	
Q2 2018	
Q3 2018	
<u>Total</u>	<u>\$ 539,354</u>

Statement of Income
Twelve Months Ending December 31, 2017

	<u>HWSCO</u>
	<u>This Year</u>
Operating Revenue	\$24,295,742
Operating Expenses:	
Operations:	
Purchased Water	211,946
Purchased Power	7,013,660
Pump Taxes	0
Administrative and General	3,951,936
GO Allocation	1,021,249
Other Operations	4,119,509
Total Operations	<u>16,318,299</u>
Maintenance	830,798
Depreciation and Amortization	2,332,125
Federal income taxes	559,496
State income taxes	113,660
Taxes Other Than Income Taxes	1,763,545
Total Operating Expenses	<u>21,917,924</u>
Net Operating Income	2,377,819
Other Income and Expense:	
Non regulated revenue	(1,103)
Non regulated expense	0
New Business	(58,291)
Gain on sale on non-utility property	(103,151)
Miscellaneous	(11,950)
Income Taxes on other Income and Exp	71,099
	<u>(103,395)</u>
Interest:	
Interest On Long-Term Debt	0
Other Interest	1,360,705
Interest Capitalized	(3,322)
Amort of Bond Prem and Exp, Net	0
	<u>1,357,383</u>
Equity Earnings of Subsidiaries	0
NET INCOME	<u><u>\$917,041</u></u>



Statement of Income
Twelve Months Ending March 31, 2018

	<u>HWSCO</u>
	<u>This Year</u>
Operating Revenue	\$24,305,636
Operating Expenses:	
Operations:	
Purchased Water	219,733
Purchased Power	7,105,765
Pump Taxes	0
Administrative and General	3,962,241
GO Allocation	1,055,136
Other Operations	<u>3,967,563</u>
Total Operations	16,310,439
Maintenance	812,833
Depreciation and Amortization	2,313,026
Federal income taxes	543,686
State income taxes	116,836
Taxes Other Than Income Taxes	<u>1,752,183</u>
Total Operating Expenses	<u>21,849,004</u>
Net Operating Income	2,456,632
Other Income and Expense:	
Non regulated revenue	(1,103)
Non regulated expense	(26,650)
New Business	(51,827)
Gain on sale on non-utility property	(103,151)
Miscellaneous	(14,039)
Income Taxes on other Income and Exp	<u>73,942</u>
	(122,826)
Interest:	
Interest On Long-Term Debt	0
Other Interest	1,390,830
Interest Capitalized	(14,977)
Amort of Bond Prem and Exp, Net	<u>0</u>
	1,375,853
Equity Earnings of Subsidiaries	0
NET INCOME	<u><u>\$957,953</u></u>



Statement of Income
Twelve Months Ending June 30, 2018

	<u>HWSCO</u>
	<u>This Year</u>
Operating Revenue	\$24,210,892
Operating Expenses:	
Operations:	
Purchased Water	204,138
Purchased Power	7,210,508
Pump Taxes	0
Administrative and General	3,887,947
GO Allocation	1,097,756
Other Operations	3,969,155
Total Operations	<u>16,369,505</u>
Maintenance	835,113
Depreciation and Amortization	2,450,849
Federal income taxes	367,652
State income taxes	98,939
Taxes Other Than Income Taxes	1,725,116
Total Operating Expenses	<u>21,847,174</u>
Net Operating Income	2,363,719
Other Income and Expense:	
Non regulated revenue	(1,103)
Non regulated expense	(75,689)
New Business	(44,696)
Gain on sale on non-utility property	(103,800)
Miscellaneous	(21,056)
Income Taxes on other Income and Exp	88,679
	<u>(157,665)</u>
Interest:	
Interest On Long-Term Debt	0
Other Interest	1,421,890
Interest Capitalized	(27,774)
Amort of Bond Prem and Exp, Net	0
	<u>1,394,116</u>
Equity Earnings of Subsidiaries	0
NET INCOME	<u><u>\$811,938</u></u>



Statement of Income
Twelve Months Ending September 30, 2018

	<u>HWSCO</u>
	<u>This Year</u>
Operating Revenue	\$24,160,742
Operating Expenses:	
Operations:	
Purchased Water	216,304
Purchased Power	7,489,043
Pump Taxes	0
Administrative and General	3,762,391
GO Allocation	1,149,903
Other Operations	<u>3,382,204</u>
Total Operations	15,999,845
Maintenance	745,331
Depreciation and Amortization	2,679,487
Federal income taxes	1,050,623
State income taxes	99,422
Taxes Other Than Income Taxes	<u>1,780,282</u>
Total Operating Expenses	<u>22,354,990</u>
Net Operating Income	1,805,752
Other Income and Expense:	
Non regulated revenue	21,464
Non regulated expense	(136,790)
New Business	(15,045)
Gain on sale on non-utility property	(94,921)
Miscellaneous	(20,155)
Income Taxes on other Income and Exp	<u>64,866</u>
	(180,581)
Interest:	
Interest On Long-Term Debt	0
Other Interest	1,457,200
Interest Capitalized	(35,787)
Amort of Bond Prem and Exp, Net	<u>0</u>
	1,421,413
Equity Earnings of Subsidiaries	0
NET INCOME	<u><u>\$908,758</u></u>



Docket No. 2018-0388
Exhibit KWSC 2, Schedule J
Earnings Results for KWSC
Witness: Stout

Kona Water Service Company, Inc.
Earnings Results for KWSC Ending December 31, 2013

The total earnings results for the total utility operations of Applicant. The earnings for KWSC are shown on Exhibits 6 and 8

Option Elected by KWSC In Computing Deferred Taxes, Investment Tax Credit and Depreciation Deduction in determining its Federal Income Tax Payments, and whether KWSC Has Used the Same Method In Calculating Federal Income Taxes for the Test Year for Ratemaking Purposes

Deferred income taxes were based on depreciation provisions for federal income tax purposes by the Tax Cuts and Jobs Act of 2017. Under these statutes, state regulatory commissions calculate provision for federal income taxes at book rates, and then allow the utility to record the tax difference between book and federal and state depreciation as adjustments to rate base. For the test year, deferred income taxes were estimated based on the recent recorded accruals and forecasts of the new plant in the test year. Details of deferred taxes are shown in Exhibits KWSC Water 7.10 – 7.13 and KWSC Sewer 7.10 – 7.13.

**Statement Regarding Whether or Not the Increase Reflects and Passes Through to
Customers Only Increased Costs to the Applicant for the Services or Commodities
Furnished by It**

Applicant's proposed increases does not reflect and pass through to customers only increased costs to the applicant for the services or commodities furnished by it.

Kona Water Service Company, Inc. Consolidated Operations
 Revenue Requirements & Rate of Return Summary
 Test Year Ending December 31, 2019

Line No.	(1)	(2)	(3)	Change in Revenues
1	Present Rates	Additional Amount	Test Year Proposed Rates 7.48%	
2				
3				12.3%
4 Residential	\$ 3,492,029	\$ 355,542	\$ 3,847,571	
5 Non-Residential	\$ 554,862	\$ 70,524	\$ 625,386	
6 Power Cost Charge	\$ 1,301,467	\$ 234,150	\$ 1,535,617	
7 Total Operating Revenues	<u>\$ 5,348,358</u>	<u>\$ 660,216</u>	<u>\$ 6,008,574</u>	
8 Labor Expenses	\$ 1,160,955	\$ -	\$ 1,160,955	
9 Fuel & Power	\$ 1,537,335	\$ -	\$ 1,537,335	
10 Chemicals	\$ 117,707	\$ -	\$ 117,707	
11 Materials & Supplies	\$ 10,927	\$ -	\$ 10,927	
12 Waste/Sludge Disposal	\$ 3,506	\$ -	\$ 3,506	
13 Affiliated Charges	\$ 157,371	\$ -	\$ 157,371	
14 Professional and Outside Services	\$ 15,243	\$ -	\$ 15,243	
15 Repairs & Maintenance	\$ 200,640	\$ -	\$ 200,640	
16 Rental Expenses	\$ 36,645	\$ -	\$ 36,645	
17 Insurance Expenses	\$ 16,065	\$ -	\$ 16,065	
18 Regulatory Expenses	\$ 105,250	\$ -	\$ 105,250	
19 General & Administrative Expenses	\$ 58,367	\$ -	\$ 58,367	
20 Customer Accounts Expenses	\$ 24,151	\$ -	\$ 24,151	
21 Total O&M Expenses	<u>\$ 3,444,161</u>	<u>\$ -</u>	<u>\$ 3,444,161</u>	
22 Taxes Other than Income Taxes	\$ 341,493	\$ 42,155	\$ 383,647	
23 Depreciation	\$ 1,030,050		\$ 1,030,050	
24 Amortization	\$ -		\$ -	
25 Income Taxes	\$ 63,124	\$ 161,042	\$ 224,165	
26 Diff. due to changing factors		\$ (0)	\$ (0)	
27 Total Operating Expenses	<u>\$ 4,878,828</u>	<u>\$ 203,197</u>	<u>\$ 5,082,024</u>	
28 Operating Income	<u>\$ 469,531</u>	<u>\$ 457,019</u>	<u>\$ 926,550</u>	
29 Average Rate Base	\$ 12,387,033	\$ -	<u>\$ 12,387,033</u>	
30 Return on Rate Base	<u>3.79%</u>		<u>7.48%</u>	

Kona Water Service Company, Inc. Water Operations
 Average Rate Base
 Test Year Ending December 31, 2019

Line No.	Description	At Dec. 31, 2018	At Dec. 31, 2019	Average
3	Plant In Service	\$ 37,859,292	\$ 39,384,039	\$ 38,621,666
4	Accumulated Depreciation Reserve	\$ 12,820,299	\$ 14,075,139	\$ 13,447,719
5	Net Plant-in-Service	\$ 25,038,994	\$ 25,308,900	\$ 25,173,947
6	Deduct:			
7	Net Contributions in Aid of Construction	\$ (9,272,747)	\$ (9,047,956)	\$ (9,160,351)
8	Customer Advances	\$ -	\$ -	\$ -
9	Customer Deposits	\$ -	\$ -	\$ -
10	Accumulated Deferred Taxes: Federal	\$ (875,191)	\$ (890,833)	\$ (883,012)
11	Accumulated Deferred Taxes: State	\$ (247,770)	\$ (249,836)	\$ (248,803)
12	Unamortized Hawaii Capital Goods Excise Tax Credit	\$ (454,197)	\$ (471,554)	\$ (462,876)
13	Net Salvage Adjustment	\$ -	\$ -	\$ (232,871)
14	True-up Adjustment	\$ -	\$ -	\$ (1,640,057)
15	Makalei Committed Capacity			\$ (364,848)
16	Other Committed Capacity			\$ (81,109)
17	subtotal	\$ (10,849,905)	\$ (10,660,180)	\$ (13,073,927)
18	Add:			
19	Working Capital	\$ 287,014	\$ 287,014	\$ 287,014
20	subtotal	\$ 287,014	\$ 287,014	\$ 287,014
21	Subtotal	\$ 14,476,103	\$ 14,935,734	
22	Rate Base at Proposed Rates			\$ 12,387,033

KWSC Water

Line No.	Utility Account	Property Description	Plant in Service	In Service Date	Accumulated Depreciation 12/31/2017
1	103110	Structures & Improvement - Supply Plant			
2		30"x94" Steel Doors	\$ 21,066	9/17/2013	\$ 2,633
3		36"x94" Steel Doors	\$ 7,802	9/17/2013	\$ 975
4		Emergency Shower-HR1,HR5,Makalei	\$ 5,631	3/11/2015	\$ 500
5		Total	<u>\$ 34,499</u>		<u>\$ 4,109</u>
6	103210	Structures & Improvement - Pumping Plant			
7		Lawn Building	\$ 1,609	6/1/2012	\$ 300
8		Total	<u>\$ 1,609</u>		<u>\$ 300</u>
9	103310	Structures & Improvement - Treatment Plant			
10		1.0 MG Water Filtration Plant	\$ 2,647,464	12/15/2005	\$ 633,303
11		Total	<u>\$ 2,647,464</u>		<u>\$ 633,303</u>
12	103240	Pumping Equipment			
13		ABB 6" Electromagnetic Flowmeter	\$ 5,443	4/1/2014	\$ 510
14		Auto transfer switch @ RO Plant	\$ 2,618	11/1/2016	\$ 76
15		Check Valves for Wells	\$ 3,390	3/1/2016	\$ 155
16		Engineering Labor	\$ 1,660	9/1/2010	\$ 304
17		Field Labor	\$ 2,832	9/1/2010	\$ 519
18		HR1 motor starter	\$ 9,991	12/1/2016	\$ 271
19		HR-1 to 4 Pump	\$ 507,019	6/30/2003	\$ 507,019
20		HR2 well power transformer	\$ 23,786	10/1/2014	\$ 1,932
21		HR2 well pump	\$ 102,438	5/1/2015	\$ 10,043
22		HR2 well starter	\$ 11,342	12/1/2013	\$ 1,158
23		HR3 AB control module	\$ 1,657	12/1/2016	\$ 45
24		HR3 well pump	\$ 117,190	12/1/2016	\$ 4,668
25		HR3 Well Pump	\$ 91,569	10/1/2014	\$ 7,440
26		HR-5 Pump	\$ 506,136	6/30/2003	\$ 506,136
27		Replace Pump Equipment	\$ 189,989	9/1/2010	\$ 34,831
28		Engineering Labor	\$ 1,676	9/1/2010	\$ 307
29		Field labor	\$ 1,676	9/1/2010	\$ 307
30		Work Order Addition	\$ 19,334	9/1/2010	\$ 3,545
31		Work Order Addition	\$ 14,119	9/1/2010	\$ 2,588
32		Work Order Addition	\$ 11,588	9/1/2010	\$ 2,124
33		Work Order Addition	\$ 81,931	9/1/2012	\$ 10,936
34		Replace Check	\$ 115,038	9/1/2010	\$ 21,090
35		Standby Pump, Motor, and Protector	\$ 163,470	9/1/2010	\$ 29,969
36		Sub Column	\$ 63,466	9/1/2010	\$ 11,635
37		Pump and Motor Installation	\$ 73,230	9/1/2010	\$ 13,425
38		UME for well pump flow meter	\$ 75	12/1/2011	\$ 12
39		HR3 SCADA for Generator	\$ 781	5/1/2015	\$ 417
40		VFD drives @ booster pumps	\$ 3,476	6/1/2017	\$ 51
41		Total	<u>\$ 2,126,920</u>		<u>\$ 1,171,515</u>
42	103241	System Control Computer Equipment			
43		Foxboro Pressure Trans Cal 0-300 in PSI	\$ 3,053	9/1/2012	\$ 407
44		Foxboro Pressure Trans Cal 0-50 in H2O	\$ 4,580	9/1/2012	\$ 611
45		Foxboro Pressure Trans Cal 0-58 in H2O	\$ 3,053	9/1/2012	\$ 407
46		Foxboro Pressure Trans Cal 0-92 in H2O	\$ 1,527	9/1/2012	\$ 204
47		SCADA HR Well 5	\$ 647,485	1/1/2006	\$ 647,485

KWSC Water

Line No.	Utility Account	Property Description	Plant in Service	In Service Date	Accumulated Depreciation 12/31/2017
48		SCADA HR Wells 1-4	\$ 129,504	1/1/2006	\$ 129,504
49		SCADA Water Filtration Plant	\$ 146,947	3/31/2003	\$ 146,947
50		Total	<u>\$ 936,150</u>		<u>\$ 925,565</u>
51	103320	Water Treatment Plant			
52		6" check valve @ RO discharge	\$ 1,208	11/1/2017	\$ 7
53		Chemical Injection Pumps @ Makalei	\$ 1,911	8/1/2017	\$ 27
54		Chlorine Analyzer	\$ 5,529	3/1/2015	\$ 522
55		Degassing Station	\$ 88,034	3/31/2005	\$ 88,034
56		Grundfos chemical injection pump	\$ 1,890	11/1/2016	\$ 74
57		Grundfos chemical injection pump	\$ 1,096	11/1/2016	\$ 43
58		Kukio RO Plant VFD	\$ 2,012	4/1/2014	\$ 252
59		RO Membrane	\$ 181,840	12/1/2011	\$ 36,870
60		RO Membranes	\$ 52,490	6/1/2014	\$ 6,269
61		Total	<u>\$ 336,009</u>		<u>\$ 132,096</u>
62	103434	Transmission & Distribution Mains			
63		CIAC Phase 1A	\$ 2,209,833	1/1/2003	\$ 682,166
64		CIAC Phase 3 Increment 1	\$ 359,777	1/1/2007	\$ 78,274
65		CIAC Phase 3 Increment 2	\$ 420,555	1/1/2007	\$ 91,497
66		Flow Control Vault Lid	\$ 27,749	6/1/2011	\$ 4,567
67		Sampling Station	\$ 6,352	6/1/2013	\$ 757
68		Pressure Reducer (Outside the WFP)	\$ 5,000	1/1/2006	\$ 5,000
69		Road R and Access Road to 312'	\$ 28,004	10/31/2004	\$ 28,004
70		Road R and Access Road to 312'	\$ 2,284	12/31/2003	\$ 637
71		Road R and Access Road to 312'	\$ 598,554	3/31/2003	\$ 175,904
72		Total	<u>\$ 3,658,108</u>		<u>\$ 1,066,807</u>
73	103435	Ductile Iron Pipe			
74		CIAC - Distribution Water lines	\$ 2,553,915	1/1/2005	\$ 627,684
75		HR 1 to 4 Transmission(16" Waterline)	\$ 770,629	6/30/2003	\$ 222,626
76		HR-5 to Transmission to 620' and PR Tanks	\$ 3,693,579	6/30/2003	\$ 1,067,034
77		Transmission lines from the 620' down to the 312' 1MG tank (5K' of 16" line)	\$ 466,290	6/30/2003	\$ 134,706
78		Total	<u>\$ 7,484,413</u>		<u>\$ 2,052,050</u>
79	103164	Supply Mains			
80		HR5 12" butterfly valve	\$ 14,617	12/1/2016	\$ 396
81		Total	<u>\$ 14,617</u>		<u>\$ 396</u>
82	103480	Hydrants			
83		12 Fire Hydrants	\$ 29,795	5/1/2014	\$ 2,731
84		Total	<u>\$ 29,795</u>		<u>\$ 2,731</u>
85	103420	Reservoirs & Tanks			
86		312' .5MG Glass fused steel tank	\$ 730,957	1/1/2006	\$ 173,935
87		312' 1MG Glass fused steel tank	\$ 1,038,092	3/31/2003	\$ 305,333
88		620' .5MG Glass fused steel tank	\$ 732,112	6/30/2003	\$ 211,673
89		Anti climbs for Kona Water tanks A,B,C,#1	\$ 6,200	4/1/2012	\$ 1,224
90		field supervision	\$ 61,699	3/1/2010	\$ 8,946

KWSC Water

Line No.	Utility Account	Property Description	Plant in Service	In Service Date	Accumulated Depreciation 12/31/2017
91		Work Order Addition	\$ 6,787	3/1/2010	\$ 984
92		Total	<u>\$ 2,575,847</u>		<u>\$ 702,094</u>
93	103150	Wells			
94		HR3 4" Neptune water meter UME	\$ 803	11/1/2016	\$ 23
95		Total	<u>\$ 803</u>		<u>\$ 23</u>
96	103721	Electronic Equipment/Computers			
97		Work Order Addition	\$ 649	12/1/2010	\$ 649
98		Color Copier	\$ 5,897	12/1/2010	\$ 5,897
99		Total	<u>\$ 6,546</u>		<u>\$ 6,546</u>
100	103730	Transportation Equipment			
101		Tery X Mule	\$ 15,742	5/1/2011	\$ 14,993
102		Toyota Tacoma	\$ 39,247	3/1/2010	\$ 39,247
103		Toyota Tacoma	\$ 31,692	5/1/2011	\$ 30,183
104		2 Engines	\$ 6,071	12/1/2011	\$ 5,269
105		New med size DOT Approved Trailer	\$ 4,920	12/1/2013	\$ 2,870
106		F450 - Flat bed truck	\$ 56,542	5/1/2014	\$ 29,617
107		Total	<u>\$ 154,214</u>		<u>\$ 122,179</u>
108	103750	Laboratory Equipment			
109		Work Order Addition	\$ 232	12/1/2011	\$ 73
110		Work Order Addition	\$ 2,346	12/1/2011	\$ 743
111		Total	<u>\$ 2,577</u>		<u>\$ 816</u>
112	103740	Stores Equipment			
113		40' Storage Container	\$ 12,335	6/1/2013	\$ 1,414
114		Forklift, Yale 50LX	\$ 15,898	12/1/2016	\$ 431
115		Total	<u>\$ 28,232</u>		<u>\$ 1,844</u>
116	103780	Tools, Shop, Garage Equipment			
117		Fire Flow Test	\$ 866	12/1/2011	\$ 274
118		Spill Contain.	\$ 1,393	4/1/2012	\$ 412
119		Brush cutters	\$ 1,208	11/1/2016	\$ 86
120		Demolition Hammer & Accessories	\$ 1,646	9/1/2013	\$ 370
121		DR mower 20hp pro tow behind	\$ 3,351	4/1/2014	\$ 674
122		Portable meter	\$ 1,244	6/1/2013	\$ 316
123		Work Order Addition	\$ 33	9/1/2013	\$ 8
124		Work Order Addition	\$ 1,540	4/1/2012	\$ 456
125		Water Data Logger	\$ 3,073	6/1/2013	\$ 794
126		Water Main PSI Monitoring	\$ 3,539	6/1/2013	\$ 885
127		Weed sprayer 27gal	\$ 494	4/1/2014	\$ 99
128		Total	<u>\$ 18,387</u>		<u>\$ 4,373</u>

KWSC Water

Line No.	Utility Account	Property Description	Plant in Service	In Service Date	Accumulated Depreciation 12/31/2017
129	HAWAII GENERAL OFFICE				
130		790 Leasehold Improvements	\$ 16,865	5/1/15	\$ 749
131		desks, conf table, chairs	\$ 3,060	3/1/10	\$ 2,367
132		2 Cubical Work Stations	\$ 5,650	12/1/10	\$ 3,562
133		Cherry Desk	\$ 855	12/1/10	\$ 539
134		Cherry Drawer	\$ 71	12/1/10	\$ 45
135		Cherry Credenza	\$ 509	12/1/10	\$ 321
136		Cherry Corner Unit	\$ 404	12/1/10	\$ 255
137		Regency Library	\$ 284	12/1/10	\$ 179
138		Chairs	\$ 2,037	12/1/10	\$ 1,284
139		Cherry Desk Shell 66'	\$ 429	12/1/10	\$ 270
140		24" x 71" Credenza Shells	\$ 793	12/1/10	\$ 500
141		Cherry Keyboard Drawer	\$ 71	12/1/10	\$ 45
142		Executive Chair	\$ 391	12/1/10	\$ 247
143		Desk Pedestal F/F	\$ 468	12/1/10	\$ 295
144		Cherry Shelf Unit	\$ 308	12/1/10	\$ 194
145		Cherry Storage Hutch	\$ 487	12/1/10	\$ 307
146		Cherry Credenza 66"	\$ 333	12/1/10	\$ 210
147		Regency Desk	\$ 709	12/1/10	\$ 447
148		2 Drawer Lateral File	\$ 988	12/1/10	\$ 623
149		3, 42" 4 Drawer Lateral File Cabinets	\$ 2,868	12/1/10	\$ 1,808
150		Cherry Desk Pedestal B/B/F	\$ 513	12/1/10	\$ 323
151		Regency Lateral File	\$ 567	12/1/10	\$ 358
152		Fireproof safe for Customer Service office.	\$ 2,386	12/1/11	\$ 1,318
153		Ricoh Aficio MP C3001	\$ 3,044	5/1/15	\$ 203
154		790 Office Furniture	\$ 631	5/1/15	\$ 42
155		Automated Electronic Defibrillators	\$ 7,161	12/1/10	\$ 7,161
156		License for Capture Now	\$ 237	12/1/10	\$ 237
157		Fujitsu Fi6140 scanner	\$ 1,666	12/1/10	\$ 1,666
158		Ricoh MP 4001SP Copier w/Finisher	\$ 10,686	12/1/10	\$ 10,686
159		Monitors	\$ 1,207	12/1/10	\$ 1,207
160		Mitel EP Dig 6 Line Model 8560 Telephone	\$ 8,102	12/1/10	\$ 8,102
161		ELECTRONICS [681]	\$ 744	12/1/11	\$ 744
162		8-way video conferencing system	\$ 37,185	12/1/11	\$ 37,185
163		Hewlett Packard laser printer	\$ 1,111	12/1/11	\$ 1,111
164		Desktop-HIWKLCS40	\$ 807	12/1/14	\$ 355
165		Desktop-HIWKLCS39	\$ 807	12/1/14	\$ 355
166		Desktop-HIWKLCS37	\$ 807	12/1/14	\$ 355
167		Desktop-HIWKLCS38	\$ 807	12/1/14	\$ 355
168		Desktop-HIWKCLS36	\$ 807	12/1/14	\$ 355
169		Desktop-HIWKLCS41	\$ 807	12/1/14	\$ 355
170		790 Server & Server room upgrade	\$ 17,650	5/1/15	\$ 6,724
171		Hawaii Business Unit Software	\$ 132,361	12/1/10	\$ 132,361
172		RMS Software	\$ 92,429	3/1/14	\$ 8,858
173		phone system with 8 phones	\$ 24,859	3/1/10	\$ 24,859
174		Miscellaneous Kitchen Equipment	\$ 981	12/1/10	\$ 463
175		laptop for CS Mgr	\$ 1,496	4/1/14	\$ 225
176		Total	<u>\$ 387,436</u>		<u>\$ 260,210</u>

KWSC Water

Line No.	Utility Account	Property Description	Plant in Service	In Service Date	Accumulated Depreciation 12/31/2017
177		HAWAII GENERAL OFFICE ALLOCATIONS			
178		700 - Kaanapali	\$ 84,174	21.73%	\$ 56,533
179		701 - Pukalani	\$ 26,623	6.87%	\$ 17,880
180		721 - Waikoloa Water	\$ 49,713	12.83%	\$ 33,389
181		722 - Waikoloa Sewer	\$ 38,813	10.02%	\$ 26,067
182		723 - Waikoloa Resort Water	\$ 51,423	13.27%	\$ 34,537
183		724 - Waikoloa Resort Sewer	\$ 70,422	18.18%	\$ 47,297
184		725 - Waikoloa Resort Irrigation	\$ 2,893	0.75%	\$ 1,943
185		726 - Kona Water	\$ 40,900	10.56%	\$ 27,470
186		727 - Kona Sewer	\$ 22,474	5.80%	\$ 15,094

187 BIG ISLAND

188		(2)Replacement Op Computer Stations	\$ 2,081	12/1/13	\$ 1,214
189		Mobile office trailer	\$ 23,867	12/1/11	\$ 3,942
190		1996 Eagle Forklift	\$ 22,871	12/1/10	\$ 4,050
191		20' Container Shelving-Baseyard	\$ 931	6/1/15	\$ 60
192		20' Container Shelving-EMT	\$ 455	6/1/15	\$ 29
193		20' Container-Baseyard	\$ 10,373	6/1/15	\$ 670
194		20' Container-EMT	\$ 5,312	6/1/15	\$ 343
195		Storage Contr	\$ 3,187	12/1/10	\$ 1,505
196		Nissan Frontier	\$ 27,030	12/1/10	\$ 17,874
197		Nissan Titan	\$ 35,679	12/1/10	\$ 23,593
198		FORD XCAB	\$ 26,901	6/1/12	\$ 15,496
199		FORD XCAB	\$ 26,395	6/1/12	\$ 15,496
200		Ford F-150	\$ 30,500	9/1/12	\$ 15,757
201		Ford F-150	\$ 30,500	9/1/12	\$ 15,757
202		Ford F-150	\$ 30,500	9/1/12	\$ 15,757
203		FRONTIER	\$ 25,350	6/1/12	\$ 13,571
204		Ford Explorer	\$ 37,497	9/1/12	\$ 19,372
205		2014 Nissan Frontier. V214001	\$ 35,122	4/1/14	\$ 18,815
206		3 Ipad for Hawaii Island	\$ 2,542	9/1/13	\$ 1,574
207		Desk w Drawer	\$ 959	9/1/12	\$ 501
208		69"x43"x 18"	\$ 1,311	9/1/12	\$ 466
209		Diesel tank	\$ 725	12/1/11	\$ 110
210		GIS Software	\$ 7,621	12/1/11	\$ 7,621
211		Backflow Test Kit-Midwest 835	\$ 1,202	8/1/15	\$ 145
212		Big Island SCADA 2012	\$ 495,319	10/1/14	\$ 40,485
213		Book Case	\$ 298	9/1/12	\$ 155
214		Motorola Hardware	\$ 4,401	6/1/12	\$ 4,401
215		Work Order Addition	\$ 2,144	6/1/12	\$ 2,144
216		Misc. Wiring & Cables	\$ 544	6/1/12	\$ 544
217		Work Order Addition	\$ 747	6/1/12	\$ 747
218		1 desktops	\$ 1,133	4/1/13	\$ 769
219		1 desktops	\$ 1,133	4/1/13	\$ 769
220		Desktop-HIWKLOC56	\$ 1,572	12/1/14	\$ 693
221		Desktop-HIWKLOC57	\$ 1,613	12/1/14	\$ 710
222		dryer @ baseyard	\$ 503	4/1/17	\$ 9
223		Exec Chair	\$ 351	9/1/12	\$ 183
224		Work Order Addition	\$ 51	9/1/13	\$ 31
225		Work Order Addition	\$ 182	9/1/12	\$ 182
226		Work Order Addition	\$ 13,813	6/1/12	\$ 13,519
227		EMT Laptop	\$ 4,509	3/1/14	\$ 2,469
228		Hand Helds	\$ 19,147	12/1/10	\$ 19,147
229		Desk Dock	\$ 2,793	12/1/10	\$ 2,793
230		Personnel Lift	\$ 5,844	6/1/12	\$ 2,175

KWSC Water

Line No.	Utility Account	Property Description	Plant in Service	In Service Date	Accumulated Depreciation 12/31/2017
231		Software	\$ 2,995	9/1/12	\$ 2,995
232		Hardware	\$ 8,824	9/1/12	\$ 8,824
233		Gradall lifting hook attachment	\$ 2,427	12/1/14	\$ 263
234		Forklift	\$ 27,625	12/1/10	\$ 17,803
235		HON chair	\$ 636	2/1/14	\$ 101
236		Hydro Jetter	\$ 5,941	12/1/10	\$ 4,238
237		Ice Maker-Manitowac ID-0452A	\$ 4,536	9/1/16	\$ 403
238		Ingersoll Needle/Chisel Scl	\$ 773	9/1/13	\$ 123
239		Internal labor	\$ 21,402	7/1/13	\$ 3,210
240		Knoll task chair	\$ 13,806	2/1/14	\$ 2,186
241		1 laptops	\$ 1,165	4/1/13	\$ 791
242		1 laptops	\$ 1,165	4/1/13	\$ 791
243		Laptop, EMT-HIWKOCLT02	\$ 1,631	11/1/16	\$ 272
244		Lateral File	\$ 525	9/1/12	\$ 274
245		Work Order Addition	\$ 1,447	12/1/11	\$ 245
246		Work Order Addition	\$ 4,571	12/1/11	\$ 752
247		Work Order Addition	\$ 16,749	6/1/11	\$ 16,749
248		New IP phone system	\$ 19,704	6/1/13	\$ 12,901
249		New Hydraulic Hammer	\$ 9,847	12/1/13	\$ 2,010
250		Office Furnishings	\$ 6,706	2/1/14	\$ 1,062
251		Office furniture & equip	\$ 4,134	9/1/12	\$ 2,080
252		Work Order Addition	\$ 47	9/1/12	\$ 24
253		Work Order Addition	\$ 90	9/1/12	\$ 32
254		Portable generator 3500w, EMT's	\$ 518	12/1/16	\$ 28
255		Power Quality Analyzer	\$ 8,416	3/1/15	\$ 1,192
256		Printer Cart	\$ 75	9/1/12	\$ 39
257		Projector-Dell 1610HD	\$ 626	12/1/16	\$ 97
258		Electrical Upgrade	\$ 8,770	12/1/11	\$ 1,488
259		Respirator supplied air system	\$ 4,239	12/1/16	\$ 230
260		Richo Copier	\$ 10,588	11/1/11	\$ 10,588
261		Richo Fax Module	\$ 1,045	11/1/11	\$ 1,045
262		RICOH MPC3004-Engineering office	\$ 8,282	12/1/16	\$ 1,282
263		Rplc computer w/laptop for Eng Mgr	\$ 1,478	10/1/14	\$ 686
264		SCADA iNET-II 900 Dual Gateway	\$ 22,377	3/1/16	\$ 1,026
265		SCADA upgrade 2013	\$ 64,775	3/1/16	\$ 2,969
266		SCADAPack 32	\$ 10,539	3/1/16	\$ 483
267		Scaffolding	\$ 4,771	3/1/16	\$ 437
268		Work Order Addition	\$ 15	12/1/11	\$ 2
269		Tools & Equipment	\$ 994	6/1/13	\$ 228
270		Trailer, emergency compressor	\$ 426	3/1/16	\$ 39
271		Trailer, emergency generator EG6500	\$ 2,073	3/1/16	\$ 190
272		Trailer, emergency 6'x12' w/ramp	\$ 7,800	3/1/16	\$ 715
273		Work Order Addition	\$ 58,793	9/1/12	\$ 30,481
274		V208214, Ford F-150	\$ 6,817	12/1/10	\$ 4,963
275		V208216, Chevy Silverad	\$ 9,017	12/1/10	\$ 6,564
276		V208217, Chevy 3500	\$ 29,139	12/1/10	\$ 21,212
277		V208222, '08 TOY 4 RUNNER	\$ 32,269	12/1/08	\$ 28,143
278		Visitor Chair	\$ 169	9/1/12	\$ 88
279		Air Compressor, portable	\$ 21,139	9/1/17	\$ 470
280		Septic Tank, Baseyard	\$ 15,054	9/1/17	\$ 376
281		Socket fusion kit, 20-63mm	\$ 662	12/1/17	\$ 7
282		Socket welding prep	\$ 1,587	12/1/17	\$ 3
283		Handheld Meter Readers	\$ 8,673	10/31/17	\$ 145
284		Portable Air Compressor	\$ 21,139	6/30/17	\$ 1,057
285		Jetting/Vacuum Truck/Pukalani	\$ 328,447	7/1/13	\$ 51,092
286		Jetting/Vacuum Truck/Pukalani	\$ 6,577	7/1/13	\$ 1,023

KWSC Water

Line No.	Utility Account	Property Description	Plant in Service	In Service Date	Accumulated Depreciation 12/31/2017
263		Total	<u>\$ 1,799,041</u>		<u>\$ 532,163</u>
264		BIG ISLAND ALLOCATIONS			
265		721 - Waikoloa Water	\$ 329,834	18.33%	\$ 97,566
266		722 - Waikoloa Sewer	\$ 250,340	13.92%	\$ 74,051
267		723 - Waikoloa Resort Water	\$ 344,270	19.14%	\$ 101,836
268		724 - Waikoloa Resort Sewer	\$ 456,969	25.40%	\$ 135,173
269		725 - Waikoloa Resort Irrigation	\$ 18,315	1.02%	\$ 5,418
270		726 - Kona Water	\$ 258,956	14.39%	\$ 76,600
271		727 - Kona Sewer	\$ 140,357	7.80%	\$ 41,518

SECTION D-1

Water Service Rates

Meter Charge

<u>Meter Size / Service</u>	Monthly Charge per Installed Meter (First Phase 8/4/15)	Monthly Charge per Installed Meter (second Phase 2/4/16)
5/8"	\$ 13.80	\$ 13.80
1"	\$ 26.40	\$ 26.40
1 1/2"	\$ 46.20	\$ 46.20
2"	\$ 63.10	\$ 63.10
3"	N/A	\$ 63.10
4"	\$166.40	\$166.40
Greater than 4"	N/A	\$166.40

Ready to Serve Charge

<u>Includes usage up to 10,000 gallons per month</u>	Monthly Charge per Installed Meter (First Phase 8/4/15)	Monthly Charge per Installed Meter (Second Phase 2/4/16)
Residential	\$ 246.00	\$ 356.40
Cottages	\$ 184.40	\$ 267.30
Business	\$ 246.00	\$ 356.40
Agriculture	\$	

Quantity Charge

<u>Gallons per month per meter</u>	Rate per Thousand Gallons (First Phase 8/4/15)	Rate per Thousand Gallons (First Phase 2/4/16)
0 – 10,000 gallons	\$ 0	\$ 0
10,001 – 29,999 gallons	\$ 3.3688	\$ 3.3688
30,000 – 74,999 gallons	\$ 6.2063	\$ 6.2063
75,000 and over	\$ 9.0438	\$ 9.0438

KONA WATER SERVICE COMPANY, INC.
A subsidiary of Hawaii Water Service Company, Inc.
Kukio, Hawaii

Docket No. 2018-0388
Exhibit KWSC Water 4
Present Rate Schedule
Tariff No. 0115
Witness: Stout

Second Revised Sheet No. 52
Cancels First Revised Sheet No. 52

Bulk Interruptible Rate

Bulk Interruptible Rate* \$2.3069 per thousand gallons of untreated water

* Pursuant to Decision and Order No. 21836 filed on May 25, 2005 in Docket No. 04-0137, untreated, non-potable water is available from the Company at the above bulk rate on an interruptible basis in an "as is/where is" condition without any warranties of fitness or water quality, subject to Company's rights to use said water for its potable needs. A customer shall, at its sole cost and expense, be responsible for transporting, and for obtaining all governmental approvals and access rights needed to transport, the non-potable water from the bypass located prior to the RO demineralizer facility on the Company water system to the customer's property. The customer shall also be responsible for complying with all applicable provisions in the Rules and Regulations. The customer shall submit construction plans for its water system facilities (including the meter) for review and approval by the Company prior to the commencement of any such construction. The Company's approval or disapproval of said construction plans shall not be considered any representation of, and shall not make the Company responsible for, the safety, merchantability, functionality or soundness of said facilities or their compliance with governmental codes or other laws, rules, regulations or requirements. The customer will be solely responsible, at its own risk and expense, for maintaining, repairing and keeping in good and safe condition the customer's water system facilities (minus the meter and the service connection).

POWER COST CHARGE

In addition to the monthly stand-by charge and monthly quantity charge, there shall be a Power Cost Charge per 1,000 gallons of metered water usage per month. The amount of the Power Cost Charge shall be calculated as follows:

Actual cost per kWh x (18.71 kWh/thousand gallons) x 1.06385 (Public service company tax and PUC fee)

KONA WATER SERVICE COMPANY, INC.
 A subsidiary of Hawaii Water Service Company, Inc.
 Kukio, Hawaii

Tariff No. 1
 Third Revised Sheet No. 51
 Cancels Second Sheet No. 51

SECTION D-1

Water Service Rates

Meter Charge

<u>Meter Size</u> <u>/ Service</u>	Monthly Charge per Installed Meter
5/8"	\$ 15.57
3/4"	\$ 15.57
1"	\$ 29.85
1 1/2"	\$ 52.34
2"	\$ 71.39
3"	\$142.79
4"	\$237.97
6"	\$475.98
8"	\$856.74

Ready to Serve Charge

Includes usage up to 10,000 gallons per month	Monthly Charge per Installed Meter
Residential	\$ 386.76
Cottages	\$ 290.07
Business	\$ 386.76

Quantity Charge

Gallons per month per meter	Rate per Thousand Gallons
0 – 10,000 gallons	\$ 0.0000
10,001 – 29,999 gallons	\$ 3.6558
30,000 – 74,999 gallons	\$ 6.7349
75,000 and over	\$ 9.8141

Issued:
 By: Paul Townsley, Vice President - Regulatory

Effective:

KONA WATER SERVICE COMPANY, INC.
A subsidiary of Hawaii Water Service Company, Inc.
Kukio, Hawaii

Third Revised Sheet No. 52
Cancels Second Revised Sheet No. 52

Bulk Interruptible Rate

Bulk Interruptible Rate* \$2.5034 per thousand gallons of untreated water

* Pursuant to Decision and Order No. 21836 filed on May 25, 2005 in Docket No. 04-0137, untreated, non-potable water is available from the Company at the above bulk rate on an interruptible basis in an "as is/where is" condition without any warranties of fitness or water quality, subject to Company's rights to use said water for its potable needs. A customer shall, at its sole cost and expense, be responsible for transporting, and for obtaining all governmental approvals and access rights needed to transport, the non-potable water from the bypass located prior to the RO demineralizer facility on the Company water system to the customer's property. The customer shall also be responsible for complying with all applicable provisions in the Rules and Regulations. The customer shall submit construction plans for its water system facilities (including the meter) for review and approval by the Company prior to the commencement of any such construction. The Company's approval or disapproval of said construction plans shall not be considered any representation of, and shall not make the Company responsible for, the safety, merchantability, functionality or soundness of said facilities or their compliance with governmental codes or other laws, rules, regulations or requirements. The customer will be solely responsible, at its own risk and expense, for maintaining, repairing and keeping in good and safe condition the customer's water system facilities (minus the meter and the service connection).

POWER COST CHARGE

In addition to the monthly stand-by charge and monthly quantity charge, there shall be a Power Cost Charge per 1,000 gallons of metered water usage per month. The amount of the Power Cost Charge shall be calculated as follows:

Actual cost per kWh x (22.4602 kWh/thousand gallons) x 1.06385 (Public service company tax and PUC fee)

Issued:
By: Paul Townsley, Vice President - Regulatory

Effective:

KONA WATER SERVICE COMPANY, INC.
 A subsidiary of Hawaii Water Service Company, Inc.
 Kukio, Hawaii

Tariff No. 1
 Third Revised Sheet No. 53
 Cancels Second Revised Sheet No. 53

SECTION D-2

Sewer Service Rates

GENERAL USE RATES

Stand-By Charges:

Applicability	Monthly Charge
Residential – per dwelling unit per month	\$ 528.72
Commercial – per connection per month	\$ 528.72

Quantity Charge:

In addition to the stand-by charge, a customer shall pay a monthly sewer charge per 1,000 gallons of metered domestic water consumption as shown in the following table.

Applicability	Rate per thousand gallons
Residential – up to 7,000 gallons of metered domestic water consumption	\$23.8461
Business with water meter up to 1” – up to 7,000 gallons of metered domestic water consumption	\$23.8461
Business with water meter greater than 1” – 40% of metered domestic water consumption	\$23.8461

POWER COST CHARGE

In addition to the monthly stand-by charge and monthly quantity charge, there shall be a Power Cost Charge per 1,000 gallons of metered water usage per month up to 7,000 gallons per month for residential customers and for business customers with meters up to 1” and 40% of the metered water consumption for business customers with meters greater than 1”. The amount of the Power Cost Charge shall be calculated as follows:

Previous Month’s Electricity Cost
 Divided by Previous Month’s Total Metered TG of Water
 Times 1.06385 (Public service company tax and PUC fee)

TG = Thousand Gallons of metered domestic water consumption

Issued:
 By: Paul Townsley, Vice President - Regulatory

Effective:

Kona Water Service Company, Inc. Water Operations
 Revenue Requirements & Rate of Return Summary
 Test Year Ending December 31, 2019

Line No.	(1)	(2)	(3)	Change in Revenues
	Present Rates	Additional Amount	Test Year Proposed Rates 7.48%	
1				
2				
3				12.8%
4 Residential	\$ 2,038,879	\$ 176,593	\$ 2,215,472	
5 Non-Residential	\$ 321,750	\$ 41,817	\$ 363,567	
6 Power Cost Charge	\$ 1,168,199	\$ 234,150	\$ 1,402,348	
7 Total Operating Revenues	<u>\$ 3,528,828</u>	<u>\$ 452,560</u>	<u>\$ 3,981,387</u>	
8 Labor Expenses	\$ 675,146	\$ -	\$ 675,146	
9 Fuel & Power	\$ 1,402,846	\$ -	\$ 1,402,846	
10 Chemicals	\$ 114,012	\$ -	\$ 114,012	
11 Materials & Supplies	\$ 1,961	\$ -	\$ 1,961	
12 Waste/Sludge Disposal	\$ -	\$ -	\$ -	
13 Affiliated Charges	\$ 101,687	\$ -	\$ 101,687	
14 Professional and Outside Services	\$ 9,025	\$ -	\$ 9,025	
15 Repairs & Maintenance	\$ 92,007	\$ -	\$ 92,007	
16 Rental Expenses	\$ 23,333	\$ -	\$ 23,333	
17 Insurance Expenses	\$ 10,352	\$ -	\$ 10,352	
18 Regulatory Expenses	\$ 52,750	\$ -	\$ 52,750	
19 General & Administrative Expenses	\$ 33,343	\$ -	\$ 33,343	
20 Customer Accounts Expenses	\$ 14,564	\$ -	\$ 14,564	
21 Total O&M Expenses	<u>\$ 2,531,024</u>	<u>\$ -</u>	<u>\$ 2,531,024</u>	
22 Taxes Other than Income Taxes	\$ 225,316	\$ 28,896	\$ 254,212	
23 Depreciation	\$ 476,258		\$ 476,258	
24 Amortization	\$ -		\$ -	
25 Income Taxes	\$ 29,255	\$ 110,390	\$ 139,645	
26 Diff. due to changing factors		\$ (0)	\$ (0)	
27 Total Operating Expenses	<u>\$ 3,261,853</u>	<u>\$ 139,286</u>	<u>\$ 3,401,138</u>	
28 Operating Income	<u>\$ 266,975</u>	<u>\$ 313,274</u>	<u>\$ 580,249</u>	
29 Average Rate Base	<u>\$ 7,757,346</u>	<u>\$ -</u>	<u>\$ 7,757,346</u>	
30 Return on Rate Base	<u>3.44%</u>		<u>7.48%</u>	

Kona Water Service Company, Inc. Water Operations
 Revenue Requirements Support
 Test Year Ending December 31, 2019

Line No.				
1	Gross Revenue Factor		1.000000	
2	Additional Revenue			
3	Less:			
4	Bad Debts	0.000000		
5	PSCT	0.058850		
6	PUC Fee	0.005000		
7	Franchise	<u>0.000000</u>	<u>0.063850</u>	0.06385
8	Subject to Income Tax			
9	Less:		0.936150	
10	State Income Tax	0.050560		0.047331
11	Federal Income Tax	0.210000		0.196592
12		0.260560	<u>0.243923</u>	
13	Remaining for Net Income		<u>0.692227</u>	
14	Expense for each \$1 of Revenue		<u>0.307773</u>	
15	Factor for Moving Rate Base			
16	=	(1-Bad Debt%-Revenue Taxes-Income tax on Addl. Revenue)		
17			<u>0.6922270465</u>	
18	Revenue Factor		1.444612725	
19	<u>Additional Revenue Requirements</u>			
20	Proposed rate of return			7.48%
21	Multiply rate base @ present rates by the above proposed ROR			580,249
22	Subtract the net income @ present rates from the above net income			313,274
23	Divide the above difference by the moving rate base factor to			
24	determine the additional revenue requirements @ the proposed ROR			452,560
25	Multiply the add'l revenues by the bad debt factor			0
26	Multiply the add'l revenues by the revenue tax factor			28896
27	Multiply the add'l revenues by the inc tax on add'l revenue			110390
28	Total Expenses at Proposed Rates			3,401,138
29	Subtract total expense from total revenues @ proposed rates			580,249
30	Subtract NI before WC change from NI after WC change			0.0
31	Divide change in NI by desired rate of return			0.0
32	Calculate change in rate base			7,757,346
33	Test - Divide NI by rate base			7.48%

Kona Water Service Company, Inc. Water Operations
 Average Rate Base
 Test Year Ending December 31, 2019

Line No.	Description	At Dec. 31, 2018	At Dec. 31, 2019	Average
3	Plant In Service	\$ 21,219,001	\$ 22,357,308	\$ 21,788,154
4	Accumulated Depreciation Reserve	\$ 7,447,069	\$ 8,012,586	\$ 7,729,828
5	Net Plant-in-Service	\$ 13,771,932	\$ 14,344,722	\$ 14,058,327
6	Deduct:			
7	Net Contributions in Aid of Construction	\$ (3,982,952)	\$ (3,893,692)	\$ (3,938,322)
8	Customer Advances	\$ -	\$ -	\$ -
9	Customer Deposits	\$ -	\$ -	\$ -
10	Accumulated Deferred Taxes: Federal	\$ (562,321)	\$ (607,306)	\$ (584,814)
11	Accumulated Deferred Taxes: State	\$ (159,235)	\$ (171,958)	\$ (165,596)
12	Unamortized Hawaii Capital Goods Excise Tax Credit	\$ (278,163)	\$ (295,947)	\$ (287,055)
13	Net Salvage Adjustment	\$ -	\$ -	\$ (123,445)
14	True-up Adjustment	\$ -	\$ -	\$ (966,710)
15	Makalei Committed Capacity			\$ (364,848)
16	Other Committed Capacity			\$ (81,109)
17	subtotal	\$ (4,982,671)	\$ (4,968,904)	\$ (6,511,900)
18	Add:			
19	Working Capital	\$ 210,919	\$ 210,919	\$ 210,919
20	subtotal	\$ 210,919	\$ 210,919	\$ 210,919
21	Subtotal	\$ 9,000,180	\$ 9,586,737	
22	Rate Base at Proposed Rates			\$ 7,757,346

Kona Water Service Company, Inc. Water Operations
 Rate Base Support
 Test Year Ending December 31, 2019

Line
 No.

1 Rate Base @ Dec. 31, 2018

	Kona Water Service Company, Inc. Water Operations	Adjustments	
2	<u>Description</u>		
3	Plant In Service	\$ -	\$ 21,219,001
4	Accumulated Depreciation Reserve	\$ -	\$ 7,447,069
5	Net Plant-in-Service	\$ -	\$ 13,771,932
6	Deduct:		
7	Net Contributions in Aid of Construction	\$ -	\$ (3,982,952)
8	Customer Advances	\$ -	\$ -
9	Customer Deposits	\$ -	\$ -
10	Accumulated Deferred Taxes: Federal	\$ -	\$ (562,321)
11	Accumulated Deferred Taxes: State	\$ -	\$ (159,235)
	Unamortized Hawaii Capital Goods	\$ -	\$ (278,163)
12	Excise Tax Credit	\$ -	\$ -
13	subtotal	\$ -	\$ (4,982,671)
14	Add:		
15	Working Capital	\$ -	\$ 210,919
16	subtotal	\$ -	\$ 210,919

17 Rate Base @ Dec. 31, 2019

	Kona Water Service Company, Inc. Water Operations	Adjustments	
18	<u>Description</u>		
19	Plant In Service	\$ -	\$ 22,357,308
20	Accumulated Depreciation Reserve	\$ -	\$ 8,012,586
21	Net Plant-in-Service	\$ -	\$ 14,344,722
22	Deduct:		
23	Net Contributions in Aid of Construction	\$ -	\$ (3,893,692)
24	Customer Advances	\$ -	\$ -
25	Customer Deposits	\$ -	\$ -
26	Accumulated Deferred Taxes: Federal	\$ -	\$ (607,306)
27	Accumulated Deferred Taxes: State	\$ -	\$ (171,958)
	Unamortized Hawaii Capital Goods	\$ -	\$ (295,947)
28	Excise Tax Credit	\$ -	\$ -
29	subtotal	\$ -	\$ (4,968,904)
30	Add:		
31	Working Capital	\$ -	\$ 210,919
32	subtotal	\$ -	\$ 210,919

Kona Water Service Company, Inc. Water Operations
 Plant Additions (1/1/18 to 12/31/19)
 Test Year Ending December 31, 2019

Line No.	Description	Pumps	T&D / Services	Land	Power Generation Equipment	Structures	Treatment Equip	Reservoirs	Wells	Transportation	Tools	Office Equip	General Plant	Intangible	Total
1	Breakdown of Capital Additions:														
	Projects closed to plant 1/1/2018 to 12/31/2018:														
2	Pre-filter Skid Platform (WO 97224)	\$ -	\$ -	\$ -	\$ -	\$ 30,873	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30,873
4	HR-1 Well Pump (WO 103789)	\$ 101,064	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 101,064
5	Transmission system assessment (WO 108099)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 38,482	\$ 38,482
6	Kukio RO EC Sensor (WO 103369)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,407	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,407
7	HR-2 Well Pump Replacement (WO 109757)	\$ 64,054	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 64,054
8	Chemical containment pallets (WO 102601)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,161	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,161
9	Mauka SCADA generators (WO 102602)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,617	\$ -	\$ -	\$ -	\$ 4,617
10	Metal detector (WO 102603)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,035	\$ -	\$ -	\$ -	\$ 1,035
11	Safety Cabinets (WO 106194)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,941	\$ -	\$ -	\$ -	\$ 2,941
12	HR-1 & HR-4 Meter Replacement (WO 113505)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 696	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 696
13	RO Plant Surge Suppressor (WO 114855)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14	HR-2 6" Gate Valve Replacement (WO 116460)	\$ 3,509	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,509
15	Pre-Filter Pressure Vessel (WO 92477)	\$ -	\$ -	\$ -	\$ -	\$ 2,302	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,302
16	Staircases for RO Plant (WO 97225)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 54,241	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 54,241
17	RO Membrane Train B (WO 97226)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
18	HR-4 Well Pump Equipment (WO 112204)	\$ 177,751	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 177,751
19	HR-2 Well Pump Equipment (WO 114639)	\$ 111,601	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 111,601
20	HR-5 Power Transformer (WO 114685)	\$ 58,214	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 58,214
21	Water Quality Sensors (WO 97226)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15,194	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15,194
22	Victaulic Coupling (WO 97230)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,435	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,435
23	10" Gate Valve (WO 108112)	\$ -	\$ 10,400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,400
24	Kukio FCV Via-val Pilot Filter (WO 117161)	\$ -	\$ 3,697	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,697
25	HR-5 Solenoid and Valve (WO 118186)	\$ 8,648	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,648
26	RO Bypass Blend Controller (WO 119025)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
27	RO Plant Overhead Lighting (WO 118185)	\$ -	\$ -	\$ -	\$ -	\$ 6,305	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,305
28	Total	\$ 524,841	\$ 16,125	\$ -	\$ -	\$ 39,765	\$ 167,131	\$ -	\$ -	\$ -	\$ 8,593	\$ -	\$ -	\$ 38,482	\$ 794,933
29	Projects closed to plant 1/1/2019 to 12/31/2018:														
30	Critical Infrastructure - Well Pump (WO 118337)	\$ 103,892	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 103,892
31	Power System Assessment (WO 118149)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 41,410	\$ -	\$ -	\$ -	\$ -	\$ 41,410
32	Superintendent Vehicle (replacement) (WO 118345)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,688	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,688
33	Sampling Station (WO 118151)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
34	SCADA Computer & Software (WO 112030)	\$ 38,445	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 311,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 349,445
35	Tank Modulating Float Valves (WO 112045)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
36	HR-1 - HR-5 Power Monitors (WO 112031)	\$ 16,441	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16,441
37	HR-1 - HR-5 Well Pump Equipment (WO 118614)	\$ 44,313	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 44,313
38	Meter Replacement Program (WO 118392)	\$ 82,586	\$ 17,448	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 100,034
39	Junction Boxes for Pump Leads (WO 118150)	\$ -	\$ -	\$ -	\$ -	\$ 66,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 66,000
40	Kukio Office Expansion (WO 67607)	\$ 99,302	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 99,302
41	HR-3 Well Pump Equipment (WO 119302)	\$ 201,840	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 201,840
42	HR-5 Well Pump Equipment (WO 119543)	\$ -	\$ -	\$ -	\$ -	\$ 66,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 66,000
43	Total	\$ 587,920	\$ 17,448	\$ -	\$ -	\$ 66,000	\$ 12,688	\$ 311,000	\$ -	\$ 41,410	\$ -	\$ -	\$ -	\$ 25,526	\$ 1,062,002
44	Hawaii Water General Office Capital Projects (790)														
45	Projects closed to plant 1/1/2019 to 12/31/2018:														
46	Wastewater Manager Vehicle (WO 119213)	\$ 78,082	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 44,547	\$ -	\$ -	\$ -	\$ -	\$ 122,629
47	SCADA Upgrade 2018 (WO 118883)	\$ 78,082	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 44,547	\$ -	\$ -	\$ -	\$ -	\$ 122,629
48	Total	\$ 156,164	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 89,094	\$ -	\$ -	\$ -	\$ -	\$ 245,258
49	KWSC Water Allocation														\$ 13,032
50	Big Island Capital Projects (720)														
51	Projects closed to plant 1/1/2018 to 12/31/2018:														
52	Iron Handheld Meter Readers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 26,765	\$ -	\$ -	\$ -	\$ 26,765
53	Engineering PM Vehicle	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 32,468	\$ -	\$ -	\$ -	\$ -	\$ 32,468

Kona Water Service Company, Inc. Water Operations
 Accumulated Depreciation and Amortization of Intangibles
 Test Year Ending December 31, 2019

Line No.	Description	Actual Cost		Dep. Exp.		Retirements		Adjustments		Balance as of		Dep. Exp.		Retirements		Adjustments		Test Year Balance as of		
		Dec. 31, 2017	Dec. 31, 2018	Jan. 1, 2017	Dec. 31, 2018	Jan. 1, 2018	Dec. 31, 2018	Jan. 1, 2018	Dec. 31, 2018	Jan. 1, 2018	Dec. 31, 2018	Jan. 1, 2018	Dec. 31, 2018	Jan. 1, 2019	Dec. 31, 2019	Jan. 1, 2019	Dec. 31, 2019	Jan. 1, 2019	Dec. 31, 2019	Jan. 1, 2019
1	Intangible	\$ -	\$ 38,482	\$ -	\$ 3,848	\$ -	\$ -	\$ -	\$ -	\$ 3,848	\$ -	\$ 6,401	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,249	\$ -
2	Land and land rights	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3	Structures and Improvements	\$ 2,683,572	\$ 2,723,337	\$ 637,711	\$ 83,133	\$ -	\$ -	\$ -	\$ -	\$ 720,844	\$ 84,684	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 805,528	\$ -
4	Pumping Equipment	\$ 3,166,424	\$ 3,587,911	\$ 2,097,080	\$ 140,881	\$ -	\$ -	\$ -	\$ -	\$ 2,237,961	\$ 166,763	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,404,725	\$ -
5	Treatment Equipment	\$ 336,009	\$ 503,140	\$ 132,096	\$ 10,616	\$ -	\$ -	\$ -	\$ -	\$ 142,712	\$ 10,884	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 153,597	\$ -
6	Transmission & Distribution Plant	\$ 11,186,934	\$ 11,203,059	\$ 3,121,983	\$ 183,785	\$ -	\$ -	\$ -	\$ -	\$ 3,305,769	\$ 184,658	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,490,426	\$ -
7	Reservoirs	\$ 2,575,847	\$ 2,575,847	\$ 702,094	\$ 68,002	\$ -	\$ -	\$ -	\$ -	\$ 770,097	\$ 76,213	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 846,310	\$ -
8	Wells	\$ 803	\$ 803	\$ 23	\$ 22	\$ -	\$ -	\$ -	\$ -	\$ 45	\$ 22	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 67	\$ -
9	Office Furniture and Equipment	\$ 6,546	\$ 6,546	\$ 6,546	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,546	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,546	\$ -
10	Transportation	\$ 154,214	\$ 154,214	\$ 122,179	\$ 4,858	\$ -	\$ -	\$ -	\$ -	\$ 127,037	\$ 6,162	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 133,199	\$ -
11	Tools and Laboratory Equipment	\$ 48,197	\$ 57,790	\$ 5,190	\$ 2,613	\$ -	\$ -	\$ -	\$ -	\$ 7,803	\$ 2,613	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,416	\$ -
12	General Plant	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13	Asset Retirement Obligation	\$ 40,900	\$ 40,900	\$ 27,470	\$ 896	\$ -	\$ -	\$ -	\$ -	\$ 28,365	\$ 1,780	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30,145	\$ -
14	Hawaii Water GO Allocation	\$ 258,956	\$ 326,970	\$ 76,600	\$ 19,442	\$ -	\$ -	\$ -	\$ -	\$ 96,042	\$ 25,338	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 121,379	\$ -
15	Big Island Allocation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
16	Total	\$ 20,459,402	\$ 21,219,001	\$ 6,928,972	\$ 518,097	\$ -	\$ -	\$ -	\$ -	\$ 7,447,069	\$ 565,517	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,012,586	\$ -

Kona Water Service Company, Inc. Water Operations
 Depreciation Expense (Book)
 Test Year Ending December 31, 2019

Line No.	Description	Acc. Dep.		Dep. Exp.		Acc. Dep.		Dep. Exp.		Test Year	
		Dec. 31, 2017	Dec. 31, 2018	Jan. 1, 2018 to Dec. 31, 2018	Dec. 31, 2018	Jan. 1, 2019 to Dec. 31, 2019	Dec. 31, 2019	Acc. Dep.	Dec. 31, 2019		
1		\$ -	\$ -	\$ 3,848	\$ 3,848	\$ -	\$ -	\$ 6,401	\$ -	\$ 10,249	
2		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
3	Intangible	\$ 637,711	\$ 83,133	\$ -	\$ -	\$ 84,684	\$ 720,844	\$ -	\$ 84,684	\$ 805,528	
4	Land and land rights	\$ 2,097,080	\$ 140,881	\$ 140,881	\$ 2,237,961	\$ 166,763	\$ 2,404,725	\$ 10,884	\$ 153,597	\$ 2,404,725	
5	Structures and Improvements	\$ 132,096	\$ 10,616	\$ 10,616	\$ 142,712	\$ 10,884	\$ 153,597	\$ 95,398	\$ 3,311,907	\$ 3,311,907	
6	Pumping Equipment	\$ 3,121,983	\$ 94,526	\$ 94,526	\$ 3,216,509	\$ 76,213	\$ 3,292,722	\$ 76,213	\$ 846,310	\$ 3,292,722	
7	Treatment Equipment	\$ 702,094	\$ 68,002	\$ 68,002	\$ 770,097	\$ 22	\$ 792,099	\$ 22	\$ 67	\$ 792,099	
8	Transmission & Distribution Plant	\$ 23	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
9	Reservoirs	\$ 6,546	\$ -	\$ -	\$ 6,546	\$ -	\$ 6,546	\$ -	\$ 6,546	\$ 6,546	
10	Wells	\$ 122,179	\$ 4,858	\$ 4,858	\$ 127,037	\$ 6,162	\$ 133,199	\$ 6,162	\$ 133,199	\$ 133,199	
11	Office Furniture and Equipment	\$ 5,190	\$ 2,613	\$ 2,613	\$ 7,803	\$ -	\$ 7,803	\$ -	\$ -	\$ 7,803	
12	Transportation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
13	Tools and Laboratory Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
14	General Plant	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
15	Asset Retirement Obligation	\$ 27,470	\$ 896	\$ 896	\$ 28,366	\$ 1,780	\$ 30,145	\$ 1,780	\$ 30,145	\$ 30,145	
16	Hawaii Water GO Allocation	\$ 76,600	\$ 19,442	\$ 19,442	\$ 96,042	\$ 25,338	\$ 121,379	\$ 25,338	\$ 121,379	\$ 121,379	
17	Big Island Allocation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
18		\$ 6,928,972	\$ 428,837	\$ 428,837	\$ 7,357,809	\$ 476,258	\$ 7,834,067	\$ 476,258	\$ 7,834,067	\$ 7,834,067	
19	Total	\$ 6,928,972	\$ 428,837	\$ 428,837	\$ 7,357,809	\$ 476,258	\$ 7,834,067	\$ 476,258	\$ 7,834,067	\$ 7,834,067	

Kona Water Service Company, Inc. Water Operations
 Accumulated Depreciation and Depreciation Expense Detail
 Ten Year Ending December 31, 2019

Line No.	Account	Description	Plant Balance (12/31/2017)	Accumulated Depreciation Reserve (12/31/2017)	2018 Additions	2018 Adjustments	Plant Balance (12/31/2018)	Present Rate	Proposed Rate	Depreciation Expense (Present Rate)	Depreciation Expense (Proposed Rate)	2019 Additions	2019 Retirements	Plant Balance (12/31/2019)	Depreciation Expense (Present Rate)	Depreciation Expense (Proposed Rate)	Accumulated Depreciation Reserve (12/31/2019)	
KWSC Water																		
2	Non Depreciable Plant																	
3	103000	Inseparable Plant	\$ -	\$ -	\$ 38,482	\$ -	\$ 38,482	10.00%	10.00%	\$ -	\$ -	\$ 25,526	\$ -	\$ 64,009	\$ 6,401	\$ 6,401	\$ 10,949	
4	103001	Land	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%	0.00%	\$ -	\$ -	\$ 25,526	\$ -	\$ 64,009	\$ -	\$ -	\$ 10,949	
5	Total Non Depreciable Plant		\$ -	\$ -	\$ 38,482	\$ -	\$ 38,482			\$ -	\$ -	\$ 25,526	\$ -	\$ 64,009	\$ 6,401	\$ 6,401	\$ 10,949	
Depreciable Plant																		
7	Structures and Improvements																	
8	103110	Structures & Improvement - Supply Plant	\$ 34,499	\$ 4,109	\$ 30,873	\$ -	\$ 65,372	3.33%	2.85%	\$ 2,179	\$ 1,536	\$ 66,000	\$ -	\$ 131,372	\$ 4,379	\$ 3,087	\$ 8,733	
9	103210	Structures & Improvement - Pumping Plant	\$ 7,683	\$ 866	\$ -	\$ -	\$ 8,549	3.15%	2.85%	\$ 54	\$ 46	\$ -	\$ -	\$ 8,595	\$ 54	\$ 46	\$ 993	
10	103310	Structures & Improvement - Treatment Plant	\$ 2,647,464	\$ 633,383	\$ 8,892	\$ -	\$ 2,656,356	3.33%	3.07%	\$ 88,545	\$ 81,500	\$ -	\$ -	\$ 2,656,395	\$ 88,545	\$ 81,500	\$ 796,403	
11	Total Structures and Improvements		\$ 2,683,572	\$ 637,711	\$ 39,765	\$ -	\$ 2,723,337			\$ 90,778	\$ 83,133	\$ 66,000	\$ -	\$ 2,723,337	\$ 93,978	\$ 84,634	\$ 805,238	
Pumping Equipment																		
12	103240	Pumping Equipment	\$ 2,270,724	\$ 1,171,515	\$ 524,841	\$ (103,354)	\$ 2,896,470	1.39%	4.68%	\$ 38,886	\$ 133,205	\$ 548,475	\$ -	\$ 3,406,845	\$ 46,467	\$ 158,764	\$ 1,965,837	
13	103241	System Control Computer Equipment	\$ 936,150	\$ 925,865	\$ -	\$ -	\$ 936,150	0.03%	0.82%	\$ 305	\$ 7,676	\$ 39,445	\$ -	\$ 975,995	\$ 316	\$ 8,000	\$ 841,242	
15	Total Pumping Equipment		\$ 3,166,874	\$ 2,097,380	\$ 524,841	\$ (103,354)	\$ 3,794,620			\$ 38,592	\$ 140,881	\$ 587,920	\$ -	\$ 4,382,839	\$ 46,785	\$ 166,763	\$ 2,807,079	
Treatment Equipment																		
16	103320	Water Treatment Plant	\$ 338,009	\$ 132,096	\$ 167,131	\$ -	\$ 503,140	2.46%	2.11%	\$ 12,377	\$ 10,616	\$ 12,898	\$ -	\$ 515,838	\$ 12,898	\$ 10,864	\$ 153,897	
17	Total Treatment Equipment		\$ 338,009	\$ 132,096	\$ 167,131	\$ -	\$ 503,140			\$ 12,377	\$ 10,616	\$ 12,898	\$ -	\$ 515,838	\$ 12,898	\$ 10,864	\$ 153,897	
Transmission & Distribution Plant																		
19	103434	Transmission & Distribution Mains	\$ 3,658,108	\$ 1,066,807	\$ 3,697	\$ -	\$ 3,661,865	1.96%	1.61%	\$ 71,703	\$ 58,955	\$ -	\$ -	\$ 3,661,865	\$ 71,703	\$ 58,955	\$ 1,184,717	
20	103455	Ductile Iron Pipe	\$ 7,484,413	\$ 2,052,050	\$ -	\$ -	\$ 7,484,413	1.93%	1.55%	\$ 144,448	\$ 123,483	\$ -	\$ -	\$ 7,484,413	\$ 144,448	\$ 123,483	\$ 2,299,038	
21	103460	Supply Mains	\$ 14,617	\$ 398	\$ 10,400	\$ -	\$ 25,017	2.50%	2.00%	\$ 625	\$ 101	\$ 17,448	\$ -	\$ 25,017	\$ 625	\$ 101	\$ 4,922	
22	103465	Meters & Meter Boxes	\$ 29,755	\$ 2,731	\$ -	\$ -	\$ 29,755	2.50%	2.31%	\$ 745	\$ 688	\$ 3,419	\$ -	\$ 29,755	\$ 745	\$ 688	\$ 4,107	
24	103480	Hydrants	\$ 11,186,834	\$ 3,121,363	\$ 16,125	\$ -	\$ 11,203,659			\$ 217,522	\$ 183,785	\$ 17,448	\$ -	\$ 11,203,659	\$ 217,522	\$ 184,658	\$ 3,480,428	
26	Reservoirs		\$ 2,575,847	\$ 702,084	\$ -	\$ -	\$ 2,575,847	1.89%	2.64%	\$ 51,256	\$ 68,002	\$ 311,000	\$ -	\$ 2,886,847	\$ 57,444	\$ 76,213	\$ 946,310	
27	103400	Reservoirs & Tanks	\$ 2,575,847	\$ 702,084	\$ -	\$ -	\$ 2,575,847			\$ 51,256	\$ 68,002	\$ 311,000	\$ -	\$ 2,886,847	\$ 57,444	\$ 76,213	\$ 946,310	
28	Total Reservoirs		\$ 2,575,847	\$ 702,084	\$ -	\$ -	\$ 2,575,847			\$ 51,256	\$ 68,002	\$ 311,000	\$ -	\$ 2,886,847	\$ 57,444	\$ 76,213	\$ 946,310	
Wells																		
29	103100	Wells	\$ 803	\$ 23	\$ -	\$ -	\$ 803	2.49%	2.69%	\$ 20	\$ 22	\$ -	\$ -	\$ 803	\$ 20	\$ 22	\$ 67	
30	Total Wells		\$ 803	\$ 23	\$ -	\$ -	\$ 803			\$ 20	\$ 22	\$ -	\$ -	\$ 803	\$ 20	\$ 22	\$ 67	
Office Furniture and Equipment																		
32	103721	Electronic Equipment/Computers	\$ 6,546	\$ 6,546	\$ -	\$ -	\$ 6,546	0.00%	0.00%	\$ -	\$ -	\$ -	\$ -	\$ 6,546	\$ -	\$ -	\$ 6,546	
33	Total Office Furniture and Equipment		\$ 6,546	\$ 6,546	\$ -	\$ -	\$ 6,546			\$ -	\$ -	\$ -	\$ -	\$ 6,546	\$ -	\$ -	\$ 6,546	
Transportation																		
35	103730	Transportation Equipment	\$ 154,214	\$ 122,179	\$ -	\$ -	\$ 154,214	10.65%	3.15%	\$ 16,431	\$ 4,858	\$ 127,037	\$ 41,410	\$ 195,624	\$ 20,843	\$ 6,162	\$ 133,199	
37	Total Transportation		\$ 154,214	\$ 122,179	\$ -	\$ -	\$ 154,214			\$ 16,431	\$ 4,858	\$ 127,037	\$ 41,410	\$ 195,624	\$ 20,843	\$ 6,162	\$ 133,199	
Tools and Laboratory Equipment																		
38	103740	Staves Equipment	\$ 28,232	\$ -	\$ 2,941	\$ -	\$ 31,174	2.50%	4.20%	\$ 779	\$ 1,309	\$ -	\$ -	\$ 31,174	\$ 779	\$ 1,309	\$ 2,619	
39	103750	Laboratory Equipment	\$ 2,577	\$ 816	\$ -	\$ -	\$ 2,577	5.00%	7.41%	\$ 129	\$ 191	\$ -	\$ -	\$ 2,577	\$ 129	\$ 191	\$ 2,619	
40	103780	Tools, Shop, Garage Equipment	\$ 18,387	\$ 4,373	\$ 5,052	\$ -	\$ 24,009	1.88%	4.63%	\$ 453	\$ 1,113	\$ -	\$ -	\$ 24,009	\$ 453	\$ 1,113	\$ 6,900	
41	Total Tools and Laboratory Equipment		\$ 48,197	\$ 5,190	\$ 8,093	\$ -	\$ 57,180			\$ 1,361	\$ 2,613	\$ -	\$ -	\$ 57,180	\$ 1,361	\$ 2,613	\$ 10,416	
42	Total KWSC Water Plant		\$ 20,159,546	\$ 6,824,903	\$ 794,338	\$ (103,354)	\$ 21,057,838			\$ 429,036	\$ 497,759	\$ 1,082,002	\$ -	\$ 22,119,840	\$ 456,943	\$ 538,409	\$ 7,864,416	

Kona Water Service Company, Inc. Water Operations
 Amortization of Contributions in Aid of Construction
 Test Year Ending December 31, 2019

Line No.	Description	Amount Received	Amortization Rate	Acc. Amort.		Amortization Jan. 1, 2018 to Dec. 31, 2018	Adjustment Jan. 1, 2018 to Dec. 31, 2018	Acc. Amort.		Amortization Jan. 1, 2019 to Dec. 31, 2019	Adjustment Jan. 1, 2019 to Dec. 31, 2019	Test Year Acc. Amort. Balance as of	
				Balance as of Dec. 31, 2017	Balance as of Dec. 31, 2018			Balance as of Dec. 31, 2018	Balance as of Dec. 31, 2019				
3	Description												
4													
5	Intangible	\$ -	-	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6	Land and land rights	\$ -	-	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7	Structures and Improvements	\$ -	0.00%	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8	Pumping Equipment	\$ -	0.00%	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9	Treatment Equipment	\$ -	0.00%	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10	Transmission & Distribution Plant	\$ 5,544,080	1.61%	\$ 1,471,869	89,260	\$ 89,260	\$ -	\$ 1,561,128	\$ 89,260	\$ -	\$ -	\$ 1,650,388	\$ -
11	Reservoirs	\$ -	0.00%	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12	Wells	\$ -	0.00%	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13	Office Furniture and Equipment	\$ -	-	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14	Transportation	\$ -	-	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15	Tools and Laboratory Equipment	\$ -	-	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
16	General Plant	\$ -	-	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17	Asset Retirement Obligation	\$ -	-	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
18	Hawaii Water GO Allocation	\$ -	-	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19	Big Island Allocation	\$ -	-	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
20	Total	\$ 5,544,080		\$ 1,471,869	\$ 89,260	\$ 89,260	\$ -	\$ 1,561,128	\$ 89,260	\$ -	\$ -	\$ 1,650,388	\$ -

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - Federal
 Test Year Ending December 31, 2019

Line No.	Description	2017			2018			2019		
		Acc. Tax Dep. Balance as of Dec. 31, 2017	Dep. Exp.	Adjustments	Acc. Tax Dep. Balance as of Dec. 31, 2018	Dep. Exp.	Adjustments	Acc. Tax Dep. Balance as of Dec. 31, 2019	Dep. Exp.	Adjustments
5	Intangible	\$ -	\$ 3,848	\$ -	\$ 3,848	\$ 6,401	\$ -	\$ 10,249	\$ -	\$ -
6	Land and land rights	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7	Structures and Improvements	\$ 1,383,517	\$ 108,933	\$ -	\$ 1,492,450	\$ 111,573	\$ -	\$ 1,604,024	\$ -	\$ -
8	Pumping Equipment	\$ 1,347,126	\$ 143,516	\$ -	\$ 1,490,642	\$ 167,033	\$ -	\$ 1,657,675	\$ -	\$ -
9	Treatment Equipment	\$ 106,440	\$ 20,126	\$ -	\$ 126,566	\$ 20,634	\$ -	\$ 147,199	\$ -	\$ -
10	Transmission & Distribution Plant	\$ 3,351,861	\$ 226,359	\$ -	\$ 3,578,220	\$ 227,057	\$ -	\$ 3,805,277	\$ -	\$ -
11	Reservoirs	\$ 1,436,385	\$ 103,034	\$ -	\$ 1,539,419	\$ 115,474	\$ -	\$ 1,654,893	\$ -	\$ -
12	Wells	\$ 64	\$ 32	\$ -	\$ 96	\$ 32	\$ -	\$ 129	\$ -	\$ -
13	Office Furniture and Equipment	\$ 6,546	\$ -	\$ -	\$ 6,546	\$ -	\$ -	\$ 6,546	\$ -	\$ -
14	Transportation	\$ 144,160	\$ 6,797	\$ -	\$ 150,957	\$ 11,539	\$ -	\$ 162,496	\$ -	\$ -
15	Tools and Laboratory Equipment	\$ 36,241	\$ 6,811	\$ -	\$ 43,053	\$ 5,412	\$ -	\$ 48,465	\$ -	\$ -
16	General Plant	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17	Asset Retirement Obligation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
18	Hawaii Water GO Allocation	\$ 39,337	\$ 838	\$ -	\$ 40,175	\$ 3,065	\$ -	\$ 43,240	\$ -	\$ -
19	Big Island Allocation	\$ 219,650	\$ 31,275	\$ -	\$ 250,924	\$ 34,975	\$ -	\$ 285,899	\$ -	\$ -
20	Total	\$ 8,071,327	\$ 651,570	\$ -	\$ 8,722,897	\$ 703,195	\$ -	\$ 9,426,092	\$ -	\$ -
21	Accumulated Book Depreciation	\$ 5,457,104			\$ 5,885,941			\$ 6,362,198		
22	ADIT Balance	\$ (863,651)			\$ (562,321)			\$ (607,306)		

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - Federal (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation										
							2017	2018	2019	2017	2018	2019								
1	103030	Intangible Plant																		
2		Transmission system assessment (WO 109099)	\$ 38,482	7/1/2018		10	\$ -	\$ 3,848	\$ 3,848	\$ -	\$ -	\$ 3,848	\$ 7,696							
3		Power System Assessment (WO 118149)	\$ 25,526	7/1/2019		10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,553							
4		Total	\$ 64,009				\$ -	\$ 3,848	\$ 3,848	\$ -	\$ -	\$ 3,848	\$ 10,249							
5	103110	Structures & Improvement - Supply Plant																		
6		30"x94" Steel Doors	\$ 21,066	9/17/2013	SL-25	25	\$ 843	\$ 843	\$ 843	\$ 843	\$ 843	\$ 843	\$ 5,899							
7		36"x94" Steel Doors	\$ 7,802	9/17/2013	SL-25	25	\$ 312	\$ 312	\$ 312	\$ 312	\$ 312	\$ 312	\$ 2,185							
8		Emergency Shower-HR1,HR5,Makalei	\$ 5,631	3/11/2015	SL-25	25	\$ 225	\$ 225	\$ 225	\$ 225	\$ 225	\$ 225	\$ 1,126							
9		Pre-filter Skid Platform (WO 97224)	\$ 30,873	7/1/2018	SL-25	25	\$ -	\$ 1,235	\$ 1,235	\$ -	\$ -	\$ 1,235	\$ 2,470							
10		Kukio Office Expansion (WO 67607)	\$ 66,000	11/30/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,640							
11		Total	\$ 131,372				\$ 1,380	\$ 2,615	\$ 2,615	\$ 2,615	\$ 2,615	\$ 2,615	\$ 14,319							
12	103210	Structures & Improvement - Pumping Plant																		
13		Lawn Building	\$ 1,609	6/1/2012	SL-25	25	\$ 64	\$ 64	\$ 64	\$ 64	\$ 64	\$ 64	\$ 515							
14		Total	\$ 1,609				\$ 64	\$ 64	\$ 64	\$ 64	\$ 64	\$ 64	\$ 515							
15	103310	Structures & Improvement - Treatment Plant																		
16		1.0 MG Water Filtration Plant	\$ 2,647,464	12/15/2005	SL-25	25	\$ 105,899	\$ 105,899	\$ 105,899	\$ 105,899	\$ 105,899	\$ 105,899	\$ 1,588,478							
17		Staircases for RO Plant (WO 97225)	\$ 2,302	7/1/2018	SL-25	25	\$ -	\$ 92	\$ 92	\$ 92	\$ 92	\$ 92	\$ 184							
18		RO Plant Overhead Lighting (WO 118185)	\$ 6,590	12/31/2018	SL-25	25	\$ -	\$ 264	\$ 264	\$ -	\$ -	\$ 264	\$ 527							
19		Total	\$ 2,656,356				\$ 105,899	\$ 106,254	\$ 106,254	\$ 106,254	\$ 106,254	\$ 1,589,190								
20	103240	Pumping Equipment																		
21		ABB 6" Electromagnetic Flowmeter	\$ 5,443	4/1/2014	SL-25	25	\$ 218	\$ 218	\$ 218	\$ 218	\$ 218	\$ 218	\$ 1,306							
22		Auto transfer switch @ RO Plant	\$ 2,618	11/1/2016	SL-25	25	\$ 105	\$ 105	\$ 105	\$ 105	\$ 105	\$ 105	\$ 419							
23		Check Valves for Wells	\$ 3,390	3/1/2016	SL-25	25	\$ 136	\$ 136	\$ 136	\$ 136	\$ 136	\$ 136	\$ 542							
24		Engineering Labor	\$ 1,660	9/1/2010	SL-25	25	\$ 66	\$ 66	\$ 66	\$ 66	\$ 66	\$ 66	\$ 664							
25		Field Labor	\$ 2,832	9/1/2010	SL-25	25	\$ 113	\$ 113	\$ 113	\$ 113	\$ 113	\$ 113	\$ 1,133							
26		HR1 motor starter	\$ 9,991	12/1/2016	SL-25	25	\$ 400	\$ 400	\$ 400	\$ 400	\$ 400	\$ 400	\$ 1,599							
27		HR-1 to 4 Pump	\$ 507,079	6/30/2003	SL-25	25	\$ 20,281	\$ 20,281	\$ 20,281	\$ 20,281	\$ 20,281	\$ 20,281	\$ 344,773							
28		HR2 well power transformer	\$ 23,786	10/1/2014	SL-25	25	\$ 951	\$ 951	\$ 951	\$ 951	\$ 951	\$ 951	\$ 5,709							
29		HR2 well pump	\$ 102,438	5/1/2015	SL-25	25	\$ 4,098	\$ 4,098	\$ 4,098	\$ 4,098	\$ 4,098	\$ 4,098	\$ 20,488							
30		HR2 well starter	\$ 11,342	12/1/2013	SL-25	25	\$ 454	\$ 454	\$ 454	\$ 454	\$ 454	\$ 454	\$ 3,176							
31		HR3 AB control module	\$ 1,657	12/1/2016	SL-25	25	\$ 66	\$ 66	\$ 66	\$ 66	\$ 66	\$ 66	\$ 265							
32		HR3 well pump	\$ 117,190	12/1/2016	SL-25	25	\$ 4,688	\$ 4,688	\$ 4,688	\$ 4,688	\$ 4,688	\$ 4,688	\$ 18,750							
33		HR3 Well Pump	\$ 91,569	10/1/2014	SL-25	25	\$ 3,663	\$ 3,663	\$ 3,663	\$ 3,663	\$ 3,663	\$ 3,663	\$ 18,314							
34		HR-5 Pump	\$ 506,136	6/30/2003	SL-25	25	\$ 20,245	\$ 20,245	\$ 20,245	\$ 20,245	\$ 20,245	\$ 20,245	\$ 344,172							
35		Replace Pump Equipment	\$ 189,989	9/1/2010	SL-25	25	\$ 7,600	\$ 7,600	\$ 7,600	\$ 7,600	\$ 7,600	\$ 7,600	\$ 75,986							
36		Engineering Labor	\$ 1,676	9/1/2010	SL-25	25	\$ 67	\$ 67	\$ 67	\$ 67	\$ 67	\$ 67	\$ 671							
37		Field labor	\$ 1,676	9/1/2010	SL-25	25	\$ 67	\$ 67	\$ 67	\$ 67	\$ 67	\$ 67	\$ 671							
38		Work Order Addition	\$ 19,334	9/1/2010	SL-25	25	\$ 773	\$ 773	\$ 773	\$ 773	\$ 773	\$ 773	\$ 7,794							
39		Work Order Addition	\$ 14,119	9/1/2010	SL-25	25	\$ 565	\$ 565	\$ 565	\$ 565	\$ 565	\$ 565	\$ 5,647							
40		Work Order Addition	\$ 11,588	9/1/2010	SL-25	25	\$ 464	\$ 464	\$ 464	\$ 464	\$ 464	\$ 464	\$ 4,635							
41		Work Order Addition	\$ 81,931	9/1/2012	SL-25	25	\$ 3,277	\$ 3,277	\$ 3,277	\$ 3,277	\$ 3,277	\$ 3,277	\$ 26,218							
42		Replace Check	\$ 115,038	9/1/2010	SL-25	25	\$ 4,602	\$ 4,602	\$ 4,602	\$ 4,602	\$ 4,602	\$ 4,602	\$ 46,015							

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - Federal (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
43		Standby Pump, Motor, and Protector	\$ 163,470	9/1/2010	SL-25	25	\$ 6,539	\$ 6,539	\$ 6,539	\$ 52,310	\$ 58,849	\$ 65,388
44		Sub Column	\$ 63,466	9/1/2010	SL-25	25	\$ 2,539	\$ 2,539	\$ 2,539	\$ 20,309	\$ 22,848	\$ 25,386
45		Pump and Motor Installation	\$ 73,230	9/1/2010	SL-25	25	\$ 2,929	\$ 2,929	\$ 2,929	\$ 23,433	\$ 26,363	\$ 29,292
46		UME for well pump flow meter	\$ 75	12/1/2011	SL-25	25	\$ 3	\$ 3	\$ 3	\$ 21	\$ 24	\$ 27
47		HR3 SCADA for Generator	\$ 781	5/1/2015	SL-25	25	\$ 31	\$ 31	\$ 31	\$ 94	\$ 125	\$ 156
48		VFD drives @ booster pumps	\$ 3,476	6/1/2017	SL-25	25	\$ 139	\$ 139	\$ 139	\$ 139	\$ 278	\$ 417
49		HR-1 Well Pump (WO 103799)	\$ 101,064	7/1/2018	SL-25	25	\$ -	\$ 4,043	\$ 4,043	\$ -	\$ 4,043	\$ 8,085
50		HR-2 Well Pump Replacement (WO109757)	\$ 64,054	7/1/2018	SL-25	25	\$ -	\$ 2,562	\$ 2,562	\$ -	\$ 2,562	\$ 5,124
51		HR-2 6" Gate Valve Replacement (WO 116460)	\$ 3,509	7/1/2018	SL-25	25	\$ -	\$ 140	\$ 140	\$ -	\$ 140	\$ 281
52		HR-4 Well Pump Equipment (WO 112204)	\$ 177,751	7/1/2018	SL-25	25	\$ -	\$ 7,110	\$ 7,110	\$ -	\$ 7,110	\$ 14,220
53		HR-2 Well Pump Equipment (WO 114639)	\$ 111,601	7/1/2018	SL-25	25	\$ -	\$ 4,464	\$ 4,464	\$ -	\$ 4,464	\$ 8,928
54		HR-5 Power Transformer (WO 114685)	\$ 58,214	7/1/2018	SL-25	25	\$ -	\$ 2,329	\$ 2,329	\$ -	\$ 2,329	\$ 4,657
55		HR-5 Solenoid and Valve (WO 118186)	\$ 8,648	10/31/2018	SL-25	25	\$ -	\$ 346	\$ 346	\$ -	\$ 346	\$ 692
56		Critical Infrastructure - Well Pump (WO 118337)	\$ 103,892	7/1/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,156
57		HR-1 - HR-5 Power Monitors (WO 112031)	\$ 16,441	7/1/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 658
58		HR-1 Well Pump Equipment (WO 118614)	\$ 44,313	2/28/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,773
59		Junction Boxes for Pump Leads (WO 118150)	\$ 82,586	8/31/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,303
60		HR-3 Well Pump Equipment (WO 119302)	\$ 99,302	5/31/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,972
61		HR-5 Well Pump Equipment (WO 119543)	\$ 201,940	6/30/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,078
62		Total	\$ 3,200,236				\$ 85,077	\$ 106,070	\$ 128,009	\$ 883,072	\$ 989,142	\$ 1,117,151
63	103241	System Control Computer Equipment										
64		Foxboro Pressure Trans Cal 0-300 in PSI	\$ 3,063	9/1/2012	SL-25	25	\$ 122	\$ 122	\$ 122	\$ 733	\$ 855	\$ 977
65		Foxboro Pressure Trans Cal 0-50 in H2O	\$ 4,580	9/1/2012	SL-25	25	\$ 183	\$ 183	\$ 183	\$ 1,099	\$ 1,282	\$ 1,466
66		Foxboro Pressure Trans Cal 0-58 in H2O	\$ 3,053	9/1/2012	SL-25	25	\$ 122	\$ 122	\$ 122	\$ 733	\$ 855	\$ 977
67		Foxboro Pressure Trans Cal 0-92 in H2O	\$ 1,527	9/1/2012	SL-25	25	\$ 61	\$ 61	\$ 61	\$ 366	\$ 427	\$ 489
68		SCADA HR Well 5	\$ 647,485	1/1/2006	SL-25	25	\$ 25,899	\$ 25,899	\$ 25,899	\$ 310,793	\$ 336,692	\$ 362,592
69		SCADA HR Wells 1-4	\$ 129,504	1/1/2006	SL-25	25	\$ 5,180	\$ 5,180	\$ 5,180	\$ 62,162	\$ 67,342	\$ 72,522
70		SCADA Water Filtration Plant	\$ 146,947	3/31/2003	SL-25	25	\$ 5,878	\$ 5,878	\$ 5,878	\$ 88,168	\$ 94,046	\$ 99,924
71		SCADA Computer & Software (WO 112030)	\$ 39,445	7/1/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,578
72		Total	\$ 975,596				\$ 37,446	\$ 37,446	\$ 39,024	\$ 464,054	\$ 501,500	\$ 540,524
73	103320	Water Treatment Plant										
74		6" check valve @ RO discharge	\$ 1,208	11/1/2017	SL-25	25	\$ 48	\$ 48	\$ 48	\$ 48	\$ 97	\$ 145
75		Chemical Injection Pumps @ Makalei	\$ 1,911	8/1/2017	SL-25	25	\$ 76	\$ 76	\$ 76	\$ 76	\$ 153	\$ 229
76		Chlorine Analyzer	\$ 5,529	3/1/2015	SL-25	25	\$ 221	\$ 221	\$ 221	\$ 663	\$ 885	\$ 1,106
77		Degassing Station	\$ 88,034	3/31/2005	SL-25	25	\$ 3,521	\$ 3,521	\$ 3,521	\$ 45,778	\$ 49,299	\$ 52,820
78		Grundfos chemical injection pump	\$ 1,890	11/1/2016	SL-25	25	\$ 76	\$ 76	\$ 76	\$ 151	\$ 227	\$ 302
79		Grundfos chemical injection pump	\$ 1,096	11/1/2016	SL-25	25	\$ 44	\$ 44	\$ 44	\$ 88	\$ 131	\$ 175
80		Kukio RO Plant VFD	\$ 2,012	4/1/2014	SL-25	25	\$ 80	\$ 80	\$ 80	\$ 322	\$ 402	\$ 483
81		RO Membrane	\$ 181,840	12/1/2011	SL-25	25	\$ 7,274	\$ 7,274	\$ 7,274	\$ 50,915	\$ 58,189	\$ 65,462
82		RO Membranes	\$ 52,490	6/1/2014	SL-25	25	\$ 2,100	\$ 2,100	\$ 2,100	\$ 8,398	\$ 10,498	\$ 12,598
83		Kukio RO EC Sensor (WO 109369)	\$ 1,407	7/1/2018	SL-25	25	\$ -	\$ 56	\$ 56	\$ -	\$ 56	\$ 113
84		Chemical containment pallets (WO 102601)	\$ 1,161	7/1/2018	SL-25	25	\$ -	\$ 46	\$ 46	\$ -	\$ 46	\$ 93
85		RO Plant Surge Suppressor (WO 114855)	\$ 698	7/1/2018	SL-25	25	\$ -	\$ 28	\$ 28	\$ -	\$ 28	\$ 56
86		Pre-Filter Pressure Vessel (WO 93477)	\$ 79,690	7/1/2018	SL-25	25	\$ -	\$ 3,188	\$ 3,188	\$ -	\$ 3,188	\$ 6,375
87		RO Membrane Train B (WO 97229)	\$ 54,241	7/1/2018	SL-25	25	\$ -	\$ 2,170	\$ 2,170	\$ -	\$ 2,170	\$ 4,339
88		Water Quality Sensors (WO 97228)	\$ 15,194	11/30/2018	SL-25	25	\$ -	\$ 608	\$ 608	\$ -	\$ 608	\$ 1,216
89		Victaulic Coupling (WO 97230)	\$ 8,435	12/31/2018	SL-25	25	\$ -	\$ 337	\$ 337	\$ -	\$ 337	\$ 675

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - Federal (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
90		RO Bypass Blend Controller (WO 119025)	\$ 6,305	12/31/2018	SL-25	25	\$ -	\$ 252	\$ 252	\$ -	\$ 504	
91		Sampling Station (WO 118151)	\$ 12,698	7/1/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ 508	
92		Total	\$ 515,838				\$ 13,440	\$ 20,126	\$ 20,634	\$ 106,440	\$ 147,199	
93	103434	Transmission & Distribution Mains										
94		CIAC Phase 1A	\$ 2,209,833	1/1/2003	SL-25	25	\$ 88,393	\$ 88,393	\$ 88,393	\$ 1,414,293	\$ 1,502,687	
95		CIAC Phase 3 Increment 1	\$ 389,777	1/1/2007	SL-25	25	\$ 14,391	\$ 14,391	\$ 14,391	\$ 172,693	\$ 187,084	
96		CIAC Phase 3 Increment 2	\$ 420,555	1/1/2007	SL-25	25	\$ 16,822	\$ 16,822	\$ 16,822	\$ 201,866	\$ 218,689	
97		Flow Control Vault Lid	\$ 27,749	6/1/2011	SL-25	25	\$ 1,110	\$ 1,110	\$ 1,110	\$ 8,880	\$ 9,990	
98		Sampling Station	\$ 6,352	6/1/2013	SL-25	25	\$ 254	\$ 254	\$ 254	\$ 1,524	\$ 1,779	
99		Pressure Reducer (Outside the WFP)	\$ 5,000	1/1/2006	SL-25	25	\$ 200	\$ 200	\$ 200	\$ 2,400	\$ 2,800	
100		Road R and Access Road to 312'	\$ 28,004	10/31/2004	SL-25	25	\$ 1,120	\$ 1,120	\$ 1,120	\$ 15,682	\$ 17,923	
101		Road R and Access Road to 312'	\$ 2,284	12/31/2003	SL-25	25	\$ 91	\$ 91	\$ 91	\$ 1,370	\$ 1,553	
102		Road R and Access Road to 312'	\$ 598,554	3/31/2003	SL-25	25	\$ 23,942	\$ 23,942	\$ 23,942	\$ 359,132	\$ 407,017	
103		Kukio FCV Via-val Pilot Filter (WO 117161)	\$ 3,697	12/31/2018	SL-25	25	\$ -	\$ 148	\$ 148	\$ -	\$ 296	
104		Total	\$ 3,661,805				\$ 145,324	\$ 146,472	\$ 146,472	\$ 2,056,871	\$ 2,349,816	
105	103435	Ductile Iron Pipe										
106		CIAC - Distribution Water lines	\$ 2,553,915	1/1/2005	SL-25	25	\$ 102,157	\$ 102,157	\$ 102,157	\$ 1,328,036	\$ 1,532,349	
107		HR 1 to 4 Transmission(16" Waterline)	\$ 770,629	6/30/2003	SL-25	25	\$ 30,825	\$ 30,825	\$ 30,825	\$ 462,377	\$ 524,028	
108		HR-5 to Transmission to 620' and PR Tanks	\$ 3,693,579	6/30/2003	SL-25	25	\$ 147,743	\$ 147,743	\$ 147,743	\$ 2,216,147	\$ 2,511,634	
109		Transmission lines from the 620' down to the 312' 1MG tank (5K of 16" line)	\$ 466,290	6/30/2003	SL-25	25	\$ 18,652	\$ 18,652	\$ 18,652	\$ 279,774	\$ 298,426	
110		Total	\$ 7,484,413				\$ 299,377	\$ 299,377	\$ 299,377	\$ 4,286,335	\$ 4,885,088	
111	103164	Supply Mains										
112		HR5 12" butterfly valve	\$ 14,617	12/1/2016	SL-25	25	\$ 585	\$ 585	\$ 585	\$ 1,169	\$ 1,754	
113		10" Gate Valve (WO 108112)	\$ 10,400	12/31/2018	SL-25	25	\$ -	\$ 416	\$ 416	\$ -	\$ 832	
114		Total	\$ 25,017				\$ 585	\$ 1,001	\$ 1,001	\$ 1,169	\$ 3,171	
115	103460	Meters & Meter Boxes										
116		HR-1 & HR-4 Meter Replacement (WO 113505)	\$ 2,029	7/1/2018	SL-25	25	\$ -	\$ 81	\$ 81	\$ -	\$ 162	
117		Meter Replacement Program (WO 118392)	\$ 17,448	2/28/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ 698	
118		Total	\$ 19,477				\$ -	\$ 81	\$ 719	\$ -	\$ 860	
119	103480	Hydrants										
120		12 Fire Hydrants	\$ 29,795	5/1/2014	SL-25	25	\$ 1,192	\$ 1,192	\$ 1,192	\$ 4,767	\$ 5,959	
121		Total	\$ 29,795				\$ 1,192	\$ 1,192	\$ 1,192	\$ 4,767	\$ 5,959	
122	103420	Reservoirs & Tanks										
123		312' .5MG Glass fused steel tank	\$ 730,957	1/1/2006	SL-25	25	\$ 29,238	\$ 29,238	\$ 29,238	\$ 350,859	\$ 409,336	
124		312' 1MG Glass fused steel tank	\$ 1,038,092	3/31/2003	SL-25	25	\$ 41,524	\$ 41,524	\$ 41,524	\$ 622,855	\$ 705,903	
125		620' .5MG Glass fused steel tank	\$ 732,112	6/30/2003	SL-25	25	\$ 29,284	\$ 29,284	\$ 29,284	\$ 439,267	\$ 497,836	
126		Anti climbs for Kona Water tanks A,B,C.#1	\$ 6,200	4/1/2012	SL-25	25	\$ 248	\$ 248	\$ 248	\$ 1,488	\$ 1,736	

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - Federal (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
127		Field supervision	\$ 61,699	3/1/2010	SL-25	25	\$ 2,468	\$ 2,468	\$ 2,468	\$ 19,744	\$ 22,212	\$ 24,680
128		Work Order Addition	\$ 6,787	3/1/2010	SL-25	25	\$ 271	\$ 271	\$ 271	\$ 2,172	\$ 2,443	\$ 2,715
129		Tank Modulating Float Valves (WO 112045)	\$ 311,000	7/1/2019	SL-25	25	-	-	\$ 12,440	-	-	\$ 12,440
130		Total	\$ 2,886,847				\$ 103,034	\$ 103,034	\$ 115,474	\$ 1,436,385	\$ 1,539,419	\$ 1,654,893
131	103150	Wells										
132		HR3 4" Neptune water meter UME	\$ 803	11/1/2016	SL-25	25	\$ 32	\$ 32	\$ 32	\$ 64	\$ 96	\$ 129
133		Total	\$ 803				\$ 32	\$ 32	\$ 32	\$ 64	\$ 96	\$ 129
134	103721	Electronic Equipment/Computers										
135		Work Order Addition	\$ 649	12/1/2010	MACRS 7	7	\$ 29	-	\$ -	\$ 649	\$ 649	\$ 649
136		Color Copier	\$ 5,897	12/1/2010	MACRS 7	7	\$ 263	-	\$ -	\$ 5,897	\$ 5,897	\$ 5,897
137		Total	\$ 6,546				\$ 292	\$ -	\$ -	\$ 6,546	\$ 6,546	\$ 6,546
138	103730	Transportation Equipment										
139		Tery X Mule	\$ 15,742	5/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 15,742	\$ 15,742	\$ 15,742
140		Toyota Tacoma	\$ 39,247	3/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 39,247	\$ 39,247	\$ 39,247
141		Toyota Tacoma	\$ 31,692	5/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 31,692	\$ 31,692	\$ 31,692
142		2 Engines	\$ 6,071	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 6,071	\$ 6,071	\$ 6,071
143		New med size DOT Approved Trailer	\$ 4,920	12/1/2013	MACRS 5	5	\$ 567	\$ 283	\$ 283	\$ 4,636	\$ 4,920	\$ 4,920
144		F450 - Flat bed truck	\$ 56,542	5/1/2014	MACRS 5	5	\$ 6,514	\$ 6,514	\$ 3,257	\$ 46,772	\$ 53,285	\$ 56,542
145		Superintendent Vehicle (replacement) (WO 118345)	\$ 41,410	7/1/2019	MACRS 5	5	\$ -	\$ -	\$ 8,282	\$ -	\$ -	\$ 8,282
146		Total	\$ 195,624				\$ 7,080	\$ 6,797	\$ 11,539	\$ 144,160	\$ 150,957	\$ 162,496
147	103750	Laboratory Equipment										
148		Work Order Addition	\$ 232	12/1/2011	MACRS 7	7	\$ 21	\$ 10	\$ -	\$ 221	\$ 232	\$ 232
149		Work Order Addition	\$ 2,346	12/1/2011	MACRS 7	7	\$ 209	\$ 105	\$ -	\$ 2,241	\$ 2,346	\$ 2,346
150		Total	\$ 2,577				\$ 230	\$ 115	\$ -	\$ 2,463	\$ 2,577	\$ 2,577
151	103740	Stores Equipment										
152		40' Storage Container	\$ 12,335	6/1/2013	MACRS 5	5	\$ 1,421	\$ 710	\$ -	\$ 11,624	\$ 12,335	\$ 12,335
153		Forklift, Yale 50LX	\$ 15,898	12/1/2016	MACRS 5	5	\$ 5,087	\$ 3,052	\$ 1,831	\$ 8,267	\$ 11,319	\$ 13,150
154		Safety Cabinets (WO 106194)	\$ 2,941	7/1/2018	MACRS 7	7	\$ -	\$ 420	\$ 720	\$ -	\$ 420	\$ 1,141
155		Total	\$ 31,174				\$ 6,508	\$ 4,183	\$ 2,552	\$ 19,891	\$ 24,074	\$ 26,626
156	103780	Tools, Shop, Garage Equipment										
157		Fire Flow Test	\$ 866	12/1/2011	MACRS 7	7	\$ 77	\$ 39	\$ -	\$ 828	\$ 866	\$ 866
158		Spill Contain.	\$ 1,393	4/1/2012	MACRS 7	7	\$ 124	\$ 124	\$ 62	\$ 1,207	\$ 1,331	\$ 1,393
159		Brush cutters	\$ 1,208	11/1/2016	MACRS 7	7	\$ 296	\$ 211	\$ 151	\$ 469	\$ 680	\$ 831
160		Demolition Hammer & Accessories	\$ 1,646	9/1/2013	MACRS 7	7	\$ 147	\$ 147	\$ 147	\$ 1,279	\$ 1,426	\$ 1,572
161		DR mower 20hp pro tow behind	\$ 3,351	4/1/2014	MACRS 7	7	\$ 419	\$ 299	\$ 299	\$ 2,304	\$ 2,603	\$ 2,902
162		Portable meter	\$ 1,244	6/1/2013	MACRS 7	7	\$ 111	\$ 111	\$ 111	\$ 967	\$ 1,078	\$ 1,189
163		Work Order Addition	\$ 33	9/1/2013	MACRS 7	7	\$ 3	\$ 3	\$ 3	\$ 26	\$ 29	\$ 31
164		Work Order Addition	\$ 1,540	4/1/2012	MACRS 7	7	\$ 137	\$ 138	\$ 69	\$ 1,334	\$ 1,471	\$ 1,540

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - Federal (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
165		Water Data Logger	\$ 3,073	6/1/2013	MACRS 7	7	\$ 274	\$ 274	\$ 274	\$ 2,387	\$ 2,662	\$ 2,936
166		Water Main PSI Monitoring	\$ 3,539	6/1/2013	MACRS 7	7	\$ 316	\$ 316	\$ 316	\$ 2,749	\$ 3,065	\$ 3,381
167		Weed sprayer 27gal	\$ 494	4/1/2014	MACRS 7	7	\$ 62	\$ 44	\$ 44	\$ 340	\$ 384	\$ 428
168		Mauka SCADA generators (WO 102602)	\$ 4,617	7/1/2018	MACRS 7	7	\$ -	\$ 660	\$ 1,131	\$ -	\$ 660	\$ 1,791
169		Metal detector (WO 102603)	\$ 1,035	7/1/2018	MACRS 7	7	\$ -	\$ 148	\$ 253	\$ -	\$ 148	\$ 401
170		Total	\$ 24,039				\$ 1,967	\$ 2,513	\$ 2,860	\$ 13,888	\$ 16,401	\$ 19,262
171		CONTRIBUTIONS IN AID OF CONSTRUCTION										
172	103434	Transmission & Distribution Mains										
173		CIAC Phase 1A	\$ (2,209,833)	1/1/2003	SL-25	25	\$ (88,393)	\$ (88,393)	\$ (88,393)	\$ (1,325,900)	\$ (1,414,293)	\$ (1,502,686)
174		CIAC Phase 3 Increment 1	\$ (359,777)	1/1/2007	SL-25	25	\$ (14,391)	\$ (14,391)	\$ (14,391)	\$ (158,302)	\$ (172,693)	\$ (187,084)
175		CIAC Phase 3 Increment 2	\$ (420,555)	1/1/2007	SL-25	25	\$ (16,822)	\$ (16,822)	\$ (16,822)	\$ (185,044)	\$ (201,866)	\$ (218,689)
176		Total	\$ (2,990,165)				\$ (119,607)	\$ (119,607)	\$ (119,607)	\$ (1,669,246)	\$ (1,788,852)	\$ (1,908,459)
177	103435	Ductile Iron Pipe										
178		CIAC - Distribution Water line	\$ (2,553,915)	1/1/2005	SL-25	25	\$ (102,157)	\$ (102,157)	\$ (102,157)	\$ (1,328,036)	\$ (1,430,192)	\$ (1,532,349)
179		Total	\$ (2,553,915)				\$ (102,157)	\$ (102,157)	\$ (102,157)	\$ (1,328,036)	\$ (1,430,192)	\$ (1,532,349)
180		HAWAII GENERAL OFFICE										
181		790 Leasehold Improvements	\$ 16,865	5/1/15	MACRS 7	7	\$ 2,950	\$ 2,106	\$ 1,506	\$ 9,490	\$ 11,596	\$ 13,102
182		desks, conf table, chairs	\$ 3,060	3/1/10	MACRS 7	7	\$ 136	\$ -	\$ -	\$ 3,060	\$ 3,060	\$ 3,060
183		2 Cubical Work Stations	\$ 5,650	12/1/10	MACRS 7	7	\$ 252	\$ -	\$ -	\$ 5,650	\$ 5,650	\$ 5,650
184		Cherry Desk	\$ 855	12/1/10	MACRS 7	7	\$ 38	\$ -	\$ -	\$ 855	\$ 855	\$ 855
185		Cherry Drawer	\$ 71	12/1/10	MACRS 7	7	\$ 3	\$ -	\$ -	\$ 71	\$ 71	\$ 71
186		Cherry Credenza	\$ 509	12/1/10	MACRS 7	7	\$ 23	\$ -	\$ -	\$ 509	\$ 509	\$ 509
187		Cherry Corner Unit	\$ 404	12/1/10	MACRS 7	7	\$ 18	\$ -	\$ -	\$ 404	\$ 404	\$ 404
188		Regency Library	\$ 284	12/1/10	MACRS 7	7	\$ 13	\$ -	\$ -	\$ 284	\$ 284	\$ 284
189		Chairs	\$ 2,037	12/1/10	MACRS 7	7	\$ 91	\$ -	\$ -	\$ 2,037	\$ 2,037	\$ 2,037
190		Cherry Desk Shell 66"	\$ 429	12/1/10	MACRS 7	7	\$ 19	\$ -	\$ -	\$ 429	\$ 429	\$ 429
191		24" x 71" Credenza Shells	\$ 793	12/1/10	MACRS 7	7	\$ 35	\$ -	\$ -	\$ 793	\$ 793	\$ 793
192		Cherry Keyboard Drawer	\$ 71	12/1/10	MACRS 7	7	\$ 3	\$ -	\$ -	\$ 71	\$ 71	\$ 71
193		Executive Chair	\$ 391	12/1/10	MACRS 7	7	\$ 17	\$ -	\$ -	\$ 391	\$ 391	\$ 391
194		Desk Pedestal F/F	\$ 468	12/1/10	MACRS 7	7	\$ 21	\$ -	\$ -	\$ 468	\$ 468	\$ 468
195		Cherry Shelf Unit	\$ 487	12/1/10	MACRS 7	7	\$ 22	\$ -	\$ -	\$ 487	\$ 487	\$ 487
196		Cherry Storage Hutch	\$ 333	12/1/10	MACRS 7	7	\$ 15	\$ -	\$ -	\$ 333	\$ 333	\$ 333
197		Cherry Credenza 66"	\$ 709	12/1/10	MACRS 7	7	\$ 32	\$ -	\$ -	\$ 709	\$ 709	\$ 709
198		Regency Desk	\$ 988	12/1/10	MACRS 7	7	\$ 44	\$ -	\$ -	\$ 988	\$ 988	\$ 988
199		2 Drawer Lateral File	\$ 2,868	12/1/10	MACRS 7	7	\$ 128	\$ -	\$ -	\$ 2,868	\$ 2,868	\$ 2,868
200		3, 42" 4 Drawer Lateral File Cabinets	\$ 513	12/1/10	MACRS 7	7	\$ 23	\$ -	\$ -	\$ 513	\$ 513	\$ 513
201		Cherry Desk Pedestal B/B/F	\$ 567	12/1/10	MACRS 7	7	\$ 25	\$ -	\$ -	\$ 567	\$ 567	\$ 567
202		Regency Lateral File	\$ 2,386	12/1/11	MACRS 7	7	\$ 213	\$ 106	\$ -	\$ 2,386	\$ 2,386	\$ 2,386
203		Fireproof safe for Customer Service office.	\$ 3,044	5/1/15	MACRS 5	5	\$ 585	\$ 351	\$ 351	\$ 2,168	\$ 2,518	\$ 2,869
204		Ricoh Aficio MP C3001	\$ 631	5/1/15	MACRS 7	7	\$ 110	\$ 79	\$ -	\$ 355	\$ 434	\$ 490
205		790 Office Furniture	\$ 7,161	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 7,161	\$ 7,161	\$ 7,161
206		Automated Electronic Defibrillators	\$ -				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - Federal (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization				Accumulated Depreciation			
							2017	2018	2019	2017	2018	2019		
207		License for Capture Now	\$ 237	12/1/10	MACRS 3	3	\$ -	\$ -	\$ -	\$ 237	\$ 237	\$ 237	\$ 237	
208		Fujitsu F16140 scanner	\$ 1,666	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 1,666	\$ 1,666	\$ 1,666	\$ 1,666	
209		Ricoh MP 4001SP Copier w/Finisher	\$ 10,686	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 10,686	\$ 10,686	\$ 10,686	\$ 10,686	
210		Monitors	\$ 1,207	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 1,207	\$ 1,207	\$ 1,207	\$ 1,207	
211		Mitel EP Dig 6 Line Model 8560 Telephone	\$ 8,102	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 8,102	\$ 8,102	\$ 8,102	\$ 8,102	
212		ELECTRONICS [681]	\$ 744	12/1/11	MACRS 5	5	\$ -	\$ -	\$ -	\$ 744	\$ 744	\$ 744	\$ 744	
213		8-way video conferencing system	\$ 37,185	12/1/11	MACRS 5	5	\$ -	\$ -	\$ -	\$ 37,185	\$ 37,185	\$ 37,185	\$ 37,185	
214		Hewlett Packard laser printer	\$ 1,111	12/1/11	MACRS 5	5	\$ -	\$ -	\$ -	\$ 1,111	\$ 1,111	\$ 1,111	\$ 1,111	
215		Desktop-HIWKLC340	\$ 807	12/1/14	MACRS 5	5	\$ 93	\$ 93	\$ 46	\$ 667	\$ 760	\$ 807	\$ 807	
216		Desktop-HIWKLC339	\$ 807	12/1/14	MACRS 5	5	\$ 93	\$ 93	\$ 46	\$ 667	\$ 760	\$ 807	\$ 807	
217		Desktop-HIWKLC337	\$ 807	12/1/14	MACRS 5	5	\$ 93	\$ 93	\$ 46	\$ 667	\$ 760	\$ 807	\$ 807	
218		Desktop-HIWKLC338	\$ 807	12/1/14	MACRS 5	5	\$ 93	\$ 93	\$ 46	\$ 667	\$ 760	\$ 807	\$ 807	
219		Desktop-HIWKLC336	\$ 807	12/1/14	MACRS 5	5	\$ 93	\$ 93	\$ 46	\$ 667	\$ 760	\$ 807	\$ 807	
220		Desktop-HIWKLC341	\$ 807	12/1/14	MACRS 5	5	\$ 93	\$ 93	\$ 46	\$ 667	\$ 760	\$ 807	\$ 807	
221		790 Server & Server room upgrade	\$ 17,650	5/1/15	MACRS 5	5	\$ 3,389	\$ 2,033	\$ 2,033	\$ 12,567	\$ 14,600	\$ 16,633	\$ 16,633	
222		Hawaii Business Unit Software	\$ 132,361	12/1/10	MACRS 3	3	\$ -	\$ -	\$ -	\$ 132,361	\$ 132,361	\$ 132,361	\$ 132,361	
223		RMS Software	\$ 92,429	3/1/14	MACRS 3	3	\$ 6,849	\$ -	\$ -	\$ 92,429	\$ 92,429	\$ 92,429	\$ 92,429	
224		phone system with 8 phones	\$ 24,859	3/1/14	MACRS 5	5	\$ -	\$ -	\$ -	\$ 24,859	\$ 24,859	\$ 24,859	\$ 24,859	
225		Miscellaneous Kitchen Equipment	\$ 981	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 981	\$ 981	\$ 981	\$ 981	
226		laptop for CS Mgr	\$ 1,496	4/1/14	MACRS 5	5	\$ 172	\$ 172	\$ 86	\$ 1,238	\$ 1,410	\$ 1,496	\$ 1,496	
227		Wastewater Manager Vehicle (WO 119213)	\$ 44,547	2/28/19	MACRS 5	5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,909	
228		SCADA Upgrade 2018 (WO 118883)	\$ 78,082	1/31/19	MACRS 5	5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15,616	
229		Total	\$ 510,065				\$ 15,797	\$ 5,405	\$ 28,837	\$ 372,624	\$ 378,029	\$ 406,866	\$ 406,866	
230		HAWAII GENERAL OFFICE ALLOCATIONS												
231		700 - Kaanapali	\$ 110,817	2017	2018	2019	\$ 3,432	\$ 1,171	\$ 6,249	\$ 80,956	\$ 81,921	\$ 88,170	\$ 88,170	
232		701 - Pukalani	\$ 35,049	6.87%	7.81%	7.81%	\$ 1,086	\$ 422	\$ 2,251	\$ 25,605	\$ 29,510	\$ 31,761	\$ 31,761	
233		721 - Waikoloa Water	\$ 65,448	12.83%	13.25%	13.25%	\$ 2,027	\$ 716	\$ 3,820	\$ 47,813	\$ 50,081	\$ 53,901	\$ 53,901	
234		722 - Waikoloa Sewer	\$ 51,098	10.02%	10.34%	10.34%	\$ 1,583	\$ 559	\$ 2,982	\$ 37,329	\$ 39,090	\$ 42,072	\$ 42,072	
235		723 - Waikoloa Resort Water	\$ 67,699	13.27%	13.13%	13.13%	\$ 2,097	\$ 710	\$ 3,787	\$ 49,457	\$ 49,640	\$ 53,427	\$ 53,427	
236		724 - Waikoloa Resort Sewer	\$ 92,712	18.18%	16.60%	16.60%	\$ 2,871	\$ 897	\$ 4,786	\$ 67,730	\$ 62,740	\$ 67,526	\$ 67,526	
237		725 - Waikoloa Irrigation	\$ 3,808	0.75%	0.71%	0.71%	\$ 118	\$ 39	\$ 206	\$ 2,782	\$ 2,702	\$ 2,908	\$ 2,908	
238		726 - Kona Water	\$ 53,846	10.56%	10.63%	10.63%	\$ 1,668	\$ 574	\$ 3,065	\$ 39,337	\$ 40,175	\$ 43,240	\$ 43,240	
239		727 - Kona Sewer	\$ 29,588	5.80%	5.86%	5.86%	\$ 916	\$ 317	\$ 1,681	\$ 21,615	\$ 22,171	\$ 23,862	\$ 23,862	
240	BIG ISLAND													
241		(2)Replacement Op. Computer Stations	\$ 2,081	12/1/13	MACRS 5	5	\$ 240	\$ 120	\$ -	\$ 1,961	\$ 2,081	\$ 2,081	\$ 2,081	
242		Mobile office trailer	\$ 23,867	12/1/11	MACRS 5	5	\$ -	\$ -	\$ -	\$ 23,867	\$ 23,867	\$ 23,867	\$ 23,867	
243		1996 Eagle Forklift	\$ 22,871	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 22,871	\$ 22,871	\$ 22,871	\$ 22,871	
244		20' Container Shelving-Baseyard	\$ 931	6/1/15	SL-25	25	\$ 37	\$ 37	\$ 37	\$ 112	\$ 149	\$ 186	\$ 186	
245		20' Container Shelving-EMT	\$ 455	6/1/15	SL-25	25	\$ 18	\$ 18	\$ 18	\$ 55	\$ 73	\$ 91	\$ 91	
246		20' Container Shelving-Baseyard	\$ 10,373	6/1/15	SL-25	25	\$ 415	\$ 415	\$ 415	\$ 1,245	\$ 1,660	\$ 2,075	\$ 2,075	
247		20' Container-EMT	\$ 5,312	6/1/15	SL-25	25	\$ 212	\$ 212	\$ 212	\$ 637	\$ 850	\$ 1,062	\$ 1,062	
248		Storage Contr	\$ 3,187	12/1/10	SL-25	25	\$ 127	\$ 127	\$ 127	\$ 1,020	\$ 1,147	\$ 1,275	\$ 1,275	
249		Nissan Frontier	\$ 27,030	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 27,030	\$ 27,030	\$ 27,030	\$ 27,030	
250		Nissan Titan	\$ 35,679	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 35,679	\$ 35,679	\$ 35,679	\$ 35,679	
251		FORD XCAB	\$ 26,901	6/1/12	MACRS 5	5	\$ 1,549	\$ -	\$ -	\$ 26,901	\$ 26,901	\$ 26,901	\$ 26,901	
252		FORD XCAB	\$ 26,395	6/1/12	MACRS 5	5	\$ 1,520	\$ -	\$ -	\$ 26,395	\$ 26,395	\$ 26,395	\$ 26,395	

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - Federal (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
							5	5	5	\$	\$	\$
253		Ford F-150	30,500	9/1/12	MACRS 5	1,757	-	-	30,500	30,500	30,500	
254		Ford F-150	30,500	9/1/12	MACRS 5	1,757	-	-	30,500	30,500	30,500	
255		Ford F-150	30,500	9/1/12	MACRS 5	1,757	-	-	30,500	30,500	30,500	
256		FRONTIER	25,350	6/1/12	MACRS 5	1,460	-	-	25,350	25,350	25,350	
257		Ford Explorer	37,497	9/1/12	MACRS 5	2,160	-	-	37,497	37,497	37,497	
258		2014 Nissan Frontier. V214001	35,122	4/1/14	MACRS 5	4,046	4,046	2,023	29,053	33,099	35,122	
259		3 Ipad for Hawaii Island	2,542	9/1/13	MACRS 5	293	146	-	2,396	2,542	2,542	
260		Desk w/Drawer	959	9/1/12	MACRS 7	86	86	43	831	916	959	
261		69"x43"x 18"	1,311	9/1/12	MACRS 7	117	117	58	1,135	1,253	1,311	
262		Diesel tank	725	12/1/11	MACRS 7	65	32	-	693	725	725	
263		GIS Software	7,621	12/1/11	MACRS 5	-	-	-	7,621	7,621	7,621	
264		Backflow Test Kit-Midwest 835	1,202	8/1/15	MACRS 5	231	138	138	856	994	1,133	
265		Big Island SCADA 2012	495,319	10/1/14	MACRS 5	57,061	57,061	28,530	409,728	466,788	495,319	
266		Book Case	298	9/1/12	MACRS 7	27	27	13	258	284	298	
267		Motorola Hardware	4,401	6/1/12	MACRS 5	254	-	-	4,401	4,401	4,401	
268		Work Order Addition	2,144	6/1/12	MACRS 5	124	-	-	2,144	2,144	2,144	
269		Misc. Wiring & Cables	544	6/1/12	MACRS 5	31	-	-	544	544	544	
270		Work Order Addition	747	6/1/12	MACRS 5	43	-	-	747	747	747	
271		1 desktops	1,133	4/1/13	MACRS 5	131	65	-	1,068	1,133	1,133	
272		1 desktops	1,133	4/1/13	MACRS 5	131	65	-	1,068	1,133	1,133	
273		Desktop-HIWKLOC56	1,572	12/1/14	MACRS 5	181	81	91	1,301	1,482	1,572	
274		Desktop-HIWKLOC57	1,613	12/1/14	MACRS 5	186	86	93	1,334	1,520	1,613	
275		dryer @ baseyard	503	4/1/17	MACRS 5	101	161	97	101	261	358	
276		Exec Chair	351	9/1/12	MACRS 7	31	31	16	304	335	351	
277		Work Order Addition	51	9/1/13	MACRS 5	6	3	-	48	51	51	
278		Work Order Addition	182	9/1/12	MACRS 5	11	-	-	182	182	182	
279		Work Order Addition	13,813	6/1/12	MACRS 5	796	-	-	13,813	13,813	13,813	
280		EMT Laptop	4,509	3/1/14	MACRS 5	519	519	260	3,730	4,249	4,509	
281		Hand Helds	19,147	12/1/10	MACRS 5	-	-	-	19,147	19,147	19,147	
282		Desk Dock	2,793	12/1/10	MACRS 5	-	-	-	2,793	2,793	2,793	
283		Personnel Lift	5,844	6/1/12	MACRS 5	337	-	-	5,844	5,844	5,844	
284		Software	2,995	9/1/12	MACRS 5	173	-	-	2,995	2,995	2,995	
285		Hardware	8,824	9/1/12	MACRS 5	508	-	-	8,824	8,824	8,824	
286		Gradall lifting hook attachment	2,427	12/1/10	MACRS 5	280	280	140	2,008	2,287	2,427	
287		Forklift	27,625	12/1/10	MACRS 5	-	-	-	27,625	27,625	27,625	
288		HON chair	636	2/1/14	MACRS 7	79	57	57	438	494	551	
289		Hydro Jetter	5,941	12/1/10	MACRS 5	-	-	-	5,941	5,941	5,941	
290		Ice Maker-Mantovac ID-0452A	4,536	9/1/16	MACRS 5	1,451	871	523	2,359	3,230	3,752	
291		Ingersoll Needler/Chisel Sci	773	9/1/13	MACRS 5	89	45	-	728	773	773	
292		Internal labor	21,402	7/1/13	MACRS 5	2,465	1,233	-	20,169	21,402	21,402	
293		Knoll task chair	13,806	2/1/14	MACRS 7	1,724	1,233	1,231	9,493	10,726	11,957	
294		1 laptops	1,165	4/1/13	MACRS 5	134	67	-	1,098	1,165	1,165	
295		1 laptops	1,165	4/1/13	MACRS 5	134	67	-	1,098	1,165	1,165	
296		Laptop, EMT-HIWKOCLT02	1,631	11/1/16	MACRS 5	522	313	188	1,088	1,161	1,349	
297		Lateral File	525	9/1/12	MACRS 5	30	-	-	525	525	525	
298		Work Order Addition	1,447	12/1/11	MACRS 5	-	-	-	1,447	1,447	1,447	
299		Work Order Addition	4,571	12/1/11	MACRS 5	-	-	-	4,571	4,571	4,571	
300		Work Order Addition	16,749	6/1/11	MACRS 5	-	-	-	16,749	16,749	16,749	
301		New IP phone system	19,704	6/1/13	MACRS 5	2,270	1,135	-	18,569	19,704	19,704	
302		New Hydraulic Hammer	9,847	12/1/13	MACRS 5	1,134	967	-	9,280	9,847	9,847	
303		Office Furnishings	6,706	2/1/14	MACRS 7	838	599	598	4,611	5,210	5,808	

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - Federal (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
304		Office furniture & equip	4,134	9/1/12	MACRS 7	7	369	369	369	3,581	3,950	4,134
305		Work Order Addition	47	9/1/12	MACRS 5	5	3	-	-	47	47	47
306		Work Order Addition	90	9/1/12	MACRS 5	5	5	-	-	90	90	90
307		Portable generator, 3500w, EMT's	518	12/1/16	MACRS 5	5	166	99	60	269	369	428
308		Power Quality Analyzer	8,416	3/1/15	MACRS 5	5	1,616	970	970	5,993	6,962	7,932
309		Printer Cart	75	9/1/12	MACRS 5	5	4	-	-	75	75	75
310		Projector-Dell 1610HD	626	12/1/16	MACRS 5	5	200	120	72	326	446	518
311		Electrical Upgrade	8,770	12/1/11	MACRS 5	5	-	-	-	8,770	8,770	8,770
312		Respirator supplied air system	4,239	12/1/16	MACRS 5	5	1,356	814	488	2,204	3,018	3,506
313		Richo Copier	10,588	11/1/11	MACRS 5	5	-	-	-	10,588	10,588	10,588
314		Richo Fax Module	1,045	11/1/11	MACRS 5	5	-	-	-	1,045	1,045	1,045
315		RICOH MPC3004-Engineering office	8,282	12/1/16	MACRS 5	5	2,650	1,590	954	4,307	5,897	6,851
316		Relc computer w/laptop for Eng Mgr	1,478	10/1/14	MACRS 5	5	170	170	85	1,223	1,393	1,478
317		SCADA INET-II 900 Dual Gateway	22,377	3/1/16	MACRS 5	5	7,161	4,296	2,578	11,636	15,932	18,510
318		SCADA radio data link	53,201	9/30/18	MACRS 5	5	-	10,640	17,024	33,863	46,119	27,664
319		SCADA upgrade 2013	64,775	3/1/16	MACRS 5	5	20,728	12,437	7,462	5,480	7,503	53,581
320		SCADAPack 32	10,539	3/1/16	MACRS 5	5	3,372	2,023	1,214	2,481	3,397	3,947
321		Scaffolding	4,771	3/1/16	MACRS 5	5	1,527	916	550	15	15	15
322		Work Order Addition	15	12/1/11	MACRS 5	5	-	-	-	15	15	15
323		Tools & Equipment	994	6/1/13	MACRS 5	5	114	57	-	937	994	994
324		Trailer, emergency compressor	426	3/1/16	SL-25	25	17	17	17	34	51	68
325		Trailer, emergency generator EG6500	2,073	3/1/16	SL-25	25	83	83	83	166	249	332
326		Trailer, emergency 6x12 w/ramp	7,800	3/1/16	SL-25	25	312	312	312	624	936	1,248
327		Work Order Addition	58,793	9/1/12	MACRS 5	5	3,386	-	-	58,793	58,793	58,793
328		V208214, Ford F-150	6,817	12/1/10	MACRS 5	5	-	-	-	6,817	6,817	6,817
329		V208216, Chevy Silverad	9,017	12/1/10	MACRS 5	5	-	-	-	9,017	9,017	9,017
330		V208217, Chevy 3500	29,139	12/1/10	MACRS 5	5	-	-	-	29,139	29,139	29,139
331		V208222, 08 TOY 4 RUNNER	32,269	12/1/08	MACRS 5	5	-	-	-	32,269	32,269	32,269
332		Visitor Chair	169	9/1/12	MACRS 7	7	15	15	8	146	161	169
333		Air Compressor, portable	21,139	9/1/17	SL-25	25	846	846	846	1,691	1,691	2,537
334		Septic Tank, Baseyard	15,054	9/1/17	SL-25	25	602	602	602	602	1,204	1,807
335		Socket fusion kit, 20-63mm	662	12/1/17	MACRS 5	5	132	212	127	132	344	471
336		Socket welding prep	1,587	12/1/17	MACRS 5	5	317	508	305	317	825	1,130
337		SCADA Report Writer System	47,771	7/1/18	SL-25	25	-	1,911	1,911	-	1,911	3,822
338		Fuel Station	144,199	12/31/18	SL-25	25	-	5,768	5,768	-	5,768	11,536
339		Base Yard Security Cameras	10,014	11/30/18	MACRS 5	5	-	2,003	3,204	-	2,003	5,207
340		Big Island Radio Communication	49,355	8/31/18	MACRS 5	5	-	9,871	15,794	-	9,871	25,665
341		EMT Service Truck	52,220	7/1/18	MACRS 5	5	-	10,444	16,710	-	10,444	27,154
342		Handheld Meter Readers	8,673	10/31/17	MACRS 5	5	1,735	2,775	1,665	1,735	4,510	6,175
343		EMT Service Truck Tools	8,787	7/1/18	MACRS 5	5	-	1,757	2,812	-	1,757	4,569
344		Portable Air Compressor	21,139	6/30/17	MACRS 5	5	4,228	6,764	4,059	4,228	10,992	15,051
345		Iron Handheld Meter Readers	26,765	7/1/18	MACRS 5	5	-	5,353	8,565	-	5,353	13,918
346		Engineering PM Vehicle	32,468	1/25/18	MACRS 5	5	-	6,494	10,390	-	6,494	16,884
347		Jetting/Vacuum Truck/Pukalani	328,447	7/1/13	MACRS 5	5	37,837	18,919	-	309,528	328,447	328,447
348		Jetting/Vacuum Truck/Pukalani	6,577	7/1/13	MACRS 5	5	758	379	-	6,198	6,577	6,577
349		2018 Toyota Tacoma TRD 4x4	39,732	7/1/18	MACRS 5	5	-	7,946	12,714	-	7,946	20,661
350		Boom Truck (WO 118340)	353,553	5/31/19	MACRS 5	5	-	-	-	-	-	70,711
351		Valve Exercise Trailer (WO 118326)	36,773	7/31/19	MACRS 5	5	-	-	-	-	-	7,355
352		SCADA Vulnerability Assessment (WO 117252)	41,804	9/30/19	MACRS 5	5	-	-	-	-	-	8,361
		Total	2,695,684				179,356	187,743	238,867	1,525,970	1,713,713	1,952,580

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - Federal (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method		Annual Amortization			Accumulated Depreciation				
					2018	2019	2017	2018	2019	2017	2018	2019		
354		BIG ISLAND ALLOCATIONS												
355		721 - Waikoloa Water	\$ 494,224	2017	18.33%	19.10%	\$ 32,883	\$ 35,858	\$ 45,622	\$ 279,770	\$ 327,309	\$ 212,342	\$ 248,213	\$ 282,811
356		722 - Waikoloa Sewer	\$ 375,109	2017	13.92%	14.48%	\$ 24,958	\$ 27,193	\$ 34,597	\$ 212,342	\$ 248,213	\$ 292,015	\$ 329,890	\$ 375,871
357		723 - Waikoloa Resort Water	\$ 515,855	2017	19.14%	19.25%	\$ 34,322	\$ 36,140	\$ 45,982	\$ 387,607	\$ 404,262	\$ 387,607	\$ 404,262	\$ 460,610
358		724 - Waikoloa Resort Sewer	\$ 684,723	2017	25.40%	23.59%	\$ 45,558	\$ 44,288	\$ 56,348	\$ 387,607	\$ 404,262	\$ 387,607	\$ 404,262	\$ 460,610
359		725 - Waikoloa Resort Irrigation	\$ 27,443	2017	1.02%	0.99%	\$ 1,826	\$ 1,860	\$ 2,367	\$ 15,535	\$ 16,978	\$ 15,535	\$ 16,978	\$ 19,345
360		726 - Kona Water	\$ 388,019	2017	14.39%	14.64%	\$ 25,817	\$ 27,490	\$ 34,975	\$ 219,650	\$ 250,924	\$ 219,650	\$ 250,924	\$ 285,839
361		727 - Kona Sewer	\$ 210,311	2017	7.80%	7.94%	\$ 13,993	\$ 14,914	\$ 18,975	\$ 119,053	\$ 136,136	\$ 119,053	\$ 136,136	\$ 155,111

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - State
 Test Year Ending December 31, 2019

Line No.	Description	2017			2018			2019		
		Acc. Tax Dep. Balance as of Dec. 31, 2017	Dep. Exp.	Adjustments	Acc. Tax Dep. Balance as of Dec. 31, 2018	Dep. Exp.	Adjustments	Acc. Tax Dep. Balance as of Dec. 31, 2019	Dep. Exp.	Adjustments
5	Intangible	\$ -	\$ 3,694	\$ -	\$ 3,694	\$ 6,145	\$ -	\$ 9,839		
6	Land and land rights	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
7	Structures and Improvements	\$ 1,328,176	\$ 104,576	\$ -	\$ 1,432,752	\$ 107,111	\$ -	\$ 1,539,863		
8	Pumping Equipment	\$ 1,293,241	\$ 137,776	\$ -	\$ 1,431,017	\$ 160,352	\$ -	\$ 1,591,368		
9	Treatment Equipment	\$ 102,183	\$ 19,321	\$ -	\$ 121,503	\$ 19,808	\$ -	\$ 141,311		
10	Transmission & Distribution Plant	\$ 3,217,786	\$ 217,305	\$ -	\$ 3,435,091	\$ 217,975	\$ -	\$ 3,653,066		
11	Reservoirs	\$ 1,378,930	\$ 98,913	\$ -	\$ 1,477,842	\$ 110,855	\$ -	\$ 1,588,697		
12	Wells	\$ 62	\$ 31	\$ -	\$ 93	\$ 31	\$ -	\$ 123		
13	Office Furniture and Equipment	\$ 6,284	\$ -	\$ -	\$ 6,284	\$ -	\$ -	\$ 6,284		
14	Transportation	\$ 138,394	\$ 6,525	\$ -	\$ 144,919	\$ 11,077	\$ -	\$ 155,996		
15	Tools and Laboratory Equipment	\$ 34,792	\$ 6,539	\$ -	\$ 41,331	\$ 5,196	\$ -	\$ 46,526		
16	General Plant	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
17	Asset Retirement Obligation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
18	Hawaii Water GO Allocation	\$ 37,763	\$ 805	\$ -	\$ 38,568	\$ 2,942	\$ -	\$ 41,510		
19	Big Island Allocation	\$ 210,864	\$ 30,024	\$ -	\$ 240,887	\$ 33,576	\$ -	\$ 274,463		
20	Total	\$ 7,748,473	\$ 625,507	\$ 0	\$ 8,373,981	\$ 675,067	\$ 0	\$ 9,049,048		
21	Accumulated Book Depreciation	\$ 5,457,104			\$ 5,885,941			\$ 6,362,198		
22	ADIT Balance	(\$146,648)			(\$159,235)			(\$171,958)		

Kona Water Service Company, Inc. Water Operations
Accumulated Deferred Income Taxes - State (Detail)
Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation			
							2017	2018	2019	2017	2018	2019	
1	103030	Intangible Plant											
2		Transmission system assessment (WO 109099)	\$ 36,943	7/1/2018	0	10	\$ -	\$ 3,694	\$ 3,694	\$ -	\$ 3,694	\$ 7,389	
3		Power System Assessment (WO 118149)	\$ 24,505	7/1/2019	0	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,451	
4		Total	\$ 61,448				\$ -	\$ 3,694	\$ 3,694	\$ -	\$ 3,694	\$ 9,839	
5	103110	Structures & Improvement - Supply Plant											
6		30"x94" Steel Doors	\$ 20,224	9/17/2013	SL-25	25	\$ 809	\$ 809	\$ 809	\$ 4,045	\$ 4,854	\$ 5,663	
7		36"x94" Steel Doors	\$ 7,490	9/17/2013	SL-25	25	\$ 300	\$ 300	\$ 300	\$ 1,498	\$ 1,798	\$ 2,097	
8		Emergency Shower-HR1,HR5,Makalei	\$ 5,405	3/11/2015	SL-25	25	\$ 216	\$ 216	\$ 216	\$ 649	\$ 865	\$ 1,081	
9		Pre-filter Skid Platform (WO 97224)	\$ 29,638	7/1/2018	SL-25	25	\$ -	\$ 1,186	\$ 1,186	\$ -	\$ 1,186	\$ 2,371	
10		Kukio Office Expansion (WO 67607)	\$ 63,360	11/30/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,534	
11		Total	\$ 126,117				\$ 1,325	\$ 2,510	\$ 5,045	\$ 6,191	\$ 8,702	\$ 13,746	
12	103210	Structures & Improvement - Pumping Plant											
13		Lawn Building	\$ 1,544	6/1/2012	SL-25	25	\$ 62	\$ 62	\$ 62	\$ 371	\$ 432	\$ 494	
14		Total	\$ 1,544				\$ 62	\$ 62	\$ 62	\$ 371	\$ 432	\$ 494	
15	103310	Structures & Improvement - Treatment Plant											
16		1.0 MG Water Filtration Plant	\$ 2,541,565	12/15/2005	SL-25	25	\$ 101,663	\$ 101,663	\$ 101,663	\$ 1,321,614	\$ 1,423,277	\$ 1,524,939	
17		Staircases for RO Plant (WO 97225)	\$ 2,210	7/1/2018	SL-25	25	\$ -	\$ 88	\$ 88	\$ -	\$ 88	\$ 177	
18		RO Plant Overhead Lighting (WO 118185)	\$ 6,326	12/31/2018	SL-25	25	\$ -	\$ 253	\$ 253	\$ -	\$ 253	\$ 506	
19		Total	\$ 2,550,102				\$ 101,663	\$ 102,004	\$ 102,004	\$ 1,321,614	\$ 1,423,618	\$ 1,525,622	
20	103240	Pumping Equipment											
21		ABB 6" Electromagnetic Flowmeter	\$ 5,225	4/1/2014	SL-25	25	\$ 209	\$ 209	\$ 209	\$ 836	\$ 1,045	\$ 1,254	
22		Auto transfer switch @ RO Plant	\$ 2,513	11/1/2016	SL-25	25	\$ 101	\$ 101	\$ 101	\$ 201	\$ 302	\$ 402	
23		Check Valves for Wells	\$ 3,255	3/1/2016	SL-25	25	\$ 130	\$ 130	\$ 130	\$ 260	\$ 391	\$ 521	
24		Engineering Labor	\$ 1,593	9/1/2010	SL-25	25	\$ 64	\$ 64	\$ 64	\$ 510	\$ 574	\$ 637	
25		Field Labor	\$ 2,718	9/1/2010	SL-25	25	\$ 109	\$ 109	\$ 109	\$ 870	\$ 979	\$ 1,087	
26		HR1 motor starter	\$ 9,591	12/1/2016	SL-25	25	\$ 384	\$ 384	\$ 384	\$ 767	\$ 1,151	\$ 1,535	
27		HR-1 to 4 Pump	\$ 486,739	6/30/2003	SL-25	25	\$ 19,470	\$ 19,470	\$ 19,470	\$ 292,043	\$ 311,513	\$ 330,982	
28		HR2 well power transformer	\$ 22,834	10/1/2014	SL-25	25	\$ 913	\$ 913	\$ 913	\$ 3,653	\$ 4,567	\$ 5,480	
29		HR2 well pump	\$ 98,340	5/1/2015	SL-25	25	\$ 3,934	\$ 3,934	\$ 3,934	\$ 11,801	\$ 15,734	\$ 19,668	
30		HR2 well starter	\$ 10,889	12/1/2013	SL-25	25	\$ 436	\$ 436	\$ 436	\$ 2,178	\$ 2,613	\$ 3,049	
31		HR3 AB control module	\$ 1,591	12/1/2016	SL-25	25	\$ 64	\$ 64	\$ 64	\$ 127	\$ 191	\$ 255	
32		HR3 well pump	\$ 112,502	10/1/2016	SL-25	25	\$ 4,500	\$ 4,500	\$ 4,500	\$ 9,000	\$ 13,500	\$ 18,000	
33		HR3 Well Pump	\$ 87,906	10/1/2014	SL-25	25	\$ 3,516	\$ 3,516	\$ 3,516	\$ 14,065	\$ 17,581	\$ 21,097	
34		HR-5 Pump	\$ 485,891	6/30/2003	SL-25	25	\$ 19,436	\$ 19,436	\$ 19,436	\$ 291,534	\$ 310,970	\$ 330,406	
35		Replace Pump Equipment	\$ 182,390	9/1/2010	SL-25	25	\$ 7,296	\$ 7,296	\$ 7,296	\$ 58,365	\$ 65,660	\$ 72,956	
36		Engineering Labor	\$ 1,609	9/1/2010	SL-25	25	\$ 64	\$ 64	\$ 64	\$ 515	\$ 579	\$ 644	
37		Field labor	\$ 1,609	9/1/2010	SL-25	25	\$ 64	\$ 64	\$ 64	\$ 515	\$ 579	\$ 644	
38		Work Order Addition	\$ 18,561	9/1/2010	SL-25	25	\$ 742	\$ 742	\$ 742	\$ 5,939	\$ 6,682	\$ 7,424	
39		Work Order Addition	\$ 13,564	9/1/2010	SL-25	25	\$ 542	\$ 542	\$ 542	\$ 4,337	\$ 4,879	\$ 5,422	
40		Work Order Addition	\$ 11,124	9/1/2010	SL-25	25	\$ 445	\$ 445	\$ 445	\$ 3,560	\$ 4,005	\$ 4,450	
41		Work Order Addition	\$ 78,654	9/1/2012	SL-25	25	\$ 3,146	\$ 3,146	\$ 3,146	\$ 18,877	\$ 22,023	\$ 25,169	
42		Replace Check	\$ 110,437	9/1/2010	SL-25	25	\$ 4,417	\$ 4,417	\$ 4,417	\$ 35,340	\$ 39,757	\$ 44,175	

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - State (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
43		Standby Pump, Motor, and Protector	\$ 156,931	9/1/2010	SL-25	25	\$ 6,277	\$ 6,277	\$ 6,277	\$ 50,218	\$ 56,495	\$ 62,773
44		Sub Column	\$ 60,927	9/1/2010	SL-25	25	\$ 2,437	\$ 2,437	\$ 2,437	\$ 19,497	\$ 21,934	\$ 24,371
45		Pump and Motor Installation	\$ 70,300	9/1/2010	SL-25	25	\$ 2,812	\$ 2,812	\$ 2,812	\$ 22,496	\$ 25,308	\$ 28,120
46		UME for well pump flow meter	\$ 72	12/1/2011	SL-25	25	\$ 3	\$ 3	\$ 3	\$ 20	\$ 23	\$ 26
47		HR3 SCADA for Generator	\$ 750	5/1/2015	SL-25	25	\$ 30	\$ 30	\$ 30	\$ 133	\$ 120	\$ 150
48		VFD drives @ booster pumps	\$ 3,337	6/1/2017	SL-25	25	\$ 133	\$ 133	\$ 133	\$ -	\$ -	\$ 400
49		HR-1 Well Pump (WO 103799)	\$ 97,021	7/1/2018	SL-25	25	\$ -	\$ 3,881	\$ 3,881	\$ -	\$ 3,881	\$ 7,762
50		HR-2 Well Pump Replacement (WO109757)	\$ 61,492	7/1/2018	SL-25	25	\$ -	\$ 2,460	\$ 2,460	\$ -	\$ 2,460	\$ 4,919
51		HR-2 6" Gate Valve Replacement (WO 116460)	\$ 3,368	7/1/2018	SL-25	25	\$ -	\$ 135	\$ 135	\$ -	\$ 135	\$ 269
52		HR-4 Well Pump Equipment (WO 112204)	\$ 170,641	7/1/2018	SL-25	25	\$ -	\$ 6,826	\$ 6,826	\$ -	\$ 6,826	\$ 13,651
53		HR-2 Well Pump Equipment (WO 114639)	\$ 107,137	7/1/2018	SL-25	25	\$ -	\$ 4,285	\$ 4,285	\$ -	\$ 4,285	\$ 8,571
54		HR-5 Power Transformer (WO 114685)	\$ 55,885	7/1/2018	SL-25	25	\$ -	\$ 2,235	\$ 2,235	\$ -	\$ 2,235	\$ 4,471
55		HR-5 Solenoid and Valve (WO 118186)	\$ 8,302	10/31/2018	SL-25	25	\$ -	\$ 332	\$ 332	\$ -	\$ 332	\$ 664
56		Critical Infrastructure - Well Pump (WO 118337)	\$ 99,737	7/1/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,989
57		HR-1 - HR-5 Power Monitors (WO 112031)	\$ 15,783	7/1/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 631
58		HR-1 Well Pump Equipment (WO 118614)	\$ 42,541	2/28/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,702
59		Junction Boxes for Pump Leads (WO 118150)	\$ 79,282	8/31/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,171
60		HR-3 Well Pump Equipment (WO 119302)	\$ 95,330	5/31/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,813
61		HR-5 Well Pump Equipment (WO 119543)	\$ 193,862	6/30/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,754
62		Total	\$ 3,072,227				\$ 81,674	\$ 101,828	\$ 122,889	\$ 847,749	\$ 949,576	\$ 1,072,465
63	103241	System Control Computer Equipment										
64		Foxboro Pressure Trans Cal 0-300 in PSI	\$ 2,931	9/1/2012	SL-25	25	\$ 117	\$ 117	\$ 117	\$ 704	\$ 821	\$ 938
65		Foxboro Pressure Trans Cal 0-50 in H2O	\$ 4,397	9/1/2012	SL-25	25	\$ 176	\$ 176	\$ 176	\$ 1,055	\$ 1,231	\$ 1,407
66		Foxboro Pressure Trans Cal 0-58 in H2O	\$ 2,931	9/1/2012	SL-25	25	\$ 117	\$ 117	\$ 117	\$ 704	\$ 821	\$ 938
67		Foxboro Pressure Trans Cal 0-92 in H2O	\$ 1,466	9/1/2012	SL-25	25	\$ 59	\$ 59	\$ 59	\$ 352	\$ 410	\$ 469
68		SCADA HR Well 5	\$ 621,586	1/1/2006	SL-25	25	\$ 24,863	\$ 24,863	\$ 24,863	\$ 298,361	\$ 323,225	\$ 348,088
69		SCADA HR Wells 1-4	\$ 124,324	1/1/2006	SL-25	25	\$ 4,973	\$ 4,973	\$ 4,973	\$ 59,675	\$ 64,648	\$ 69,621
70		SCADA Water Filtration Plant	\$ 141,069	3/31/2003	SL-25	25	\$ 5,643	\$ 5,643	\$ 5,643	\$ 84,641	\$ 90,284	\$ 95,927
71		SCADA Computer & Software (WO 112030)	\$ 37,867	7/1/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,515
72		Total	\$ 936,571				\$ 35,948	\$ 35,948	\$ 37,463	\$ 445,492	\$ 481,440	\$ 518,903
73	103320	Water Treatment Plant										
74		6" check valve @ RO discharge	\$ 1,160	11/1/2017	SL-25	25	\$ 46	\$ 46	\$ 46	\$ 46	\$ 93	\$ 139
75		Chemical Injection Pumps @ Makalei	\$ 1,835	8/1/2017	SL-25	25	\$ 73	\$ 73	\$ 73	\$ 73	\$ 147	\$ 220
76		Chlorine Analyzer	\$ 5,308	3/1/2015	SL-25	25	\$ 212	\$ 212	\$ 212	\$ 637	\$ 849	\$ 1,062
77		Degassing Station	\$ 84,513	3/31/2005	SL-25	25	\$ 3,381	\$ 3,381	\$ 3,381	\$ 43,947	\$ 47,327	\$ 50,708
78		Grundfos chemical injection pump	\$ 1,814	11/1/2016	SL-25	25	\$ 73	\$ 73	\$ 73	\$ 145	\$ 218	\$ 290
79		Grundfos chemical injection pump	\$ 1,052	11/1/2016	SL-25	25	\$ 42	\$ 42	\$ 42	\$ 84	\$ 126	\$ 168
80		Kukio RO Plant VFD	\$ 1,931	4/1/2014	SL-25	25	\$ 77	\$ 77	\$ 77	\$ 309	\$ 386	\$ 463
81		RO Membrane	\$ 174,566	12/1/2011	SL-25	25	\$ 6,983	\$ 6,983	\$ 6,983	\$ 48,879	\$ 55,861	\$ 62,844
82		RO Membranes	\$ 50,390	6/1/2014	SL-25	25	\$ 2,016	\$ 2,016	\$ 2,016	\$ 8,062	\$ 10,078	\$ 12,094
83		Kukio RO EC Sensor (WO 109369)	\$ 1,351	7/1/2018	SL-25	25	\$ -	\$ 54	\$ 54	\$ -	\$ 54	\$ 108
84		Chemical containment pallets (WO 102601)	\$ 1,114	7/1/2018	SL-25	25	\$ -	\$ 45	\$ 45	\$ -	\$ 45	\$ 89
85		RO Plant Surge Suppressor (WO 114855)	\$ 670	7/1/2018	SL-25	25	\$ -	\$ 27	\$ 27	\$ -	\$ 27	\$ 54
86		Pre-Filter Pressure Vessel (WO 93477)	\$ 76,503	7/1/2018	SL-25	25	\$ -	\$ 3,060	\$ 3,060	\$ -	\$ 3,060	\$ 6,120
87		RO Membrane Train B (WO 97229)	\$ 52,071	7/1/2018	SL-25	25	\$ -	\$ 2,083	\$ 2,083	\$ -	\$ 2,083	\$ 4,166
88		Water Quality Sensors (WO 97228)	\$ 14,586	11/30/2018	SL-25	25	\$ -	\$ 583	\$ 583	\$ -	\$ 583	\$ 1,167
89		Victaulic Coupling (WO 97230)	\$ 8,097	12/31/2018	SL-25	25	\$ -	\$ 324	\$ 324	\$ -	\$ 324	\$ 648

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - State (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
90		RO Bypass Blend Controller (WO 119025)	\$ 6,053	12/31/2018	SL-25	25	\$ -	\$ 242	\$ -	\$ -	\$ 242	\$ 484
91		Sampling Station (WO 118151)	\$ 12,190	7/1/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 488
92		Total	\$ 495,204				\$ 12,903	\$ 19,321	\$ 19,321	\$ 121,503	\$ 141,311	
93	103434	Transmission & Distribution Mains										
94		CIAC Phase 1A	\$ 2,121,440	1/1/2003	SL-25	25	\$ 84,858	\$ 84,858	\$ 84,858	\$ 1,357,721	\$ 1,442,579	
95		CIAC Phase 3 Increment 1	\$ 345,386	1/1/2007	SL-25	25	\$ 13,815	\$ 13,815	\$ 13,815	\$ 165,785	\$ 179,601	
96		CIAC Phase 3 Increment 2	\$ 403,733	1/1/2007	SL-25	25	\$ 16,149	\$ 16,149	\$ 16,149	\$ 193,792	\$ 209,941	
97		Flow Control Vault Lid	\$ 26,639	6/1/2011	SL-25	25	\$ 1,066	\$ 1,066	\$ 1,066	\$ 8,525	\$ 9,590	
98		Sampling Station	\$ 6,098	6/1/2013	SL-25	25	\$ 244	\$ 244	\$ 244	\$ 1,463	\$ 1,707	
99		Pressure Reducer (Outside the WFP)	\$ 4,800	1/1/2008	SL-25	25	\$ 192	\$ 192	\$ 192	\$ 2,304	\$ 2,688	
100		Road R and Access Road to 312'	\$ 26,884	10/31/2004	SL-25	25	\$ 1,075	\$ 1,075	\$ 1,075	\$ 15,055	\$ 16,130	
101		Road R and Access Road to 312'	\$ 2,193	12/31/2003	SL-25	25	\$ 88	\$ 88	\$ 88	\$ 1,316	\$ 1,491	
102		Road R and Access Road to 312'	\$ 574,612	3/31/2003	SL-25	25	\$ 22,984	\$ 22,984	\$ 22,984	\$ 344,767	\$ 367,752	
103		Kukio FCV Via-val Pilot Filter (WO 117161)	\$ 3,549	12/31/2018	SL-25	25	\$ -	\$ 142	\$ 142	\$ -	\$ 142	\$ 284
104		Total	\$ 3,515,333				\$ 140,471	\$ 140,613	\$ 140,613	\$ 2,115,210	\$ 2,255,823	
105	103435	Ductile Iron Pipe										
106		CIAC - Distribution Water lines	\$ 2,451,758	1/1/2005	SL-25	25	\$ 98,070	\$ 98,070	\$ 98,070	\$ 1,372,985	\$ 1,471,055	
107		HR 1 to 4 Transmission(16" Waterline)	\$ 739,804	6/30/2003	SL-25	25	\$ 29,592	\$ 29,592	\$ 29,592	\$ 473,474	\$ 503,067	
108		HR-5 to Transmission to 620' and PR Tanks	\$ 3,545,836	6/30/2003	SL-25	25	\$ 141,833	\$ 141,833	\$ 141,833	\$ 2,269,335	\$ 2,411,168	
109		Transmission lines from the 620' down to the 312' 1MG tank (5K of 16" line)	\$ 447,638	6/30/2003	SL-25	25	\$ 17,906	\$ 17,906	\$ 17,906	\$ 286,583	\$ 304,394	
110		Total	\$ 7,185,036				\$ 287,401	\$ 287,401	\$ 287,401	\$ 4,402,283	\$ 4,689,684	
111	103164	Supply Mains										
112		HR5 12" butterfly valve	\$ 14,033	12/1/2016	SL-25	25	\$ 561	\$ 561	\$ 561	\$ 1,123	\$ 1,684	\$ 2,245
113		10" Gate Valve (WO 108112)	\$ 9,984	12/31/2018	SL-25	25	\$ -	\$ 399	\$ 399	\$ -	\$ 399	\$ 799
114		Total	\$ 24,017				\$ 561	\$ 961	\$ 961	\$ 1,123	\$ 2,083	\$ 3,044
115	103460	Meters & Meter Boxes										
116		HR-1 & HR-4 Meter Replacement (WO 113505)	\$ 1,947	7/1/2018	SL-25	25	\$ -	\$ 78	\$ 78	\$ -	\$ 78	\$ 156
117		Meter Replacement Program (WO 118392)	\$ 16,750	2/29/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 670
118		Total	\$ 18,698				\$ -	\$ 78	\$ 78	\$ -	\$ 78	\$ 826
119	103480	Hydrants										
120		12 Fire Hydrants	\$ 28,603	5/1/2014	SL-25	25	\$ 1,144	\$ 1,144	\$ 1,144	\$ 4,577	\$ 5,721	\$ 6,865
121		Total	\$ 28,603				\$ 1,144	\$ 1,144	\$ 1,144	\$ 4,577	\$ 5,721	\$ 6,865
122	103420	Reservoirs & Tanks										
123		312' .5MG Glass fused steel tank	\$ 701,719	1/1/2006	SL-25	25	\$ 28,069	\$ 28,069	\$ 28,069	\$ 336,825	\$ 364,894	\$ 392,962
124		312' 1MG Glass fused steel tank	\$ 996,568	3/31/2003	SL-25	25	\$ 39,863	\$ 39,863	\$ 39,863	\$ 637,804	\$ 677,666	\$ 717,528
125		620' .5MG Glass fused steel tank	\$ 702,828	6/30/2003	SL-25	25	\$ 28,113	\$ 28,113	\$ 28,113	\$ 449,810	\$ 477,923	\$ 516,036
126		Anti climbs for Kona Water tanks A,B,C.#1	\$ 5,952	4/1/2012	SL-25	25	\$ 238	\$ 238	\$ 238	\$ 1,429	\$ 1,667	\$ 1,905

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - State (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
127		field supervision	\$ 59,231	3/1/2010	SL-25	25	\$ 2,369	\$ 2,369	\$ 2,369	\$ 18,954	\$ 21,323	\$ 23,692
128		Work Order Addition	\$ 6,515	3/1/2010	SL-25	25	\$ 261	\$ 261	\$ 261	\$ 2,085	\$ 2,346	\$ 2,606
129		Tank Modulating Float Valves (WO 112045)	\$ 298,560	7/1/2019	SL-25	25	-	-	\$ 11,942	-	-	\$ 11,942
130		Total	\$ 2,771,373				\$ 98,913	\$ 98,913	\$ 110,855	\$ 1,378,930	\$ 1,477,842	\$ 1,588,697
131	103150	Wells										
132		HR3.4" Neptune water meter UME	\$ 771	11/1/2016	SL-25	25	\$ 31	\$ 31	\$ 31	\$ 62	\$ 93	\$ 123
133		Total	\$ 771				\$ 31	\$ 31	\$ 31	\$ 62	\$ 93	\$ 123
134	103721	Electronic Equipment/Computers										
135		Work Order Addition	\$ 623	12/1/2010	MACRS 7	7	\$ 28	\$ -	\$ -	\$ 623	\$ 623	\$ 623
136		Color Copier	\$ 5,661	12/1/2010	MACRS 7	7	\$ 252	\$ -	\$ -	\$ 5,661	\$ 5,661	\$ 5,661
137		Total	\$ 6,284				\$ 280	\$ -	\$ -	\$ 6,284	\$ 6,284	\$ 6,284
138	103730	Transportation Equipment										
139		Tery X Mule	\$ 15,113	5/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 15,113	\$ 15,113	\$ 15,113
140		Toyota Tacoma	\$ 37,677	3/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 37,677	\$ 37,677	\$ 37,677
141		Toyota Tacoma	\$ 30,425	5/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 30,425	\$ 30,425	\$ 30,425
142		2 Engines	\$ 5,828	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 5,828	\$ 5,828	\$ 5,828
143		New med size DOT Approved Trailer	\$ 4,723	12/1/2013	MACRS 5	5	\$ 544	\$ 272	\$ -	\$ 4,451	\$ 4,723	\$ 4,723
144		F450 - Flat bed truck	\$ 54,281	5/1/2014	MACRS 5	5	\$ 6,253	\$ 6,253	\$ 3,127	\$ 44,901	\$ 51,154	\$ 54,281
145		Superintendent Vehicle (replacement) (WO 118345)	\$ 39,754	7/1/2019	MACRS 5	5	\$ -	\$ -	\$ 7,951	\$ -	\$ -	\$ 7,951
146		Total	\$ 187,799				\$ 6,797	\$ 6,525	\$ 11,077	\$ 138,394	\$ 144,919	\$ 155,996
147	103750	Laboratory Equipment										
148		Work Order Addition	\$ 222	12/1/2011	MACRS 7	7	\$ 20	\$ 10	\$ -	\$ 212	\$ 222	\$ 222
149		Work Order Addition	\$ 2,252	12/1/2011	MACRS 7	7	\$ 201	\$ 100	\$ -	\$ 2,152	\$ 2,252	\$ 2,252
150		Total	\$ 2,474				\$ 221	\$ 110	\$ -	\$ 2,364	\$ 2,474	\$ 2,474
151	103740	Stores Equipment										
152		40' Storage Container	\$ 11,841	6/1/2013	MACRS 5	5	\$ 1,364	\$ 682	\$ -	\$ 11,159	\$ 11,841	\$ 11,841
153		Forklift, Yale 50LX	\$ 15,262	12/1/2016	MACRS 5	5	\$ 4,884	\$ 2,930	\$ 1,758	\$ 7,936	\$ 10,866	\$ 12,624
154		Safety Cabinets (WO 106194)	\$ 2,823	7/1/2018	MACRS 7	7	\$ -	\$ 403	\$ 691	\$ -	\$ 403	\$ 1,095
155		Total	\$ 29,927				\$ 6,248	\$ 4,016	\$ 2,450	\$ 19,095	\$ 23,111	\$ 25,561
156	103780	Tools, Shop, Garage Equipment										
157		Fire Flow Test	\$ 832	12/1/2011	MACRS 7	7	\$ 74	\$ 37	\$ -	\$ 794	\$ 832	\$ 832
158		Spill Contain.	\$ 1,338	4/1/2012	MACRS 7	7	\$ 119	\$ 119	\$ 60	\$ 1,159	\$ 1,278	\$ 1,338
159		Brush cutters	\$ 1,160	11/1/2016	MACRS 7	7	\$ 284	\$ 203	\$ 145	\$ 450	\$ 653	\$ 798
160		Demolition Hammer & Accessories	\$ 1,580	9/1/2013	MACRS 7	7	\$ 141	\$ 141	\$ 141	\$ 1,228	\$ 1,368	\$ 1,510
161		DR mower 20hp pro tow behind	\$ 3,217	4/1/2014	MACRS 7	7	\$ 402	\$ 287	\$ 287	\$ 2,212	\$ 2,499	\$ 2,786
162		Portable meter	\$ 1,194	6/1/2013	MACRS 7	7	\$ 107	\$ 107	\$ 107	\$ 928	\$ 1,034	\$ 1,141
163		Work Order Addition	\$ 32	9/1/2013	MACRS 7	7	\$ 3	\$ 3	\$ 3	\$ 25	\$ 27	\$ 30
164		Work Order Addition	\$ 1,478	4/1/2012	MACRS 7	7	\$ 132	\$ 132	\$ 66	\$ 1,280	\$ 1,412	\$ 1,478

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - State (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
165		Water Data Logger	\$ 2,950	6/1/2013	MACRS 7	7	\$ 263	\$ 263	\$ 263	\$ 2,555	\$ 2,818	
166		Water Main PSI Monitoring	\$ 3,397	6/1/2013	MACRS 7	7	\$ 303	\$ 303	\$ 303	\$ 2,942	\$ 3,246	
167		Weed sprayer 27gal	\$ 474	4/1/2014	MACRS 7	7	\$ 59	\$ 42	\$ 42	\$ 368	\$ 411	
168		Mauka SCADA generators (WO 102602)	\$ 4,433	7/1/2018	MACRS 7	7	\$ -	\$ 633	\$ 1,086	\$ 633	\$ 1,719	
169		Metal detector (WO 102603)	\$ 994	7/1/2018	MACRS 7	7	\$ -	\$ 142	\$ 243	\$ 142	\$ 385	
170		Total	\$ 23,078				\$ 1,888	\$ 2,413	\$ 2,746	\$ 13,332	\$ 15,745	
171		CONTRIBUTIONS IN AID OF CONSTRUCTION										
172	103434	Transmission & Distribution Mains										
173		CIAC Phase 1A	\$ (2,121,440)	1/1/2003	SL-25	25	\$ (84,858)	\$ (84,858)	\$ (84,858)	\$ (1,357,721)	\$ (1,442,579)	
174		CIAC Phase 3 Increment 1	\$ (345,386)	1/1/2007	SL-25	25	\$ (13,815)	\$ (13,815)	\$ (13,815)	\$ (165,785)	\$ (179,601)	
175		CIAC Phase 3 Increment 2	\$ (403,793)	1/1/2007	SL-25	25	\$ (16,149)	\$ (16,149)	\$ (16,149)	\$ (193,792)	\$ (209,941)	
176		Total	\$ (2,870,558)				\$ (114,822)	\$ (114,822)	\$ (114,822)	\$ (1,717,298)	\$ (1,832,121)	
177	103435	Ductile Iron Pipe										
178		CIAC - Distribution Water line	\$ (2,451,758)	1/1/2005	SL-25	25	\$ (98,070)	\$ (98,070)	\$ (98,070)	\$ (1,372,985)	\$ (1,471,055)	
179		Total	\$ (2,451,758)				\$ (98,070)	\$ (98,070)	\$ (98,070)	\$ (1,372,985)	\$ (1,471,055)	
180		HAWAII GENERAL OFFICE										
181		790 Leasehold Improvements	\$ 16,190	5/1/2015	MACRS 7	7	\$ 2,832	\$ 2,022	\$ 1,446	\$ 11,133	\$ 12,578	
182		desks, conf table, chairs	\$ 2,938	3/1/2010	MACRS 7	7	\$ 131	\$ -	\$ -	\$ 2,938	\$ 2,938	
183		2 Cubical Work Stations	\$ 5,424	12/1/2010	MACRS 7	7	\$ 242	\$ -	\$ -	\$ 5,424	\$ 5,424	
184		Cherry Desk	\$ 821	12/1/2010	MACRS 7	7	\$ 37	\$ -	\$ -	\$ 821	\$ 821	
185		Cherry Drawer	\$ 68	12/1/2010	MACRS 7	7	\$ 3	\$ -	\$ -	\$ 68	\$ 68	
186		Cherry Credenza	\$ 489	12/1/2010	MACRS 7	7	\$ 22	\$ -	\$ -	\$ 489	\$ 489	
187		Cherry Corner Unit	\$ 388	12/1/2010	MACRS 7	7	\$ 17	\$ -	\$ -	\$ 388	\$ 388	
188		Regency Library	\$ 272	12/1/2010	MACRS 7	7	\$ 12	\$ -	\$ -	\$ 272	\$ 272	
189		Chairs	\$ 1,955	12/1/2010	MACRS 7	7	\$ 87	\$ -	\$ -	\$ 1,955	\$ 1,955	
190		Cherry Desk Shell 66"	\$ 412	12/1/2010	MACRS 7	7	\$ 18	\$ -	\$ -	\$ 412	\$ 412	
191		24" X 71" Credenza Shells	\$ 761	12/1/2010	MACRS 7	7	\$ 34	\$ -	\$ -	\$ 761	\$ 761	
192		Cherry Keyboard Drawer	\$ 68	12/1/2010	MACRS 7	7	\$ 3	\$ -	\$ -	\$ 68	\$ 68	
193		Executive Chair	\$ 449	12/1/2010	MACRS 7	7	\$ 20	\$ -	\$ -	\$ 449	\$ 449	
194		Desk Pedestal F/F	\$ 295	12/1/2010	MACRS 7	7	\$ 13	\$ -	\$ -	\$ 295	\$ 295	
195		Cherry Shelf Unit	\$ 468	12/1/2010	MACRS 7	7	\$ 21	\$ -	\$ -	\$ 468	\$ 468	
196		Cherry Storage Hutch	\$ 320	12/1/2010	MACRS 7	7	\$ 14	\$ -	\$ -	\$ 320	\$ 320	
197		Cherry Credenza 66"	\$ 681	12/1/2010	MACRS 7	7	\$ 30	\$ -	\$ -	\$ 681	\$ 681	
198		Regency Desk	\$ 948	12/1/2010	MACRS 7	7	\$ 42	\$ -	\$ -	\$ 948	\$ 948	
199		2 Drawer Lateral File	\$ 2,754	12/1/2010	MACRS 7	7	\$ 123	\$ -	\$ -	\$ 2,754	\$ 2,754	
200		3, 42" 4 Drawer Lateral File Cabinets	\$ 492	12/1/2010	MACRS 7	7	\$ 22	\$ -	\$ -	\$ 492	\$ 492	
201		Cherry Desk Pedestal B/B/F	\$ 545	12/1/2010	MACRS 7	7	\$ 24	\$ -	\$ -	\$ 545	\$ 545	
202		Regency Lateral File	\$ 2,291	12/1/2011	MACRS 7	7	\$ 205	\$ 102	\$ -	\$ 2,291	\$ 2,291	
203		Fireproof safe for Customer Service office.	\$ 2,923	5/1/2015	MACRS 5	5	\$ 561	\$ 337	\$ 337	\$ 2,418	\$ 2,754	
204		Ricoh Aficio MP C3001	\$ 606	5/1/2015	MACRS 7	7	\$ 106	\$ 76	\$ 54	\$ 416	\$ 470	
205		790 Office Furniture	\$ 6,875	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 6,875	\$ 6,875	
206		Automated Electronic Defibrillators										

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - State (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
207		License for Capture Now	\$ 227	12/1/2010	MACRS 3	3	\$ -	\$ -	\$ -	\$ 227	\$ 227	\$ 227
208		Fujitsu F16140 scanner	\$ 1,599	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 1,599	\$ 1,599	\$ 1,599
209		Ricoh MP 4001SP Copier w/Finisher	\$ 10,259	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 10,259	\$ 10,259	\$ 10,259
210		Monitors	\$ 1,159	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 1,159	\$ 1,159	\$ 1,159
211		Mitel EP Dig 6 Line Model 8560 Telephone	\$ 7,778	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 7,778	\$ 7,778	\$ 7,778
212		ELECTRONICS [681]	\$ 714	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 714	\$ 714	\$ 714
213		8-way video conferencing system	\$ 35,698	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 35,698	\$ 35,698	\$ 35,698
214		Hewlett Packard laser printer	\$ 1,066	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 1,066	\$ 1,066	\$ 1,066
215		Desktop-HIWKCLS40	\$ 774	12/1/2014	MACRS 5	5	\$ 89	\$ 89	\$ 45	\$ 640	\$ 730	\$ 774
216		Desktop-HIWKCLS39	\$ 774	12/1/2014	MACRS 5	5	\$ 89	\$ 89	\$ 45	\$ 640	\$ 730	\$ 774
217		Desktop-HIWKCLS37	\$ 774	12/1/2014	MACRS 5	5	\$ 89	\$ 89	\$ 45	\$ 640	\$ 730	\$ 774
218		Desktop-HIWKCLS38	\$ 774	12/1/2014	MACRS 5	5	\$ 89	\$ 89	\$ 45	\$ 640	\$ 730	\$ 774
219		Desktop-HIWKCLS36	\$ 774	12/1/2014	MACRS 5	5	\$ 89	\$ 89	\$ 45	\$ 640	\$ 730	\$ 774
220		Desktop-HIWKCLS41	\$ 774	12/1/2014	MACRS 5	5	\$ 89	\$ 89	\$ 45	\$ 640	\$ 730	\$ 774
221		790 Server & Server room upgrade	\$ 16,944	5/1/2015	MACRS 5	5	\$ 3,253	\$ 1,952	\$ 1,952	\$ 12,064	\$ 14,016	\$ 15,968
222		Hawaii Business Unit Software	\$ 127,067	12/1/2010	MACRS 3	3	\$ -	\$ -	\$ -	\$ 127,067	\$ 127,067	\$ 127,067
223		RMS Software	\$ 88,732	3/1/2014	MACRS 3	3	\$ 6,575	\$ -	\$ -	\$ 88,732	\$ 88,732	\$ 88,732
224		phone system with 8 phones	\$ 23,864	3/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 23,864	\$ 23,864	\$ 23,864
225		Miscellaneous Kitchen Equipment	\$ 941	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 941	\$ 941	\$ 941
226		laptop for CS Mgr	\$ 1,436	4/1/2014	MACRS 5	5	\$ 165	\$ 165	\$ 83	\$ 1,188	\$ 1,353	\$ 1,436
227		Wastewater Manager Vehicle (WO 119213)	\$ 42,765	2/28/2019	MACRS 5	5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,553
228		SCADA Upgrade 2018 (WO 118883)	\$ 74,959	1/31/2019	MACRS 5	5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,992
229		Total	\$ 489,662				\$ 15,165	\$ 5,189	\$ 27,684	\$ 357,719	\$ 362,908	\$ 390,592
230		HAWAII GENERAL OFFICE ALLOCATIONS										
231		700 - Kaanapali	\$ 106,394	21.73%	2017	2019	\$ 3,295	\$ 1,125	\$ 5,999	\$ 77,718	\$ 78,644	\$ 84,643
232		701 - Pukalani	\$ 33,647	6.87%	2017	2019	\$ 1,042	\$ 405	\$ 2,161	\$ 24,581	\$ 28,330	\$ 30,491
233		721 - Waikoloa Water	\$ 62,831	12.83%	2017	2019	\$ 1,946	\$ 687	\$ 3,667	\$ 45,900	\$ 48,078	\$ 51,745
234		722 - Waikoloa Sewer	\$ 49,054	10.02%	2017	2019	\$ 1,519	\$ 537	\$ 2,863	\$ 35,836	\$ 37,526	\$ 40,389
235		723 - Waikoloa Resort Water	\$ 64,991	13.27%	2017	2019	\$ 2,013	\$ 681	\$ 3,635	\$ 47,479	\$ 47,655	\$ 51,290
236		724 - Waikoloa Resort Sewer	\$ 89,003	18.18%	2017	2019	\$ 2,757	\$ 861	\$ 4,595	\$ 65,020	\$ 60,230	\$ 64,825
237		725 - Waikoloa Resort Irrigation	\$ 3,656	0.75%	2017	2019	\$ 113	\$ 37	\$ 198	\$ 2,671	\$ 2,594	\$ 2,792
238		726 - Kona Water	\$ 51,692	10.56%	2017	2019	\$ 1,601	\$ 551	\$ 2,842	\$ 37,763	\$ 38,568	\$ 41,510
239		727 - Kona Sewer	\$ 28,404	5.80%	2017	2019	\$ 880	\$ 304	\$ 1,624	\$ 20,751	\$ 21,284	\$ 22,907
240		BIG ISLAND										
241		(2)Replacement Op Computer Stations	\$ 1,998	12/1/2013	MACRS 5	5	\$ 230	\$ 115	\$ -	\$ 1,883	\$ 1,998	\$ 1,998
242		Mobile office trailer	\$ 22,912	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 22,912	\$ 22,912	\$ 22,912
243		1996 Eagle Forklift	\$ 21,956	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 21,956	\$ 21,956	\$ 21,956
244		20' Container Shelving-Baseyard	\$ 894	6/1/2015	SL-25	25	\$ 36	\$ 36	\$ 36	\$ 107	\$ 143	\$ 179
245		20' Container Shelving-EMT	\$ 437	6/1/2015	SL-25	25	\$ 17	\$ 17	\$ 17	\$ 52	\$ 70	\$ 87
246		20' Container Shelving-Baseyard	\$ 9,958	6/1/2015	SL-25	25	\$ 398	\$ 398	\$ 398	\$ 1,195	\$ 1,593	\$ 1,992
247		20' Container-EMT	\$ 5,100	6/1/2015	SL-25	25	\$ 204	\$ 204	\$ 204	\$ 612	\$ 816	\$ 1,020
248		Storage Contir	\$ 3,060	12/1/2010	SL-25	25	\$ 122	\$ 122	\$ 122	\$ 979	\$ 1,102	\$ 1,224
249		Nissan Frontier	\$ 25,949	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 25,949	\$ 25,949	\$ 25,949
250		Nissan Titan	\$ 34,252	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 34,252	\$ 34,252	\$ 34,252
251		FORD XCAB	\$ 25,825	6/1/2012	MACRS 5	5	\$ -	\$ -	\$ -	\$ 25,825	\$ 25,825	\$ 25,825
252		FORD XCAB	\$ 25,339	6/1/2012	MACRS 5	5	\$ 1,487	\$ -	\$ -	\$ 25,339	\$ 25,339	\$ 25,339

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - State (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
253		Ford F-150	\$ 29,280	9/1/2012	MACRS 5	5	\$ 1,687	\$ -	\$ -	\$ 29,280	\$ 29,280	\$ 29,280
254		Ford F-150	\$ 29,280	9/1/2012	MACRS 5	5	\$ 1,687	\$ -	\$ -	\$ 29,280	\$ 29,280	\$ 29,280
255		Ford F-150	\$ 29,280	9/1/2012	MACRS 5	5	\$ 1,687	\$ -	\$ -	\$ 29,280	\$ 29,280	\$ 29,280
256		FRONTIER	\$ 24,336	6/1/2012	MACRS 5	5	\$ 1,402	\$ -	\$ -	\$ 24,336	\$ 24,336	\$ 24,336
257		Ford Explorer	\$ 35,997	9/1/2012	MACRS 5	5	\$ 2,073	\$ -	\$ -	\$ 35,997	\$ 35,997	\$ 35,997
258		2014 Nissan Frontier. V214001	\$ 33,717	4/1/2014	MACRS 5	5	\$ 3,884	\$ 3,884	\$ 1,942	\$ 27,891	\$ 31,775	\$ 33,717
259		3 iPad for Hawaii Island	\$ 2,441	9/1/2013	MACRS 5	5	\$ 281	\$ 141	\$ -	\$ 2,300	\$ 2,441	\$ 2,441
260		Desk w Drawer	\$ 921	9/1/2012	MACRS 7	7	\$ 82	\$ 82	\$ 41	\$ 797	\$ 880	\$ 921
261		69"x43"x 18"	\$ 1,259	9/1/2012	MACRS 7	7	\$ 112	\$ 112	\$ 56	\$ 1,090	\$ 1,202	\$ 1,259
262		Diesel tank	\$ 696	12/1/2011	MACRS 7	7	\$ 62	\$ 31	\$ -	\$ 665	\$ 696	\$ 696
263		GIS Software	\$ 7,316	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 7,316	\$ 7,316	\$ 7,316
264		Backflow Test Kit-Midwest 835	\$ 1,154	8/1/2015	MACRS 5	5	\$ 222	\$ 133	\$ 133	\$ 821	\$ 954	\$ 1,087
265		Big Island SCADA 2012	\$ 475,506	10/1/2014	MACRS 5	5	\$ 54,778	\$ 54,778	\$ 27,389	\$ 393,338	\$ 448,117	\$ 475,506
266		Book Case	\$ 286	9/1/2012	MACRS 7	7	\$ 25	\$ 26	\$ 13	\$ 247	\$ 273	\$ 286
267		Motorola Hardware	\$ 4,225	6/1/2012	MACRS 5	5	\$ 243	\$ -	\$ -	\$ 4,225	\$ 4,225	\$ 4,225
268		Work Order Addition	\$ 2,059	6/1/2012	MACRS 5	5	\$ 119	\$ -	\$ -	\$ 2,059	\$ 2,059	\$ 2,059
269		Misc. Wiring & Cables	\$ 522	6/1/2012	MACRS 5	5	\$ 30	\$ -	\$ -	\$ 522	\$ 522	\$ 522
270		Work Order Addition	\$ 717	6/1/2012	MACRS 5	5	\$ 41	\$ -	\$ -	\$ 717	\$ 717	\$ 717
271		1 desktops	\$ 1,088	4/1/2013	MACRS 5	5	\$ 125	\$ 63	\$ -	\$ 1,025	\$ 1,088	\$ 1,088
272		1 desktops	\$ 1,088	4/1/2013	MACRS 5	5	\$ 125	\$ 63	\$ -	\$ 1,025	\$ 1,088	\$ 1,088
273		Desktop-HWKLOC56	\$ 1,509	12/1/2014	MACRS 5	5	\$ 174	\$ 174	\$ 87	\$ 1,249	\$ 1,422	\$ 1,509
274		Desktop-HWKLOC57	\$ 1,549	12/1/2014	MACRS 5	5	\$ 178	\$ 178	\$ 89	\$ 1,281	\$ 1,459	\$ 1,549
275		dryer @ baseyard	\$ 483	9/1/2012	MACRS 5	5	\$ 97	\$ 154	\$ 93	\$ 97	\$ 251	\$ 344
276		Exec Chair	\$ 337	9/1/2012	MACRS 7	7	\$ 30	\$ 30	\$ 15	\$ 292	\$ 322	\$ 337
277		Work Order Addition	\$ 49	9/1/2013	MACRS 5	5	\$ 6	\$ 3	\$ -	\$ 46	\$ 49	\$ 49
278		Work Order Addition	\$ 175	9/1/2012	MACRS 5	5	\$ 10	\$ -	\$ -	\$ 175	\$ 175	\$ 175
279		Work Order Addition	\$ 13,260	6/1/2012	MACRS 5	5	\$ 764	\$ -	\$ -	\$ 13,260	\$ 13,260	\$ 13,260
280		EMT Laptop	\$ 4,328	3/1/2014	MACRS 5	5	\$ 499	\$ 499	\$ 249	\$ 3,580	\$ 4,079	\$ 4,328
281		Hand Helds	\$ 18,382	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 18,382	\$ 18,382	\$ 18,382
282		Desk Dock	\$ 2,681	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 2,681	\$ 2,681	\$ 2,681
283		Personnel Lift	\$ 5,610	6/1/2012	MACRS 5	5	\$ 323	\$ -	\$ -	\$ 5,610	\$ 5,610	\$ 5,610
284		Software	\$ 2,875	9/1/2012	MACRS 5	5	\$ 166	\$ -	\$ -	\$ 2,875	\$ 2,875	\$ 2,875
285		Hardware	\$ 8,471	9/1/2012	MACRS 5	5	\$ 488	\$ -	\$ -	\$ 8,471	\$ 8,471	\$ 8,471
286		Gradall lifting hook attachment	\$ 2,330	12/1/2014	MACRS 5	5	\$ 268	\$ 268	\$ 134	\$ 1,927	\$ 2,196	\$ 2,330
287		Forklift	\$ 26,520	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 26,520	\$ 26,520	\$ 26,520
288		HON chair	\$ 611	2/1/2014	MACRS 7	7	\$ 76	\$ 55	\$ 54	\$ 420	\$ 475	\$ 529
289		Hydro Jetter	\$ 5,703	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 5,703	\$ 5,703	\$ 5,703
290		Ice Maker-Manitowac ID-0452A	\$ 4,354	9/1/2016	MACRS 5	5	\$ 1,393	\$ 836	\$ 502	\$ 2,264	\$ 3,100	\$ 3,602
291		Ingersoll Needle/Chisel Sd	\$ 742	9/1/2013	MACRS 5	5	\$ 85	\$ 43	\$ -	\$ 699	\$ 742	\$ 742
292		Internal labor	\$ 20,546	7/1/2013	MACRS 5	5	\$ 2,367	\$ 1,183	\$ -	\$ 19,362	\$ 20,546	\$ 20,546
293		Internal labor	\$ 13,254	2/1/2014	MACRS 7	7	\$ 1,655	\$ 1,184	\$ 1,182	\$ 10,547	\$ 10,297	\$ 11,479
294		Knoll task chair	\$ 1,119	4/1/2013	MACRS 5	5	\$ 129	\$ 64	\$ -	\$ 1,054	\$ 1,119	\$ 1,119
295		1 laptops	\$ 1,119	4/1/2013	MACRS 5	5	\$ 129	\$ 64	\$ -	\$ 1,054	\$ 1,119	\$ 1,119
296		Laptop. EMT-HWKOCLOT2	\$ 1,119	11/1/2016	MACRS 5	5	\$ 501	\$ 301	\$ 180	\$ 1,054	\$ 1,115	\$ 1,295
297		Lateral File	\$ 504	9/1/2012	MACRS 5	5	\$ 29	\$ -	\$ -	\$ 504	\$ 504	\$ 504
298		Work Order Addition	\$ 1,389	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 1,389	\$ 1,389	\$ 1,389
299		Work Order Addition	\$ 4,388	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 4,388	\$ 4,388	\$ 4,388
300		Work Order Addition	\$ 16,079	6/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 16,079	\$ 16,079	\$ 16,079
301		New IP phone system	\$ 18,915	6/1/2013	MACRS 5	5	\$ 2,179	\$ 1,090	\$ -	\$ 17,826	\$ 18,915	\$ 18,915
302		New Hydraulic Hammer	\$ 9,453	12/1/2013	MACRS 5	5	\$ 1,089	\$ 544	\$ -	\$ 8,908	\$ 9,453	\$ 9,453
303		Office Furnishings	\$ 6,438	2/1/2014	MACRS 7	7	\$ 804	\$ 575	\$ 574	\$ 4,427	\$ 5,001	\$ 5,576

Kona Water Service Company, Inc. Water Operations
Accumulated Deferred Income Taxes - State (Detail)
Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
304		Office furniture & equip	\$ 3,969	9/1/2012	MACRS 7	7	\$ 354	\$ 354	\$ 354	\$ 3,437	\$ 3,792	\$ 3,969
305		Work Order Addition	\$ 45	9/1/2012	MACRS 5	5	\$ 3	\$ -	\$ -	\$ 45	\$ 45	\$ 45
306		Work Order Addition	\$ 87	9/1/2012	MACRS 5	5	\$ 5	\$ -	\$ -	\$ 87	\$ 87	\$ 87
307		Portable generator, 3500w, EMT's	\$ 497	12/1/2016	MACRS 5	5	\$ 159	\$ 95	\$ 57	\$ 259	\$ 354	\$ 411
308		Power Quality Analyzer	\$ 8,080	3/1/2015	MACRS 5	5	\$ 1,551	\$ 931	\$ 931	\$ 5,753	\$ 6,684	\$ 7,614
309		Printer Cart	\$ 72	9/1/2012	MACRS 5	5	\$ 4	\$ -	\$ -	\$ 72	\$ 72	\$ 72
310		Projector-Dell 1610HD	\$ 601	12/1/2016	MACRS 5	5	\$ 192	\$ 115	\$ 69	\$ 313	\$ 428	\$ 497
311		Electrical Upgrade	\$ 8,419	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 8,419	\$ 8,419	\$ 8,419
312		Respirator supplied air system	\$ 4,069	12/1/2016	MACRS 5	5	\$ 1,302	\$ 781	\$ 469	\$ 2,116	\$ 2,897	\$ 3,366
313		Richo Copier	\$ 10,164	11/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 10,164	\$ 10,164	\$ 10,164
314		Richo Fax Module	\$ 1,003	11/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 1,003	\$ 1,003	\$ 1,003
315		RICOH MPC3004-Engineering office	\$ 7,951	12/1/2016	MACRS 5	5	\$ 2,544	\$ 1,527	\$ 916	\$ 4,134	\$ 5,661	\$ 6,577
316		Rolo computer w/laptop for Enr Mgr	\$ 1,419	10/1/2014	MACRS 5	5	\$ 163	\$ 163	\$ 82	\$ 1,174	\$ 1,337	\$ 1,419
317		SCADA INET-II 900 Dual Gateway	\$ 21,482	3/1/2016	MACRS 5	5	\$ 6,874	\$ 4,125	\$ 2,475	\$ 11,171	\$ 15,295	\$ 17,770
318		SCADA radio data link	\$ 51,073	9/30/2018	MACRS 5	5	\$ -	\$ 10,215	\$ 16,343	\$ -	\$ 10,215	\$ 26,558
319		SCADA upgrade 2013	\$ 62,184	3/1/2016	MACRS 5	5	\$ 19,899	\$ 11,939	\$ 7,164	\$ 32,335	\$ 44,275	\$ 51,438
320		SCADAPack 32	\$ 10,117	3/1/2016	MACRS 5	5	\$ 3,237	\$ 1,942	\$ 1,165	\$ 5,261	\$ 7,203	\$ 8,369
321		Scaffolding	\$ 4,580	3/1/2016	MACRS 5	5	\$ 1,466	\$ 879	\$ 528	\$ 2,382	\$ 3,261	\$ 3,789
322		Work Order Addition	\$ 14	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 14	\$ 14	\$ 14
323		Tools & Equipment	\$ 954	6/1/2013	MACRS 5	5	\$ 110	\$ 55	\$ -	\$ 899	\$ 954	\$ 954
324		Trailer, emergency compressor	\$ 409	3/1/2016	SL-25	25	\$ 16	\$ 16	\$ 16	\$ 33	\$ 49	\$ 65
325		Trailer, emergency generator EG6500	\$ 1,990	3/1/2016	SL-25	25	\$ 80	\$ 80	\$ 80	\$ 159	\$ 239	\$ 318
326		Trailer, emergency 6x12 w/ramp	\$ 7,488	3/1/2016	SL-25	25	\$ 300	\$ 300	\$ 300	\$ 599	\$ 899	\$ 1,198
327		Work Order Addition	\$ 56,441	9/1/2012	MACRS 5	5	\$ 3,251	\$ -	\$ -	\$ 56,441	\$ 56,441	\$ 56,441
328		V208214, Ford F-150	\$ 6,545	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 6,545	\$ 6,545	\$ 6,545
329		V208216, Chevy Silverad	\$ 8,656	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 8,656	\$ 8,656	\$ 8,656
330		V208217, Chevy 3500	\$ 27,973	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 27,973	\$ 27,973	\$ 27,973
331		V208222, '08 TOY 4 RUNNER	\$ 30,978	12/1/2008	MACRS 5	5	\$ -	\$ -	\$ -	\$ 30,978	\$ 30,978	\$ 30,978
332		Visitor Chair	\$ 162	9/1/2012	MACRS 7	7	\$ 14	\$ 14	\$ 7	\$ 140	\$ 155	\$ 162
333		Air Compressor, portable	\$ 20,293	9/1/2017	SL-25	25	\$ 812	\$ 812	\$ 812	\$ 812	\$ 1,623	\$ 2,435
334		Septic Tank, Baseyard	\$ 14,452	9/1/2017	SL-25	25	\$ 578	\$ 578	\$ 578	\$ 578	\$ 1,156	\$ 1,734
335		Socket fusion kit, 20-63mm	\$ 636	12/1/2017	MACRS 5	5	\$ 127	\$ 203	\$ 122	\$ 127	\$ 330	\$ 452
336		Socket welding prep	\$ 1,524	12/1/2017	MACRS 5	5	\$ 305	\$ 488	\$ 293	\$ 305	\$ 792	\$ 1,085
337		SCADA Report Writer System	\$ 45,861	7/1/2018	SL-25	25	\$ -	\$ 1,834	\$ 1,834	\$ -	\$ 1,834	\$ 3,669
338		Fuel Station	\$ 138,431	12/31/2018	SL-25	25	\$ -	\$ 5,537	\$ 5,537	\$ -	\$ 5,537	\$ 11,074
339		Base Yard Security Cameras	\$ 9,613	11/30/2018	MACRS 5	5	\$ -	\$ 1,923	\$ 3,076	\$ -	\$ 1,923	\$ 4,999
340		Big Island Radio Communication	\$ 47,381	8/31/2018	MACRS 5	5	\$ -	\$ 9,476	\$ 15,162	\$ -	\$ 9,476	\$ 24,638
341		EMT Service Truck	\$ 50,131	7/1/2018	MACRS 5	5	\$ 1,665	\$ 2,664	\$ 1,599	\$ 1,665	\$ 4,330	\$ 5,928
342		Handheld Meter Readers	\$ 8,326	10/31/2017	MACRS 5	5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,386
343		EMT Service Truck Tools	\$ 8,436	7/1/2018	MACRS 5	5	\$ 1,687	\$ 2,689	\$ 3,896	\$ 4,059	\$ 10,553	\$ 14,449
344		Portable Air Compressor	\$ 20,293	6/30/2017	MACRS 5	5	\$ 4,059	\$ 6,494	\$ 8,222	\$ -	\$ 5,139	\$ 13,361
345		Iron Handheld Meter Readers	\$ 25,694	7/1/2018	MACRS 5	5	\$ -	\$ 5,139	\$ 8,222	\$ -	\$ 6,234	\$ 16,208
346		Engineering PM Vehicle	\$ 31,170	1/25/2018	MACRS 5	5	\$ -	\$ 6,234	\$ 9,974	\$ -	\$ 6,234	\$ 315,309
347		Jetting/Vacuum Truck/Pukalani	\$ 315,309	7/1/2013	MACRS 5	5	\$ 36,324	\$ 18,162	\$ -	\$ 297,147	\$ 315,309	\$ 315,309
348		Jetting/Vacuum Truck/Pukalani	\$ 6,314	7/1/2013	MACRS 5	5	\$ 727	\$ 364	\$ -	\$ 5,950	\$ 6,314	\$ 6,314
349		2018 Toyota Tacoma TRD 4x4	\$ 38,143	7/1/2018	MACRS 5	5	\$ -	\$ 7,629	\$ 12,206	\$ -	\$ 7,629	\$ 19,834
350		Boom Truck (WO 118340)	\$ 339,411	5/31/2019	MACRS 5	5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 67,882
351		Valve Exercise Trailer (WO 118326)	\$ 35,302	7/31/2019	MACRS 5	5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,060
352		SCADA Vulnerability Assessment (WO 117252)	\$ 40,132	9/30/2019	MACRS 5	5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,026
							\$ 172,182	\$ 180,233	\$ 229,312	\$ 1,464,932	\$ 1,645,165	\$ 1,874,477
353		Total	\$ 2,587,856									

Kona Water Service Company, Inc. Water Operations
 Accumulated Deferred Income Taxes - State (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method		Tax Period	Annual Amortization			Accumulated Depreciation				
					2017	2018		2017	2018	2019	2017	2018	2019		
354		BIG ISLAND ALLOCATIONS													
355		721 - Waikoloa Water	\$ 474,455	2017	19.10%	19.10%	2019	\$ 31,568	\$ 34,423	\$ 43,797	\$ 268,579	\$ 314,217	\$ 358,014		
356		722 - Waikoloa Sewer	\$ 360,105	18.33%	14.48%	14.48%	2019	\$ 23,959	\$ 26,105	\$ 33,213	\$ 203,848	\$ 238,285	\$ 271,498		
357		723 - Waikoloa Resort Water	\$ 495,221	13.92%	19.25%	19.25%	2019	\$ 32,949	\$ 34,695	\$ 44,143	\$ 280,334	\$ 316,694	\$ 360,837		
358		724 - Waikoloa Resort Sewer	\$ 657,334	19.14%	23.59%	23.59%	2019	\$ 43,735	\$ 42,517	\$ 54,094	\$ 372,103	\$ 388,092	\$ 442,186		
359		725 - Waikoloa Resort Irrigation	\$ 26,345	25.40%	0.99%	0.99%	2019	\$ 1,753	\$ 1,786	\$ 2,272	\$ 14,913	\$ 16,299	\$ 18,571		
360		726 - Kona Water	\$ 372,498	14.39%	14.64%	14.64%	2019	\$ 24,784	\$ 26,380	\$ 33,576	\$ 210,864	\$ 240,887	\$ 274,463		
361		727 - Kona Sewer	\$ 201,898	7.80%	7.94%	7.94%	2019	\$ 13,433	\$ 14,318	\$ 18,216	\$ 114,290	\$ 130,690	\$ 148,907		

Kona Water Service Company, Inc. Water Operations
Working Cash
Test Year Ending December 31, 2019

Line No.		
1	Labor Expenses	\$ 675,146
2	Fuel & Power	\$ 1,402,846
3	Chemicals	\$ 114,012
4	Materials & Supplies	\$ 1,961
5	Waste/Sludge Disposal	\$ -
6	Affiliated Charges	\$ 101,687
7	Professional and Outside Services	\$ 9,025
8	Repairs & Maintenance	\$ 92,007
9	Rental Expenses	\$ 23,333
10	Insurance Expenses	\$ 10,352
11	Regulatory Expenses	\$ 52,750
12	General & Administrative Expenses	\$ 33,343
13	Customer Accounts Expenses	\$ 14,564
14	subtotal	\$ 2,531,024
15	Working Cash factor	<u>12</u>
16	Working Cash	<u>\$ 210,919</u>

Kona Water Service Company, Inc. Water Operations
 Historical Summary
 Test Year Ending December 31, 2019

Line No.	Test Year Ending December 31, 2019					Test Year	Test Year	
	2014	2015	2016	2017	2018	Present Rates Jan 1, 2019 to Dec. 31, 2019	Proposed Rates Jan 1, 2019 to Dec. 31, 2019	
2								
3	Revenues							
4	Water							
5	Residential							
6	Single-family							
7	Fixed revenue	\$ 34,722	\$ 46,803	\$ 62,536	\$ 63,006	\$ 65,742	\$ 64,673	\$ 73,105
8	Metered Revenue	\$ 1,233,037	\$ 1,456,330	\$ 1,826,197	\$ 1,946,297	\$ 1,708,497	\$ 1,974,206	\$ 2,142,366
9	Power Cost Charge	\$ 1,050,513	\$ 933,361	\$ 974,062	\$ 1,072,138	\$ 1,031,088	\$ 989,459	\$ 1,187,782
10	subtotal	\$ 2,318,272	\$ 2,436,494	\$ 2,862,796	\$ 3,081,441	\$ 2,805,327	\$ 3,028,337	\$ 3,403,254
11	Non-Residential							
12	Multi-Family							
13	Fixed revenue	\$ 7,564	\$ 10,293	\$ 14,125	\$ 13,117	\$ 16,212	\$ 19,111	\$ 35,150
14	Metered Revenue	\$ 226,562	\$ 230,918	\$ 304,366	\$ 273,574	\$ 239,540	\$ 281,935	\$ 305,950
15	Power Cost Charge	\$ 156,012	\$ 126,452	\$ 141,157	\$ 132,250	\$ 128,320	\$ 129,175	\$ 155,066
16	subtotal	\$ 390,138	\$ 367,663	\$ 459,648	\$ 418,941	\$ 384,072	\$ 430,221	\$ 496,166
17	Business							
18	Fixed revenue	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19	Metered Revenue	\$ 7,873	\$ 27,727	\$ 15,615	\$ 25,182	\$ 28,620	\$ 20,704	\$ 22,467
20	Power Cost Charge	\$ -	\$ 15,191	\$ 34,679	\$ 59,108	\$ 73,728	\$ 49,565	\$ 59,500
21	subtotal	\$ 7,873	\$ 42,918	\$ 50,294	\$ 84,290	\$ 102,348	\$ 70,269	\$ 81,967
22	Other Revenue							
23	Private Fire Protection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
24	Miscellaneous Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
25	Other	\$ 4,170	\$ 921	\$ 2,074	\$ 1,981	\$ 1,760	\$ -	\$ -
26	Unbilled Revenue Adjustment	\$ (100,205)	\$ (4,199)	\$ 22,147	\$ 32,042	\$ 54,883	\$ -	\$ -
27	TOTAL REVENUES	\$ 2,620,247	\$ 2,843,797	\$ 3,396,958	\$ 3,618,695	\$ 3,348,390	\$ 3,528,828	\$ 3,981,387
28	Expenses							
29	Labor Expenses	\$ 243,872	\$ 430,833	\$ 550,935	\$ 617,866	\$ 592,561	\$ 675,146	\$ 675,146
30	Fuel & Power	\$ 1,662,173	\$ 1,439,475	\$ 1,380,455	\$ 1,426,936	\$ 1,389,492	\$ 1,402,846	\$ 1,402,846
31	Chemicals	\$ 93,939	\$ 114,218	\$ 103,848	\$ 123,394	\$ 97,487	\$ 114,012	\$ 114,012
32	Materials & Supplies	\$ 390	\$ -	\$ 174	\$ 2,382	\$ 3,072	\$ 1,961	\$ 1,961
33	Waste/Sludge Disposal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
34	Affiliated Charges	\$ 101,962	\$ 112,171	\$ 85,529	\$ 107,810	\$ 118,536	\$ 101,687	\$ 101,687
35	Professional and Outside Services	\$ 75,706	\$ 16,354	\$ 5,506	\$ 12,724	\$ 7,539	\$ 9,025	\$ 9,025
36	Repairs & Maintenance	\$ 423,057	\$ 280,898	\$ 76,799	\$ 120,515	\$ 64,605	\$ 92,007	\$ 92,007
37	Rental Expenses	\$ 21,050	\$ 24,760	\$ 18,516	\$ 15,549	\$ 19,354	\$ 23,333	\$ 23,333
38	Insurance Expenses	\$ 2,963	\$ 3,421	\$ 4,590	\$ 1,360	\$ 1,902	\$ 10,352	\$ 10,352
39	Regulatory Expenses	\$ -	\$ 66,568	\$ 39,221	\$ 35,720	\$ 38,301	\$ 52,750	\$ 52,750
40	General & Administrative Expenses	\$ (36,010)	\$ 34,386	\$ 24,832	\$ 30,976	\$ 39,547	\$ 33,343	\$ 33,343
41	Customer Accounts Expenses	\$ 4,278	\$ 4,414	\$ 13,658	\$ 12,436	\$ 15,442	\$ 14,564	\$ 14,564
42	Taxes Other than Income Taxes	\$ 169,538	\$ 199,313	\$ 234,767	\$ 251,566	\$ 251,566	\$ 225,316	\$ 254,212
43	Depreciation	\$ 331,466	\$ 331,710	\$ 279,157	\$ 259,079	\$ 259,079	\$ 476,258	\$ 476,258
44	Amortization	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
45	Income Taxes	\$ -	\$ -	\$ 186,610	\$ 179,081	\$ 114,620	\$ 29,255	\$ 139,645
46	TOTAL EXPENSES	\$ 3,094,385	\$ 3,058,523	\$ 3,004,598	\$ 3,197,394	\$ 3,013,103	\$ 3,261,853	\$ 3,401,138
47	NET INCOME/(LOSS)	\$ (474,138)	\$ (214,726)	\$ 392,360	\$ 421,301	\$ 335,287	\$ 266,975	\$ 580,249

Kona Water Service Company, Inc. Water Operations
 Revenue Summary
 Test Year Ending December 31, 2019

Line No.		2014	2015	2016	2017	2018	Test Year Present Rates Jan 1, 2019 to Dec. 31, 2019	Test Year Proposed Rates Jan 1, 2019 to Dec. 31, 2019
1								
2	Water							
3	Residential							
4	Single-family customers							
5	Fixed revenue	\$ 34,722	\$ 46,803	\$ 62,536	\$ 63,006	\$ 65,742	\$ 64,673	\$ 73,105
6	Metered Revenue	\$ 1,233,037	\$ 1,456,330	\$ 1,826,197	\$ 1,946,297	\$ 1,708,497	\$ 1,974,206	\$ 2,142,366
7	Power Cost Charge	\$ 1,050,513	\$ 933,361	\$ 974,062	\$ 1,072,138	\$ 1,031,088	\$ 989,459	\$ 1,187,782
8	subtotal	\$ 2,318,272	\$ 2,436,494	\$ 2,862,796	\$ 3,081,441	\$ 2,805,327	\$ 3,028,337	\$ 3,403,254
9	Non-Residential							
10	Business							
11	Fixed revenue	\$ 7,564	\$ 10,293	\$ 14,125	\$ 13,117	\$ 16,212	\$ 19,111	\$ 35,150
12	Metered Revenue	\$ 226,562	\$ 230,918	\$ 304,366	\$ 273,574	\$ 239,540	\$ 281,935	\$ 305,950
13	Power Cost Charge	\$ 156,012	\$ 126,452	\$ 141,157	\$ 132,250	\$ 128,320	\$ 129,175	\$ 155,066
14	subtotal	\$ 390,138	\$ 367,663	\$ 459,648	\$ 418,941	\$ 384,072	\$ 430,221	\$ 496,166
15	Irrigation							
16	Fixed revenue	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17	Metered Revenue	\$ 7,873	\$ 27,727	\$ 15,615	\$ 25,182	\$ 28,620	\$ 20,704	\$ 22,467
18	Power Cost Charge	\$ -	\$ 15,191	\$ 34,679	\$ 59,108	\$ 73,728	\$ 49,565	\$ 59,500
19	subtotal	\$ 7,873	\$ 42,918	\$ 50,294	\$ 84,290	\$ 102,348	\$ 70,269	\$ 81,967
20	Other Revenue							
21	Private Fire Protection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
22	Miscellaneous Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
23	Other	\$ 4,170	\$ 921	\$ 2,074	\$ 1,981	\$ 1,760	\$ -	\$ -
24	Unbilled Revenue Adjustment	\$ (100,205)	\$ (4,199)	\$ 22,147	\$ 32,042	\$ 54,883	\$ -	\$ -
25	TOTAL	\$ 2,620,247	\$ 2,843,797	\$ 3,396,958	\$ 3,618,695	\$ 3,348,390	\$ 3,528,828	\$ 3,981,387

Kona Water Service Company, Inc. Water Operations
 Sales and Production
 Test Year Ending December 31, 2019

Line
 No.

Line No.	Usage / Volumetric measurements	2014	2015	2016	2017	2018	Test Year	
							Present Rates	Proposed Rates
2	Water							
3	Consumption [TG]							
4	Single Family							
5	Metered Sales (0 - 10,000)	22,420	21,056	20,105	19,392	22,036	20,511	20,511
6	Metered Sales (10,001 - 29,999)	40,589	37,825	35,966	34,206	38,232	36,135	36,135
7	Metered Sales (30,000 - 74,999)	64,969	59,257	59,221	54,773	58,614	57,536	57,536
8	Metered Sales (75,000 and over)	52,047	67,290	71,374	73,613	49,944	64,977	64,977
9	Business							
10	Metered Sales (0 - 10,000)	1,925	1,845	1,677	1,421	1,746	1,615	1,615
11	Metered Sales (10,001 - 29,999)	2,530	2,728	2,419	2,206	2,898	2,508	2,508
12	Metered Sales (30,000 - 74,999)	3,859	3,927	4,033	3,682	4,926	4,214	4,214
13	Metered Sales (75,000 and over)	17,833	16,580	18,924	14,906	11,330	15,053	15,053
14	Irrigation	1,874	5,847	5,499	11,425	10,000	8,975	8,975
15	Total Metered Sales	208,046	216,355	219,218	215,624	199,726	211,523	211,523
16	Production [TG]							
17	HR 1	45,894	6,150	13,797	0	0	4,599	4,599
18	HR2	78,665	220,978	135,590	147,250	183,454	155,431	155,431
19	HR3	109,121	0	177,273	205,388	134,511	172,391	172,391
20	HR4	163,669	222,207	154,953	56,239	103,125	104,772	104,772
21	HR5	58,100	13,336	8,271	89,734	2,870	33,625	33,625
22	RO Concentrate	-172,492	-179,733	-189,023	-203,623	-175,978	-189,541	-189,541
23	Makalei	-34,260	-29,431	-29,392	-21,058	-21,272	-23,907	-23,907
24	Committed Capacity	-2,666	-2,277	-2,480	-2,641	-2,489	-2,537	-2,537
25	Total Production	246,031	251,229	268,989	271,288	224,221	254,833	254,833

Kona Water Service Company, Inc. Water Operations
 Meter Count
 Test Year Ending December 31, 2019

Line No.		2014	2015	2016	2017	2018	Test Year	
							Present Rates	Proposed Rates
1	Customer Count							
2	Water							
3	Residential							
4	Single-family							
5	5/8"	73	73	72	72	74	74	74
6	3/4"	0	0	0	0	0	0	0
7	1"	125	129	132	132	132	132	132
8	1.5"	1	0	0	0	0	0	0
9	2"	12	13	13	13	14	14	14
10	3"	0	0	0	0	0	0	0
11	4"	0	0	0	0	0	0	0
12	6"	0	0	0	0	0	0	0
13	8"	0	0	0	0	0	0	0
14	Subtotal Single-family	211	215	217	217	220	220	220
15	Non-Residential							
16	Business							
17	5/8"	5	5	4	1	1	1	1
18	3/4"	0	0	0	0	0	0	0
19	1"	10	9	9	8	8	8	8
20	1.5"	5	5	5	7	7	7	7
21	2"	5	5	5	5	5	5	5
22	3"	0	0	0	1	1	1	1
23	4"	2	2	2	2	2	2	2
24	6"	0	0	0	1	1	1	1
25	8"	0	0	0	1	1	1	1
26	Subtotal Business	27	26	25	26	26	26	26
27	Irrigation							
28	5/8"	1	2	4	3	4	4	4
29	3/4"	0	0	0	0	0	0	0
30	1"	0	0	0	0	0	0	0
31	1.5"	0	0	0	0	0	0	0
32	2"	0	0	0	0	0	0	0
33	3"	0	0	0	0	0	0	0
34	4"	0	0	0	0	0	0	0
35	6"	0	0	0	0	0	0	0
36	8"	0	0	0	0	0	0	0
37	Subtotal Irrigation	1	2	4	3	4	4	4
38	Total Meters	239	243	246	246	250	250	250
39	Ready to Serve (RTS) Count							
40	Residential	180	184	186	186	189	189	189
41	Cottage	31	31	31	31	31	31	31
42	Business	27	26	25	26	26	26	26
43	Total RTS Count	238	241	242	243	246	246	246

Kona Water Service Company, Inc. Water Operations
Inflation Factors
Test Year Ending December 31, 2019

Inflation Year	Percentage	Notes
2014->2015	1.01% 1.01	
2015->2016	1.97% 1.02	
2016->2017	2.54% 1.03	
		(based on Department of Business, Economic Development and Tourism
2017->2018	2.27% 1.02	Forecast)
		(based on Department of Business, Economic Development and Tourism
2018->2019	2.84% 1.03	Forecast)

References:

2014 - 2017 data source:

https://data.bls.gov/pdq/SurveyOutputServlet?data_tool=dropmap&series_id=CUURS49FSA0,CUUS49FSA0

2018 - 2019 data source: <http://dbedt.hawaii.gov/economic/qser/outlook-economy/>

Kona Water Service Company, Inc. Water Operations
 Four Factor Allocations
 Test Year Ending December 31, 2019

Line No.		2012 - 2015	2016	2017	2018	2019
1	Allocations from Big Island (Dept 720)					
2	Waikoloa Water (721)	19.17%	19.11%	18.33%	19.10%	19.10%
3	Waikoloa Sewer (722)	15.14%	14.35%	13.92%	14.48%	14.48%
4	Waikoloa Resort Water (723)	20.81%	18.66%	19.14%	19.25%	19.25%
5	Waikoloa Resort Sewer (724)	21.51%	24.73%	25.40%	23.59%	23.59%
6	Waikoloa Resort Irrigation (725)	0.94%	0.93%	1.02%	0.99%	0.99%
7	Kona Water (726)	14.09%	12.59%	14.39%	14.64%	14.64%
8	Kona Sewer (727)	8.34%	9.62%	7.80%	7.94%	7.94%
		100.00%	100.00%	100.00%	100.00%	100.00%
9	Allocations from Hawaii General Office (790)					
10	Ka'anapali (700)	23.67%	21.51%	21.73%	21.67%	21.67%
11	Pukalani (701)	6.73%	6.69%	6.87%	7.81%	7.81%
12	Waikoloa Water (721)	13.06%	13.46%	12.83%	13.25%	13.25%
13	Waikoloa Sewer (722)	10.46%	10.37%	10.02%	10.34%	10.34%
14	Waikoloa Resort Water (723)	14.43%	13.03%	13.27%	13.13%	13.13%
15	Waikoloa Resort Sewer (724)	14.78%	17.74%	18.18%	16.60%	16.60%
16	Waikoloa Resort Irrigation (725)	0.68%	0.69%	0.75%	0.71%	0.71%
17	Kona Water (726)	10.15%	9.36%	10.56%	10.63%	10.63%
18	Kona Sewer (727)	6.04%	7.14%	5.80%	5.86%	5.86%
		100.00%	100.00%	100.00%	100.00%	100.00%

Kona Water Service Company, Inc. Water Operations
 Labor Expense
 Test Year Ending December 31, 2019

Line No.	2014	2015	2016	2017	2018	Test Year Jan 1, 2019 to Dec. 31, 2019
3 Expenses						
4 Payroll:						
5 Operating Labor	\$ 132,552	\$ 221,014	\$ 312,111	\$ 360,483	\$ 350,664	\$ 392,877
6 Total Payroll	\$ 132,552	\$ 221,014	\$ 312,111	\$ 360,483	\$ 350,664	\$ 392,877
7 Employee Benefits						
8 Health Care Benefits (Medical and Dental)	\$ 747	\$ 74,138	\$ 124,429	\$ 131,760	\$ 109,782	\$ 120,872
9 Workers Compensation	\$ 3,737	\$ 4,062	\$ 14,378	\$ 10,095	\$ 4,529	\$ 11,118
10 Pension	84,144	110,026	82,179	94,588	104,149	116,746
11 Total Employee Benefits	\$ 88,628	\$ 188,226	\$ 220,986	\$ 236,444	\$ 218,460	\$ 248,736
12 Payroll Taxes						
13 FICA	\$ 20,225	\$ 19,301	\$ 17,376	\$ 20,595	\$ 22,806	\$ 31,834
14 FUTA	\$ 173	\$ 167	\$ 154	\$ 164	\$ 314	\$ 259
15 SUTA	\$ 2,295	\$ 2,125	\$ 308	\$ 180	\$ 316	\$ 1,441
16 Total payroll taxes	\$ 22,692	\$ 21,593	\$ 17,839	\$ 20,939	\$ 23,436	\$ 33,533

Kona Water Service Company, Inc. Water Operations
 Fuel & Power
 Test Year Ending December 31, 2019

Line No.		2014	2015	2016	2017	2018	Test Year Jan 1, 2019 to Dec. 31, 2019
3	Expenses [\$]						
4	Kukio Water Filtration	\$ 32,848	\$ 26,600	\$ 26,957	\$ 28,905	\$ 29,185	\$ 25,702
5	Mamalahoa Hy #P296	\$ 1,760,849	\$ 1,508,442	\$ 1,438,074	\$ 1,459,584	\$ 1,419,728	\$ 1,445,612
6	less Amounts Billed Back to Makalei	\$ (131,523)	\$ (95,567)	\$ (84,576)	\$ (61,553)	\$ (59,421)	\$ (68,965)
7	subtotal	\$ 1,662,173	\$ 1,439,475	\$ 1,380,455	\$ 1,426,936	\$ 1,389,492	\$ 1,402,348
8	Fuel for Power Production	\$ 1,167	\$ 9	\$ 656	\$ 836	\$ -	\$ 497
9	Total Expense	\$ 1,662,173	\$ 1,439,475	\$ 1,380,455	\$ 1,426,936	\$ 1,389,492	\$ 1,402,846
10	Units of consumption [kWh]						
11	Kukio Water Filtration	82,104	81,693	93,669	93,974	90,251	92,631
12	Mamalahoa Hy #P296	4,683,600	4,985,100	5,533,200	5,272,200	4,824,900	5,210,100
13	less Amounts Billed Back to Makalei	-351,295	-314,176	-322,278	-223,186	-200,206	-248,557
14	subtotal	4,414,409	4,752,617	5,304,591	5,142,988	4,714,945	5,054,175
15	Unit Cost [\$ / kWh]	\$ 0.3765	\$ 0.3029	\$ 0.2602	\$ 0.2775	\$ 0.2947	\$ 0.2775

Kona Water Service Company, Inc. Water Operations
 Power Cost Charge
 Test Year Ending December 31, 2019

Line
 No.

Line No.		TY Expense [\$]	TY Power Consumed [kWh]	3 Year Avg Production [TG]	Pump Efficiency [kWh / TG]	Electricity Unit Cost [\$ / kWh]	
1							
2	PCC	\$ 1,402,348	5,054,175	254,833	22.4602	\$ 0.2775	
3	Total	\$ 1,402,348	5,054,175	254,833	22.4602	\$ 0.2775	
4	Present Rate Calculation						
5	Revenue Tax Factor		6.385%				
6	Pump Efficiency Factor [kWh / TG]		18.7100				
7	Power Cost Charge [\$ / TG]	\$ 5.1913					
8	PCC Revenue	\$ 1,168,199					
9	Proposed Rate Calculation						
10	Revenue Tax Factor		6.385%				
11	Pump Efficiency Factor [kWh / TG]		22.4602				
12	Power Cost Charge [\$ / TG]	\$ 6.2319					
13	PCC Revenue	\$ 1,402,348					

Kona Water Service Company, Inc. Water Operations
 Chemicals
 Test Year Ending December 31, 2019

Line
 No.

1	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2019 to Dec. 31, 2019
2	Chemicals	93,939	114,218	103,848	123,394	97,487	\$ 108,243
3	subtotal	<u>\$93,939</u>	<u>\$ 114,218</u>	<u>\$ 103,848</u>	<u>\$ 123,394</u>	<u>\$ 97,487</u>	<u>\$ 108,243</u>
4	In 2019 Dollars						
5	Chemicals	\$ 104,351	\$ 125,605	\$ 111,997	\$ 129,784	\$ 100,255	\$ 114,012
6	Total	<u>\$ 104,351</u>	<u>\$ 125,605</u>	<u>\$ 111,997</u>	<u>\$ 129,784</u>	<u>\$ 100,255</u>	<u>\$ 114,012</u>

Kona Water Service Company, Inc. Water Operations
 Materials & Supplies
 Test Year Ending December 31, 2019

Line
 No.

1	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2019 to Dec. 31, 2019
2	Direct Charge to KWSC Water						
3	Treatment and Disposal	\$ 267	\$ -	\$ 174	\$ 2,262	\$ 3,072	\$ 1,836
4	Water Treatment and Water Quality	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5	Transmission & Distribution	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6	Collection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7	Pumping	\$ 123	\$ -	\$ -	\$ 120	\$ -	\$ 40
8	subtotal	\$ 390	\$ -	\$ 174	\$ 2,382	\$ 3,072	\$ 1,876
9	Allocated From Hawaii Water to KWSC Water						
10	Treatment and Disposal	\$ 22	\$ 94	\$ 18	\$ -	\$ -	\$ 6
11	Water Treatment and Water Quality	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12	Transmission & Distribution	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13	Collection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14	Pumping	\$ 17	\$ 4	\$ -	\$ 10	\$ -	\$ 3
15	subtotal	\$ 39	\$ 98	\$ 18	\$ 10	\$ -	\$ 9
16	Direct and Allocated Professional & Outside Services						
17	Treatment and Disposal	\$ 289	\$ 94	\$ 192	\$ 2,262	\$ 3,072	\$ 1,842
18	Water Treatment and Water Quality	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19	Transmission & Distribution	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
20	Collection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
21	Pumping	\$ 140	\$ 4	\$ -	\$ 130	\$ -	\$ 43
22	subtotal	\$ 429	\$ 98	\$ 192	\$ 2,392	\$ 3,072	\$ 1,885
23	In 2019 Dollars						
24	Treatment and Disposal	\$ 321	\$ 103	\$ 207	\$ 2,379	\$ 3,159	\$ 1,915
25	Water Treatment and Water Quality	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
26	Transmission & Distribution	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
27	Collection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
28	Pumping	\$ 156	\$ 5	\$ -	\$ 136	\$ -	\$ 45
29	Total	\$ 477	\$ 108	\$ 207	\$ 2,516	\$ 3,159	\$ 1,961

Kona Water Service Company, Inc. Water Operations
 Waste/Sludge Disposal
 Test Year Ending December 31, 2019

Line No.	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2019 to Dec. 31, 2019
2	Sludge Removal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3	subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4	In 2019 Dollars						
5	Sludge Removal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6	Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Kona Water Service Company, Inc. Water Operations
 Affiliated Charges
 Test Year Ending December 31, 2019

Line
 No.

1	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2019 to Dec. 31, 2019
2	PubCo	\$ 101,962	\$ 112,171	\$ 85,529	\$ 107,810	\$ 118,536	\$ 101,687
3	Total	<u>\$101,962</u>	<u>\$112,171</u>	<u>\$85,529</u>	<u>\$107,810</u>	<u>\$118,536</u>	<u>\$ 101,687</u>
4	Allocated to Hawaii Water Service Co						
5	PubCo	\$ 1,004,551	\$ 1,105,133	\$ 913,790	\$ 1,021,249	\$ 1,115,378	\$ 1,016,806
6	PubCo Allocation	\$ 101,962	\$ 112,171	\$ 85,529	\$ 107,810	\$ 118,536	\$ 108,061
7	Adjustment for Account 791000	\$ (5,781)	\$ (9,591)	\$ (6,202)	\$ (6,154)	\$ (6,766)	\$ (6,374)
8	Adjusted Allocation	\$ 96,181	\$ 102,580	\$ 79,327	\$ 101,657	\$ 111,770	\$ 101,687

Kona Water Service Company, Inc. Water Operations
 Professional and Outside Services
 Test Year Ending December 31, 2019

Line
 No.

1	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2019 to Dec. 31, 2019
2	Direct Charge to KWSC Water						
3	Legal Expense	\$ 10,964	\$ -	\$ 261	\$ 3,150	\$ -	\$ 1,137
4	Other Outside Services	\$ 57,667	\$ 11,811	\$ 2,967	\$ 7,905	\$ 4,677	\$ 5,183
5	Training Consultants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6	subtotal	\$ 68,631	\$ 11,811	\$ 3,229	\$ 11,055	\$ 4,677	\$ 6,320
7	Allocated From Hawaii Water to KWSC Water						
8	Legal Expense	\$ 2,295	\$ 1,573	\$ 1,684	\$ 1,596	\$ 1,111	\$ 1,464
9	Other Outside Services	\$ 4,780	\$ 1,838	\$ 594	\$ 73	\$ 1,751	\$ 806
10	Training Consultants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
11	Auditors and Consultants	\$ -	\$ 1,132	\$ -	\$ -	\$ -	\$ -
12	subtotal	\$ 7,075	\$ 4,543	\$ 2,277	\$ 1,669	\$ 2,862	\$ 2,269
13	Direct and Allocated Professional & Outside Services						
14	Legal Expense	\$ 13,260	\$ 1,573	\$ 1,945	\$ 4,746	\$ 1,111	\$ 2,601
15	Other Outside Services	\$ 62,447	\$ 13,650	\$ 3,561	\$ 7,978	\$ 6,428	\$ 5,989
16	Training Consultants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17	Auditors and Consultants	\$ -	\$ 1,132	\$ -	\$ -	\$ -	\$ -
18	subtotal	\$ 75,706	\$ 16,354	\$ 5,506	\$ 12,724	\$ 7,539	\$ 8,590
19	In 2019 Dollars						
20	Legal Expense	\$ 14,729	\$ 1,730	\$ 2,098	\$ 4,992	\$ 1,143	\$ 2,744
21	Other Outside Services	\$ 69,368	\$ 15,010	\$ 3,840	\$ 8,391	\$ 6,610	\$ 6,280
22	Training Consultants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
23	Auditors and Consultants	\$ -	\$ 1,245	\$ -	\$ -	\$ -	\$ -
24	Total	\$ 84,097	\$ 17,985	\$ 5,938	\$ 13,383	\$ 7,753	\$ 9,025

Kona Water Service Company, Inc. Water Operations
 Repairs & Maintenance
 Test Year Ending December 31, 2019

Line
 No.

1	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2019 to Dec. 31, 2019
2	Direct Charge to KWSC Water						
3	Source of Supply	\$ 2,148	\$ 3,398	\$ 6,093	\$ 1,321	\$ 939	\$ 2,784
4	Pumping	\$ 2,769	\$ 22,471	\$ 7,063	\$ 44,993	\$ 342	\$ 17,466
5	Treatment and Disposal	\$ 469,368	\$ 315,199	\$ 110,981	\$ 144,112	\$ 108,619	\$ 121,237
6	Transmission & Distribution	\$ 13,751	\$ 16,601	\$ 14,604	\$ 15,181	\$ 13,140	\$ 14,308
7	A&G	\$ 1,989	\$ 874	\$ 4,368	\$ 1,897	\$ 2,031	\$ 2,765
8	Mileage	\$ 17,041	\$ 27,744	\$ 23,913	\$ 22,833	\$ 18,892	\$ 21,879
8	less chemicals	\$ (93,939)	\$ (114,218)	\$ (103,848)	\$ (123,394)	\$ (97,487)	\$ (108,243)
9	less materials & supplies	\$ (390)	\$ -	\$ (174)	\$ (2,382)	\$ (3,072)	\$ (1,876)
10	less waste disposal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
11	subtotal	\$ 412,737	\$ 272,068	\$ 62,999	\$ 104,561	\$ 43,404	\$ 70,321
12	Allocated From Hawaii Water to KWSC Water						
13	Source of Supply	\$ 380	\$ -	\$ -	\$ 21	\$ 3	\$ 8
14	Pumping	\$ 742	\$ 461	\$ 61	\$ 566	\$ 258	\$ 295
15	Treatment and Disposal	\$ 2,362	\$ 1,266	\$ 148	\$ 443	\$ 833	\$ 475
16	Transmission & Distribution	\$ 3,271	\$ 3,345	\$ 3,624	\$ 3,253	\$ 6,304	\$ 4,393
17	A&G	\$ 3,317	\$ 3,428	\$ 2,492	\$ 2,962	\$ 4,011	\$ 3,155
18	Mileage	\$ 289	\$ 428	\$ 7,493	\$ 8,719	\$ 9,792	\$ 8,668
19	less materials & supplies	\$ (39)	\$ (98)	\$ (18)	\$ (10)	\$ -	\$ (9)
20	subtotal	\$ 10,360	\$ 8,500	\$ 6,325	\$ 7,245	\$ 11,409	\$ 8,326
21	Direct and Allocated Repairs & Maintenance						
22	Source of Supply	\$ 2,527	\$ 3,398	\$ 6,093	\$ 1,342	\$ 942	\$ 2,792
23	Pumping	\$ 3,512	\$ 22,932	\$ 7,125	\$ 45,558	\$ 599	\$ 17,761
24	Treatment and Disposal	\$ 471,729	\$ 316,465	\$ 111,129	\$ 144,555	\$ 109,451	\$ 121,712
25	Transmission & Distribution	\$ 17,021	\$ 19,945	\$ 18,227	\$ 18,434	\$ 19,444	\$ 18,702
26	A&G	\$ 5,306	\$ 4,302	\$ 6,860	\$ 4,859	\$ 6,042	\$ 5,920
27	Mileage	\$ 17,330	\$ 28,172	\$ 31,406	\$ 31,552	\$ 28,684	\$ 30,548
28	less chemicals	\$ (93,939)	\$ (114,218)	\$ (103,848)	\$ (123,394)	\$ (97,487)	\$ (108,243)
29	less materials & supplies	\$ (429)	\$ (98)	\$ (192)	\$ (2,392)	\$ (3,072)	\$ (1,885)
30	less waste disposal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
31	subtotal	\$ 423,057	\$ 280,898	\$ 76,799	\$ 120,515	\$ 64,605	\$ 87,307
32	In 2019 Dollars						
33	Source of Supply	\$ 2,807	\$ 3,737	\$ 6,571	\$ 1,411	\$ 969	\$ 2,984
34	Pumping	\$ 3,901	\$ 25,218	\$ 7,684	\$ 47,918	\$ 616	\$ 18,739
35	Treatment and Disposal	\$ 524,013	\$ 348,012	\$ 119,849	\$ 152,041	\$ 112,560	\$ 128,150
36	Transmission & Distribution	\$ 18,908	\$ 21,934	\$ 19,657	\$ 19,389	\$ 19,996	\$ 19,681
37	A&G	\$ 5,894	\$ 4,731	\$ 7,398	\$ 5,111	\$ 6,214	\$ 6,241
38	Mileage	\$ 19,251	\$ 30,980	\$ 33,871	\$ 33,186	\$ 29,499	\$ 32,185
39	less chemicals	\$ (104,351)	\$ (125,605)	\$ (111,997)	\$ (129,784)	\$ (100,255)	\$ (114,012)
40	less materials & supplies	\$ (477)	\$ (108)	\$ (207)	\$ (2,516)	\$ (3,159)	\$ (1,961)
41	less waste disposal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42	Total	\$ 469,946	\$ 308,900	\$ 82,826	\$ 126,756	\$ 66,439	\$ 92,007

Kona Water Service Company, Inc. Water Operations
 Rents
 Test Year Ending December 31, 2019

Line
 No.

1	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2019 to Dec. 31, 2019
2	Waikoloa Office and Baseyard Department of Land and Natural Resources	\$ 8,250	\$ 5,560	\$ 5,716	\$ 9,149	\$ 6,554	\$ 10,533
3	Total	<u>\$ 21,050</u>	<u>\$ 24,760</u>	<u>\$ 18,516</u>	<u>\$ 15,549</u>	<u>\$ 19,354</u>	<u>\$ 23,333</u>
4	Waikoloa General Office Rent Expense (2019)	\$ 60,980					
5	Waikoloa Baseyard Rent Expense (2019)	\$ 19,229					
6	4-Factor Allocation to KWSC Water	13.13%					
7	Total ((4 + 5) x 6)	<u>\$ 10,533</u>					

Kona Water Service Company, Inc. Water Operations
 Insurance Expenses
 Test Year Ending December 31, 2019

Line No.	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2019 to Dec. 31, 2019	
2	Direct Charge to KWSC Water							
3	Liability Insurance - General, Auto, Umbrella, and etc	\$ 156	\$ 348	\$ 1,862	\$ 125	\$ 71		
4	subtotal	\$ 156	\$ 348	\$ 1,862	\$ 125	\$ 71	\$ -	
5	Allocated From Hawaii Water to KWSC Water							
6	Liability Insurance - General, Auto, Umbrella, and etc	\$ 2,806	\$ 3,073	\$ 2,729	\$ 1,236	\$ 1,831		
7	subtotal	\$ 2,806	\$ 3,073	\$ 2,729	\$ 1,236	\$ 1,831	\$ -	
8	Direct and Allocated Insurance							
9	Liability Insurance - General, Auto, Umbrella, and etc	\$ 2,963	\$ 3,421	\$ 4,590	\$ 1,360	\$ 1,902	\$ 10,352	
10	Total	\$ 2,963	\$ 3,421	\$ 4,590	\$ 1,360	\$ 1,902	\$ 10,352	
11	(1) Test year expense based on Marsh Insurance quotation and allocated to KWSC Water using a four-factor allocation methodology							
12	Total Company Ins. Quote	\$ 3,142,321						
13	4-factor allocation to Hawaii	3.10%						
14	4-factor allocation to KWSC Water	10.63%						
	Total (12 x 13 x 14)	\$ 10,352						

Kona Water Service Company, Inc. Water Operations
 Regulatory Expenses
 Test Year Ending December 31, 2019

Line No.	Description	Test Year
1		
2	<u>Description</u>	<u>Test Year</u>
3	PREPARATION AND FILING	
4	Rate case consulting	
5	Accounting	\$ -
6	Engineering	\$ -
7	Other	\$ -
8	Legal	\$ 16,500
9	Travel	\$ -
10	Other non-labor	\$ -
11	subotal	\$ 16,500
12	DISCOVERY AND SETTLEMENT	
13	Rate case consulting	
14	Accounting	\$ -
15	Engineering	\$ -
16	Other	\$ -
17	Legal	\$ 130,000
18	Travel	\$ 7,500
19	Other non-labor	\$ -
20	subotal	\$ 137,500
21	HEARINGS AND BRIEFING	
22	Rate case consulting	
23	Accounting	\$ -
24	Engineering	\$ -
25	Other	\$ -
26	Legal	\$ 20,000
27	Travel	\$ 5,000
28	Other non-labor	\$ -
29	subotal	\$ 25,000
30	STUDIES	
31	Cost of Service	\$ 18,500
32	Depreciation	\$ 13,500
33	subotal	\$ 32,000
34	Total	\$ 211,000
35	Amortization Period	4
36	Test Year expense (Ln30/Ln31)	\$ 52,750

Kona Water Service Company, Inc. Water Operations
 Regulatory Expenses
 Test Year Ending December 31, 2019

Line No.	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2019 to Dec. 31, 2019
2	Direct Charge to KWSC Water						
3	Regulatory Expense	\$ -	\$ 64,215	\$ 32,910	\$ 35,571	\$ 38,301	\$ -
4	subtotal	\$ -	\$ 64,215	\$ 32,910	\$ 35,571	\$ 38,301	\$ -
5	Allocated From Hawaii Water to KWSC Water						
6	Regulatory Expense	\$ -	\$ 2,353	\$ 6,311	\$ 149	\$ -	
7	subtotal	\$ -	\$ 2,353	\$ 6,311	\$ 149	\$ -	\$ -
8	Direct and Allocated Regulatory						
9	Regulatory Expense	\$ -	\$ 66,568	\$ 39,221	\$ 35,720	\$ 38,301	\$ 52,750
10	Total	\$ -	\$ 66,568	\$ 39,221	\$ 35,720	\$ 38,301	\$ 52,750

Kona Water Service Company, Inc. Water Operations
 General & Administrative Expenses
 Test Year Ending December 31, 2019

Line
 No.

1	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2019 to Dec. 31, 2019
2	Direct Charge to KWSC Water						
3	Office Supplies	\$ (61,123)	\$ 7,167	\$ 5,257	\$ 5,533	\$ 9,421	\$ 6,737
4	Misc G&A	\$ 288	\$ 1,891	\$ 212	\$ 225	\$ 4,906	\$ 1,781
5	subtotal	\$ (60,835)	\$ 9,058	\$ 5,469	\$ 5,757	\$ 14,327	\$ 8,518
6	Allocated From Hawaii Water to KWSC Water						
7	Office Supplies	\$ 14,673	\$ 17,077	\$ 16,111	\$ 20,952	\$ 20,165	\$ 19,076
8	Misc G&A	\$ 10,151	\$ 8,252	\$ 3,251	\$ 4,266	\$ 5,055	\$ 4,191
9	subtotal	\$ 24,825	\$ 25,328	\$ 19,362	\$ 25,218	\$ 25,219	\$ 23,267
10	Direct and Allocated General & Administrative						
11	Office Supplies	\$ (46,449)	\$ 24,243	\$ 21,368	\$ 26,485	\$ 29,586	\$ 25,813
12	Misc G&A	\$ 10,439	\$ 10,143	\$ 3,463	\$ 4,491	\$ 9,961	\$ 5,972
13	Total General & Administrative	\$ (36,010)	\$ 34,386	\$ 24,832	\$ 30,976	\$ 39,547	\$ 31,785
14	In 2019 Dollars						
15	Office Supplies	\$ (51,597)	\$ 26,660	\$ 23,045	\$ 27,856	\$ 30,426	\$ 27,109
16	Misc G&A	\$ 11,596	\$ 11,154	\$ 3,735	\$ 4,724	\$ 10,244	\$ 6,234
17	Total	\$ (40,002)	\$ 37,814	\$ 26,780	\$ 32,580	\$ 40,670	\$ 33,343

Kona Water Service Company, Inc. Water Operations
 Customer Accounts Expenses
 Test Year Ending December 31, 2019

Line No.	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2019 to Dec. 31, 2019
2	Direct Charge to KWSC Water						
3	Customer Accounts	\$ 853	\$ (5,740)	\$ -	\$ (1,157)	\$ 133	\$ (341)
4	subtotal	\$853	\$ (5,740)	\$ -	\$ (1,157)	\$ 133	\$ (341)
5	Allocated From Hawaii Water to KWSC Water						
6	Customer Accounts	\$ 3,426	\$ 10,153	\$ 13,658	\$ 13,594	\$ 15,309	\$ 14,187
7	subtotal	\$ 3,426	\$ 10,153	\$ 13,658	\$ 13,594	\$ 15,309	\$ 14,187
8	Direct and Allocated Customer Accounts						
9	Customer Accounts	\$ 4,278	\$ 4,414	\$ 13,658	\$ 12,436	\$ 15,442	\$ 13,846
10	Total Customer Accounts	\$ 4,278	\$ 4,414	\$ 13,658	\$ 12,436	\$ 15,442	\$ 13,846
11	In 2019 Dollars						
12	Customer Accounts	\$ 4,752	\$ 4,854	\$ 14,730	\$ 13,080	\$ 15,880	\$ 14,564
13	Conservation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14	Total	\$ 4,752	\$ 4,854	\$ 14,730	\$ 13,080	\$ 15,880	\$ 14,564

Kona Water Service Company, Inc. Water Operations
 Taxes Other Than Income Taxes
 Test Year Ending December 31, 2019

Line No.		Revenues at Present Rates	Revenues at Proposed Rates	Tax Rates	Taxes at Present Rates	Taxes at Proposed Rates
3	<u>Revenue Taxes</u>					
5	Public Company Service Tax (Pursuant to HRS § 239)	\$ 3,528,828	\$ 3,981,387	5.885%	\$ 207,672	\$ 234,305
7	Public Utility Fee (Pursuant to HRS § 269-30)	\$ 3,528,828	\$ 3,981,387	0.500%	\$ 17,644	\$ 19,907
9	Total Revenue Taxes				<u>\$ 225,316</u>	<u>\$ 254,212</u>
10	Total Taxes Other Than Income Taxes				<u><u>\$ 225,316</u></u>	<u><u>\$ 254,212</u></u>

Kona Water Service Company, Inc. Water Operations
 Income Tax Expense
 Test Year Ending December 31, 2019

Line No.			At Present Rates	At Proposed Rates
1	Total Revenues		\$ 3,528,828	\$ 3,981,387
2	Total Operations & Maintenance Expenses		\$ 2,531,024	\$ 2,531,024
3	Depreciation		\$ 476,258	\$ 476,258
4	Amortization		\$ -	\$ -
5	Taxes Other than Income Taxes		\$ 225,316	\$ 254,212
6	Total Operating Expenses		\$ 3,232,597	\$ 3,261,493
7	Operating Income before Income Taxes		\$ 296,230	\$ 719,894
8	Interest Expenses		\$ 92,650	\$ 92,650
9	State taxable Income		\$ 203,580	\$ 627,243
10	State income Tax	Less:		
		Tax Rates		
11	less than \$25K	4.4000%	\$ 1,100	\$ 1,100
12	Over \$25K, but less than \$100K	5.4000%	\$ 4,050	\$ 4,050
13	Over \$100K	6.4000%	\$ 6,629	\$ 33,744
14	Less Hawaii Capital Goods Excise Tax Credit		\$ (28,863)	\$ (28,863)
15	Federal taxable income		\$ 220,664	\$ 617,213
16	Federal income tax			
17	Over \$1	21.0%	\$ 46,339	\$ 129,615
18	Total Federal and State income taxes		\$ 29,255	\$ 139,645
19	Effective Tax Rate		14.370%	22.263%
20	State		-8.392%	1.599%
21	Federal		21.0000%	21.0000%

Kona Water Service Company, Inc. Water Operations
 Results of Operations for Recorded 2018 at Present and Proposed Rates
 Test Year Ending December 31, 2019

Line No.	(1) Present Rates	(2) Proposed Increase	(3) Proposed Rates (7.48%)
1	Pro Forma for Year Ended December 31, 2017		
2			
3			
4 Residential	\$ 1,774,239	\$ 308,625	\$ 2,082,863
5 Non-Residential	\$ 284,371	\$ 51,446	\$ 335,817
6 Power Cost Charge	\$ 1,233,136	\$ 11,531	\$ 1,244,667
7 Total Operating Revenues	\$ 3,291,746	\$ 371,601	\$ 3,663,348
8 Labor Expenses	\$ 592,561	\$ -	\$ 592,561
9 Fuel & Power	\$ 1,389,492	\$ -	\$ 1,389,492
10 Chemicals	\$ 97,487	\$ -	\$ 97,487
11 Materials & Supplies	\$ 3,072	\$ -	\$ 3,072
12 Waste/Sludge Disposal	\$ -	\$ -	\$ -
13 Affiliated Charges	\$ 118,536	\$ -	\$ 118,536
14 Professional and Outside Services	\$ 7,539	\$ -	\$ 7,539
15 Repairs & Maintenance	\$ 64,605	\$ -	\$ 64,605
16 Rental Expenses	\$ 19,354	\$ -	\$ 19,354
17 Insurance Expenses	\$ 1,902	\$ -	\$ 1,902
18 Regulatory Expenses	\$ 38,301	\$ -	\$ 38,301
19 General & Administrative Expenses	\$ 39,547	\$ -	\$ 39,547
20 Customer Accounts Expenses	\$ 15,442	\$ -	\$ 15,442
21 Total O&M Expenses	\$ 2,387,837	\$ -	\$ 2,387,837
22 Taxes Other than Income Taxes	\$ 251,566	\$ -	\$ 251,566
23 Depreciation	\$ 259,079	\$ -	\$ 259,079
24 Amortization	\$ -	\$ -	\$ -
25 Income Taxes	\$ 114,620	\$ 101,819	\$ 216,439
26 Diff. due to changing factors	\$ -	\$ -	\$ -
27 Total Operating Expenses	\$ 3,013,103	\$ 101,819	\$ 3,114,921
28 Operating Income	\$ 278,644	\$ 269,783	\$ 548,426
29 Average Rate Base	\$ 7,757,346	\$ -	\$ 7,757,346
30 Return on Rate Base	3.59%		7.07%

HAWAII WATER SERVICE COMPANY
PROJECTED RATE OF RETURN

Line
No.

	<i>PRO FORMA AVERAGE CAPITAL</i>			<i>RATE OF</i>	
	<i>AMOUNT</i>	<i>RATIO</i>	<i>EFF. RATE</i>	<i>RETURN</i>	
1					
2					
3					
4	<u>Estimated Average Rate of Return 2019</u>				
5	Long-Term Debt	\$ 3,614,923	46.6%	5.50%	2.56%
6	Common Stock	4,142,423	53.4%	9.20%	4.91%
7		7,757,346	100.00%		7.48%

Kona Water Service Company, Inc. Water Operations
Phase-in Schedule
Test Year Ending December 31, 2019

Line No.	<u>Revenue Requirement</u>	<u>Present Rates</u>	<u>Incremental</u>	<u>Proposed Rates</u>	<u>% Increase</u>
1					
2	No Phase-in	\$ 3,528,828	\$ 452,560	\$ 3,981,387	12.8%

Kona Water Service Company, Inc. Water Operations
 Rate Design
 Test Year Ending December 31, 2019

Line No.	Revenue Requirement	Split	Present	Incremental	Proposed Revenue Split	Proposed	+/- Rev Req	% Increase
1	Fixed	3.5%	\$ 83,784	\$ 24,471	4.2%	\$ 108,255		29.2%
2	Metered	96.5%	\$ 2,276,845	\$ 193,939	95.8%	\$ 2,470,784		8.5%
3	PCC		\$ 1,168,199	\$ 234,150		\$ 1,402,348		
4	Total		\$ 3,528,828	\$ 452,560		\$ 3,981,387	\$0	12.8%

5 Fixed Revenue

Line No.	Current Ratio	Meter Size	Present	Proposed	Number of Services (Present)	Number of Services (Proposed)	Present Revenues	Proposed Revenues	% Increase
7		1.00 5/8"	\$ 13.80	\$ 15.57	75	75	\$ 12,420	\$ 14,013	12.8%
8		1.00 3/4"	\$ -	\$ 15.57	0	0	\$ -	\$ -	12.8%
9		1.92 1"	\$ 26.40	\$ 29.85	140	140	\$ 44,352	\$ 50,151	13.1%
10		3.36 1 1/2"	\$ 46.20	\$ 52.34	7	7	\$ 3,881	\$ 4,397	13.3%
11		4.59 2"	\$ 63.10	\$ 71.39	19	19	\$ 14,387	\$ 16,278	13.1%
12		9.17 3"	\$ 63.10	\$ 142.79	1	1	\$ 757	\$ 1,713	126.3%
13		15.28 4"	\$ 166.40	\$ 237.97	2	2	\$ 3,994	\$ 5,711	43.0%
14		30.57 6"	\$ 166.40	\$ 475.98	1	1	\$ 1,997	\$ 5,712	186.0%
15		55.03 8"	\$ 166.40	\$ 856.74	1	1	\$ 1,997	\$ 10,281	414.9%
16					246	246	\$ 83,784	\$ 108,255	

17 Ready to Serve

Line No.	Present	Proposed	RTS Count (Present)	RTS Count (Proposed)	Present Revenues	Proposed Revenues	% Increase
18 Residential	\$ 356.40	\$ 386.76	189	189	\$ 808,315	\$ 877,166	8.5%
19 Cottage	\$ 267.30	\$ 290.07	31	31	\$ 99,436	\$ 107,905	8.5%
20 Business	\$ 356.40	\$ 386.76	26	26	\$ 111,197	\$ 120,668	8.5%
21 Total			246	246	\$ 1,018,948	\$ 1,105,740	

22 Metered Revenue

Line No.	Present	Proposed	Sales (Present)	Sales (Proposed)	Present Revenues	Proposed Revenues	% Increase
23 Metered Sales (0 - 10,000) [TG]	\$ -	\$ -	22,126	22,126	\$ -	\$ -	0.0%
24 Metered Sales (10,001 - 29,999) [TG]	\$ 3,368	\$ 3,658	38,642	38,642	\$ 130,178	\$ 141,267	8.5%
25 Metered Sales (30,000 - 74,999) [TG]	\$ 6,206	\$ 6,734	61,750	61,750	\$ 383,237	\$ 415,881	8.5%
26 Metered Sales (75,000 and over) [TG]	\$ 9,043	\$ 9,814	80,030	80,030	\$ 723,778	\$ 785,429	8.5%
27 Bulk Interruptible [TG]	\$ 2,309	\$ 2,503	8,975	8,975	\$ 20,704	\$ 22,467	8.5%
28 Total Metered Revenue					\$ 1,257,897	\$ 1,365,043	

Kona Water Service Company, Inc. Water Operations
 Rate Design
 Test Year Ending December 31, 2019

	Present	Proposed	Sales (Present)	Sales (Proposed)	Present Revenues	Proposed Revenues	% Increase
29 Power Cost Charge							
30 PCC	\$ 5.1913	\$ 6.2319	211,523	211,523	\$ 1,168,199	\$ 1,402,348	
31 Total PCC Revenue							

KWSC Sewer

Line No.	Utility Account	Property Description	Plant in Service	In Service Date	Accumulated Depreciation 12/31/2017
1	103540	Structures and Improvements			
2		A/C unit-Kukio IT-Fujitsu 2T	\$ 4,945	9/1/2016	\$ 220
3		CIAC Phase 1A	\$ 2,847,258	1/1/2003	\$ 860,993
4		Emergency shower-SPS3&4	\$ 2,447	5/1/2015	\$ 218
5		Lift Station hatch 36"x48"-LS1	\$ 2,542	10/1/2014	\$ 275
6		Lift Station hatch 36"x60"-LS2,3,5	\$ 8,414	10/1/2014	\$ 911
7		Lift Station hatch 48"x72"-LS4	\$ 3,652	10/1/2014	\$ 395
8		STP Plant Retrofit	\$ 791,762	1/1/2007	\$ 287,515
9		WWTP Bldg	\$ 1,678,385	4/1/2003	\$ 486,262
10		Total	<u>\$ 5,339,404</u>		<u>\$ 1,636,790</u>
11	103241	System Control Computer Equipment			
12		STP - SCADA	\$ 96,006	4/1/2003	\$ 96,006
13		Total	<u>\$ 96,006</u>		<u>\$ 96,006</u>
14	103701	Pumping Equipment			
15		4" HDL Ball check valve Kukio WW	\$ 813	7/1/2012	\$ 149
16		6" HDL ball check valve Kukio WW	\$ 1,381	7/1/2012	\$ 253
17		Carbon odor scrubbers LS1&2	\$ 8,835	12/1/2016	\$ 319
18		Flygt 15HP Submersible Wastewater Pump	\$ 12,492	9/1/2010	\$ 3,054
19		Flygt Pump CP3152.091/454 HT 6"	\$ 25,048	6/1/2014	\$ 2,992
20		Flygt Pump NP3127.090/4859 HT4"	\$ 9,476	6/1/2014	\$ 1,132
21		Flygt Pump NP3153.091/466 HT 4"	\$ 14,902	6/1/2014	\$ 1,780
22		Flygt Pump NP3171.091/434 MR 6"	\$ 8,533	6/1/2014	\$ 1,019
23		Flygt Pump NP3171.091/434 MT 6"	\$ 20,248	6/1/2014	\$ 2,418
24		Flygt Pump NP3202.180/460 HT 6"	\$ 28,056	6/1/2014	\$ 3,344
25		Flygt Pump NP33153.091/462 HT 4"	\$ 18,136	6/1/2014	\$ 2,166
26		Lift Station 6 and related force main	\$ 531,879	11/15/2005	\$ 212,563
27		Lift Station 7 and related force main	\$ 531,879	11/15/2005	\$ 212,563
28		Lift Stations 1-5	\$ 1,975,431	4/1/2003	\$ 577,825
29		New discharge piping and flush/mix valve.	\$ 25,778	6/1/2011	\$ 5,656
30		PUMPING EQUIPMENT [270]	\$ 279	7/1/2012	\$ 51
31		PUMPING EQUIPMENT [270]	\$ 164	7/1/2012	\$ 30
32		PUMPING EQUIPMENT [270]	\$ 1,265	9/1/2010	\$ 309
33		SPS#4 6" Flygt Discharge Pump	\$ 26,416	10/1/2014	\$ 2,862
34		SPS4pump discharge pipe&flush valve	\$ 25,836	2/1/2014	\$ 3,373
35		wilden sludge pump	\$ 2,025	1/1/2014	\$ 270
36		Wilden T8 diaphragm pumps	\$ 18,509	3/1/2014	\$ 2,365
37		Total	<u>\$ 3,287,383</u>		<u>\$ 1,036,493</u>
38	103801	Treatment & Disposal Equipment			
39		DO probe for HQ40 meter	\$ 710	12/1/2016	\$ 26
40		Gearboxes for MBR, Falk	\$ 34,731	3/1/2016	\$ 2,123
41		Total	<u>\$ 35,441</u>		<u>\$ 2,148</u>
42	103600	Collection Sewers Force			
43		4" HDL Flygt check valves	\$ 5,245	4/1/2014	\$ 656
44		6" Flygt Valve Kukio SPS#5	\$ 1,816	12/1/2013	\$ 247
45		LS#1 discharge pipe, 50'	\$ 24,332	3/1/2016	\$ 1,487
46		Replace 6" Flygt Check Valve LS#4	\$ 1,821	10/1/2013	\$ 258
47		Discharge Pipe-LS #5	\$ 32,462	12/1/2013	\$ 4,418
48		Rplc HDL 6" flygt check valve	\$ 10,528	4/1/2014	\$ 1,316

KWSC Sewer

Line No.	Utility Account	Property Description	Plant in Service	In Service Date	Accumulated Depreciation 12/31/2017
49			Total		\$ 8,382
			\$ 76,204		
50	103610	Collection Sewers Gravity			
51		CIAC - Collection Sewer lines	\$ 3,516,120	1/1/2005	\$ 864,168
52		CIAC Additional Phase 3 Increm	\$ 395,771	1/1/2007	\$ 88,495
53		CIAC Phase 3 Increment 1	\$ 70,174	1/1/2007	\$ 14,855
54		CIAC Phase 3 Increment 2	\$ 536,485	1/1/2007	\$ 113,565
55		Collection Line Phase 3 Plant	\$ 17,209	1/1/2007	\$ 6,249
56			Total		\$ 1,087,332
			\$ 4,535,759		
57	103620	Special Collecting Structure			
58		4,000gal WW Storage Tank	\$ 3,870	4/1/2014	\$ 484
59		Wastewater Storage Tank	\$ 4,027	6/1/2016	\$ 213
60			Total		\$ 696
			\$ 7,897		
61	103890	Other Equipment			
62		Replace SCADA Computer-Kukio WWTP	\$ 16,475	2/1/2014	\$ 2,151
63			Total		\$ 2,151
			\$ 16,475		
64	103700	Receiving Wells			
65		Wastewater Treatment Plant	\$ 5,161	12/31/2006	\$ 5,161
66		Wastewater Treatment Plant	\$ 110,392	6/30/2005	\$ 110,392
67		Wastewater Treatment Plant	\$ 8,442	11/1/2004	\$ 2,202
68		Wastewater Treatment Plant	\$ 13,315	10/1/2004	\$ 13,315
69		Wastewater Treatment Plant	\$ 6,707	1/1/2004	\$ 6,707
70		Wastewater Treatment Plant	\$ 2,774	12/31/2003	\$ 774
71		Wastewater Treatment Plant	\$ 13,446	4/1/2003	\$ 13,446
72		Wastewater Treatment Plant	\$ 1,111,800	4/1/2003	\$ 325,196
73		Wastewater Treatment Plant - P	\$ 522,106	1/1/2007	\$ 189,594
74			Total		\$ 666,787
			\$ 1,794,143		
75	103550	Power Generation Equipment			
76		SPS1 generator 35DSFAA 35kw	\$ 60,402	4/1/2014	\$ 7,550
77		SPS3&7 generator 60DSFAD 60kw	\$ 142,279	4/1/2014	\$ 17,785
78		SPS4 generator 125DSGAB 125kw	\$ 102,943	4/1/2014	\$ 12,868
79		SPS5 generator 100DSGAA 125kw	\$ 90,082	4/1/2014	\$ 11,260
80		SPS6 generator 150DSGAC 60kw	\$ 100,098	4/1/2014	\$ 12,512
81			Total		\$ 61,975
			\$ 495,805		
82	103955	Office Furn & Equip			
83		Laptop-HIKUK04	\$ 1,572	5/1/2015	\$ 140
84			Total		\$ 140
			\$ 1,572		
85	103965	Transportation Equipment			
86		Kawasaki ATV	\$ 12,816	6/1/2011	\$ 12,816
87		4x4 UTV	\$ 13,576	12/1/2011	\$ 13,576
88		Sm UTV Kukio	\$ 12,954	7/1/2012	\$ 12,954
89		Work Order Addition	\$ 2,883	7/1/2012	\$ 2,883

KWSC Sewer

Line No.	Utility Account	Property Description	Plant in Service	In Service Date	Accumulated Depreciation 12/31/2017
90			Total		\$ 42,229
91	103930	Tools, Shop, Garage Equipment			
92		Portable Sludge Pump 3/4hp	\$ 1,119	3/1/2014	\$ 143
93		Toolbox for Trailer 24x18	\$ 490	9/1/2016	\$ 22
94			Total		\$ 165
95	103975	Stores Equipment			
96		20' Modified Storage Container	\$ 6,953	5/1/2014	\$ 888
97			Total		\$ 888
98	103970	General Plant			
99		Spill Contain.	\$ 1,641	4/1/2012	\$ 329
100		AC Coils	\$ 10,952	12/1/2011	\$ 2,403
101		Hazmat Cab.	\$ 1,814	4/1/2012	\$ 363
102		Work Order Addition	\$ 4,782	12/1/2011	\$ 983
103		Gas Detector	\$ 2,783	12/1/2011	\$ 572
104			Total		\$ 4,650
105	HAWAII GENERAL OFFICE				
106		790 Leasehold Improvements	\$ 16,865	5/1/15	\$ 749
107		desks, conf table, chairs	\$ 3,060	3/1/10	\$ 2,367
108		2 Cubical Work Stations	\$ 5,650	12/1/10	\$ 3,562
109		Cherry Desk	\$ 855	12/1/10	\$ 539
110		Cherry Drawer	\$ 71	12/1/10	\$ 45
111		Cherry Credenza	\$ 509	12/1/10	\$ 321
112		Cherry Corner Unit	\$ 404	12/1/10	\$ 255
113		Regency Library	\$ 284	12/1/10	\$ 179
114		Chairs	\$ 2,037	12/1/10	\$ 1,284
115		Cherry Desk Shell 66'	\$ 429	12/1/10	\$ 270
116		24" x 71" Credenza Shells	\$ 793	12/1/10	\$ 500
117		Cherry Keyboard Drawer	\$ 71	12/1/10	\$ 45
118		Executive Chair	\$ 391	12/1/10	\$ 247
119		Desk Pedestal F/F	\$ 468	12/1/10	\$ 295
120		Cherry Shelf Unit	\$ 308	12/1/10	\$ 194
121		Cherry Storage Hutch	\$ 487	12/1/10	\$ 307
122		Cherry Credenza 66"	\$ 333	12/1/10	\$ 210
123		Regency Desk	\$ 709	12/1/10	\$ 447
124		2 Drawer Lateral File	\$ 988	12/1/10	\$ 623
125		3, 42" 4 Drawer Lateral File Cabinets	\$ 2,868	12/1/10	\$ 1,808
126		Cherry Desk Pedestal B/B/F	\$ 513	12/1/10	\$ 323
127		Regency Lateral File	\$ 567	12/1/10	\$ 358
128		Fireproof safe for Customer Service office.	\$ 2,386	12/1/11	\$ 1,318
129		Ricoh Aficio MP C3001	\$ 3,044	5/1/15	\$ 203
130		790 Office Furniture	\$ 631	5/1/15	\$ 42
131		Automated Electronic Defibrillators	\$ 7,161	12/1/10	\$ 7,161
132		License for Capture Now	\$ 237	12/1/10	\$ 237
133		Fujitsu Fi6140 scanner	\$ 1,666	12/1/10	\$ 1,666
134		Ricoh MP 4001SP Copier w/Finisher	\$ 10,686	12/1/10	\$ 10,686
135		Monitors	\$ 1,207	12/1/10	\$ 1,207
136		Mitel EP Dig 6 Line Model 8560 Telephone	\$ 8,102	12/1/10	\$ 8,102
137		ELECTRONICS [681]	\$ 744	12/1/11	\$ 744
138		8-way video conferencing system	\$ 37,185	12/1/11	\$ 37,185

KWSC Sewer

Line No.	Utility Account	Property Description	Plant in Service	In Service Date	Accumulated Depreciation 12/31/2017
139		Hewlett Packard laser printer	\$ 1,111	12/1/11	\$ 1,111
140		Desktop-HIWKLCS40	\$ 807	12/1/14	\$ 355
141		Desktop-HIWKLCS39	\$ 807	12/1/14	\$ 355
142		Desktop-HIWKLCS37	\$ 807	12/1/14	\$ 355
143		Desktop-HIWKLCS38	\$ 807	12/1/14	\$ 355
144		Desktop-HIWKLCS36	\$ 807	12/1/14	\$ 355
145		Desktop-HIWKLCS41	\$ 807	12/1/14	\$ 355
146		790 Server & Server room upgrade	\$ 17,650	5/1/15	\$ 6,724
147		Hawaii Business Unit Software	\$ 132,361	12/1/10	\$ 132,361
148		RMS Software	\$ 92,429	3/1/14	\$ 8,858
149		phone system with 8 phones	\$ 24,859	3/1/10	\$ 24,859
150		Miscellaneous Kitchen Equipment	\$ 981	12/1/10	\$ 463
151		laptop for CS Mgr	\$ 1,496	4/1/14	\$ 225
152		Total	<u>\$ 387,436</u>		<u>\$ 260,210</u>
153		HAWAII GENERAL OFFICE ALLOCATIONS			
154		700 - Kaanapali	\$ 84,174	21.73%	\$ 56,533
155		701 - Pukalani	\$ 26,623	6.87%	\$ 17,880
156		721 - Waikoloa Water	\$ 49,713	12.83%	\$ 33,389
157		722 - Waikoloa Sewer	\$ 38,813	10.02%	\$ 26,067
158		723 - Waikoloa Resort Water	\$ 51,423	13.27%	\$ 34,537
159		724 - Waikoloa Resort Sewer	\$ 70,422	18.18%	\$ 47,297
160		725 - Waikoloa Resort Irrigation	\$ 2,893	0.75%	\$ 1,943
161		726 - Kona Water	\$ 40,900	10.56%	\$ 27,470
162		727 - Kona Sewer	\$ 22,474	5.80%	\$ 15,094

163 BIG ISLAND

164		(2)Replacement Op Computer Stations	\$ 2,081	12/1/13	\$ 1,214
165		Mobile office trailer	\$ 23,867	12/1/11	\$ 3,942
166		1996 Eagle Forklift	\$ 22,871	12/1/10	\$ 4,050
167		20' Container Shelving-Baseyard	\$ 931	6/1/15	\$ 60
168		20' Container Shelving-EMT	\$ 455	6/1/15	\$ 29
169		20' Container-Baseyard	\$ 10,373	6/1/15	\$ 670
170		20' Container-EMT	\$ 5,312	6/1/15	\$ 343
171		Storage Contr	\$ 3,187	12/1/10	\$ 1,505
172		Nissan Frontier	\$ 27,030	12/1/10	\$ 17,874
173		Nissan Titan	\$ 35,679	12/1/10	\$ 23,593
174		FORD XCAB	\$ 26,901	6/1/12	\$ 15,496
175		FORD XCAB	\$ 26,395	6/1/12	\$ 15,496
176		Ford F-150	\$ 30,500	9/1/12	\$ 15,757
177		Ford F-150	\$ 30,500	9/1/12	\$ 15,757
178		Ford F-150	\$ 30,500	9/1/12	\$ 15,757
179		FRONTIER	\$ 25,350	6/1/12	\$ 13,571
180		Ford Explorer	\$ 37,497	9/1/12	\$ 19,372
181		2014 Nissan Frontier. V214001	\$ 35,122	4/1/14	\$ 18,815
182		3 Ipad for Hawaii Island	\$ 2,542	9/1/13	\$ 1,574
183		Desk w Drawer	\$ 959	9/1/12	\$ 501
184		69"x43"x 18"	\$ 1,311	9/1/12	\$ 466
185		Diesel tank	\$ 725	12/1/11	\$ 110
186		GIS Software	\$ 7,621	12/1/11	\$ 7,621
187		Backflow Test Kit-Midwest 835	\$ 1,202	8/1/15	\$ 145
188		Big Island SCADA 2012	\$ 495,319	10/1/14	\$ 40,485
189		Book Case	\$ 298	9/1/12	\$ 155
190		Motorola Hardware	\$ 4,401	6/1/12	\$ 4,401

KWSC Sewer

Line No.	Utility Account	Property Description	Plant in Service	In Service Date	Accumulated Depreciation 12/31/2017
191		Work Order Addition	\$ 2,144	6/1/12	\$ 2,144
192		Misc. Wiring & Cables	\$ 544	6/1/12	\$ 544
193		Work Order Addition	\$ 747	6/1/12	\$ 747
194		1 desktops	\$ 1,133	4/1/13	\$ 769
195		1 desktops	\$ 1,133	4/1/13	\$ 769
196		Desktop-HIWKLOC56	\$ 1,572	12/1/14	\$ 693
197		Desktop-HIWKLOC57	\$ 1,613	12/1/14	\$ 710
198		dryer @ baseyard	\$ 503	4/1/17	\$ 9
199		Exec Chair	\$ 351	9/1/12	\$ 183
200		Work Order Addition	\$ 51	9/1/13	\$ 31
201		Work Order Addition	\$ 182	9/1/12	\$ 182
202		Work Order Addition	\$ 13,813	6/1/12	\$ 13,519
203		EMT Laptop	\$ 4,509	3/1/14	\$ 2,469
204		Hand Helds	\$ 19,147	12/1/10	\$ 19,147
205		Desk Dock	\$ 2,793	12/1/10	\$ 2,793
206		Personnel Lift	\$ 5,844	6/1/12	\$ 2,175
207		Software	\$ 2,995	9/1/12	\$ 2,995
208		Hardware	\$ 8,824	9/1/12	\$ 8,824
209		Gradall lifting hook attachment	\$ 2,427	12/1/14	\$ 263
210		Forklift	\$ 27,625	12/1/10	\$ 17,803
211		HON chair	\$ 636	2/1/14	\$ 101
212		Hydro Jetter	\$ 5,941	12/1/10	\$ 4,238
213		Ice Maker-Manitowac ID-0452A	\$ 4,536	9/1/16	\$ 403
214		Ingersoll Needle/Chisel Scl	\$ 773	9/1/13	\$ 123
215		Internal labor	\$ 21,402	7/1/13	\$ 3,210
216		Knoll task chair	\$ 13,806	2/1/14	\$ 2,186
217		1 laptops	\$ 1,165	4/1/13	\$ 791
218		1 laptops	\$ 1,165	4/1/13	\$ 791
219		Laptop, EMT-HIWKOCLT02	\$ 1,631	11/1/16	\$ 272
220		Lateral File	\$ 525	9/1/12	\$ 274
221		Work Order Addition	\$ 1,447	12/1/11	\$ 245
222		Work Order Addition	\$ 4,571	12/1/11	\$ 752
223		Work Order Addition	\$ 16,749	6/1/11	\$ 16,749
224		New IP phone system	\$ 19,704	6/1/13	\$ 12,901
225		New Hydraulic Hammer	\$ 9,847	12/1/13	\$ 2,010
226		Office Furnishings	\$ 6,706	2/1/14	\$ 1,062
227		Office furniture & equip	\$ 4,134	9/1/12	\$ 2,080
228		Work Order Addition	\$ 47	9/1/12	\$ 24
229		Work Order Addition	\$ 90	9/1/12	\$ 32
230		Portable generator 3500w, EMT's	\$ 518	12/1/16	\$ 28
231		Power Quality Analyzer	\$ 8,416	3/1/15	\$ 1,192
232		Printer Cart	\$ 75	9/1/12	\$ 39
233		Projector-Dell 1610HD	\$ 626	12/1/16	\$ 97
234		Electrical Upgrade	\$ 8,770	12/1/11	\$ 1,488
235		Respirator supplied air system	\$ 4,239	12/1/16	\$ 230
236		Richo Copier	\$ 10,588	11/1/11	\$ 10,588
237		Richo Fax Module	\$ 1,045	11/1/11	\$ 1,045
238		RICOH MPC3004-Engineering office	\$ 8,282	12/1/16	\$ 1,282
239		Rplc computer w/laptop for Eng Mgr	\$ 1,478	10/1/14	\$ 686
240		SCADA iNET-II 900 Dual Gateway	\$ 22,377	3/1/16	\$ 1,026
241		SCADA upgrade 2013	\$ 64,775	3/1/16	\$ 2,969
242		SCADAPack 32	\$ 10,539	3/1/16	\$ 483
243		Scaffolding	\$ 4,771	3/1/16	\$ 437
244		Work Order Addition	\$ 15	12/1/11	\$ 2
245		Tools & Equipment	\$ 994	6/1/13	\$ 228
246		Trailer, emergency compressor	\$ 426	3/1/16	\$ 39
247		Trailer, emergency generator EG6500	\$ 2,073	3/1/16	\$ 190

KWSC Sewer

Line No.	Utility Account	Property Description	Plant in Service	In Service Date	Accumulated Depreciation 12/31/2017
248		Trailer, emergency 6'x12' w/ramp	\$ 7,800	3/1/16	\$ 715
249		Work Order Addition	\$ 58,793	9/1/12	\$ 30,481
250		V208214, Ford F-150	\$ 6,817	12/1/10	\$ 4,963
251		V208216, Chevy Silverad	\$ 9,017	12/1/10	\$ 6,564
252		V208217, Chevy 3500	\$ 29,139	12/1/10	\$ 21,212
253		V208222, '08 TOY 4 RUNNER	\$ 32,269	12/1/08	\$ 28,143
254		Visitor Chair	\$ 169	9/1/12	\$ 88
255		Air Compressor, portable	\$ 21,139	9/1/17	\$ 470
256		Septic Tank, Baseyard	\$ 15,054	9/1/17	\$ 376
257		Socket fusion kit, 20-63mm	\$ 662	12/1/17	\$ 7
258		Socket welding prep	\$ 1,587	12/1/17	\$ 3
259		Handheld Meter Readers	\$ 8,673	10/31/17	\$ 145
260		Portable Air Compressor	\$ 21,139	6/30/17	\$ 1,057
261		Jetting/Vacuum Truck/Pukalani	\$ 328,447	7/1/13	\$ 51,092
262		Jetting/Vacuum Truck/Pukalani	\$ 6,577	7/1/13	\$ 1,023
263		Total	<u>\$ 1,799,041</u>		<u>\$ 532,163</u>
264		BIG ISLAND ALLOCATIONS			
265		721 - Waikoloa Water	\$ 329,834	18.33%	\$ 97,566
266		722 - Waikoloa Sewer	\$ 250,340	13.92%	\$ 74,051
267		723 - Waikoloa Resort Water	\$ 344,270	19.14%	\$ 101,836
268		724 - Waikoloa Resort Sewer	\$ 456,969	25.40%	\$ 135,173
269		725 - Waikoloa Resort Irrigation	\$ 18,315	1.02%	\$ 5,418
270		726 - Kona Water	\$ 258,956	14.39%	\$ 76,600
271		727 - Kona Sewer	\$ 140,357	7.80%	\$ 41,518
272		WASTEWATER ADMINISTRATION			
273		IPad 3 - WW Mgr.	\$ 810	9/1/2013	430
274		Total	<u>\$ 810</u>		<u>\$ 430</u>
275		WASTEWATER ADMINISTRATION ALLOCATIONS			
276		701 - Pukalani	\$ 139	17.22%	\$ 74
277		722 - Waikoloa Sewer	\$ 199	24.52%	\$ 105
278		724 - Waikoloa Resort Sewer	\$ 366	45.16%	\$ 194
279		727 - Kona Sewer	\$ 106	13.10%	\$ 56

KONA WATER SERVICE COMPANY, INC.
 A subsidiary of Hawaii Water Service Company, Inc.
 Kukio, Hawaii

Docket No. 2018-0388
 Exhibit KWSC Sewer 4
 Present Rate Schedule
 Tariff No. 11
 Witness: Stout

Second Revised Sheet No. 53
 Cancels First Revised Sheet No. 53

SECTION D-2

Sewer Service Rates

GENERAL USE RATES

Stand-By Charges:

	(First Phase 8/4/15)	(Second Phase 2/4/16)
Residential – per dwelling unit per month	\$ 324.80	\$ 470.75
Commercial – per connection per month	\$324.80	\$ 470.75

Quantity Charge:

In addition to the stand-by charge, the customer shall pay the following monthly sewer charge per 1,000 gallons of metered domestic water consumption up to 7,000 gallons per month for residential customers and for business customers with meters up to 1” and 40% of the metered water consumption for business customers with meters greater than 1”.

First Phase (8/4/15)

Second Phase (2/4/16)

\$ 21.2315

\$ 21.2315

POWER COST CHARGE

In addition to the monthly stand-by charge and monthly quantity charge, there shall be a Power Cost Charge per 1,000 gallons of metered water usage per month up to 7,000 gallons per month for residential customers and for business customers with meters up to 1” and 40% of the metered water consumption for business customers with meters greater than 1”. The amount of the Power Cost Charge shall be calculated as follows:

Previous Month’s Electricity Cost
 Divided by Previous Month’s Total Metered TG of Water
 Times 1.06385 (Public service company tax and PUC fee)

TG = Thousand Gallons of metered domestic water consumption

Issued: August 4, 2015
 By: Paul Townsley, Vice President - Regulatory

Effective: August 4, 2015

KONA WATER SERVICE COMPANY, INC.
 A subsidiary of Hawaii Water Service Company, Inc.
 Kukio, Hawaii

SECTION D-2

Sewer Service Rates

GENERAL USE RATES

Stand-By Charges:

Applicability	Monthly Charge
Residential – per dwelling unit per month	\$ 528.72
Commercial – per connection per month	\$ 528.72

Quantity Charge:

In addition to the stand-by charge, a customer shall pay a monthly sewer charge per 1,000 gallons of metered domestic water consumption as shown in the following table.

Applicability	Rate per thousand gallons
Residential – up to 7,000 gallons of metered domestic water consumption	\$23.8461
Business with water meter up to 1” – up to 7,000 gallons of metered domestic water consumption	\$23.8461
Business with water meter greater than 1” – 40% of metered domestic water consumption	\$23.8461

POWER COST CHARGE

In addition to the monthly stand-by charge and monthly quantity charge, there shall be a Power Cost Charge per 1,000 gallons of metered water usage per month up to 7,000 gallons per month for residential customers and for business customers with meters up to 1” and 40% of the metered water consumption for business customers with meters greater than 1”. The amount of the Power Cost Charge shall be calculated as follows:

Previous Month’s Electricity Cost
 Divided by Previous Month’s Total Metered TG of Water
 Times 1.06385 (Public service company tax and PUC fee)

TG = Thousand Gallons of metered domestic water consumption

Issued:
 By: Paul Townsley, Vice President - Regulatory

Effective:

Kona Water Service Company, Inc. Wastewater Operations
 Revenue Requirements & Rate of Return Summary
 Test Year Ending December 31, 2019

Line No.	(1)	(2)	(3)	Change in Revenues
	Present Rates	Additional Amount	Test Year Proposed Rates 7.48%	
1				
2				
3				11.4%
4 Residential	\$ 1,453,150	\$ 178,949	\$ 1,632,099	
5 Non-Residential	\$ 233,112	\$ 28,707	\$ 261,819	
6 Power Cost Charge	\$ 133,269	\$ -	\$ 133,269	
7 Total Operating Revenues	<u>\$ 1,819,531</u>	<u>\$ 207,656</u>	<u>\$ 2,027,187</u>	
8 Labor Expenses	\$ 485,810	\$ -	\$ 485,810	
9 Fuel & Power	\$ 134,489	\$ -	\$ 134,489	
10 Chemicals	\$ 3,694	\$ -	\$ 3,694	
11 Materials & Supplies	\$ 8,966	\$ -	\$ 8,966	
12 Waste/Sludge Disposal	\$ 3,506	\$ -	\$ 3,506	
13 Affiliated Charges	\$ 55,684	\$ -	\$ 55,684	
14 Professional and Outside Services	\$ 6,219	\$ -	\$ 6,219	
15 Repairs & Maintenance	\$ 108,633	\$ -	\$ 108,633	
16 Rental Expenses	\$ 13,312	\$ -	\$ 13,312	
17 Insurance Expenses	\$ 5,713	\$ -	\$ 5,713	
18 Regulatory Expenses	\$ 52,500	\$ -	\$ 52,500	
19 General & Administrative Expenses	\$ 25,024	\$ -	\$ 25,024	
20 Customer Accounts Expenses	\$ 9,588	\$ -	\$ 9,588	
21 Total O&M Expenses	<u>\$ 913,137</u>	<u>\$ -</u>	<u>\$ 913,137</u>	
22 Taxes Other than Income Taxes	\$ 116,177	\$ 13,259	\$ 129,436	
23 Depreciation	\$ 553,793		\$ 553,793	
24 Amortization	\$ -		\$ -	
25 Income Taxes	\$ 33,868	\$ 50,652	\$ 84,521	
26 Diff. due to changing factors		\$ (0)	\$ (0)	
27 Total Operating Expenses	<u>\$ 1,616,975</u>	<u>\$ 63,911</u>	<u>\$ 1,680,886</u>	
28 Operating Income	<u>\$ 202,556</u>	<u>\$ 143,745</u>	<u>\$ 346,301</u>	
29 Average Rate Base	<u>\$ 4,629,687</u>	<u>\$ -</u>	<u>\$ 4,629,687</u>	
30 Return on Rate Base	<u>4.38%</u>		<u>7.48%</u>	

Kona Water Service Company, Inc. Wastewater Operations
 Revenue Requirements Support
 Test Year Ending December 31, 2019

Line No.				
1	Gross Revenue Factor		1.000000	
2	Additional Revenue			
3	Less:			
4	Bad Debts	0.000000		
5	PSCT	0.058850		
6	PUC Fee	0.005000		
7	Franchise	0.000000	<u>0.063850</u>	0.06385
8	Subject to Income Tax			
9	Less:		0.936150	
10	State Income Tax	0.050560		0.047332
11	Federal Income Tax	0.210000		0.196592
12		0.260560	<u>0.243923</u>	
13	Remaining for Net Income		<u>0.692227</u>	
14	Expense for each \$1 of Revenue		<u>0.307773</u>	
15	Factor for Moving Rate Base			
16		(1-Bad Debt%-Revenue Taxes-Income tax on Addl. Revenue)		
17			<u>0.6922267462</u>	
18	Revenue Factor		1.444613352	
19	<u>Additional Revenue Requirements</u>			
20	Proposed rate of return			7.48%
21	Multiply rate base @ present rates by the above proposed ROR			346,301
22	Subtract the net income @ present rates from the above net income			143,745
23	Divide the above difference by the moving rate base factor to			
24	determine the additional revenue requirements @ the proposed ROR			207,656
25	Multiply the add'l revenues by the bad debt factor			0
26	Multiply the add'l revenues by the revenue tax factor			13259
27	Multiply the add'l revenues by the inc tax on add'l revenue			50652
28	Total Expenses at Proposed Rates			1,680,886
29	Subtract total expense from total revenues @ proposed rates			346,301
30	Subtract NI before WC change from NI after WC change			0.0
31	Divide change in NI by desired rate of return			0.0
32	Calculate change in rate base			4,629,687
33	Test - Divide NI by rate base			7.48%

Kona Water Service Company, Inc. Wastewater Operations
 Average Rate Base
 Test Year Ending December 31, 2019

Line No.	Description	At Dec. 31, 2018	At Dec. 31, 2019	Average
3	Plant In Service	\$ 16,640,292	\$ 17,026,731	\$ 16,833,511
4	Accumulated Depreciation Reserve	\$ 5,373,230	\$ 6,062,553	\$ 5,717,891
5	Net Plant-in-Service	\$ 11,267,062	\$ 10,964,178	\$ 11,115,620
6	Deduct:			
7	Net Contributions in Aid of Construction	\$ (5,289,795)	\$ (5,154,264)	\$ (5,222,029)
8	Customer Advances	\$ -	\$ -	\$ -
9	Customer Deposits	\$ -	\$ -	\$ -
10	Accumulated Deferred Taxes: Federal	\$ (312,869)	\$ (283,527)	\$ (298,198)
11	Accumulated Deferred Taxes: State	\$ (88,535)	\$ (77,878)	\$ (83,207)
12	Unamortized Hawaii Capital Goods Excise Tax Credit	\$ (176,034)	\$ (175,607)	\$ (175,821)
13	Net Salvage Adjustment	\$ -	\$ -	\$ (109,425)
14	True-up Adjustment	\$ -	\$ -	\$ (673,347)
15	subtotal	\$ (5,867,234)	\$ (5,691,276)	\$ (6,562,028)
16	Add:			
17	Working Capital	\$ 76,095	\$ 76,095	\$ 76,095
18	subtotal	\$ 76,095	\$ 76,095	\$ 76,095
19	Subtotal	\$ 5,475,923	\$ 5,348,997	
20	Rate Base at Proposed Rates			\$ 4,629,687

Kona Water Service Company, Inc. Wastewater Operations
 Rate Base Support
 Test Year Ending December 31, 2019

Line
 No.

1 Rate Base @ Dec. 31, 2018

2	<u>Description</u>	Kona Water Service Company, Inc.		
		Wastewater Operations	Adjustments	
3	Plant In Service	\$ 16,640,292	\$ -	\$ 16,640,292
4	Accumulated Depreciation Reserve	\$ 5,373,230	\$ -	\$ 5,373,230
5	Net Plant-in-Service	\$ 11,267,062	\$ -	\$ 11,267,062
6	Deduct:			
7	Net Contributions in Aid of Construction	\$ (5,289,795)	\$ -	\$ (5,289,795)
8	Customer Advances	\$ -	\$ -	\$ -
9	Customer Deposits	\$ -	\$ -	\$ -
10	Accumulated Deferred Taxes: Federal	\$ (312,869)	\$ -	\$ (312,869)
11	Accumulated Deferred Taxes: State	\$ (88,535)	\$ -	\$ (88,535)
	Unamortized Hawaii Capital Goods	\$ (176,034)	\$ -	\$ (176,034)
12	Excise Tax Credit			
13	subtotal	\$ (5,867,234)	\$ -	\$ (5,867,234)
14	Add:			
15	Working Capital	\$ 76,095	\$ -	\$ 76,095
16	subtotal	\$ 76,095	\$ -	\$ 76,095

17 Rate Base @ Dec. 31, 2019

18	<u>Description</u>	Kona Water Service Company, Inc.		
		Wastewater Operations	Adjustments	
19	Plant In Service	\$ 17,026,731	\$ -	\$ 17,026,731
20	Accumulated Depreciation Reserve	\$ 6,062,553	\$ -	\$ 6,062,553
21	Net Plant-in-Service	\$ 10,964,178	\$ -	\$ 10,964,178
22	Deduct:			
23	Net Contributions in Aid of Construction	\$ (5,154,264)	\$ -	\$ (5,154,264)
24	Customer Advances	\$ -	\$ -	\$ -
25	Customer Deposits	\$ -	\$ -	\$ -
26	Accumulated Deferred Taxes: Federal	\$ (283,527)	\$ -	\$ (283,527)
27	Accumulated Deferred Taxes: State	\$ (77,878)	\$ -	\$ (77,878)
	Unamortized Hawaii Capital Goods	\$ (175,607)	\$ -	\$ (175,607)
28	Excise Tax Credit			
29	subtotal	\$ (5,691,276)	\$ -	\$ (5,691,276)
30	Add:			
31	Working Capital	\$ 76,095	\$ -	\$ 76,095
32	subtotal	\$ 76,095	\$ -	\$ 76,095

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Depreciation and Amortization of Intangibles
 Test Year Ending December 31, 2019

Line No.	Description	Actual Cost		Balance as of Dec. 31, 2017	Dep. Exp. Jan. 1, 2018 to Dec. 31, 2018	Retirements Jan. 1, 2018 to Dec. 31, 2018	Adjustments Jan. 1, 2018 to Dec. 31, 2018	Balance as of Dec. 31, 2018	Dep. Exp. Jan. 1, 2019 to Dec. 31, 2019	Retirements Jan. 1, 2019 to Dec. 31, 2019	Adjustments Jan. 1, 2019 to Dec. 31, 2019	Test Year Balance as of Dec. 31, 2019
		Dec. 31, 2017	Dec. 31, 2018									
4	Intangible	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,667	\$ -	\$ -	\$ 4,667
5	Land and land rights	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6	Structures and Improvements	\$ 5,339,404	\$ 5,339,404	\$ 1,636,790	\$ 282,454	\$ -	\$ -	\$ 1,919,245	\$ 285,946	\$ -	\$ -	\$ 2,205,190
7	Pumping Equipment	\$ 3,383,389	\$ 3,462,302	\$ 1,132,499	\$ 157,543	\$ -	\$ -	\$ 1,290,042	\$ 161,161	\$ -	\$ -	\$ 1,451,223
8	Treatment Equipment	\$ 35,441	\$ 602,693	\$ 2,148	\$ 22,480	\$ -	\$ -	\$ 24,629	\$ 27,218	\$ -	\$ -	\$ 51,846
9	Transmission & Distribution Plant	\$ 4,636,335	\$ 4,643,223	\$ 1,088,561	\$ 86,248	\$ -	\$ -	\$ 1,184,809	\$ 86,248	\$ -	\$ -	\$ 1,271,057
10	Source of Supply	\$ 1,794,143	\$ 1,794,143	\$ 668,787	\$ 98,216	\$ -	\$ -	\$ 766,003	\$ 99,216	\$ -	\$ -	\$ 865,219
11	Office Furniture and Equipment	\$ 1,572	\$ 1,572	\$ 140	\$ 316	\$ -	\$ -	\$ 456	\$ 316	\$ -	\$ -	\$ 772
12	Power Generation Equipment	\$ 495,805	\$ 495,805	\$ 61,975	\$ 10,461	\$ -	\$ -	\$ 72,437	\$ 10,461	\$ -	\$ -	\$ 82,898
13	Transportation	\$ 42,229	\$ 57,379	\$ 42,229	\$ (2,112)	\$ -	\$ -	\$ 40,118	\$ (2,112)	\$ -	\$ -	\$ 38,006
14	Tools and Laboratory Equipment	\$ 8,562	\$ 21,960	\$ 1,053	\$ 1,140	\$ -	\$ -	\$ 2,193	\$ 1,140	\$ -	\$ -	\$ 3,333
15	General Plant	\$ 21,972	\$ 21,972	\$ 4,650	\$ 916	\$ -	\$ -	\$ 5,566	\$ 916	\$ -	\$ -	\$ 6,483
16	Hawaii Water GO Allocation	\$ 22,474	\$ 22,474	\$ 15,094	\$ 494	\$ -	\$ -	\$ 15,589	\$ 962	\$ -	\$ -	\$ 16,571
17	Big Island Allocation	\$ 140,357	\$ 177,257	\$ 41,518	\$ 10,548	\$ -	\$ -	\$ 52,066	\$ 13,122	\$ -	\$ -	\$ 65,188
18	Wastewater Administration	\$ 106	\$ 106	\$ 96	\$ 22	\$ -	\$ -	\$ 78	\$ 22	\$ -	\$ -	\$ 99
20	Total	\$ 15,921,789	\$ 16,640,292	\$ 4,703,502	\$ 669,728	\$ -	\$ -	\$ 5,373,230	\$ 689,323	\$ -	\$ -	\$ 6,062,553

Kona Water Service Company, Inc. Wastewater Operations
 Depreciation Expense (Book)
 Test Year Ending December 31, 2019

Line No.	Description	2017		2018		2019		Test Year
		Acc. Dep.	Dep. Exp.	Acc. Dep.	Dep. Exp.	Acc. Dep.	Dep. Exp.	
1								
2								
3								
4								
5	Intangible	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,667	\$ 4,667
6	Land and land rights	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7	Structures and Improvements	\$ 1,636,790	\$ 282,454	\$ 1,919,245	\$ 1,919,245	\$ 285,946	\$ 285,946	\$ 2,205,190
8	Pumping Equipment	\$ 1,132,499	\$ 157,543	\$ 1,290,042	\$ 1,290,042	\$ 161,181	\$ 161,181	\$ 1,451,223
9	Treatment Equipment	\$ 2,148	\$ 22,480	\$ 24,629	\$ 24,629	\$ 27,218	\$ 27,218	\$ 51,846
10	Transmission & Distribution Plant	\$ 1,098,561	\$ (49,283)	\$ 1,049,278	\$ 1,049,278	\$ (49,283)	\$ (49,283)	\$ 999,996
11	Source of Supply	\$ 666,787	\$ 99,216	\$ 766,003	\$ 766,003	\$ 99,216	\$ 99,216	\$ 865,219
12	Office Furniture and Equipment	\$ 140	\$ 316	\$ 456	\$ 456	\$ 316	\$ 316	\$ 772
13	Power Generation Equipment	\$ 61,975	\$ 10,461	\$ 72,437	\$ 72,437	\$ 10,461	\$ 10,461	\$ 82,898
14	Transportation	\$ 42,229	\$ (2,112)	\$ 40,118	\$ 40,118	\$ (2,112)	\$ (2,112)	\$ 38,006
15	Tools and Laboratory Equipment	\$ 1,053	\$ 1,140	\$ 2,193	\$ 2,193	\$ 1,140	\$ 1,140	\$ 3,333
16	General Plant	\$ 4,650	\$ 916	\$ 5,566	\$ 5,566	\$ 916	\$ 916	\$ 6,483
17	Hawaii Water GO Allocation	\$ 15,094	\$ 494	\$ 15,589	\$ 15,589	\$ 982	\$ 982	\$ 16,571
18	Big Island Allocation	\$ 41,518	\$ 10,548	\$ 52,066	\$ 52,066	\$ 13,122	\$ 13,122	\$ 65,188
19	Wastewater Administration	\$ 56	\$ 22	\$ 78	\$ 78	\$ 22	\$ 22	\$ 99
20	Total	\$ 4,703,502	\$ 534,197	\$ 5,237,699	\$ 5,237,699	\$ 553,793	\$ 553,793	\$ 5,791,491

Iona Water Service Company, Inc. Wastewater Operations
 Accumulated Depreciation and Depreciation Expense Detail
 Total Year Ending December 31, 2018

Line No.	Account	Description	Plant Balance (12/31/2017)	Accumulated Depreciation Reserve (12/31/2017)	2018 Additions	2018 Retirements	Plant Balance (12/31/2018)	Present Rate	Proposed Rate	Depreciation Expense (Present Rate)	Depreciation Expense (Proposed Rate)	2019 Additions	2019 Retirements	Plant Balance (12/31/2019)	Depreciation Expense (Present Rate)	Depreciation Expense (Proposed Rate)	Accumulated Depreciation Reserve (12/31/2019)
KWSC Sewer																	
Non Depreciable Plant																	
2	103030	Intangible Plant	\$ -	\$ -	\$ -	\$ -	\$ -	10.00%	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3	103061	Land	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4			\$ -	\$ -	\$ -	\$ -	\$ -			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5		Total Non Depreciable Plant	\$ -	\$ -	\$ -	\$ -	\$ -			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Depreciable Plant																	
6		Structures and Improvements															
7		Structures and Improvements	\$ 6,338,404	\$ 1,636,790	\$ -	\$ -	\$ 5,339,404	2.13%	5.29%	\$ 113,748	\$ 282,454	\$ 1,919,245	\$ 66,000	\$ 5,405,404	\$ 115,154	\$ 285,946	\$ 2,205,190
8	103540	Structures & Improvement - Transmission & Distribution Plant	\$ 5,339,404	\$ 1,636,790	\$ -	\$ -	\$ 5,339,404			\$ 113,748	\$ 282,454	\$ 1,919,245	\$ 66,000	\$ 5,405,404	\$ 115,154	\$ 285,946	\$ 2,205,190
9		Total Structures and Improvements	\$ 6,338,404	\$ 1,636,790	\$ -	\$ -	\$ 5,339,404			\$ 113,748	\$ 282,454	\$ 1,919,245	\$ 66,000	\$ 5,405,404	\$ 115,154	\$ 285,946	\$ 2,205,190
10		Pumping Equipment															
11	103241	System Control Computer Equipment	\$ 96,006	\$ 96,006	\$ -	\$ -	\$ 96,006	0.00%	40.95%	\$ -	\$ -	\$ 83,096	\$ 27,511	\$ -	\$ 123,517	\$ -	\$ 86,006
12	103701	Pumping Equipment	\$ 3,287,383	\$ 1,036,459	\$ 78,914	\$ -	\$ 3,366,256	2.51%	4.88%	\$ 84,526	\$ 157,543	\$ 1,844,038	\$ 77,743	\$ 3,444,039	\$ 86,477	\$ 161,181	\$ 1,352,217
13		Total Pumping Equipment	\$ 3,383,389	\$ 1,132,465	\$ 78,914	\$ -	\$ 3,462,302			\$ 84,526	\$ 157,543	\$ 1,927,134	\$ 105,254	\$ 3,467,078	\$ 86,477	\$ 161,181	\$ 1,451,223
14		Treatment Equipment															
15	103801	Treatment & Disposal Equipment	\$ 35,411	\$ 2,148	\$ 597,252	\$ -	\$ 602,863	3.33%	3.79%	\$ 20,090	\$ 22,480	\$ 24,628	\$ 127,000	\$ 729,693	\$ 24,324	\$ 27,218	\$ 51,646
16		Total Treatment Equipment	\$ 35,411	\$ 2,148	\$ 597,252	\$ -	\$ 602,863			\$ 20,090	\$ 22,480	\$ 24,628	\$ 127,000	\$ 729,693	\$ 24,324	\$ 27,218	\$ 51,646
17		Transmission & Distribution Plant															
18	103806	Collection Sewers Force	\$ 76,204	\$ 8,882	\$ 6,888	\$ -	\$ 89,974	3.93%	2.11%	\$ 2,770	\$ 1,836	\$ 10,219	\$ -	\$ 43,092	\$ 2,770	\$ 1,836	\$ 12,095
19	103810	Collection Sewers Gravity	\$ 4,579,729	\$ 1,077,826	\$ -	\$ -	\$ 4,537,759	1.88%	1.84%	\$ 84,424	\$ 83,458	\$ 1,170,790	\$ -	\$ 4,935,759	\$ 84,424	\$ 83,458	\$ 1,254,248
20	103820	Special Collecting Structure	\$ 7,887	\$ 686	\$ -	\$ -	\$ 7,887	3.33%	3.67%	\$ 263	\$ 263	\$ 986	\$ -	\$ 7,887	\$ 263	\$ 263	\$ 1,276
21	103850	Other Equipment	\$ 16,475	\$ 2,151	\$ -	\$ -	\$ 16,475	3.33%	4.03%	\$ 549	\$ 664	\$ 16,475	\$ -	\$ 16,475	\$ 549	\$ 664	\$ 3,479
22		Total Transmission & Distribution Plant	\$ 4,659,335	\$ 1,088,561	\$ 6,888	\$ -	\$ 4,643,223			\$ 88,006	\$ 85,248	\$ 1,184,809	\$ -	\$ 4,643,223	\$ 88,006	\$ 85,248	\$ 1,371,057
23		Source of Supply															
24	103700	Receiving Wells	\$ 1,794,143	\$ 669,787	\$ -	\$ -	\$ 1,794,143	2.21%	5.53%	\$ 39,877	\$ 99,216	\$ 766,000	\$ -	\$ 1,794,143	\$ 39,877	\$ 99,216	\$ 685,219
25		Total Source of Supply	\$ 1,794,143	\$ 669,787	\$ -	\$ -	\$ 1,794,143			\$ 39,877	\$ 99,216	\$ 766,000	\$ -	\$ 1,794,143	\$ 39,877	\$ 99,216	\$ 685,219
26		Power Generation Equipment															
27	103550	Power Generation Equipment	\$ 495,805	\$ 61,975	\$ -	\$ -	\$ 495,805	3.33%	2.11%	\$ 16,527	\$ 10,461	\$ 74,437	\$ -	\$ 495,805	\$ 16,527	\$ 10,461	\$ 82,696
28		Total Power Generation Equipment	\$ 495,805	\$ 61,975	\$ -	\$ -	\$ 495,805			\$ 16,527	\$ 10,461	\$ 74,437	\$ -	\$ 495,805	\$ 16,527	\$ 10,461	\$ 82,696
29		Office Furniture and Equipment															
30	103965	Office Furn. & Equip	\$ 1,572	\$ 140	\$ -	\$ -	\$ 1,572	0.00%	20.11%	\$ -	\$ 316	\$ 496	\$ -	\$ 1,572	\$ -	\$ 316	\$ 772
31		Total Office Furniture and Equipment	\$ 1,572	\$ 140	\$ -	\$ -	\$ 1,572			\$ -	\$ 316	\$ 496	\$ -	\$ 1,572	\$ -	\$ 316	\$ 772
32		Transportation															
33	103965	Transportation Equipment	\$ 42,229	\$ 42,229	\$ 15,150	\$ -	\$ 57,379	0.00%	-3.68%	\$ -	\$ (2,112)	\$ 40,118	\$ -	\$ 57,379	\$ -	\$ (2,112)	\$ 38,006
34		Total Transportation	\$ 42,229	\$ 42,229	\$ 15,150	\$ -	\$ 57,379			\$ -	\$ (2,112)	\$ 40,118	\$ -	\$ 57,379	\$ -	\$ (2,112)	\$ 38,006
35		Tools and Laboratory Equipment															
36	103930	Tools, Shop, Garage Equipment	\$ 1,609	\$ 866	\$ 5,420	\$ -	\$ 7,029	3.33%	7.96%	\$ 224	\$ 517	\$ 652	\$ -	\$ 7,029	\$ 224	\$ 517	\$ 1,189
37	103975	Stores Equipment	\$ 6,953	\$ 886	\$ 7,979	\$ -	\$ 14,852	3.33%	4.17%	\$ 488	\$ 823	\$ 1,511	\$ -	\$ 14,852	\$ 488	\$ 823	\$ 2,134
38		Total Tools and Laboratory Equipment	\$ 8,562	\$ 1,052	\$ 13,399	\$ -	\$ 21,960			\$ 712	\$ 1,340	\$ 2,163	\$ -	\$ 21,960	\$ 712	\$ 1,340	\$ 3,323
39		General Plant															
40	103870	General Plant	\$ 21,972	\$ 4,650	\$ -	\$ -	\$ 21,972	3.33%	4.17%	\$ 733	\$ 916	\$ 5,566	\$ -	\$ 21,972	\$ 733	\$ 916	\$ 6,483
41		Total General Plant	\$ 21,972	\$ 4,650	\$ -	\$ -	\$ 21,972			\$ 733	\$ 916	\$ 5,566	\$ -	\$ 21,972	\$ 733	\$ 916	\$ 6,483
42		Total KWSC Sewer Plant	\$ 15,798,851	\$ 4,646,833	\$ 661,602	\$ -	\$ 16,440,454			\$ 364,098	\$ 698,664	\$ 3,305,497	\$ 344,920	\$ 16,785,378	\$ 376,296	\$ 675,197	\$ 5,960,698

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Depreciation and Depreciation Expense Detail (Hawaii Water, Big Island, WW Admin)
 Test Year Ending December 31, 2019

Line No	Description	In Service	Useful Life in Mos.	2017 (12/31/2017)			2018 (12/31/2018)			2019 (12/31/2019)			Accumulated Depreciation Reserve (12/31/2019)
				Plant Balance	Accumulated Depreciation Reserve	Present Rate	2018 Retirements	2018 Additions	2019 Retirements	2019 Additions	2019 Retirements	Plant Balance (12/31/2019)	
HAWAII GENERAL OFFICE													
1	760 Leasehold Improvements	5/1/2015	720	\$ 16,865	\$ 749	1.67%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,312
2	desks, conf table, chairs	3/1/2010	120	\$ 3,060	\$ 2,867	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 306
3	2 Cubical Work Stations	12/1/2010	120	\$ 5,650	\$ 3,862	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 565
4	Cherry Desk	12/1/2010	120	\$ 855	\$ 598	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 85
5	Cherry Drawer	12/1/2010	120	\$ 71	\$ 52	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7
6	Cherry Credenza	12/1/2010	120	\$ 509	\$ 372	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 51
7	Cherry Corner Unit	12/1/2010	120	\$ 404	\$ 295	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 40
8	Regency Library	12/1/2010	120	\$ 284	\$ 207	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28
9	Chairs	12/1/2010	120	\$ 2,037	\$ 1,488	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 204
10	Cherry Desk Shell 66'	12/1/2010	120	\$ 429	\$ 313	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 43
11	24' x 71' Credenza Shells	12/1/2010	120	\$ 793	\$ 579	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 79
12	Cherry Keyboard Drawer	12/1/2010	120	\$ 71	\$ 52	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7
13	Executive Chair	12/1/2010	120	\$ 391	\$ 285	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 39
14	Desk Pedestal FF	12/1/2010	120	\$ 468	\$ 342	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 47
15	Cherry Shelf Unit	12/1/2010	120	\$ 308	\$ 225	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 31
16	Cherry Storage Hash	12/1/2010	120	\$ 487	\$ 356	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 49
17	Cherry Credenza 66'	12/1/2010	120	\$ 333	\$ 244	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 33
18	Regency Lateral File	12/1/2010	120	\$ 709	\$ 518	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 71
19	2 3/4" x 4" Drawer Lateral File Cabinets	12/1/2010	120	\$ 988	\$ 721	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 99
20	Cherry Desk Pedestal EB/FF	12/1/2010	120	\$ 513	\$ 375	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 51
21	Regency Lateral File	12/1/2010	120	\$ 567	\$ 415	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 57
22	Freight safe for Customer Service office.	12/1/2011	480	\$ 3,386	\$ 1,557	10.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 239
23	Rich Africa MP C3001	5/1/2015	480	\$ 3,044	\$ 279	2.50%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 76
24	760 Office Furniture	5/1/2015	480	\$ 631	\$ 58	2.50%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16
25	Automated Electronic Defibrillators	5/1/2015	60	\$ 7,161	\$ 716	20.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 716
26	License for Capture Now	12/1/2010	60	\$ 237	\$ 237	20.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
27	Fujitsu F6140 scanner	12/1/2010	60	\$ 1,666	\$ 1,666	20.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
28	Rich MP 4001SP Copier w/Finisher	12/1/2010	60	\$ 10,686	\$ 10,686	20.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
29	Monitors	12/1/2010	60	\$ 1,207	\$ 1,207	20.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
30	Mitel EP Dig 6 Line Model 8560 Telephone	12/1/2010	60	\$ 8,102	\$ 8,102	20.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
31	8-way video conferencing system	12/1/2011	60	\$ 37,185	\$ 744	20.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
32	Hewlett Packard laser printer	12/1/2014	84	\$ 807	\$ 807	20.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
33	Desktop-HMKLCS40	12/1/2014	84	\$ 807	\$ 807	14.29%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
34	Desktop-HMKLCS37	12/1/2014	84	\$ 807	\$ 807	14.29%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
35	Desktop-HMKLCS36	12/1/2014	84	\$ 807	\$ 807	14.29%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
36	Desktop-HMKLCS41	12/1/2014	84	\$ 807	\$ 807	14.29%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
37	Hawai Business Unit Software	5/1/2015	84	\$ 17,650	\$ 9,245	20.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
38	phone system with 6 phones	3/1/2014	60	\$ 32,361	\$ 13,244	20.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
39	RMS Software	1/1/2010	180	\$ 24,859	\$ 24,859	2.50%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
40	Miscellaneous Kitchen Equipment	1/1/2014	360	\$ 463	\$ 463	6.67%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
41	laptop for CS Migr	4/1/2014	84	\$ 1,496	\$ 225	3.33%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42	Wastewater Manager Vehicle (WC 119213)	2/28/2019	84	\$ -	\$ -	14.29%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
43	SCADA Upgrade 2016 (WC 118893)	1/31/2019	480	\$ -	\$ -	2.50%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
50	Total			\$ 387,439	\$ 260,210		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16,746
51	HAWAII GENERAL OFFICE ALLOCATIONS												
52	700 - Keenapali		21.67%	\$ 84,174	\$ 56,533		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,184
53	701 - Puukalani		7.81%	\$ 26,623	\$ 17,890		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,278
54	721 - Waikoba Water		13.25%	\$ 49,713	\$ 33,389		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,807
55	720 - Waikoba Sewer		10.34%	\$ 38,813	\$ 26,067		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,850
56	723 - Waikoba Resort Water		13.13%	\$ 51,423	\$ 34,537		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,475
57	724 - Waikoba Resort Sewer		16.60%	\$ 70,422	\$ 47,297		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,364
58	725 - Waikoba Resort Irrigation		0.71%	\$ 2,893	\$ 1,943		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 204
59	726 - Kona Water		10.63%	\$ 40,900	\$ 27,470		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,829
60	727 - Kona Sewer		5.85%	\$ 22,474	\$ 15,094		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,637

Kona Water Service Company, Inc. Wastewater Operations
 Contributions in Aid of Construction
 Test Year Ending December 31, 2019

Line No.	Description	Balance as of		Additions		Adjustments		Balance as of		Additions		Adjustments		Test Year Balance as of	
		Dec. 31, 2017		Jan. 1, 2018 to Dec. 31, 2018	CIAC	Jan. 1, 2018 to Dec. 31, 2018		Jan. 1, 2019 to Dec. 31, 2019	CIAC	Jan. 1, 2019 to Dec. 31, 2019		Jan. 1, 2019 to Dec. 31, 2019		Dec. 31, 2019	
4	Intangible	\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	
5	Land and land rights	\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	
6	Structures and Improvements	\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	
7	Pumping Equipment	\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	
8	Treatment Equipment	\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	
9	Transmission & Distribution Plant	\$ (7,365,808)		\$ -		\$ -		\$ (7,365,808)		\$ -		\$ -		\$ (7,365,808)	
10	Source of Supply	\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	
11	Office Furniture and Equipment	\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	
12	Power Generation Equipment	\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	
13	Transportation	\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	
14	Tools and Laboratory Equipment	\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	
15	General Plant	\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	
16	Hawaii Water GO Allocation	\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	
17	Big Island Allocation	\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	
18	Wastewater Administration	\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	
19		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	
20	Total	\$ (7,365,808)		\$ -		\$ -		\$ (7,365,808)		\$ -		\$ -		\$ (7,365,808)	

Kona Water Service Company, Inc. Wastewater Operations
 Amortization of Contributions in Aid of Construction
 Test Year Ending December 31, 2019

Line No.	Amount Received	Amortization Rate	Acc. Amort. Balance as of		Amortization Jan. 1, 2018 to Dec. 31, 2018	Adjustment Jan. 1, 2018 to Dec. 31, 2018	Acc. Amort. Balance as of		Amortization Jan. 1, 2019 to Dec. 31, 2019	Adjustment Jan. 1, 2019 to Dec. 31, 2019	Test Year Acc. Amort. Balance as of	
			Dec. 31, 2017	Dec. 31, 2018			Dec. 31, 2018	Dec. 31, 2019			Dec. 31, 2019	Dec. 31, 2019
3												
4												
5												
6												
7		0.00%										
8		0.00%										
9		1.84%										
10	\$ 7,365,808		\$ 1,940,482	\$ 135,531	\$ 135,531	\$ -	\$ 2,076,013	\$ 135,531	\$ -	\$ -	\$ 2,211,544	
11		0.00%										
12		0.00%										
13		0.00%										
14		0.00%										
15		0.00%										
16												
17												
18												
19												
20	\$ 7,365,808		\$ 1,940,482	\$ 135,531	\$ 135,531	\$ -	\$ 2,076,013	\$ 135,531	\$ -	\$ -	\$ 2,211,544	

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - Federal
 Test Year Ending December 31, 2019

Line No.	Description	Acc. Tax Dep. Balance as of Dec. 31, 2017	Dep. Exp.	Adjustments	Acc. Tax Dep. Balance as of Dec. 31, 2018	Dep. Exp.	Adjustments	Test Year Acc. Tax Dep. Balance as of Dec. 31, 2019
5	Intangible	\$ -	\$ -	\$ -	\$ -	\$ 4,667	\$ -	\$ 4,667
6	Land and land rights	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7	Structures and Improvements	\$ 1,358,432	\$ 99,686	\$ 1,458,118	\$ 1,458,118	\$ 102,326	\$ -	\$ 1,560,444
8	Pumping Equipment	\$ 1,840,526	\$ 138,492	\$ 1,979,018	\$ 1,979,018	\$ 142,702	\$ -	\$ 2,121,720
9	Treatment Equipment	\$ 2,835	\$ 24,108	\$ 26,943	\$ 26,943	\$ 29,188	\$ -	\$ 56,131
10	Transmission & Distribution Plant	\$ 22,839	\$ 4,987	\$ 27,826	\$ 27,826	\$ 4,987	\$ -	\$ 32,813
11	Source of Supply	\$ 982,360	\$ 71,766	\$ 1,054,125	\$ 1,054,125	\$ 71,766	\$ -	\$ 1,125,891
12	Office Furniture and Equipment	\$ 1,119	\$ 181	\$ 1,301	\$ 1,301	\$ 181	\$ -	\$ 1,482
13	Power Generation Equipment	\$ 79,329	\$ 19,832	\$ 99,161	\$ 99,161	\$ 19,832	\$ -	\$ 118,993
14	Transportation	\$ 42,229	\$ 3,030	\$ 45,259	\$ 45,259	\$ 4,848	\$ -	\$ 50,107
15	Tools and Laboratory Equipment	\$ 2,072	\$ 1,557	\$ 3,629	\$ 3,629	\$ 2,086	\$ -	\$ 5,715
16	General Plant	\$ 20,683	\$ 1,134	\$ 21,818	\$ 21,818	\$ 154	\$ -	\$ 21,972
17	Hawaii Water GO Allocation	\$ 21,615	\$ 555	\$ 22,171	\$ 22,171	\$ 1,691	\$ -	\$ 23,862
18	Big Island Allocation	\$ 119,053	\$ 17,083	\$ 136,136	\$ 136,136	\$ 18,975	\$ -	\$ 155,111
19	Wastewater Administration	\$ 88	\$ 14	\$ 102	\$ 102	\$ 6	\$ -	\$ 108
20	Total	\$ 4,493,181	\$ 382,426	\$ -	\$ 4,875,607	\$ 403,409	\$ -	\$ 5,279,015
21	Accumulated Book Depreciation	\$ 2,763,019		\$ 3,297,217				\$ 3,851,009
22	ADIT Balance	\$ (570,827)		\$ (312,869)				\$ (283,527)

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - Federal (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation				
							2017	2018	2019	2017	2018	2019		
1	103030	Intangible Plant												
2		Kukio WWTP Upgrade - Preliminary Design (WO 114440)	\$ 46,666	2/28/2019	SL-10	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,667
3		Total	\$ 46,666				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,667
4	103540	Structures and Improvements												
5		A/C unit-Kukio IT-Fujitsu ZT	4,945	9/1/2016	SL-25	25	\$ 198	\$ 198	\$ 198	\$ 593	\$ 593	\$ 593	\$ 593	\$ 791
6		CIAC Phase 1A	2,847,258	1/1/2003	SL-25	25	\$ 113,890	\$ 113,890	\$ 113,890	\$ 1,822,245	\$ 1,822,245	\$ 1,822,245	\$ 1,822,245	\$ 1,936,135
7		Emergency shower-SPS3&4	2,447	5/1/2015	SL-25	25	\$ 98	\$ 98	\$ 98	\$ 392	\$ 392	\$ 392	\$ 392	\$ 489
8		Lift Station hatch 36"x48"-LS1	2,542	10/1/2014	SL-25	25	\$ 102	\$ 102	\$ 102	\$ 508	\$ 508	\$ 508	\$ 508	\$ 610
9		Lift Station hatch 36"x60"-LS2,3,5	8,414	10/1/2014	SL-25	25	\$ 337	\$ 337	\$ 337	\$ 1,683	\$ 1,683	\$ 1,683	\$ 1,683	\$ 2,019
10		Lift Station hatch 48"x72"-LS4	3,652	10/1/2014	SL-25	25	\$ 146	\$ 146	\$ 146	\$ 876	\$ 876	\$ 876	\$ 876	\$ 1,048
11		S/T Plant Retrofit	791,762	1/1/2007	SL-25	25	\$ 31,670	\$ 31,670	\$ 31,670	\$ 380,046	\$ 380,046	\$ 380,046	\$ 380,046	\$ 411,716
12		WWTP Bldg	1,678,385	4/1/2003	SL-25	25	\$ 67,135	\$ 67,135	\$ 67,135	\$ 1,074,166	\$ 1,074,166	\$ 1,074,166	\$ 1,074,166	\$ 1,141,301
13		Kukio Office Expansion (WO 67610)	66,000	11/30/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,640
14		Total	\$ 5,405,404				\$ 213,576	\$ 213,576	\$ 213,576	\$ 3,280,363	\$ 3,280,363	\$ 3,280,363	\$ 3,280,363	\$ 3,496,580
15	103241	System Control Computer Equipment												
16		STP - SCADA	96,006	4/1/2003	SL-25	25	\$ 3,840	\$ 3,840	\$ 3,840	\$ 61,444	\$ 61,444	\$ 61,444	\$ 61,444	\$ 65,284
17		SCADA Computer & Software (WO 112032)	27,511	7/1/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,100
18		Total	\$ 123,517				\$ 3,840	\$ 3,840	\$ 3,840	\$ 61,444	\$ 61,444	\$ 61,444	\$ 61,444	\$ 66,385
19	103701	Pumping Equipment												
20		4" HDL Ball check valve Kukio WW	813	7/1/2012	SL-25	25	\$ 33	\$ 33	\$ 33	\$ 228	\$ 228	\$ 228	\$ 228	\$ 260
21		6" HDL ball check valve Kukio WW	1,381	7/1/2012	SL-25	25	\$ 55	\$ 55	\$ 55	\$ 387	\$ 387	\$ 387	\$ 387	\$ 442
22		Carbon odor scrubbers LS1&2	8,835	12/1/2016	SL-25	25	\$ 353	\$ 353	\$ 353	\$ 1,060	\$ 1,060	\$ 1,060	\$ 1,060	\$ 1,414
23		Flygt 15HP Submersible Wastewater Pump	12,492	9/1/2010	SL-25	25	\$ 500	\$ 500	\$ 500	\$ 4,997	\$ 4,997	\$ 4,997	\$ 4,997	\$ 6,012
24		Flygt Pump CP3152.091/454 HT 6"	25,048	6/1/2014	SL-25	25	\$ 1,002	\$ 1,002	\$ 1,002	\$ 5,010	\$ 5,010	\$ 5,010	\$ 5,010	\$ 6,274
25		Flygt Pump NP3127.090/4859 HT 4"	9,476	6/1/2014	SL-25	25	\$ 379	\$ 379	\$ 379	\$ 1,895	\$ 1,895	\$ 1,895	\$ 1,895	\$ 2,274
26		Flygt Pump NP3153.091/466 HT 4"	14,902	6/1/2014	SL-25	25	\$ 596	\$ 596	\$ 596	\$ 2,980	\$ 2,980	\$ 2,980	\$ 2,980	\$ 3,577
27		Flygt Pump NP3171.091/434 MR 6"	8,533	6/1/2014	SL-25	25	\$ 341	\$ 341	\$ 341	\$ 1,707	\$ 1,707	\$ 1,707	\$ 1,707	\$ 2,048
28		Flygt Pump NP3202.180/460 HT 6"	20,248	6/1/2014	SL-25	25	\$ 810	\$ 810	\$ 810	\$ 4,050	\$ 4,050	\$ 4,050	\$ 4,050	\$ 4,860
29		Flygt Pump NP3153.091/462 HT 4"	28,056	6/1/2014	SL-25	25	\$ 1,122	\$ 1,122	\$ 1,122	\$ 5,611	\$ 5,611	\$ 5,611	\$ 5,611	\$ 6,734
30		Lift Station 6 and related force main	18,136	11/15/2005	SL-25	25	\$ 725	\$ 725	\$ 725	\$ 3,627	\$ 3,627	\$ 3,627	\$ 3,627	\$ 4,353
31		Lift Station 7 and related force main	531,879	11/15/2005	SL-25	25	\$ 21,275	\$ 21,275	\$ 21,275	\$ 276,577	\$ 276,577	\$ 276,577	\$ 276,577	\$ 319,127
32		Lift Stations 1-5	1,975,431	6/1/2003	SL-25	25	\$ 79,017	\$ 79,017	\$ 79,017	\$ 1,264,276	\$ 1,264,276	\$ 1,264,276	\$ 1,264,276	\$ 1,343,293
33		New discharge piping and flush/mix valve.	25,778	6/1/2011	SL-25	25	\$ 1,031	\$ 1,031	\$ 1,031	\$ 8,249	\$ 8,249	\$ 8,249	\$ 8,249	\$ 9,280
34		PUMPING EQUIPMENT [270]	279	7/1/2012	SL-25	25	\$ 11	\$ 11	\$ 11	\$ 78	\$ 78	\$ 78	\$ 78	\$ 89
35		PUMPING EQUIPMENT [270]	164	7/1/2012	SL-25	25	\$ 7	\$ 7	\$ 7	\$ 46	\$ 46	\$ 46	\$ 46	\$ 53
36		PUMPING EQUIPMENT [270]	1,265	9/1/2010	SL-25	25	\$ 51	\$ 51	\$ 51	\$ 455	\$ 455	\$ 455	\$ 455	\$ 506
37		SPS#4 6" Flygt Discharge Pump	26,416	10/1/2014	SL-25	25	\$ 1,057	\$ 1,057	\$ 1,057	\$ 5,283	\$ 5,283	\$ 5,283	\$ 5,283	\$ 6,340
38		SPS4 pump discharge pipe&flush valve	25,836	2/1/2014	SL-25	25	\$ 1,033	\$ 1,033	\$ 1,033	\$ 5,167	\$ 5,167	\$ 5,167	\$ 5,167	\$ 6,201
39		widen sludge pump	2,025	1/1/2014	SL-25	25	\$ 81	\$ 81	\$ 81	\$ 405	\$ 405	\$ 405	\$ 405	\$ 486
40		Wilden T8 diaphragm pumps	18,509	3/1/2014	SL-25	25	\$ 740	\$ 740	\$ 740	\$ 3,702	\$ 3,702	\$ 3,702	\$ 3,702	\$ 4,442
41		SPS#7 Soft Starter (WO 117596)	3,925	7/1/2018	SL-25	25	\$ -	\$ -	\$ -	\$ 157	\$ 157	\$ 157	\$ 157	\$ 314
42		SPS Pump Control Replacement (WO 93717)	39,282	7/1/2018	SL-25	25	\$ -	\$ -	\$ -	\$ 1,571	\$ 1,571	\$ 1,571	\$ 1,571	\$ 3,143

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - Federal (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
44		Level Transducers (WO 93720)	\$ 7,318	7/1/2018	SL-25	25	\$ -	\$ 293	\$ 293	\$ -	\$ 293	\$ 585
45		Effluent Flow Meter (WO 117440)	\$ 9,605	7/1/2018	SL-25	25	\$ -	\$ 384	\$ 384	\$ -	\$ 384	\$ 768
46		SPS#5 Submersible Pump Rebuild (WO 118922)	\$ 18,783	11/30/2018	SL-25	25	\$ -	\$ 751	\$ 751	\$ -	\$ 751	\$ 1,503
47		SPS1-SPS7 Power Monitors (WO 112034)	\$ 16,400	7/1/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 656
48		SPS#2 6" Pump Discharge Pipe (WO 97220)	\$ 61,343	7/1/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,454
49		Total	\$ 3,444,039				\$ 131,495	\$ 134,652	\$ 137,762	\$ 1,782,922	\$ 1,917,574	\$ 2,055,336
50	103801	Treatment & Disposal Equipment										
51		DO probe for HQ40 meter	\$ 710	12/1/2016	SL-25	25	\$ 28	\$ 28	\$ 28	\$ 57	\$ 85	\$ 114
52		Gearboxes for MBR, Falk	\$ 34,731	3/1/2016	SL-25	25	\$ 1,389	\$ 1,389	\$ 1,389	\$ 2,778	\$ 4,168	\$ 5,557
53		MBR Gearboxes (WO 97221)	\$ 46,518	7/1/2018	SL-25	25	\$ -	\$ 1,861	\$ 1,861	\$ -	\$ 1,861	\$ 3,721
54		Aeration Blower (WO 108778)	\$ 71,400	7/1/2018	SL-25	25	\$ -	\$ 2,856	\$ 2,856	\$ -	\$ 2,856	\$ 5,712
55		WWTP Pressure Vessel Change (WO 110437)	\$ 25,273	7/1/2018	SL-25	25	\$ -	\$ 1,011	\$ 1,011	\$ -	\$ 1,011	\$ 2,022
56		WWTP Drums Replacement (WO 114439)	\$ 424,061	7/1/2018	SL-25	25	\$ -	\$ 16,962	\$ 16,962	\$ -	\$ 16,962	\$ 33,925
57		Tank Rehab Project (WO 118152)	\$ 127,000	7/1/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,080
58		Total	\$ 729,693				\$ 1,418	\$ 24,108	\$ 29,188	\$ 2,835	\$ 26,943	\$ 56,131
59	103600	Collection Sewers Force										
60		4" HDL Flygt check valves	\$ 5,245	4/1/2014	SL-25	25	\$ 210	\$ 210	\$ 210	\$ 839	\$ 1,049	\$ 1,259
61		6" Flygt Valve Kukio SPS#5	\$ 1,816	12/1/2013	SL-25	25	\$ 73	\$ 73	\$ 73	\$ 363	\$ 436	\$ 509
62		LS#1 discharge pipe, 50"	\$ 24,332	3/1/2016	SL-25	25	\$ 973	\$ 973	\$ 973	\$ 1,947	\$ 2,920	\$ 3,893
63		Replace 6" Flygt Check Valve LS#4	\$ 1,821	10/1/2013	SL-25	25	\$ 73	\$ 73	\$ 73	\$ 364	\$ 437	\$ 510
64		Discharge Pipe-LS #5	\$ 32,462	12/1/2013	SL-25	25	\$ 1,298	\$ 1,298	\$ 1,298	\$ 6,492	\$ 7,791	\$ 9,089
65		Rpic HDL 6" flygt check valve	\$ 10,528	4/1/2014	SL-25	25	\$ 421	\$ 421	\$ 421	\$ 1,684	\$ 2,106	\$ 2,527
66		Effluent sand filter by-pass (WO 108883)	\$ 3,788	7/1/2018	SL-25	25	\$ -	\$ 152	\$ 152	\$ -	\$ 152	\$ 303
67		SPS#1 lateral replacement (WO 101280)	\$ 3,100	7/1/2018	SL-25	25	\$ -	\$ 124	\$ 124	\$ -	\$ 124	\$ 248
68		Total	\$ 83,092				\$ 3,048	\$ 3,324	\$ 3,324	\$ 11,690	\$ 15,014	\$ 18,337
69	103610	Collection Sewers Gravity										
70		CIAC - Collection Sewer lines	\$ 3,516,120	1/1/2005	SL-25	25	\$ 140,645	\$ 140,645	\$ 140,645	\$ 1,828,382	\$ 1,969,027	\$ 2,109,672
71		CIAC Additional Phase 3 Increment	\$ 395,771	1/1/2007	SL-25	25	\$ 15,831	\$ 15,831	\$ 15,831	\$ 174,139	\$ 189,970	\$ 205,801
72		CIAC Phase 3 Increment 1	\$ 70,174	1/1/2007	SL-25	25	\$ 2,807	\$ 2,807	\$ 2,807	\$ 30,877	\$ 33,684	\$ 36,490
73		CIAC Phase 3 Increment 2	\$ 536,485	1/1/2007	SL-25	25	\$ 21,459	\$ 21,459	\$ 21,459	\$ 236,053	\$ 257,513	\$ 278,972
74		Collection Line Phase 3 Plant	\$ 17,209	1/1/2007	SL-25	25	\$ 688	\$ 688	\$ 688	\$ 7,572	\$ 8,260	\$ 8,949
75		Total	\$ 4,535,759				\$ 181,430	\$ 181,430	\$ 181,430	\$ 2,277,024	\$ 2,458,454	\$ 2,639,884
76	103620	Special Collecting Structure										
77		4,000gal WWI Storage Tank	\$ 3,870	4/1/2014	SL-25	25	\$ 155	\$ 155	\$ 155	\$ 619	\$ 774	\$ 929
78		Wastewater Storage Tank	\$ 4,027	6/1/2016	SL-25	25	\$ 161	\$ 161	\$ 161	\$ 322	\$ 483	\$ 644
79		Total	\$ 7,897				\$ 316	\$ 316	\$ 316	\$ 941	\$ 1,257	\$ 1,573
80	103890	Other Equipment										
81		Replace SCADA Computer-Kukio WWTP	\$ 16,475	2/1/2014	SL-25	25	\$ 659	\$ 659	\$ 659	\$ 2,636	\$ 3,295	\$ 3,954
82		Total	\$ 16,475				\$ 659	\$ 659	\$ 659	\$ 2,636	\$ 3,295	\$ 3,954

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - Federal (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation			
							2017	2018	2019	2017	2018	2019	
83	103700	Receiving Wells											
84		Wastewater Treatment Plant	\$ 5,161	12/31/2006	SL-25	25	\$ 206	\$ 206	\$ 206	\$ 2,477	\$ 2,684	\$ 2,890	
85		Wastewater Treatment Plant	\$ 110,392	6/30/2005	SL-25	25	\$ 4,416	\$ 4,416	\$ 4,416	\$ 57,404	\$ 61,820	\$ 66,235	
86		Wastewater Treatment Plant	\$ 8,442	11/1/2004	SL-25	25	\$ 338	\$ 338	\$ 338	\$ 4,728	\$ 5,065	\$ 5,403	
87		Wastewater Treatment Plant	\$ 13,315	10/1/2004	SL-25	25	\$ 533	\$ 533	\$ 533	\$ 7,456	\$ 7,989	\$ 8,522	
88		Wastewater Treatment Plant	\$ 6,707	1/1/2004	SL-25	25	\$ 268	\$ 268	\$ 268	\$ 3,756	\$ 4,024	\$ 4,292	
89		Wastewater Treatment Plant	\$ 2,774	12/31/2003	SL-25	25	\$ 111	\$ 111	\$ 111	\$ 1,664	\$ 1,775	\$ 1,886	
90		Wastewater Treatment Plant	\$ 13,446	4/1/2003	SL-25	25	\$ 538	\$ 538	\$ 538	\$ 8,068	\$ 8,605	\$ 9,143	
91		Wastewater Treatment Plant	\$ 1,111,800	4/1/2003	SL-25	25	\$ 44,472	\$ 44,472	\$ 44,472	\$ 667,080	\$ 711,552	\$ 756,024	
92		Wastewater Treatment Plant - P	\$ 522,106	1/1/2007	SL-25	25	\$ 20,884	\$ 20,884	\$ 20,884	\$ 229,727	\$ 250,611	\$ 271,495	
93		Total	\$ 1,794,143				\$ 71,766	\$ 71,766	\$ 71,766	\$ 982,360	\$ 1,054,125	\$ 1,125,891	
94	103550	Power Generation Equipment											
95		SPS1 generator 35DSFAA 35kw	\$ 60,402	4/1/2014	SL-25	25	\$ 2,416	\$ 2,416	\$ 2,416	\$ 9,664	\$ 12,080	\$ 14,497	
96		SPS3&7 generator 60DSFAD 60kw	\$ 142,279	4/1/2014	SL-25	25	\$ 5,691	\$ 5,691	\$ 5,691	\$ 22,765	\$ 28,456	\$ 34,147	
97		SPS4 generator 125DSGAB 125kw	\$ 102,943	4/1/2014	SL-25	25	\$ 4,118	\$ 4,118	\$ 4,118	\$ 16,471	\$ 20,589	\$ 24,706	
98		SPS5 generator 100DSGAA 125kw	\$ 90,082	4/1/2014	SL-25	25	\$ 3,603	\$ 3,603	\$ 3,603	\$ 14,413	\$ 18,016	\$ 21,620	
99		SPS6 generator 150DSGAG 60kw	\$ 100,098	4/1/2014	SL-25	25	\$ 4,004	\$ 4,004	\$ 4,004	\$ 16,016	\$ 20,020	\$ 24,024	
100		Total	\$ 495,805				\$ 19,832	\$ 19,832	\$ 19,832	\$ 79,329	\$ 99,161	\$ 118,993	
101	103955	Office Furn & Equip											
102		Laptop-HKUK04	\$ 1,572	5/1/2015	MACRS 5	5	\$ 302	\$ 181	\$ 181	\$ 1,119	\$ 1,301	\$ 1,482	
103		Total	\$ 1,572				\$ 302	\$ 181	\$ 181	\$ 1,119	\$ 1,301	\$ 1,482	
104	103965	Transportation Equipment											
105		Kawasaki ATV	\$ 12,816	6/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 12,816	\$ 12,816	\$ 12,816	
106		4x4 UTV	\$ 13,576	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 13,576	\$ 13,576	\$ 13,576	
107		Sm UTV Kukio	\$ 12,954	7/1/2012	MACRS 5	5	\$ 746	\$ -	\$ -	\$ 12,954	\$ 12,954	\$ 12,954	
108		Work Order Addition	\$ 2,883	7/1/2012	MACRS 5	5	\$ 166	\$ -	\$ -	\$ 2,883	\$ 2,883	\$ 2,883	
109		Electric Golf Cart (WO 112047)	\$ 15,150	7/1/2018	MACRS 5	5	\$ -	\$ 3,030	\$ 4,848	\$ -	\$ 3,030	\$ 7,878	
110		Total	\$ 57,379				\$ 912	\$ 3,030	\$ 4,848	\$ 42,229	\$ 45,259	\$ 50,107	
111	103930	Tools, Shop, Garage Equipment											
112		Portable Sludge Pump 3/4hp	\$ 1,119	3/1/2014	MACRS 7	7	\$ 140	\$ 100	\$ 100	\$ 770	\$ 870	\$ 969	
113		Toolbox for Trailer 24x18	\$ 490	9/1/2016	MACRS 7	7	\$ 120	\$ 86	\$ 61	\$ 190	\$ 276	\$ 337	
114		Oil Containment (WO 102605)	\$ 5,420	7/1/2018	MACRS 7	7	\$ -	\$ 774	\$ 1,327	\$ -	\$ 774	\$ 2,102	
115		Total	\$ 7,029				\$ 260	\$ 960	\$ 1,488	\$ 960	\$ 1,920	\$ 3,408	
116	103975	Stores Equipment											
117		20' Modified Storage Container	\$ 6,953	5/1/2014	SL-25	25	\$ 278	\$ 278	\$ 278	\$ 1,112	\$ 1,391	\$ 1,669	
118		Storage Cabinets (WO 106195)	\$ 7,979	7/1/2018	SL-25	25	\$ -	\$ 319	\$ 319	\$ -	\$ 319	\$ 638	
119		Total	\$ 14,932				\$ 278	\$ 597	\$ 597	\$ 1,112	\$ 1,710	\$ 2,307	

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - Federal (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation					
							2017	2018	2019	2017	2018	2019			
120	103970	General Plant													
121		Spill Contain.	\$ 1,641	4/1/2012	MACRS 7	7	\$ 146	\$ 147	\$ 73	\$ 1,421	\$ 1,568	\$ 1,641	\$ 10,463	\$ 10,952	\$ 10,952
122		AC Coils	\$ 10,952	12/1/2011	MACRS 7	7	\$ 978	\$ 488	\$ -	\$ 1,571	\$ 1,733	\$ 1,814	\$ 4,569	\$ 4,782	\$ 4,782
123		Hazmat Cab.	\$ 1,814	4/1/2012	MACRS 7	7	\$ 162	\$ 162	\$ 81	\$ 2,659	\$ 2,783	\$ 2,783	\$ 20,683	\$ 21,818	\$ 21,972
124		Work Order Addition	\$ 4,782	12/1/2011	MACRS 7	7	\$ 427	\$ 213	\$ -						
125		Gas Detector	\$ 2,783	12/1/2011	MACRS 7	7	\$ 248	\$ 124	\$ -						
126		Total	\$ 21,972				\$ 1,962	\$ 1,134	\$ 154						
127		CONTRIBUTIONS IN AID OF CONSTRUCTION													
128	103540	Structures & Improvement - Transmission & Distribution Plant	\$ (2,847,258)												
129		CIAC Phase 1A		1/1/2003	SL-25	25	\$ (113,890)	\$ (113,890)	\$ (113,890)	\$ (1,708,355)	\$ (1,822,245)	\$ (1,936,135)	\$ (1,708,355)	\$ (1,822,245)	\$ (1,936,135)
130		Total	\$ (2,847,258)				\$ (113,890)	\$ (113,890)	\$ (113,890)	\$ (1,708,355)	\$ (1,822,245)	\$ (1,936,135)	\$ (1,708,355)	\$ (1,822,245)	\$ (1,936,135)
131	103610	Collection Sewers Gravity													
132		CIAC - Collection Sewer lines	\$ (3,516,120)	1/1/2005	SL-25	25	\$ (140,645)	\$ (140,645)	\$ (140,645)	\$ (1,828,382)	\$ (1,969,027)	\$ (2,109,672)	\$ (1,828,382)	\$ (1,969,027)	\$ (2,109,672)
133		CIAC Additional Phase 3 Increment	\$ (395,771)	1/1/2007	SL-25	25	\$ (15,831)	\$ (15,831)	\$ (15,831)	\$ (174,139)	\$ (189,970)	\$ (205,801)	\$ (174,139)	\$ (189,970)	\$ (205,801)
134		CIAC Phase 3 Increment 1	\$ (70,174)	1/1/2007	SL-25	25	\$ (2,807)	\$ (2,807)	\$ (2,807)	\$ (30,877)	\$ (33,684)	\$ (36,490)	\$ (30,877)	\$ (33,684)	\$ (36,490)
135		CIAC Phase 3 Increment 2	\$ (536,485)	1/1/2007	SL-25	25	\$ (21,459)	\$ (21,459)	\$ (21,459)	\$ (236,053)	\$ (257,513)	\$ (278,972)	\$ (236,053)	\$ (257,513)	\$ (278,972)
136		Total	\$ (4,518,550)				\$ (180,742)	\$ (180,742)	\$ (180,742)	\$ (2,269,452)	\$ (2,450,194)	\$ (2,630,936)	\$ (2,269,452)	\$ (2,450,194)	\$ (2,630,936)
137		HAWAII GENERAL OFFICE													
138		790 Leasehold Improvements	\$ 16,865	5/1/15	MACRS 7	7	\$ 2,950	\$ 2,106	\$ 1,506	\$ 9,490	\$ 11,596	\$ 13,102	\$ 3,060	\$ 3,060	\$ 3,060
139		desks, conf table, chairs	\$ 3,060	3/1/10	MACRS 7	7	\$ 136	\$ -	\$ -	\$ 5,650	\$ 5,650	\$ 5,650	\$ 5,650	\$ 5,650	\$ 5,650
140		2 Cubical Work Stations	\$ 5,650	12/1/10	MACRS 7	7	\$ 252	\$ -	\$ -	\$ 855	\$ 855	\$ 855	\$ 855	\$ 855	\$ 855
141		Cherry Desk	\$ 855	12/1/10	MACRS 7	7	\$ 38	\$ -	\$ -	\$ 71	\$ 71	\$ 71	\$ 71	\$ 71	\$ 71
142		Cherry Drawer	\$ 71	12/1/10	MACRS 7	7	\$ 3	\$ -	\$ -	\$ 509	\$ 509	\$ 509	\$ 509	\$ 509	\$ 509
143		Cherry Credenza	\$ 509	12/1/10	MACRS 7	7	\$ 23	\$ -	\$ -	\$ 404	\$ 404	\$ 404	\$ 404	\$ 404	\$ 404
144		Cherry Corner Unit	\$ 404	12/1/10	MACRS 7	7	\$ 18	\$ -	\$ -	\$ 284	\$ 284	\$ 284	\$ 284	\$ 284	\$ 284
145		Regency Library	\$ 284	12/1/10	MACRS 7	7	\$ 13	\$ -	\$ -	\$ 2,037	\$ 2,037	\$ 2,037	\$ 2,037	\$ 2,037	\$ 2,037
146		Chairs	\$ 2,037	12/1/10	MACRS 7	7	\$ 91	\$ -	\$ -	\$ 429	\$ 429	\$ 429	\$ 429	\$ 429	\$ 429
147		Cherry Desk Shell 66'	\$ 429	12/1/10	MACRS 7	7	\$ 19	\$ -	\$ -	\$ 793	\$ 793	\$ 793	\$ 793	\$ 793	\$ 793
148		24" x 71" Credenza Shells	\$ 793	12/1/10	MACRS 7	7	\$ 35	\$ -	\$ -	\$ 71	\$ 71	\$ 71	\$ 71	\$ 71	\$ 71
149		Cherry Keyboard Drawer	\$ 71	12/1/10	MACRS 7	7	\$ 3	\$ -	\$ -	\$ 391	\$ 391	\$ 391	\$ 391	\$ 391	\$ 391
150		Executive Chair	\$ 391	12/1/10	MACRS 7	7	\$ 17	\$ -	\$ -	\$ 468	\$ 468	\$ 468	\$ 468	\$ 468	\$ 468
151		Desk Pedestal FF	\$ 468	12/1/10	MACRS 7	7	\$ 21	\$ -	\$ -	\$ 308	\$ 308	\$ 308	\$ 308	\$ 308	\$ 308
152		Cherry Shelf Unit	\$ 308	12/1/10	MACRS 7	7	\$ 14	\$ -	\$ -	\$ 487	\$ 487	\$ 487	\$ 487	\$ 487	\$ 487
153		Cherry Storage Hutch	\$ 487	12/1/10	MACRS 7	7	\$ 22	\$ -	\$ -	\$ 709	\$ 709	\$ 709	\$ 709	\$ 709	\$ 709
154		Cherry Credenza 66"	\$ 333	12/1/10	MACRS 7	7	\$ 15	\$ -	\$ -	\$ 988	\$ 988	\$ 988	\$ 988	\$ 988	\$ 988
155		Regency Desk	\$ 709	12/1/10	MACRS 7	7	\$ 32	\$ -	\$ -	\$ 2,868	\$ 2,868	\$ 2,868	\$ 2,868	\$ 2,868	\$ 2,868
156		2 Drawer Lateral File	\$ 988	12/1/10	MACRS 7	7	\$ 44	\$ -	\$ -	\$ 513	\$ 513	\$ 513	\$ 513	\$ 513	\$ 513
157		3, 42" 4 Drawer Lateral File Cabinets	\$ 2,868	12/1/10	MACRS 7	7	\$ 128	\$ -	\$ -	\$ 2,280	\$ 2,386	\$ 2,386	\$ 2,280	\$ 2,386	\$ 2,386
158		Cherry Desk Pedestal B/B/F	\$ 513	12/1/10	MACRS 7	7	\$ 23	\$ -	\$ -	\$ 2,168	\$ 2,168	\$ 2,168	\$ 2,168	\$ 2,168	\$ 2,168
159		Regency Lateral File	\$ 567	12/1/10	MACRS 7	7	\$ 25	\$ -	\$ -	\$ 351	\$ 351	\$ 351	\$ 351	\$ 351	\$ 351
160		Fireproof safe for Customer Service office.	\$ 2,386	12/1/11	MACRS 7	7	\$ 213	\$ 106	\$ -	\$ 585	\$ 585	\$ 585	\$ 585	\$ 585	\$ 585
161		Ricoh Afficio MP C3001	\$ 3,044	5/1/15	MACRS 5	5	\$ 585	\$ 351	\$ -						

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - Federal (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
162		790 Office Furniture	\$ 631	5/1/15	MACRS 7	7	\$ 110	\$ 79	\$ 56	\$ 355	\$ 434	\$ 490
163		Automated Electronic Defibrillators	\$ 7,161	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 7,161	\$ 7,161	\$ 7,161
164		License for Capture Now	\$ 237	12/1/10	MACRS 3	3	\$ -	\$ -	\$ -	\$ 237	\$ 237	\$ 237
165		Fujitsu F16140 scanner	\$ 1,666	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 1,666	\$ 1,666	\$ 1,666
166		Ricoh MP 4001SP Copier w/Finisher	\$ 10,686	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 10,686	\$ 10,686	\$ 10,686
167		Monitors	\$ 1,207	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 1,207	\$ 1,207	\$ 1,207
168		Mitel EP Dig 6 Line Model 8560 Telephone	\$ 8,102	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 8,102	\$ 8,102	\$ 8,102
169		ELECTRONICS [681]	\$ 744	12/1/11	MACRS 5	5	\$ -	\$ -	\$ -	\$ 744	\$ 744	\$ 744
170		8-way video conferencing system	\$ 37,185	12/1/11	MACRS 5	5	\$ -	\$ -	\$ -	\$ 37,185	\$ 37,185	\$ 37,185
171		Hewlett Packard laser printer	\$ 1,111	12/1/11	MACRS 5	5	\$ -	\$ -	\$ -	\$ 1,111	\$ 1,111	\$ 1,111
172		Desktop-HIWKLC340	\$ 807	12/1/14	MACRS 5	5	\$ 93	\$ 93	\$ 46	\$ 667	\$ 760	\$ 807
173		Desktop-HIWKLC39	\$ 807	12/1/14	MACRS 5	5	\$ 93	\$ 93	\$ 46	\$ 667	\$ 760	\$ 807
174		Desktop-HIWKLC37	\$ 807	12/1/14	MACRS 5	5	\$ 93	\$ 93	\$ 46	\$ 667	\$ 760	\$ 807
175		Desktop-HIWKLC38	\$ 807	12/1/14	MACRS 5	5	\$ 93	\$ 93	\$ 46	\$ 667	\$ 760	\$ 807
176		Desktop-HIWKLC36	\$ 807	12/1/14	MACRS 5	5	\$ 93	\$ 93	\$ 46	\$ 667	\$ 760	\$ 807
177		Desktop-HIWKLC341	\$ 807	12/1/14	MACRS 5	5	\$ 93	\$ 93	\$ 46	\$ 667	\$ 760	\$ 807
178		790 Server & Server room upgrade	\$ 17,650	5/1/15	MACRS 5	5	\$ 3,389	\$ 2,033	\$ 2,033	\$ 12,567	\$ 14,600	\$ 16,633
179		Hawaii Business Unit Software	\$ 132,361	12/1/10	MACRS 3	3	\$ -	\$ -	\$ -	\$ 132,361	\$ 132,361	\$ 132,361
180		RMS Software	\$ 92,429	3/1/14	MACRS 3	3	\$ 6,849	\$ -	\$ -	\$ 92,429	\$ 92,429	\$ 92,429
181		phone system with 8 phones	\$ 24,859	3/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 24,859	\$ 24,859	\$ 24,859
182		Miscellaneous Kitchen Equipment	\$ 981	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 981	\$ 981	\$ 981
183		laptop for CS Mgr	\$ 1,496	4/1/14	MACRS 5	5	\$ 172	\$ 172	\$ 86	\$ 1,238	\$ 1,410	\$ 1,496
184		Wastewater Manager Vehicle (WO 119213)	\$ 44,547	2/28/19	MACRS 5	5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,909
185		SCADA Upgrade 2018 (WO 118883)	\$ 78,082	1/31/19	MACRS 5	5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15,616
186			\$ 510,065				\$ 15,797	\$ 5,405	\$ 28,837	\$ 372,624	\$ 378,029	\$ 406,866
187		HAWAII GENERAL OFFICE ALLOCATIONS				2019						
188		700 - Kaanapali	\$ 110,817	2017	21.67%	2018	\$ 3,432	\$ 1,171	\$ 6,249	\$ 80,956	\$ 81,921	\$ 88,170
189		701 - Puukalani	\$ 35,049	6.87%	7.81%	2019	\$ 1,086	\$ 422	\$ 2,251	\$ 25,605	\$ 29,510	\$ 31,761
190		721 - Waikoloa Water	\$ 65,448	12.83%	13.25%	2019	\$ 2,027	\$ 716	\$ 3,820	\$ 47,813	\$ 50,081	\$ 53,901
191		722 - Waikoloa Sewer	\$ 51,098	10.02%	10.34%	2019	\$ 1,583	\$ 559	\$ 2,982	\$ 37,329	\$ 39,090	\$ 42,072
192		723 - Waikoloa Resort Water	\$ 67,699	13.27%	13.13%	2019	\$ 2,087	\$ 710	\$ 3,787	\$ 49,457	\$ 49,640	\$ 53,427
193		724 - Waikoloa Resort Sewer	\$ 92,712	18.18%	16.60%	2019	\$ 2,871	\$ 897	\$ 4,786	\$ 67,730	\$ 62,740	\$ 67,526
194		725 - Waikoloa Resort Irrigation	\$ 3,808	0.75%	0.71%	2019	\$ 118	\$ 39	\$ 206	\$ 2,782	\$ 2,702	\$ 2,908
195		726 - Kona Water	\$ 53,846	10.56%	10.63%	2019	\$ 1,668	\$ 574	\$ 3,065	\$ 39,337	\$ 40,175	\$ 43,240
196		727 - Kona Sewer	\$ 29,588	5.80%	5.86%	2019	\$ 916	\$ 317	\$ 1,691	\$ 21,615	\$ 22,171	\$ 23,862
197		BIG ISLAND										
198		(2)Replacement Op Computer Stations	\$ 2,081	12/1/13	MACRS 5	5	\$ 240	\$ 120	\$ -	\$ 1,961	\$ 2,081	\$ 2,081
199		Mobile office trailer	\$ 23,867	12/1/11	MACRS 5	5	\$ -	\$ -	\$ -	\$ 23,867	\$ 23,867	\$ 23,867
200		1996 Eagle Forklift	\$ 22,871	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 22,871	\$ 22,871	\$ 22,871
201		20' Container Shelving-Baseyard	\$ 931	6/1/15	SL-25	25	\$ 37	\$ 37	\$ 37	\$ 112	\$ 149	\$ 186
202		20' Container Shelving-EMT	\$ 465	6/1/15	SL-25	25	\$ 18	\$ 18	\$ 18	\$ 55	\$ 73	\$ 91
203		20' Container-Baseyard	\$ 10,373	6/1/15	SL-25	25	\$ 415	\$ 415	\$ 415	\$ 1,245	\$ 1,660	\$ 2,075
204		20' Container-EMT	\$ 5,312	6/1/15	SL-25	25	\$ 212	\$ 212	\$ 212	\$ 637	\$ 850	\$ 1,062
205		Storage Cont'r	\$ 3,187	12/1/10	SL-25	25	\$ 127	\$ 127	\$ 127	\$ 1,020	\$ 1,147	\$ 1,275
206		Nissan Frontier	\$ 27,030	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 27,030	\$ 27,030	\$ 27,030
207		Nissan Titan	\$ 35,679	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 35,679	\$ 35,679	\$ 35,679

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - Federal (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
208		FORD XCAB	\$ 26,901	6/1/12	MACRS 5	5	\$ 1,549	\$ -	\$ -	\$ 26,901	\$ 26,901	\$ 26,901
209		FORD XCAB	\$ 26,395	6/1/12	MACRS 5	5	\$ 1,520	\$ -	\$ -	\$ 26,395	\$ 26,395	\$ 26,395
210		Ford F-150	\$ 30,500	9/1/12	MACRS 5	5	\$ 1,757	\$ -	\$ -	\$ 30,500	\$ 30,500	\$ 30,500
211		Ford F-150	\$ 30,500	9/1/12	MACRS 5	5	\$ 1,757	\$ -	\$ -	\$ 30,500	\$ 30,500	\$ 30,500
212		Ford F-150	\$ 30,500	9/1/12	MACRS 5	5	\$ 1,757	\$ -	\$ -	\$ 30,500	\$ 30,500	\$ 30,500
213		FRONTIER	\$ 25,350	6/1/12	MACRS 5	5	\$ 1,460	\$ -	\$ -	\$ 25,350	\$ 25,350	\$ 25,350
214		Ford Explorer	\$ 37,497	9/1/12	MACRS 5	5	\$ 2,160	\$ -	\$ -	\$ 37,497	\$ 37,497	\$ 37,497
215		2014 Nissan Frontier, V214001	\$ 35,122	4/1/14	MACRS 5	5	\$ 4,046	\$ 4,046	\$ 2,023	\$ 29,053	\$ 33,059	\$ 35,122
216		3 Ipad for Hawaii Island	\$ 2,542	9/1/13	MACRS 7	7	\$ 293	\$ 146	\$ -	\$ 2,396	\$ 2,542	\$ 2,542
217		Desk w/Drawer	\$ 959	9/1/12	MACRS 7	7	\$ 86	\$ 86	\$ 43	\$ 831	\$ 916	\$ 959
218		69"x43" x 18"	\$ 1,311	9/1/12	MACRS 7	7	\$ 117	\$ 117	\$ 58	\$ 1,135	\$ 1,253	\$ 1,311
219		Diesel tank	\$ 725	12/1/11	MACRS 7	7	\$ 65	\$ 32	\$ -	\$ 693	\$ 725	\$ 725
220		GIS Software	\$ 7,621	12/1/11	MACRS 5	5	\$ -	\$ -	\$ -	\$ 7,621	\$ 7,621	\$ 7,621
221		Backflow Test Kit-Midwest 835	\$ 1,202	8/1/15	MACRS 5	5	\$ 231	\$ 138	\$ 138	\$ 856	\$ 984	\$ 1,133
222		Big Island SCADA 2012	\$ 495,319	10/1/14	MACRS 5	5	\$ 57,061	\$ 57,061	\$ 28,530	\$ 409,728	\$ 466,788	\$ 495,319
223		Book Case	\$ 298	9/1/12	MACRS 7	7	\$ 27	\$ 27	\$ 13	\$ 258	\$ 284	\$ 298
224		Motorola Hardware	\$ 4,401	6/1/12	MACRS 5	5	\$ 254	\$ -	\$ -	\$ 4,401	\$ 4,401	\$ 4,401
225		Work Order Addition	\$ 2,144	6/1/12	MACRS 5	5	\$ 124	\$ -	\$ -	\$ 2,144	\$ 2,144	\$ 2,144
226		Misc. Wiring & Cables	\$ 544	6/1/12	MACRS 5	5	\$ 31	\$ -	\$ -	\$ 544	\$ 544	\$ 544
227		Work Order Addition	\$ 747	6/1/12	MACRS 5	5	\$ 43	\$ -	\$ -	\$ 747	\$ 747	\$ 747
228		1 desktops	\$ 1,133	4/1/13	MACRS 5	5	\$ 131	\$ 65	\$ -	\$ 1,068	\$ 1,133	\$ 1,133
229		1 desktops	\$ 1,133	4/1/13	MACRS 5	5	\$ 131	\$ 65	\$ -	\$ 1,068	\$ 1,133	\$ 1,133
230		Desktop-HIWKLOC56	\$ 1,572	12/1/14	MACRS 5	5	\$ 181	\$ 181	\$ 91	\$ 1,301	\$ 1,482	\$ 1,572
231		Desktop-HIWKLOC57	\$ 1,613	12/1/14	MACRS 5	5	\$ 186	\$ 186	\$ 93	\$ 1,334	\$ 1,520	\$ 1,613
232		dryer @ baseyard	\$ 503	4/1/17	MACRS 5	5	\$ 101	\$ 161	\$ 97	\$ 101	\$ 261	\$ 358
233		Exec Chair	\$ 351	9/1/12	MACRS 7	7	\$ 31	\$ 31	\$ 16	\$ 304	\$ 335	\$ 351
234		Work Order Addition	\$ 51	9/1/13	MACRS 5	5	\$ 6	\$ 3	\$ -	\$ 48	\$ 51	\$ 51
235		Work Order Addition	\$ 182	9/1/12	MACRS 5	5	\$ 11	\$ -	\$ -	\$ 182	\$ 182	\$ 182
236		Work Order Addition	\$ 13,813	6/1/12	MACRS 5	5	\$ 796	\$ -	\$ -	\$ 13,813	\$ 13,813	\$ 13,813
237		EMT Laptop	\$ 4,509	3/1/14	MACRS 5	5	\$ 519	\$ 519	\$ 260	\$ 3,730	\$ 4,249	\$ 4,509
238		Hand Helds	\$ 19,147	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 19,147	\$ 19,147	\$ 19,147
239		Desk Dock	\$ 2,793	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 2,793	\$ 2,793	\$ 2,793
240		Personnel Lift	\$ 5,844	6/1/12	MACRS 5	5	\$ 337	\$ -	\$ -	\$ 5,844	\$ 5,844	\$ 5,844
241		Software	\$ 2,995	9/1/12	MACRS 5	5	\$ 173	\$ -	\$ -	\$ 2,995	\$ 2,995	\$ 2,995
242		Hardware	\$ 8,824	9/1/12	MACRS 5	5	\$ 508	\$ -	\$ -	\$ 8,824	\$ 8,824	\$ 8,824
243		Gradall lifting hook attachment	\$ 2,427	12/1/14	MACRS 5	5	\$ 280	\$ 280	\$ 140	\$ 2,008	\$ 2,287	\$ 2,427
244		Forklift	\$ 27,625	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 27,625	\$ 27,625	\$ 27,625
245		HON chair	\$ 636	2/1/14	MACRS 7	7	\$ 79	\$ 57	\$ 57	\$ 438	\$ 494	\$ 551
246		Hydro Jetter	\$ 5,941	12/1/10	MACRS 5	5	\$ -	\$ -	\$ -	\$ 5,941	\$ 5,941	\$ 5,941
247		Ice Maker-Manitowac ID-0452A	\$ 4,536	9/1/16	MACRS 5	5	\$ 1,451	\$ 871	\$ 523	\$ 2,359	\$ 3,230	\$ 3,752
248		Ingersoll Needle/Chisel Scl	\$ 773	9/1/13	MACRS 5	5	\$ 89	\$ 45	\$ -	\$ 728	\$ 773	\$ 773
249		Internal labor	\$ 21,402	7/1/13	MACRS 5	5	\$ 2,465	\$ 1,233	\$ 1,231	\$ 20,169	\$ 21,402	\$ 21,402
250		Knoll task chair	\$ 13,806	2/1/14	MACRS 7	7	\$ 1,724	\$ 1,233	\$ -	\$ 9,493	\$ 10,726	\$ 11,957
251		1 laptops	\$ 1,165	4/1/13	MACRS 5	5	\$ 134	\$ 67	\$ -	\$ 1,098	\$ 1,165	\$ 1,165
252		1 laptops	\$ 1,165	4/1/13	MACRS 5	5	\$ 134	\$ 67	\$ -	\$ 1,098	\$ 1,165	\$ 1,165
253		Laptop, EMT-HIWKOLLT02	\$ 1,631	11/1/16	MACRS 5	5	\$ 522	\$ 313	\$ 188	\$ 848	\$ 1,161	\$ 1,349
254		Lateral File	\$ 525	9/1/12	MACRS 5	5	\$ 30	\$ -	\$ -	\$ 525	\$ 525	\$ 525
255		Work Order Addition	\$ 1,447	12/1/11	MACRS 5	5	\$ -	\$ -	\$ -	\$ 1,447	\$ 1,447	\$ 1,447
256		Work Order Addition	\$ 4,571	12/1/11	MACRS 5	5	\$ -	\$ -	\$ -	\$ 4,571	\$ 4,571	\$ 4,571
257		Work Order Addition	\$ 16,749	6/1/11	MACRS 5	5	\$ -	\$ -	\$ -	\$ 16,749	\$ 16,749	\$ 16,749
258		New IP phone system	\$ 19,704	6/1/13	MACRS 5	5	\$ 2,270	\$ 1,135	\$ -	\$ 18,569	\$ 19,704	\$ 19,704

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - Federal (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
259		New Hydraulic Hammer	9,847	12/11/13	MACRS 5	5	1,134	567	567	9,280	9,847	9,847
260		Office Furnishings	6,706	2/1/14	MACRS 7	7	838	599	599	4,611	5,210	5,808
261		Office furniture & equip	4,134	9/1/12	MACRS 7	7	369	369	184	3,581	3,950	4,134
262		Work Order Addition	47	9/1/12	MACRS 5	5	3	-	-	47	47	47
263		Work Order Addition	90	9/1/12	MACRS 5	5	5	-	-	90	90	90
264		Portable generator 3500w, EMT's	518	12/1/16	MACRS 5	5	166	99	60	269	369	428
265		Power Quality Analyzer	8,416	3/1/15	MACRS 5	5	1,616	970	970	5,993	6,962	7,932
266		Printer Cart	75	9/1/12	MACRS 5	5	4	-	-	75	75	75
267		Projector-Dell 1610HD	626	12/1/16	MACRS 5	5	200	120	72	326	446	518
268		Electrical Upgrade	8,770	12/1/11	MACRS 5	5	-	-	-	8,770	8,770	8,770
269		Respirator supplied air system	4,239	12/1/16	MACRS 5	5	1,356	814	488	2,204	3,018	3,506
270		Richo Copier	10,588	11/1/11	MACRS 5	5	-	-	-	10,588	10,588	10,588
271		Richo Fax Module	1,045	11/1/11	MACRS 5	5	-	-	-	1,045	1,045	1,045
272		RICOH MPC3004-Engineering office	8,282	12/1/16	MACRS 5	5	2,650	1,590	954	4,307	5,897	6,851
273		Rplc computer w/laptop for Erg Mgr	1,478	10/1/14	MACRS 5	5	170	170	85	1,223	1,393	1,478
274		SCADA .NET-II 900 Dual Gateway	22,377	3/1/16	MACRS 5	5	7,161	4,296	2,578	11,636	15,932	18,510
275		SCADA radio data link	53,201	9/30/18	MACRS 5	5	-	10,640	17,024	-	10,640	27,664
276		SCADA upgrade 2013	64,775	3/1/16	MACRS 5	5	20,728	12,437	7,462	33,683	46,119	53,581
277		SCADAPack 32	10,539	3/1/16	MACRS 5	5	3,372	2,023	1,214	5,480	7,503	8,717
278		Scaffolding	4,771	12/1/11	MACRS 5	5	1,527	916	550	2,481	3,397	3,947
279		Work Order Addition	15	6/1/13	MACRS 5	5	-	-	-	15	15	15
280		Tools & Equipment	994	6/1/13	MACRS 5	5	114	57	17	937	994	994
281		Trailer, emergency compressor	426	3/1/16	SL-25	25	17	17	17	34	51	68
282		Trailer, emergency generator EG6500	2,073	3/1/16	SL-25	25	83	83	83	166	249	332
283		Trailer, emergency 6'x12' w/ramp	7,800	3/1/16	SL-25	25	312	312	312	624	936	1,248
284		Work Order Addition	58,793	9/1/12	MACRS 5	5	3,386	-	-	58,793	58,793	58,793
285		V208214, Ford F-150	6,817	12/1/10	MACRS 5	5	-	-	-	6,817	6,817	6,817
286		V208216, Chevy Silverad	9,017	12/1/10	MACRS 5	5	-	-	-	9,017	9,017	9,017
287		V208217, Chevy 3500	29,139	12/1/10	MACRS 5	5	-	-	-	29,139	29,139	29,139
288		V208222, '08 TOY 4 RUNNER	32,269	12/1/08	MACRS 5	5	-	-	-	32,269	32,269	32,269
289		Visitor Chair	169	9/1/12	MACRS 7	7	15	15	8	146	161	169
290		Air Compressor, portable	21,139	9/1/17	SL-25	25	846	846	846	846	1,691	2,537
291		Septic Tank, Baseyard	15,054	9/1/17	SL-25	25	602	602	602	602	1,204	1,807
292		Socket fusion kit, 20-63mm	682	12/1/17	MACRS 5	5	132	212	127	132	344	471
293		Socket welding prep	1,587	12/1/17	MACRS 5	5	317	508	305	317	825	1,130
294		SCADA Report Writer System	47,771	7/1/18	SL-25	25	-	1,911	1,911	-	1,911	3,822
295		Fuel Station	144,199	12/31/18	SL-25	25	-	5,768	5,768	-	5,768	11,536
296		Base Yard Security Cameras	10,014	8/31/18	MACRS 5	5	-	2,003	3,204	-	2,003	5,207
297		Big Island Radio Communication	49,355	7/1/18	MACRS 5	5	-	9,871	15,794	-	9,871	25,665
298		EMT Service Truck	52,220	7/1/18	MACRS 5	5	-	10,444	16,710	-	10,444	27,154
299		Handheld Meter Readers	8,673	10/31/17	MACRS 5	5	1,735	2,775	1,665	1,735	4,510	6,175
300		EMT Service Truck Tools	8,787	7/1/18	MACRS 5	5	-	1,757	2,812	-	1,757	4,569
301		Portable Air Compressor	21,139	6/30/17	MACRS 5	5	4,228	6,764	4,059	4,228	10,992	15,051
302		Iron Handheld Meter Readers	26,765	7/1/18	MACRS 5	5	-	5,353	8,565	-	5,353	13,918
303		Engineering PM Vehicle	32,468	12/5/18	MACRS 5	5	-	6,494	10,390	-	6,494	16,884
304		Jetting/Vacuum Truck/Pukalani	328,447	7/1/13	MACRS 5	5	-	37,837	18,919	-	37,837	328,447
305		Jetting/Vacuum Truck/Pukalani	6,577	7/1/13	MACRS 5	5	758	379	-	6,198	6,577	6,577
306		2018 Toyota Tacoma TRD 4x4	39,732	7/1/18	MACRS 5	5	-	7,946	12,714	-	7,946	20,661
307		Boom Truck (WO 118340)	363,553	5/31/19	MACRS 5	5	-	-	7,355	-	-	7,355
308		Valve Exercise Trailer (WO 118326)	36,773	7/31/19	MACRS 5	5	-	-	-	-	-	-
309		SCADA Vulnerability Assessment (WO 117252)	41,804	9/30/19	MACRS 5	5	-	-	-	-	-	-

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - Federal (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation			
							2017	2018	2019	2017	2018	2019	
310		Total	\$ 2,695,684				\$ 179,356	\$ 187,743	\$ 238,867	\$ 1,525,970	\$ 1,713,713	\$ 1,952,580	
BIG ISLAND ALLOCATIONS													
311		721 - Waikoloa Water	\$ 494,224	18.33%	2017	2018	2019	\$ 32,883	\$ 35,858	\$ 45,622	\$ 279,770	\$ 327,309	\$ 372,932
312		722 - Waikoloa Sewer	\$ 375,109	13.92%	19.10%	19.10%	19.10%	\$ 24,958	\$ 27,193	\$ 34,597	\$ 212,342	\$ 248,213	\$ 282,811
313		723 - Waikoloa Resort Water	\$ 515,855	19.14%	19.25%	19.25%	19.25%	\$ 34,322	\$ 36,140	\$ 45,982	\$ 292,015	\$ 329,890	\$ 375,871
314		724 - Waikoloa Resort Sewer	\$ 684,723	25.40%	23.59%	23.59%	23.59%	\$ 45,558	\$ 44,288	\$ 56,348	\$ 387,607	\$ 404,282	\$ 460,610
315		725 - Waikoloa Resort Irrigation	\$ 27,443	1.02%	0.99%	0.99%	0.99%	\$ 1,826	\$ 1,860	\$ 2,367	\$ 15,535	\$ 16,978	\$ 19,345
316		726 - Kona Water	\$ 388,019	14.39%	14.64%	14.64%	14.64%	\$ 25,817	\$ 27,490	\$ 34,975	\$ 219,650	\$ 250,924	\$ 285,899
317		727 - Kona Sewer	\$ 210,311	7.80%	7.94%	7.94%	7.94%	\$ 13,983	\$ 14,914	\$ 18,975	\$ 119,053	\$ 136,136	\$ 155,111
318													
WASTEWATER ADMINISTRATION													
319		IPad 3 - WW Mgr.	\$ 810	9/1/2013	MACRS 5	5		\$ 93	\$ 93	\$ 93	\$ 670	\$ 763	\$ 810
320													
321		Total	\$ 810					\$ 93	\$ 93	\$ 93	\$ 670	\$ 763	\$ 810
WASTEWATER ADMINISTRATION ALLOCATIONS													
322		701 - Puukalani	\$ 139	17.22%	2017	2018	2019	\$ 20,066	\$ 20,066	\$ 20,066	\$ 115	\$ 153	\$ 162
323		722 - Waikoloa Sewer	\$ 199	24.52%	25.00%	25.00%	25.00%	\$ 23	\$ 23	\$ 23	\$ 164	\$ 191	\$ 203
324		724 - Waikoloa Resort Sewer	\$ 386	45.16%	41.63%	41.63%	41.63%	\$ 42	\$ 39	\$ 39	\$ 303	\$ 318	\$ 337
325		727 - Kona Sewer	\$ 106	13.10%	13.30%	13.30%	13.30%	\$ 12	\$ 12	\$ 12	\$ 88	\$ 102	\$ 108
326													

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - State
 Test Year Ending December 31, 2019

Line No.	Description	Acc. Tax Dep. Balance as of		Acc. Tax Dep. Balance as of		Test Year	
		Dec. 31, 2017	Dep. Exp.	Dec. 31, 2018	Dep. Exp.	Adjustments	Dec. 31, 2019
5	Intangible	\$ -	\$ -	\$ -	\$ 4,480		\$ 4,480
6	Land and land rights	\$ -	\$ -	\$ -	\$ -		\$ -
7	Structures and Improvements	\$ 1,304,095	\$ 95,698	\$ 1,399,794	\$ 98,233		\$ 1,498,026
8	Pumping Equipment	\$ 1,766,905	\$ 132,952	\$ 1,899,857	\$ 136,994		\$ 2,036,852
9	Treatment Equipment	\$ 2,722	\$ 23,143	\$ 25,865	\$ 28,020		\$ 53,886
10	Transmission & Distribution Plant	\$ 21,926	\$ 4,787	\$ 26,713	\$ 4,787		\$ 31,501
11	Source of Supply	\$ 943,065	\$ 68,895	\$ 1,011,960	\$ 68,895		\$ 1,080,855
12	Office Furniture and Equipment	\$ 1,075	\$ 174	\$ 1,249	\$ 174		\$ 1,422
13	Power Generation Equipment	\$ 76,156	\$ 19,039	\$ 95,195	\$ 19,039		\$ 114,233
14	Transportation	\$ 40,540	\$ 2,909	\$ 43,449	\$ 4,654		\$ 48,103
15	Tools and Laboratory Equipment	\$ 1,989	\$ 1,495	\$ 3,484	\$ 2,002		\$ 5,486
16	General Plant	\$ 19,856	\$ 1,089	\$ 20,945	\$ 148		\$ 21,093
17	Hawaii Water GO Allocation	\$ 20,751	\$ 533	\$ 21,284	\$ 1,624		\$ 22,907
18	Big Island Allocation	\$ 114,290	\$ 16,400	\$ 130,690	\$ 18,216		\$ 148,907
19	Wastewater Administration	\$ 84	\$ 13	\$ 97	\$ 6		\$ 103
20	Total	\$ 4,313,454	\$ 367,129	\$ 4,680,582	\$ 387,272	\$ 0	\$ 5,067,855
21	Accumulated Book Depreciation	\$ 2,763,019		\$ 3,297,217			\$ 3,851,009
22	ADIT Balance						(\$ 77,878)

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - State (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
1	103030	Intangible Plant										
2		Kukio WWTP Upgrade - Preliminary Design (WO 114440)	\$ 44,799	2/28/2019	SL-10	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,480
3		Total	\$ 44,799				\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,480
4	103540	Structures and Improvements										
5		A/C unit-Kukio IT-Fujitsu 2T	\$ 4,747	9/1/2016	SL-25	25	\$ 190	\$ 190	\$ 190	\$ 570	\$ 760	\$ 1,858,690
6		CIAC Phase 1A	\$ 2,733,368	1/1/2003	SL-25	25	\$ 109,335	\$ 109,335	\$ 109,335	\$ 376	\$ 470	\$ 586
7		Emergency shower-SFS3&4	\$ 2,349	5/1/2015	SL-25	25	\$ 94	\$ 94	\$ 94	\$ 282	\$ 390	\$ 1,939
8		Lift Station hatch 36"x48"-LS1	\$ 2,440	10/1/2014	SL-25	25	\$ 98	\$ 98	\$ 98	\$ 292	\$ 390	\$ 841
9		Lift Station hatch 36"x60"-LS2,3,5	\$ 8,077	10/1/2014	SL-25	25	\$ 323	\$ 323	\$ 323	\$ 961	\$ 1,311	\$ 3,965,248
10		Lift Station hatch 48"x72"-LS4	\$ 3,506	10/1/2014	SL-25	25	\$ 140	\$ 140	\$ 140	\$ 420	\$ 561	\$ 1,095,649
11		STP Plant Retrofit	\$ 760,092	1/1/2007	SL-25	25	\$ 30,404	\$ 30,404	\$ 30,404	\$ 91,212	\$ 121,616	\$ 311,199
12		WWTP Bldg	\$ 1,611,249	4/1/2003	SL-25	25	\$ 64,450	\$ 64,450	\$ 64,450	\$ 193,350	\$ 264,450	\$ 760,716
13		Kukio Office Expansion (WO 67610)	\$ 63,360	11/30/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,534
14		Total	\$ 5,189,188				\$ 205,033	\$ 205,033	\$ 205,033	\$ 627,568	\$ 842,568	\$ 2,077,568
15	103241	System Control Computer Equipment										
16		STP - SCADA	\$ 92,166	4/1/2003	SL-25	25	\$ 3,687	\$ 3,687	\$ 3,687	\$ 11,061	\$ 14,748	\$ 36,873
17		SCADA Computer & Software (WO 112032)	\$ 26,411	7/1/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,056
18		Total	\$ 118,577				\$ 3,687	\$ 3,687	\$ 3,687	\$ 11,061	\$ 14,748	\$ 37,929
19	103701	Pumping Equipment										
20		4" HDL Ball check valve Kukio WW	\$ 780	7/1/2012	SL-25	25	\$ 31	\$ 31	\$ 31	\$ 93	\$ 124	\$ 311
21		6" HDL ball check valve Kukio WW	\$ 1,325	7/1/2012	SL-25	25	\$ 53	\$ 53	\$ 53	\$ 159	\$ 212	\$ 524
22		Carbon odor scrubbers LS1&2	\$ 8,481	12/1/2016	SL-25	25	\$ 339	\$ 339	\$ 339	\$ 1,017	\$ 1,356	\$ 3,387
23		Flt#1 15HP Submersible Wastewater Pump	\$ 11,993	9/1/2010	SL-25	25	\$ 480	\$ 480	\$ 480	\$ 1,440	\$ 1,920	\$ 4,896
24		Flt#2 15HP Submersible Wastewater Pump	\$ 24,046	6/1/2014	SL-25	25	\$ 962	\$ 962	\$ 962	\$ 2,886	\$ 3,848	\$ 9,616
25		Flt#3 15HP Submersible Wastewater Pump	\$ 9,097	6/1/2014	SL-25	25	\$ 364	\$ 364	\$ 364	\$ 1,092	\$ 1,456	\$ 3,640
26		Flt#4 6" Flygt Pump NP3153.091/466 HT 4"	\$ 14,306	6/1/2014	SL-25	25	\$ 572	\$ 572	\$ 572	\$ 1,716	\$ 2,288	\$ 5,716
27		Flt#5 6" Flygt Pump NP3171.091/434 MR 6"	\$ 8,192	6/1/2014	SL-25	25	\$ 328	\$ 328	\$ 328	\$ 984	\$ 1,312	\$ 3,328
28		Flt#6 6" Flygt Pump NP3171.091/434 MT 6"	\$ 19,438	6/1/2014	SL-25	25	\$ 778	\$ 778	\$ 778	\$ 2,334	\$ 3,112	\$ 7,896
29		Flt#7 6" Flygt Pump NP3202.180/460 HT 6"	\$ 17,411	6/1/2014	SL-25	25	\$ 696	\$ 696	\$ 696	\$ 2,088	\$ 2,784	\$ 7,056
30		Flt#8 6" Flygt Pump NP33153.091/462 HT 4"	\$ 510,604	11/15/2005	SL-25	25	\$ 20,424	\$ 20,424	\$ 20,424	\$ 61,272	\$ 81,696	\$ 204,240
31		Lift Station 6 and related force main	\$ 510,604	11/15/2005	SL-25	25	\$ 20,424	\$ 20,424	\$ 20,424	\$ 61,272	\$ 81,696	\$ 204,240
32		Lift Station 7 and related force main	\$ 1,896,414	4/1/2003	SL-25	25	\$ 75,857	\$ 75,857	\$ 75,857	\$ 227,571	\$ 303,428	\$ 766,561
33		Lift Stations 1-5	\$ 24,747	6/1/2011	SL-25	25	\$ 990	\$ 990	\$ 990	\$ 2,970	\$ 3,960	\$ 9,900
34		New discharge piping and flustrmix valve.	\$ 268	7/1/2012	SL-25	25	\$ 11	\$ 11	\$ 11	\$ 33	\$ 44	\$ 111
35		PUMPING EQUIPMENT [270]	\$ 158	7/1/2012	SL-25	25	\$ 6	\$ 6	\$ 6	\$ 18	\$ 24	\$ 61
36		PUMPING EQUIPMENT [270]	\$ 1,214	9/1/2010	SL-25	25	\$ 49	\$ 49	\$ 49	\$ 147	\$ 196	\$ 496
37		PUMPING EQUIPMENT [270]	\$ 25,359	10/1/2014	SL-25	25	\$ 1,014	\$ 1,014	\$ 1,014	\$ 3,042	\$ 4,056	\$ 10,140
38		SPS#4 6" Flygt Discharge Pump	\$ 24,803	2/1/2014	SL-25	25	\$ 992	\$ 992	\$ 992	\$ 2,976	\$ 3,968	\$ 9,916
39		SPS4pump discharge pipe&flush valve	\$ 1,944	1/1/2014	SL-25	25	\$ 78	\$ 78	\$ 78	\$ 234	\$ 312	\$ 780
40		Wilden sludge pump	\$ 17,769	3/1/2014	SL-25	25	\$ 711	\$ 711	\$ 711	\$ 2,133	\$ 2,844	\$ 7,161
41		Wilden T8 diaphragm pumps	\$ 3,768	7/1/2018	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 151
42		SPS#7 Soft Starter (WO 117596)	\$ 37,711	7/1/2018	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,508
43		SPS Pump Control Replacement (WO 93717)	\$ 37,711	7/1/2018	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,508

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - State (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
44		Level Transducers (WO 93720)	\$ 7,026	7/1/2018	SL-25	25	\$ -	\$ 281	\$ 281	\$ -	\$ 562	
45		Effluent Flow Meter (WO 117440)	\$ 9,221	7/1/2018	SL-25	25	\$ -	\$ 369	\$ 369	\$ -	\$ 738	
46		SPS#5 Submersible Pump Rebuild (WO 118922)	\$ 18,032	11/30/2018	SL-25	25	\$ -	\$ 721	\$ 721	\$ -	\$ 1,443	
47		SPS1-SPS7 Power Monitors (WO 112034)	\$ 15,744	7/1/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ 630	
48		SPS#2 6" Pump Discharge Pipe (WO 97220)	\$ 58,889	7/1/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ 2,356	
49		Total	\$ 3,306,277				\$ 126,235	\$ 129,266	\$ 132,251	\$ 1,711,606	\$ 1,840,871	\$ 1,973,122
50		103801 Treatment & Disposal Equipment										
51		DO probe for HQ40 meter	\$ 682	12/1/2016	SL-25	25	\$ 27	\$ 27	\$ 27	\$ 55	\$ 82	\$ 109
52		Gearboxes for MBR, Falk	\$ 33,342	3/1/2016	SL-25	25	\$ 1,334	\$ 1,334	\$ 1,334	\$ 2,667	\$ 4,001	\$ 5,335
53		MBR Gearboxes (WO 97221)	\$ 44,657	7/1/2018	SL-25	25	\$ -	\$ 1,786	\$ 1,786	\$ -	\$ 1,786	\$ 3,573
54		Aeration Blower (WO 108778)	\$ 68,544	7/1/2018	SL-25	25	\$ -	\$ 2,742	\$ 2,742	\$ -	\$ 2,742	\$ 5,484
55		WWTP Pressure Vessel Change (WO 110437)	\$ 24,262	7/1/2018	SL-25	25	\$ -	\$ 970	\$ 970	\$ -	\$ 970	\$ 1,941
56		WWTP Drums Replacement (WO 114439)	\$ 407,098	7/1/2018	SL-25	25	\$ -	\$ 16,284	\$ 16,284	\$ -	\$ 16,284	\$ 32,568
57		Tank Rehab Project (WO 118152)	\$ 121,920	7/1/2019	SL-25	25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,877
58		Total	\$ 700,505				\$ 1,361	\$ 23,143	\$ 28,020	\$ 2,722	\$ 25,865	\$ 53,886
59		103600 Collection Sewers Force										
60		4" HDL Flygt check valves	\$ 5,035	4/1/2014	SL-25	25	\$ 201	\$ 201	\$ 201	\$ 806	\$ 1,007	\$ 1,208
61		6" Flygt Valve Kukio SPS#5	\$ 1,744	12/1/2013	SL-25	25	\$ 70	\$ 70	\$ 70	\$ 349	\$ 418	\$ 488
62		LS#1 discharge pipe, 50"	\$ 23,359	3/1/2016	SL-25	25	\$ 934	\$ 934	\$ 934	\$ 1,869	\$ 2,803	\$ 3,737
63		Replace 6" Flygt Check Valve LS#4	\$ 1,748	10/1/2013	SL-25	25	\$ 70	\$ 70	\$ 70	\$ 350	\$ 420	\$ 490
64		Discharge Pipe-LS #5	\$ 31,163	12/1/2013	SL-25	25	\$ 1,247	\$ 1,247	\$ 1,247	\$ 6,233	\$ 7,479	\$ 8,726
65		Rpic HDL 6" flygt check valve	\$ 10,107	4/1/2014	SL-25	25	\$ 404	\$ 404	\$ 404	\$ 1,617	\$ 2,021	\$ 2,426
66		Effluent sand filler by-pass (WO 108883)	\$ 3,637	7/1/2018	SL-25	25	\$ -	\$ 145	\$ 145	\$ -	\$ 145	\$ 291
67		SPS#1 lateral replacement (WO 101280)	\$ 2,976	7/1/2018	SL-25	25	\$ -	\$ 119	\$ 119	\$ -	\$ 119	\$ 238
68		Total	\$ 79,769				\$ 2,926	\$ 3,191	\$ 3,191	\$ 11,222	\$ 14,413	\$ 17,604
69		103610 Collection Sewers Gravity										
70		CIAC - Collection Sewer lines	\$ 3,375,475	1/1/2005	SL-25	25	\$ 135,019	\$ 135,019	\$ 135,019	\$ 1,755,247	\$ 1,890,266	\$ 2,025,285
71		CIAC Additional Phase 3 Incom	\$ 379,940	1/1/2007	SL-25	25	\$ 15,198	\$ 15,198	\$ 15,198	\$ 167,174	\$ 182,371	\$ 197,569
72		CIAC Phase 3 Increment 1	\$ 67,367	1/1/2007	SL-25	25	\$ 2,695	\$ 2,695	\$ 2,695	\$ 29,641	\$ 32,336	\$ 35,031
73		CIAC Phase 3 Increment 2	\$ 515,026	1/1/2007	SL-25	25	\$ 20,601	\$ 20,601	\$ 20,601	\$ 226,611	\$ 247,212	\$ 267,813
74		Collection Line Phase 3 Plant	\$ 16,521	1/1/2007	SL-25	25	\$ 661	\$ 661	\$ 661	\$ 7,269	\$ 7,930	\$ 8,591
75		Total	\$ 4,354,329				\$ 174,173	\$ 174,173	\$ 174,173	\$ 2,185,943	\$ 2,360,116	\$ 2,534,289
76		103620 Special Collecting Structure										
77		4,000gal WW Storage Tank	\$ 3,715	4/1/2014	SL-25	25	\$ 149	\$ 149	\$ 149	\$ 594	\$ 743	\$ 892
78		Wastewater Storage Tank	\$ 3,866	6/1/2016	SL-25	25	\$ 155	\$ 155	\$ 155	\$ 309	\$ 464	\$ 618
79		Total	\$ 7,581				\$ 303	\$ 303	\$ 303	\$ 904	\$ 1,207	\$ 1,510
80		103890 Other Equipment										
81		Replace SCADA Computer-Kukio WWTP	\$ 15,816	2/1/2014	SL-25	25	\$ 633	\$ 633	\$ 633	\$ 2,531	\$ 3,163	\$ 3,796
82		Total	\$ 15,816				\$ 633	\$ 633	\$ 633	\$ 2,531	\$ 3,163	\$ 3,796

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - State (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation									
							2017	2018	2019	2017	2018	2019							
83	103700	Receiving Wells																	
84		Wastewater Treatment Plant	\$ 4,955	12/31/2006	SL-25	25	\$ 198	\$ 198	\$ 198	\$ 2,378	\$ 2,576	\$ 2,775	\$ 55,108	\$ 59,347	\$ 63,586				
85		Wastewater Treatment Plant	\$ 105,976	6/30/2005	SL-25	25	\$ 4,239	\$ 4,239	\$ 4,239	\$ 4,538	\$ 4,863	\$ 5,187	\$ 7,158	\$ 7,669	\$ 8,181				
86		Wastewater Treatment Plant	\$ 8,104	11/1/2004	SL-25	25	\$ 324	\$ 324	\$ 324	\$ 511	\$ 511	\$ 511	\$ 3,606	\$ 3,863	\$ 4,121				
87		Wastewater Treatment Plant	\$ 12,782	10/1/2004	SL-25	25	\$ 511	\$ 511	\$ 511	\$ 258	\$ 258	\$ 258	\$ 1,598	\$ 1,704	\$ 1,811				
88		Wastewater Treatment Plant	\$ 6,439	11/2004	SL-25	25	\$ 258	\$ 258	\$ 258	\$ 516	\$ 516	\$ 516	\$ 640,397	\$ 683,090	\$ 725,783				
89		Wastewater Treatment Plant	\$ 2,663	12/31/2003	SL-25	25	\$ 107	\$ 107	\$ 107	\$ 20,049	\$ 20,049	\$ 20,049	\$ 943,065	\$ 1,011,960	\$ 1,080,855				
90		Wastewater Treatment Plant	\$ 12,908	4/1/2003	SL-25	25	\$ 516	\$ 516	\$ 516	\$ 68,895	\$ 68,895	\$ 68,895	\$ 9,278	\$ 11,597	\$ 13,917				
91		Wastewater Treatment Plant	\$ 1,067,328	4/1/2003	SL-25	25	\$ 42,693	\$ 42,693	\$ 42,693	\$ 21,854	\$ 27,318	\$ 32,781	\$ 21,854	\$ 27,318	\$ 32,781				
92		Wastewater Treatment Plant - P	\$ 501,222	11/1/2007	SL-25	25	\$ 20,049	\$ 20,049	\$ 20,049	\$ 15,812	\$ 19,765	\$ 23,718	\$ 13,837	\$ 17,296	\$ 20,755				
93		Total	\$ 1,722,377				\$ 68,895	\$ 68,895	\$ 68,895	\$ 76,156	\$ 95,195	\$ 114,233	\$ 1,075	\$ 1,249	\$ 1,422				
94	103550	Power Generation Equipment																	
95		SPS1 generator 35DSFAA 35kw	\$ 57,986	4/1/2014	SL-25	25	\$ 2,319	\$ 2,319	\$ 2,319	\$ 2,319	\$ 2,319	\$ 2,319	\$ 15,812	\$ 19,765	\$ 23,718				
96		SPS3&7 generator 60DSFAD 60kw	\$ 136,588	4/1/2014	SL-25	25	\$ 5,464	\$ 5,464	\$ 5,464	\$ 3,459	\$ 3,459	\$ 3,459	\$ 15,812	\$ 19,765	\$ 23,718				
97		SPS4 generator 125DSGAB 125kw	\$ 98,826	4/1/2014	SL-25	25	\$ 3,953	\$ 3,953	\$ 3,953	\$ 3,844	\$ 3,844	\$ 3,844	\$ 15,812	\$ 19,765	\$ 23,718				
98		SPS5 generator 100DSGAA 125kw	\$ 86,479	4/1/2014	SL-25	25	\$ 3,459	\$ 3,459	\$ 3,459	\$ 19,039	\$ 19,039	\$ 19,039	\$ 1,075	\$ 1,249	\$ 1,422				
99		SPS6 generator 150DSGAC 60kw	\$ 96,094	4/1/2014	SL-25	25	\$ 3,844	\$ 3,844	\$ 3,844	\$ 290	\$ 290	\$ 290	\$ 1,075	\$ 1,249	\$ 1,422				
100		Total	\$ 475,973				\$ 19,039	\$ 19,039	\$ 19,039	\$ 290	\$ 290	\$ 290	\$ 1,075	\$ 1,249	\$ 1,422				
101	103955	Office Furn & Equip																	
102		Laptop-HIKUK04	\$ 1,509	5/1/2015	MACRS 5	5	\$ 290	\$ 174	\$ 174	\$ 290	\$ 174	\$ 174	\$ 1,075	\$ 1,249	\$ 1,422				
103		Total	\$ 1,509				\$ 290	\$ 174	\$ 174	\$ 290	\$ 174	\$ 174	\$ 1,075	\$ 1,249	\$ 1,422				
104	103965	Transportation Equipment																	
105		Kawasaki ATV	\$ 12,303	6/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 12,303	\$ 12,303	\$ 12,303	\$ 12,303	\$ 12,303	\$ 12,303				
106		4x4 UTV	\$ 13,033	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 12,436	\$ 12,436	\$ 12,436	\$ 2,768	\$ 2,768	\$ 2,768				
107		Sm UTV/Kukio	\$ 12,436	7/1/2012	MACRS 5	5	\$ 716	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				
108		Work Order Addition	\$ 2,768	7/1/2012	MACRS 5	5	\$ 159	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				
109		Electric Golf Cart (WO 112047)	\$ 14,544	7/1/2018	MACRS 5	5	\$ -	\$ 2,909	\$ 4,654	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				
110		Total	\$ 55,084				\$ 876	\$ 2,909	\$ 4,654	\$ 40,540	\$ 43,449	\$ 48,103	\$ 40,540	\$ 43,449	\$ 48,103				
111	103930	Tools, Shop, Garage Equipment																	
112		Portable Sludge Pump 3/4hp	\$ 1,075	3/1/2014	MACRS 7	7	\$ 134	\$ 96	\$ 96	\$ 739	\$ 835	\$ 931	\$ 739	\$ 835	\$ 931				
113		Toolbox for Trailer 24x18	\$ 470	9/1/2016	MACRS 7	7	\$ 115	\$ 82	\$ 59	\$ 182	\$ 264	\$ 323	\$ 182	\$ 264	\$ 323				
114		Oil Containment (WO 102605)	\$ 5,203	7/1/2018	MACRS 7	7	\$ -	\$ 743	\$ 1,274	\$ -	\$ 743	\$ 1,274	\$ -	\$ 743	\$ 1,274				
115		Total	\$ 6,747				\$ 249	\$ 922	\$ 1,429	\$ 921	\$ 1,843	\$ 2,272	\$ 921	\$ 1,843	\$ 2,272				
116	103975	Stores Equipment																	
117		20' Modified Storage Container	\$ 6,675	5/1/2014	SL-25	25	\$ 267	\$ 267	\$ 267	\$ 1,068	\$ 1,335	\$ 1,602	\$ 1,068	\$ 1,335	\$ 1,602				
118		Storage Cabinets (WO 106195)	\$ 7,660	7/1/2018	SL-25	25	\$ -	\$ 306	\$ 306	\$ -	\$ 306	\$ 613	\$ -	\$ 306	\$ 613				
119		Total	\$ 14,334				\$ 267	\$ 573	\$ 573	\$ 1,068	\$ 1,641	\$ 2,215	\$ 1,068	\$ 1,641	\$ 2,215				

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - State (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation					
							2017	2018	2019	2017	2018	2019			
120	103970	General Plant													
121		Spill Contain.	\$ 1,576	4/1/2012	MACRS 7	7	\$ 141	\$ 141	\$ 141	\$ 1,365	\$ 1,505	\$ 1,576			
122		AC Colls	\$ 10,514	12/1/2011	MACRS 7	7	\$ 939	\$ 469	\$ -	\$ 10,045	\$ 10,514	\$ 10,514			
123		Hazmat Cab.	\$ 1,741	4/1/2012	MACRS 7	7	\$ 155	\$ 155	\$ 78	\$ 1,508	\$ 1,663	\$ 1,741			
124		Work Order Addition	\$ 4,991	12/1/2011	MACRS 7	7	\$ 410	\$ 205	\$ -	\$ 4,386	\$ 4,591	\$ 4,591			
125		Gas Detector	\$ 2,671	12/1/2011	MACRS 7	7	\$ 239	\$ 119	\$ -	\$ 2,552	\$ 2,671	\$ 2,671			
126		Total	\$ 21,093				\$ 1,883	\$ 1,089	\$ 148	\$ 19,856	\$ 20,945	\$ 21,093			

CONTRIBUTIONS IN AID OF CONSTRUCTION
 103540 Structures & Improvement - Transmission & Distribution Plant

127		CIAC Phase 1A	\$ (2,733,368)	1/1/2003	SL-25	25	\$ (109,335)	\$ (109,335)	\$ (109,335)	\$ (1,640,021)	\$ (1,749,355)	\$ (1,858,690)			
128		Total	\$ (2,733,368)				\$ (109,335)	\$ (109,335)	\$ (109,335)	\$ (1,640,021)	\$ (1,749,355)	\$ (1,858,690)			

103610 Collection Sewers Gravity
 CIAC - Collection Sewer lines
 CIAC Additional Phase 3 Increment
 CIAC Phase 3 Increment 1
 CIAC Phase 3 Increment 2

131		CIAC - Collection Sewer lines	\$ (3,375,475)	1/1/2005	SL-25	25	\$ (135,019)	\$ (135,019)	\$ (135,019)	\$ (1,755,247)	\$ (1,890,266)	\$ (2,025,285)			
132		CIAC Additional Phase 3 Increment	\$ (379,940)	1/1/2007	SL-25	25	\$ (15,198)	\$ (15,198)	\$ (15,198)	\$ (167,174)	\$ (182,371)	\$ (197,569)			
133		CIAC Phase 3 Increment 1	\$ (67,367)	1/1/2007	SL-25	25	\$ (2,695)	\$ (2,695)	\$ (2,695)	\$ (29,641)	\$ (32,336)	\$ (35,031)			
134		CIAC Phase 3 Increment 2	\$ (515,026)	1/1/2007	SL-25	25	\$ (20,601)	\$ (20,601)	\$ (20,601)	\$ (226,611)	\$ (247,212)	\$ (267,813)			
135		Total	\$ (4,337,808)				\$ (173,512)	\$ (173,512)	\$ (173,512)	\$ (2,178,674)	\$ (2,352,186)	\$ (2,525,698)			

HAWAII GENERAL OFFICE

137		790 Leasehold Improvements	\$ 16,190	5/1/2015	MACRS 7	7	\$ 2,832	\$ 2,022	\$ 1,446	\$ 9,110	\$ 11,133	\$ 12,578			
138		desks, conf table, chairs	\$ 2,938	3/1/2010	MACRS 7	7	\$ 131	\$ -	\$ -	\$ 2,938	\$ 2,938	\$ 2,938			
139		2 Cubical Work Stations	\$ 5,424	12/1/2010	MACRS 7	7	\$ 242	\$ -	\$ -	\$ 5,424	\$ 5,424	\$ 5,424			
140		Cherry Desk	\$ 821	12/1/2010	MACRS 7	7	\$ 37	\$ -	\$ -	\$ 821	\$ 821	\$ 821			
141		Cherry Drawer	\$ 68	12/1/2010	MACRS 7	7	\$ 3	\$ -	\$ -	\$ 68	\$ 68	\$ 68			
142		Cherry Credenza	\$ 489	12/1/2010	MACRS 7	7	\$ 22	\$ -	\$ -	\$ 489	\$ 489	\$ 489			
143		Cherry Corner Unit	\$ 388	12/1/2010	MACRS 7	7	\$ 17	\$ -	\$ -	\$ 388	\$ 388	\$ 388			
144		Regency Library	\$ 272	12/1/2010	MACRS 7	7	\$ 12	\$ -	\$ -	\$ 272	\$ 272	\$ 272			
145		Chairs	\$ 1,955	12/1/2010	MACRS 7	7	\$ 87	\$ -	\$ -	\$ 1,955	\$ 1,955	\$ 1,955			
146		Cherry Desk Shell 66"	\$ 412	12/1/2010	MACRS 7	7	\$ 18	\$ -	\$ -	\$ 412	\$ 412	\$ 412			
147		24" x 71" Credenza Shells	\$ 761	12/1/2010	MACRS 7	7	\$ 34	\$ -	\$ -	\$ 761	\$ 761	\$ 761			
148		Cherry Keyboard Drawer	\$ 68	12/1/2010	MACRS 7	7	\$ 3	\$ -	\$ -	\$ 68	\$ 68	\$ 68			
149		Executive Chair	\$ 449	12/1/2010	MACRS 7	7	\$ 17	\$ -	\$ -	\$ 449	\$ 449	\$ 449			
150		Desk Pedestal F/F	\$ 295	12/1/2010	MACRS 7	7	\$ 13	\$ -	\$ -	\$ 295	\$ 295	\$ 295			
151		Cherry Shelf Unit	\$ 468	12/1/2010	MACRS 7	7	\$ 21	\$ -	\$ -	\$ 468	\$ 468	\$ 468			
152		Cherry Storage Hutch	\$ 320	12/1/2010	MACRS 7	7	\$ 14	\$ -	\$ -	\$ 320	\$ 320	\$ 320			
153		Cherry Credenza 66"	\$ 681	12/1/2010	MACRS 7	7	\$ 30	\$ -	\$ -	\$ 681	\$ 681	\$ 681			
154		Regency Desk	\$ 948	12/1/2010	MACRS 7	7	\$ 42	\$ -	\$ -	\$ 948	\$ 948	\$ 948			
155		2 Drawer Lateral File	\$ 2,754	12/1/2010	MACRS 7	7	\$ 123	\$ -	\$ -	\$ 2,754	\$ 2,754	\$ 2,754			
156		3, 42" 4 Drawer Lateral File Cabinets	\$ 492	12/1/2010	MACRS 7	7	\$ 22	\$ -	\$ -	\$ 492	\$ 492	\$ 492			
157		Cherry Desk Pedestal B/B/F	\$ 545	12/1/2010	MACRS 7	7	\$ 24	\$ -	\$ -	\$ 545	\$ 545	\$ 545			
158		Regency Lateral File	\$ 2,291	12/1/2011	MACRS 7	7	\$ 205	\$ 102	\$ -	\$ 2,189	\$ 2,291	\$ 2,291			
159		Fireproof safe for Customer Service office.	\$ 2,923	5/1/2015	MACRS 5	5	\$ 561	\$ 337	\$ -	\$ 2,081	\$ 2,418	\$ 2,754			
160		Ricoh Aficio MP C3001													

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - State (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
162		790 Office Furniture	\$ 606	5/1/2015	MACRS 7	7	\$ 106	\$ 76	\$ 54	\$ 341	\$ 416	\$ 470
163		Automated Electronic Defibrillators	\$ 6,875	12/1/2010	MACRS 5	5	-	-	-	\$ 6,875	\$ 6,875	\$ 6,875
164		License for Capture Now	\$ 227	12/1/2010	MACRS 3	3	-	-	-	\$ 227	\$ 227	\$ 227
165		Fujitsu F16140 scanner	\$ 1,599	12/1/2010	MACRS 5	5	-	-	-	\$ 1,599	\$ 1,599	\$ 1,599
166		Ricoh MP 4001SP Copier w/Finisher	\$ 10,259	12/1/2010	MACRS 5	5	-	-	-	\$ 10,259	\$ 10,259	\$ 10,259
167		Monitors	\$ 1,159	12/1/2010	MACRS 5	5	-	-	-	\$ 1,159	\$ 1,159	\$ 1,159
168		Mitel EP Dig 6 Line Model 8560 Telephone	\$ 7,778	12/1/2010	MACRS 5	5	-	-	-	\$ 7,778	\$ 7,778	\$ 7,778
169		ELECTRONICS [881]	\$ 714	12/1/2011	MACRS 5	5	-	-	-	\$ 714	\$ 714	\$ 714
170		8-way video conferencing system	\$ 35,698	12/1/2011	MACRS 5	5	-	-	-	\$ 35,698	\$ 35,698	\$ 35,698
171		Hewlett Packard laser printer	\$ 1,066	12/1/2011	MACRS 5	5	-	-	-	\$ 1,066	\$ 1,066	\$ 1,066
172		Desktop-HIWKLCSS40	\$ 774	12/1/2014	MACRS 5	5	\$ 89	\$ 89	\$ 45	\$ 640	\$ 730	\$ 774
173		Desktop-HIWKLCSS39	\$ 774	12/1/2014	MACRS 5	5	\$ 89	\$ 89	\$ 45	\$ 640	\$ 730	\$ 774
174		Desktop-HIWKLCSS37	\$ 774	12/1/2014	MACRS 5	5	\$ 89	\$ 89	\$ 45	\$ 640	\$ 730	\$ 774
175		Desktop-HIWKLCSS38	\$ 774	12/1/2014	MACRS 5	5	\$ 89	\$ 89	\$ 45	\$ 640	\$ 730	\$ 774
176		Desktop-HIWKLCSS36	\$ 774	12/1/2014	MACRS 5	5	\$ 89	\$ 89	\$ 45	\$ 640	\$ 730	\$ 774
177		Desktop-HIWKLCSS41	\$ 774	12/1/2014	MACRS 5	5	\$ 89	\$ 89	\$ 45	\$ 640	\$ 730	\$ 774
178		790 Server & Server room upgrade	\$ 16,944	5/1/2015	MACRS 5	5	\$ 3,253	\$ 1,952	\$ 1,952	\$ 12,064	\$ 14,016	\$ 15,968
179		Hawaii Business Unit Software	\$ 127,067	12/1/2010	MACRS 3	3	-	-	-	\$ 127,067	\$ 127,067	\$ 127,067
180		RMS Software	\$ 88,732	3/1/2014	MACRS 3	3	\$ 6,575	-	-	\$ 88,732	\$ 88,732	\$ 88,732
181		phone system with 8 phones	\$ 23,864	3/1/2010	MACRS 5	5	-	-	-	\$ 23,864	\$ 23,864	\$ 23,864
182		Miscellaneous Kitchen Equipment	\$ 941	12/1/2010	MACRS 5	5	-	-	-	\$ 941	\$ 941	\$ 941
183		laptop for CS Mgr	\$ 1,436	4/1/2014	MACRS 5	5	\$ 165	\$ 165	\$ 83	\$ 1,188	\$ 1,353	\$ 1,436
184		Wastewater Manager Vehicle (WO 119213)	\$ 42,765	2/28/2019	MACRS 5	5	-	-	-	-	-	\$ 8,553
185		SCADA Upgrade 2018 (WO 118883)	\$ 74,959	1/31/2019	MACRS 5	5	-	-	-	-	-	\$ 14,992
186		Total	\$ 489,662				\$ 15,165	\$ 5,189	\$ 27,684	\$ 357,719	\$ 362,908	\$ 390,592
187		HAWAII GENERAL OFFICE ALLOCATIONS										
188		700 - Kaanapali	\$ 106,384	2017	2018	2019	\$ 3,295	\$ 1,125	\$ 5,999	\$ 77,718	\$ 78,644	\$ 84,643
189		701 - Pukalani	\$ 33,647	6.87%	7.81%	7.81%	\$ 1,042	\$ 405	\$ 2,161	\$ 24,581	\$ 28,330	\$ 30,491
190		721 - Waikoloa Water	\$ 62,831	12.83%	13.25%	13.25%	\$ 1,946	\$ 687	\$ 3,667	\$ 45,900	\$ 48,078	\$ 51,745
191		722 - Waikoloa Sewer	\$ 49,054	10.02%	10.34%	10.34%	\$ 1,519	\$ 537	\$ 2,863	\$ 35,836	\$ 37,526	\$ 40,389
192		723 - Waikoloa Resort Water	\$ 64,991	13.27%	13.13%	13.13%	\$ 2,013	\$ 681	\$ 3,635	\$ 47,479	\$ 47,655	\$ 51,290
193		724 - Waikoloa Resort Sewer	\$ 89,003	18.18%	16.60%	16.60%	\$ 2,757	\$ 861	\$ 4,595	\$ 65,020	\$ 60,230	\$ 64,825
194		725 - Waikoloa Resort Irrigation	\$ 3,656	0.75%	0.71%	0.71%	\$ 113	\$ 37	\$ 198	\$ 2,671	\$ 2,594	\$ 2,792
195		726 - Kona Water	\$ 51,692	10.36%	10.63%	10.63%	\$ 1,601	\$ 551	\$ 2,942	\$ 37,763	\$ 38,568	\$ 41,510
196		727 - Kona Sewer	\$ 28,404	5.80%	5.86%	5.86%	\$ 880	\$ 304	\$ 1,624	\$ 20,751	\$ 21,284	\$ 22,907
197		BIG ISLAND										
198		(2)Replacement Op Computer Stations	\$ 1,988	12/1/2013	MACRS 5	5	\$ 230	\$ 115	\$ -	\$ 1,883	\$ 1,998	\$ 1,998
199		Mobile office trailer	\$ 22,912	12/1/2011	MACRS 5	5	-	-	-	\$ 22,912	\$ 22,912	\$ 22,912
200		1996 Eagle Forklift	\$ 21,956	12/1/2010	MACRS 5	5	-	-	-	\$ 21,956	\$ 21,956	\$ 21,956
201		20' Container Shelving-Baseyard	\$ 894	6/1/2015	SL-25	25	\$ 36	\$ 36	\$ 36	\$ 107	\$ 143	\$ 179
202		20' Container Shelving-EMT	\$ 437	6/1/2015	SL-25	25	\$ 17	\$ 17	\$ 17	\$ 52	\$ 70	\$ 87
203		20' Container-Baseyard	\$ 9,958	6/1/2015	SL-25	25	\$ 398	\$ 398	\$ 398	\$ 1,195	\$ 1,593	\$ 1,992
204		20' Container-EMT	\$ 5,100	6/1/2015	SL-25	25	\$ 204	\$ 204	\$ 204	\$ 612	\$ 816	\$ 1,020
205		Storage Contr	\$ 3,060	12/1/2010	SL-25	25	\$ 122	\$ 122	\$ 122	\$ 979	\$ 1,102	\$ 1,224
206		Nissan Frontier	\$ 25,949	12/1/2010	MACRS 5	5	-	-	-	\$ 25,949	\$ 25,949	\$ 25,949
207		Nissan Titan	\$ 34,252	12/1/2010	MACRS 5	5	-	-	-	\$ 34,252	\$ 34,252	\$ 34,252

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - State (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
208	FORD XCAB		\$ 25,825	6/1/2012	MACRS 5	5	\$ 1,487	\$ -	\$ -	\$ 25,825	\$ 25,825	\$ 25,825
209	FORD XCAB		\$ 25,339	6/1/2012	MACRS 5	5	\$ 1,460	\$ -	\$ -	\$ 25,339	\$ 25,339	\$ 25,339
210	Ford F-150		\$ 29,280	9/1/2012	MACRS 5	5	\$ 1,687	\$ -	\$ -	\$ 29,280	\$ 29,280	\$ 29,280
211	Ford F-150		\$ 29,280	9/1/2012	MACRS 5	5	\$ 1,687	\$ -	\$ -	\$ 29,280	\$ 29,280	\$ 29,280
212	Ford F-150		\$ 29,280	9/1/2012	MACRS 5	5	\$ 1,687	\$ -	\$ -	\$ 29,280	\$ 29,280	\$ 29,280
213	FRONTIER		\$ 24,336	6/1/2012	MACRS 5	5	\$ 1,402	\$ -	\$ -	\$ 24,336	\$ 24,336	\$ 24,336
214	Ford Explorer		\$ 35,997	9/1/2012	MACRS 5	5	\$ 2,073	\$ -	\$ -	\$ 35,997	\$ 35,997	\$ 35,997
215	2014 Nissan Frontier. V214001		\$ 33,717	4/1/2014	MACRS 5	5	\$ 3,884	\$ 3,884	\$ 1,942	\$ 27,891	\$ 31,775	\$ 33,717
216	3 Ipad for Hawaii Island		\$ 2,441	9/1/2013	MACRS 5	5	\$ 281	\$ 141	\$ -	\$ 2,300	\$ 2,441	\$ 2,441
217	Desk w Drawer		\$ 921	9/1/2012	MACRS 7	7	\$ 82	\$ 82	\$ 41	\$ 797	\$ 880	\$ 921
218	69"x43"x 18"		\$ 1,259	9/1/2012	MACRS 7	7	\$ 112	\$ 112	\$ 56	\$ 1,090	\$ 1,202	\$ 1,259
219	Diesel tank		\$ 696	12/1/2011	MACRS 7	7	\$ 62	\$ 31	\$ -	\$ 665	\$ 696	\$ 696
220	GIS Software		\$ 7,316	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 7,316	\$ 7,316	\$ 7,316
221	Backflow Test Kit-Midwest 835		\$ 1,154	8/1/2015	MACRS 5	5	\$ 222	\$ 133	\$ 133	\$ 821	\$ 954	\$ 1,087
222	Big Island SCADA 2012		\$ 475,506	10/1/2014	MACRS 5	5	\$ 54,778	\$ 54,778	\$ 27,389	\$ 393,338	\$ 448,117	\$ 475,506
223	Book Case		\$ 286	9/1/2012	MACRS 7	7	\$ 25	\$ 26	\$ 13	\$ 247	\$ 273	\$ 286
224	Motorola Hardware		\$ 4,225	6/1/2012	MACRS 5	5	\$ 243	\$ -	\$ -	\$ 4,225	\$ 4,225	\$ 4,225
225	Work Order Addition		\$ 2,059	6/1/2012	MACRS 5	5	\$ 119	\$ -	\$ -	\$ 2,059	\$ 2,059	\$ 2,059
226	Misc. Wiring & Cables		\$ 522	6/1/2012	MACRS 5	5	\$ 30	\$ -	\$ -	\$ 522	\$ 522	\$ 522
227	Work Order Addition		\$ 717	6/1/2012	MACRS 5	5	\$ 41	\$ -	\$ -	\$ 717	\$ 717	\$ 717
228	1 desktops		\$ 1,088	4/1/2013	MACRS 5	5	\$ 125	\$ 63	\$ -	\$ 1,025	\$ 1,088	\$ 1,088
229	1 desktops		\$ 1,088	4/1/2013	MACRS 5	5	\$ 125	\$ 63	\$ -	\$ 1,025	\$ 1,088	\$ 1,088
230	Desktop-HIWKLOC56		\$ 1,509	12/1/2014	MACRS 5	5	\$ 174	\$ 174	\$ 87	\$ 1,249	\$ 1,422	\$ 1,509
231	Desktop-HIWKLOC57		\$ 1,549	12/1/2014	MACRS 5	5	\$ 178	\$ 178	\$ 89	\$ 1,281	\$ 1,459	\$ 1,549
232	dryer @ baseyard		\$ 483	4/1/2017	MACRS 5	5	\$ 97	\$ 154	\$ 93	\$ 97	\$ 251	\$ 344
233	Exec Chair		\$ 337	9/1/2012	MACRS 7	7	\$ 30	\$ 30	\$ 15	\$ 292	\$ 322	\$ 337
234	Work Order Addition		\$ 49	9/1/2013	MACRS 5	5	\$ 6	\$ 3	\$ -	\$ 46	\$ 49	\$ 49
235	Work Order Addition		\$ 175	9/1/2012	MACRS 5	5	\$ 10	\$ -	\$ -	\$ 175	\$ 175	\$ 175
236	Work Order Addition		\$ 13,260	6/1/2012	MACRS 5	5	\$ 764	\$ -	\$ -	\$ 13,260	\$ 13,260	\$ 13,260
237	EMT Laptop		\$ 4,328	3/1/2014	MACRS 5	5	\$ 499	\$ 499	\$ 249	\$ 3,580	\$ 4,079	\$ 4,328
238	Hand Helds		\$ 18,382	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 18,382	\$ 18,382	\$ 18,382
239	Desk Dock		\$ 2,681	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 2,681	\$ 2,681	\$ 2,681
240	Personnel Lift		\$ 5,610	6/1/2012	MACRS 5	5	\$ 323	\$ -	\$ -	\$ 5,610	\$ 5,610	\$ 5,610
241	Software		\$ 2,875	9/1/2012	MACRS 5	5	\$ 166	\$ -	\$ -	\$ 2,875	\$ 2,875	\$ 2,875
242	Hardware		\$ 8,471	9/1/2012	MACRS 5	5	\$ 488	\$ -	\$ -	\$ 8,471	\$ 8,471	\$ 8,471
243	Gradall lifting hook attachment		\$ 2,330	12/1/2014	MACRS 5	5	\$ 268	\$ 268	\$ 134	\$ 1,927	\$ 2,196	\$ 2,330
244	Forklift		\$ 26,520	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 26,520	\$ 26,520	\$ 26,520
245	HON chair		\$ 611	2/1/2014	MACRS 7	7	\$ 76	\$ 55	\$ 54	\$ 420	\$ 475	\$ 529
246	Hydro Jetter		\$ 5,703	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 5,703	\$ 5,703	\$ 5,703
247	Ice Maker-Manitowac ID-0452A		\$ 4,354	9/1/2016	MACRS 5	5	\$ 1,393	\$ 836	\$ 502	\$ 2,264	\$ 3,100	\$ 3,602
248	Ingersoll Needle/Chisel Scl		\$ 742	9/1/2013	MACRS 5	5	\$ 85	\$ 43	\$ -	\$ 699	\$ 742	\$ 742
249	Internal labor		\$ 20,546	7/1/2013	MACRS 5	5	\$ 2,367	\$ 1,183	\$ -	\$ 19,362	\$ 20,546	\$ 20,546
250	Knoll task chair		\$ 13,254	2/1/2014	MACRS 7	7	\$ 1,855	\$ 1,184	\$ 1,182	\$ 9,113	\$ 10,297	\$ 11,479
251	1 laptops		\$ 1,119	4/1/2013	MACRS 5	5	\$ 129	\$ 64	\$ -	\$ 1,054	\$ 1,119	\$ 1,119
252	1 laptops		\$ 1,119	4/1/2013	MACRS 5	5	\$ 129	\$ 64	\$ -	\$ 1,054	\$ 1,119	\$ 1,119
253	Laptop, EMT-HIWKOCLT02		\$ 1,566	11/1/2016	MACRS 5	5	\$ 501	\$ 301	\$ 180	\$ 814	\$ 1,115	\$ 1,295
254	Lateral File		\$ 504	9/1/2012	MACRS 5	5	\$ 29	\$ -	\$ -	\$ 504	\$ 504	\$ 504
255	Work Order Addition		\$ 1,389	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 1,389	\$ 1,389	\$ 1,389
256	Work Order Addition		\$ 4,388	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 4,388	\$ 4,388	\$ 4,388
257	Work Order Addition		\$ 16,079	6/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 16,079	\$ 16,079	\$ 16,079
258	New IP phone system		\$ 18,915	6/1/2013	MACRS 5	5	\$ 2,179	\$ 1,090	\$ -	\$ 17,826	\$ 18,915	\$ 18,915

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - State (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
259		New Hydraulic Hammer	\$ 9,453	12/1/2013	MACRS 5	5	\$ 1,089	\$ 544	\$ -	\$ 8,908	\$ 9,453	\$ 9,453
260		Office Furnishings	\$ 6,438	2/1/2014	MACRS 7	7	\$ 804	\$ 575	\$ 574	\$ 4,427	\$ 5,001	\$ 5,576
261		Office furniture & equip	\$ 3,969	9/1/2012	MACRS 7	7	\$ 354	\$ 354	\$ 177	\$ 3,437	\$ 3,792	\$ 3,969
262		Work Order Addition	\$ 45	9/1/2012	MACRS 5	5	\$ 3	\$ -	\$ -	\$ 45	\$ 45	\$ 45
263		Work Order Addition	\$ 87	9/1/2012	MACRS 5	5	\$ 5	\$ -	\$ -	\$ 87	\$ 87	\$ 87
264		Portable generator 3500w, EMT's	\$ 497	12/1/2016	MACRS 5	5	\$ 159	\$ 95	\$ 57	\$ 259	\$ 354	\$ 411
265		Power Quality Analyzer	\$ 8,080	3/1/2015	MACRS 5	5	\$ 1,551	\$ 931	\$ 931	\$ 5,753	\$ 6,684	\$ 7,614
266		Printer Cart	\$ 72	9/1/2012	MACRS 5	5	\$ 4	\$ -	\$ -	\$ 72	\$ 72	\$ 72
267		Projector-Dell 1610HD	\$ 601	12/1/2016	MACRS 5	5	\$ 192	\$ 115	\$ 69	\$ 313	\$ 428	\$ 497
268		Electrical Upgrade	\$ 8,419	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 8,419	\$ 8,419	\$ 8,419
269		Respirator supplied air system	\$ 4,069	12/1/2016	MACRS 5	5	\$ 1,302	\$ 781	\$ 469	\$ 2,116	\$ 2,897	\$ 3,366
270		Richo Copier	\$ 10,164	11/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 10,164	\$ 10,164	\$ 10,164
271		Richo Fax Module	\$ 1,003	11/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 1,003	\$ 1,003	\$ 1,003
272		RICOH MPC3004-Engineering office	\$ 7,951	12/1/2016	MACRS 5	5	\$ 2,544	\$ 1,527	\$ 916	\$ 4,134	\$ 5,661	\$ 6,577
273		Rpic computer w/laptop for Eng Mgr	\$ 1,419	10/1/2014	MACRS 5	5	\$ 163	\$ 163	\$ 82	\$ 1,174	\$ 1,337	\$ 1,419
274		SCADA INET-II 900 Dual Gateway	\$ 21,482	3/1/2016	MACRS 5	5	\$ 6,874	\$ 4,125	\$ 2,475	\$ 11,171	\$ 15,295	\$ 17,770
275		SCADA radio data link	\$ 51,073	9/30/2018	MACRS 5	5	\$ -	\$ -	\$ 16,343	\$ -	\$ 10,215	\$ 26,558
276		SCADA upgrade 2013	\$ 62,184	3/1/2016	MACRS 5	5	\$ 19,899	\$ 11,939	\$ 7,164	\$ 32,335	\$ 44,275	\$ 51,438
277		SCADAPack 32	\$ 10,117	3/1/2016	MACRS 5	5	\$ 3,237	\$ 1,942	\$ 1,165	\$ 5,261	\$ 7,203	\$ 8,369
278		Scaffolding	\$ 4,580	3/1/2016	MACRS 5	5	\$ 1,466	\$ 879	\$ 528	\$ 2,382	\$ 3,261	\$ 3,789
279		Work Order Addition	\$ 14	12/1/2011	MACRS 5	5	\$ -	\$ -	\$ -	\$ 14	\$ 14	\$ 14
280		Tools & Equipment	\$ 954	6/1/2013	MACRS 5	5	\$ 110	\$ 55	\$ -	\$ 899	\$ 954	\$ 954
281		Trailer, emergency compressor	\$ 409	3/1/2016	SL-25	25	\$ 16	\$ 16	\$ 16	\$ 33	\$ 49	\$ 65
282		Trailer, emergency generator EG6500	\$ 1,990	3/1/2016	SL-25	25	\$ 80	\$ 80	\$ 80	\$ 159	\$ 239	\$ 318
283		Trailer, emergency 6X12 w/ramp	\$ 7,488	3/1/2016	SL-25	25	\$ 300	\$ 300	\$ 300	\$ 599	\$ 899	\$ 1,198
284		Work Order Addition	\$ 56,441	9/1/2012	MACRS 5	5	\$ 3,251	\$ -	\$ -	\$ 56,441	\$ 56,441	\$ 56,441
285		V208214, Ford F-150	\$ 6,545	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 6,545	\$ 6,545	\$ 6,545
286		V208216, Chevy Silverad	\$ 8,656	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 8,656	\$ 8,656	\$ 8,656
287		V208217, Chevy 3500	\$ 27,973	12/1/2010	MACRS 5	5	\$ -	\$ -	\$ -	\$ 27,973	\$ 27,973	\$ 27,973
288		V208222, 08 TOY 4 RUNNER	\$ 30,978	12/1/2008	MACRS 5	5	\$ -	\$ -	\$ -	\$ 30,978	\$ 30,978	\$ 30,978
289		Visitor Chair	\$ 162	9/1/2012	MACRS 7	7	\$ 14	\$ 14	\$ 7	\$ 140	\$ 155	\$ 162
290		Air Compressor, portable	\$ 20,293	9/1/2017	SL-25	25	\$ 812	\$ 812	\$ 812	\$ 812	\$ 1,623	\$ 2,435
291		Septic Tank, Baseyard	\$ 14,452	9/1/2017	SL-25	25	\$ 578	\$ 578	\$ 578	\$ 578	\$ 1,156	\$ 1,734
292		Socket fusion kit, 20-63mm	\$ 636	12/1/2017	MACRS 5	5	\$ 127	\$ 203	\$ 122	\$ 127	\$ 330	\$ 452
293		Socket welding prep	\$ 1,524	12/1/2017	MACRS 5	5	\$ 305	\$ 488	\$ 293	\$ 305	\$ 792	\$ 1,085
294		SCADA Report Writer System	\$ 45,861	7/1/2018	SL-25	25	\$ -	\$ 1,834	\$ 1,834	\$ -	\$ 1,834	\$ 3,669
295		Fuel Station	\$ 138,431	12/31/2018	SL-25	25	\$ -	\$ 5,537	\$ 5,537	\$ -	\$ 5,537	\$ 11,074
296		Base Yard Security Cameras	\$ 9,613	11/30/2018	MACRS 5	5	\$ -	\$ 1,923	\$ 3,076	\$ -	\$ 1,923	\$ 4,999
297		Big Island Radio Communication	\$ 47,381	8/31/2018	MACRS 5	5	\$ -	\$ 9,476	\$ 15,162	\$ -	\$ 9,476	\$ 24,638
298		EMT Service Truck	\$ 50,131	7/1/2018	MACRS 5	5	\$ -	\$ 10,026	\$ 16,042	\$ -	\$ 10,026	\$ 26,068
299		Handheld Meter Readers	\$ 8,326	10/31/2017	MACRS 5	5	\$ 1,665	\$ 2,664	\$ 1,599	\$ 1,665	\$ 4,330	\$ 5,928
300		EMT Service Truck Tools	\$ 8,436	7/1/2018	MACRS 5	5	\$ -	\$ 1,687	\$ 2,689	\$ -	\$ 1,687	\$ 4,386
301		Portable Air Compressor	\$ 20,293	6/30/2017	MACRS 5	5	\$ 4,059	\$ 6,494	\$ 3,896	\$ 4,059	\$ 10,553	\$ 14,449
302		Iron Handheld Meter Readers	\$ 25,694	7/1/2018	MACRS 5	5	\$ -	\$ 5,139	\$ 8,222	\$ -	\$ 5,139	\$ 13,361
303		Engineering PM Vehicle	\$ 31,170	12/5/2018	MACRS 5	5	\$ -	\$ 6,234	\$ 9,974	\$ -	\$ 6,234	\$ 16,208
304		Jetting/Vacuum Truck/Pukalani	\$ 315,309	7/1/2013	MACRS 5	5	\$ -	\$ 36,324	\$ 364	\$ -	\$ 315,309	\$ 315,309
305		Jetting/Vacuum Truck/Pukalani	\$ 6,314	7/1/2018	MACRS 5	5	\$ -	\$ 18,162	\$ -	\$ -	\$ 18,162	\$ 6,314
306		2018 Toyota Tacoma TRD 4x4	\$ 38,143	7/1/2018	MACRS 5	5	\$ -	\$ 7,629	\$ -	\$ -	\$ 7,629	\$ 19,834
307		Boom Truck (WO 118340)	\$ 339,411	5/31/2019	MACRS 5	5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 67,882
308		Valve Exercise Trailer (WO 118326)	\$ 35,302	7/31/2019	MACRS 5	5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,060
309		SCADA Vulnerability Assessment (WO 117252)	\$ 40,132	9/30/2019	MACRS 5	5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,026

Kona Water Service Company, Inc. Wastewater Operations
 Accumulated Deferred Income Taxes - State (Detail)
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	Tax Cost	In Service Date	Tax Method	Tax Period	Annual Amortization			Accumulated Depreciation		
							2017	2018	2019	2017	2018	2019
310		Total	\$ 2,587,856				\$ 172,182	\$ 180,233	\$ 223,312	\$ 1,464,932	\$ 1,645,165	\$ 1,874,477
311		BIG ISLAND ALLOCATIONS										
312		721 - Waikoloa Water	\$ 474,455	2017 18.33%	2018 19.10%	2019 19.10%	\$ 31,568	\$ 34,423	\$ 43,797	\$ 268,579	\$ 314,217	\$ 358,014
313		722 - Waikoloa Sewer	\$ 360,105	2017 13.92%	2018 14.48%	2019 14.48%	\$ 23,959	\$ 26,105	\$ 33,213	\$ 203,848	\$ 238,285	\$ 271,498
314		723 - Waikoloa Resort Water	\$ 495,221	2017 19.14%	2018 19.25%	2019 19.25%	\$ 32,949	\$ 34,695	\$ 44,143	\$ 280,334	\$ 316,694	\$ 360,837
315		724 - Waikoloa Resort Sewer	\$ 657,334	2017 25.40%	2018 23.59%	2019 23.59%	\$ 43,735	\$ 42,517	\$ 54,094	\$ 372,103	\$ 388,092	\$ 442,186
316		725 - Waikoloa Resort Irrigation	\$ 26,345	2017 1.02%	2018 0.99%	2019 0.99%	\$ 1,753	\$ 1,786	\$ 2,272	\$ 14,913	\$ 16,299	\$ 18,571
317		726 - Kona Water	\$ 372,498	2017 14.39%	2018 14.64%	2019 14.64%	\$ 24,784	\$ 26,390	\$ 33,576	\$ 210,864	\$ 240,887	\$ 274,463
318		727 - Kona Sewer	\$ 201,898	2017 7.80%	2018 7.94%	2019 7.94%	\$ 13,433	\$ 14,318	\$ 18,216	\$ 114,290	\$ 130,690	\$ 148,907
319		WASTEWATER ADMINISTRATION										
320		IPad 3 - WW Mgr.	\$ 778	9/11/2013	MACRS 5	5	\$ 90	\$ 90	\$ 45	\$ 643	\$ 733	\$ 778
321		Total	\$ 778				\$ 90	\$ 90	\$ 45	\$ 643	\$ 733	\$ 778
322		WASTEWATER ADMINISTRATION ALLOCATIONS										
323		701 - Pukalani	\$ 134	2017 17.22%	2018 20.06%	2019 20.06%	\$ 15	\$ 18	\$ 9	\$ 111	\$ 147	\$ 156
324		722 - Waikoloa Sewer	\$ 191	2017 24.52%	2018 25.00%	2019 25.00%	\$ 22	\$ 22	\$ 11	\$ 158	\$ 183	\$ 194
325		724 - Waikoloa Resort Sewer	\$ 351	2017 45.16%	2018 41.63%	2019 41.63%	\$ 40	\$ 37	\$ 19	\$ 290	\$ 305	\$ 324
326		727 - Kona Sewer	\$ 102	2017 13.10%	2018 13.30%	2019 13.30%	\$ 12	\$ 12	\$ 6	\$ 84	\$ 97	\$ 103

Kona Water Service Company, Inc. Wastewater Operations
 Hawaii Capital Goods Excise Tax Credit
 Test Year Ending December 31, 2019

Line No.	Utility Account	Property Description	In Service Date	Federal Tax Cost	State Tax Cost	HCGETC	Amortization Period	Accumulated Amortization					Unamortized HCGETC						
								2017	2018	2019	2017	2018	2019	2017	2018	2019			
309		BIG ISLAND ALLOCATIONS																	
310		721 - Waikoloa Water	18.10%	\$ 514,880	\$ 484,266	\$ 20,594		\$ 3,790	\$ 2,118	\$ 2,213	\$ 2,266	\$ 11,117	\$ 13,187	\$ 14,617	\$ 2,077	\$ 4,106	\$ 5,977		
311		722 - Waikoloa Sewer	14.46%	\$ 374,824	\$ 374,824	\$ 15,618		\$ 2,874	\$ 1,608	\$ 1,679	\$ 1,719	\$ 8,437	\$ 10,000	\$ 11,085	\$ 1,576	\$ 3,114	\$ 4,533		
312		723 - Waikoloa Resort Water	19.45%	\$ 816,919	\$ 468,162	\$ 20,757		\$ 3,820	\$ 2,211	\$ 2,231	\$ 2,284	\$ 11,603	\$ 13,291	\$ 14,732	\$ 2,168	\$ 4,139	\$ 6,025		
313		724 - Waikoloa Resort Sewer	23.56%	\$ 635,807	\$ 610,471	\$ 25,436		\$ 4,681	\$ 2,935	\$ 2,734	\$ 2,799	\$ 15,401	\$ 16,287	\$ 18,053	\$ 2,877	\$ 5,072	\$ 7,393		
314		725 - Waikoloa Resort Irrigation	14.68%	\$ 26,707	\$ 25,639	\$ 1,068		\$ 197	\$ 118	\$ 115	\$ 118	\$ 617	\$ 684	\$ 758	\$ 115	\$ 213	\$ 310		
315		726 - Kona Water	14.64%	\$ 394,706	\$ 378,918	\$ 15,788		\$ 2,905	\$ 1,663	\$ 1,687	\$ 1,737	\$ 8,728	\$ 10,109	\$ 11,206	\$ 1,630	\$ 3,148	\$ 4,583		
316		727 - Kona Sewer	7.94%	\$ 214,143	\$ 203,577	\$ 8,566		\$ 1,376	\$ 801	\$ 921	\$ 943	\$ 4,731	\$ 5,485	\$ 6,080	\$ 884	\$ 1,709	\$ 2,488		
317		WASTEWATER ADMINISTRATION																	
318		IPad 3 - WW Mgr.	9/1/2013	\$ 810	\$ 778	\$ 32	5	\$ 6	\$ 6	\$ 6	\$ 6	\$ 26	\$ 32	\$ 32	\$ 6	\$ -	\$ -		
319		Total		\$ 810	\$ 778	\$ 32	32	\$ 6	\$ 6	\$ 6	\$ 6	\$ 26	\$ 32	\$ 32	\$ 6	\$ -	\$ -		
320		WASTEWATER ADMINISTRATION ALLOCATIONS																	
321		701 - Pukalani	20.06%	\$ 162	\$ 156	\$ 6	6	\$ 1	\$ 1	\$ 1	\$ 1	\$ 4	\$ 6	\$ 6	\$ 1	\$ -	\$ -		
322		722 - Waikoloa Sewer	25.00%	\$ 203	\$ 194	\$ 8	8	\$ 2	\$ 2	\$ 2	\$ 2	\$ 6	\$ 8	\$ 8	\$ 2	\$ -	\$ -		
323		724 - Waikoloa Resort Sewer	41.83%	\$ 337	\$ 324	\$ 13	13	\$ 3	\$ 3	\$ 3	\$ 3	\$ 12	\$ 13	\$ 13	\$ 3	\$ -	\$ -		
324		727 - Kona Sewer	13.30%	\$ 108	\$ 103	\$ 4	4	\$ 1	\$ 1	\$ 1	\$ 1	\$ 3	\$ 4	\$ 4	\$ 1	\$ -	\$ -		
325		TOTALS		\$ 9,617,064	\$ 9,232,382	\$ 384,683		\$ 17,375	\$ 14,595	\$ 15,619	\$ 16,069	\$ 179,702	\$ 195,058	\$ 210,755	\$ 162,537	\$ 176,034	\$ 175,807		

Docket No. 2018-0388
Exhibit KWSC Sewer 7.15
Witness: Stout
2/28/2019

Test Year Ending December 31, 2019

Line No.			
1	Labor Expenses	\$	485,810
2	Fuel & Power	\$	134,489
3	Chemicals	\$	3,694
4	Materials & Supplies	\$	8,966
5	Waste/Sludge Disposal		

Kona Water Service Company, Inc. Wastewater Operations
 Historical Summary
 Test Year Ending December 31, 2019

Line No.		Test Year					Test Year	Test Year
		2014	2015	2016	2017	2018	Present Rates Jan 1, 2018 to Dec. 31, 2019	Proposed Rates Jan 1, 2018 to Dec. 31, 2019
3	Revenues							
4	Residential							
5	Single-family							
6	Fixed revenues	\$ 110,948	\$ 336,226	\$ 959,539	\$ 1,040,973	\$ 1,084,012	\$ 1,163,694	\$ 1,306,998
7	Metered revenues	\$ 681,322	\$ 536,602	\$ 323,496	\$ 333,565	\$ 339,684	\$ 289,456	\$ 325,101
8	Power Cost Charge revenues	\$ -	\$ 35,709	\$ 93,311	\$ 102,908	\$ 105,144	\$ 89,257	\$ 89,257
9	subtotal	\$ 792,269	\$ 908,537	\$ 1,376,346	\$ 1,477,445	\$ 1,528,840	\$ 1,542,407	\$ 1,721,356
10	Non-Residential							
11	Business							
12	Fixed revenues	\$ 48,510	\$ 84,909	\$ (23,688)	\$ 40,485	\$ 40,485	\$ 90,384	\$ 101,514
13	Metered revenues	\$ 78,012	\$ 91,738	\$ 152,247	\$ 138,353	\$ 129,208	\$ 142,728	\$ 160,304
14	Power Cost Charge revenues	\$ -	\$ 11,553	\$ 43,991	\$ 42,297	\$ 39,890	\$ 44,012	\$ 44,012
15	subtotal	\$ 126,522	\$ 188,201	\$ 172,550	\$ 221,134	\$ 209,583	\$ 277,124	\$ 305,830
16	Other							
17	Miscellaneous Service	\$ 390	\$ 268	\$ 687	\$ 849	\$ 972	\$ -	\$ -
18	Other	\$ -	\$ -	\$ 430	\$ -	\$ -	\$ -	\$ -
19	Unbilled Revenue Adjustment	\$ 12,186	\$ 20,001	\$ (15,006)	\$ 7,078	\$ (13,073)	\$ -	\$ -
20	TOTAL REVENUES	\$ 931,367	\$ 1,117,007	\$ 1,535,007	\$ 1,706,506	\$ 1,726,322	\$ 1,819,530	\$ 2,027,186
21	Expenses							
22	Labor Expenses	\$ 159,571	\$ 245,012	\$ 411,674	\$ 399,972	\$ 360,050	\$ 485,810	\$ 485,810
23	Fuel & Power	\$ 162,139	\$ 126,893	\$ 128,448	\$ 134,409	\$ 136,492	\$ 134,489	\$ 134,489
24	Chemicals	\$ 2,439	\$ 11,824	\$ 10,189	\$ 90	\$ -	\$ 3,694	\$ 3,694
25	Materials & Supplies	\$ 11,951	\$ 12,161	\$ 14,113	\$ 6,699	\$ 4,485	\$ 8,966	\$ 8,966
26	Waste/Sludge Disposal	\$ 1,788	\$ 1,398	\$ 2,541	\$ 3,730	\$ 3,747	\$ 3,506	\$ 3,506
27	Affiliated Charges	\$ 60,675	\$ 66,750	\$ 65,281	\$ 59,241	\$ 65,415	\$ 55,684	\$ 55,684
28	Professional and Outside Services	\$ (20,549)	\$ 29,261	\$ 5,092	\$ 7,224	\$ 5,413	\$ 6,219	\$ 6,219
29	Repairs & Maintenance	\$ 313,306	\$ 231,829	\$ 40,943	\$ 65,082	\$ 32,371	\$ 108,633	\$ 108,633
30	Rental Expenses	\$ 4,909	\$ 3,308	\$ 4,360	\$ 5,025	\$ 3,617	\$ 13,312	\$ 13,312
31	Insurance Expenses	\$ 1,854	\$ 2,203	\$ 2,372	\$ 876	\$ 997	\$ 5,713	\$ 5,713
32	Regulatory Expenses	\$ -	\$ 27,098	\$ 23,238	\$ 18,547	\$ 10,172	\$ 52,500	\$ 52,500
33	General & Administrative Expenses	\$ 23,219	\$ 24,878	\$ 27,698	\$ 23,379	\$ 20,042	\$ 25,024	\$ 25,024
34	Miscellaneous & Other Expenses	\$ 2,064	\$ 3,820	\$ 10,446	\$ 7,074	\$ 9,780	\$ 9,588	\$ 9,588
35	Taxes Other than Income Taxes	\$ 62,320	\$ 75,782	\$ 109,766	\$ 121,852	\$ 121,852	\$ 116,177	\$ 129,436
36	Depreciation	\$ 209,224	\$ 214,370	\$ 213,624	\$ 207,028	\$ 207,028	\$ 553,793	\$ 553,793
37	Amortization	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
38	Income Taxes	\$ -	\$ -	\$ 151,303	\$ 209,638	\$ 131,517	\$ 33,868	\$ 84,521
39	TOTAL EXPENSES	\$ 994,910	\$ 1,076,588	\$ 1,221,088	\$ 1,269,866	\$ 1,112,976	\$ 1,616,975	\$ 1,680,886
40	NET INCOME/(LOSS)	\$ (63,543)	\$ 40,419	\$ 313,919	\$ 436,640	\$ 613,346	\$ 202,555	\$ 346,300

Kona Water Service Company, Inc. Wastewater Operations
 Revenue Summary
 Test Year Ending December 31, 2019

Line No.		2014	2015	2016	2017	2018	Test Year Present Rates Jan 1, 2018 to Dec. 31, 2019	Test Year Proposed Rates Jan 1, 2018 to Dec. 31, 2019
1								
2	Sewer							
3	Residential							
4	Single-family							
5	Fixed revenue	\$ 110,948	\$ 336,226	\$ 959,539	\$ 1,040,973	\$ 1,084,012	\$ 1,163,694	\$ 1,306,998
6	Metered Revenue	\$ 681,322	\$ 536,602	\$ 323,496	\$ 333,565	\$ 339,684	\$ 289,456	\$ 325,101
7	Power Cost Charge	\$ -	\$ 35,709	\$ 93,311	\$ 102,908	\$ 105,144	\$ 89,257	\$ 89,257
8	subtotal	<u>\$ 792,269</u>	<u>\$ 908,537</u>	<u>\$ 1,376,346</u>	<u>\$ 1,477,445</u>	<u>\$ 1,528,840</u>	<u>\$ 1,542,407</u>	<u>\$ 1,721,356</u>
9	Non-Residential							
10	Business							
11	Fixed revenue	\$ 48,510	\$ 84,909	\$ (23,688)	\$ 40,485	\$ 40,485	\$ 90,384	\$ 101,514
12	Metered Revenue	\$ 78,012	\$ 91,738	\$ 152,247	\$ 138,353	\$ 129,208	\$ 142,728	\$ 160,304
13	Power Cost Charge	\$ -	\$ 11,553	\$ 43,991	\$ 42,297	\$ 39,890	\$ 44,012	\$ 44,012
14	subtotal	<u>\$ 126,522</u>	<u>\$ 188,201</u>	<u>\$ 172,550</u>	<u>\$ 221,134</u>	<u>\$ 209,583</u>	<u>\$ 277,124</u>	<u>\$ 305,830</u>
15	Other Revenue							
16	Miscellaneous Service	\$ 390	\$ 268	\$ 687	\$ 849	\$ 972	\$ -	\$ -
17	Other	\$ -	\$ -	\$ 430	\$ -	\$ -	\$ -	\$ -
18	Unbilled Revenue Adjustment	\$ 12,186	\$ 20,001	\$ (15,006)	\$ 7,078	\$ (13,073)	\$ -	\$ -
19	TOTAL	<u>\$ 931,367</u>	<u>\$ 1,117,007</u>	<u>\$ 1,535,007</u>	<u>\$ 1,706,506</u>	<u>\$ 1,726,322</u>	<u>\$ 1,819,530</u>	<u>\$ 2,027,186</u>

Kona Water Service Company, Inc. Wastewater Operations
 Billed Sewer Flows and Customer Counts
 Test Year Ending December 31, 2019

Line No.	Customer Count / Volumetric measurements	2014	2015	2016	2017	2018	Test Year	
							Present Rates	Proposed Rates
2								
3	Residential							
4	Single Family							
5	No. of customers	183	187	197	204	206	206	206
6	subtotal	183	187	197	204	206	206	206
7	Billed Sewer Flows [TG]	171,127	107,174	12,921	12,987	14,992	13,633	13,633
8	subtotal	171,127	107,174	12,921	12,987	14,992	13,633	13,633
9	Non-Residential							
10	Business							
11	No. of customers	11	11	11	16	16	16	16
12	subtotal	11	11	11	16	16	16	16
13	Billed Sewer Flows [TG]	18,347	3,152	7,395	6,326	6,446	6,722	6,722
14	subtotal	18,347	3,152	7,395	6,326	6,446	6,722	6,722
15	Totals							
16	Residential Customers	183	187	197	204	206	206	206
17	Non-Residential Customers	11	11	11	16	16	16	16
18	Billed Sewer Flows [TG]	189,474	110,326	20,316	19,313	21,438	20,356	20,356

Kona Water Service Company, Inc. Wastewater Operations
Inflation Factors
Test Year Ending December 31, 2019

Inflation Year	Percentage	Notes
2014->2015	1.01%	
2015->2016	1.97%	
2016->2017	2.54%	
2017->2018	2.27% Forecast	(based on Department of Business, Economic Development and Tourism Forecast)
2018->2019	2.84% Forecast	(based on Department of Business, Economic Development and Tourism Forecast)

References:

2014 - 2017 data source:

[https://data.bls.gov/pdq/SurveyOutputServlet?data_tool=dropmap&series_id=CUURS49FSA0,CU
USS49FSA0](https://data.bls.gov/pdq/SurveyOutputServlet?data_tool=dropmap&series_id=CUURS49FSA0,CU
USS49FSA0)

2018 - 2019 data source: <http://dbedt.hawaii.gov/economic/qser/outlook-economy/>

Kona Water Service Company, Inc. Wastewater Operations
 Four Factor Allocations
 Test Year Ending December 31, 2019

Line No.		2012 - 2015	2016	2017	2018	2019
1	Allocations from Big Island (Dept 720)					
2	Waikoloa Water (721)	19.17%	19.11%	18.33%	19.10%	19.10%
3	Waikoloa Sewer (722)	15.14%	14.35%	13.92%	14.48%	14.48%
4	Waikoloa Resort Water (723)	20.81%	18.66%	19.14%	19.25%	19.25%
5	Waikoloa Resort Sewer (724)	21.51%	24.73%	25.40%	23.59%	23.59%
6	Waikoloa Resort Irrigation (725)	0.94%	0.93%	1.02%	0.99%	0.99%
7	Kona Water (726)	14.09%	12.59%	14.39%	14.64%	14.64%
8	Kona Sewer (727)	8.34%	9.62%	7.80%	7.94%	7.94%
		100.00%	100.00%	100.00%	100.00%	100.00%
9	Allocations from Hawaii General Office (790)					
10	Ka'anapali (700)	23.67%	21.51%	21.73%	21.67%	21.67%
11	Pukalani (701)	6.73%	6.69%	6.87%	7.81%	7.81%
12	Waikoloa Water (721)	13.06%	13.46%	12.83%	13.25%	13.25%
13	Waikoloa Sewer (722)	10.46%	10.37%	10.02%	10.34%	10.34%
14	Waikoloa Resort Water (723)	14.43%	13.03%	13.27%	13.13%	13.13%
15	Waikoloa Resort Sewer (724)	14.78%	17.74%	18.18%	16.60%	16.60%
16	Waikoloa Resort Irrigation (725)	0.68%	0.69%	0.75%	0.71%	0.71%
17	Kona Water (726)	10.15%	9.36%	10.56%	10.63%	10.63%
18	Kona Sewer (727)	6.04%	7.14%	5.80%	5.86%	5.86%
		100.00%	100.00%	100.00%	100.00%	100.00%
19	Allocations from Wastewater Administration (796)					
20	Pukalani (701)	17.58%	15.87%	17.22%	20.06%	20.06%
21	Waikoloa Sewer (722)	27.12%	24.68%	24.52%	25.00%	25.00%
22	Waikoloa Resort Sewer (724)	40.43%	42.90%	45.16%	41.63%	41.63%
23	Kona Sewer (727)	14.87%	16.56%	13.10%	13.30%	13.30%
		100.00%	100.00%	100.00%	100.00%	100.00%

Kona Water Service Company, Inc. Wastewater Operations
 Labor Expense
 Test Year Ending December 31, 2019

Line No.	2014	2015	2016	2017	2018	Test Year Jan 1, 2018 to Dec. 31, 2019
3 Expenses						
4 Payroll:						
5 Operating Labor	\$ 87,774	\$ 119,869	\$ 232,035	\$ 233,973	\$ 213,787	\$ 281,958
6 Total Payroll	\$ 87,774	\$ 119,869	\$ 232,035	\$ 233,973	\$ 213,787	\$ 281,958
7 Employee Benefits						
8 Health Care Benefits (Medical and Dental)	\$ 4,416	\$ 42,734	\$ 90,937	\$ 94,877	\$ 72,858	\$ 92,449
9 Workers Compensation	\$ 2,458	\$ 2,737	\$ 10,873	\$ 6,538	\$ 3,045	\$ 7,979
10 Pension	\$ 50,072	65,474	62,724	51,975	\$ 57,475	\$ 79,588
11 Total Employee Benefits	\$ 56,946	\$ 110,944	\$ 164,534	\$ 153,391	\$ 133,378	\$ 180,017
12 Payroll Taxes						
13 FICA	\$ 13,296	\$ 12,747	\$ 14,730	\$ 12,409	\$ 12,541	\$ 22,675
14 FUTA	\$ 109	\$ 105	\$ 125	\$ 95	\$ 171	\$ 180
15 SUTA	\$ 1,445	\$ 1,346	\$ 250	\$ 104	\$ 172	\$ 980
16 Total payroll taxes	\$ 14,850	\$ 14,198	\$ 15,105	\$ 12,608	\$ 12,885	\$ 23,835

Kona Water Service Company, Inc. Wastewater Operations
 Fuel & Power
 Test Year Ending December 31, 2019

Line No.		2014	2015	2016	2017	2018	Test Year Jan 1, 2018 to Dec. 31, 2019
3	Expenses [\$]						
4							
5	Kukio WWTP	\$ 130,954	\$ 99,429	\$ 99,680	\$ 104,403	\$ 104,796	\$ 113,273
6	Pump Station #1	\$ 2,399	\$ 2,316	\$ 1,625	\$ 2,028	\$ 2,150	\$ 1,196
7	Pump Station #2	\$ 1,231	\$ 1,006	\$ 831	\$ 868	\$ 933	\$ 180
8	Pump Station #3	\$ 7,923	\$ 5,594	\$ 5,423	\$ 6,544	\$ 7,021	\$ 5,241
9	Pump Station #4	\$ 11,918	\$ 10,069	\$ 10,360	\$ 9,250	\$ 9,836	\$ 7,843
10	Pump Station #5	\$ 2,525	\$ 3,393	\$ 3,167	\$ 3,398	\$ 3,659	\$ 2,537
11	Pump Station #6	\$ 1,953	\$ 1,796	\$ 1,892	\$ 2,011	\$ 2,101	\$ 1,229
12	Pump Station #7	\$ 3,236	\$ 3,289	\$ 5,470	\$ 5,906	\$ 5,996	\$ 1,769
13	subtotal	\$ 162,139	\$ 126,893	\$ 128,448	\$ 134,409	\$ 136,492	\$ 133,269
14	Fuel for Power Production	\$ -	\$ -	\$ 23	\$ 1,148	\$ 2,490	\$ 1,220
15	Total Expense	\$ 162,139	\$ 126,893	\$ 128,448	\$ 134,409	\$ 136,492	\$ 134,489
16	Units of consumption [kWh]						
17							
18	Kukio WWTP	353,300	334,500	376,600	367,400	349,200	364,400
19	Pump Station #1	4,153	4,734	3,366	4,030	4,149	3,848
20	Pump Station #2	1,373	975	514	554	672	580
21	Pump Station #3	17,191	14,091	15,090	17,523	17,965	16,859
22	Pump Station #4	26,669	24,426	25,994	25,675	24,028	25,232
23	Pump Station #5	4,555	7,863	7,934	8,123	8,428	8,162
24	Pump Station #6	3,093	3,264	3,885	3,973	3,999	3,952
25	Pump Station #7	6,024	4,514	5,318	6,049	5,703	5,690
26	subtotal	416,358	394,367	438,701	433,327	414,144	428,724
27	Unit Cost [\$ / kWh]	\$ 0.3894	\$ 0.3218	\$ 0.2928	\$ 0.3102	\$ 0.3296	\$ 0.3108

Kona Water Service Company, Inc. Wastewater Operations
Power Cost Charge
Test Year Ending December 31, 2019

Line No.			
1	Power Cost [\$]	\$	133,269
2	Billed Sewer Flows [TG]		20,356
3	Power Cost Charge [\$ / TG]	\$	6.1540
4	Adopted Revenue Tax Factor		6.385%
5	Power Cost Charge Revenue	\$	133,269

Kona Water Service Company, Inc. Wastewater Operations
 Chemicals
 Test Year Ending December 31, 2019

Line
 No.

1	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2018 to Dec. 31, 2019
2	Chemicals	2,439	11,824	10,189	90	0	\$ 3,426
3	subtotal	\$2,439	\$ 11,824	\$ 10,189	\$ 90	\$ -	\$ 3,426
4	In 2019 Dollars						
5	Chemicals	\$ 2,710	\$ 13,003	\$ 10,989	\$ 94	\$ -	\$ 3,694
6	Total	\$ 2,710	\$ 13,003	\$ 10,989	\$ 94	\$ -	\$ 3,694

Kona Water Service Company, Inc. Wastewater Operations
 Materials & Supplies
 Test Year Ending December 31, 2019

Line
 No.

1	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2018 to Dec. 31, 2019
2	Direct Charge to KWSC Sewer						
3	Treatment and Disposal	\$ 9,553	\$ 9,572	\$ 13,479	\$ 5,891	\$ 1,866	\$ 7,079
4	Water Treatment and Water Quality	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5	Transmission & Distribution	\$ 44	\$ 1,153	\$ -	\$ -	\$ -	\$ -
6	Collection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7	Pumping	\$ 2,355	\$ 1,435	\$ 633	\$ 808	\$ 2,619	\$ 1,354
8	subtotal	\$ 11,951	\$ 12,161	\$ 14,113	\$ 6,699	\$ 4,485	\$ 8,432
9	Allocated From Hawaii Water to KWSC Sewer						
10	Treatment and Disposal	\$ 13	\$ 56	\$ 14	\$ -	\$ -	\$ 5
11	Water Treatment and Water Quality	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12	Transmission & Distribution	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13	Collection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14	Pumping	\$ 10	\$ 3	\$ -	\$ 5	\$ -	\$ 2
15	subtotal	\$ 23	\$ 58	\$ 14	\$ 5	\$ -	\$ 6
16	Direct and Allocated Professional & Outside Services						
17	Treatment and Disposal	\$ 9,566	\$ 9,628	\$ 13,493	\$ 5,891	\$ 1,866	\$ 7,083
18	Water Treatment and Water Quality	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19	Transmission & Distribution	\$ 44	\$ 1,153	\$ -	\$ -	\$ -	\$ -
20	Collection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
21	Pumping	\$ 2,365	\$ 1,438	\$ 633	\$ 814	\$ 2,619	\$ 1,355
22	subtotal	\$ 11,975	\$ 12,219	\$ 14,126	\$ 6,704	\$ 4,485	\$ 8,438
23	In 2019 Dollars						
24	Treatment and Disposal	\$ 10,626	\$ 10,587	\$ 14,552	\$ 6,196	\$ 1,919	\$ 7,555
25	Water Treatment and Water Quality	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
26	Transmission & Distribution	\$ 49	\$ 1,268	\$ -	\$ -	\$ -	\$ -
27	Collection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
28	Pumping	\$ 2,627	\$ 1,581	\$ 683	\$ 856	\$ 2,693	\$ 1,411
29	Total	\$ 13,302	\$ 13,437	\$ 15,235	\$ 7,051	\$ 4,612	\$ 8,966

Kona Water Service Company, Inc. Wastewater Operations
 Waste/Sludge Disposal
 Test Year Ending December 31, 2019

Line
 No.

Test Year
 Jan 1, 2018 to
 Dec. 31, 2019

1	Description	2014	2015	2016	2017	2018	
2	Sludge Removal	\$ 1,788	\$ 1,398	\$ 2,541	\$ 3,730	\$ 3,747	\$ 3,339
3	subtotal	\$ 1,788	\$ 1,398	\$ 2,541	\$ 3,730	\$ 3,747	\$ 3,339
4	In 2019 Dollars						
5	Sludge Removal	\$ 1,987	\$ 1,538	\$ 2,741	\$ 3,923	\$ 3,853	\$ 3,506
6	Total	\$ 1,987	\$ 1,538	\$ 2,741	\$ 3,923	\$ 3,853	\$ 3,506

Kona Water Service Company, Inc. Wastewater Operations
 Affiliated Charges
 Test Year Ending December 31, 2019

Line No.	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2018 to Dec. 31, 2019
2	PubCo	\$ 60,675	\$ 66,750	\$ 65,281	\$ 59,241	\$ 65,415	\$ 55,684
3	Total	<u>\$60,675</u>	<u>\$66,750</u>	<u>\$65,281</u>	<u>\$59,241</u>	<u>\$65,415</u>	<u>\$ 55,684</u>
4	Allocated to Hawaii Water Service Co						
5	PubCo	\$ 1,004,551	\$ 1,105,133	\$ 913,790	\$ 1,021,249	\$ 1,115,378	\$ 1,016,806
6	PubCo Allocation	\$ 60,675	\$ 66,750	\$ 65,281	\$ 59,241	\$ 65,415	\$ 59,634
7	Adjustment for Account 791000	\$ (3,440)	\$ (5,707)	\$ (4,734)	\$ (3,381)	\$ (3,734)	\$ (3,950)
8	Allocation	\$ 57,235	\$ 61,043	\$ 60,547	\$ 55,859	\$ 61,681	\$ 55,684

Kona Water Service Company, Inc. Wastewater Operations
 Professional and Outside Services
 Test Year Ending December 31, 2019

Line
 No.

1	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2018 to Dec. 31, 2019
2	Direct Charge to KWSC Sewer						
3	Legal Expense	\$ -	\$ 7,294	\$ -	\$ -	\$ -	\$ -
4	Other Outside Services	\$ (24,756)	\$ 19,264	\$ 2,859	\$ 6,308	\$ 3,834	\$ 4,334
5	Training Consultants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6	subtotal	\$ (24,756)	\$ 26,558	\$ 2,859	\$ 6,308	\$ 3,834	\$ 4,334
7	Allocated From Hawaii Water to KWSC Sewer						
8	Legal Expense	\$ 1,363	\$ 936	\$ 1,780	\$ 876	\$ 613	\$ 1,090
9	Other Outside Services	\$ 2,843	\$ 1,093	\$ 453	\$ 40	\$ 966	\$ 486
10	Training Consultants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
11	Auditors and Consultants	\$ -	\$ 673	\$ -	\$ -	\$ -	\$ -
12	subtotal	\$ 4,206	\$ 2,702	\$ 2,233	\$ 916	\$ 1,579	\$ 1,576
13	Direct and Allocated Professional & Outside Services						
14	Legal Expense	\$ 1,363	\$ 8,230	\$ 1,780	\$ 876	\$ 613	\$ 1,090
15	Other Outside Services	\$ (21,912)	\$ 20,357	\$ 3,312	\$ 6,348	\$ 4,800	\$ 4,820
16	Training Consultants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17	Auditors and Consultants	\$ -	\$ 673	\$ -	\$ -	\$ -	\$ -
18	subtotal	\$ (20,549)	\$ 29,261	\$ 5,092	\$ 7,224	\$ 5,413	\$ 5,910
19	In 2019 Dollars						
20	Legal Expense	\$ 1,514	\$ 9,050	\$ 1,920	\$ 921	\$ 630	\$ 1,157
21	Other Outside Services	\$ (24,341)	\$ 22,387	\$ 3,572	\$ 6,676	\$ 4,937	\$ 5,062
22	Training Consultants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
23	Auditors and Consultants	\$ -	\$ 741	\$ -	\$ -	\$ -	\$ -
24	Total	\$ (22,827)	\$ 32,177	\$ 5,492	\$ 7,598	\$ 5,567	\$ 6,219

Kona Water Service Company, Inc. Wastewater Operations
 Repairs & Maintenance
 Test Year Ending December 31, 2019

Line
 No.

1	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2018 to Dec. 31, 2019
2	Direct Charge to KWSC Sewer						
3	Source of Supply	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4	Pumping	\$ 19,783	\$ 19,460	\$ 5,425	\$ 29,184	\$ 4,291	\$ 12,966
5	Treatment and Disposal	\$ 287,212	\$ 204,293	\$ 31,154	\$ 17,497	\$ 9,569	\$ 19,407
6	Transmission & Distribution	\$ 1,842	\$ 3,071	\$ 476	\$ 1,360	\$ 166	\$ 667
7	A&G	\$ 865	\$ 3,848	\$ 1,129	\$ 261	\$ -	\$ 463
8	Mileage	\$ 13,637	\$ 21,304	\$ 19,063	\$ 18,617	\$ 15,021	\$ 17,567
8	less chemicals	\$ (2,439)	\$ (11,824)	\$ (10,189)	\$ (90)	\$ -	\$ (3,426)
9	less materials & supplies	\$ (11,951)	\$ (12,161)	\$ (14,113)	\$ (6,699)	\$ (4,485)	\$ (8,432)
10	less waste disposal	\$ (1,788)	\$ (1,398)	\$ (2,541)	\$ (3,730)	\$ (3,747)	\$ (3,339)
11	subtotal	\$ 307,160	\$ 226,593	\$ 30,404	\$ 56,400	\$ 20,815	\$ 35,873
12	Allocated From Hawaii Water to KWSC Sewer						
13	Source of Supply	\$ 225	\$ 29	\$ -	\$ 11	\$ 2	\$ 4
14	Pumping	\$ 439	\$ 273	\$ 47	\$ 307	\$ 140	\$ 164
15	Treatment and Disposal	\$ 1,402	\$ 746	\$ 113	\$ 240	\$ 452	\$ 268
16	Transmission & Distribution	\$ 1,962	\$ 1,955	\$ 2,768	\$ 1,774	\$ 3,422	\$ 2,655
17	A&G	\$ 1,970	\$ 2,038	\$ 1,902	\$ 1,623	\$ 2,199	\$ 1,908
18	Mileage	\$ 172	\$ 255	\$ 5,724	\$ 4,732	\$ 5,342	\$ 5,266
19	less materials & supplies	\$ (23)	\$ (58)	\$ (14)	\$ (5)	\$ -	\$ (6)
20	subtotal	\$ 6,146	\$ 5,236	\$ 10,540	\$ 8,682	\$ 11,556	\$ 10,259
21	Direct and Allocated Repairs & Maintenance						
22	Source of Supply	\$ 225	\$ 29	\$ -	\$ 11	\$ 2	\$ 4
23	Pumping	\$ 20,222	\$ 19,733	\$ 5,472	\$ 29,490	\$ 4,431	\$ 13,131
24	Treatment and Disposal	\$ 288,614	\$ 205,039	\$ 31,267	\$ 17,737	\$ 10,021	\$ 19,675
25	Transmission & Distribution	\$ 3,803	\$ 5,025	\$ 3,244	\$ 3,135	\$ 3,588	\$ 3,322
26	A&G	\$ 2,835	\$ 5,886	\$ 3,031	\$ 1,884	\$ 2,199	\$ 2,371
27	Mileage	\$ 13,809	\$ 21,558	\$ 24,787	\$ 23,349	\$ 20,363	\$ 22,833
28	less chemicals	\$ (2,439)	\$ (11,824)	\$ (10,189)	\$ (90)	\$ -	\$ (3,426)
29	less materials & supplies	\$ (11,975)	\$ (12,219)	\$ (14,126)	\$ (6,704)	\$ (4,485)	\$ (8,438)
30	less waste disposal	\$ (1,788)	\$ (1,398)	\$ (2,541)	\$ (3,730)	\$ (3,747)	\$ (3,339)
31	subtotal	\$ 313,306	\$ 231,829	\$ 40,943	\$ 65,082	\$ 32,371	\$ 46,132
32	In 2019 Dollars						
33	Source of Supply	\$ 250	\$ 32	\$ -	\$ 12	\$ 2	\$ 5
34	Pumping	\$ 22,464	\$ 21,701	\$ 5,901	\$ 31,017	\$ 4,556	\$ 13,825
35	Treatment and Disposal	\$ 320,602	\$ 225,479	\$ 33,721	\$ 18,656	\$ 10,305	\$ 20,894
36	Transmission & Distribution	\$ 4,225	\$ 5,526	\$ 3,499	\$ 3,297	\$ 3,689	\$ 3,495
37	A&G	\$ 3,149	\$ 6,473	\$ 3,269	\$ 1,981	\$ 2,261	\$ 2,504
38	Mileage	\$ 15,340	\$ 23,707	\$ 26,732	\$ 24,558	\$ 20,941	\$ 24,077
39	less chemicals	\$ (2,710)	\$ (13,003)	\$ (10,989)	\$ (94)	\$ -	\$ (3,694)
40	less materials & supplies	\$ (13,302)	\$ (13,437)	\$ (15,235)	\$ (7,051)	\$ (4,612)	\$ (8,966)
41	less waste disposal	\$ (1,987)	\$ (1,538)	\$ (2,741)	\$ (3,923)	\$ (3,853)	\$ (3,506)
42	Effluent disposal feasibility study	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 60,000
43	Total	\$ 348,030	\$ 254,940	\$ 44,156	\$ 68,453	\$ 33,290	\$ 108,633

Kona Water Service Company, Inc. Wastewater Operations
 Rents
 Test Year Ending December 31, 2019

Line No.	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2018 to Dec. 31, 2019
2	Waikoloa Office and Baseyard	\$ 4,909	\$ 3,308	\$ 4,360	\$ 5,025	\$ 3,617	\$ 13,312
3	Total	<u>\$4,909</u>	<u>\$ 3,308</u>	<u>\$ 4,360</u>	<u>\$ 5,025</u>	<u>\$ 3,617</u>	<u>\$ 13,312</u>
4	Waikoloa General Office Rent Expense (2019)	\$ 60,980					
5	Waikoloa Baseyard Rent Expense (2019)	\$ 19,229					
6	4-Factor Allocation to KWSC Sewer	16.60%					
7	Total ((4 + 5) x 6)	<u>\$ 13,312</u>					

Kona Water Service Company, Inc. Wastewater Operations
 Insurance Expenses
 Test Year Ending December 31, 2019

Line No.	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2018 to Dec. 31, 2019	
2	Direct Charge to KWSC Sewer							
3	Liability Insurance - General, Auto, Umbrella, and etc	\$ 192	\$ 382	\$ 288	\$ 204	\$ -		
4	subtotal	\$ 192	\$ 382	\$ 288	\$ 204	\$ -	\$ -	
5	Allocated From Hawaii Water to KWSC Sewer							
6	Liability Insurance - General, Auto, Umbrella, and etc	\$ 1,662	\$ 1,821	\$ 2,084	\$ 672	\$ 997		
7	subtotal	\$ 1,662	\$ 1,821	\$ 2,084	\$ 672	\$ 997	\$ -	
8	Direct and Allocated Insurance							
9	Liability Insurance - General, Auto, Umbrella, and etc	\$ 1,854	\$ 2,203	\$ 2,372	\$ 876	\$ 997	\$ 5,713	
10	Total	\$ 1,854	\$ 2,203	\$ 2,372	\$ 876	\$ 997	\$ 5,713	
11	(1) Test year expense based on Marsh Insurance quotation and allocated to KWSC Sewer using a four-factor allocation methodology							
12	Total Company Ins. Quote	\$ 3,142,321						
13	4-factor allocation to Hawaii	3.10%						
14	4-factor allocation to KWSC Sewer	5.86%						
	Total (12 x 13 x 14)	\$ 5,713						

Kona Water Service Company, Inc. Wastewater Operations
 Regulatory Expenses
 Test Year Ending December 31, 2019

Line No.	Description	Test Year
1		
2	<u>Description</u>	<u>Test Year</u>
3	PREPARATION AND FILING	
4	Rate case consulting	
5	Accounting	\$ -
6	Engineering	\$ -
7	Other	\$ -
8	Legal	\$ 16,500
9	Travel	\$ -
10	Other non-labor	\$ -
11	subtotal	\$ 16,500
12	DISCOVERY AND SETTLEMENT	
13	Rate case consulting	
14	Accounting	\$ -
15	Engineering	\$ -
16	Other	\$ -
17	Legal	\$ 130,000
18	Travel	\$ 7,500
19	Other non-labor	\$ -
20	subtotal	\$ 137,500
21	HEARINGS AND BRIEFING	
22	Rate case consulting	
23	Accounting	\$ -
24	Engineering	\$ -
25	Other	\$ -
26	Legal	\$ 20,000
27	Travel	\$ 5,000
28	Other non-labor	\$ -
29	subtotal	\$ 25,000
30	STUDIES	
31	Cost of Service	\$ 18,500
32	Depreciation	\$ 12,500
33	subtotal	\$ 31,000
34	Total	\$ 210,000
35	Amortization Period	4
36	Test Year expense (Ln30/Ln31)	\$ 52,500

Kona Water Service Company, Inc. Wastewater Operations
 Regulatory Expenses
 Test Year Ending December 31, 2019

Line
 No.

1	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2018 to Dec. 31, 2019
2	Direct Charge to KWSC Sewer						
3	Regulatory Expense	\$ -	\$ 25,705	\$ 18,423	\$ 18,423	\$ 10,172	\$ -
4	subtotal	\$ -	\$ 25,705	\$ 18,423	\$ 18,423	\$ 10,172	\$ -
5	Allocated From Hawaii Water to KWSC Sewer						
6	Regulatory Expense	\$ -	\$ 1,393	\$ 4,815	\$ 124	\$ -	
7	subtotal	\$ -	\$ 1,393	\$ 4,815	\$ 124	\$ -	\$ -
8	Direct and Allocated Regulatory						
9	Regulatory Expense	\$ -	\$ 27,098	\$ 23,238	\$ 18,547	\$ 10,172	\$ 52,500
10	Total	\$ -	\$ 27,098	\$ 23,238	\$ 18,547	\$ 10,172	\$ 52,500

Kona Water Service Company, Inc. Wastewater Operations
 General & Administrative Expenses
 Test Year Ending December 31, 2019

Line
 No.

1	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2018 to Dec. 31, 2019
2	Direct Charge to KWSC Sewer						
3	Office Supplies	\$ 8,077	\$ 8,986	\$ 12,520	\$ 8,894	\$ 6,216	\$ 9,210
4	Misc G&A	\$ 182	\$ -	\$ 48	\$ 220	\$ -	\$ 89
5	subtotal	\$ 8,259	\$ 8,986	\$ 12,568	\$ 9,114	\$ 6,216	\$ 9,299
6	Allocated From Hawaii Water to KWSC Sewer						
7	Office Supplies	\$ 8,922	\$ 10,999	\$ 12,648	\$ 11,916	\$ 11,052	\$ 11,872
8	Misc G&A	\$ 6,038	\$ 4,893	\$ 2,481	\$ 2,349	\$ 2,775	\$ 2,535
9	subtotal	\$ 14,960	\$ 15,892	\$ 15,129	\$ 14,265	\$ 13,826	\$ 14,407
10	Direct and Allocated General & Administrative						
11	Office Supplies	\$ 16,999	\$ 19,985	\$ 25,168	\$ 20,810	\$ 17,268	\$ 21,082
12	Misc G&A	\$ 6,219	\$ 4,893	\$ 2,529	\$ 2,569	\$ 2,775	\$ 2,624
13	Total General & Administrative	\$ 23,219	\$ 24,878	\$ 27,698	\$ 23,379	\$ 20,042	\$ 23,706
14	In 2019 Dollars						
15	Office Supplies	\$ 18,883	\$ 21,978	\$ 27,143	\$ 21,887	\$ 17,758	\$ 22,263
16	Misc G&A	\$ 6,909	\$ 5,381	\$ 2,728	\$ 2,702	\$ 2,853	\$ 2,761
17	Total	\$ 25,792	\$ 27,358	\$ 29,871	\$ 24,590	\$ 20,611	\$ 25,024

Kona Water Service Company, Inc. Wastewater Operations
 Customer Accounts Expenses
 Test Year Ending December 31, 2019

Line No.	Description	2014	2015	2016	2017	2018	Test Year Jan 1, 2018 to Dec. 31, 2019
2	Direct Charge to KWSC Sewer						
3	Customer Accounts	\$ (16)	\$ (2,214)	\$ -	\$ (389)	\$ 1,333	\$ 315
4	subtotal	<u>(\$16)</u>	<u>\$ (2,214)</u>	<u>\$ -</u>	<u>\$ (389)</u>	<u>\$ 1,333</u>	<u>\$ 315</u>
5	Allocated From Hawaii Water to KWSC Sewer						
6	Customer Accounts	\$ 2,080	\$ 6,034	\$ 10,446	\$ 7,463	\$ 8,447	\$ 8,785
7	subtotal	<u>\$ 2,080</u>	<u>\$ 6,034</u>	<u>\$ 10,446</u>	<u>\$ 7,463</u>	<u>\$ 8,447</u>	<u>\$ 8,785</u>
8	Direct and Allocated Customer Accounts						
9	Customer Accounts	\$ 2,064	\$ 3,820	\$ 10,446	\$ 7,074	\$ 9,780	\$ 9,100
10	Total Customer Accounts	<u>\$ 2,064</u>	<u>\$ 3,820</u>	<u>\$ 10,446</u>	<u>\$ 7,074</u>	<u>\$ 9,780</u>	<u>\$ 9,100</u>
11	In 2019 Dollars						
12	Customer Accounts	\$ 2,293	\$ 4,201	\$ 11,265	\$ 7,441	\$ 10,058	\$ 9,588
13	Total	<u>\$ 2,293</u>	<u>\$ 4,201</u>	<u>\$ 11,265</u>	<u>\$ 7,441</u>	<u>\$ 10,058</u>	<u>\$ 9,588</u>

Kona Water Service Company, Inc. Wastewater Operations
 Taxes Other Than Income Taxes
 Test Year Ending December 31, 2019

Line No.		Revenues at Present Rates	Revenues at Proposed Rates	Tax Rates	Taxes at Present Rates	Taxes at Proposed Rates
3	<u>Revenue Taxes</u>					
5	Public Company Service Tax (Pursuant to HRS § 239)	\$ 1,819,531	\$ 2,027,187	5.885%	\$ 107,079	\$ 119,300
7	Public Utility Fee (Pursuant to HRS § 269-30)	\$ 1,819,531	\$ 2,027,187	0.500%	\$ 9,098	\$ 10,136
9	Total Revenue Taxes				<u>\$ 116,177</u>	<u>\$ 129,436</u>
10	Total Taxes Other Than Income Taxes				<u>\$ 116,177</u>	<u>\$ 129,436</u>

Kona Water Service Company, Inc. Wastewater Operations
 Income Tax Expense
 Test Year Ending December 31, 2019

Line No.			At Present Rates	At Proposed Rates
1	Total Revenues		\$ 1,819,531	\$ 2,027,187
2	Total Operations & Maintenance Expenses		\$ 913,137	\$ 913,137
3	Depreciation		\$ 553,793	\$ 553,793
4	Amortization		\$ -	\$ -
5	Taxes Other than Income Taxes		\$ 116,177	\$ 129,436
6	Total Operating Expenses		\$ 1,583,107	\$ 1,596,366
7	Operating Income before Income Taxes		\$ 236,424	\$ 430,821
8	Interest Expenses		\$ 55,295	\$ 55,295
9	State taxable income		\$ 181,129	\$ 375,526
10	State income Tax	Less:		
		Tax Rates		
11	less than \$25K	4.4000%	\$ 1,100	\$ 1,100
12	Over \$25K, but less than \$100K	5.4000%	\$ 4,050	\$ 4,050
13	Over \$100K	6.4000%	\$ 5,192	\$ 17,634
14	Less Hawaii Capital Goods Excise Tax Credit		\$ (15,619)	\$ (15,619)
15	Federal taxable income		\$ 186,406	\$ 368,362
16	Federal income tax			
17	Over \$1	21.0%	\$ 39,145	\$ 77,356
18	Total Federal and State income taxes		\$ 33,868	\$ 84,521
19	Effective Tax Rate		18.699%	22.507%
20	State		-2.913%	1.908%
21	Federal		21.0000%	21.0000%

Kona Water Service Company, Inc. Wastewater Operations
 Results of Operations for Recorded 2018 at Present and Proposed Rates
 Test Year Ending December 31, 2019

Line No.	(1) Present Rates	(2) Proposed Increase	(3) Proposed Rates (7.48%)
1	Pro Forma for Year Ended December 31, 2017		
2	Present Rates	Proposed Increase	Proposed Rates (7.48%)
3			
4 Residential	\$ 1,423,696	\$ 240,802	\$ 1,664,498
5 Non-Residential	\$ 169,693	\$ 85,534	\$ 255,226
6 Power Cost Charge	\$ 145,034	\$ (13,105)	\$ 131,929
7 Total Operating Revenues	\$ 1,738,423	\$ 313,231	\$ 2,051,654
8 Labor Expenses	\$ 360,050	\$ -	\$ 360,050
9 Fuel & Power	\$ 136,492	\$ -	\$ 136,492
10 Chemicals	\$ -	\$ -	\$ -
11 Materials & Supplies	\$ 4,485	\$ -	\$ 4,485
12 Waste/Sludge Disposal	\$ 3,747	\$ -	\$ 3,747
13 Affiliated Charges	\$ 65,415	\$ -	\$ 65,415
14 Professional and Outside Services	\$ 5,413	\$ -	\$ 5,413
15 Repairs & Maintenance	\$ 32,371	\$ -	\$ 32,371
16 Rental Expenses	\$ 3,617	\$ -	\$ 3,617
17 Insurance Expenses	\$ 997	\$ -	\$ 997
18 Regulatory Expenses	\$ 10,172	\$ -	\$ 10,172
19 General & Administrative Expenses	\$ 20,042	\$ -	\$ 20,042
20 Customer Accounts Expenses	\$ 9,780	\$ -	\$ 9,780
21 Total O&M Expenses	\$ 652,579	\$ -	\$ 652,579
22 Taxes Other than Income Taxes	\$ 121,852	\$ -	\$ 121,852
23 Depreciation	\$ 207,028	\$ -	\$ 207,028
24 Amortization	\$ -	\$ -	\$ -
25 Income Taxes	\$ 131,517	\$ 85,825	\$ 217,342
26 Diff. due to changing factors	\$ -	\$ -	\$ -
27 Total Operating Expenses	\$ 1,112,976	\$ 85,825	\$ 1,198,801
28 Operating Income	\$ 625,447	\$ 227,406	\$ 852,853
29 Average Rate Base	\$ 4,629,687	\$ -	\$ 4,629,687
30 Return on Rate Base	13.51%		18.42%

HAWAII WATER SERVICE COMPANY
PROJECTED RATE OF RETURN

Line
No.

	<i>PRO FORMA AVERAGE CAPITAL</i>			<i>RATE OF</i>	
	<i>AMOUNT</i>	<i>RATIO</i>	<i>EFF. RATE</i>	<i>RETURN</i>	
1					
2					
3					
4	<u>Estimated Average Rate of Return 2019</u>				
5	Long-Term Debt	\$ 2,157,434	46.6%	5.50%	2.56%
6	Common Stock	2,472,253	53.4%	9.20%	4.91%
7		4,629,687	100.00%		7.48%

Kona Water Service Company, Inc. Wastewater Operations
Phase-in Schedule
Test Year Ending December 31, 2019

Line No.	<u>Revenue Requirement</u>	<u>Present Rates</u>	<u>Incremental</u>	<u>Proposed Rates</u>	<u>% Increase</u>
2	No Phase-in	\$ 1,819,531	\$ 207,656	\$ 2,027,187	11.4%

Exhibit KWSC-T-100
Direct Testimony of Robert Stout



Kona Water Service Company General Rate Case
Docket No. 2018-0388
February 2019

Table of Contents

Introduction..... 1
Revenue Requirement..... 2
Test Year Revenues 3
Sales, Services, and Production 4
Expense Estimates 5
 Four-factor Allocation 5
 Depreciation Expense 8
 Income Tax Expense..... 10
Rate Base 10
Rate of Return 18
Proposed Tariff Revisions..... 19
Phase-in of Rate Increases 19
Rate Design and Cost of Service Studies..... 20
 Power Cost Charge 20
 Cost of Service Studies and Rate Designs 22
 KWSC Water 23
 KWSC Sewer..... 24

1 **WEST HAWAII UTILITY COMPANY GENERAL RATE CASE**
2 **DIRECT TESTIMONY OF ROBERT STOUT**

3
4 **Introduction**

5 **Q. Please state your name, position, and business address.**

6 A. My name is Robert Stout. I am the Accounting Manager of Hawaii Water Service
7 Company, Inc. (“Hawaii Water”). My business mailing address is P. O. Box 384809, Waikoloa,
8 Hawaii, 96738.

9
10 **Q. Please summarize your educational background and professional experience.**

11 A. I hold a Bachelor of Science Degree in Finance from California State University, Chico.
12 I spent 25 years in the hospitality industry, the final seven as Controller of a Hawaii Island
13 Resort. I have ten years with Hawaii Water and have served as the Accounting Manager since
14 January of 2013.

15
16 **Q. What is the purpose of your testimony in this proceeding?**

17 A. The purpose of my testimony in this proceeding is to explain the details of the revenue
18 requirements for Kona Water Service Company (“KWSC”) for the test year beginning January 1,
19 2019 and ending December 31, 2019. Additionally, I will address sales and revenue estimates,
20 estimates of certain expenses, calculation of rate base, rate of return, proposed tariff revisions,
21 the cost of service studies, and the proposed rate design for KWSC.

22
23 **Q. Please summarize the financial exhibits supporting this application.**

24 A. Exhibit KWSC-2 Schedule D shows the 2017 balance sheet and income statement as of
25 December 31, 2017 as reported to the Hawaii Public Utilities Commission (the “Commission”)
26 in KWSC’s annual reports. Exhibit KWSC-2 Schedule E shows KWSC’s balance sheet and
27 income statement as of June 30, 2018. The other financial exhibits supporting the Application
28 are listed in Section V of the Application.

1 **Q. Please explain the use of Unaudited Financial Statements.**

2 A. KWSC requests that the Commission waive the requirement to provide audited financial
3 statements. The Commission granted this request in Hawaii Water's most recent general rate
4 case filings for West Hawaii Utility Company ("WHUC"), West Hawaii Sewer Company
5 ("WHSC"), and West Hawaii Water Company ("WHWC") (collectively, the "Waikoloa
6 Utilities").¹ In the most recent rate case filing for KWSC, the same request was made and the
7 waiver was granted.² The estimated cost to hire a third party to perform an audit is at least
8 \$220,000. This would be an undue burden to the ratepayers. A copy of an estimate for an
9 independent audit of KWSC from Deloitte & Touche, California Water Service Group's
10 ("CWSG") auditor is attached as Exhibit KWSC-T-101. CWSG, Hawaii Water's parent
11 company, has audited financial statements, which include all of its subsidiaries. A copy of
12 CWSG's latest audited statement is included in CWSG's Form 10K, which is located on
13 CWSG's website.³ Also included in this application are the consolidated revenue requirement
14 and rate base for KWSC.⁴

15

16 **Revenue Requirement**

17 **Q. Please describe the summary of earnings.**

18 A. The summary of earnings exhibit for each division shows the revenue requirement and
19 rate of return summary at present and proposed rates for the test year ending December 31,
20 2019.⁵ These exhibits show all of the expense categories estimated in the work papers, the
21 average rate base for the test year, and the rate of return at present and proposed rates. Most of
22 the expenses and capital additions are described in detail in Mr. Carrasco's and Mr. Green's
23 testimonies. My testimony addresses the calculation of the revenue requirement, test year
24 revenue estimates, certain expense estimates, calculation of rate base, capital structure, and rate
25 of return.

¹ See Docket Nos. 2017-0350 (WHUC), 2017-0449 (WHSC), and 2017-0450 (WHWC).

² See Order No. 32453 Regarding Kona Water Service Company Inc.'s Complete Application and Other Initial Matters filed on November 13, 2014 in Docket No. 2013-0375.

³ <http://ir.calwatergroup.com/Investor-Relations/Financial-Reports/SEC-Filings>

⁴ See Exhibits KWSC 3 and KWSC 4.

⁵ The summary of earnings exhibits for each division are listed in Table 101 below.

1 **Q. What are the total revenue requirements that KWSC is requesting for the test year?**

2 A. The following table summarizes revenue at present rates, incremental increases, revenue
 3 at proposed rates and the requested percentage increases for KWSC’s water and sewer operations
 4 in the test year beginning January 1, 2019 and ending December 31, 2019:

Division	Revenue at Present Rates	Incremental	Revenue at Proposed Rates	% Increase	Exhibit Reference
KWSC Water	\$ 3,528,828	\$ 452,560	\$ 3,981,387	12.8%	Exhibit KWSC Water 6
KWSC Sewer	\$ 1,819,531	\$ 207,656	\$ 2,027,187	11.4%	Exhibit KWSC Sewer 6

5 **Table 101. Test Year Revenue Requirements.**

6
 7 Details of revenue requirements for each division can be found in the corresponding Exhibits
 8 listed in the table above.

9

10 **Test Year Revenues**

11 **Q. Please describe how revenues were estimated at present and proposed rates.**

12 A. Revenue for KWSC consists of three components: fixed revenue, metered revenue, and
 13 power cost charge (“PCC”) revenue. Fixed revenue at present rates is calculated using the
 14 currently approved fixed rate for each meter size, multiplied by the estimated customer count in
 15 the respective customer class for the test year. Metered revenue at present rates is calculated
 16 using the currently approved quantity rate for each usage block, multiplied by the estimated
 17 water consumption for each usage block in the respective customer class for the test year.⁶ PCC
 18 revenue is calculated using the division’s corresponding PCC formula multiplied by the
 19 estimated water consumption in the respective customer class for the test year. The following
 20 table summarizes revenue at present rates by component for KWSC:

Division	Fixed Revenue	Metered Revenue	PCC Revenue	Total	Exhibit Reference
KWSC Water	\$ 83,784	\$ 2,276,845	\$ 1,168,199	\$ 3,528,828	Exhibit KWSC Water 8.1
KWSC Sewer	\$ 1,254,078	\$ 432,184	\$ 133,268	\$ 1,819,530	Exhibit KWSC Sewer 8.1

21 **Table 102. Revenue at Present Rates.**

⁶ For KWSC’s sewer operations, business customers with water meters less than one inch and residential customers are charged a quantity rate based on their metered water use up to seven thousand gallons per month. Business customers with water meters greater than one inch are charged 40% of their metered potable water use.

1 Details of revenue at present and proposed rates for each division can be found in the
 2 corresponding Exhibits listed in the table above. Fixed revenue at proposed rates is calculated
 3 using proposed rates, multiplied by the estimated customer count for the test year. Metered
 4 revenue at proposed rates is calculated using proposed rates, multiplied by the estimated water
 5 consumption in the test year. Finally, PCC revenue is calculated using the division's
 6 corresponding PCC formula multiplied by the estimated water consumption for the test year.

7
 8 **Sales, Services, and Production**

9 **Q. Please discuss the Exhibits in which recorded and forecasted customer counts are**
 10 **shown.**

11 A. Exhibits KWSC Water 8.3 and KWSC Sewer 8.2 show the recorded customer counts by
 12 customer class. The Exhibits also show the forecasted customer counts by customer class in the
 13 test year.

14
 15 **Q. How were customer counts estimated for the test year?**

16 A. Generally, customer counts for the test year were estimated by using the actual 2018
 17 customer count as of June 30, 2018. KWSC has observed relatively steady customer counts in
 18 most customer classes and believes the recorded 2018 customer counts are a reasonable forecast
 19 for customer counts in the test year. The 2018 customer count will be updated when the
 20 recorded 2018 data is available and the test year forecast will be updated accordingly. The
 21 following table summarizes customer counts by customer class for KWSC forecasted for the test
 22 year:

Division	Residential	Non-Residential		Total	Exhibit Reference
		Business	Irrigation		
KWSC Water	220	26	4	246	Exhibit KWSC Water 8.3
KWSC Sewer	206	16	0	222	Exhibit KWSC Sewer 8.2

23 **Table 103. Customer Count.**

24
 25 Details of customer counts for each division can be found in the corresponding Exhibits listed in
 26 the table above.

1 **Q. How were water sales and billed sewer flows forecasted for the test year?**

2 A. "Water sales" is defined as water sold to customers measured in thousands of gallons
3 ("TG") and is applicable to KWSC Water. "Billed sewer flows" is defined as the amount of
4 potable metered water use that is used as a proxy for sewer flows and this is also measured in
5 TG. The flows are applicable to KWSC Sewer. Both water sales and billed sewer flows were
6 estimated using a three-year average of recorded data from 2016 to 2018. Since only the first six
7 months of 2018 were available when the application was prepared, the 2018 figures are
8 annualized. These figures will be updated with data through the end of 2018 once it is available.
9 The following table summarizes water sales and billed sewer flows in TG by customer class for
10 KWSC forecasted for the test year:

Division	Residential	Non-Residential		Total	Exhibit Reference
		Business	Irrigation		
KWSC Water	179,159	23,389	8,975	211,523	Exhibit KWSC Water 8.2
KWSC Sewer	13,633	6,722	0	20,356	Exhibit KWSC Sewer 8.2

11 **Table 104. Water Sales and Billed Sewer Flows in Thousands of Gallons.**

12
13 Details of water sales and billed sewer flows for each division can be found in the corresponding
14 Exhibits listed in the table above.

15

16 **Expense Estimates**

17 **Q. Which expense estimates are you testifying to in this proceeding?**

18 A. I am testifying on the expense allocation methodology, depreciation expenses, and
19 income taxes.

20

21 **Four-factor Allocation**

22 **Q. Please explain which expenses are allocated from Hawaii Water to KWSC.**

23 A. Hawaii Water has several operating units and subsidiaries: Waikoloa Village Water and
24 Sewer, Waikoloa Resort Water, Sewer and Irrigation, Pukalani Wastewater, Ka'anapali Water,
25 and Kona Water and Sewer. Hawaii Water incurs certain expenses which apply to more than
26 one of its operating units, which are allocated among the various operating units. These

1 expenses include payroll, rent, insurance, and employee benefits. The details of these expenses
2 are discussed in the testimony of Anthony Carrasco (Exhibit KWSC-T-200).

3
4 **Q. Why must these expenses be allocated?**

5 A. When employees are engaged in directly supporting a specific operating unit, they charge
6 their time directly to the appropriate operating unit. For example, when Hawaii Water
7 employees perform work on the Ka'anapali water system, the employees charge their time
8 directly to the Ka'anapali operating unit (Dept. 700). However, certain other expenses benefit
9 more than one operating unit. These expenses must be allocated to the operating units to which
10 they apply.

11
12 **Q. Can you explain how charges for expense for the different ratemaking areas are**
13 **allocated?**

14 A. The payroll for the positions assigned to Hawaii Water's General Office department
15 (Dept. 790), as well as indirect expense charges, are allocated to the two operations departments
16 on Maui (Ka'anapali and Pukalani) and seven departments on the Big Island (Waikoloa Water,
17 Waikoloa Wastewater, Waikoloa Resort Water, Waikoloa Resort Wastewater, Waikoloa Resort
18 Irrigation, Kona Water, and Kona Wastewater) based on a four-factor methodology. Payroll for
19 the positions dedicated to Hawaii Water's Maui operations (Dept. 710), as well as indirect labor
20 and expenses, are allocated between the two Maui departments as determined by the four-factor
21 method. Similarly, the payroll for the positions dedicated to Hawaii Water's Big Island
22 operations (Dept. 720), as well as indirect labor and expenses, are allocated between the seven
23 Big Island departments as determined by the four-factor method. Finally, payroll for Hawaii
24 Water's Wastewater Administration (Dept. 796), as well as indirect expense charges, are
25 allocated to Hawaii Water's wastewater systems.

26 Additionally, there are charges allocated from California Water Service Company ("Cal
27 Water") to the four regulated subsidiaries it provides service to: Cal Water districts, Hawaii
28 Water, Washington Water Service Company, and New Mexico Water Service Company. These
29 charges are applied to Hawaii Water's General Office. Details of this allocation are included in
30 the direct testimony of Anthony Carrasco.

1 **Q. Please describe the four-factor methodology and the rationale for using it.**

2 A. Hawaii Water uses an internal four-factor methodology to allocate general operations
3 costs among its regulated utility companies. The four factors used to determine the allocation
4 include the number of customer equivalents, gross plant in service, direct operations and
5 maintenance expenses, and direct gross payroll. Customer equivalents are used because of the
6 correlation between the number of customers in a system, and the billing and service costs
7 associated with those customers. This is also a good indicator of the size of the system. Plant in
8 service is used because many general costs are related to the level of capital investment used in a
9 system and there is a general relationship between the amount of this capital investment and the
10 general costs allocated to effectively operate that infrastructure. Additionally, direct operation
11 and maintenance expenses are also good indicators of the size of the system. Finally, direct
12 gross payroll is used because it represents the number of employees working in the system that
13 are served by various general office departments. These four factors can vary between systems,
14 but by not equally weighting all four, individual systems are not penalized in their general
15 allocation for any one factor that is higher than the other systems.

16

17 **Q. Is Hawaii Water proposing to revise the four-factor allocations to its operating units**
18 **in this proceeding?**

19 A. Yes. As explained above, there are several factors that affect the allocation to Hawaii
20 Water's operating units. These factors change from time to time. In this proceeding, Hawaii
21 Water revised the four-factor allocations from its General Office, Maui Operation, and
22 Wastewater Administration to its operating units. Hawaii Water used the same methodology it
23 has used in the past to calculate the four-factor allocation. The following table shows the test
24 year four-factor allocations to KWSC from Hawaii Water and Big Island operations,
25 respectively⁷:

⁷ The 2018 four-factor allocations are used for the test year. The factors for 2019 will be used once they are available.

1

Division	Hawaii Water GO (790)	Big Island (720)	Wastewater Admin. (796)	Exhibit Reference
KWSC Water	10.63%	14.64%	0.00%	Exhibit KWSC Water 8.5
KWSC Sewer	5.86%	7.94%	13.30%	Exhibit KWSC Sewer 8.4

2

Table 105. Four-factor Allocations.

3

4

The information contained in the Exhibits above is identical for each of the divisions.

5

6 **Q. Is the four-factor methodology widely accepted in the water industry?**

7

A. Yes. Companies use a factor allocation when a more direct method is unavailable or

8

would be impractical. The four-factor methodology is a widely accepted technique used to

9

determine proper allocation of general costs to specific business units. This is the method used

10

by many state Public Utilities Commissions, and has been accepted by the Hawaii Public

11

Utilities Commission in the recent rate cases filed for Hawaii Water's Waikoloa Resort,

12

Waikoloa Village Water, Waikoloa Village Sewer, Kona, Ka'anapali Water, and Pukalani

13

Wastewater operating units.⁸

14

15 Depreciation Expense

16 **Q. How were the depreciable lives determined?**

17

A. KWSC is proposing to use group depreciation for its plant, property, and equipment. For

18

this application, AUS was retained to perform a detailed depreciation study of KWSC's plant,

19

property, and equipment. The reports and results of the study are attached as Exhibit KWSC-T-

20

102 and Exhibit KWSC-T-103 for water and wastewater, respectively.

⁸ See Decision and Order No. 36045 filed on January 7, 2019 in Docket No. 2017-0350 (the "WHUC D&O"); Proposed Decision and Order No. 35878 filed on November 15, 2018 in Docket No. 2017-0450 (the "WHWC Proposed D&O"); Proposed Decision and Order No. 35877 filed on November 13, , 2018 in Docket No. 2017-0449 (the "WHSC Proposed D&O"); Decision and Order No. 32944 filed on June 29, 2015 in Docket No. 2013-0375 (the "KWSC D&O"); Decision and Order No. 33908 filed on September 12, 2016 in Docket No. 2015-0230 (the "Ka'anapali D&O"); and Proposed Decision and Order No. 34822 filed on September 15, 2017 in Docket No. 2015-0236 (the "Pukalani Proposed D&O").

1 **Q. Why is group depreciation being proposed in this case?**

2 A. When numerous property units exist within a utility's operating property, the units are
3 typically grouped into similar depreciation categories as opposed to being depreciated on an
4 individual unit basis. This is known as group depreciation. While the items within a specific
5 group may serve the same or similar function, they typically do not have identical service lives.
6 Their useful lives are dispersed over a range of time. Some items may last longer than the
7 expected service life, while others may last less than the expected useful service life. The
8 application of group depreciation rates allows for uniform depreciation to groups of similar
9 property instead of performing extensive depreciation calculations on an item-by-item basis.
10 The proposal to use group depreciation is consistent with Hawaii Water's most recent rate cases
11 for the Ka'anapali water system, the Pukalani wastewater system, and the Waikoloa Utilities in
12 which the Commission approved the agreement between Hawaii Water and the Consumer
13 Advocate to use group depreciation.⁹

14

15 **Q. How was depreciation expense estimated?**

16 A. As discussed above, a group depreciation method is being proposed to calculate
17 depreciable lives of groups of assets. However, in general, depreciation expense is calculated by
18 multiplying the prior year's ending plant balance by the group depreciation rate. The following
19 table summarizes test year depreciation expense for KWSC:

Division	Depreciation Expense	Depreciation Expense Exhibit Reference	Depreciation Group Detail Exhibit Reference
KWSC Water	\$ 476,258	Exhibit KWSC Water 7.5	Exhibit KWSC Water 7.6
KWSC Sewer	\$ 553,793	Exhibit KWS Sewer 7.5	Exhibit KWSC Sewer 7.6

20

Table 106. Depreciation Expense.

⁹ See Ka'anapali D&O 38-39; Pukalani Proposed D&O at 38-41; WHUC D&O at 88-90; WHSC Proposed D&O at 50-51; WHWC Proposed D&O at 50-51.

1 Details of depreciation expense and depreciation groups for each division can be found in the
2 corresponding Exhibits listed in the table above. Exhibit 7.7¹⁰ shows detailed depreciation
3 expense calculations for Hawaii Water General Office, Big Island Operations, and Wastewater
4 Administration.

5
6 Income Tax Expense

7 **Q. How were income taxes at present and proposed rates calculated?**

8 A. Federal income taxes at present and proposed rates were calculated using the 21%
9 corporate rate, net of the effective Hawaii State Income Tax rate since state income tax is a
10 deduction from federal tax. State income taxes at present and proposed rates are calculated using
11 the corporate Hawaii State Income Tax rate of 6.4%. State income tax expense was reduced by
12 the test year's amortized expense for the Hawaii Capital Goods Excise Tax Credit ("HCGETC").
13 Book depreciation was used as deductions for both federal and state income taxes. The
14 difference between book and federal tax depreciation is reflected in rate base as deferred taxes.
15 The following table summarizes test year income tax expense for KWSC:

Division	Income Tax Expense	Exhibit Reference
KWSC Water	\$ 139,645	Exhibit KWSC Water 8.22
KWSC Sewer	\$ 84,521	Exhibit KWSC Sewer 8.21

16 **Table 107. Income Tax Expense.**

17
18 Details of income tax expense for each division can be found in the corresponding Exhibits listed
19 in the table above.

20
21 Rate Base

22 **Q. How was rate base estimated?**

23 A. An average rate base was used to calculate the test year revenue requirement.

¹⁰ Exhibits KWSC Water 7.7 and KWSC Sewer 7.7 are identical. The only difference between the Exhibits is the dollar amount allocated to each division.

1 **Q. What components make up the proposed rate base?**

2 A. Rate base consists of plant in service with deductions for accumulated depreciation
 3 reserve, contributions in aid of construction (“CIAC”), deferred income taxes, unamortized
 4 HCGETC, net salvage adjustment, the true-up adjustment, and committed capacity.¹¹ Additions
 5 to rate base include working capital and a proration of Hawaii Water General Office and Big
 6 Island Operations rate base.

7
 8 **Q. How was plant in service estimated?**

9 A. Plant in service used recorded plant for the period ending December 31, 2017 as the
 10 starting point. Utility plant acquired or constructed during the period from January 1, 2018
 11 through December 31, 2018 was added and any assets removed from service during the same
 12 period were deducted. Utility plant expected to be in service during the test year was added and
 13 any expected retirements were deducted. The following table summarizes KWSC’s plant
 14 balance as of December 31, 2017, December 31, 2018, and December 31, 2019:

Division	Plant Balance 12/31/2017	Plant Balance 12/31/2018	Plant Balance 12/31/2019	Exhibit Reference
KWSC Water	\$ 20,459,402	\$ 21,219,001	\$ 22,357,308	Exhibit KWSC Water 7.2
KWSC Sewer	\$ 15,921,789	\$ 16,640,292	\$ 17,026,731	Exhibit KWSC Sewer 7.2

15 **Table 108. Plant in Service.**

16
 17 Details of plant in service for each division can be found in the corresponding Exhibits listed in
 18 the table above.

19 Plant additions from January 1, 2018 – December 31, 2019 for KWSC are summarized in
 20 the table below:

Division	Plant Additions 2018	Plant Additions 2019	Exhibit Reference
KWSC Water	\$ 862,953	\$ 1,138,307	Exhibit KWSC Water 7.3
KWSC Sewer	\$ 718,503	\$ 386,439	Exhibit KWSC Sewer 7.3

21 **Table 109. Plant Additions**

¹¹ Adjustments for committed capacity include Makalei, Robarts, and Stroud subdivisions and only apply to water operations.

1 Details of plant additions for each division can be found in the corresponding Exhibits listed in
2 the table above. Project justifications for projects greater than \$25,000 that have been completed
3 since KWSC's last rate case, and that will be completed before December 31, 2019 are discussed
4 in Mr. Roush's direct testimony (Exhibit KWSC-T-300).

5
6 **Q. How was accumulated depreciation reserve estimated?**

7 A. Accumulated depreciation reserve used the recorded accumulated depreciation reserve
8 balance as of December 31, 2017 as the starting point. Depreciation accruals were then added to
9 this balance. The methodology for determining the depreciation accruals is discussed above.
10 The following table summarizes KWSC's accumulated depreciation reserves as of December 31,
11 2017, December 31, 2018, and December 31, 2019:

Division	Reserve Balance 12/31/2017	Reserve Balance 12/31/2018	Reserve Balance 12/31/2019	Exhibit Reference
KWSC Water	\$ 6,928,972	\$ 7,447,069	\$ 8,012,586	Exhibit KWSC Water 7.4
KWSC Sewer	\$ 4,703,502	\$ 5,373,230	\$ 6,062,553	Exhibit KWSC Sewer 7.4

12 **Table 110. Accumulated Depreciation Reserve.**

13
14 Details of accumulated depreciation reserve for each division can be found in the corresponding
15 Exhibits listed in the table above.

16
17 **Q. What is the net salvage adjustment and why is it included in the rate base
18 calculation?**

19 A. The net salvage adjustment represents a reduction to rate base due to the collection of net
20 salvage through depreciation. The adjustment is calculated by taking the difference of
21 depreciation expense with net salvage and without net salvage. In the most recent rate cases for
22 Hawaii Water's Ka'anapali water and Pukalani wastewater divisions and the Waikoloa divisions,
23 Hawaii Water and the Consumer Advocate agreed to use group depreciation on the condition that
24 a net salvage adjustment be included in the rate base calculation. This adjustment was approved

1 by the Commission in its decisions for the Ka’anapali, Pukalani, and Waikoloa rate cases.¹² The
 2 same adjustment is being proposed for KWSC in this case.

3
 4 **Q. How were contributions in aid of construction estimated?**

5 A. CIAC was calculated using the latest recorded information for contributions as of
 6 December 31, 2017. Contributions are amortized over periods that would estimate the useful
 7 lives of the assets they were used to acquire. The following table shows the Exhibits where
 8 details of contributions can be found for KWSC:

Division	CIAC	CIAC Amortization
KWSC Water	Exhibit KWSC Water 7.8	Exhibit KWSC Water 7.9
KWSC Sewer	Exhibit KWSC Sewer 7.8	Exhibit KWSC Sewer 7.9

9 **Table 111. Contributions in Aid of Construction.**

10
 11 **Q. How were deferred income taxes estimated?**

12 A. Deferred income taxes were based on depreciation provisions for federal income tax
 13 purposes by the Tax Cuts and Jobs Act of 2017. Under these statutes, state regulatory
 14 commissions calculate provision for federal income taxes at book rates, and then allow the utility
 15 to record the tax difference between book and federal and state depreciation as adjustments to
 16 rate base. For the test year, deferred income taxes were estimated based on the recent recorded
 17 accruals and forecasts of the new plant in the test year.¹³ The following table shows the Exhibits
 18 where details of deferred income taxes can be found for KWSC:

Division	Deferred Income Taxes Exhibits
KWSC Water	Exhibit KWSC Water 7.10 - 7.13
KWSC Sewer	Exhibit KWSC Sewer 7.10 - 7.13

19 **Table 112. Deferred Income Taxes.**

¹² See Ka’anapali D&O at 38-39; Pukalani Proposed D&O at 38-41; WHUC D&O at 88-90; WHSC Proposed D&O at 50-51; WHWC Proposed D&O at 50-51.

¹³ In their recent rate cases, the Waikoloa Utilities proposed to include a deferred tax asset (“DTA”) in rate base, which was based on a remeasurement of deferred income taxes under the Tax Cuts and Jobs Act of 2017. Consistent with the agreement between the Waikoloa Utilities and the Consumer Advocate in those cases, KWSC has not proposed to include any deferred income tax remeasurement in the calculation of rate base in this rate case.

1 **Q. How was working cash calculated?**

2 A. The Commission has established a policy of providing utilities an allowance for working
 3 capital, also known as working cash, in the determination of rate base. For this proceeding,
 4 working cash was calculated using the 1/12th method, which is generally accepted by state
 5 regulatory commissions for determining working cash for smaller utilities. This method uses
 6 1/12th of the annual operating expenses as a proxy for determining the amount of cash that is
 7 dedicated to utility service (paying bills prior to receiving customer revenues). The result is
 8 counted as an addition to rate base. The following table summarizes working cash for KWSC
 9 for the test year:

Division	Working Cash	Exhibit Reference
KWSC Water	\$ 210,919	Exhibit KWSC Water 7.15
KWSC Sewer	\$ 76,095	Exhibit KWSC Sewer 7.15

10 **Table 113. Working Cash.**

11

12 Details of working cash for each division can be found in the corresponding Exhibits listed in the
 13 table above.

14

15 **Q. Please describe the background of the committed capacity that was excluded from**
 16 **KWSC’s rate base in its last rate case.**

17 A. Prior to the purchase of Kukio Utility Company, Inc.’s (“KUC”) assets by KWSC,
 18 KUC’s parent company, WB Kukio Resorts, LLC (“WB Kukio”), had reserved water from the
 19 HueHue Ranch (“HR”) wells (Wells HR-1 to HR-5) for certain properties. To the extent that
 20 these properties were receiving water from the HR Wells, the water was provided by WB Kukio
 21 pursuant to agreements between WB Kukio and the owners of the properties, not KUC. In
 22 Docket No. 2007-1098, KUC’s last rate case before the acquisition of its assets by KWSC, KUC
 23 described those agreements, and referred to the capacity reserved under these agreements as
 24 “committed capacity”.¹⁴ The committed capacity was comprised of the following:

Makalei	627,200 gpd
Others	54,000 gpd

26

¹⁴ See Application filed on July 20, 2007 in Docket No. 2007-0198 (the “KUC Application”), Exhibit KUC-T-100 at 6-13 and Exhibit KUC-T-200 at 14-18.

1 Although 54,000 gpd was treated as committed capacity, KUC's testimony only described
2 42,000 gpd, as follows:

3	Stroud	15,000 gpd
4	Robarts	18,000 gpd
5	Veteran's Cemetery/State	9,000 gpd

6 In Docket No. 2007-0198, KUC made adjustments to rate base to remove the capacity
7 related to the obligation to provide water service to these properties from the rate setting
8 process.¹⁵ KUC made committed capacity adjustments of 25.37% for Makalei and 2.18% for
9 "Others", for a total committed capacity adjustment of 27.55%.¹⁶ Once this percentage was
10 determined, it was applied to the total production capacity rate base of \$4,243,703, which
11 resulted in rate base associated with capacity committed to Makalei and Others of \$1,076,627
12 and \$92,513, respectively.¹⁷ This amount was excluded from rate base.

13

14 **Q: How was the Makalei committed capacity treated in KWSC's last rate case?**

15 **A:** Following KWSC's purchase of KUC's assets, KUC's parent, WB Kukio, informed
16 KWSC that there had been a mistake in the calculation of the Makalei committed capacity. The
17 mistake related to transmission plant that serves the treatment plant, which is not used to provide
18 service to Makalei. WB Kukio informed KWSC that this transmission plant was incorrectly
19 included in the calculation of the Makalei committed capacity in Docket No. 2007-0198.
20 Correction of this mistake resulted in transmission plant of \$2,068,991 compared with the
21 \$4,464,206 that was used to calculate the Makalei committed capacity in that docket.¹⁸ In
22 Docket No. 2013-0375, KWSC explained that the committed capacity adjustment for Makalei
23 should have been \$571,068, as compared with \$1,076,827.¹⁹ The Parties subsequently agreed to
24 reduce this amount to \$335,116 based on the accumulated depreciation of the plant that was
25 included in the committed capacity.²⁰ The Commission approved this agreement.

¹⁵ See KUC Application, Exhibits KUC-T-200 at 14-18 and KW 8-6.

¹⁶ See KUC Application, Exhibit 8-6, lines 15 and 16, column 6.

¹⁷ *Id.*, Exhibits KUC-T-200 at 17-18 and KW 8-6, line 11, column 5 and lines 40 and 41, column 6.

¹⁸ See Application filed on August 29, 2014 in Docket No. 2013-0375 (the "2013 Application"); KUC Application, Exhibit KW 8-6, line 3, column 5.

¹⁹ 2013 Application, Exhibit KWSC-T-600 at 12.

²⁰ See Stipulation of the Parties for Partial Settlement filed on May 4, 2015 in Docket No. 2013-0375 (the "Partial Stipulation") at 46-47.

1 **Q: How does KWSC propose to treat the Makalei committed capacity in this rate case?**

2 A. KWSC proposes to exclude the Makalei committed capacity from rate base, consistent
3 with the Commission's decision in KWSC's last rate case. However, KWSC has adjusted the
4 amount of the Makalei committed capacity by: a) adding a portion of the cost of certain new
5 capital improvements that serve the Makalei property; and b) deducting the accumulated
6 depreciation of the plant used to serve the Makalei property. These adjustments result in
7 Makalei committed capacity of \$364,848, as shown in Exhibit KWSC-T-104.

8

9 **Q: How was the committed capacity for "Other" properties treated in KWSC's last**
10 **rate case?**

11 A. In KWSC's last rate case, KWSC did not propose to include any committed capacity
12 adjustment for "Other" properties, i.e. the Stroud property, the Robarts property or the West
13 Hawaii Veteran's Cemetery. KWSC explained that the West Hawaii Veteran's Cemetery had
14 been added to KWSC's service territory and that KWSC was providing service to that property;
15 that the Stroud property had also been added to KWSC's service territory, although water service
16 to the property had not yet begun; and that the Robarts property had not yet been added to
17 KWSC's service territory and no potable water was being provided.²¹ The Consumer Advocate
18 agreed that there should not be a committed capacity adjustment for the West Hawaii Veteran's
19 Cemetery, but argued that there should be an adjustment for the Stroud and Robarts properties.²²
20 The Commission determined that there should be committed capacity adjustments of \$60,000 for
21 the Robarts property and \$49,739 for the Stroud property. However, the Commission stated that
22 it was open to revisiting the committed capacity adjustment for the Stroud property in future
23 filings if KWSC could provide more evidence regarding the nature and amount of its water
24 service to that property.²³

²¹ See 2013 Application, Exhibit KWSC-T-600 at 13-15.

²² See Division of Consumer Advocacy's Direct Testimonies and Exhibits filed on March 17, 2015 in Docket No. 2013-0375 (the "Consumer Advocacy's Testimony"), CA-T-1 at 24-27 and CA-112. KWSC subsequently agreed that there should be an adjustment of \$60,000 for the Robarts property but did not agree that there should be any adjustment for the Stroud property. See Partial Stipulation at 48.

²³ See KWSC D&O at 77-79 and Exhibit A.

1 **Q: How does KWSC propose to treat the committed capacity adjustment for the**
2 **Robarts property in this rate case?**

3 A. KWSC proposes to exclude the committed capacity for the Robarts property from rate
4 base, consistent with the Commission's decision in KWSC's last rate case. However, KWSC
5 has adjusted the amount of the Robarts committed capacity by: a) adding new capital
6 improvements made to the KWSC system; and b) deducting the accumulated depreciation of the
7 plant. This results in a committed capacity adjustment for the Robarts property of \$44,241.
8 Details are shown in Exhibit KWSC-T-104.

9

10 **Q: How does KWSC propose to treat the committed capacity adjustment for the**
11 **Stroud property in this rate case?**

12 A. KWSC proposes to exclude the committed capacity for the Stroud property from rate
13 base, consistent with the Commission's decision in KWSC's last rate case. However, KWSC
14 has adjusted the amount of the Stroud committed capacity by: a) adding new capital
15 improvements made to the KWSC system; and b) deducting the accumulated depreciation of the
16 plant. This results in a committed capacity adjustment for the Stroud property of \$36,868.
17 Details are shown in in Exhibit KWSC-T-104.

18

19 **Q. Please describe the true-up adjustment that was made to KWSC's rate base in its**
20 **last rate case.**

21 A: As discussed above, in KWSC's last rate case, it explained that the committed capacity
22 adjustment for Makalei in the KUC Rate Case had been based on an error in the amount of water
23 transmission facilities that served the Makalei property. KWSC also explained that there had
24 been an error in the KUC Rate Case regarding the capacity of KWSC's wastewater treatment
25 plant that was used to calculate excess capacity of that plant.²⁴ The Consumer Advocate stated
26 that the price that KWSC paid for KUC's assets was based, in part, on the calculation of the
27 KUC's rate base, which included adjustments for the Makalei committed capacity and excess
28 capacity in the WWTP. The Consumer Advocate argued that KWSC paid less than it should
29 have for KUC's assets, and that there should be a "true-up" adjustment of KWSC's rate base so

²⁴ See 2013 Application, KWSC-T-500 at 4.

1 that ratepayers would not be burdened with higher rates. This adjustment consisted of
2 \$1,052,368 for water operations and \$794,204 for sewer operations, to be amortized over the
3 remaining life of the assets.²⁵ The Commission approved the true-up adjustment recommended
4 by the Consumer Advocate.²⁶

5
6 **Q: How does KWSC propose to treat the true-up adjustments in this rate case?**

7 A: KWSC proposes to include a true-up adjustment to water and sewer rate base consistent
8 with the Commission's decision in KWSC's last rate case. KWSC has also amortized the true-
9 up adjustment consistent with Commission's decision in KWSC's last rate case. This results in a
10 true-up adjustment of \$966,710 for water operations and \$673,347 for sewer operations, as
11 shown on Exhibit KWSC-T-105.

12
13 **Rate of Return**

14 **Q. What capital structure is Applicant requesting in this case?**

15 A. A capital structure of 46.6% debt to 53.4% equity is being requested in this case. This is
16 based on the overall capital structure that Hawaii Water's affiliate, Cal Water, currently uses.
17 Equity is calculated as 53.4% of the proposed average test year rate base. The proposed capital
18 structure is shown in Exhibit 10.²⁷

19
20 **Q. What rate of return is Applicant proposing and why?**

21 A. Applicant is requesting a 7.48% rate of return ("ROR") based on a 46.6% debt to 53.4%
22 equity capital structure. The requested ROR is the same as the ROR that was approved for the
23 most recent rate cases of the Waikoloa Utilities.

²⁵ Consumer Advocate's Testimony, CA-T-1 at 27-31 and CA-W-111. HWSC disagreed with this adjustment.

²⁶ Decision and Order No. 32944 at 79-87. The Commission noted that the basis for its decision was not entirely for the reasons offered by the Consumer Advocate. The Commission stated that had the correct information been provided when KWSC requested approval of it's purchased the assets, it may have impacted the parties' position and/or the Commission's decision, and that correcting errors warrants examination where it results in determine to ratepayers.

²⁷ Exhibits WHUC Water 10 and WHUC Sewer 10 are identical.

1 Applicants are proposing a 5.5% cost of debt and a 9.20% return on equity. The 5.5%
2 cost of debt is the actual interest rate under the long term note payable by KWSC to CWSG.²⁸
3 Therefore, the 5.5% cost of debt is an appropriate forecast for the current proceeding.

4 The requested ROE of 9.20% maintains the 7.48% ROR that was approved in the recent
5 rate cases described above. Investors in CWSG equity will expect the company and its
6 subsidiaries to make rational allocations of capital to meet the facilities needs of their service
7 areas. In CPUC Decision (D.) 18-03-035, the most recent proceeding approving a return on
8 equity (“ROE”) for Hawaii Water’s affiliate, Cal Water, Cal Water was allowed a 9.20% ROE
9 for the period 2017-2020.²⁹ Applicants believe it is reasonable to request the same ROE as their
10 affiliate, Cal Water (i.e. 9.20%) because investors in CWSG expect consistency among CWSG’s
11 subsidiary companies with similar economic returns across operating areas.

12
13 **Proposed Tariff Revisions**

14 **Please describe the revisions KWSC is proposing to its tariff.**

15 A. KWSC proposes to remove the service application form that is attached as Exhibit “B” to
16 its tariff. This form was created and used by KWSC before it was acquired by Hawaii Water.
17 KWSC would like the flexibility to create and utilize a more modern form of application, and to
18 revise the form as necessary. The Commission recently approved Hawaii Water’s request to
19 remove the service application form from the tariff for its Pukalani division and the Waikoloa
20 Utilities.³⁰ Consistent with the Commission’s Decisions in those cases, KWSC will post its
21 application form on the Hawaii Water website.

22
23 **Phase-in of Rate Increases**

24 **Q. Are there any proposals for phase-in rate implementation?**

25 A. No. The revenue increases requested by KWSC in this case are 12.8% and 11.4% for
26 water and sewer operations, respectively. In other proceedings, the Consumer Advocate’s
27 position has been that increases in rates greater than 25% might constitute rate shock. While

²⁸ See Letter to the Commission dated April 26, 2013 in Docket No. 2008-0109.

²⁹ This is still the current approved ROE for Cal Water.

³⁰ See Pukalani Proposed D&O at 86-87; WHUC D&O at 164; WHSC Proposed D&O at 89; WHSC Proposed D&O at 87.

1 KWSC's position on potential rate shock differs from the Consumer Advocate's position,
2 KWSC's requested increase is below what the Consumer Advocate considers rate shock so a
3 phase-in is not needed. Therefore, KWSC does not propose a phase-in.
4

5 **Rate Design and Cost of Service Studies**

6 **Q. Is KWSC proposing any changes to its rate designs in this proceeding?**

7 A. Yes. KWSC is proposing to revise the pump efficiency factor for its water operation, as
8 described in greater detail below. As I will discuss in greater detail below, KWSC is not
9 proposing to make major changes to its rate design.
10

11 **Power Cost Charge**

12 **Q. Does KWSC propose to make any changes to the PCC?**

13 A. Yes. KWSC proposes to revise the pump efficiency factor used in the PCC calculation
14 for its water operations. The following formula is used to calculate the PCC for KWSC Water:
15

Electricity cost per Thousand Gallons

$$= \text{previous month's unit cost of electricity} \left(\frac{\$}{kWh} \right) \\ \times \text{pump efficiency factor} \left(\frac{kWh}{TG} \right) \times \text{revenue tax factor}$$

16
17 where the pump efficiency factor is 18.71 kWh / TG. The revenue tax factor is 1.06385, which
18 consists of the Public Service Company tax and Public Utility Commission fee. The current
19 pump efficiency factor of 18.71 kWh / TG is a function of the amount of energy consumed and
20 the volume of water pumped from wells. In the most recent rate case for the Waikoloa Utilities,
21 the Consumer Advocate expressed concerns that the PCC was not meeting its original intent
22 because PCC revenues are less than electricity expenses, and therefore some electricity costs will
23 be recovered through standby and consumption charges.³¹ In order to address this concern,

³¹ See Division of Consumer Advocacy's Testimony and Exhibits filed on September 6, 2018 in Docket 2017-0350, CA-T-2 at 15 – 18.

1 KWSC proposes to calculate the pump efficiency factor by solving the PCC revenue equation for
 2 pump efficiency factor. The equation used to calculate PCC revenue equation is as follows:

$$\begin{aligned}
 &PCC\ Revenue = total\ sales\ (TG) \times previous\ month's\ unit\ cost\ of\ electricity\ \left(\frac{\$}{kWh}\right) \\
 &\quad \times\ pump\ efficiency\ factor\ \left(\frac{kWh}{TG}\right) \times\ revenue\ tax\ factor
 \end{aligned}$$

4
 5 Setting PCC revenue equal to the electricity cost in the Test Year ensures that no electricity
 6 expenses are included in base rates. The revised pump efficiency factor is 22.4602 kWh / TG.
 7 KWSC proposes to use the revised pump efficiency factor in the PCC calculation moving
 8 forward. Details of the calculation can be found in Exhibit KWSC Water 8.8. KWSC is not
 9 proposing to change the methodology used to calculate the PCC for water operations.

10 The following formula is used to calculate the PCC for KWSC Sewer:

$$\begin{aligned}
 &Electricity\ Cost\ per\ Thousand\ Gallons \\
 &= \frac{Previous\ Month's\ Electrical\ Cost\ (\$)}{Previous\ Month's\ Total\ Metered\ TG\ of\ Water} \times\ revenue\ tax\ factor
 \end{aligned}$$

12
 13 where the revenue tax factor is 1.06385. KWSC is not proposing any changes to the PCC for
 14 WHUC Sewer. However, similar to KWSC Water, KWSC set PCC revenues equal to the Test
 15 Year electricity cost to ensure that no electricity expenses are included in base rates.

16 For the purposes of this proceeding, KWSC has included a calculation of estimated
 17 revenues resulting from the PCC, which is shown on the following table:

Division	PCC Revenue	Exhibit Reference
KWSC Water	\$ 1,402,348	Exhibit KWSC Water 8.8
KWSC Sewer	\$ 133,269	Exhibit KWSC Sewer 8.7

Table 114. PCC Revenue.

1 Details of the PCC revenues can be found in the corresponding Exhibits listed in the table above.
2 The PCC revenues presented in this application are annualized and are meant to demonstrate
3 how the PCC works. The actual PCC passed through to customers varies month to month
4 depending on the power consumed and sales that month.³²
5

6 **Cost of Service Studies and Rate Designs**

7 **Q. Why did KWSC conduct a COSS for this proceeding?**

8 A. In KWSC's most recent rate case, the Commission ordered it to complete and file a Cost
9 of Service Study (the "COSS") with its next rate case application.³³ In order to comply with the
10 Commission's order, KWSC retained Shambaugh Utility Consulting, LLC and EXP 1, LLC to
11 perform the COSS for the current application. The report and results of the COSS are attached
12 as Exhibits KWSC-T-106 and KWSC-T-107 for KWSC Water and KWSC Sewer, respectively.
13 The goal of a cost of service study is to allocate costs to customer classes based on the demand
14 they place on the system. Once the costs are allocated to the customer classes, rates are designed
15 to recover those costs.
16

17 **Q. What is the rate design proposal in this proceeding?**

18 A. KWSC proposes to maintain its existing rate designs. The cost of service analysis shows
19 that in KWSC Water, there is negligible cross subsidization between customer classes. The cost
20 of service analysis for KWSC Sewer shows that the residential customer class is somewhat
21 subsidizing the non-residential customer class. The difference is small enough that it does not
22 warrant a change in the rate structure. Additionally, for all intents and purposes, non-residential
23 customers and residential customers are nearly one in the same; non-residential customers
24 consist of the Kukio Beach Club, Home Owner Association Facilities, golf course, and comfort
25 stations that are not open to the public. The only people who have access to these facilities are
26 residential customers in the Kukio community. It is rare in utilities that the rate structure will
27 exactly match the cost of service. As I will explain in greater detail below, KWSC proposes to

³² Sales only affect the sewer PCC, not the water PCC.

³³ See KWSC D&O at 124.

1 maintain its existing rate designs. However, KWSC is proposing a different methodology to
2 collect fixed charges by meter size.

3
4 **Q. How were proposed rates calculated?**

5 A. The following discussions describe the procedures used to calculate proposed rates for
6 KWSC.

7
8 KWSC Water

9 KWSC Water rate design consists of four major components: 1) meter charge; 2) ready to
10 serve charge; 3) consumption charges; 4) PCC. First, KWSC took the difference between the
11 proposed revenue requirement and the forecasted PCC revenue. This ensures that the revenue
12 collected through meter charges, ready to serve charges and quantity rates excludes the cost of
13 power. The amount of revenue to be collected through meter charges, ready to serve charge, and
14 consumption charges is \$2,579,039:

15
16
$$\$3,981,387 - \$1,402,348 = \$2,579,039$$

17 where \$3,981,387 is the proposed revenue requirement and \$1,402,348 is PCC revenue.

18 Next, the revenue was allocated into two categories: fixed revenue and quantity revenue.
19 The allocation between fixed revenue and quantity revenue at present rates is approximately
20 3.5% and 96.5%, respectively. The ready to serve charge includes the first 10,000 gallons of
21 water usage. As such, revenue from ready to serve charge is considered metered revenue. In the
22 current proceeding, KWSC proposes to shift the allocation of revenue from 3.5% and 96.5% for
23 fixed and metered revenue, respectively to 4.2% and 95.8% for fixed and metered revenue,
24 respectively. The reason for this change is so that meter charges could be developed for each
25 individual meter size.³⁴ The resulting revenues to be collected through fixed charges and
26 metered charges are \$108,255 and \$2,470,784, respectively:

27

³⁴ See Decision and Order No. 34790 filed on September 6, 2017 in KWSC's Transmittal No. 17-01 (Non-Docketed) at 10. KWSC is required to develop monthly meter charges for 3" meters and meters greater than 4".

$$\$2,579,039 \times 4.2\% = \$108,255$$

1

and

$$\$2,579,039 - \$108,255 = \$2,470,784$$

2

3

4

5

6

7

Next, meter charges are calculated. Revenues are allocated by meter size by multiplying the existing 5/8" meter charge by the overall revenue increase being requested. This amount is then multiplied by the meter ratio for each respective meter size. The meter ratio for WHUC Resort Water was used for KWSC Water because the current ratios for KWSC water do not have individual meter ratios for 3" meters and meters greater than 4".

8

9

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16

Next, the ready to serve charge is calculated. To determine the amount of revenue collected through the ready to serve charge, the ratio of ready to serve charge revenue to total metered revenues at present rates is multiplied by the projected metered revenues at proposed rates. The amount of revenue to be collected through the ready to serve charge is \$1,105,740. This amount is further allocated by residential, cottage, and business customers by multiplying the ratio of ready to serve revenue at present rates in those classifications to the total ready to serve revenue at present rates. Once the revenue at proposed rates to be collected is known, the monthly ready to serve charge is calculated by dividing revenue at proposed rates by the customer count in a customer class and by 12.

17

18

19

20

21

22

23

24

25

Finally, quantity rates are calculated. To determine the amount of revenue collected through metered rates, the ratio of metered rate revenues to total metered revenues is multiplied by the projected metered revenues at proposed rates. The amount of revenue to be collected through metered rates is \$1,365,043. This amount is further allocated by usage block by multiplying the ratio of usage block revenue at present rates to the total metered rate revenue at present rates. Once the revenue at proposed rates by usage block to be collected is known, the proposed block rates can be calculated by dividing revenue at proposed rates by the total sales in each usage block. Detailed calculations are shown in Exhibit KWSC Water 12.

26 KWSC Sewer

27

28

KWSC Sewer rate design consists of three major components: 1) stand-by charge; 2) metered consumption charge; 3) PCC. First, KWSC took the difference between the proposed

1 revenue requirement and the forecasted PCC revenue. This ensures that the revenue collected
2 through fixed customer charges and quantity rates excludes the cost of power. The amount of
3 revenue to be collected through fixed customer charges and quantity rates is \$1,893,918:
4

$$\$2,027,187 - \$133,269 = \$1,893,918$$

5
6 where \$2,027,187 is the proposed revenue requirement and \$133,269 is PCC revenue.

7 Next, the revenue was allocated into two categories: fixed revenue and metered revenue.
8 The allocation between fixed revenue and metered revenue at present rates is approximately
9 74.4% and 25.6%, respectively. KWSC proposes to maintain the current revenue split in the
10 current proceeding. The resulting revenues to be collected through stand-by charges and
11 quantity rates are \$1,408,512 and \$485,406, respectively:
12

$$\$1,893,918 \times 74.4\% = \$1,408,512$$

13 and

$$\$1,893,918 - \$1,408,512 = \$485,406$$

14
15 Next, stand-by charges are calculated. Stand-by charges at present rates are increased by
16 the percentage increase that flat rate revenue is increasing. In this case, flat rate revenues are
17 increasing by approximately 12.3%.

18 Finally, quantity rates are calculated. The amount of revenue to be collected through
19 quantity rates, as calculated above, is divided by the projected billed sewer flows for the test
20 year. The resulting rate is \$23.8461 per TG:
21

$$\frac{\$485,406}{20,356 \text{ TG}} = \$23.8461 / \text{TG}$$

22
23 KWSC is proposing to maintain the 7,000 gallons cap of metered water usage for non-residential
24 customers with meters 1" or less and all residential customers and 40% of metered water usage

1 for non-residential customers with a water meter greater than 1". Detailed calculations are
2 shown in Exhibit KWSC Sewer 12.

3

4 **Q. Does this conclude your testimony?**

5 **A. Yes it does.**

Deloitte

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February 14, 2019

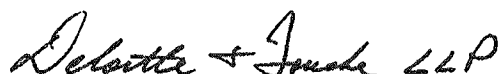
Mr. Thomas F. Smegal III
California Water Service Group
1720 North First Street
San Jose, CA 95112-4598

Dear Tom,

As a follow up to our conversation regarding a stand-alone audit for the Kona Water Service Company, Inc. financial statements, our estimated fee is \$220,000 plus expenses. This fee estimate would be for the performance of the audits as of and for the year ended December 31, 2017 and as of and for the six-month period ended June 30, 2018. The estimated fees outlined herein are only an estimate for fees associated with performing the audit. This estimate does not contemplate requests for information or any procedures that would need to be performed in connection with any such request. Should Deloitte & Touche LLP agree to perform such procedures, fees for such procedures would be subject to the mutual agreement of the Company and Deloitte & Touche LLP, and subject to approval by the California Water Service Group's Audit Committee.

Please let me know if you require anything further on this audit fee quote and if you would like us to begin this engagement.

Best regards,



Partner – Audit Services
Deloitte & Touche LLP



KONA WATER SERVICE COMPANY

Kona Water (KW)

Depreciation Study

as of December 31, 2017

**Earl M. Robinson, Principal
David A. Sheffer, Principal**

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June, 2018



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October 8, 2018

Mr. Julian Gandara
Regulatory Program Manager
California Water Service Company
1720 North First Street
San Jose, CA 95112

RE: Kona Water Service Company-Kona Water
Depreciation Study as of 12-31-2017

Dear Mr. Gandara:

In accordance with your authorization, we have prepared a depreciation study related to the utility plant in service of Kona Water Service Company-Kona Water (Kona Water or the Company) as of December 31, 2017. Our findings and recommendations, together with supporting schedules and exhibits, are set forth in the accompanying report.

Summary schedules have been prepared to illustrate the impact of instituting the recommended annual depreciation rates as a basis for the Company's annual depreciation expense as compared to the rates presently utilized. The application of the present rates to the depreciable plant in service as of December 31, 2017 results in an annual depreciation expense of \$378,928. In comparison, the application of the proposed depreciation rates to the depreciable plant in service at December 31, 2017 results in an annual depreciation expense of \$462,684, which is an increase of \$83,756 from current rates. The composite annual depreciation rate under present rates is 1.88 percent, while the proposed pro forma composite depreciation rate is 2.30 percent.

Section 2 of our report contains the summary schedules showing the results of our service life and salvage studies and summaries of presently utilized depreciation rates. The subsequent sections of the report present a detailed outline of the methodology and procedures used in the study together with supporting calculations and analyses used in the development of the results.

Respectfully submitted,

A handwritten signature in black ink that reads 'Earl M. Robinson'.

EARL M. ROBINSON, CDP
&

A handwritten signature in black ink that reads 'D.A. Sheffer'.

DAVID A. SHEFFER

TABLE OF CONTENTS

	Page No.
<u>SECTION 1</u>	
Executive Summary	1-1
<u>SECTION 2</u>	
Summary of Original Cost of Utility Plant in Service as of December 31, 2017 and Related Annual Book Depreciation Expense Under Present and Proposed Rates (Table 1)	2-1
Summary of Gross Salvage and Cost of Removal in Book Depreciation Reserve as of December 31, 2017 (Table 1a)	2-3
Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utilizing Book Depreciation Reserves and Average Remaining Lives of as of December 31, 2017 (Table 2-Plant Only)	2-5
Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utilization of Book Depreciation Reserve and Average Remaining Lives as of December 31, 2017 (Table 2-Gross Salvage)	2-7
Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utilization of Book Depreciation Reserve and Average Remaining Lives as of December 31, 2017 (Table 2- COR)	2-9
Original Cost Per Books, Adjustments, and Original Cost Per Depreciation Study as of December 31, 2017 (Table 3)	2-11
Company's Book Reserve and Allocation of Book Reserve Based Upon Calculated Depreciation Reserve as of December 31, 2017 (Table 4)	2-13
Summary of Original Cost of Utility Plant in Service as of December 31, 2017 and Present and Proposed Parameters (Table 5)	2-15
Summary of ASL's and Net Salvage Percents From Industry Depreciation Studies (Table 6)	2-17

TABLE OF CONTENTS

	Page No.
<u>SECTION 3</u>	
General	3-1
Depreciation Study Overview	3-2
Annual Depreciation Accrual	3-3
Group Depreciation Procedures	3-4
Calculation of ASL, ARL, and Accrued Depreciation Factors Based Upon Iowa 10-R3 Using the Equal Life Group (ELG) Procedure (Table 7)	3-8
Remaining Life Technique	3-9
Salvage	3-11
Service Lives	3-15
Survivor Curves	3-16
Study Procedures	3-16
<u>SECTION 4</u>	
Study Results	4-1
<u>SECTION 5</u>	
Service Life Analysis	5-1
<u>SECTION 6</u>	
Composite Remaining Life Calculations	6-1

SECTION 1

Kona Water Service Company

Kona Water (KW) Executive Summary

Table 1's on pages 2-1 and 2-2 are comparative summaries which illustrates the effect of the proposed depreciation rates. The schedule includes a comparison of the annual depreciation rates and annual depreciation expense under both present and proposed historical rates applied using the Straight Line Method for each depreciable property group of the Kona Water Service Company-Kona Water ("Kona or Company") plant in service as of December 31, 2017. The proposed depreciation rates were developed utilizing the Straight Line (SL) Method, Broad Group (BG) Procedure, and the Average Remaining Life (ARL) Technique.

Table 1a on pages 2-3 and 2-4 summarizes the Company's December 31, 2017 property group depreciation reserves by the detailed segments of plant only, gross salvage, and cost of removal components.

Table 2 - Plant Only on pages 2-5 and 2-6 is the development of average remaining life depreciation rates for the Plant Only recovery component), provides a summary of the detailed life estimates and service life parameters (Iowa Curves) utilized in preparing the Average Remaining Life depreciation rates for each property group. The schedule provides a summary of the detailed data and narrative of the study results set forth in Sections 4 through 6. The developed depreciation rates (Column L) were determined by studying the Company's historical investment data together with the interpretation of future life expectancies which will have a bearing on the overall service life of the Company's property.

Table 2 - Gross Salvage on pages 2-7 and 2-8 are similar tables to Table 2 - Plant Only,

except that this table develops the component level depreciation rates for the recovery of the gross salvage portion of the property cost.

Table 2 - Cost of Removal on pages 2-9 and 2-10 summarizes the depreciation recovery rates for the cost of removal segment of the total plant cost.

Table 3 on pages 2-11 and 2-12 reconciles the December 31, 2017 account level plant in service balances per books versus the balances utilized in the performance of the depreciation study.

Table 4 on pages 2-13 and 2-14 summarizes the Company's December 31, 2017 book depreciation reserve and Allocation of Book Reserve Based Upon Calculated Reserve per the December 31, 2017 depreciation study.

Table 5 on pages 2-15 and 2-16 summarizes the depreciation parameters underlying the Company's current depreciation rates as well as also provides similar information relative to the proposed depreciation parameters and depreciation rates as of December 31, 2017.

Table 6 on pages 2-17 and 2-18 summarizes the depreciation average service lives and net salvage percent utilized throughout the industry for the various property groups. This information was utilized along with an investigation of the Company's property investments, historical analysis of available data, discussions with management, and a general review of the physical operating property to estimated depreciation parameters underlying the proposed depreciation rates.

While the overall aggregate change to the composite depreciation rate and expense was quite minor, some selected property groups did experience more sizable levels of depreciation change (greater or lesser) than that produced via the application of the present depreciation rates. The accounts for which the most notable depreciation expense changes occurred in comparison

to the current depreciation rates include Account 324-Pumping Equipment, Account 331-Water Treatment Structures & Improvements, Account 342-Reservoirs & Tanks, Account 343-Transmission & Distribution Mains, and Account 373-Transportation Equipment.

The depreciation rate for Account 324 – Pumping Equipment increased from 1.36 percent to 4.66 percent. A 21 year average service life is estimated as the applicable average service life for the proposed depreciation rate to give consideration to the anticipated ongoing changes of property operating, the Company's available historical experience, and the general range of lives used in the industry. The implicit underlying average service life for this property group is an extremely long 73 years. The net salvage underlying the current depreciation rate is unknown, but assumed to be zero percent. Future net salvage of negative 10% is estimated in developing the proposed depreciation rate.

The depreciation rate for Account 331 – Water Treatment Structures & Improvements increased from 1.99 percent to 3.07 percent. A 40 year average service life is estimated as the applicable average service life for the proposed depreciation rate to give consideration to the anticipated ongoing changes of property operating and the general range of lives used in the industry. The implicit underlying average service life for this property group is a 50 years. The net salvage underlying the current depreciation rate is unknown, but assumed to be zero percent. Future net salvage of negative 10% is estimated in developing the proposed depreciation rate.

The depreciation rate for Account 342 – Reservoirs & Tanks increased from 1.99 percent to 2.64 percent. A 50 year average service life is forecast as the applicable average service life for the proposed depreciation rate to give consideration to the content of the property group and general range of lives used in the industry. The implicit underlying average service life for this property group is 50 years. The net salvage underlying the current depreciation rate is unknown,

but assumed to be zero percent. Future net salvage of negative 25% is estimated in developing the proposed depreciation rate.

The proposed depreciation rate for Account 343 – Transmission & Distribution Mains, declined from 1.94 percent to 1.67 percent. The proposed depreciation rate is the result of combined changes of both the average service life and net salvage parameters. The underlying estimated (implicit) average service life for the proposed depreciation rates is 80 years (giving the mix of the property investment within the property group and the range of lives within the industry. The implicit average service life underlying the current depreciation rate is a shorter 51 years. The future negative net salvage estimated for the proposed property group depreciation rate is negative 40 percent. The net salvage percent underlying the current depreciation rate is unknown, but assumed to be zero percent.

The depreciation rate for Account 373 – Transportation Equipment declined from 10.65 percent to 3.15 percent. An 8 year average service life is estimated as the applicable average service life for the proposed depreciation rate to give consideration to the anticipated ongoing changes of property operating and the general range of lives used in the industry. The implicit underlying average service life for this property group is 9 years. The net salvage underlying the current depreciation rate is unknown, but assumed to be zero percent. Future net salvage of 10% is estimated in developing the proposed depreciation rate.

The utilization of the recommended depreciation rates based upon the Straight Line Average Remaining Life Procedure results in the setting of depreciation rates which will continuously true up the Company's level of capital recovery over the life of each asset group. Application of this procedure, which is based upon the current best estimates of service life together with the Company's plant in service and accrued depreciation, produces annual

depreciation rates that will result in the Company recovering 100 percent of its investment -- no more, no less.

It is recommended that the Company continue to apply depreciation rates and maintain its book depreciation reserve on an account-level basis. The maintenance of the book reserve on an account-level basis requires both the development of annual depreciation expense and distribution of other reserve account charges to an individual level. Maintaining the Company's depreciation records in this detail will aid in completing the various rate studies and, most importantly, clearly identify the Company's level of capital recovery relative to each category of plant investment.

The general drivers for the proposed depreciation rates include an assessment of the Company's historical experience with regard to achieved service lives and net salvage factors. In addition, consideration is given to current and anticipated events which are anticipated to impact the Company's ability to recover its fixed capital costs related to utility plant in service.

The depreciation rate for each individual account changed as a result of estimates obtained through the in-depth analysis of the Company's most recent data together with an interpretation of ongoing and anticipated future events. Some of the revisions were not significant and typically reflect fine tuning of previously utilized depreciation rates while others were more substantial in nature. Several of the accounts did reflect more significant changes (as outlined in Section 4 of this report) from the previously utilized depreciation rates.

Several of the remaining account/sub-accounts experienced increases or decreases in recommended depreciation rates to a lesser degree, as noted per Table 1 of this report. This revision in annual depreciation rates and expense is the result of both changes in the estimated service lives and salvage factors, and reflects the impact of the Company's property changes since the most recent study.

With regard to the inclusion of higher negative net salvage levels in the development of proposed depreciation rates, as noted within the discussion related to net salvage in Section 3 of the depreciation report, it should be noted that the level of experienced net salvage should simply be a benchmark from which to estimate future net salvage. It is highly likely that the negative net salvage amounts experienced even recently will simply be the floor above which future negative net salvage levels will increase to a higher level. To appropriately and proportionately allocate the true total asset cost (original cost adjusted for net salvage) over its applicable service life, proper consideration must be given, in each accounting period, to the total costs that are anticipated to occur relative to the Company's assets that provide customer service.

Additionally, this depreciation study report includes a new depreciation rate for Account 346.00-Meters. As of December 31, 2017, the effective date of this depreciation study report, the Company has no plant investments recorded to that property account, and thus no historical experience upon which to base a proposed depreciation rate. Accordingly, a depreciation rate of 5.00% was developed, based upon the average service life and net salvage being experienced within the industry, to be prospectively applied to the Company's new property account investments.

Applying the proposed depreciation rates to the Company's December 31, 2017 historical depreciable plant in service balances produces annual depreciation expense of \$462,684 which is an increase of \$83,756 in depreciation expense from the application of the current depreciation rates.

The following summary compares the present and proposed composite depreciation rates and is for illustrative purposes only. The Composite Depreciation Rate should not be applied to the total Company investment inasmuch as the non-proportional change in plant investment as a

result of property additions or retirements would render the composite rate inappropriate. The Table 1 schedule (in Section 2 of the report) lists the recommended annual depreciation rates for each of the applicable property accounts.

Present Depreciation Rates

Depreciable Plant In Service at December 31, 2017	\$20,159,546
Annual Depreciation Expense	\$378,928
Composite Annual Depreciation Rate	1.88%

Proposed Depreciation Rates

Depreciable Plant In Service at December 31, 2017	\$20,159,546
Annual Depreciation Expense	\$462,684
Composite Annual Depreciation Rate	2.30%

SECTION 2

Table 1 - KW

Kona Water Service Company
 Kona Water (KW)

Summary of Original Cost of Utility Plant in Service
 as of December 31, 2017 and Related Annual Book Depreciation Expense
 Under Present and Proposed Rates

Acct. No.	Description	(a)	Under Present Rates		Proposed Plant Only Rates		Proposed Gross Salvage Rates		Proposed Gross COR Rates		Total Proposed Rates		Net Change Depr. Exp.
			(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	
		Original Cost 12-31-17	Rate %	Annual Accrual	Rate %	Annual Accrual	Rate %	Annual Accrual	Rate %	Annual Accrual	Rate %	Annual Accrual	
DEPRECIABLE PLANT													
Source of Supply													
311.00	Structures & Improvements	34,499.12	3.33%	1,149.96	2.13%	734.83	0.00%	0.00	0.22%	75.90	2.35%	810.73	(339.23)
	Total Account 311	34,499.12	0.00%	1,149.96	2.13%	734.83	0.00%	0.00	0.22%	75.90	2.35%	810.73	(339.23)
315.00	Wells	803.28	2.49%	20.04	1.99%	15.99	0.00%	0.00	0.70%	5.62	2.69%	21.61	1.57
316.40	Supply Mains	14,617.49	2.50%	365.40	2.01%	293.81	0.00%	0.00	0.20%	29.23	2.21%	323.05	(42.35)
	TOTAL Source of Supply	49,919.89		1,535.40		1,044.63	0.00%	0.00	0.22%	110.75	2.31%	1,155.39	(380.01)
Pumping Plant													
321.00	Pumping Structures & Improvements	1,608.73	3.33%	53.64	2.42%	38.93	0.00%	0.00	0.50%	8.04	2.92%	46.97	(6.67)
	Total Account 321	1,608.73		53.64		38.93	0.00%	0.00	0.50%	8.04	2.92%	46.97	(6.67)
324.00	Pumping Equipment	2,230,274.41	1.36%	30,418.42	4.18%	93225.47	0.00%	0.00	0.48%	10,705.32	4.66%	103,930.79	73,512.37
324.10	System Cntl Computer Equip	936,149.79	0.03%	305.28	0.82%	7676.43	0.00%	0.00	0.00%	0.00	0.82%	7,676.43	7,371.15
	TOTAL Pumping Plant	3,168,032.93	0.97%	30,777.34	3.19%	100,940.83	0.00%	0.00	0.34%	10,713.36	3.52%	111,654.19	80,876.85
Water Treatment Plant													
331.00	Water Treatment Structures & Improvements	2,647,464.00	1.99%	52,657.80	2.82%	74658.48	0.00%	0.00	0.25%	6,618.66	3.07%	81,277.14	28,619.34
	Total Account 331	2,647,464.00	1.99%	52,657.80	2.82%	74658.48	0.00%	0.00	0.25%	6,618.66	3.07%	81,277.14	28,619.34
332.00	Water Treatment Equipment	336,009.08	2.46%	8,265.96	1.98%	6652.98	0.00%	0.00	0.13%	436.81	2.11%	7,089.79	(1,176.17)
	Total Account 332	336,009.08	2.46%	8,265.96	1.98%	6652.98	0.00%	0.00	0.13%	436.81	2.11%	7,089.79	(1,176.17)
	TOTAL Water Treatment Plant	2,983,473.08	2.04%	60,923.76	2.73%	81,311.46	0.00%	0.00	0.24%	7,055.47	2.96%	88,366.93	27,443.17
Transmission & Distribution Plant													
342.00	Reservoirs & Tanks	2,575,847.29	1.99%	51,255.60	2.14%	55123.13	0.00%	0.00	0.50%	12,879.24	2.64%	68,002.37	18,746.77
	Total Reservoirs & Tanks	2,575,847.29	1.99%	51,255.60	2.14%	55123.13	0.00%	0.00	0.50%	12,879.24	2.64%	68,002.37	18,746.77
Transmission & Distribution Mains													
343.40	Mains-All Other	3,658,108.19	1.96%	71,631.11	1.05%	38410.14	0.00%	0.00	0.58%	21,582.84	1.64%	59,992.97	(11,638.14)
343.50	Mains-Ductile Iron	7,484,413.00	1.93%	144,448.20	1.16%	86316.07	0.00%	0.00	0.50%	37,422.07	1.68%	125,738.14	(18,710.06)
	Total Account 343	11,142,521.19	1.94%	216,079.31	1.14%	126726.21	0.00%	0.00	0.53%	59,004.91	1.67%	185,731.11	(30,348.20)
346.00	Meters	0.00	0.00%	0.00	5.00%	0.00	0.00%	0.00	0.00%	0.00	5.00%	0.00	0.00
348.00	Hydrants	29,794.95	2.50%	744.84	1.64%	488.64	0.00%	0.00	0.67%	199.63	2.31%	689.26	(66.58)
	TOTAL Trans. & Distr. Plant	13,748,163.43	1.95%	268,079.75	1.33%	182,337.98	0.00%	0.00	0.52%	72,083.78	1.85%	254,421.74	(13,658.01)

Table 1 - KW

Kona Water Service Company
 Kona Water (KW)

Summary of Original Cost of Utility Plant in Service
 as of December 31, 2017 and Related Annual Book Depreciation Expense
 Under Present and Proposed Rates

Acct. No	Description	Original Cost 12-31-17 (c)	Under Present Rates (d)		Proposed Plant Only Rates (e)		Proposed Gross Salvage Rates (f)		Proposed Gross COR Rates (g)		Proposed Rates (h)		Total Proposed Rates (i)		Net Change Depr. Exp. (n)
			Rate %	Annual Accrual Amount	Rate %	Annual Accrual Amount	Rate %	Annual Accrual Amount	Rate %	Annual Accrual Amount	Rate %	Annual Accrual Amount	Rate %	Annual Accrual Amount	
General Plant															
372.10	Office-Elec. Equip/Computers	6,545.51	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00
	Total Account 372	6,545.51	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00
373.00	Transportation Equipment	154,214.14	10.65%	16,431.00	4.40%	6,785.42	-1.25%	(1,927.68)	0.00%	0.00	0.00%	0.00	3.15%	4,857.75	(11,573.25)
374.00	Stores Equipment	28,232.38	2.50%	705.84	4.20%	1,185.76	0.00%	0.00	0.00%	0.00	0.00%	0.00	4.20%	1,185.76	479.92
375.00	Laboratory Equipment	2,577.48	5.00%	128.76	7.41%	190.99	0.00%	0.00	0.00%	0.00	0.00%	0.00	7.41%	190.99	62.23
378.00	Tools, Shop & Garage Equipment	18,387.15	1.88%	346.14	4.63%	851.33	0.00%	0.00	0.00%	0.00	0.00%	0.00	4.63%	851.33	505.19
	TOTAL General Plant	209,956.66	8.39%	17,611.74	4.29%	9,013.50	-0.92%	(1,927.68)	0.00%	0.00	0.00%	0.00	3.37%	7,085.83	(10,525.91)
	TOTAL DEPRECIABLE PLANT	20,159,545.99	1.88%	376,927.99	1.86%	374,648.40	-0.01%	(1,927.68)	0.45%	89,963.36	2.30%	462,884.08	83,756.09		
NON-DEPRECIABLE PLANT															
	TOTAL NON-DEPRECIABLE PLANT	0.00													
	TOTAL UTILITY PLANT IN SERVICE	20,159,545.99													

(1) The company anticipates adding plant to utility account 34600 - Meters & Meter Boxes in the test year. As of the December 31, 2017 the date of the depreciation study, the Company has no plant investments recorded to that utility account and no Company historical experience. Accordingly, a depreciation rate was developed based upon the average service life and net salvage being experienced within the industry.

Table 1a - KW

Kona Water Service Company
 Kona Water (KW)

Summary of Gross Salvage and Cost of Removal In Book Depreciation Reserve as of December 31, 2017

Acct. No.	Description	Original Cost 12-31-17 (c)	Salvage % (d)	A.S.L./ Curve (e)	Theoretical Depreciation Reserve (f)	Total Book Depr Reserve 12-31-17 (g)	Cost of Removal In Book Res. (h)	Gross Salvage In Book Res. (i)	Plant Only Depr Reserve 12-31-17 (j)
<u>DEPRECIABLE PLANT</u>									
<u>Source of Supply</u>									
311.00	Structures & Improvements	34,499.12	-10%	45-R4	2,810.20	4,109.03	255.47	0.00	3,853.56
	Total Account 311	34,499.12			2,810.20	4,109.03	255.47	0.00	3,853.56
315.00	Wells	803.28	-35%	50-R3	31.99	23.38	8.29	0.00	15.09
316.40	Supply Mains	14,617.49	-10%	50-R3	474.36	395.85	43.12	0.00	352.73
	TOTAL Source of Supply	49,919.89			3,316.55	4,528.26	306.88	0.00	4,221.38
<u>Pumping Plant</u>									
321.00	Pumping Structures & Improvements	1,608.73	-20%	40-R3	258.87	299.58	43.15	0.00	256.43
	Total Account 321	1,608.73			258.87	299.58	43.15	0.00	256.43
324.00	Pumping Equipment	2,230,274.41	-10%	21-L3	1,010,453.83	1,171,098.26	91,859.44	0.00	1,079,238.82
324.10	System Ctrl Computer Equip	936,149.79	0%	10-R3	806,913.15	925,565.33	0.00	0.00	925,565.33
	TOTAL Pumping Plant	3,168,032.93			1,817,625.85	2,096,963.17	91,902.59	0.00	2,005,060.58
<u>Water Treatment Plant</u>									
331.00	Water Treatment Structures & Improvements	2,647,464.00	-10%	40-R3	869,211.49	633,302.62	79,019.23	0.00	554,283.39
	Total Account 331	2,647,464.00			869,211.49	633,302.62	79,019.23	0.00	554,283.39
332.00	Water Treatment Equipment	336,009.08	-5%	38-R2.5	63,367.39	132,096.16	3,017.50	0.00	129,078.66

Table 1a - KW

Kona Water Service Company
 Kona Water (KW)

Summary of Gross Salvage and Cost of Removal In Book Depreciation Reserve as of December 31, 2017

Acct. No.	Description	Original Cost 12-31-17	Salvage %	A.S.L./ Curve	Theoretical Deprecation Reserve	Total Book Depr Reserve 12-31-17	Cost of Removal In Book Res.	Gross Salvage In Book Res.	Plant Only Depr Reserve 12-31-17
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
	Total Account 332	336,009.08			63,367.39	132,096.16	3,017.50	0.00	129,078.66
	TOTAL Water Treatment Plant	2,983,473.08			932,578.88	765,398.78	82,036.73	0.00	683,362.05

Table 2 - PLANT ONLY - KW

Kona Water Service Company
 Kona Water (KW)

Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utility Book Depreciation Reserve and Average Remaining Lives as of December 31, 2017

Account No.	Description	Original Cost 12-31-17	Estimated Future Net Salvage % Rate	Original Cost Less Est. Future Net Salvage	Book Depreciation Reserve	Unrecovered Original Cost	A.S.L./Survivor Curve	Average Remaining Life	Annual Depreciation Accrual	Annual Depreciation Rate
DEPRECIABLE PLANT										
Source of Supply										
311.00	Structures & Improvements	34,499.12	0%	34,499.12	3,853.56	30,645.56	45-R4	41.67	735.00	2.13%
	Total Account 311									
315.00	Wells	803.28	0%	803.28	15.09	788.19	50-R3	48.52	16.00	1.99%
316.40	Supply Mains	14,617.49	0%	14,617.49	352.73	14,264.76	50-R3	48.52	294.00	2.01%
	TOTAL Source of Supply	49,919.89	0.00	49,919.89	4,221.38	45,698.51			310.00	0.62%
Pumping Plant										
321.00	Pumping Structures & Improvements	1,608.73	0%	1,608.73	256.43	1,352.30	40-R3	34.64	39.00	2.42%
	Total Account 321	1,608.73	0	1,608.73	256.43	1,352.30			39.00	2.42%
324.00	Pumping Equipment	2,230,274.41	0%	2,230,274.41	1,079,238.82	1,151,035.59	21-L3	12.35	93,201.00	4.18%
324.10	System Ctrf Computer Equip	936,149.79	0%	936,149.79	925,565.33	10,584.46	10-R3	1.38	7,670.00	0.82%
	TOTAL Pumping Plant	3,168,032.93	0	3,168,032.93	2,005,060.58	1,162,972.35			100,910.00	3.19%
Water Treatment Plant										
331.00	Water Treatment Structures & Improvements	2,647,464.00	0%	2,647,464.00	554,283.39	2,093,180.61	40-R3	28.06	74,597.00	2.82%
331.10	Water Treatment Struct. & Improv. - Pavement	-	0%	0.00	0.00	0.00		-	0.00	0.00%
	Total Account 331	2,647,464.00	0	2,647,464.00	554,283.39	2,093,180.61			74,597.00	2.82%
332.00	Water Treatment Equipment	336,009.08	0%	336,009.08	129,078.66	206,930.42	38-R2.5	31.18	6,637.00	1.98%
332.20	Water Treatment Plant - Filters	-	0%	0.00	0.00	0.00	0	-	0.00	0.00%
	Total Account 332	336,009.08	0	336,009.08	129,078.66	206,930.42			6,637.00	1.98%
	TOTAL Water Treatment Plant	2,983,473.08	0	2,983,473.08	683,362.05	2,300,111.03			81,234.00	2.72%
Transmission & Distribution Plant										
342.00	Reservoirs & Tanks	2,575,847.29	0%	2,575,847.29	535,862.50	2,039,984.79	50-R3	37.09	55,001.00	2.14%
	Total Reservoirs & Tanks	2,575,847.29	0	2,575,847.29	535,862.50	2,039,984.79			55,001.00	2.14%

Table 2 - PLANT ONLY - KW

Kona Water Service Company
 Kona Water (KW)

Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utility Book Depreciation Reserve and Average Remaining Lives as of December 31, 2017

Account No.	Description	Original Cost 12-31-17	Estimated Future Net Salvage % Rate	Original Cost Less Est. Future Net Salvage	Book Depreciation Reserve	Unrecovered Original Cost	A.S.L./Survivor Curve	Average Remaining Life	Annual Depreciation Accrual	Annual Depreciation Rate
Transmission & Distribution Mains										
343.40	Mains-All Other	3,658,108.19	0%	0	1,061,806.57	2,596,301.62	80-R2.5	67.42	38,509.00	1.05%
343.50	Mains-Ductile Iron	7,484,413.00	0%	0	1,572,105.76	5,912,307.24	80-R2.5	67.17	88,020.00	1.18%
	Total Account 343	11,142,521.19		0	2,633,912.33	8,508,608.86			126,529.00	1.14%
346.00	Meters	0.00	0%	0	0.00	0.00	20-R3	20.00	0.00	5.00% (1)
348.00	Hydrants	29,794.95	0%	0	2,076.94	27,718.01	60-R2.5	56.71	489.00	1.64%
	TOTAL Trans. & Distr. Plant	13,748,163.43		0.00	3,171,851.77	10,576,311.66			182,019.00	1.32%
General Plant										
372.10	Office-Elec. Equip/Computers	6,545.51	0%	0	6,545.51	6,545.51	7-L3	2.05	0.00	0.00%
	Total Account 372	6,545.51		0	6,545.51	6,545.51			0.00	0.00%
373.00	Transportation Equipment	154,214.14	0%	0	131,008.89	23,205.25	8-L3	3.42	6,785.00	4.40%
374.00	Stores Equipment	28,232.38	0%	0	1,844.06	26,388.32	25-L2	22.25	1,186.00	4.20%
375.00	Laboratory Equipment	2,577.48	0%	0	816.12	1,761.36	15-R2.5	9.21	191.00	7.41%
378.00	Tools, Shop & Garage Equipment	18,387.15	0%	0	4,373.46	14,013.69	20-S0	16.47	851.00	4.63%
	TOTAL General Plant	209,956.66		0.00	144,588.04	65,368.62			9,013.00	4.29%
	TOTAL DEPRECIABLE PLANT	20,159,545.99		0.00	6,009,083.82	14,150,462.17			373,486.00	1.85%

NON-DEPRECIABLE PLANT

TOTAL NON-DEPRECIABLE PLANT	0.00
TOTAL UTILITY PLANT IN SERVICE	20,159,545.99

(1) The company anticipates adding plant to utility account 34600 - Meters & Meter Boxes in the test year. As of the December 31, 2017, the date of the depreciation study, the Company has no plant investments recorded to that utility account and no Company historical experience. Accordingly, a depreciation rate was developed based upon the average service life and net salvage being experienced within the industry.

Table 2-Gross Salvage-KW

Kona Water Service Company
 Kona Water (KW)

Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utilization of Book Depreciation Reserve and Average Remaining Lives as of December 31, 2017

Account No. (a)	Description (b)	Original Cost 12-31-17 (c)	Estimated Future Gross Salvage % (d)	Estimated Future Gross Salvage Amount (e)	Original Cost Less Salvage (f)	Book Depreciation Reserve (g)	Net Original Cost Less Salvage (h)	A.S.L./ Survivor Curve (i)	Average Remaining Life (j)	Annual Depreciation Accrual (k)	Annual Depr Rate (l)
DEPRECIABLE PLANT											
Source of Supply											
311.00	Structures & Improvements	34,499.12	0.0%	0.00	34,499.12	0.00	0.00	45-R4	41.67	0.00	0.00%
	Total Account 311	34,499.12		0.00	34,499.12	0.00	0.00			0.00	0.00%
315.00	Wells	803.28	0.0%	0.00	803.28	0.00	0.00	50-R3	48.52	0.00	0.00%
316.40	Supply Mains	14,617.49	0.0%	0.00	14,617.49	0.00	0.00	50-R3	48.52	0.00	0.00%
	TOTAL Source of Supply	49,919.89		0.00	49,919.89	0.00	0.00			0.00	0.00%
Pumping Plant											
321.00	Pumping Structures & Improvements	1,608.73	0.0%	0.00	1,608.73	0.00	0.00	40-R3	34.64	0.00	0.00%
	Total Account 321	1,608.73		0.00	1,608.73	0.00	0.00			0.00	0.00%
324.00	Pumping Equipment	2,230,274.41	0.0%	0.00	2,230,274.41	0.00	0.00	21-L3	12.35	0.00	0.00%
324.10	System Ctrl Computer Equip	936,149.79	0.0%	0.00	936,149.79	0.00	0.00	10-R3	1.38	0.00	0.00%
	TOTAL Pumping Plant	3,166,032.93		0.00	3,166,032.93	0.00	0.00			0.00	0.00%
Water Treatment Plant											
331.00	Water Treatment Structures & Improvem	2,647,464.00	0.0%	0.00	2,647,464.00	0.00	0.00	40-R3	28.06	0.00	0.00%
	Total Account 331	2,647,464.00		0.00	2,647,464.00	0.00	0.00			0.00	0.00%
332.00	Water Treatment Equipment	336,009.08	0.0%	0.00	336,009.08	0.00	0.00	38-R2.5	31.18	0.00	0.00%
	Total Account 332	336,009.08		0.00	336,009.08	0.00	0.00			0.00	0.00%
	TOTAL Water Treatment Plant	2,983,473.08		0.00	2,983,473.08	0.00	0.00			0.00	0.00%
Transmission & Distribution Plant											
342.00	Reservoirs & Tanks	2,575,847.29	0.0%	0.00	2,575,847.29	0.00	0.00	50-R3	37.09	0.00	0.00%
	Total Reservoirs & Tanks	2,575,847.29		0.00	2,575,847.29	0.00	0.00			0.00	0.00%

Table 2-Gross Salvage-KW

Kona Water Service Company
 Kona Water (KW)

Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utilization of Book Depreciation Reserve and Average Remaining Lives as of December 31, 2017

Account No. (a)	Description (b)	Original Cost 12-31-17 (c)	Estimated Future Gross Salvage % (d)	Estimated Future Amount (e)	Original Cost Less Salvage (f)	Book Depreciation Reserve (g)	Net Original Cost Less Salvage (h)	A.S.L./Survivor Curve (i)	Average Remaining Life (j)	Annual Depreciation Accrual (k)	Annual Depr Rate (l)	
Transmission & Distribution Mains												
343.40	Mains-All Other	3,658,108.19	0.0%	0.00	3,658,108.19	0.00	0.00	80-R2.5	67.42	0.00	0.00%	
343.50	Mains-Ductile Iron	7,484,413.00	0.0%	0.00	7,484,413.00	0.00	0.00	80-R2.5	67.17	0.00	0.00%	
	Total Account 343	11,142,521.19		0.00	11,142,521.19	0.00	0.00			0.00	0.00%	
346.00	Meters	0.00	0.0%	0.00	-	0.00	0.00	20-R3	20.00	0.00	0.00% (1)	
348.00	Hydrants	29,794.95	0.0%	0.00	29,794.95	0.00	0.00	60-R2.5	56.71	0.00	0.00%	
	TOTAL Trans. & Distr. Plant	13,748,163.43		0.00	13,748,163.43	0.00	0.00			0.00	0.00%	
General Plant												
372.10	Office-Elec. Equip/Computers	6,545.51	0.0%	0.00	6,545.51	0.00	0.00	7-L3	2.05	0.00	0.00%	
	Total Account 372	6,545.51		0.00	6,545.51	0.00	0.00			0.00	0.00%	
373.00	Transportation Equipment	154,214.14	10.0%	15,421.41	138,792.73	(8,829.95)	(5,591.46)	8-L3	3.42	(1,927.33)	-1.25%	
374.00	Stores Equipment	28,232.38	0.0%	0.00	28,232.38	0.00	0.00	25-L2	22.25	0.00	0.00%	
375.00	Laboratory Equipment	2,577.48	0.0%	0.00	2,577.48	0.00	0.00	15-R2.5	9.21	0.00	0.00%	
378.00	Tools, Shop & Garage Equipment	18,387.15	0.0%	0.00	18,387.15	0.00	0.00	20-S0	16.47	0.00	0.00%	
	TOTAL General Plant	209,956.66		15,421.41	194,535.25	(8,829.95)	(6,591.46)			-1,927.33	-0.92%	
	TOTAL DEPRECIABLE PLANT	20,159,545.99		15,421.41	20,144,124.58	(8,829.95)	(6,591.46)			-1,927.33	-0.01%	
NON-DEPRECIABLE PLANT												
	TOTAL NON-DEPRECIABLE PLANT	0.00										
TOTAL UTILITY PLANT IN SERVICE												
		20,159,545.99										

(1) The company anticipates adding plant to utility account 34600 – Meters & Meter Boxes in the test year. As of the December 31, 2017, the date of the depreciation study, the Company has no plant investments recorded to that utility account and no Company historical experience. Accordingly, a depreciation rate was developed based upon the average service life and net salvage being experienced within the industry.

Table 2-Gross COR-KW

Kona Water Service Company
 Kona Water (KW)

Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utilization of Book Depreciation Reserve and Average Remaining Lives as of December 31, 2017

Account No. (a)	Description (b)	Original Cost 12-31-17 (c)	Estimated Future Cost of Removal % (d)	Estimated Future Cost of Removal Amount (e)	Original Cost Less Salvage (f)	Book Depreciation Reserve (g)	Net Original Cost Less Salvage (h)	A.S.L./Survivor Curve (i)	Average Remaining Life (j)	Annual Depreciation Accrual (k)	Annual Depr Rate (l)	
DEPRECIABLE PLANT												
Source of Supply												
311.00	Structures & Improvements	34,499.12	-10.0%	(3,449.91)	37,949.03	255.47	3,194.44	45-R4	41.67	76.66	0.22%	
	Total Account 311	34,499.12		(3,449.91)	37,949.03	255.47	3,194.44			76.66	0.22%	
315.00	Wells	803.28	-35.0%	(281.15)	1,084.43	8.29	272.86	50-R3	48.52	5.62	0.70%	
316.40	Supply Mains	14,617.49	-10.0%	(1,461.75)	16,079.24	43.12	1,418.63	50-R3	48.52	29.24	0.20%	
	TOTAL Source of Supply	49,919.89		(5,192.81)	55,112.70	306.88	4,885.93			111.52	0.22%	
Pumping Plant												
321.00	Pumping Structures & Improvements	1,608.73	-20.0%	(321.75)	1,930.48	43.15	278.60	40-R3	34.64	8.04	0.50%	
	Total Account 321	1,608.73		(321.75)	1,930.48	43.15	278.60			8.04	0.50%	
324.00	Pumping Equipment	2,230,274.41	-10.0%	(223,027.44)	2,453,301.85	91,859.44	131,168.00	21-L3	12.35	10,620.89	0.48%	
324.10	System Cntl Computer Equip	936,149.79	0.0%	0.00	936,149.79	0.00	0.00	10-R3	1.38	0.00	0.00%	
	TOTAL Pumping Plant	3,168,052.93		(223,349.19)	3,391,382.12	91,902.59	131,446.60			10,628.93	0.34%	
Water Treatment Plant												
331.00	Water Treatment Structures & Improve	2,647,464.00	-10.0%	(264,746.40)	2,912,210.40	79,019.23	185,727.17	40-R3	28.06	6,618.93	0.25%	
	Total Account 331	2,647,464.00		(264,746.40)	2,912,210.40	79,019.23	185,727.17			6,618.93	0.25%	
332.00	Water Treatment Equipment	336,009.08	-5.0%	(16,800.45)	352,809.53	3,017.50	13,782.95	38-R2.5	31.18	442.04	0.13%	
	Total Account 332	336,009.08		(16,800.45)	352,809.53	3,017.50	13,782.95			442.04	0.13%	
	TOTAL Water Treatment Plant	2,983,473.08		(281,546.85)	3,265,019.93	82,036.73	199,510.12			7,060.97	0.24%	
Transmission & Distribution Plant												
342.00	Reservoirs & Tanks	2,575,847.29	-25.0%	(643,961.82)	3,219,809.11	166,231.99	477,729.83	50-R3	37.09	12,880.29	0.50%	
	Total Reservoirs & Tanks	2,575,847.29		(643,961.82)	3,219,809.11	166,231.99	477,729.83			12,880.29	0.50%	

Table 2-Gross COR-KW

Kona Water Service Company
 Kona Water (KW)

Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utilization of Book Depreciation Reserve and Average Remaining Lives as of December 31, 2017

Account No.	Description	Original Cost 12-31-17	Estimated Future Cost of Removal %	Estimated Future Cost of Removal Amount	Original Cost Less Salvage	Book Depreciation Reserve	Net Original Cost Less Salvage	A.S.L./Survivor Curve	Average Remaining Life	Annual Depreciation Accrual	Annual Depr. Rate
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Transmission & Distribution Mains											
343.40	Mains-All Other	3,658,108.19	-40.0%	(1,463,243.28)	5,121,351.47	0.00	1,463,243.28	80-R2.5	67.42	21,703.40	0.59%
343.50	Mains-Ductile Iron	7,484,413.00	-40.0%	(2,993,765.20)	10,478,178.20	479,944.13	2,513,821.07	80-R2.5	67.17	37,424.76	0.50%
	Total Account 343	11,142,521.19		(4,457,008.48)	15,599,529.67	479,944.13	3,977,064.35			59,128.16	0.53%
346.00	Meters	0.00	0.0%	0.00	0.00	0.00	0.00	20-R3	20.00	0.00	0.00% (1)
348.00	Hydrants	29,794.95	-40.0%	(11,917.98)	41,712.93	653.94	11,264.04	60-R2.5	56.71	199.63	0.67%
	TOTAL Trans. & Distr. Plant	13,748,163.43		(5,112,888.28)	18,861,051.71	646,830.06	4,466,058.22			72,207.07	0.53%
General Plant											
372.10	Office-Elec. Equip/Computers	6,545.51	0.0%	0.00	6,545.51	0.00	0.00	7-L3	2.05	0.00	0.00%
	Total Account 372	6,545.51		0.00	6,545.51	0.00	0.00			0.00	0.00%
373.00	Transportation Equipment	154,214.14	0.0%	0.00	154,214.14	0.00	0.00	8-L3	3.42	0.00	0.00%
374.00	Stores Equipment	28,232.38	0.0%	0.00	28,232.38	0.00	0.00	25-L2	22.25	0.00	0.00%
375.00	Laboratory Equipment	2,577.48	0.0%	0.00	2,577.48	0.00	0.00	15-R2.5	9.21	0.00	0.00%
378.00	Tools, Shop & Garage Equipment	18,387.15	0.0%	0.00	18,387.15	0.00	0.00	20-S0	16.47	0.00	0.00%
	TOTAL General Plant	209,956.66		0.00	209,956.66	0.00	0.00			0.00	0.00%
	TOTAL DEPRECIABLE PLANT	20,159,545.99		(5,622,977.13)	25,782,523.12	821,076.26	4,801,900.87			90,008.50	0.45%
NON-DEPRECIABLE PLANT											
	TOTAL NON-DEPRECIABLE PLANT	0.00									
	TOTAL UTILITY PLANT IN SERVICE	20,159,545.99									

(1) The company anticipates adding plant to utility account 34600 - Meters & Meter Boxes in the test year. As of the December 31, 2017, the date of the depreciation study, the Company has no plant investments recorded to that utility account and no Company historical experience. Accordingly, a depreciation rate was developed based upon the average service life and net salvage being experienced within the industry.

Kona Water Service Company
 Kona Water (KW)

Original Cost Per Books, Adjustments, and Original Cost Per Depreciation Study
 as of December 31, 2017

Account No. (a)	Description (b)	Original Cost Per Book 12-31-17 (c)	Company Pending Adjustment (d)	Original Cost Per Depreciation Study Data 12-31-17 (e)
<u>DEPRECIABLE PLANT</u>				
<u>Source of Supply</u>				
311.00	Structures & Improvements	34,499.12		34,499.12
	Total Account 311	34,499.12	0.00	34,499.12
315.00	Wells	803.28		803.28
316.40	Supply Mains	14,617.49		14,617.49
	TOTAL Source of Supply	49,919.89	0.00	49,919.89
<u>Pumping Plant</u>				
321.00	Pumping Structures & Improvements	1,608.73		1,608.73
	Total Account 321	1,608.73	0.00	1,608.73
324.00	Pumping Equipment	2,230,274.41		2,230,274.41
324.10	System Ctrl Computer Equip	936,149.79		936,149.79
	TOTAL Pumping Plant	3,168,032.93	0.00	3,168,032.93
<u>Water Treatment Plant</u>				
331.00	Water Treatment Structures & Improvements	2,647,464.00		2,647,464.00
	Total Account 331	2,647,464.00	0.00	2,647,464.00
332.00	Water Treatment Equipment	336,009.08		336,009.08
	Total Account 332	336,009.08	0.00	336,009.08
	TOTAL Water Treatment Plant	2,983,473.08	0.00	2,983,473.08
<u>Transmission & Distribution Plant</u>				
342.00	Reservoirs & Tanks	2,575,847.29		2,575,847.29
	Total Reservoirs & Tanks	2,575,847.29	0.00	2,575,847.29

Kona Water Service Company
 Kona Water (KW)

Original Cost Per Books, Adjustments, and Original Cost Per Depreciation Study
 as of December 31, 2017

Account No. (a)	Description (b)	Original Cost Per Book 12-31-17 (c)	Company Pending Adjustment (d)	Original Cost Per Depreciation Study Data 12-31-17 (e)
<u>Transmission & Distribution Mains</u>				
343.40	Mains-All Other	3,658,108.19		3,658,108.19
343.50	Mains-Ductile Iron	7,484,413.00		7,484,413.00
	Total Account 343	11,142,521.19	0.00	11,142,521.19
346.00	Meters	0.00		0.00
348.00	Hydrants	29,794.95		29,794.95
	TOTAL Trans. & Distr. Plant	13,748,163.43	0.00	13,748,163.43
<u>General Plant</u>				
372.10	Office-Elec. Equip/Computers	6,545.51		6,545.51
	Total Account 372	6,545.51	0.00	6,545.51
373.00	Transportation Equipment	154,214.14		154,214.14
374.00	Stores Equipment	28,232.38		28,232.38
375.00	Laboratory Equipment	2,577.48		2,577.48
378.00	Tools, Shop & Garage Equipment	18,387.15		18,387.15
	TOTAL General Plant	209,956.66	0.00	209,956.66
	TOTAL DEPRECIABLE PLANT	20,159,545.99	0.00	20,159,545.99
<u>NON-DEPRECIABLE PLANT</u>				
	TOTAL NON-DEPRECIABLE PLANT	0.00	0.00	0.00
	TOTAL UTILITY PLANT IN SERVICE	20,159,545.99	0.00	20,159,545.99

Kona Water Service Company
 Kona Water (KW)

Summary of Original Cost, Theoretical/Calculated Depreciation Reserve,
 And Book Depreciation Reserve
 As of December 31, 2017

Acct. No.	Description	Original Cost 12-31-17	Net Salvage Rate	A.S.L./ Survivor Curve	Calculated Reserve 12-31-17	Book Reserve 12-31-17
(a)	(b)	(c)	(d)	(e)	(f)	(g)
<u>DEPRECIABLE PLANT</u>						
<u>Source of Supply</u>						
311.00	Structures & Improvements	34,499.12	-10%	45-R4	2,810.20	4,109.03
	Total Account 311	34,499.12			2,810.20	4,109.03
315.00	Wells	803.28	-35%	50-R3	31.99	23.38
316.40	Supply Mains	14,617.49	-10%	50-R3	474.36	395.85
	TOTAL Source of Supply	49,919.89			3,316.55	4,528.26
<u>Pumping Plant</u>						
321.00	Pumping Structures & Improvements	1,608.73	-20%	40-R3	258.87	299.58
	Total Account 321	1,608.73			258.87	299.58
324.00	Pumping Equipment	2,230,274.41	-10%	21-L3	1,010,453.83	1,171,098.26
324.10	System Ctrl Computer Equip	936,149.79	0%	10-R3	806,913.15	925,565.33
	TOTAL Pumping Plant	3,168,032.93			1,817,625.85	2,096,963.17
<u>Water Treatment Plant</u>						
331.00	Water Treatment Structures & Improvements	2,647,464.00	-10%	40-R3	869,211.49	633,302.62
	Total Account 331	2,647,464.00			869,211.49	633,302.62
332.00	Water Treatment Equipment	336,009.08	-5%	38-R2.5	63,367.39	132,096.16
	Total Account 332	336,009.08			63,367.39	132,096.16
	TOTAL Water Treatment Plant	2,983,473.08			932,578.88	765,398.78
<u>Transmission & Distribution Plant</u>						
342.00	Reservoirs & Tanks	2,575,847.29	-25%	50-R3	831,159.97	702,094.49
	Total Reservoirs & Tanks	2,575,847.29			831,159.97	702,094.49

Kona Water Service Company
 Kona Water (KW)

Summary of Original Cost, Theoretical/Calculated Depreciation Reserve,
 And Book Depreciation Reserve
 As of December 31, 2017

Acct. No. (a)	Description (b)	Original Cost 12-31-17 (c)	Net Salvage Rate (d)	A.S.L./ Survivor Curve (e)	Calculated Reserve 12-31-17 (f)	Book Reserve 12-31-17 (g)
<u>Transmission & Distribution Mains</u>						
343.40	Mains-All Other	3,658,108.19	-40%	80-R2.5	805,617.69	1,061,806.57
343.50	Mains-Ductile Iron	7,484,413.00	-40%	80-R2.5	1,679,804.46	2,052,049.89
	Total Account 343	11,142,521.19			2,485,422.15	3,113,856.46
346.00	Meters	0.00	0%	20-R3	0.00	0.00
348.00	Hydrants	29,794.95	-40%	60-R2.5	2,288.80	2,730.88
	TOTAL Trans. & Distr. Plant	13,748,163.43			3,318,870.92	3,818,681.83
<u>General Plant</u>						
372.10	Office-Elec. Equip/Computers	6,545.51	0%	7-L3	4,626.64	6,545.51
	Total Account 372	6,545.51			4,626.64	6,545.51
373.00	Transportation Equipment	154,214.14	10%	8-L3	79,469.49	122,178.94
374.00	Stores Equipment	28,232.38	0%	25-L2	3,106.92	1,844.06
375.00	Laboratory Equipment	2,577.48	0%	15-R2.5	994.52	816.12
378.00	Tools, Shop & Garage Equipment	18,387.15	0%	20-S0	3,247.09	4,373.46
	TOTAL General Plant	209,956.66			91,444.66	135,758.09
	TOTAL DEPRECIABLE PLANT	20,159,545.99			6,163,836.86	6,821,330.13
<u>NON-DEPRECIABLE PLANT</u>						
	TOTAL NON-DEPRECIABLE PLANT	0.00			0.00	0.00
	TOTAL UTILITY PLANT IN SERVICE	20,159,545.99			6,163,836.86	6,821,330.13

Table 5- KW

Kona Water Service Company
Kona Water (KW)

Summary of Original Cost of Utility Plant in Service as of December 31, 2017 and Present and Proposed Parameters

Account No. (a)	Description (b)	Original Cost 12-31-17 (c)				Present Parameters				Proposed Parameters				Average Remain. Life (m)
		W/ COR % (d)	Gross Salv % (e)	Gross COR % (f)	Implicit ASL (Yrs) (g)	Depr Rate (h)	W/ COR % (i)	Gross Salv % (j)	Gross COR % (k)	Survivor Curve (l)	A.S.L./ (m)			
DEPRECIABLE PLANT														
Source of Supply														
311.00	Structures & Improvements	34,499.12	0%	0%	30.0	3.33%	-10%	0%	-10%	45-R4	41.67			
	Total Account 311	34,499.12												
315.00	Wells	803.28	0%	0%	40.1	2.49%	-35%	0%	-35%	50-R3	48.52			
316.40	Supply Mains	14,617.49	0%	0%	40.0	2.50%	-10%	0%	-10%	50-R3	48.52			
	TOTAL Source of Supply	49,919.89												
Pumping Plant														
321.00	Pumping Structures & Improvements	1,608.73	0%	0%	30.0	3.33%	-20%	0%	-20%	40-R3	34.64			
	Total Account 321	1,608.73												
324.00	Pumping Equipment	2,230,274.41	0%	0%	73.3	1.36%	-10%	0%	-10%	21-L3	12.35			
324.10	System Ctrl Computer Equip	936,149.79	0%	0%	3,066.5	0.03%	0%	0%	0%	10-R3	1.38			
	TOTAL Pumping Plant	3,168,032.93												
Water Treatment Plant														
331.00	Water Treatment Structures & Improvements	2,647,464.00	0%	0%	50.3	1.99%	-10%	0%	-10%	40-R3	28.06			
	Total Account 331	2,647,464.00												
332.00	Water Treatment Equipment	336,009.08	0%	0%	40.6	2.45%	-5%	0%	-5%	38-R2.5	31.18			
	Total Account 332	336,009.08												
	TOTAL Water Treatment Plant	2,983,473.08												
Transmission & Distribution Plant														
342.00	Reservoirs & Tanks	2,575,847.29	0%	0%	50.3	1.99%	-25%	0%	-25%	50-R3	37.09			
	Total Reservoirs & Tanks	2,575,847.29												

Table 5- KW

Kona Water Service Company
 Kona Water (KW)

Summary of Original Cost of Utility Plant in Service as of December 31, 2017 and Present and Proposed Parameters

Account No. (a)	Description (b)	Original Cost 12-31-17 (c)	Present Parameters				Proposed Parameters				Average Remain. Life (m)	
			W/COR % (d)	Net Salvage		W/COR % (i)	Net Salvage		A.S.L./Survivor Curve (l)			
				Gross Salv % (e)	Gross COR % (f)		Implicit ASL (Yrs) (g)	Depr Rate (h)		Gross Salv % (j)		Gross COR % (k)
	Transmission & Distribution Mains											
343.40	Mains-All Other	3,658,108.19	0%	0%	0%	51.1	1.96%	-40%	0%	-40%	80-R2.5	67.42
343.50	Mains-Ductile Iron	7,484,413.00	0%	0%	0%	51.8	1.93%	-40%	0%	-40%	80-R2.5	67.17
	Total Account 343	11,142,521.19										
346.00	Meters	0.00	0%	0%	0%	N/A	0.00%	0%	0%	0%	20-R3 (1)	20.00
348.00	Hydrants	29,794.95	0%	0%	0%	40.0	2.50%	-40%	0%	-40%	60-R2.5	56.71
	TOTAL Trans. & Distr. Plant	13,748,163.43										
	General Plant											
372.10	Office-Elec. Equip/Computers	6,545.51	0%	0%	0%	0.0	0.00%	0%	0%	0%	7-L3	2.05
	Total Account 372	6,545.51										
373.00	Transportation Equipment	154,214.14	0%	0%	0%	9.4	10.65%	10%	10%	0%	8-L3	3.42
374.00	Stores Equipment	28,232.38	0%	0%	0%	40.0	2.50%	0%	0%	0%	25-L2	22.25
375.00	Laboratory Equipment	2,577.48	0%	0%	0%	20.0	5.00%	0%	0%	0%	15-R2.5	9.21
378.00	Tools, Shop & Garage Equipment	18,387.15	0%	0%	0%	53.1	1.88%	0%	0%	0%	20-S0	16.47
	TOTAL General Plant	209,956.66										
	TOTAL DEPRECIABLE PLANT	20,159,545.99										
	NON-DEPRECIABLE PLANT											
	TOTAL NON-DEPRECIABLE PLANT	0.00										
	TOTAL UTILITY PLANT IN SERVICE	20,159,545.99										

(1) The company anticipates adding plant to utility account 34600 – Meters & Meter Boxes in the test year. As of the December 31, 2017, the date of the depreciation study, the Company has no plant investments recorded to that utility account and no Company historical experience. Accordingly, a depreciation rate was developed based upon the average service life and net salvage being experienced within the industry.

Table 6- KW
 (1 of 2)

Kona Water Service Company
Kona Water (KW)
 Summary of ASL's and Net Salvage Percent
 From Industry Depreciation Studies

Account No.	Account No.	Description	Original Cost 12-31-17	Current Implicit ASL	Proposed ASL	Cal Water Average	Avg of ASL's	Sum of ASL's	Summary of ASL's													
									Arizona American (n)	California Citizens (i)	New Mexico American (j)	Ca Water Dominguez (k)	Ca Water Metro (l)	Ca Water Valley (m)	Iowa American (n)	Illinois American (o)	Tidewater Utilities (p)	Pennichuck East Utilities (q)				
DEPRECIABLE PLANT																						
Source of Supply																						
307.00	315.00	Wells & Springs	803.28	40	50-R3	56	45	449	60	69	30	65	30	29								
	316.00	Supply Mains	14,617.49	40	50-R3	52	52	157	54	65												
Total Source of Supply Plant																						
Pumping Plant																						
304.20	321.00	Pumping Structures & Improvements	1,608.73	30	40-R3	29	37	374	31	32	50	50	35	37								
	321.10	Pumping Struct. & Improv. - Pavement	0	0		15	15	45	15	15												
311.20	324.00	Electric Pumping Eq.	2,230,274.41	73	21-L3	31	26	264	23	35	33	30	30	20								
	324.10	Pumping Equip- Telemetry	936,149.79	3067	10-R3		0															
Total Pumping Plant																						
Water Treatment Plant																						
304.30	331.00	WT Structures & Improvements	2,647,464.00	50	40-R3	40	40	316	37	50	50	45	35	12								
320.20	332.00	Treatment Equipment	336,009.08	41	38-R2.5	39	26	233	44	41	27	25										
Total Water Treatment Plant																						
Transmission & Distribution Plant																						
330.40	342.00	Distr. Reservoirs & Standpipes	2,575,847.29	50	50-R3	44	53	527	44	50	100	60	45	57								
331.00	343.00	Mains	11,142,521.19	51	80-R2.5	68	76	757	74	71	78	98	75	68								
335.00	346.00	Meters	0.00	N/A	20-R3	74	20	201	29	23	14	16	25	19								
	348.00	Hydrants	29,794.95	40	60-R2.5	74	64	642	70	83	60	63	50	75								
Total Trans & Distr Plant																						
General Plant																						
340.50	372.10	Computer & Preph	6,545.51	0	7-L3	8	7	65	6	5	7	7	7	8								
343.00	373.00	Transportation	154,214.14	9	8-L3	8	9	53	8	8	6	7	15									
	378.00	(347.50) Tools, Shop & Garage Equipment	18,387.15	53	20-S0	17	21	191	17	18	28	27	15									

Table 6 - KW
 (2 of 2)

Kona Water Service Company
Kona Water (KW)
 Summary of ASL's and Net Salvage Percent
 From Industry Depreciation Studies

Account No. (a)	Account No.	Description (b)	Current NS.%	Proposed NS.% (e)	Cal Water Average	Avg Net Salv.% (f)	Sum of NS.%s (g)	Summary of Net Salvage										
								Arizona American (h)	California Citizens (i)	Florida American (j)	Illinois American (k)	Michigan American (l)	Minnesota American (m)	North Carolina American (n)	Ohio American (o)	Pennsylvania American (p)	Tennessee American (q)	
DEPRECIABLE PLANT																		
Source of Supply																		
307.00	315.00	Wells & Springs	0%	-35%	-127%	-54%	-535%	-5%	-50%	-10%	-10%	-125%	-15%	-130%	-40%	-30%	-10%	-10%
316.00	316.00	Supply Mains	0%	-10%	-9%	-9%	-28%	-5%	-50%	-10%	-10%	-3%	-15%	-10%	-40%	-30%	-10%	-10%
Total Source of Supply Plant																		
Pumping Plant																		
304.20	321.00	Pumping Structures & Improvements	0%	-20%	-29%	-19%	-188%	-10%	-15%	-10%	-3%	-25%	0%	-60%	-25%	-25%	-10%	-5%
321.10	321.10	Pumping Struct. & Improv. - Pavement	0%	0%	0%	0%	0%	-10%	-15%	-10%	0%	0%	0%	0%	-25%	-25%	-10%	-5%
Electric Pumping Eq.																		
311.20	324.00	Pumping Equip- Telemetering	0%	-10%	-10%	-14%	-115%	-10%	-5%	-10%	-5%	-5%	-5%	-15%	-25%	-35%	-5%	-15%
324.10	324.10	Total Pumping Plant	0%	0%	0%	0%	0%	-10%	-5%	-10%	-5%	-5%	-5%	-15%	-25%	-35%	-5%	-15%
Water Treatment Plant																		
304.30	331.00	WT Structures & Improvements	0%	-10%	-10%	-10%	-80%	0%	-5%	0%	-5%	-5%	-5%	-20%	-25%	-20%	0%	0%
320.20	332.00	Treatment Equipment	0%	-5%	-6%	-9%	-82%	0%	0%	0%	0%	0%	-7%	-10%	-40%	-10%	0%	-15%
Total Water Treatment Plant																		
Transmission & Distribution Plant																		
330.40	342.00	Distr. Reservoirs & Standpipes	0%	-25%	-52%	-27%	-265%	-10%	-10%	-30%	-45%	-50%	-50%	-60%	-20%	-20%	-10%	-10%
331.00	343.00	Mains	0%	-40%	-45%	-38%	-375%	-40%	-35%	-35%	-25%	-50%	-50%	-60%	-50%	-50%	-10%	-20%
335.00	346.00	Meters	0%	0%	1%	1%	11%	-10%	-10%	5%	5%	10%	5%	5%	8%	-5%	8%	-5%
348.00	348.00	Hydrants	0%	-40%	-40%	-45%	-450%	-20%	-20%	-20%	-20%	-25%	-25%	-75%	-150%	-100%	-10%	-10%
Total Trans & Distr Plant																		
General Plant																		
340.50	372.10	Computer & Preph	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
343.00	373.00	Transportation	0%	10%	7%	8%	49%	5%	0%	0%	0%	10%	10%	10%	0%	20%	0%	9%
343.00	378.00	(347.50) Tools, Shop & Garage Equipment	0%	0%	0%	1%	8%	5%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%

SECTION 3

Kona Water Service Company **Kona Water (KW)**

General

This report sets forth the results of our study of the depreciable property of Kona Water Service Company – Kona Water (Kona Water or the “Company”) as of December 31, 2017 and contains the basic parameters (recommended average service lives and life characteristics) for the proposed average remaining life depreciation rates. All average service lives set forth in this report are developed based upon plant in service as of December 31, 2017.

The scope of the study included an analysis of Waikoloa historical data through December 31, 2017, discussions with Company management and staff to identify prior and prospective factors affecting the Company's plant in service, as well as interpretation of past service life data experience and future life expectancies to determine the appropriate average service lives of the Company's surviving plant. The service lives and life characteristics resulting from the in-depth study were utilized together with the Company's plant in service and book depreciation reserve to determine the recommended Average Remaining Life (ARL) depreciation rates related to the Company's plant in service as of December 31, 2017.

In preparing the study, the Company's historical investment data were studied using various service life analysis techniques. Further, discussions were held with the Waikoloa's management to obtain an overview of the Company's facilities and to discuss the general scope of operations together with other factors which could have a

bearing on the service lives of the Company's property. Finally, the study results were tempered by information gathered during plant inspection tours of a representative portion of the Company's property.

The Company maintains property records containing a summary of its fixed capital investments by property account. This investment data was analyzed and summarized by property group and/or sub group and vintage, then utilized as a basis for the various depreciation calculations.

Depreciation Study Overview

There are numerous methods utilized to recover property investment depending upon the goal. For example, accelerated methods such as double declining balance and sum of years digits are methods used in tax accounting to motivate additional investments. Broad Group (BG) and Equal Life Group (ELG) are both Straight Line Grouping Procedures recognized and utilized by various regulatory jurisdictions depending upon the policy of the specific agency.

The Straight Line Group Method of depreciation utilized in this study to develop the recommended depreciation rates is the Broad Group Procedure together with the Average Remaining Life Technique. The use of this procedure and technique is based upon recovering the net book cost (original cost less book reserve) of the surviving plant in service over its estimated remaining useful life. Any variance between the book reserve and an implied theoretical calculated reserve is compensated for under this procedure. That is, as the Company's book reserve increases above or declines below the theoretical reserve at a specific point in time, the Company's average remaining life depreciation rate in subsequent years will be increased or decreased to compensate for the variance, thereby, assuring full recovery of the Company's investment by the end of

the property's life.

The Company, like any other business, includes as an annual operating expense an amount which reflects a portion of the capital investment which was consumed in providing service during the accounting period. The annual depreciation amount to be recognized is based upon the remaining productive life over which the undepreciated capital investment needs to be recovered. The determination of the productive remaining life for each property group usually includes an in-depth study of past experience in addition to estimates of future expectations.

Annual Depreciation Accrual

Through the utilization of the Average Remaining Life Technique, the Company will recover the un-depreciated fixed capital investment in the appropriate amounts as annual depreciation expense in each year throughout the remaining life of the property. The procedure incorporates the future life expectancy of the property, the vintaged surviving plant in service, and estimated net salvage, together with the book depreciation reserve balance to develop the annual depreciation rate for each property account. Accordingly, the ARL technique meets the objective of providing a straight line recovery of the un-depreciated fixed capital property investment.

As indicated, the use of the Average Remaining Life Technique results in charging the appropriate annual depreciation amounts over the remaining life of the property to insure full recovery by the end of the life of the property. The annual expense is calculated on a Straight Line Method rather than by the previously mentioned, "sum of the years digits" or "double declining balance" methods, etc. The "group" refers to the method of calculating annual depreciation on the summation of the investment in any one depreciable group or plant account rather than calculating

depreciation for each individual unit.

Under Broad Group Depreciation some units may be over depreciated and other units may be under depreciated at the time when they are retired from service, but overall, the account is fully depreciated when average service life is attained. By comparison, Equal Life Group depreciation rates are designed to fully accrue the cost of the asset group by the time of retirement. For both the Broad Group and Equal Life Group Procedures the full cost of the investment is credited to plant in service when the retirement occurs and likewise the depreciation reserve is debited with an equal retirement cost. No gain or loss is recognized at the time of property retirement because of the assumption that the retired property was at average service life.

Group Depreciation Procedures

Group depreciation procedures are utilized to depreciate property when more than one item of property is being depreciated. Such a procedure is appropriate because all of the items within a specific group typically do not have identical service lives, but have lives which are dispersed over a range of time. Utilizing a group depreciation procedure allows for a condensed application of depreciation rates to groups of similar property in lieu of extensive depreciation calculations on an item by item basis. The two more common group depreciation procedures are the Broad Group (BG) and Equal Life Group (ELG) approach.

In developing depreciation rates using the Broad Group procedure, the annual depreciation rate is based on the average life of the overall property group, which is then applied to the group's surviving original cost investment. A characteristic of this procedure is that retirements of individual units occurring prior to average service life will be under depreciated, while individual units retired after average service life will be

over depreciated when removed from service, but overall, the group investment will achieve full recovery by the end of the life of the total property group. That is, the under recovery occurring early in the life of the account is balanced by the over recovery occurring subsequent to average service life. In summary, the cost of the investment is complete at the end of the property's life cycle, but the rate of recovery does not match the consumption pattern which was used to provide service to the company's customers.

Under the average service life procedure, the annual depreciation rate is calculated by the following formula:

$$\text{Annual Accrual Rate, Percent} = \frac{100\% - \text{Salvage}}{\text{Average Service Life}} \times 100$$

The application of the broad group procedure to life span groups results in each vintage investment having a different average service life. This circumstance exists because the concurrent retirement of all vintages at the anticipated retirement year results in truncating and, therefore, restricting the life of each successive years vintage investment. An average service life is calculated for each vintage investment in accordance with the above formula. Subsequently, a composite service life and depreciation rate is calculated relative to all vintages within the property group by weighting the life for each vintage by the related surviving vintage investment within the group.

In the Equal Life Group, the property group is subdivided, through the use of plant life tables, into equal life groups. In each equal life group, portions of the overall property group includes that portion which experiences the life of the specific sub-group. The relative size of each sub-group is determined from the overall group life

characteristic (property dispersion curve). This procedure both overcomes the disadvantage of voluminous record requirements of unit depreciation, as well as eliminates the need to base depreciation on overall lives as required under the broad group procedure. The application of this procedure results in each sub-group of the property having a single life. In this procedure, the full cost of short lived units is accrued during their lives leaving no under accruals to be recovered by over accruals on long lived plant. The annual depreciation for the group is the summation of the depreciation accruals based on the service life of each Equal Life Group.

The ELG Procedure is viewed as being the more definitive procedure for identifying the life characteristics of utility property and as a basis for developing service lives and depreciation rates, nevertheless, the Broad Group procedure is more widely utilized throughout the utility industry by regulatory commissions as a basis for depreciation rates. That is, the ELG Procedure is more definitive because it allocates the capital cost of a group property to annual expense in accordance with the consumption of the property group providing service to customers. In this regard, the company's customers are more appropriately charged with the cost of the property consumed in providing them service during the applicable service period. The more timely return of plant cost is accomplished by fully accruing each unit's cost during its service life, thereby not only reducing the risk of incomplete cost recovery, but also resulting in less return on rate base over the life of a depreciable group. The total depreciation expense over the life of the property is the same for all procedures which allocate the full capital cost to expense, but at any specific point in time, the depreciated original cost is less under the ELG procedure than under the BG procedure. This circumstance exists because under the equal life group procedure, the rate base is not

maintained at a level of greater than the future service value of the surviving plant as is the case when using the average service life procedure. Consequently, the total return required from the ratepayers is less under the ELG procedure.

While the Equal Life Group procedure has been known to depreciation experts for many years, widespread interest in applying the procedure developed only after high speed electronic computers became available to perform the large volume of arithmetic computations required in developing ELG based depreciation lives and rates. The table on the following page illustrates the procedure for calculating equal life group depreciation accrual rates and summarizes the results of the underlying calculations. Depreciation rates are determined for each age interval (one year increment) during the life of a group of property which was installed in a given year or vintage group. The age of the vintage group is shown in column (A) of the ELG table. The percent surviving at the beginning of each age interval is determined from the Iowa 10-R3 survivor curve which is set forth in column (B). The percent retired during each age interval, as shown in column (C), is the difference between the percent surviving at successive age intervals. Accordingly, the percentage amount of the vintage group retired defines the size of each equal life group. For example, during the interval 3 1/2 to 4 1/2, 1.93690 percent of the vintage group is retired at an average age of four years. In this case, the 1.93690 percent of the group experiences an equal life of four years. Likewise, 3.00339 percent is retired during the interval 4 1/2 to 5 1/2 and experiences a service life of five years. Furthermore, 4.42969 percent experiences a six-year life; etc. Calculations are made for each age interval from the zero age interval through the end of the life of the vintage group. The average service life for each age interval's equal life group is shown in column (E) of the table.

XYZ UTILITY COMPANY										
CALCULATION OF ASL, ARL AND ACCRUED DEPRECIATION FACTORS										Table 7
BASED UPON AN IOWA 10-R3 CURVE USING THE EQUAL LIFE GROUP (ELG) PROCEDURE										
AGE AT BEGIN OF INTERVAL	LIFE TABLE BEGIN OF INTERVAL	RETIREMENT DURING INTERVAL	AVERAGE SURVIVING	AGE OF AMOUNT RETIRED	AMOUNT FOR EACH LIFE GROUP	AMOUNT FOR REMAINING LIFE GROUPS	EQUAL LIFE GROUP PROCEDURE			
							AVERAGE SERVICE LIFE	AVERAGE REMAINING LIFE	ELG/ARL DEPR RATE	ACCRUED DEPR RES FACTOR
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
0.0	1.0000000	0.0009198	0.9995401	0.25	0.0009198	0.0583036	8.57	8.57	11.67	0.0000000
0.5	0.9990802	0.0033314	0.9974145	1.0	0.0033314	0.1131019	8.82	8.32	11.34	0.0566975
1.5	0.9957488	0.0065393	0.9924792	2.0	0.0032697	0.1098013	9.04	7.54	11.06	0.1659501
2.5	0.9892095	0.0117037	0.9833577	3.0	0.0039012	0.1062159	9.26	6.76	10.80	0.2700337
3.5	0.9775058	0.0193690	0.9678213	4.0	0.0048422	0.1018442	9.50	6.00	10.52	0.3683062
4.5	0.9581368	0.0300339	0.9431199	5.0	0.0060068	0.0964196	9.78	5.28	10.22	0.4600565
5.5	0.9281029	0.0442969	0.9059545	6.0	0.0073828	0.0897248	10.10	4.60	9.90	0.5447146
6.5	0.8838060	0.0631367	0.8522377	7.0	0.0090195	0.0815237	10.45	3.95	9.57	0.6217794
7.5	0.8206693	0.0876232	0.7768577	8.0	0.0109529	0.0715375	10.86	3.36	9.21	0.6906424
8.5	0.7330461	0.1166879	0.6747022	9.0	0.0129653	0.0595783	11.32	2.82	8.83	0.7505770
9.5	0.6163582	0.1431836	0.5447664	10.0	0.0143184	0.0459365	11.86	2.36	8.43	0.8010714
10.5	0.4731746	0.1533568	0.3964962	11.0	0.0139415	0.0318066	12.47	1.97	8.02	0.8423003
11.5	0.3198178	0.1363216	0.2516570	12.0	0.0113601	0.0191557	13.14	1.64	7.61	0.8753616
12.5	0.1834962	0.0975199	0.1347363	13.0	0.0075015	0.0097249	13.85	1.35	7.22	0.9022159
13.5	0.0859763	0.0559043	0.0580242	14.0	0.0039932	0.0039775	14.59	1.09	6.85	0.9254232
14.5	0.0300720	0.0244398	0.0178521	15.0	0.0016293	0.0011663	15.31	0.81	6.53	0.9473077
15.5	0.0056322	0.0055324	0.0028660	16.0	0.0003458	0.0001788	16.03	0.53	6.24	0.9667657
16.5	0.0000998	0.0000998	0.0000499	17.0	0.0000059	0.0000029	17.00	0.50	5.88	0.9705882
17.5	0.0000000	0.0000000	0.0000000	18.0	0.0000000	0.0000000				
		1.0000000				1.0000000				

The amount to be accrued annually for each equal life group is equal to the percentage retired in the equal life group divided by its service life. In as much as

additions and retirements are assumed, for calculation purposes, to occur at midyear only one-half of the equal life group's annual accrual is allocated to expense during its first and last years of service life. The accrual amount for the property retired during age interval 0 to .5 must be equal to the amount retired to insure full recovery of that component during that period. The accruals for each equal life group during the age intervals of the vintage group's life cycle are shown in column (F). The total accrual for a given year is the summation of the equal life group accruals for that year. For example, the total accrual for the second year, as shown in column (G), is 11.31019 percent and is the sum of all succeeding years remaining equal life group accruals plus one half of the current years life group accrual listed in column (F). For the zero age interval year, the total accrual is equal to one half of the sum of all succeeding years remaining equal life accruals plus the amount for the zero interval equal life group accrual. The one half year accrual for the zero age interval is consistent with the half year convention relative to property during its installation year. The sum of the annual accruals for each age interval contained in column (G) total to 1.000 demonstrating that the developed rates will recover 100% of plant no more and no less. The annual accrual rate which will result in the accrual amount is the ratio of the accrual amount (11.31019 percent) to the average percent surviving during the interval, column (D), (99.74145 percent), which is a rate of 11.34% (column J). Column (J) contains a summary of the accrual rates for each age interval of the property groups life cycle based upon an Iowa 10-R3 survivor curve.

Remaining Life Technique

In the Average Remaining Life depreciation technique, the annual accrual is calculated according to the following formula where, (A) the annual depreciation for

each group equals, (D) the depreciable cost of plant less (U) the accumulated provision for depreciation less (S) the estimated future net salvage, divided by (R) the composite remaining life of the group:

$$A = \frac{D - U - S}{R}$$

The annual accrual rate (a) is expressed as a percentage of the depreciable plant balance by dividing the equation by (D) the depreciable cost of plant times 100:

$$(a) = \frac{D - U - S}{R} \times \frac{1}{D} \times 100$$

As further indicated by the equation, the accumulated provision for depreciation by vintage is required in order to calculate the remaining life depreciation rate for each property group. In practice, most often such detail is not available; therefore, composite remaining lives are determined for each depreciable group, (i.e., property account).

The remaining life for a depreciable group is calculated by first determining the remaining life for each vintage year in which there is surviving investment. This is accomplished by solving the area under the survivor curve selected to represent the average life and life characteristic of the property account. The remaining life for each vintage is determined by dividing (D) the depreciable cost of each vintage, by (L) its average service life, and multiplying this ratio by its average remaining life (E). The composite remaining life of the group (R) equals the sums of products divided by the sum of the quotients:

$$R \text{ Group} = \frac{\sum \frac{D/L \times E}{D/L}}{\sum \frac{D/L}{D/L}}$$

The account level accumulated provision for depreciation, which was the basis for developing the composite average remaining life accrual and annual depreciation rate

for each property account as per this report, was obtained from the Company's books and records.

Salvage

Net salvage is the difference between gross salvage, or what is received when an asset is disposed of, and the cost of removing it from service. Salvage experience is normally included with the depreciation rate so that current accounting periods reflect a proportional share of the ultimate abandonment and removal cost or salvage received at the end of the property service life. Net salvage is said to be positive if gross salvage exceeds the cost of removal, but if cost of removal exceeds gross salvage the result is then negative salvage.

The cost of removal includes such costs as demolishing, dismantling, tearing down, disconnecting or otherwise removing plant, as well as normal environmental clean up costs associated with the property. Salvage includes proceeds received for the sale of plant and materials or the return of equipment to stores for reuse.

Net salvage experience is studied for a period of years to determine the trends which have occurred in the past. These trends are considered together with any changes that are anticipated in the future to determine the future net salvage factor for remaining life depreciation purposes. The net salvage percentage is determined by relating the total net positive or negative salvage to the book cost of the property investment.

Many retired assets generate little, if any, positive salvage. Instead, many of the Company's asset property groups generate negative net salvage at end of their life as a result of the cost of removal (retirement).

The method used to estimate the retirement cost is a standard analysis

approach which is used to identify a company's historical experience with regard to what the end of life cost will be relative to the cost of the plant when first placed into service. This information, along with knowledge about the average age of the historical retirements that have occurred to date, enables the depreciation professional to estimate the level of retirement cost that will be experienced by the Company at the end of each property group's useful life. The study methodology utilized has been extensively set forth in depreciation textbooks and has been the accepted practice by depreciation professionals for many decades. Furthermore, the cost of removal analysis approach is the current standard practice used for mass assets by essentially all depreciation professionals in estimating future net salvage for the purpose of identifying the applicable depreciation for a property group. There is a direct relationship to the installation of specific plant in service and its corresponding removal in that the installation is its beginning of life cost while the removal is its end of life cost. Also, it is important to note that average remaining life based depreciation rates incorporate future net salvage which is routinely more representative of recent versus long-term past average net salvage.

The Company's historical net salvage experience was analyzed to identify the historical net salvage factor for each applicable property group. This analysis routinely identifies that historical retirements have occurred at average ages significantly prior to the property group's average service life. This occurrence of historical retirements, at an age which is significantly younger than the average service life of the property category, clearly demonstrates that the historical data does not appropriately recognize the true level of retirement cost at the end of the property's useful life. An additional level of cost to retire will occur due to the passage of time until all the current in service

plant is retired at end of life. That is, the level of retirement costs will increase over time until the average service life is attained. The estimated additional inflation, within the estimate of retirement cost, is related to those additional year's cost increases (primarily higher labor costs over time) that will occur prior to the end of the property group's average life.

To provide an additional explanation of the issue, several general principles surrounding property retirements and related net salvage need to be highlighted. Those are that as property continues to age, the retirement of assets, if generating positive salvage when retired, will typically generate a lower percent of positive salvage. By comparison, if the class of property is one that typically generates negative net salvage (cost of removal), with increasing age at retirement the negative percentage as related to original cost will typically be greater. This situation is routinely driven by the higher labor cost with the passage of time.

Next, a simple example will aid in a better understanding of the above discussed net salvage analysis and the required adjustment to the historical analysis results. Assume the following scenario. A company has two (2) cars, Car #1 and Car #2, each purchased for \$20,000. Car #1 is retired after 2 years and Car #2, is retired after 10 years. Accordingly, the average life of the two cars is six (6) years (2 Yrs. Plus 10 Yrs./2). Car #1 generates 75% salvage or \$15,000 when retired and Car #2 generates 5% salvage or \$1,000 when retired.

<u>Unit</u>	<u>Cost</u>	<u>Ret. Age (Yrs)</u>	<u>% Salv.</u>	<u>Salvage Amount</u>
Car # 1	\$20,000	2	75%	\$15,000
<u>Car # 2</u>	<u>20,000</u>	<u>10</u>	<u>5%</u>	<u>1,000</u>
Total	40,000	6	40%	16,000

Assume an analysis of the experienced net salvage at year three (3). Based upon the Car #1 retirement, which was retired at a young age (2 Yrs.) as compared to the average six (6) year life of the property group, the analysis indicates that the property group would generate 75% salvage. This analysis indication is incorrect and is the result of basing the estimate on incomplete data. That is, the estimate is based upon the salvage generated from a retirement that occurred at an age which is far less than the average service life of the property group. The actual total net salvage, that occurred over the average life of the assets (which experienced a six (6) year average life for the property group) is 40% as opposed to the initial incorrect estimate of 75%.

This is exactly the situation with the majority of the Company's historical net salvage data except that most of the Company's plant property groups routinely experience negative net salvage (cost of removal) as opposed to positive salvage.

The total end of life net salvage amount must be incorporated in the development of annual depreciation rates to enable the Company to fully recover its total plant life costs. Otherwise, upon retirement of the plant, the Company will incur end of life costs without having recovered those plant related costs from the customers who benefitted from the use of the expired plant.

With regard to location type properties (e.g. generation facilities, etc.) a company will routinely experience both interim and terminal net salvage. Interim net salvage occurs in conjunction with interim retirements that occur throughout the life of the asset group. This net salvage activity (routinely and largely cost of removal) is attributable to the removal of components within the Company's facilities to enable the placement of a new asset component. Interim net salvage is routinely negative given the care required in removing the defective component so as not to damage the remaining plant in

service. Interim net salvage is applicable to the estimated interim retirement assets.

The terminal net salvage component is attributable to the end of life costs incurred (less any gross salvage received) to disconnect, remove, demolish and/or dispose of the operating asset. Terminal net salvage is attributable to those assets remaining in service subsequent to the occurrence of interim retirements.

The total net salvage incorporated into the depreciation rate for location type plant account investments is the sum of interim and terminal net salvage. Both of the items must be incorporated in the development of annual depreciation rates to enable the Company to fully recover its total plant life costs. Otherwise, upon retirement of the plant, the Company will incur end of life costs without having recovered those plant related costs from the customers who benefitted from the use of the expired facility.

Service Lives

Several factors contribute to the length of time or average service life which the property achieves. The three (3) major categories under which these factors fall are: (1) physical; (2) functional, and; (3) contingent casualties.

The physical category includes such things as deterioration, wear and tear and the action of the natural elements. The functional category includes inadequacy, obsolescence and requirements of governmental authorities. Obsolescence occurs when it is no longer economically feasible to use the property to provide service to customers or when technological advances have provided a substitute of superior performance. The remaining factor of contingent casualties relates to retirements caused by accidental damage or construction activity of one type or another.

In performing the life analysis for any property being studied, both past experience and future expectations must be considered in order to fully evaluate the

circumstances which may have a bearing on the remaining life of the property. This ensures the selection of an average service life which best represents the expected life of each property investment.

Survivor Curves

The preparation of a depreciation study or theoretical depreciation reserve typically incorporates smooth curves to represent the experienced or estimated survival characteristics of the property. The "smoothed" or standard survivor curves generally used are the family of curves developed at Iowa State University which are widely used and accepted throughout the utility industry.

The shape of the curves within the Iowa family are dependent upon whether the maximum rate of retirement occurs before, during or after the average service life. If the maximum retirement rate occurs earlier in life, it is a left (L) mode curve; if occurring at average life, it is a symmetrical (S) mode curve; if it occurs after average life, it is a right (R) mode curve. In addition, there is the origin (O) mode curve for plant which has heavy retirements at the beginning of life.

Many times, actual Company data has not completed its life cycle, therefore, the survivor table generated from the Company data is not extended to zero percent surviving. This situation requires an estimate be made with regard to the remaining segment of the property group's life experience. Furthermore, actual Company experience is often erratic, making its utilization for average service life estimating difficult. Accordingly, the Iowa curves are used to both extend Company experience to zero percent surviving as well as to smooth actual Company data.

Study Procedures

Several study procedures were used to determine the prospective service lives

recommended for the Company's plant in service. These include the review and analysis of historical retirements, current and future construction, historical experience and future expectations of salvage and cost of removal as related to plant investment. Service lives are affected by many different factors, some of which can be obtained from studying plant experience, others which may rely heavily on future expectations. When physical aspects are the controlling factor in determining the service life of property, historical experience is a valuable tool in selecting service lives. In the case where changing technology or a less costly alternative develops, then historical experience is of lesser value.

While various methods are available to study historical data, the principal methods utilized to determine average service lives for a Company's property are the Retirement Rate Method, the Simulated Plant Record Method, the Life Span Method, and the Judgment Method.

Retirement Rate Method - The Retirement Rate Method uses actual Company retirement experience to develop a survivor curve (Observed Life Table) which is used to determine the average service life being experienced in the account under study. Computer processing provides the opportunity to review various experience bands throughout the life of the account to observe trends and changes. For each experience band studied, the "observed life table" is constructed based on retirement experience within the band of years. In some cases, the total life of the account has not been achieved and the experienced life table, when plotted, results in a "stub curve." It is this "stub curve" or total life curve, if achieved, which is matched or fitted to a standard Survivor curve. The matching process is performed both by computer analysis, using a least squares technique, and by manually plotting observed life tables to which smooth

curves are fitted. The fitted smooth curve provides the basis to determine the average service life of the property group under study.

Simulated Balances Method - In this method of analysis, simulated surviving balances are determined for each balance included in the test band by multiplying each proceeding year's original gross additions installed by the Company by the appropriate factor of each Standard Survivor Curve, summing the products, and comparing the results with the related year end plant balance to determine the "best fitting" curve and life within the test period. Various test bands are reviewed to determine trends or changes to indicated service lives in various bands of years. By definition, the curve with the "best fit" is the curve which produces simulated plant balances that most closely matches the actual plant balances as determined by the sum of the "least squares". The sum of the "least squares" is arrived at by starting with the difference between the simulated balances and the actual balance for a given year, squaring the difference, and the curve which produces the smallest sum (of squared difference) is judged to be the "best fit".

Period Retirements Method - The application of the Period Retirements Method is similar to the "Simulated Plant Balances" Method, except the procedure utilizes a Standard Survivor Curve and service life to simulate annual retirements instead of balances in performing the "least squares" fitting process during the test period. This procedure does tend to experience wider fluctuations due to the greater variations in level of experienced retirements versus additions and balances thereby producing greater variation in the study results.

Life Span Method - The Life Span or Forecast Method is a method utilized to study various accounts in which the expected retirement dates of specific property or

locations can be reasonably estimated. In the Life Span Method, an estimated probable retirement year is determined for each location of the property group. An example of this would be a structure account, in which the various segments of the account are "life spanned" to a probable retirement date which is determined after considering a number of factors, such as management plans, industry standards, the original construction date, subsequent additions, resultant average age and the current - as well as the overall - expected service life of the property being studied. If, in the past, the property has experienced interim retirements, these are studied to determine an interim retirement rate. Otherwise, interim retirement rate parameters are estimated for properties which are anticipated to experience such retirements. The selected interim service life parameters (Iowa curve and life) are then used with the vintage investment and probable retirement year of the property to determine the average remaining life as of the study date.

Judgment Method - Standard quantitative methods such as the Retirement Rate Method, Simulated Plant Record Method, etc. are normally utilized to analyze a Company's available historical service life data. The results of the analysis together with information provided by management as well as judgment are utilized in estimating the prospective recommended average service lives. However, there are some circumstances where sufficient retirements have not occurred, or where prospective plans or guidelines are unavailable. In these circumstances, judgment alone is utilized to estimate service lives based upon service lives used by other utilities for this class of plant as well as what is considered to be a reasonable life for this plant giving consideration to the current age and use of the facilities.

SECTION 4

Kona Water Service Company

Kona Water (KW)

Study Analysis Results & Recommendations

ACCOUNT – 311.00 Structures & Improvements

Historical Experience

Plant Statistics Plant Balance = \$34,499
Average Age of Survivors = 3.34 years
Original Gross Additions = \$34,499
Oldest Surviving vintage = 2014
Retirements = \$0 or 0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Industry Information/Judgment

Range of Data: N/A
Average of Industry Data: N/A
California Water Data Avg: N/A

Estimate Average Service Life: 45-R4

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: N/A
Average of Industry Data: N/A
California Water Data Avg: N/A

Estimate Future Net Salvage: -10%

Plant Considerations/Future Expectations

Several of the Company's well sites include relatively small structures to house well site and pumping related equipment. The Company's service area is relatively compact being only approximately a few miles square, however the terrain in which the wells are located is rugged in some cases requiring all wheel drive vehicles to access. Each of the sites is visited on a regular schedule to insure proper monitoring and maintenance.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 30.0

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 45-R4

Future Net Salvage: -10%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	2.35%	3.33%
Av. Remaining Life	41.67 years	N/A

ACCOUNT – 315.00 Wells

Historical Experience

Plant Statistics Plant Balance = \$803
Average Age of Survivors = 1.50 years
Original Gross Additions = \$803
Oldest Surviving vintage = 2016
Retirements = \$0 or 0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Industry Information/Judgment

Range of Data: 29 – 65 Years
Average of Industry Data: 45 Years
California Water Data Avg: 56 Years

Estimate Average Service Life: 50-R3

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: -5% to -130%
Average of Industry Data: -54%
California Water Data Avg: -127%

Estimate Future Net Salvage: -35%

Plant Considerations/Future Expectations

The investments contained within this property group are related to a variety of potable wells and appurtenant equipment located throughout the company's service territory. The Kona entities have a variety of potable wells to serve customers. Some of the sites include relatively small structures to house well site and pumping related equipment. The Company's service area is relatively compact being only approximately a few miles square, however the terrain in which the wells are located is somewhat rugged in some cases requiring all wheel drive vehicles to access. Each of the sites is visited on a regular schedule to insure proper monitoring and maintenance. The typical well site includes the well, in some cases a structure to house the controls, and the well head. A majority of the wells are equipped with submersible pumps.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 40.1

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 50-R3

Future Net Salvage: -35%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	2.69%	2.49%
Av. Remaining Life	48.52 years	N/A

ACCOUNT – 316.40 Supply Mains

Historical Experience

Plant Statistics Plant Balance = \$14,617
Average Age of Survivors = 1.50 years
Original Gross Additions = \$14,617
Oldest Surviving vintage = 2016
Retirements = \$0 or 0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Industry Information/Judgment

Range of Data: 38 – 65 Years
Average of Industry Data: 52 Years
California Water Data Avg: 52 Years

Estimate Average Service Life: 50-R3

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: -3% to -15%
Average of Industry Data: -9%
California Water Data Avg: -9%

Estimate Future Net Salvage: -10%

Plant Considerations/Future Expectations

The limited investment contained within this property group is relative to a Butterfly valve located at HR-5 well site.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 40.0

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 50-R3

Future Net Salvage: -10%

	<u>New Rate @New Parameters</u>	<u>Old Rate @Old Parameters</u>
Rate	2.21%	2.50%
Av. Remaining Life	48.52 years	N/A

ACCOUNT – 321.00 Pumping Structures & Improvements

Historical Experience

Plant Statistics Plant Balance = \$1,609
Average Age of Survivors = 5.50 years
Original Gross Additions = \$1,609
Oldest Surviving vintage = 2012
Retirements = \$0 or 0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Industry Information/Judgment

Range of Data: 25 – 50 Years
Average of Industry Data: 37 Years
California Water Data Avg: 29 Years

Estimate Average Service Life: 40-R3

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: -3% to -60%
Average of Industry Data: -19%
California Water Data Avg: -29%

Estimate Future Net Salvage: -20%

Plant Considerations/Future Expectations

The limited investment contained within this property group is relative to a minor structure.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 30.0

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 40-R3

Future Net Salvage: -20%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	2.92%	3.33%
Av. Remaining Life	34.64 years	N/A

ACCOUNT – 324.00 Pumping Equipment

Historical Experience

Plant Statistics Plant Balance = \$2,230,274
Average Age of Survivors = 9.51 years
Original Gross Additions = \$2,413,901
Oldest Surviving vintage = 2003
Retirements = \$183,627 or 7.6% of historical additions.
Average Age of Retirements = 12.9 years

Experience Band 2003-2017 (Full Depth) 21-L3

Average Service Life: Industry Information/Judgment

Range of Data: 15 – 36 Years
Average of Industry Data: 26 Years
California Water Data Avg: 31 Years

Estimate Average Service Life: 21-L3

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: -5% to -35%
Average of Industry Data: -14%
California Water Data Avg: -10%

Estimate Future Net Salvage: -10%

Plant Considerations/Future Expectations

The investments contained within this property group are related to pumping equipment located at a variety of potable wells and appurtenant equipment located throughout the company's service territory. The Kona entities have a variety of potable wells to serve customers. Some of the sites include relatively small structures to house well site and pumping related equipment. The Company's service area is relatively compact being only approximately a few miles square, however the terrain in which the wells are located is somewhat rugged in some cases requiring all wheel drive vehicles to access. Each of the sites is visited on a regular schedule to insure proper monitoring and maintenance. The typical well site includes the well, in some cases a structure to house the controls, and the well head. A majority of the wells are equipped with submersible pumps.

Life Analysis Method: Retirement Rate Analysis (Actuarial) - Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 73.3

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 21-L3

Future Net Salvage: -10%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	4.66%	1.36%
Av. Remaining Life	12.35 years	N/A

ACCOUNT – 324.10 System Control Computer Equipment

Historical Experience

Plant Statistics Plant Balance = \$936,150
Average Age of Survivors = 11.89 years
Original Gross Additions = \$936,150
Oldest Surviving vintage = 2003
Retirements = \$0 or 0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Industry Information/Judgment

Range of Data: N/A

Average of Industry Data: N/A
California Water Data Avg: N/A

Estimate Average Service Life: 10-R3

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: N/A

Average of Industry Data: N/A
California Water Data Avg: N/A

Estimate Future Net Salvage: 0%

Plant Considerations/Future Expectations

This investment is related to Telemetry property installed to control the water operating property. Telemetry equipment is electronic based facilities that are subject to ongoing upgrades and obsolescence.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 3,066.5

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 10-R3

Future Net Salvage: 0%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	0.82%	0.03%
Av. Remaining Life	1.38 years	N/A

ACCOUNT – 331.00 Water Treatment Structures & Improvements

Historical Experience

Plant Statistics Plant Balance = \$2,647,464
Average Age of Survivors = 12.50 years
Original Gross Additions = \$2,647,464
Oldest Surviving Vintage = 2005
Retirements = \$0, or 0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Industry Information/Judgment

Range of Data: 32 – 50 Years
Average of Industry Data: 40 Years
California Water Data Avg: 40 Years

Estimate Average Service Life: 40-R3

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: 0% to -25%
Average of Industry Data: -10%
California Water Data Avg: -10%

Estimate Future Net Salvage: -10%

Plant Considerations/Future Expectations

This category of property includes the investments related to the 1 MGD RO water filtration plant. Among other ongoing capital requirements the property, which equipped with 4 Membrane Trains that require replacement throughout the overall life of the facility. Currently, Victaulic couplings between membrane trains are failing and require replacement. A project for this task is planned for 2018. In addition to the Victaulic couplings, the membrane trains themselves require replacement after reaching the end of their useful life---which is dependent upon the source water quality. A project for the completion of the Membrane B Train is scheduled for 2018.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 50.3

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 40-R3

Future Net Salvage: -10%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	3.07%	1.99%
Av. Remaining Life	28.06 years	N/A

ACCOUNT – 332.00 Water Treatment Equipment

Historical Experience

Plant Statistics Plant Balance = \$336,009
Average Age of Survivors = 7.42 years
Original Gross Additions = \$341,693
Oldest Surviving Vintage = 2005
Retirements = \$5,684, or 1.7% of historical additions.
Average Age of Retirements = 7.6 years

Experience Band 2005-2017 (Full Depth) 38-R2.5

Average Service Life: Industry Information/Judgment

Range of Data: 12 – 44 Years
Average of Industry Data: 26 Years
California Water Data Avg: 39 Years

Estimate Average Service Life: 38-R2.5

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: 0% to -40%
Average of Industry Data: -9%
California Water Data Avg: -6%

Estimate Future Net Salvage: -5%

Plant Considerations/Future Expectations

This category of property includes the appurtenant equipment investments related to the 1 MGD RO water filtration plant. Among other ongoing capital requirements, the property is equipped with 4 Membrane Trains that require replacement throughout the overall life of the facility. Currently, Victaulic couplings between membrane trains are failing and require replacement. A project for this task is planned for 2018. In addition to the Victaulic couplings, the membrane trains themselves require occasional replacement after reaching the end of their useful life---which is dependent upon the source water quality. A project for the completion of the Membrane B Train is scheduled for 2018.

Life Analysis Method: Retirement Rate Analysis (Actuarial) - Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 40.6

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 38-R2.5

Future Net Salvage: -5%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	2.11%	2.46%
Av. Remaining Life	31.18 years	N/A

ACCOUNT – 342.00 Reservoirs & Tanks

Historical Experience

Plant Statistics Plant Balance = \$2,575,847
Average Age of Survivors = 13.44 years
Original Gross Additions = \$2,575,847
Oldest Surviving vintage = 2003
Retirements = \$0 or 0.0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Industry Information/Judgment

Range of Data: 37 – 100 Years
Average of Industry Data: 53 Years
California Water Data Avg: 44 Years

Estimate Average Service Life: 50-R3

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: -10% to -60%
Average of Industry Data: -27%
California Water Data Avg: -52%

Estimate Future Net Salvage: -25%

Plant Considerations/Future Expectations

The Waikoloa entities have storage tanks ranging from 500,000 to more than a million gallons as well as several smaller capacity tanks. The tanks are typically of steel construction.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 50.3

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 50-R3

Future Net Salvage: -25%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	2.64%	1.99%
Av. Remaining Life	37.09 years	N/A

ACCOUNT – 343.40 Mains-All Others

Historical Experience

Plant Statistics Plant Balance = \$3,658,108
Average Age of Survivors = 13.56 years
Original Gross Additions = \$3,658,108
Oldest Surviving Vintage = 2003
Retirements = \$0 or 0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Industry Information/Judgment

Range of Data: 64 – 98 Years
Average of Industry Data: 76 Years
California Water Data Avg: 68 Years

Estimate Average Service Life: 80-R2.5

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: -10% to -60%
Average of Industry Data: -38%
California Water Data Avg: -45%

Estimate Future Net Salvage: -40%

Plant Considerations/Future Expectations

The Mains property group contains the Company's investment in Transmission and Distribution Mains and comprises approximately 55 percent of the Company's depreciable plant in service. Within the Mains property group investment approximately 67% is Ductile Iron pipe construction while the remaining approximate 33% is of Asbestos Cement pipe construction with some limited other material types. The pipe sizes range from smaller 4 diameter upwards to 20 inch diameter pipe. A large portion of the Mains facilities are comprise of 8 in through 12 inch diameter pipe.

Sufficient levels of plant retirement records have not been maintained to develop any meaningful service life indications. Accordingly, average service lives for each of the applicable property groups were estimated giving consideration of general ranges of lives used throughout the industry as well as for the Companies parent operating entity California Water Company.

This property class includes the minor investments in non-classified Mains located within the Company's service territory.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 51.1

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 80-R2.5

Future Net Salvage: -40%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	1.64%	1.96%
Av. Remaining Life	67.42 years	N/A

ACCOUNT – 343.50 Mains-Ductile Iron

Historical Experience

Plant Statistics Plant Balance = \$7,484,413
Average Age of Survivors = 13.82 years
Original Gross Additions = \$7,484,413
Oldest Surviving Vintage = 2003
Retirements = \$0 or 0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Industry Information/Judgment

Range of Data: 64 – 98 Years
Average of Industry Data: 76 Years
California Water Data Avg: 68 Years

Estimate Average Service Life: 80-R2.5

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: 10% to -60%
Average of Industry Data: -38%
California Water Data Avg: -45%

Estimate Future Net Salvage: -40%

Plant Considerations/Future Expectations

The Mains property group contains the Company's investment in Transmission and Distribution Mains and comprises approximately 55 percent of the Company's depreciable plant in service. Within the Mains property group investment approximately 67% is Ductile Iron pipe construction while the remaining approximate 33% is of Asbestos Cement pipe construction with some limited other material types. The pipe sizes range from smaller 4 diameter upwards to 20 inch diameter pipe. A large portion of the Mains facilities are comprise of 8 in through 12 inch diameter pipe.

Sufficient levels of plant retirement records have not been maintained to develop any meaningful service life indications. Accordingly, average service lives for each of the applicable property groups were estimated giving consideration of general ranges of lives used throughout the industry as well as for the Companies parent operating entity California Water Company.

This property class includes the minor investments in non-classified Mains located within the Company's service territory.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 51.8

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 80-R2.5

Future Net Salvage: -40%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	1.68%	1.93%
Av. Remaining Life	67.17 years	N/A

ACCOUNT – 348.00 Hydrants

Historical Experience

Plant Statistics Plant Balance = \$29,795
Average Age of Survivors = 3.50 years
Original Gross Additions = \$29,795
Oldest Surviving vintage = 2014
Retirements = \$0 or 0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Industry Information/Judgment

Range of Data: 50 – 80 Years

Range of Data: 51 – 83 Years
Average of Industry Data: 64 Years
California Water Data Avg: 74 Years

Estimate Average Service Life: 60-R2.5

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: -10% to -150%
Average of Industry Data: -45%
California Water Data Avg: -40%

Estimate Future Net Salvage: -40%

Plant Considerations/Future Expectations

This property group contains the Company's limited capitalized investment in hydrants. There are no specific replacement plans for this class of property.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 40.0

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 60-R2.5

Future Net Salvage: -40%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	2.31%	2.50%
Av. Remaining Life	56.71 years	N/A

ACCOUNT – 372.10 Office Electronic Equipment/Computers

Historical Experience

Plant Statistics Plant Balance = \$6,546
Average Age of Survivors = 7.50 years
Original Gross Additions = \$6,546
Oldest Surviving vintage = 2010
Retirements = \$0 or 0% of historical additions.
Average Age of Retirements = .0 years

Experience Band N/A

Average Service Life: Industry Information/Judgment

Range of Data: 5 – 11 Years
Average of Industry Data: 7 Years
California Water Data Avg: 8 Years

Estimate Average Service Life: 7-L3

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: 0% to 0%
Average of Industry Data: 0%
California Water Data Avg: 0%

Estimate Future Net Salvage: 0%

Plant Considerations/Future Expectations

This property group investment is principally related to servers and PC equipment. Accordingly, this property will continually experiencing upgrades and replacement on an ongoing basis.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 0.0

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 7-L3

Future Net Salvage: 0%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	0.00%	0.00%
Av. Remaining Life	2.05 years	N/A

ACCOUNT – 373.00 Transportation Equipment

Historical Experience

Plant Statistics Plant Balance = \$154,214
Average Age of Survivors = 5.59 years
Original Gross Additions = \$154,214
Oldest Surviving Vintage = 2010
Retirements = \$0 or 0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Industry Information/Judgment

Range of Data: 6 – 15 Years

Range of Data: 6 – 15 Years
Average of Industry Data: 9 Years
California Water Data Avg: 8 Years

Estimate Average Service Life: 8-L3

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: 0% to 20%
Average of Industry Data: 8%
California Water Data Avg: 7%

Estimate Future Net Salvage: 10%

Plant Considerations/Future Expectations

This property group investment is principally related to light trucks used in maintaining the Company's operating property and providing customer service. The Company will continue to upgrade/replace its transportation fleet on an as required basis.

Life Analysis Method: Retirement Rate Analysis (Actuarial) - Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 9.4

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 8-L3

Future Net Salvage: 10%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	3.15%	10.65%
Av. Remaining Life	3.42 years	N/A

ACCOUNT – 374.00 Stores Equipment

Historical Experience

Plant Statistics Plant Balance =\$28,232
Average Age of Survivors = 2.81 years
Original Gross Additions = \$28,232
Oldest Surviving Vintage = 2013
Retirements = \$0 or 0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Industry Information/Judgment

Range of Data: N/A
Average of Industry Data: N/A
California Water Data Avg: N/A

Estimate Average Service Life: 25-L2

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: N/A
Average of Industry Data: N/A
California Water Data Avg: N/A

Estimate Future Net Salvage: 0%

Plant Considerations/Future Expectations

The equipment category typically includes facilities used for equipment and supply storage.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 40.0

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 25-L2

Future Net Salvage: 0%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	4.20%	2.50%
Av. Remaining Life	22.25 years	N/A

ACCOUNT – 375.00 Laboratory Equipment

Historical Experience

Plant Statistics Plant Balance =\$2,577
Average Age of Survivors = 6.50 years
Original Gross Additions = \$2,577
Oldest Surviving Vintage = 2011
Retirements = \$0 or 0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Industry Information/Judgment

Range of Data: N/A
Average of Industry Data: N/A
California Water Data Avg: N/A

Estimate Average Service Life: 15-R2.5

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: N/A
Average of Industry Data: N/A
California Water Data Avg: N/A

Estimate Future Net Salvage: 0%

Plant Considerations/Future Expectations

The equipment category typically includes facilities used for water quality testing purposes. Given the continuing increase in regulatory requirements, ongoing upgrades of equipment will be required.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 20.0

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 15-R2.5

Future Net Salvage: 0%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	7.41%	5.00%
Av. Remaining Life	9.21 years	N/A

ACCOUNT – 378.00 Tools, Shop & Garage Equipment

Historical Experience

Plant Statistics Plant Balance =\$18,387
Average Age of Survivors = 4.35 years
Original Gross Additions = \$19,478
Oldest Surviving Vintage = 2011
Retirements = \$1,091 or 5.6% of historical additions.
Average Age of Retirements = 3.5 years

Experience Band 2011-2017 (Full Depth) 20-S0

Average Service Life: Industry Information/Judgment

Range of Data: 15 – 30 Years
Average of Industry Data: 21 Years
California Water Data Avg: 17 Years

Estimate Average Service Life: 20-S0

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: 0% to 5%
Average of Industry Data: 1%
California Water Data Avg: 0%

Estimate Future Net Salvage: 0%

Plant Considerations/Future Expectations

This property group is related to tools and equipment used by the Company's workforce to maintain the distribution system.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 53.1

Net Salvage: N/A

Proposed Depreciation Parameters

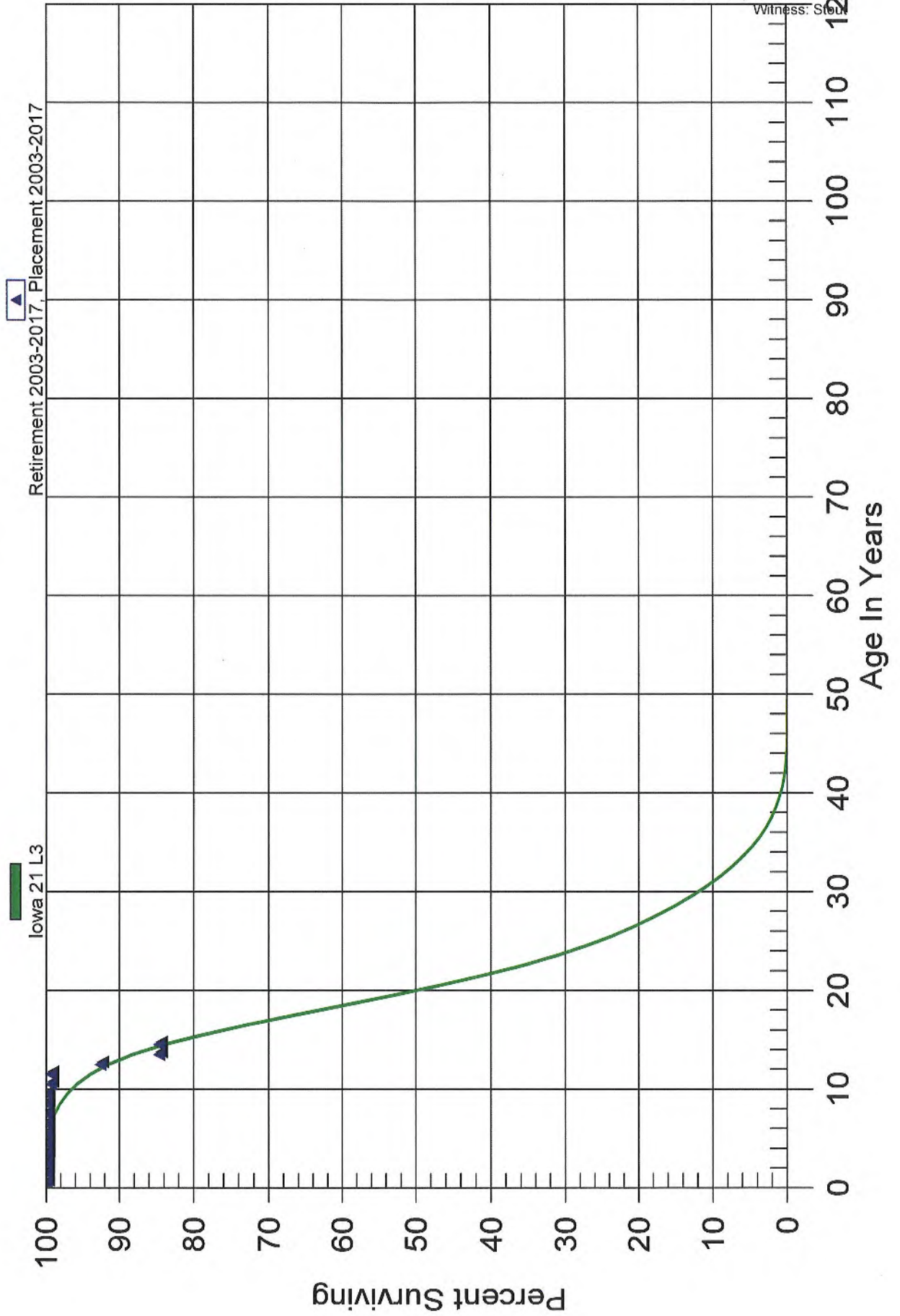
ASL/Curve: 20-S0

Future Net Salvage: 0%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	4.63%	1.88%
Av. Remaining Life	16.47 years	N/A

SECTION 5

Kona Water Service Company (727) Kona Water (KW) 324.00 PUMPING EQUIPMENT Original And Smooth Survivor Curves

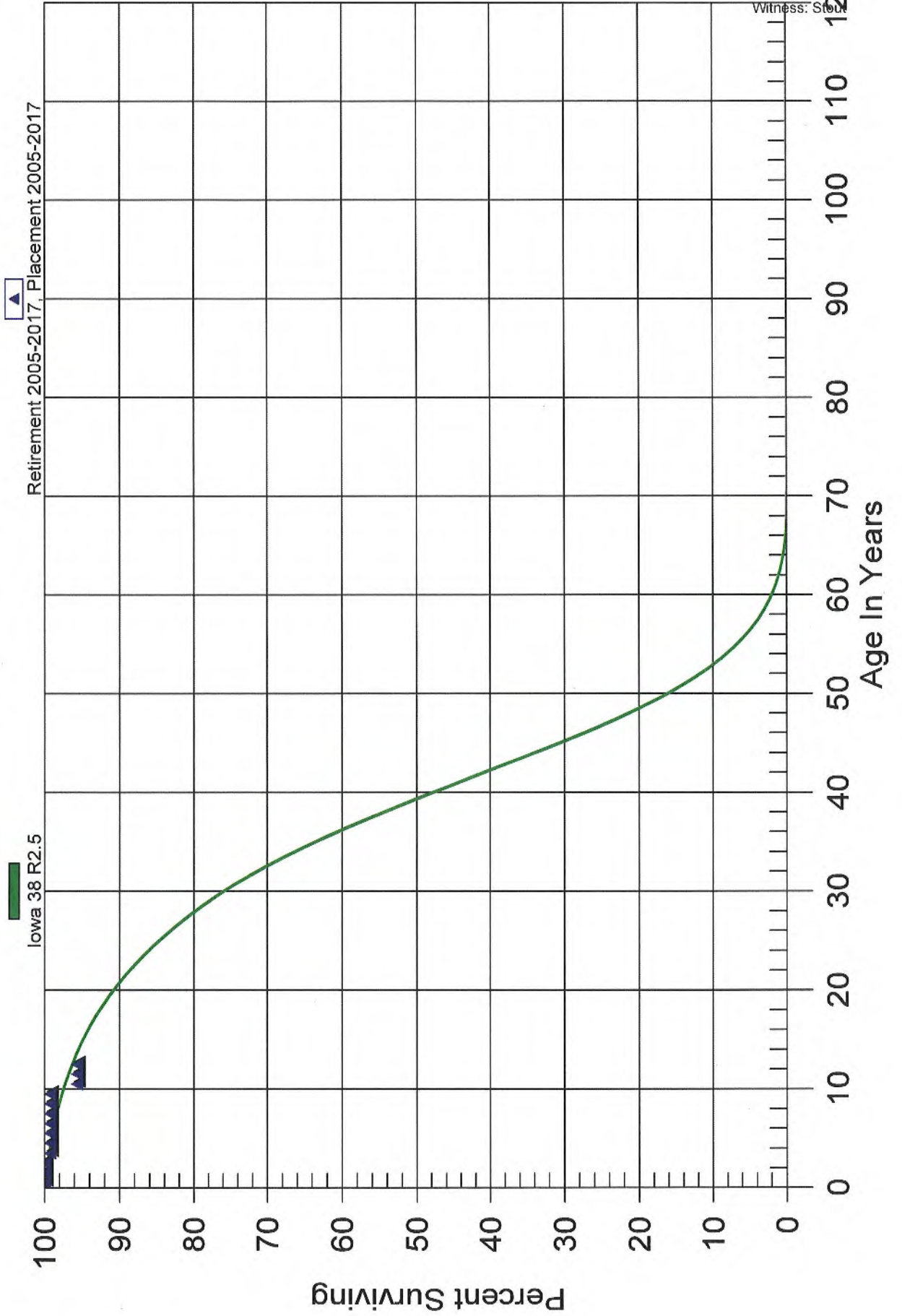


Kona Water Service Company
(727) Kona Water (KW)
324.00 PUMPING EQUIPMENT

Observed Life Table
Retirement Expr. 2003 TO 2017
Placement Years 2003 TO 2017

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$2,413,901.45	\$0.00	0.00000	100.00
0.5 - 1.5	\$2,410,425.01	\$0.00	0.00000	100.00
1.5 - 2.5	\$2,220,430.99	\$0.00	0.00000	100.00
2.5 - 3.5	\$2,069,787.09	\$678.09	0.00033	100.00
3.5 - 4.5	\$1,947,530.37	\$8.24	0.00000	99.97
4.5 - 5.5	\$1,936,179.72	\$0.00	0.00000	99.97
5.5 - 6.5	\$1,854,248.41	\$0.00	0.00000	99.97
6.5 - 7.5	\$1,854,173.53	\$0.00	0.00000	99.97
7.5 - 8.5	\$1,196,096.00	\$0.00	0.00000	99.97
8.5 - 9.5	\$1,196,096.00	\$0.00	0.00000	99.97
9.5 - 10.5	\$1,196,096.00	\$7,149.00	0.00598	99.97
10.5 - 11.5	\$1,188,947.00	\$0.00	0.00000	99.37
11.5 - 12.5	\$1,188,947.00	\$81,401.95	0.06847	99.37
12.5 - 13.5	\$1,107,545.05	\$94,389.76	0.08522	92.57
13.5 - 14.5	\$1,013,155.29	\$0.00	0.00000	84.68

Kona Water Service Company (727) Kona Water (KW) 332.00 WATER TREATMENT EQUIPMENT Original And Smooth Survivor Curves



Kona Water Service Company
(727) Kona Water (KW)
332.00 WATER TREATMENT EQUIPMENT

Observed Life Table
Retirement Expr. 2005 TO 2017
Placement Years 2005 TO 2017

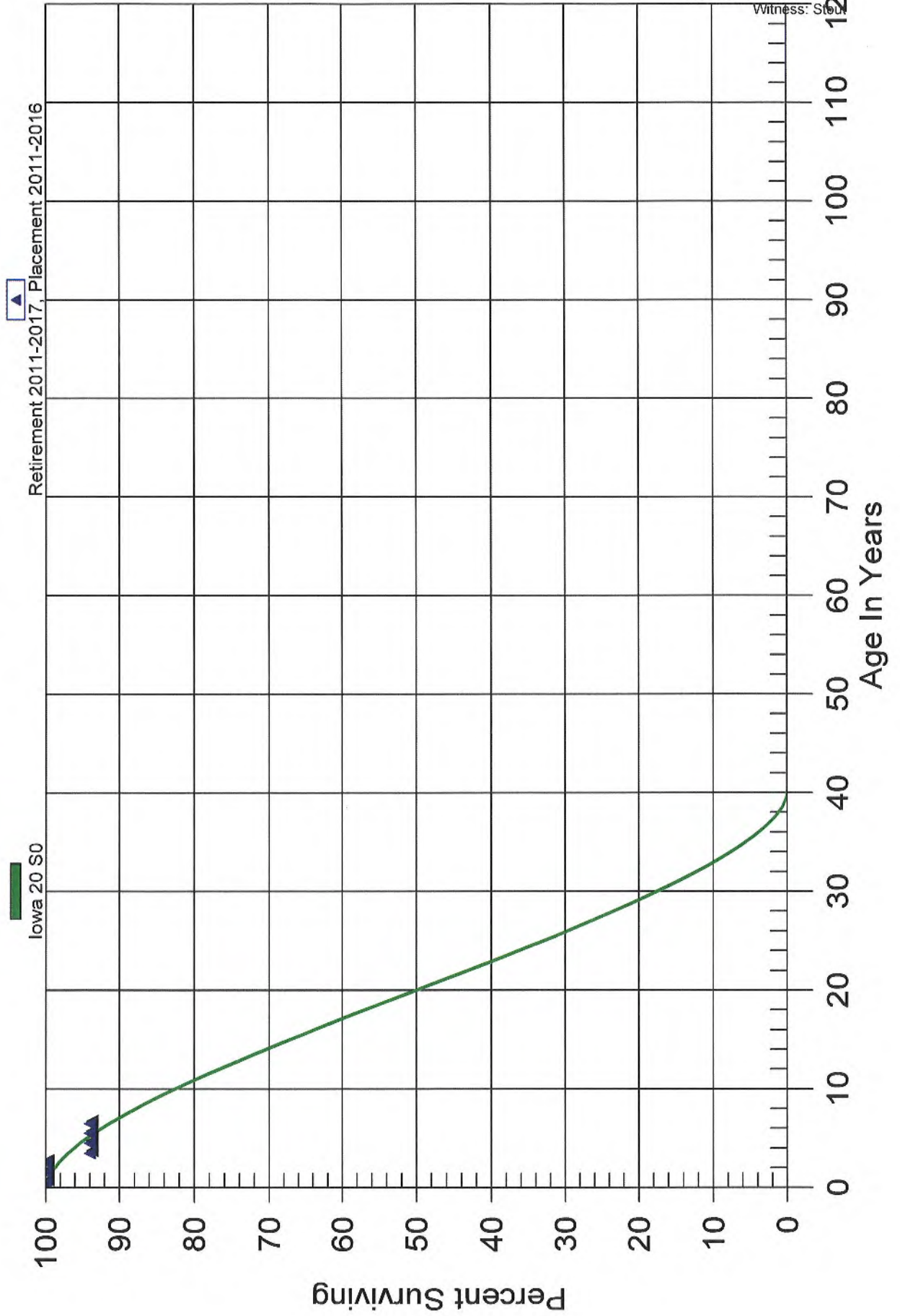
<i>Age Interval</i>	<i>\$ Surviving At Beginning of Age Interval</i>	<i>\$ Retired During The Age Interval</i>	<i>Retirement Ratio</i>	<i>% Surviving At Beginning of Age Interval</i>
0.0 - 0.5	\$341,692.90	\$0.00	0.00000	100.00
0.5 - 1.5	\$338,573.70	\$0.00	0.00000	100.00
1.5 - 2.5	\$335,588.36	\$0.00	0.00000	100.00
2.5 - 3.5	\$330,059.21	\$2,378.82	0.00721	100.00
3.5 - 4.5	\$273,178.99	\$0.00	0.00000	99.28
4.5 - 5.5	\$273,178.99	\$0.00	0.00000	99.28
5.5 - 6.5	\$273,178.99	\$0.00	0.00000	99.28
6.5 - 7.5	\$91,339.00	\$0.00	0.00000	99.28
7.5 - 8.5	\$91,339.00	\$0.00	0.00000	99.28
8.5 - 9.5	\$91,339.00	\$0.00	0.00000	99.28
9.5 - 10.5	\$91,339.00	\$3,305.00	0.03618	99.28
10.5 - 11.5	\$88,034.00	\$0.00	0.00000	95.69
11.5 - 12.5	\$88,034.00	\$0.00	0.00000	95.69

Kona Water Service Company

(727) Kona Water (KW)

378.00 TOOLS, SHOP & GARAGE EQUIPMENT

Original And Smooth Survivor Curves



Kona Water Service Company
(727) Kona Water (KW)
378.00 TOOLS, SHOP & GARAGE EQUIPMENT

Observed Life Table
Retirement Expr. 2011 TO 2017
Placement Years 2011 TO 2016

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$19,477.65	\$0.00	0.00000	100.00
0.5 - 1.5	\$19,477.65	\$0.00	0.00000	100.00
1.5 - 2.5	\$18,269.34	\$0.00	0.00000	100.00
2.5 - 3.5	\$18,269.34	\$1,090.50	0.05969	100.00
3.5 - 4.5	\$13,334.07	\$0.00	0.00000	94.03
4.5 - 5.5	\$3,799.44	\$0.00	0.00000	94.03
5.5 - 6.5	\$866.21	\$0.00	0.00000	94.03

SECTION 6

Kona Water Service Company
(727) Kona Water (KW)
311.00 STRUCTURES & IMPROV-SUPPLY

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 45 *Survivor Curve: R4*

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2014	28,868.50	45.00	641.52	41.50	26,626.23
2015	5,630.62	45.00	125.12	42.50	5,318.17
Total	34,499.12	45.00	766.64	41.67	31,944.39

Composite Average Remaining Life ... 41.67 Years

Kona Water Service Company
(727) Kona Water (KW)
315.00 WELLS

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 50 *Survivor Curve: R3*

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2016	803.28	50.00	16.07	48.52	779.58
Total	803.28	50.00	16.07	48.52	779.58

Composite Average Remaining Life ... 48.52 Years

Kona Water Service Company
(727) Kona Water (KW)
316.40 SUPPLY MAINS - C.I., 10" - 16"

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 50 *Survivor Curve: R3*

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2016	14,617.49	50.00	292.35	48.52	14,186.25
Total	14,617.49	50.00	292.35	48.52	14,186.25

Composite Average Remaining Life ... 48.52 Years

Kona Water Service Company
(727) Kona Water (KW)
321.00 STRUCTURES & IMPROVEMENTS
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 40 *Survivor Curve: R3*

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2012	1,608.73	40.00	40.22	34.64	1,393.01
Total	1,608.73	40.00	40.22	34.64	1,393.01

Composite Average Remaining Life ... 34.64 Years

***Kona Water Service Company
 (727) Kona Water (KW)
 324.00 PUMPING EQUIPMENT***

***Original Cost Of Utility Plant In Service
 And Development Of Composite Remaining Life as of December 31, 2017
 Based Upon Broad Group/Remaining Life Procedure and Technique***

Average Service Life: 21 Survivor Curve: L3

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2003	1,013,155.29	21.00	48,246.03	8.29	399,751.55
2010	658,077.53	21.00	31,337.38	13.67	428,412.69
2011	74.88	21.00	3.57	14.60	52.06
2012	81,931.31	21.00	3,901.53	15.55	60,667.89
2013	11,342.41	21.00	540.12	16.52	8,922.57
2014	121,578.63	21.00	5,789.52	17.50	101,343.81
2015	150,643.90	21.00	7,173.60	18.50	132,712.90
2016	189,994.02	21.00	9,047.44	19.50	176,422.87
2017	3,476.44	21.00	165.55	20.50	3,393.67
<i>Total</i>	2,230,274.41	21.00	106,204.74	12.35	1,311,680.02

Composite Average Remaining Life ... 12.35 Years

Kona Water Service Company
(727) Kona Water (KW)
324.10 PUMPING EQUIPMENT - TELEMETERING
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 10 Survivor Curve: R3

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2003	146,947.00	10.00	14,694.46	0.69	10,148.13
2006	776,989.00	10.00	77,697.63	1.45	113,013.72
2012	12,213.79	10.00	1,221.36	4.97	6,074.80
Total	936,149.79	10.00	93,613.45	1.38	129,236.64

Composite Average Remaining Life ... 1.38 Years

Kona Water Service Company
(727) Kona Water (KW)
331.00 STRUCTURES & IMPROV-TREATMENT
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 40 Survivor Curve: R3

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2005	2,647,464.00	40.00	66,186.56	28.06	1,857,271.74
Total	2,647,464.00	40.00	66,186.56	28.06	1,857,271.74

Composite Average Remaining Life ... 28.06 Years

Kona Water Service Company
(727) Kona Water (KW)
332.00 WATER TREATMENT EQUIPMENT

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 38 *Survivor Curve: R2.5*

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2005	88,034.00	38.00	2,316.68	26.66	61,759.01
2011	181,839.99	38.00	4,785.25	31.97	152,961.30
2014	54,501.40	38.00	1,434.24	34.72	49,796.94
2015	5,529.15	38.00	145.50	35.65	5,187.22
2016	2,985.34	38.00	78.56	36.59	2,874.29
2017	3,119.20	38.00	82.08	37.53	3,080.43
<i>Total</i>	336,009.08	38.00	8,842.31	31.18	275,659.19

Composite Average Remaining Life ... 31.18 Years

Kona Water Service Company
(727) Kona Water (KW)
342.00 DISTR. RESERVOIRS & TANKS

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 50 *Survivor Curve: R3*

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2003	1,770,204.00	50.00	35,404.07	36.11	1,278,301.15
2006	730,957.00	50.00	14,619.13	38.89	568,605.02
2010	68,485.89	50.00	1,369.72	42.69	58,479.49
2012	6,200.40	50.00	124.01	44.62	5,533.65
<i>Total</i>	2,575,847.29	50.00	51,516.92	37.09	1,910,919.31

Composite Average Remaining Life ... 37.09 Years

Kona Water Service Company
(727) Kona Water (KW)
343.40 MAINS - ALL OTHER

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 80 *Survivor Curve: R2.5*

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2003	2,810,671.10	80.00	35,133.35	66.55	2,338,298.05
2004	28,004.00	80.00	350.05	67.46	23,614.97
2006	5,000.00	80.00	62.50	69.29	4,330.41
2007	780,332.00	80.00	9,754.14	70.20	684,774.16
2011	27,749.27	80.00	346.87	73.90	25,633.76
2013	6,351.82	80.00	79.40	75.77	6,015.64
<i>Total</i>	3,658,108.19	80.00	45,726.30	67.42	3,082,666.98

Composite Average Remaining Life ... 67.42 Years

Kona Water Service Company
(727) Kona Water (KW)
343.50 MAINS - DUCTICLE IRON

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 80 *Survivor Curve: R2.5*

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2003	4,930,498.00	80.00	61,631.15	66.55	4,101,858.04
2005	2,553,915.00	80.00	31,923.90	68.37	2,182,694.63
Total	7,484,413.00	80.00	93,555.05	67.17	6,284,552.67

Composite Average Remaining Life ... 67.17 Years

Kona Water Service Company

(727) Kona Water (KW)

348.00 HYDRANTS

Original Cost Of Utility Plant In Service

And Development Of Composite Remaining Life as of December 31, 2017

Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60

Survivor Curve: R2.5

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2014	29,794.95	60.00	496.58	56.71	28,160.09
Total	29,794.95	60.00	496.58	56.71	28,160.09

Composite Average Remaining Life ... 56.71 Years

***Kona Water Service Company
 (727) Kona Water (KW)
 372.10 ELECTRONICS***

***Original Cost Of Utility Plant In Service
 And Development Of Composite Remaining Life as of December 31, 2017
 Based Upon Broad Group/Remaining Life Procedure and Technique***

Average Service Life: 7 Survivor Curve: L3

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2010	6,545.51	7.00	935.08	2.05	1,918.87
Total	6,545.51	7.00	935.08	2.05	1,918.87

Composite Average Remaining Life ... 2.05 Years

Kona Water Service Company
(727) Kona Water (KW)
373.00 TRANSPORTATION EQUIPMENT

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 8 Survivor Curve: L3

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2010	39,246.68	8.00	4,905.91	2.52	12,349.62
2011	53,505.51	8.00	6,688.29	2.76	18,456.22
2013	4,919.67	8.00	614.97	3.82	2,350.16
2014	56,542.28	8.00	7,067.90	4.63	32,758.71
<i>Total</i>	154,214.14	8.00	19,277.07	3.42	65,914.70

Composite Average Remaining Life ... 3.42 Years

***Kona Water Service Company
 (727) Kona Water (KW)
 374.00 STORES EQUIPMENT***

***Original Cost Of Utility Plant In Service
 And Development Of Composite Remaining Life as of December 31, 2017
 Based Upon Broad Group/Remaining Life Procedure and Technique***

Average Service Life: 25 Survivor Curve: L2

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2013	12,334.87	25.00	493.39	20.63	10,178.02
2016	15,897.51	25.00	635.90	23.51	14,947.44
Total	28,232.38	25.00	1,129.30	22.25	25,125.46

Composite Average Remaining Life ... 22.25 Years

Kona Water Service Company
(727) Kona Water (KW)
375.00 LABORATORY EQUIPMENT

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 15 *Survivor Curve: R2.5*

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2011	2,577.48	15.00	171.83	9.21	1,582.96
Total	2,577.48	15.00	171.83	9.21	1,582.96

Composite Average Remaining Life ... 9.21 Years

Kona Water Service Company
(727) Kona Water (KW)
378.00 TOOLS, SHOP & GARAGE EQUIPMENT
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 20 Survivor Curve: S0

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2011	866.21	20.00	43.31	15.00	649.81
2012	2,933.23	20.00	146.66	15.66	2,296.04
2013	9,534.63	20.00	476.72	16.34	7,788.98
2014	3,844.77	20.00	192.24	17.06	3,279.29
2016	1,208.31	20.00	60.41	18.64	1,125.93
Total	18,387.15	20.00	919.34	16.47	15,140.06

Composite Average Remaining Life ... 16.47 Years



KONA WASTEWATER SERVICE COMPANY

KONA WASTEWATER (KS)

Depreciation Study

as of December 31, 2017

**Earl M. Robinson, Principal
David A. Sheffer, Principal**

**AUS CONSULTANTS
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Sept., 2018



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erobinson@ausconsultants.com

September 28, 2018

Mr. Julian Gandara
Regulatory Program Manager
California Water Service Company
1720 North First Street
San Jose, CA 95112

RE: Kona Water Service Company-Kona Wastewater
Depreciation Study as of 12-31-2017

Dear Mr. Gandara:

In accordance with your authorization, we have prepared a depreciation study related to the utility plant in service of Kona Water Service Company-Kona Wastewater (Kona Wastewater or the Company) as of December 31, 2017. Our findings and recommendations, together with supporting schedules and exhibits, are set forth in the accompanying report.

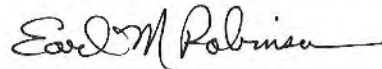
Summary schedules have been prepared to illustrate the impact of instituting the recommended annual depreciation rates as a basis for the Company's annual depreciation expense as compared to the rates presently utilized. The application of the present rates to the depreciable plant in service as of December 31, 2017 results in an annual depreciation expense of \$342,471. In comparison, the application of the proposed depreciation rates to the depreciable plant in service at December 31, 2017 results in an annual depreciation expense of \$970,791 which is an increase of \$628,320 from current rates. The composite annual depreciation rate under present rates is 2.17 percent, while the proposed pro forma composite depreciation rate is 6.16 percent.

Notwithstanding AUS Consultants comprehensive analysis results and depreciation study recommendations, which are based upon Company and industry experience and future expectations, Company management is sensitive to potential rate shock and currently desires to mitigate the proposed depreciation rate and expense increase. As an interim step for this depreciation study, Company management has requested the mitigation of the resulting dramatic increase in depreciation rates (that being rate shock) for Accounts 354 Structures and Improvements and Account 370 Receiving Wells/Waste Treatment Plant. To complete the requested mitigation task, the development of applicable depreciation rates were prepared which incorporate longer Average Remaining Lives (ARL) than which result from the incorporation of the present anticipated plant change timeline. The longer ARL's (of 15 years) for Accounts 354 and 370 were incorporated into Table 5 of the Appendix of this depreciation study report.

The net effect of the mitigated depreciation calculations is a proposed annual depreciation expense increase of \$332,795 to a total depreciation expense of \$675,266. The mitigated proposed composite depreciation rate is 4.28% as compared to the present composite depreciation rate of 2.17%.

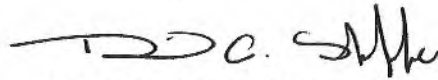
Section 2 of our report contains the summary schedules showing the results of our service life and salvage studies and summaries of presently utilized depreciation rates. The subsequent sections of the report present a detailed outline of the methodology and procedures used in the study together with supporting calculations and analyses used in the development of the results.

Respectfully submitted,



EARL M. ROBINSON, CDP

&



DAVID A. SHEFFER

TABLE OF CONTENTS

	Page No.
<u>SECTION 1</u>	
Executive Summary	1-1
<u>SECTION 2</u>	
Summary of Original Cost of Utility Plant in Service as of December 31, 2017 and Related Annual Book Depreciation Expense Under Present and Proposed Rates (Table 1)	2-1
Summary of Gross Salvage and Cost of Removal in Book Depreciation Reserve as of December 31, 2017 (Table 1a)	2-2
Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utilizing Book Depreciation Reserves and Average Remaining Lives of as of December 31, 2017 (Table 2 PLANT ONLY)	2-3
Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utilization of Book Depreciation Reserve and Average Remaining Lives as of December 31, 2017 (Table 2 GROSS SALVAGE)	2-4
Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utilization of Book Depreciation Reserve and Average Remaining Lives as of December 31, 2017 (Table 2 COR)	2-5
Original Cost Per Books, Adjustments, and Original Cost Per Depreciation Study as of December 31, 2017 (Table 3)	2-6
Company's Book Reserve and Allocation of Book Reserve Based Upon Calculated Reserve as of December 31, 2017 (Table 4)	2-7
Summary of Original Cost of Utility Plant in Service as of December 31, 2017 and Present and Proposed Parameters (Table 5)	2-8
Summary of ASL's and Net Salvage Percent From Industry Depreciation Studies (Table 6)	2-9

TABLE OF CONTENTS

	Page No.
<u>SECTION 3</u>	
General	3-1
Depreciation Study Overview	3-2
Annual Depreciation Accrual	3-3
Group Depreciation Procedures	3-4
Calculation of ASL, ARL, and Accrued Depreciation Factors Based Upon Iowa 10-R3 Using the Equal Life Group (ELG) Procedure (Table 7)	3-8
Remaining Life Technique	3-9
Salvage	3-11
Service Lives	3-15
Survivor Curves	3-16
Study Procedures	3-16
<u>SECTION 4</u>	
Study Results	4-1
<u>SECTION 5</u>	
Service Life Analysis	5-1
<u>SECTION 6</u>	
Composite Remaining Life Calculations	6-1
<u>APPENDIX</u>	A-1

SECTION 1

Kona Water Service Company **Kona Wastewater (KS)**

Executive Summary

Table 1 on page 2-1 is a comparative summaries which illustrates the effect of the proposed depreciation rates. The schedule includes a comparison of the annual depreciation rates and annual depreciation expense under both present and proposed historical rates applied using the Straight Line Method for each depreciable property group of the Kona Water Service Company-Kona Wastewater ("Kona Wastewater or Company") plant in service as of December 31, 2017. The proposed depreciation rates were developed utilizing the Straight Line (SL) Method, Broad Group (BG) Procedure, and the Average Remaining Life (ARL) Technique.

Table 1a on page 2-2 summarizes the Company's December 31, 2017 property group depreciation reserves by the detailed segments of plant only, gross salvage, and cost of removal components.

Table 2 - Plant Only on page 2-3, is the development of average remaining life depreciation rates for the Plant Only recovery component), provides a summary of the detailed life estimates and service life parameters (Iowa Curves) utilized in preparing the Average Remaining Life depreciation rates for each property group. The schedule provides a summary of the detailed data and narrative of the study results set forth in Sections 4 through 6. The developed depreciation rates (Column L) were determined by studying the Company's historical investment data together with the interpretation of future life expectancies which will have a bearing on the overall service life of the Company's property.

Table 2 - Gross Salvage on page 2-4 is a similar table to Table 2 - Plant Only, except that

this table develops the component level depreciation rates for the recovery of the gross salvage portion of the property cost.

Table 2 - Cost of Removal on page 2-5 summarizes the depreciation recovery rates for the cost of removal segment of the total plant cost.

Table 3 on page 2-6 reconciles the December 31, 2017 account level plant in service balances per books versus the balances utilized in the performance of the depreciation study.

Table 4 on page 2-7 summarizes the Company's December 31, 2017 book depreciation reserve balances per books, adjustments, and the depreciation reserve per the December 31, 2017 depreciation study.

Table 5 on page 2-8 summarizes the depreciation parameters underlying the Company's current depreciation rates as well as also provides similar information relative to the proposed depreciation parameters and depreciation rates as of December 31, 2017.

Table 6 on pages 2-9 and 2-10 summarizes the depreciation average service lives and net salvage percent utilized throughout the industry for the various property groups. This information was utilized along with an investigation of the Company's property investments, historical analysis of available data, discussions with management, and a general review of the physical operating property to estimated depreciation parameters underlying the proposed depreciation rates.

With regard to the Company's plant in service, several of the proposed rates reflect marked changes (as outlined in Section 4 of the study) from the current depreciation rates. The accounts for which the most notable depreciation expense changes occurred in comparison to the current depreciation rates include Account 354.00-Structures & Improvements, and Account 370.00-Receiving Wells/Waste Treatment Plant.

The depreciation rate for Account 354.00 – Structures & Improvements increased from 2.13 percent to 9.39 percent. An Iowa 45-R4 life and curve is estimated as the applicable interim retirement rate for the property to allow for the interim retirements that are anticipated to occur during the period of time until the current facilities are estimated to be upgraded/replaced. The Company's engineering group has estimated that the facility will be upgraded during the 2022-2026 time period—accordingly the current surviving investments in the present property was life spanned to 2026.

As discussed in the Section 4 study results narrative of this report, this category of property includes the investments related to the operating wastewater treatment facility such as plant structures, control building, aeration chambers, leach field, etc. Such structures are exposed to the highly corrosive and aggressive components inherent in wastewater and therefore are subject to acceleration deterioration as compared to normal structures. In fact, studies have been and are being performed to access/verify the longer term viability of the operating plant inasmuch as there numerous corrosion issues with the result that structural integrity of the plant is a concern. Operating and engineering management have a goal of repairing/maintaining the plant for an additional 4-8 years after which it is anticipated that the plant will be replaced. Accordingly, the estimated service life of the wastewater plant investment in this property group is based upon depreciating the property using the life span method to the year 2026 (which is 8 years beyond the present study date) along with the use of an Interim Retirement rate of an Iowa 45-R4 life and curve to recognize the level of component replacement/retirements that will be required to continue operating the facility during the interim period.

The implicit underlying average service life for this property group is 46.9 years. The net salvage underlying the current depreciation rate is unknown, but assumed to be zero percent. Future net salvage of negative 10% is estimated in developing the proposed depreciation rate.

The proposed depreciation rate for Account 370.0 – 370.00-Receiving Wells/Waste Treatment Plant, increased from 2.21 percent to 9.80 percent. The proposed depreciation rate is the result of combined changes of both the average service life and net salvage parameters. An Iowa 45-R4 life and curve is estimated as the applicable interim retirement rate for the property to allow for the interim retirements that are anticipated to occur during the period of time until the current facilities are estimated to be upgraded/replaced. The Company's engineering group has estimated that the facility will be upgraded during the 2022-2026 time period—accordingly the current surviving investments in the present property was life spanned to 2026.

As discussed in the Section 4 study results narrative of this report, this category of property includes the investments related to the operating wastewater treatment facility such as plant structures, control building, aeration chambers, leach field, etc. Such structures are exposed to the highly corrosive and aggressive components inherent in wastewater and therefore are subject to acceleration deterioration as compared to normal structures. In fact, studies have been and are being performed to access/verify the longer term viability of the operating plant inasmuch as there numerous corrosion issues with the result that structural integrity of the plant is a concern. Operating and engineering management have a goal of repairing/maintaining the plant for an additional 4-8 years after which it is anticipated that the plant will be replaced. Accordingly, the estimated service life of the wastewater plant investment in this property group is based upon depreciating the property using the life span method to the year 2026 (which is 8 years beyond the present study date) along with the use of an Interim Retirement rate of an Iowa

45-R4 life and curve to recognize the level of component replacement/retirements that will be required to continue operating the facility during the interim period.

The implicit average service life underlying the current depreciation rate is 45.2 years. The future negative net salvage estimated for the proposed property group depreciation rate is negative twenty (20) percent. The net salvage percent underlying the current depreciation rate is unknown, but assumed to be zero percent.

The utilization of the recommended depreciation rates based upon the Straight Line Average Remaining Life Procedure results in the setting of depreciation rates which will continuously true up the Company's level of capital recovery over the life of each asset group. Application of this procedure, which is based upon the current best estimates of service life together with the Company's plant in service and accrued depreciation, produces annual depreciation rates that will result in the Company recovering 100 percent of its investment -- no more, no less.

It is recommended that the Company continue to apply depreciation rates and maintain its book depreciation reserve on an account-level basis. The maintenance of the book reserve on an account-level basis requires both the development of annual depreciation expense and distribution of other reserve account charges to an individual level. Maintaining the Company's depreciation records in this detail will aid in completing the various rate studies and, most importantly, clearly identify the Company's level of capital recovery relative to each category of plant investment.

The general drivers for the proposed depreciation rates include an assessment of the Company's historical experience with regard to achieved service lives and net salvage factors. In addition, consideration is given to current and anticipated events which are anticipated to impact the Company's ability to recover its fixed capital costs related to utility plant in service.

The depreciation rate for each individual account changed as a result of estimates obtained through the in-depth analysis of the Company's most recent data together with an interpretation of ongoing and anticipated future events. Some of the revisions were not significant and typically reflect fine tuning of previously utilized depreciation rates while others were more substantial in nature. Several of the accounts did reflect more significant changes (as outlined in Section 4 of this report) from the previously utilized depreciation rates.

Several of the remaining account/sub-accounts experienced increases or decreases in recommended depreciation rates to a lesser degree, as noted per Table 1 of this report. This revision in annual depreciation rates and expense is the result of both changes in the estimated service lives and salvage factors, and reflects the impact of the Company's property changes since the most recent study.

With regard to the inclusion of higher negative net salvage levels in the development of proposed depreciation rates, as noted within the discussion related to net salvage in Section 3 of the depreciation report, it should be noted that the level of experienced net salvage should simply be a benchmark from which to estimate future net salvage. It is highly likely that the negative net salvage amounts experienced even recently will simply be the floor above which future negative net salvage levels will increase to a higher level. To appropriately and proportionately allocate the true total asset cost (original cost adjusted for net salvage) over its applicable service life, proper consideration must be given, in each accounting period, to the total costs that are anticipated to occur relative to the Company's assets that provide customer service.

Applying the proposed depreciation rates to the Company's December 31, 2017 historical depreciable plant in service balances produces annual depreciation expense of \$970,791 which is

an increase of \$628,320 in depreciation expense from the application of the current depreciation rate.

The following summary compares the present and proposed composite depreciation rates and is for illustrative purposes only. The Composite Depreciation Rate should not be applied to the total Company investment inasmuch as the non-proportional change in plant investment as a result of property additions or retirements would render the composite rate inappropriate. The Table 1 schedule (in Section 2 of the report) lists the recommended annual depreciation rates for each of the applicable property accounts.

Present Depreciation Rates

Depreciable Plant In Service at December 31, 2017	\$15,758,851
Annual Depreciation Expense	\$342,471
Composite Annual Depreciation Rate	2.17%

Proposed Depreciation Rates

Depreciable Plant In Service at December 31, 2017	\$15,758,851
Annual Depreciation Expense	\$970,791
Composite Annual Depreciation Rate	6.16%

Company Management Requested Mitigated Depreciation Expense and Rates
(Detail Tables in Report Appendix)

Notwithstanding AUS Consultants comprehensive analysis results and depreciation study recommendations, which are based upon Company and industry experience and future

expectations, Company management is sensitive to potential rate shock and currently desires to mitigate the proposed depreciation rate and expense increase.

As previously noted, the investments related to the Company's operating wastewater treatment facility such as plant structures, control building, aeration chambers, leach field, etc. are subject to replacement in a relative short period of years. Such structures are exposed to the highly corrosive and aggressive components inherent in wastewater and therefore are subject to acceleration deterioration as compared to normal structures. In fact, studies have been and are being performed to assess/verify the longer term viability of the operating plant inasmuch as there numerous corrosion issues with the result that structural integrity of the plant is a concern. Operating and engineering management have a goal of repairing/maintaining the plant for an additional 4-8 years after which it is anticipated that the plant will be replaced.

As an interim step for this depreciation study, Company management has requested the mitigation of the resulting dramatic increase in depreciation rates (that being rate shock) for Accounts 354 Structures and Improvements and Account 370 Receiving Wells/Waste Treatment Plant. To complete the requested mitigation task, the development of applicable depreciation rates were prepared which incorporate longer Average Remaining Lives (ARL) than which result from the incorporation of the present anticipated plant change timeline. The longer ARL's (of 15 years) for Accounts 354 and 370 were incorporated into Table 5 of the Appendix of this depreciation study report.

The net effect of the mitigated depreciation calculations is a proposed annual depreciation expense increase of \$332,795 to a total depreciation expense of \$675,266. The mitigated proposed composite depreciation rate is 4.28% as compared to the present composite depreciation rate of 2.17%.

Proposed Mitigated Depreciation Rates

Depreciable Plant In Service at December 31, 2017	\$15,758,851
Annual Depreciation Expense	\$675,266
Composite Annual Depreciation Rate	4.28%

SECTION 2

Table 1a - KS

Hawaii Water Service Company
 Kona Wastewater (KS)

Summary of Gross Salvage and Cost of Removal In Book Depreciation Reserve as of December 31, 2017

Acct. No.	Description	Original Cost 12-31-17 (c)	Existing A.S.L./Curve (d)	Salvage % (e)	Theoretical Depreciation Reserve (f)	Total Book Depr Reserve 12-31-17 (g)	Cost of Removal In Book Res. (h)	Gross Salvage In Book Res. (i)	Plant Only Depr Reserve 12-31-17 (j)
<u>DEPRECIABLE PLANT</u>									
<u>Collection Plant</u>									
354.00	Structure & Improvements	5,339,404.11	-10%	*45-R4	3,630,841.21	1,636,790.07	330,076.24	0.00	1,306,713.83
355.00	Power Generation Equipment	495,804.71	0%	45-R4	38,510.10	61,975.35	0.00	0.00	61,975.35
360.00	Collection Sewers Force	76,204.11	-25%	55-R4	7,049.32	8,382.21	3,434.45	0.00	4,947.76
361.00	Collection Sewers Gravity	4,535,759.00	-25%	65-R4	1,509,619.83	1,087,331.84	671,349.68	0.00	415,982.16
362.00	Special Collecting Structure	7,896.57	-10%	30-R4	716.95	696.35	65.18	0.00	631.17
370.00	Receiving Wells/Waste Treatment Plant	1,794,143.00	-20%	*45-R4	1,304,619.17	666,786.87	217,436.11	0.00	449,350.76
370.10	Pumping Equipment	3,287,382.75	-15%	30-R3	1,533,644.11	1,036,493.12		0.00	1,036,493.12
	TOTAL Collection Plant	15,536,594.25			8,025,000.69	4,498,455.81	1,222,361.66	0.00	3,276,094.15
<u>Treatment & Disposal Plant</u>									
380.10	Treatment & Disposal Equip	35,441.08	-15%	30-R3	2,001.32	2,148.17	261.04	0.00	1,887.13
	TOTAL Treatment & Disposal Plant	35,441.08			2,001.32	2,148.17	261.04	0.00	1,887.13
<u>General Plant</u>									
324.10	System Control Computer Equipment	96,006.00	0%	15-R4	80,281.07	0.00	0.00	0.00	0.00
372.10	Office Equipment/Computers	1,572.20	0%	7-R4	555.56	139.84	0.00	0.00	139.84
389.00	Other Miscellaneous Equipment	16,475.29	0%	25-R3	2,248.78	2,150.83	0.00	0.00	2,150.83
393.00	Tools, Shop & Garage Equipment	1,609.00	0%	15-R3	300.00	164.82	0.00	0.00	164.82
395.00	Power Operated Equip	0.00	5%	12-R3	0.00	0.00	0.00	0.00	0.00
396.50	Transportation Equipment	42,229.15	10%	8-R3	25,103.85	42,229.15	0.00	-2,789.32	45,018.47
397.00	Miscellaneous Equipment	28,924.27	0%	25-R4	6,517.03	5,538.44	0.00	0.00	5,538.44
	TOTAL General Plant	186,815.91			115,006.29	50,223.08	0.00	-2,789.32	53,012.40
	TOTAL DEPRECIABLE PLANT	15,768,851.24			8,142,008.30	4,550,827.06	1,222,622.70	-2,789.32	3,330,993.68
<u>NON-DEPRECIABLE PLANT</u>									
	TOTAL NON-DEPRECIABLE PLANT	0.00							
	TOTAL UTILITY PLANT IN SERVICE	15,768,851.24							

Hawaii Water Service Company
 Kona Wastewater (KS)

Original Cost Per Books, Adjustments, and Original Cost Per Depreciation Study
 as of December 31, 2017

Account No. (a)	Description (b)	Original Cost Per Book 12-31-11 (c)	Company Pending Adjustment (d)	Original Cost Per Depreciation Study Data 12-31-11 (e)
<u>DEPRECIABLE PLANT</u>				
<u>Collection Plant</u>				
354.00	Structure & Improvements	5,339,404.11		5,339,404.11
355.00	Power Generation Equipment	495,804.71		495,804.71
360.00	Collection Sewers Force	76,204.11	0.00	76,204.11
361.00	Collection Sewers Gravity	4,535,759.00		4,535,759.00
362.00	Special Collecting Structure	7,896.57		7,896.57
370.00	Receiving Wells/Waste Treatment Plant	1,794,143.00		1,794,143.00
370.10	Pumping Equipment	3,287,382.75		3,287,382.75
	TOTAL Collection Plant	15,536,594.25	0.00	15,536,594.25
<u>Treatment & Disposal Plant</u>				
380.10	Treatment & Disposal Equip	35,441.08		35,441.08
	TOTAL Treatment & Disposal Plant	35,441.08	0.00	35,441.08
<u>General Plant</u>				
324.10	System Control Computer Equipment	96,006.00		96,006.00
372.10	Office Equipment/Computers	0.00	1,572.20	1,572.20
389.00	Other Miscellaneous Equipment	16,475.29		16,475.29
393.00	Tools, Shop & Garage Equipment	1,609.00		1,609.00
395.00	Power Operated Equip	1,572.20	-1,572.20	0.00
396.50	Transportation Equipment	42,229.15		42,229.15
397.00	Miscellaneous Equipment	28,924.27		28,924.27
	TOTAL General Plant	186,815.91	0.00	186,815.91
	TOTAL DEPRECIABLE PLANT	15,758,851.24	0.00	15,758,851.24
<u>NON-DEPRECIABLE PLANT</u>				
	TOTAL NON-DEPRECIABLE PLANT	0.00	0.00	0.00
	TOTAL UTILITY PLANT IN SERVICE	15,758,851.24	0.00	15,758,851.24

Hawaii Water Service Company
 Kona Wastewater (KS)

Company's Book Reserve and Allocation of Book Reserve
 Based Upon Calculated Reserve
 As of December 31, 2017

Acct. No.	Description	Original Cost 12-31-17	Net Salvage Rate	A.S.L./ Survivor Curve	Calculated Reserve 12-31-17	Book Reserve 12-31-17
(a)	(b)	(c)	(d)	(e)	(f)	(g)
<u>DEPRECIABLE PLANT</u>						
<u>Collection Plant</u>						
354.00	Structure & Improvements	5,339,404.11	-10%	*45-R4	0.00	1,636,790.07
355.00	Power Generation Equipment	495,804.71	0%	45-R4	0.00	61,975.35
360.00	Collection Sewers Force	76,204.11	-25%	55-R4	0.00	8,382.21
361.00	Collection Sewers Gravity	4,535,759.00	-25%	65-R4	0.00	1,087,331.84
362.00	Special Collecting Structure	7,896.57	-10%	30-R4	0.00	696.35
370.00	Receiving Wells/Waste Treatment Plant	1,794,143.00	-20%	*45-R4	0.00	666,786.87
370.10	Pumping Equipment	3,287,382.75	-15%	30-R3	0.00	1,036,493.12
	TOTAL Collection Plant	15,536,594.25			0.00	4,498,455.81
<u>Treatment & Disposal Plant</u>						
380.10	Treatment & Disposal Equip	35,441.08	-15%	30-R3	0.00	2,148.17
	TOTAL Treatment & Disposal Plant	35,441.08			0.00	2,148.17
<u>General Plant</u>						
324.10	System Control Computer Equipment	96,006.00	0%	15-R4	0.00	0.00
372.10	Office Equipment/Computers	1,572.20	0%	7-R4	0.00	139.84
389.00	Other Miscellaneous Equipment	16,475.29	0%	25-R3	0.00	2,150.83
393.00	Tools, Shop & Garage Equipment	1,609.00	0%	15-R3	0.00	164.82
395.00	Power Operated Equip	0.00	5%	12-R3	0.00	0.00
396.50	Transportation Equipment	42,229.15	10%	8-R3	0.00	42,229.15
397.00	Miscellaneous Equipment	28,924.27	0%	25-R4	0.00	5,538.44
	TOTAL General Plant	186,815.91			0.00	50,223.08
	TOTAL DEPRECIABLE PLANT	15,758,851.24			0.00	4,550,827.06
<u>NON-DEPRECIABLE PLANT</u>						
	TOTAL NON-DEPRECIABLE PLANT	0.00				0.00
	TOTAL UTILITY PLANT IN SERVICE	15,758,851.24				4,550,827.06

Table 5- KS

Hawaii Water Service Company
Kona Wastewater (KS)

Summary of Original Cost of Utility Plant in Service as of December 31, 2017 and Present and Proposed Parameters

Account No.	Description	Present Parameters						Proposed Parameters							
		Original Cost		Net Salvage		W/ COR %	Implicit ASL (Yrs)	Depr Rate	Net Salvage		W/ COR %	A.S.L./ Curve	Survivor To Yr	Life Span	Average Remain. Life
		12-31-17	(c)	W/ COR %	Gross Salv %				Gross Salv %	Gross COR %					
				(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)		
DEPRECIABLE PLANT															
Collection Plant															
354.00	Structure & Improvements	5,339,404.11		0%	0%	0%	46.9	2.13%	-10%	0%	-10%	*45-R4	2026	8.45	
355.00	Power Generation Equipment	495,804.71		0%	0%	0%	30.0	3.33%	0%	0%	0%	45-R4		41.50	
360.00	Collection Sewers Force	76,204.11		0%	0%	0%	30.0	3.33%	-25%	0%	-25%	55-R4		51.67	
361.00	Collection Sewers Gravity	4,535,759.00		0%	0%	0%	53.7	1.86%	-25%	0%	-25%	65-R4		52.99	
362.00	Special Collecting Structure	7,896.57		0%	0%	0%	30.0	3.33%	-10%	0%	-10%	30-R4		27.52	
370.00	Receiving Wells/Waste Treatment Plant	1,794,143.00		0%	0%	0%	45.2	2.21%	-20%	0%	-20%	*45-R4	2026	8.45	
370.10	Pumping Equipment	3,287,382.75		0%	0%	0%	39.8	2.51%	-15%	0%	-15%	30-R3		17.83	
	TOTAL Collection Plant	15,536,594.25													
380.10	Treatment & Disposal Plant	35,441.08		0%	0%	0%	30.0	3.33%	-15%	0%	-15%	30-R3		28.53	
	TOTAL Treatment & Disposal Plant	35,441.08													
General Plant															
324.10	System Control Computer Equipment	96,006.00		0%	0%	0%	N/A	0.00%	0%	0%	0%	15-R4		2.46	
372.10	Office Equipment/Computers	1,572.20		0%	0%	0%	N/A	0.00%	0%	0%	0%	7-R4		4.53	
389.00	Other Miscellaneous Equipment	16,475.29		0%	0%	0%	30.0	3.33%	0%	0%	0%	25-R3		21.59	
393.00	Tools, Shop & Garage Equipment	1,609.00		0%	0%	0%	30.0	3.33%	0%	0%	0%	15-R3		12.20	
395.00	Power Operated Equip	0.00		0%	0%	0%	30.0	3.34%	5%	5%	0%	12-R3		N/A	
396.50	Transportation Equipment	42,229.15		0%	0%	0%	N/A	0.00%	10%	10%	0%	8-R3		2.72	
397.00	Miscellaneous Equipment	28,924.27		0%	0%	0%	30.0	3.33%	0%	0%	0%	25-R4		19.37	
	TOTAL General Plant	186,815.91													
	TOTAL DEPRECIABLE PLANT	15,758,851.24													
NON-DEPRECIABLE PLANT															
	TOTAL NON-DEPRECIABLE PLANT	0.00													
	TOTAL UTILITY PLANT IN SERVICE	15,758,851.24													

*Life Span Method Utilized. Service Lives Vary.

Table 6- KS
 (1 of 2)

**Hawaii Water Service Co-Wastewater
 Summary of ASL's and Net Salvage Percent
 From Industry Depreciation Studies**

Account No.	Description	Original Cost 12/31/017	Current Implicit ASL (Yrs)	Proposed ASL	Avg of ASL's	Summary of ASL's			
						Sum of ASL's	Arizona -Am. Sewer	Illinois-Am. Sewer	New Jersey Amer-Sewer
<u>DEPRECIABLE PLANT</u>									
Collection Plant									
324.10	System Control Computer Equip	96,006.00	N/A	15-R4					
	TOTAL Collection Plant	96,006.00							
Treatment & Disposal Equip									
354.00	Structure & Improvements	5,339,404.11	47	*45-R4	37	110	40	40	30
360.00	Collection Sewers Force	76,204.11	30	55-R4	58	174	50	64	60
361.00	Collection Sewers Gravity	4,535,759.00	54	65-R4	68	204	73	66	65
362.00	Special Collection Structure	7,896.57	30	30-R4					
370.10	Pumping Equipment	3,287,382.75	45	30-R3	19	57	15	25	17
380.10	Treatment & Disposal Equip	35,441.08	30	30-R3	20	41	21	20	
	TOTAL Treat. & Disposal Plant	13,282,087.62							
General Plant									
389.00	Other Miscellaneous Equipment	16,475.29	30	25-R3					
	TOTAL General Plant	16,475.29							
	SUBTOTAL Depreciable Plant	13,394,568.91							

(c)

(c)

Table 6- KS
 (2 of 2)

Hawaii Water Service Co-Wastewater
Summary of ASL's and Net Salvage Percent
From Industry Depreciation Studies

Account No. (b)	Description (c)	Original Cost 12/31/017 (c)	Proposed NS%	Summary of Net Salv %'s			
				Avg Net Salv %	Sum of NS %'s	Arizona -Am. Sewer	Illinois-Am. Sewer
<u>DEPRECIABLE PLANT</u>							
Collection Plant							
324.10	System Control Computer Equip	96,006.00	0%				
	TOTAL Collection Plant	96,006.00					
Treatment & Disposal Equip							
354.00	Structure & Improvements	5,339,404.11	-10%	-12%	-35%	-10%	-15%
360.00	Collection Sewers Force	76,204.11	-25%	-30%	-90%	-40%	-10%
361.00	Collection Sewers Gravity	4,535,759.00	-25%	-22%	-65%	0%	-25%
362.00	Special Collection Structure	7,896.57	-10%				
370.10	Pumping Equipment	3,287,382.75	-15%	-15%	-45%	0%	-30%
380.10	Treatment & Disposal Equip	35,441.08	-15%	-13%	-25%	0%	-25%
	TOTAL Treat. & Disposal Plant	13,282,087.62					
General Plant							
389.00	Other Miscellaneous Equipment	16,475.29	0%				
	TOTAL General Plant	16,475.29					
	SUBTOTAL Depreciable Plant	13,394,568.91					

SECTION 3

Kona Water Service Company **Kona Wastewater (KS)**

General

This report sets forth the results of our study of the depreciable property of Kona Water Service Company – Kona Wastewater (Kona Wastewater or the “Company”) as of December 31, 2017 and contains the basic parameters (recommended average service lives and life characteristics) for the proposed average remaining life depreciation rates. All average service lives set forth in this report are developed based upon plant in service as of December 31, 2017.

The scope of the study included an analysis of Waikoloa Wastewater historical data through December 31, 2017, discussions with Company management and staff to identify prior and prospective factors affecting the Company's plant in service, as well as interpretation of past service life data experience and future life expectancies to determine the appropriate average service lives of the Company's surviving plant. The service lives and life characteristics resulting from the in-depth study were utilized together with the Company's plant in service and book depreciation reserve to determine the recommended Average Remaining Life (ARL) depreciation rates related to the Company's plant in service as of December 31, 2017.

In preparing the study, the Company's historical investment data were studied using various service life analysis techniques. Further, discussions were held with the Company's management to obtain an overview of the Company's facilities and to discuss the general scope of operations together with other factors which could have a

bearing on the service lives of the Company's property. Finally, the study results were tempered by information gathered during plant inspection tours of a representative portion of the Company's property.

The Company maintains property records containing a summary of its fixed capital investments by property account. This investment data was analyzed and summarized by property group and/or sub group and vintage, then utilized as a basis for the various depreciation calculations.

Depreciation Study Overview

There are numerous methods utilized to recover property investment depending upon the goal. For example, accelerated methods such as double declining balance and sum of years digits are methods used in tax accounting to motivate additional investments. Broad Group (BG) and Equal Life Group (ELG) are both Straight Line Grouping Procedures recognized and utilized by various regulatory jurisdictions depending upon the policy of the specific agency.

The Straight Line Group Method of depreciation utilized in this study to develop the recommended depreciation rates is the Broad Group Procedure together with the Average Remaining Life Technique. The use of this procedure and technique is based upon recovering the net book cost (original cost less book reserve) of the surviving plant in service over its estimated remaining useful life. Any variance between the book reserve and an implied theoretical calculated reserve is compensated for under this procedure. That is, as the Company's book reserve increases above or declines below the theoretical reserve at a specific point in time, the Company's average remaining life depreciation rate in subsequent years will be increased or decreased to compensate for the variance, thereby, assuring full recovery of the Company's investment by the end of

the property's life.

The Company, like any other business, includes as an annual operating expense an amount which reflects a portion of the capital investment which was consumed in providing service during the accounting period. The annual depreciation amount to be recognized is based upon the remaining productive life over which the undepreciated capital investment needs to be recovered. The determination of the productive remaining life for each property group usually includes an in-depth study of past experience in addition to estimates of future expectations.

Annual Depreciation Accrual

Through the utilization of the Average Remaining Life Technique, the Company will recover the un-depreciated fixed capital investment in the appropriate amounts as annual depreciation expense in each year throughout the remaining life of the property. The procedure incorporates the future life expectancy of the property, the vintaged surviving plant in service, and estimated net salvage, together with the book depreciation reserve balance to develop the annual depreciation rate for each property account. Accordingly, the ARL technique meets the objective of providing a straight line recovery of the un-depreciated fixed capital property investment.

As indicated, the use of the Average Remaining Life Technique results in charging the appropriate annual depreciation amounts over the remaining life of the property to insure full recovery by the end of the life of the property. The annual expense is calculated on a Straight Line Method rather than by the previously mentioned, "sum of the years digits" or "double declining balance" methods, etc. The "group" refers to the method of calculating annual depreciation on the summation of the investment in any one depreciable group or plant account rather than calculating

depreciation for each individual unit.

Under Broad Group Depreciation some units may be over depreciated and other units may be under depreciated at the time when they are retired from service, but overall, the account is fully depreciated when average service life is attained. By comparison, Equal Life Group depreciation rates are designed to fully accrue the cost of the asset group by the time of retirement. For both the Broad Group and Equal Life Group Procedures the full cost of the investment is credited to plant in service when the retirement occurs and likewise the depreciation reserve is debited with an equal retirement cost. No gain or loss is recognized at the time of property retirement because of the assumption that the retired property was at average service life.

Group Depreciation Procedures

Group depreciation procedures are utilized to depreciate property when more than one item of property is being depreciated. Such a procedure is appropriate because all of the items within a specific group typically do not have identical service lives, but have lives which are dispersed over a range of time. Utilizing a group depreciation procedure allows for a condensed application of depreciation rates to groups of similar property in lieu of extensive depreciation calculations on an item by item basis. The two more common group depreciation procedures are the Broad Group (BG) and Equal Life Group (ELG) approach.

In developing depreciation rates using the Broad Group procedure, the annual depreciation rate is based on the average life of the overall property group, which is then applied to the group's surviving original cost investment. A characteristic of this procedure is that retirements of individual units occurring prior to average service life will be under depreciated, while individual units retired after average service life will be

over depreciated when removed from service, but overall, the group investment will achieve full recovery by the end of the life of the total property group. That is, the under recovery occurring early in the life of the account is balanced by the over recovery occurring subsequent to average service life. In summary, the cost of the investment is complete at the end of the property's life cycle, but the rate of recovery does not match the consumption pattern which was used to provide service to the company's customers.

Under the average service life procedure, the annual depreciation rate is calculated by the following formula:

$$\text{Annual Accrual Rate, Percent} = \frac{100\% - \text{Salvage}}{\text{Average Service Life}} \times 100$$

The application of the broad group procedure to life span groups results in each vintage investment having a different average service life. This circumstance exists because the concurrent retirement of all vintages at the anticipated retirement year results in truncating and, therefore, restricting the life of each successive years vintage investment. An average service life is calculated for each vintage investment in accordance with the above formula. Subsequently, a composite service life and depreciation rate is calculated relative to all vintages within the property group by weighting the life for each vintage by the related surviving vintage investment within the group.

In the Equal Life Group, the property group is subdivided, through the use of plant life tables, into equal life groups. In each equal life group, portions of the overall property group includes that portion which experiences the life of the specific sub-group. The relative size of each sub-group is determined from the overall group life

characteristic (property dispersion curve). This procedure both overcomes the disadvantage of voluminous record requirements of unit depreciation, as well as eliminates the need to base depreciation on overall lives as required under the broad group procedure. The application of this procedure results in each sub-group of the property having a single life. In this procedure, the full cost of short lived units is accrued during their lives leaving no under accruals to be recovered by over accruals on long lived plant. The annual depreciation for the group is the summation of the depreciation accruals based on the service life of each Equal Life Group.

The ELG Procedure is viewed as being the more definitive procedure for identifying the life characteristics of utility property and as a basis for developing service lives and depreciation rates, nevertheless, the Broad Group procedure is more widely utilized throughout the utility industry by regulatory commissions as a basis for depreciation rates. That is, the ELG Procedure is more definitive because it allocates the capital cost of a group property to annual expense in accordance with the consumption of the property group providing service to customers. In this regard, the company's customers are more appropriately charged with the cost of the property consumed in providing them service during the applicable service period. The more timely return of plant cost is accomplished by fully accruing each unit's cost during its service life, thereby not only reducing the risk of incomplete cost recovery, but also resulting in less return on rate base over the life of a depreciable group. The total depreciation expense over the life of the property is the same for all procedures which allocate the full capital cost to expense, but at any specific point in time, the depreciated original cost is less under the ELG procedure than under the BG procedure. This circumstance exists because under the equal life group procedure, the rate base is not

maintained at a level of greater than the future service value of the surviving plant as is the case when using the average service life procedure. Consequently, the total return required from the ratepayers is less under the ELG procedure.

While the Equal Life Group procedure has been known to depreciation experts for many years, widespread interest in applying the procedure developed only after high speed electronic computers became available to perform the large volume of arithmetic computations required in developing ELG based depreciation lives and rates. The table on the following page illustrates the procedure for calculating equal life group depreciation accrual rates and summarizes the results of the underlying calculations. Depreciation rates are determined for each age interval (one year increment) during the life of a group of property which was installed in a given year or vintage group. The age of the vintage group is shown in column (A) of the ELG table. The percent surviving at the beginning of each age interval is determined from the Iowa 10-R3 survivor curve which is set forth in column (B). The percent retired during each age interval, as shown in column (C), is the difference between the percent surviving at successive age intervals. Accordingly, the percentage amount of the vintage group retired defines the size of each equal life group. For example, during the interval 3 1/2 to 4 1/2, 1.93690 percent of the vintage group is retired at an average age of four years. In this case, the 1.93690 percent of the group experiences an equal life of four years. Likewise, 3.00339 percent is retired during the interval 4 1/2 to 5 1/2 and experiences a service life of five years. Furthermore, 4.42969 percent experiences a six-year life; etc. Calculations are made for each age interval from the zero age interval through the end of the life of the vintage group. The average service life for each age interval's equal life group is shown in column (E) of the table.

XYZ UTILITY COMPANY							Table 7			
CALCULATION OF ASL, ARL AND ACCRUED DEPRECIATION FACTORS										
BASED UPON AN IOWA 10-R3 CURVE USING THE EQUAL LIFE GROUP (ELG) PROCEDURE										
							EQUAL LIFE GROUP PROCEDURE			
AGE AT	LIFE	RETIREMENT		AGE OF	AMOUNT	AMOUNT	AVERAGE	AVERAGE	ELG/ARL	ACCRUED
BEGIN OF	BEGIN OF	DURING	AVERAGE	AMOUNT	FOR	FOR	SERVICE	REMAINING	DEPR	DEPR
INTERVAL	INTERVAL	INTERVAL	SURVIVING	RETIRED	EACH	REMAINING	LIFE	LIFE	RATE	RES
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
0.0	1.0000000	0.0009198	0.9995401	0.25	0.0009198	0.0583036	8.57	8.57	11.67	0.0000000
0.5	0.9990802	0.0033314	0.9974145	1.0	0.0033314	0.1131019	8.82	8.32	11.34	0.0566975
1.5	0.9957488	0.0065393	0.9924792	2.0	0.0032697	0.1098013	9.04	7.54	11.06	0.1659501
2.5	0.9892095	0.0117037	0.9833577	3.0	0.0039012	0.1062159	9.26	6.76	10.80	0.2700337
3.5	0.9775058	0.0193690	0.9678213	4.0	0.0048422	0.1018442	9.50	6.00	10.52	0.3683062
4.5	0.9581368	0.0300339	0.9431199	5.0	0.0060068	0.0964196	9.78	5.28	10.22	0.4600565
5.5	0.9281029	0.0442969	0.9059545	6.0	0.0073828	0.0897248	10.10	4.60	9.90	0.5447146
6.5	0.8838060	0.0631367	0.8522377	7.0	0.0090195	0.0815237	10.45	3.95	9.57	0.6217794
7.5	0.8206693	0.0876232	0.7768577	8.0	0.0109529	0.0715375	10.86	3.36	9.21	0.6906424
8.5	0.7330461	0.1166879	0.6747022	9.0	0.0129653	0.0595783	11.32	2.82	8.83	0.7505770
9.5	0.6163582	0.1431836	0.5447664	10.0	0.0143184	0.0459365	11.86	2.36	8.43	0.8010714
10.5	0.4731746	0.1533568	0.3964962	11.0	0.0139415	0.0318066	12.47	1.97	8.02	0.8423003
11.5	0.3198178	0.1363216	0.2516570	12.0	0.0113601	0.0191557	13.14	1.64	7.61	0.8753616
12.5	0.1834962	0.0975199	0.1347363	13.0	0.0075015	0.0097249	13.85	1.35	7.22	0.9022159
13.5	0.0859763	0.0559043	0.0580242	14.0	0.0039932	0.0039775	14.59	1.09	6.85	0.9254232
14.5	0.0300720	0.0244398	0.0178521	15.0	0.0016293	0.0011663	15.31	0.81	6.53	0.9473077
15.5	0.0056322	0.0055324	0.0028660	16.0	0.0003458	0.0001788	16.03	0.53	6.24	0.9667657
16.5	0.0000998	0.0000998	0.0000499	17.0	0.0000059	0.0000029	17.00	0.50	5.88	0.9705882
17.5	0.0000000	0.0000000	0.0000000	18.0	0.0000000	0.0000000				
		1.0000000				1.0000000				

The amount to be accrued annually for each equal life group is equal to the percentage retired in the equal life group divided by its service life. In as much as

additions and retirements are assumed, for calculation purposes, to occur at midyear only one-half of the equal life group's annual accrual is allocated to expense during its first and last years of service life. The accrual amount for the property retired during age interval 0 to .5 must be equal to the amount retired to insure full recovery of that component during that period. The accruals for each equal life group during the age intervals of the vintage group's life cycle are shown in column (F). The total accrual for a given year is the summation of the equal life group accruals for that year. For example, the total accrual for the second year, as shown in column (G), is 11.31019 percent and is the sum of all succeeding years remaining equal life group accruals plus one half of the current years life group accrual listed in column (F). For the zero age interval year, the total accrual is equal to one half of the sum of all succeeding years remaining equal life accruals plus the amount for the zero interval equal life group accrual. The one half year accrual for the zero age interval is consistent with the half year convention relative to property during its installation year. The sum of the annual accruals for each age interval contained in column (G) total to 1.000 demonstrating that the developed rates will recover 100% of plant no more and no less. The annual accrual rate which will result in the accrual amount is the ratio of the accrual amount (11.31019 percent) to the average percent surviving during the interval, column (D), (99.74145 percent), which is a rate of 11.34% (column J). Column (J) contains a summary of the accrual rates for each age interval of the property groups life cycle based upon an Iowa 10-R3 survivor curve.

Remaining Life Technique

In the Average Remaining Life depreciation technique, the annual accrual is calculated according to the following formula where, (A) the annual depreciation for

each group equals, (D) the depreciable cost of plant less (U) the accumulated provision for depreciation less (S) the estimated future net salvage, divided by (R) the composite remaining life of the group:

$$A = \frac{D - U - S}{R}$$

The annual accrual rate (a) is expressed as a percentage of the depreciable plant balance by dividing the equation by (D) the depreciable cost of plant times 100:

$$(a) = \frac{D - U - S}{R} \times \frac{1}{D} \times 100$$

As further indicated by the equation, the accumulated provision for depreciation by vintage is required in order to calculate the remaining life depreciation rate for each property group. In practice, most often such detail is not available; therefore, composite remaining lives are determined for each depreciable group, (i.e., property account).

The remaining life for a depreciable group is calculated by first determining the remaining life for each vintage year in which there is surviving investment. This is accomplished by solving the area under the survivor curve selected to represent the average life and life characteristic of the property account. The remaining life for each vintage is determined by dividing (D) the depreciable cost of each vintage, by (L) its average service life, and multiplying this ratio by its average remaining life (E). The composite remaining life of the group (R) equals the sums of products divided by the sum of the quotients:

$$R \text{ Group} = \frac{\sum \frac{D/L \times E}{\sum D/L}}$$

The account level accumulated provision for depreciation, which was the basis for developing the composite average remaining life accrual and annual depreciation rate

for each property account as per this report, was obtained from the Company's books and records.

Salvage

Net salvage is the difference between gross salvage, or what is received when an asset is disposed of, and the cost of removing it from service. Salvage experience is normally included with the depreciation rate so that current accounting periods reflect a proportional share of the ultimate abandonment and removal cost or salvage received at the end of the property service life. Net salvage is said to be positive if gross salvage exceeds the cost of removal, but if cost of removal exceeds gross salvage the result is then negative salvage.

The cost of removal includes such costs as demolishing, dismantling, tearing down, disconnecting or otherwise removing plant, as well as normal environmental clean up costs associated with the property. Salvage includes proceeds received for the sale of plant and materials or the return of equipment to stores for reuse.

Net salvage experience is studied for a period of years to determine the trends which have occurred in the past. These trends are considered together with any changes that are anticipated in the future to determine the future net salvage factor for remaining life depreciation purposes. The net salvage percentage is determined by relating the total net positive or negative salvage to the book cost of the property investment.

Many retired assets generate little, if any, positive salvage. Instead, many of the Company's asset property groups generate negative net salvage at end of their life as a result of the cost of removal (retirement).

The method used to estimate the retirement cost is a standard analysis

approach which is used to identify a company's historical experience with regard to what the end of life cost will be relative to the cost of the plant when first placed into service. This information, along with knowledge about the average age of the historical retirements that have occurred to date, enables the depreciation professional to estimate the level of retirement cost that will be experienced by the Company at the end of each property group's useful life. The study methodology utilized has been extensively set forth in depreciation textbooks and has been the accepted practice by depreciation professionals for many decades. Furthermore, the cost of removal analysis approach is the current standard practice used for mass assets by essentially all depreciation professionals in estimating future net salvage for the purpose of identifying the applicable depreciation for a property group. There is a direct relationship to the installation of specific plant in service and its corresponding removal in that the installation is its beginning of life cost while the removal is its end of life cost. Also, it is important to note that average remaining life based depreciation rates incorporate future net salvage which is routinely more representative of recent versus long-term past average net salvage.

The Company's historical net salvage experience was analyzed to identify the historical net salvage factor for each applicable property group. This analysis routinely identifies that historical retirements have occurred at average ages significantly prior to the property group's average service life. This occurrence of historical retirements, at an age which is significantly younger than the average service life of the property category, clearly demonstrates that the historical data does not appropriately recognize the true level of retirement cost at the end of the property's useful life. An additional level of cost to retire will occur due to the passage of time until all the current in service

plant is retired at end of life. That is, the level of retirement costs will increase over time until the average service life is attained. The estimated additional inflation, within the estimate of retirement cost, is related to those additional year's cost increases (primarily higher labor costs over time) that will occur prior to the end of the property group's average life.

To provide an additional explanation of the issue, several general principles surrounding property retirements and related net salvage need to be highlighted. Those are that as property continues to age, the retirement of assets, if generating positive salvage when retired, will typically generate a lower percent of positive salvage. By comparison, if the class of property is one that typically generates negative net salvage (cost of removal), with increasing age at retirement the negative percentage as related to original cost will typically be greater. This situation is routinely driven by the higher labor cost with the passage of time.

Next, a simple example will aid in a better understanding of the above discussed net salvage analysis and the required adjustment to the historical analysis results. Assume the following scenario. A company has two (2) cars, Car #1 and Car #2, each purchased for \$20,000. Car #1 is retired after 2 years and Car #2, is retired after 10 years. Accordingly, the average life of the two cars is six (6) years (2 Yrs. Plus 10 Yrs./2). Car #1 generates 75% salvage or \$15,000 when retired and Car #2 generates 5% salvage or \$1,000 when retired.

<u>Unit</u>	<u>Cost</u>	<u>Ret. Age (Yrs)</u>	<u>% Salv.</u>	<u>Salvage Amount</u>
Car # 1	\$20,000	2	75%	\$15,000
<u>Car # 2</u>	<u>20,000</u>	<u>10</u>	<u>5%</u>	<u>1,000</u>
Total	40,000	6	40%	16,000

Assume an analysis of the experienced net salvage at year three (3). Based upon the Car #1 retirement, which was retired at a young age (2 Yrs.) as compared to the average six (6) year life of the property group, the analysis indicates that the property group would generate 75% salvage. This analysis indication is incorrect and is the result of basing the estimate on incomplete data. That is, the estimate is based upon the salvage generated from a retirement that occurred at an age which is far less than the average service life of the property group. The actual total net salvage, that occurred over the average life of the assets (which experienced a six (6) year average life for the property group) is 40% as opposed to the initial incorrect estimate of 75%.

This is exactly the situation with the majority of the Company's historical net salvage data except that most of the Company's plant property groups routinely experience negative net salvage (cost of removal) as opposed to positive salvage.

The total end of life net salvage amount must be incorporated in the development of annual depreciation rates to enable the Company to fully recover its total plant life costs. Otherwise, upon retirement of the plant, the Company will incur end of life costs without having recovered those plant related costs from the customers who benefitted from the use of the expired plant.

With regard to location type properties (e.g. generation facilities, etc.) a company will routinely experience both interim and terminal net salvage. Interim net salvage occurs in conjunction with interim retirements that occur throughout the life of the asset group. This net salvage activity (routinely and largely cost of removal) is attributable to the removal of components within the Company's facilities to enable the placement of a new asset component. Interim net salvage is routinely negative given the care required in removing the defective component so as not to damage the remaining plant in

service. Interim net salvage is applicable to the estimated interim retirement assets.

The terminal net salvage component is attributable to the end of life costs incurred (less any gross salvage received) to disconnect, remove, demolish and/or dispose of the operating asset. Terminal net salvage is attributable to those assets remaining in service subsequent to the occurrence of interim retirements.

The total net salvage incorporated into the depreciation rate for location type plant account investments is the sum of interim and terminal net salvage. Both of the items must be incorporated in the development of annual depreciation rates to enable the Company to fully recover its total plant life costs. Otherwise, upon retirement of the plant, the Company will incur end of life costs without having recovered those plant related costs from the customers who benefitted from the use of the expired facility.

Service Lives

Several factors contribute to the length of time or average service life which the property achieves. The three (3) major categories under which these factors fall are: (1) physical; (2) functional, and; (3) contingent casualties.

The physical category includes such things as deterioration, wear and tear and the action of the natural elements. The functional category includes inadequacy, obsolescence and requirements of governmental authorities. Obsolescence occurs when it is no longer economically feasible to use the property to provide service to customers or when technological advances have provided a substitute of superior performance. The remaining factor of contingent casualties relates to retirements caused by accidental damage or construction activity of one type or another.

In performing the life analysis for any property being studied, both past experience and future expectations must be considered in order to fully evaluate the

circumstances which may have a bearing on the remaining life of the property. This ensures the selection of an average service life which best represents the expected life of each property investment.

Survivor Curves

The preparation of a depreciation study or theoretical depreciation reserve typically incorporates smooth curves to represent the experienced or estimated survival characteristics of the property. The "smoothed" or standard survivor curves generally used are the family of curves developed at Iowa State University which are widely used and accepted throughout the utility industry.

The shape of the curves within the Iowa family are dependent upon whether the maximum rate of retirement occurs before, during or after the average service life. If the maximum retirement rate occurs earlier in life, it is a left (L) mode curve; if occurring at average life, it is a symmetrical (S) mode curve; if it occurs after average life, it is a right (R) mode curve. In addition, there is the origin (O) mode curve for plant which has heavy retirements at the beginning of life.

Many times, actual Company data has not completed its life cycle, therefore, the survivor table generated from the Company data is not extended to zero percent surviving. This situation requires an estimate be made with regard to the remaining segment of the property group's life experience. Furthermore, actual Company experience is often erratic, making its utilization for average service life estimating difficult. Accordingly, the Iowa curves are used to both extend Company experience to zero percent surviving as well as to smooth actual Company data.

Study Procedures

Several study procedures were used to determine the prospective service lives

recommended for the Company's plant in service. These include the review and analysis of historical retirements, current and future construction, historical experience and future expectations of salvage and cost of removal as related to plant investment. Service lives are affected by many different factors, some of which can be obtained from studying plant experience, others which may rely heavily on future expectations. When physical aspects are the controlling factor in determining the service life of property, historical experience is a valuable tool in selecting service lives. In the case where changing technology or a less costly alternative develops, then historical experience is of lesser value.

While various methods are available to study historical data, the principal methods utilized to determine average service lives for a Company's property are the Retirement Rate Method, the Simulated Plant Record Method, the Life Span Method, and the Judgment Method.

Retirement Rate Method - The Retirement Rate Method uses actual Company retirement experience to develop a survivor curve (Observed Life Table) which is used to determine the average service life being experienced in the account under study. Computer processing provides the opportunity to review various experience bands throughout the life of the account to observe trends and changes. For each experience band studied, the "observed life table" is constructed based on retirement experience within the band of years. In some cases, the total life of the account has not been achieved and the experienced life table, when plotted, results in a "stub curve." It is this "stub curve" or total life curve, if achieved, which is matched or fitted to a standard Survivor curve. The matching process is performed both by computer analysis, using a least squares technique, and by manually plotting observed life tables to which smooth

curves are fitted. The fitted smooth curve provides the basis to determine the average service life of the property group under study.

Simulated Balances Method - In this method of analysis, simulated surviving balances are determined for each balance included in the test band by multiplying each proceeding year's original gross additions installed by the Company by the appropriate factor of each Standard Survivor Curve, summing the products, and comparing the results with the related year end plant balance to determine the "best fitting" curve and life within the test period. Various test bands are reviewed to determine trends or changes to indicated service lives in various bands of years. By definition, the curve with the "best fit" is the curve which produces simulated plant balances that most closely matches the actual plant balances as determined by the sum of the "least squares". The sum of the "least squares" is arrived at by starting with the difference between the simulated balances and the actual balance for a given year, squaring the difference, and the curve which produces the smallest sum (of squared difference) is judged to be the "best fit".

Period Retirements Method - The application of the Period Retirements Method is similar to the "Simulated Plant Balances" Method, except the procedure utilizes a Standard Survivor Curve and service life to simulate annual retirements instead of balances in performing the "least squares" fitting process during the test period. This procedure does tend to experience wider fluctuations due to the greater variations in level of experienced retirements versus additions and balances thereby producing greater variation in the study results.

Life Span Method - The Life Span or Forecast Method is a method utilized to study various accounts in which the expected retirement dates of specific property or

locations can be reasonably estimated. In the Life Span Method, an estimated probable retirement year is determined for each location of the property group. An example of this would be a structure account, in which the various segments of the account are "life spanned" to a probable retirement date which is determined after considering a number of factors, such as management plans, industry standards, the original construction date, subsequent additions, resultant average age and the current - as well as the overall - expected service life of the property being studied. If, in the past, the property has experienced interim retirements, these are studied to determine an interim retirement rate. Otherwise, interim retirement rate parameters are estimated for properties which are anticipated to experience such retirements. The selected interim service life parameters (Iowa curve and life) are then used with the vintage investment and probable retirement year of the property to determine the average remaining life as of the study date.

Judgment Method - Standard quantitative methods such as the Retirement Rate Method, Simulated Plant Record Method, etc. are normally utilized to analyze a Company's available historical service life data. The results of the analysis together with information provided by management as well as judgment are utilized in estimating the prospective recommended average service lives. However, there are some circumstances where sufficient retirements have not occurred, or where prospective plans or guidelines are unavailable. In these circumstances, judgment alone is utilized to estimate service lives based upon service lives used by other utilities for this class of plant as well as what is considered to be a reasonable life for this plant giving consideration to the current age and use of the facilities.

SECTION 4

Kona Water Service Company

Kona Wastewater (KS)

Study Analysis Results & Recommendations

ACCOUNT – 354.00 Structures & Improvements

Historical Experience

Plant Statistics Plant Balance = \$5,339,404
Average Age of Survivors = 13.86 years
Original Gross Additions = \$5,359,772
Oldest Surviving Vintage = 2003
Retirements = \$20,367 or .4% of historical additions.
Average Age of Retirements = 13.5 years

Experience Band 2003 – 2017 (Full Depth) 45-R4

Average Service Life: Industry Information/Judgment

Range of Data: 30 – 40 Years
Average of Industry Data: 37 Years

Estimate Average Service Life: Interim Retirement Rate 45 Years

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information

Range of Data: -10% to -15%
Average of Industry Data: -12%

Estimate Future Net Salvage: -10%

Plant Considerations/Future Expectations

This category of property includes the investments related to the operating wastewater treatment facility such as plant structures, control building, aeration chambers, leach field, etc. Such structures are exposed to the highly corrosive and aggressive components inherent in wastewater and therefore are subject to acceleration deterioration as compared to normal structures. In fact, studies have been and are being performed to access/verify the longer term viability of the operating plant inasmuch as there numerous corrosion issues with the result that structural integrity of the plant is a concern. Operating and engineering management have a goal of repairing/maintaining the plant for an additional 4-8 years

after which it is anticipated that the plant will be replaced. Accordingly, the estimated service life of the wastewater plant investment in this property group is based upon depreciating the property using the life span method to the year 2026 (which is 8 years beyond the present study date) along with the use of an Interim Retirement rate of an Iowa 45-R4 life and curve to recognize the level of component replacement/retirements that will be required to continue operating the facility during the interim period.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Life Span Method – LS to 2026

Current Depreciation Parameters

Implicit Life (Yrs): 46.9

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 45-R4

Future Net Salvage: -10%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	9.39%	2.13%
Av. Remaining Life	8.45 years	N/A

ACCOUNT – 355.00 Power Generation Equipment

Historical Experience

Plant Statistics Plant Balance = \$495,805
Average Age of Survivors = 3.50 years
Original Gross Additions = \$495,805
Oldest Surviving Vintage = 2014
Retirements = \$0, or 0.0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Judgment

Average Service Life: Industry Information

Range of Data: N/A
Average of Industry Data: N/A

Estimate Average Service Life: 45 Years

Co. Historical Net Salvage: N/A

Net Salvage: Judgment

Estimate Future Net Salvage: 0%

Plant Considerations/Future Expectations

This category of property includes the investments related to emergency generators used to provide electrical service in the event of a power outage.

Life Analysis Method: Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 30.0

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 45-R4

Future Net Salvage: 0%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	2.11%	3.33%
Av. Remaining Life	41.50 years	N/A

ACCOUNT – 360.00 Collection Sewers-Force

Historical Experience

Plant Statistics Plant Balance = \$76,204
Average Age of Survivors = 3.34 years
Original Gross Additions = \$76,204
Oldest Surviving Vintage = 2013
Retirements = \$0 or 0.0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Judgment

Average Service Life: Industry Information

Range of Data: 50 – 64 Years
Average of Industry Data: 58 Years

Estimate Average Service Life: 55-R4

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information

Range of Data: -10% to -40%
Average of Industry Data: -12%

Estimate Future Net Salvage: -25%

Plant Considerations/Future Expectations

The Mains property group contains the Company's investment in Collection Sewer Mains (which included both Force and Gravity Main) aggregate nearly 30 percent of the Company's depreciable plant in service. Within the Mains property group investment approximately 2% is Force Mains while the remaining 98% is Gravity Mains. The pipe sizes range from smaller 8 diameter upwards to 18 inch diameter pipe.

Sufficient levels of plant retirement records have not occurred to develop meaningful service life indications. Accordingly, average service lives for each of the applicable property groups were estimated giving consideration of content of the property group, the potential future system changes, the corrosive nature of the effluent being transported, and general service life ranges of mains/pipe.

Life Analysis Method: Judgement

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 30.0

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 55-R4

Future Net Salvage: -25%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	2.21%	3.33%
Av. Remaining Life	51.67 years	N/A

ACCOUNT – 361.00 Collection Sewers-Gravity

Historical Experience

Plant Statistics Plant Balance = \$4,535,759
Average Age of Survivors = 12.05 years
Original Gross Additions = \$4,535,759
Oldest Surviving Vintage = 2005
Retirements = \$0 or 0.0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Judgment

Average Service Life: Industry Information

Range of Data: N/A
Average of Industry Data: N/A

Estimate Average Service Life: 65-R4

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information

Range of Data: 0% to -40%
Average of Industry Data: -22%

Estimate Future Net Salvage: -25%

Plant Considerations/Future Expectations

The Mains property group contains the Company's investment in Collection Sewer Mains (which included both Force and Gravity Main) aggregate nearly 30 percent of the Company's depreciable plant in service. Within the Mains property group investment approximately 2% is Force Mains while the remaining 98% is Gravity Mains. The pipe sizes range from smaller 8 diameter upwards to 18 inch diameter pipe.

Sufficient levels of plant retirement records have not occurred to develop meaningful service life indications. Accordingly, average service lives for each of the applicable property groups were estimated giving consideration of content of the property group, the potential future system changes, the corrosive nature of the effluent being transported, and general service life ranges of mains/pipe.

Life Analysis Method: Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 53.7

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 65-R4

Future Net Salvage: -25%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	1.90%	1.86%
Av. Remaining Life	52.99 years	N/A

ACCOUNT – 362.00 Special Collection Structures

Historical Experience

Plant Statistics Plant Balance = \$7,897
Average Age of Survivors = 2.48 years
Original Gross Additions = \$7,897
Oldest Surviving Vintage = 2014
Retirements = \$0 or 0.0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Industry Information/Judgment

Range of Data: N/A
Average of Industry Data: N/A

Estimate Average Service Life: 30-R4

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information

Range of Data: N/A
Average of Industry Data: N/A

Estimate Future Net Salvage: -10%

Plant Considerations/Future Expectations

The limited investment in this property group is related to small wastewater storage tanks

Life Analysis Method: Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 30.0

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 30-R4

Future Net Salvage: -10%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	3.67%	3.33%
Av. Remaining Life	27.52 years	N/A

ACCOUNT – 370.00 Receiving Wells/Waste Treatment Plant

Historical Experience

Plant Statistics Plant Balance = \$1,794,143
Average Age of Survivors = 13.19 years
Original Gross Additions = \$1,795,486
Oldest Surviving Vintage = 2003
Retirements = \$1,343 or 0.0% of historical additions.
Average Age of Retirements = 13.5 years

Experience Band 2003-2017 (Full Depth) 45-R4

Average Service Life: Industry Information

Range of Data: N/A
Average of Industry Data: N/A

Estimate Average Service Life: Interim Retirement Rate 45-R4

Co. Historical Net Salvage: N/A

Historical Net Salvage: Judgment

Range of Data: N/A
Average of Industry Data: N/A

Estimate Future Net Salvage: -20%

Plant Considerations/Future Expectations

This category of property includes the investments related to the operating wastewater treatment facility such as plant structures, control building, aeration chambers, leach field, etc. Such structures are exposed to the highly corrosive and aggressive components inherent in wastewater and therefore are subject to acceleration deterioration as compared to normal structures. In fact, studies have been and are being performed to access/verify the longer term viability of the operating plant inasmuch as there numerous corrosion issues with the result that structural integrity of the plant is a concern. Operating and engineering management have a goal of repairing/maintaining the plant for an additional 4-8 years after which it is anticipated that the plant will be replaced. Accordingly, the estimated service life of the wastewater plant investment in this property group is based upon depreciating the property using the life span method to the year 2026 (which is 8 years beyond the present study date) along with the use of an Interim Retirement rate of an Iowa 45-R4 life and curve to recognize the level of component replacement/retirements that will be required to continue operating the facility during the interim period.

Life Analysis Method: Judgment

Average Remaining Life Development: Life Span Method – LS to 2026

Current Depreciation Parameters

Implicit Life (Yrs): 45.2

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 45-R4

Future Net Salvage: -20%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	9.80%	2.21%
Av. Remaining Life	8.45 years	N/A

ACCOUNT – 370.10 Pumping Equipment

Historical Experience

Plant Statistics Plant Balance = \$3,287,383
Average Age of Survivors = 13.06 years
Original Gross Additions = \$3,426,552
Oldest Surviving vintage = 2003
Retirements = \$139,169 or 4.1% of historical additions.
Average Age of Retirements = 11.7 years

Experience Band 2003-2017 (Full Depth) 30-R3

Average Service Life: Judgment/Industry Information

Average Service Life: Industry Information/Judgment
Range of Data: 15 – 25 Years
Average of Industry Data: 19 Years

Estimate Average Service Life: 30-R3

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information/Judgment

Range of Data: 0% to -30%%
Average of Industry Data: -15%

Estimate Future Net Salvage: -15%

Plant Considerations/Future Expectations

The facilities whose investments comprise this property account are the Company's various types of lift station pumps. The facilities are exposed to corrosive wastewater and therefore, will require ongoing maintenance and relative young aged replacement. Consideration was given the account investment content, the available Company historical data to date, and general industry information.

Life Analysis Method: Retirement Rate Analysis and Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 39.8

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 30-R3

Future Net Salvage: -15%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	4.68%	2.51%
Av. Remaining Life	17.83 years	N/A

ACCOUNT – 380.10 Treatment & Disposal Equipment

Historical Experience

Plant Statistics Plant Balance = \$35,441
Average Age of Survivors = 1.50 years
Original Gross Additions = \$35,441
Oldest Surviving Vintage = 2016
Retirements = \$0 or 0% of historical additions.
Average Age of Retirements = 0 years

Experience Band 30-R3

Average Service Life: Judgment/Industry Information

Range of Data: 20 – 21 Years
Average of Industry Data: 20 Years

Estimate Average Service Life: 30-R3

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information

Range of Data: 0% to -25%
Average of Industry Data: -13%

Estimate Future Net Salvage: -15%

Plant Considerations/Future Expectations

This limited property group investment is related to the Company's various miscellaneous items of treatment equipment. Given that the facilities are mechanical in nature and are often directly exposed to wastewater ongoing replacements will be required.

Life Analysis Method: Retirement Rate Method (Actuarial)-Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 30.0

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 30-R3

Future Net Salvage:-15%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	3.82%	3.33%
Av. Remaining Life	28.53 years	N/A

ACCOUNT – 324.10 System Control Equipment

Historical Experience

Plant Statistics Plant Balance = \$96,006
Average Age of Survivors = 14.50 years
Original Gross Additions = \$96,006
Oldest Surviving Vintage = 2003
Retirements = \$0 or 0.0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Judgment

Average Service Life: Industry Information

Range of Data: N/A
Average of Industry Data: N/A

Estimate Average Service Life: 15-R4

Co. Historical Net Salvage: N/A

Net Salvage: Judgment

Historical Net Salvage: Industry Information

Range of Data: N/A
Average of Industry Data: N/A

Estimate Future Net Salvage: 0%

Plant Considerations/Future Expectations

This property class is related to SCADA equipment which is routinely technological impacted by obsolescence.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): N/A

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 15-R4

Future Net Salvage: 0%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	40.65%	0%
Av. Remaining Life	2.46 years	N/A

ACCOUNT – 372.10 Office Equipment/Computers

Historical Experience

Plant Statistics Plant Balance =\$1,572
Average Age of Survivors = 2.50 years
Original Gross Additions = \$1,572
Oldest Surviving Vintage = 2015
Retirements = \$0 or 0.0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Judgment

Average Service Life: Industry Information

Range of Data: N/A
Average of Industry Data: N/A

Estimate Average Service Life: 7-R4

Co. Historical Net Salvage: N/A

Net Salvage: Judgment

Historical Net Salvage: Industry Information

Range of Data: N/A
Average of Industry Data: N/A

Estimate Future Net Salvage: 0%

Plant Considerations/Future Expectations

The minor investment in this property class is related to computer equipment that needs to be re-classed to Office Equipment-Computers.

Life Analysis Method: Retirement Rate Method (Actuarial)-Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): N/A

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 7-R4

Future Net Salvage: 0%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	20.11%	0.0%
Av. Remaining Life	4.53 years	N/A

ACCOUNT – 389.00 Other Miscellaneous Equipment

Historical Experience

Plant Statistics Plant Balance = \$16,475
Average Age of Survivors = 3.50 years
Original Gross Additions = \$16,475
Oldest Surviving Vintage = 2014
Retirements = \$0 or 0.0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Industry Information/Judgment

Range of Data: 25 Years
Average of Industry Data: 25 Years

Estimate Average Service Life: 25-R3

Co. Historical Net Salvage: N/A

Net Salvage: Judgment

Historical Net Salvage: Industry Information

Range of Data: 0%
Average of Industry Data: 0%

Estimate Future Net Salvage: 0%

Plant Considerations/Future Expectations

This property class includes investments in sewer plant equipment that will be replaced on an as needed basis.

Life Analysis Method: Retirement Rate Method (Actuarial)-Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 30.0

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 25-R3

Future Net Salvage: 0%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	4.03%	3.33%
Av. Remaining Life	21.59 years	N/A

ACCOUNT – 393.00 Tools, Shop & Garage Equipment

Historical Experience

Plant Statistics Plant Balance = \$1,609
Average Age of Survivors = 2.89 years
Original Gross Additions = \$1,609
Oldest Surviving Vintage = 2014
Retirements = \$0 or 0% of historical additions.
Average Age of Retirements = .0 years

Experience Band N/A

Average Service Life: Judgment

Average Service Life: Industry Information

Range of Data: N/A
Average of Industry Data: N/A

Estimate Average Service Life: 15-R3

Co. Historical Net Salvage: N/A

Net Salvage: Judgment

Historical Net Salvage: Industry Information

Range of Data: N/A
Average of Industry Data: N/A

Estimate Future Net Salvage: 0%

Plant Considerations/Future Expectations

The property class includes investments for storage equipment and is replaced on an as needed basis.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 30.0

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 15-R3

Future Net Salvage: 0%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	7.36%	3.33%
Av. Remaining Life	12.20 years	N/A

ACCOUNT – 395.00 Power Operated Equipment

Historical Experience

Plant Statistics Plant Balance =\$1,572
Average Age of Survivors = 2.50 years
Original Gross Additions = \$1,572
Oldest Surviving Vintage = 2015
Retirements = \$0 or 0.0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Judgment

Average Service Life: Industry Information

Range of Data: N/A
Average of Industry Data: N/A

Estimate Average Service Life: 12-R3

Co. Historical Net Salvage: N/A

Net Salvage: Judgment

Historical Net Salvage: Industry Information

Range of Data: N/A
Average of Industry Data: N/A

Estimate Future Net Salvage: 5%

Plant Considerations/Future Expectations

The minor investment in this property class is related to computer equipment that needs to be re-classed to Office Equipment-Computers.

Life Analysis Method: Retirement Rate Method (Actuarial)-Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 30.0

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 12-R3

Future Net Salvage: 5%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	0.00%	3.34%
Av. Remaining Life	N/A	N/A

ACCOUNT – 396.50 Transportation Equipment

Historical Experience

Plant Statistics Plant Balance = \$42,229
Average Age of Survivors = 6.12 years
Original Gross Additions = \$42,229
Oldest Surviving Vintage = 2011
Retirements = \$0 or 0.0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Industry Information/Judgment

Range of Data: N/A
Average of Industry Data: N/A

Estimate Average Service Life: 8-R3

Co. Historical Net Salvage: N/A

Historical Net Salvage: Industry Information

Range of Data: N/A
Average of Industry Data: N/A

Estimate Future Net Salvage: 10%

Plant Considerations/Future Expectations

This property investment includes a minor quantity of transportation related property used in the operation the wastewater facilities.

Life Analysis Method: Industry Information/Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): N/A

Net Salvage: N/A

Proposed Depreciation Parameters

ASL/Curve: 8-R3

Future Net Salvage: 10%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	-3.68%	0%
Av. Remaining Life	2.72 years	N/A

ACCOUNT – 397.00 Miscellaneous Equipment

Historical Experience

Plant Statistics Plant Balance =\$28,924
Average Age of Survivors = 5.66 years
Original Gross Additions = \$28,924
Oldest Surviving Vintage = 2011
Retirements = \$0 or 0.0% of historical additions.
Average Age of Retirements = 0 years

Experience Band N/A

Average Service Life: Judgment

Average Service Life: Industry Information

Range of Data: N/A
Average of Industry Data: N/A

Estimate Average Service Life: 25-R4

Co. Historical Net Salvage: N/A

Net Salvage: Judgment

Historical Net Salvage: Industry Information

Range of Data: N/A
Average of Industry Data: N/A

Estimate Future Net Salvage: 0%

Plant Considerations/Future Expectations

This property class includes various items of equipment and tools used for the wastewater plant operations.

Life Analysis Method: Retirement Rate Method (Actuarial)-Judgment

Average Remaining Life Development: Full Mortality

Current Depreciation Parameters

Implicit Life (Yrs): 30.0

Net Salvage: N/A

Proposed Depreciation Parameters

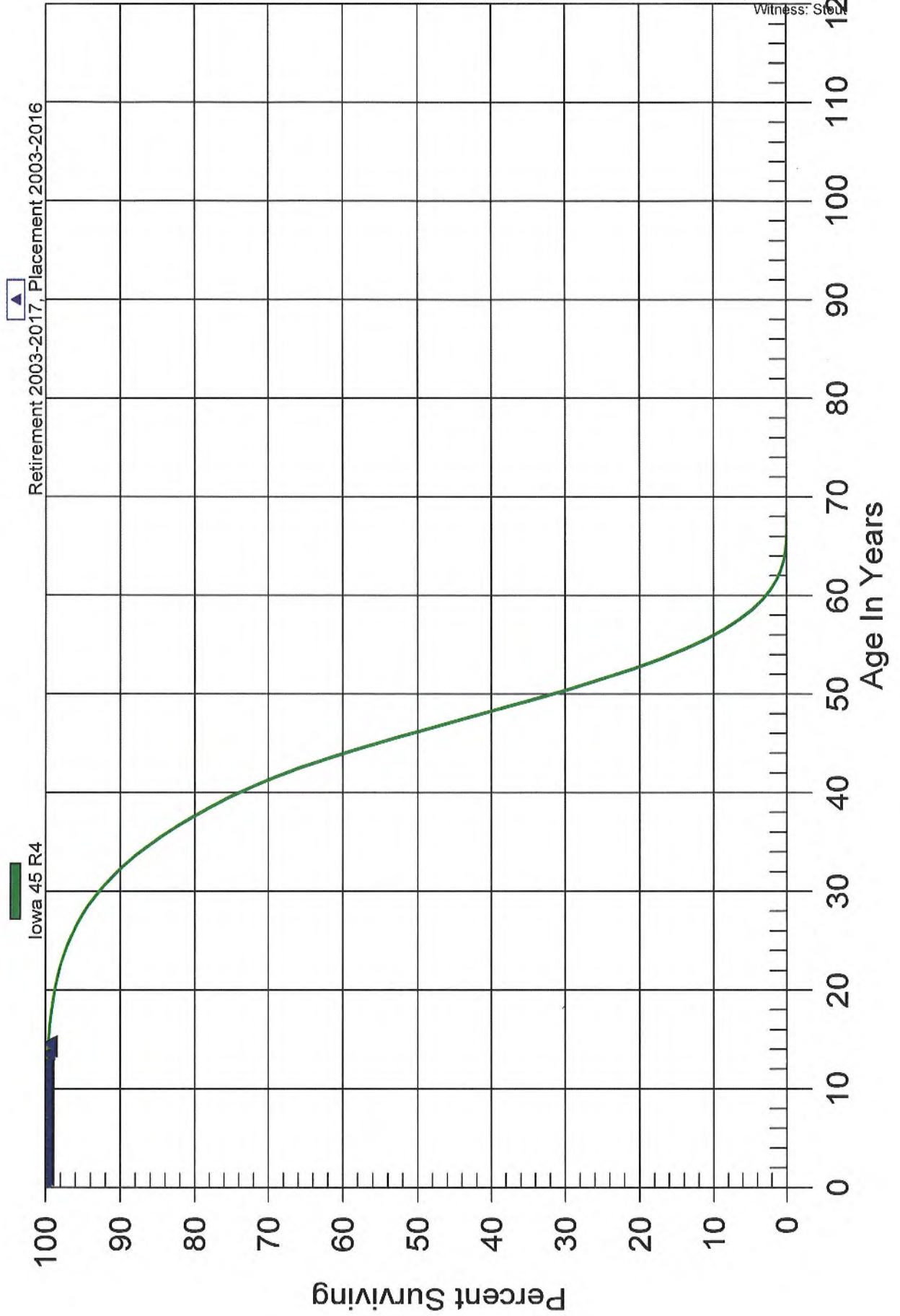
ASL/Curve: 25-R4

Future Net Salvage: 0%

	<u>New Rate @New Parameters</u>	<u>Old Rate @ Old Parameters</u>
Rate	4.17%	3.33%
Av. Remaining Life	19.37 years	N/A

SECTION 5

Kona Water Service Company (727) Kona Wastewater (KS) 354.00 STRUCTURE & IMPROVEMENTS Original And Smooth Survivor Curves



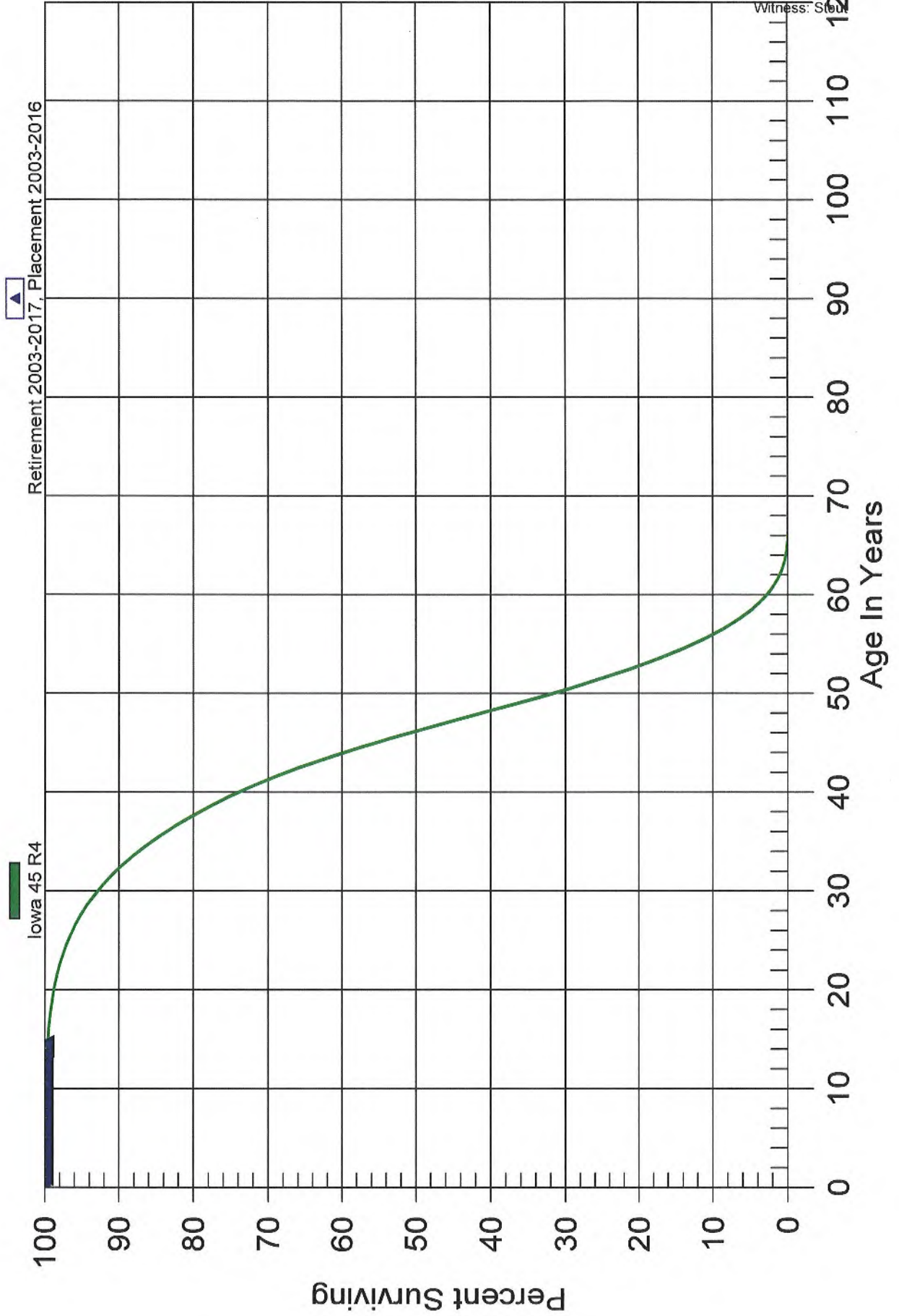
Kona Water Service Company
(727) Kona Wastewater (KS)
354.00 STRUCTURE & IMPROVEMENTS

Observed Life Table
Retirement Expr. 2003 TO 2017
Placement Years 2003 TO 2016

<i>Age Interval</i>	<i>\$ Surviving At Beginning of Age Interval</i>	<i>\$ Retired During The Age Interval</i>	<i>Retirement Ratio</i>	<i>% Surviving At Beginning of Age Interval</i>
0.0 - 0.5	\$5,359,771.54	\$0.00	0.00000	100.00
0.5 - 1.5	\$5,359,771.54	\$0.00	0.00000	100.00
1.5 - 2.5	\$5,354,826.58	\$0.00	0.00000	100.00
2.5 - 3.5	\$5,352,379.19	\$0.00	0.00000	100.00
3.5 - 4.5	\$5,337,772.00	\$0.00	0.00000	100.00
4.5 - 5.5	\$5,337,772.00	\$0.00	0.00000	100.00
5.5 - 6.5	\$5,337,772.00	\$0.00	0.00000	100.00
6.5 - 7.5	\$5,337,772.00	\$0.00	0.00000	100.00
7.5 - 8.5	\$5,337,772.00	\$0.00	0.00000	100.00
8.5 - 9.5	\$5,337,772.00	\$0.00	0.00000	100.00
9.5 - 10.5	\$5,337,772.00	\$0.00	0.00000	100.00
10.5 - 11.5	\$4,546,010.00	\$0.00	0.00000	100.00
11.5 - 12.5	\$4,546,010.00	\$0.00	0.00000	100.00
12.5 - 13.5	\$4,546,010.00	\$20,367.43	0.00448	100.00
13.5 - 14.5	\$4,525,642.57	\$0.00	0.00000	99.55

Kona Water Service Company

(727) Kona Wastewater (KS)
 370.00 WASTE TREATMENT PLANT
 Original And Smooth Survivor Curves

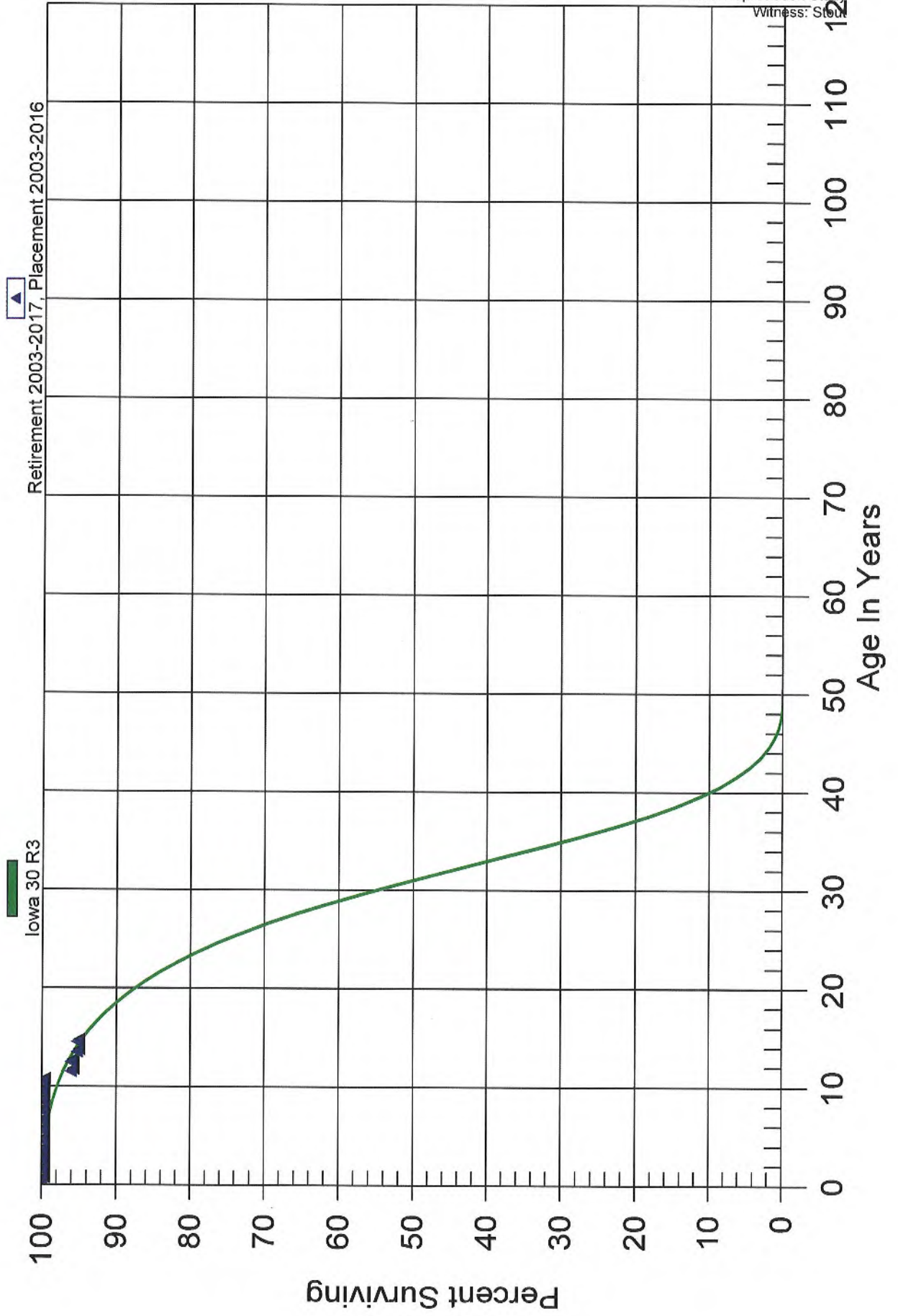


Kona Water Service Company
(727) Kona Wastewater (KS)
370.00 WASTE TREATMENT PLANT

Observed Life Table
Retirement Expr. 2003 TO 2017
Placement Years 2003 TO 2007

<i>Age Interval</i>	<i>\$ Surviving At Beginning of Age Interval</i>	<i>\$ Retired During The Age Interval</i>	<i>Retirement Ratio</i>	<i>% Surviving At Beginning of Age Interval</i>
0.0 - 0.5	\$1,795,486.00	\$0.00	0.00000	100.00
0.5 - 1.5	\$1,795,486.00	\$0.00	0.00000	100.00
1.5 - 2.5	\$1,795,486.00	\$0.00	0.00000	100.00
2.5 - 3.5	\$1,795,486.00	\$0.00	0.00000	100.00
3.5 - 4.5	\$1,795,486.00	\$0.00	0.00000	100.00
4.5 - 5.5	\$1,795,486.00	\$0.00	0.00000	100.00
5.5 - 6.5	\$1,795,486.00	\$0.00	0.00000	100.00
6.5 - 7.5	\$1,795,486.00	\$0.00	0.00000	100.00
7.5 - 8.5	\$1,795,486.00	\$0.00	0.00000	100.00
8.5 - 9.5	\$1,795,486.00	\$0.00	0.00000	100.00
9.5 - 10.5	\$1,795,486.00	\$0.00	0.00000	100.00
10.5 - 11.5	\$1,273,380.00	\$0.00	0.00000	100.00
11.5 - 12.5	\$1,268,219.00	\$0.00	0.00000	100.00
12.5 - 13.5	\$1,157,827.00	\$1,343.00	0.00116	100.00
13.5 - 14.5	\$1,128,020.00	\$0.00	0.00000	99.88

Kona Water Service Company (727) Kona Wastewater (KS) 370.10 PUMPING EQUIPMENT Original And Smooth Survivor Curves



***Kona Water Service Company
 (727) Kona Wastewater (KS)
 370.10 PUMPING EQUIPMENT***

***Observed Life Table
 Retirement Expr. 2003 TO 2017
 Placement Years 2003 TO 2016***

<i>Age Interval</i>	<i>\$ Surviving At Beginning of Age Interval</i>	<i>\$ Retired During The Age Interval</i>	<i>Retirement Ratio</i>	<i>% Surviving At Beginning of Age Interval</i>
0.0 - 0.5	\$3,426,551.82	\$0.00	0.00000	100.00
0.5 - 1.5	\$3,426,551.82	\$0.00	0.00000	100.00
1.5 - 2.5	\$3,417,717.17	\$0.00	0.00000	100.00
2.5 - 3.5	\$3,417,717.17	\$0.00	0.00000	100.00
3.5 - 4.5	\$3,220,530.57	\$0.00	0.00000	100.00
4.5 - 5.5	\$3,220,530.57	\$0.00	0.00000	100.00
5.5 - 6.5	\$3,217,893.34	\$0.00	0.00000	100.00
6.5 - 7.5	\$3,192,115.40	\$0.00	0.00000	100.00
7.5 - 8.5	\$3,178,358.00	\$0.00	0.00000	100.00
8.5 - 9.5	\$3,178,358.00	\$0.00	0.00000	100.00
9.5 - 10.5	\$3,178,358.00	\$1,087.53	0.00034	100.00
10.5 - 11.5	\$3,177,270.47	\$121,055.57	0.03810	99.97
11.5 - 12.5	\$3,056,214.90	\$0.00	0.00000	96.16
12.5 - 13.5	\$1,992,456.90	\$17,025.97	0.00855	96.16
13.5 - 14.5	\$1,975,430.93	\$0.00	0.00000	95.34

SECTION 6

Kona Water Service Company
(727) Kona Wastewater (KS)
324.10 SYSTEM COMPUTER CONTR EQUIPMENT

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 15 *Survivor Curve: R4*

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2003	96,006.00	15.00	6,400.36	2.46	15,724.93
<i>Total</i>	96,006.00	15.00	6,400.36	2.46	15,724.93

Composite Average Remaining Life ... 2.46 Years

Kona Water Service Company
(727) Kona Wastewater (KS)
354.00 STRUCTURE & IMPROVEMENTS

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>

KONA WASTE TREATMENT PLANT

Interim Survivor Curve: Iowa 45 R4

Probable Retirement Year: 2026

2003	4,525,642.57	22.90	197,625.17	8.44	1,668,327.20
2007	791,762.00	18.96	41,759.67	8.47	353,874.25
2014	14,607.19	11.99	1,217.87	8.50	10,345.97
2015	2,447.39	11.00	222.58	8.50	1,891.08
2016	4,944.96	10.00	494.65	8.50	4,203.14
Total	5,339,404.11	22.13	241,319.94	8.45	2,038,641.64
Account					
Total	5,339,404.11	22.13	241,319.94	8.45	2,038,641.64

Composite Average Remaining Life ... 8.45 Years

Kona Water Service Company
(727) Kona Wastewater (KS)
355.00 POWER GENERATION EQUIPMENT
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 45 Survivor Curve: R4

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2014	495,804.71	45.00	11,017.83	41.50	457,294.61
Total	495,804.71	45.00	11,017.83	41.50	457,294.61

Composite Average Remaining Life ... 41.50 Years

Kona Water Service Company
(727) Kona Wastewater (KS)
360.00 COLLECTION SEWERS FORCE

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 55 Survivor Curve: R4

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2013	36,099.12	55.00	656.34	50.51	33,149.72
2014	15,772.74	55.00	286.78	51.50	14,770.26
2016	24,332.25	55.00	442.40	53.50	23,669.26
Total	76,204.11	55.00	1,385.52	51.67	71,589.24

Composite Average Remaining Life ... 51.67 Years

Kona Water Service Company
(727) Kona Wastewater (KS)
361.00 COLLECTION SEWERS GRAVITY

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 *Survivor Curve: R4*

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2005	3,516,120.00	65.00	54,093.86	52.54	2,842,136.51
2007	1,019,639.00	65.00	15,686.67	54.53	855,352.34
Total	4,535,759.00	65.00	69,780.53	52.99	3,697,488.85

Composite Average Remaining Life ... 52.99 Years

Kona Water Service Company
(727) Kona Wastewater (KS)
362.00 SPECIAL COLLECTION STRUCTURE

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 30 *Survivor Curve: R4*

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2014	3,869.89	30.00	129.00	26.51	3,419.23
2016	4,026.68	30.00	134.22	28.50	3,825.57
Total	7,896.57	30.00	263.22	27.52	7,244.80

Composite Average Remaining Life ... 27.52 Years

Kona Water Service Company
(727) Kona Wastewater (KS)
370.00 WASTE TREATMENT PLANT

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>

KONA WASTE TREATMENT PLANT

Interim Survivor Curve: Iowa 45 R4

Probable Retirement Year: 2026

2003	1,128,020.00	22.90	49,258.23	8.44	415,831.88
2004	28,464.00	21.92	1,298.55	8.45	10,975.42
2005	110,392.00	20.94	5,272.84	8.46	44,611.65
2006	5,161.00	19.95	258.71	8.47	2,190.70
2007	522,106.00	18.96	27,537.28	8.47	233,352.79
Total	1,794,143.00	21.45	83,625.61	8.45	706,962.44
<i>Account</i>					
Total	1,794,143.00	21.45	83,625.61	8.45	706,962.44

Composite Average Remaining Life ... 8.45 Years

Kona Water Service Company
(727) Kona Wastewater (KS)
370.10 PUMPING EQUIPMENT

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 30 Survivor Curve: R3

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2003	1,975,430.93	30.00	65,847.61	16.56	1,090,139.72
2005	1,063,758.00	30.00	35,458.55	18.26	647,541.40
2010	13,757.40	30.00	458.58	22.78	10,444.29
2011	25,777.94	30.00	859.26	23.71	20,375.72
2012	2,637.23	30.00	87.91	24.66	2,167.87
2014	197,186.60	30.00	6,572.88	26.58	174,709.33
2016	8,834.65	30.00	294.49	28.53	8,400.84
Total	3,287,382.75	30.00	109,579.28	17.83	1,953,779.17

Composite Average Remaining Life ... 17.83 Years

Kona Water Service Company
(727) Kona Wastewater (KS)
372.10 OFFICE EQUIP/COMPUTERS

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 7 Survivor Curve: R4

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2015	1,572.20	7.00	224.59	4.53	1,016.64
Total	1,572.20	7.00	224.59	4.53	1,016.64

Composite Average Remaining Life ... 4.53 Years

Kona Water Service Company
(727) Kona Wastewater (KS)
380.10 TREATMENT & DISPOSAL EQUIPMENT

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 30 *Survivor Curve: R3*

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2016	35,441.08	30.00	1,181.37	28.53	33,700.80
Total	35,441.08	30.00	1,181.37	28.53	33,700.80

Composite Average Remaining Life ... 28.53 Years

Kona Water Service Company
(727) Kona Wastewater (KS)
389.00 OTHER MISCELLANEOUS EQUIPMENT

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 25 Survivor Curve: R3

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2014	16,475.29	25.00	659.01	21.59	14,226.51
Total	16,475.29	25.00	659.01	21.59	14,226.51

Composite Average Remaining Life ... 21.59 Years

Kona Water Service Company
(727) Kona Wastewater (KS)
393.00 TOOLS, SHOP & GARAGE EQUIPMENT
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 15 Survivor Curve: R3

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2014	1,119.37	15.00	74.62	11.62	867.28
2016	489.63	15.00	32.64	13.53	441.73
Total	1,609.00	15.00	107.27	12.20	1,309.00

Composite Average Remaining Life ... 12.20 Years

Kona Water Service Company
(727) Kona Wastewater (KS)
396.50 TRANSPORTATION EQUIPMENT

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 8 *Survivor Curve: R3*

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2011	26,391.60	8.00	3,298.84	2.46	8,119.53
2012	15,837.55	8.00	1,979.63	3.14	6,216.45
Total	42,229.15	8.00	5,278.47	2.72	14,335.98

Composite Average Remaining Life ... 2.72 Years

Kona Water Service Company
(727) Kona Wastewater (KS)
397.00 MISCELLANEOUS EQUIPMENT

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2017
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 25 Survivor Curve: R4

<i>Year</i>	<i>Original Cost</i>	<i>Avg. Service Life</i>	<i>Avg. Annual Accrual</i>	<i>Avg. Remaining Life</i>	<i>Future Annual Accruals</i>
<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
2011	18,516.80	25.00	740.67	18.53	13,728.04
2012	3,454.79	25.00	138.19	19.52	2,697.76
2014	6,952.68	25.00	278.11	21.51	5,981.44
Total	28,924.27	25.00	1,156.97	19.37	22,407.24

Composite Average Remaining Life ... 19.37 Years

APPENDIX

Table 1a - KS--Appendix

Hawaii Water Service Company
 Kona Wastewater (KS)

Summary of Gross Salvage and Cost of Removal In Book Depreciation Reserve as of December 31, 2017

Acct. No.	Description	Original Cost 12-31-17 (c)	Existing A.S.L./Curve (d)	Salvage % (e)	Theoretical Depreciation Reserve (f)	Total Book Depr Reserve 12-31-17 (g)	Cost of Removal In Book Res. (h)	Gross Salvage In Book Res. (i)	Plant Only Depr Reserve 12-31-17 (j)
<u>DEPRECIABLE PLANT</u>									
<u>Collection Plant</u>									
354.00	Structure & Improvements	5,339,404.11	-10%	*45-R4	3,630,841.21	1,636,790.07	330,076.24	0.00	1,306,713.83
355.00	Power Generation Equipment	495,804.71	0%	45-R4	38,510.10	61,975.35	0.00	0.00	61,975.35
360.00	Collection Sewers Force	76,204.11	-25%	55-R4	7,049.32	8,382.21	3,434.45	0.00	4,947.76
361.00	Collection Sewers Gravity	4,535,759.00	-25%	65-R4	1,509,619.83	1,087,331.84	671,349.68	0.00	415,982.16
362.00	Special Collecting Structure	7,896.57	-10%	30-R4	716.95	696.35	65.18	0.00	631.17
370.00	Receiving Wells/Waste Treatment Plant	1,794,143.00	-20%	*45-R4	1,304,619.17	666,786.87	217,436.11	0.00	449,350.76
370.10	Pumping Equipment	3,287,382.75	-15%	30-R3	1,533,644.11	1,036,493.12		0.00	1,036,493.12
	TOTAL Collection Plant	15,536,594.25			8,025,000.69	4,498,455.81	1,222,361.66	0.00	3,276,094.15
<u>Treatment & Disposal Plant</u>									
380.10	Treatment & Disposal Equip	35,441.08	-15%	30-R3	2,001.32	2,148.17	261.04	0.00	1,887.13
	TOTAL Treatment & Disposal Plant	35,441.08			2,001.32	2,148.17	261.04	0.00	1,887.13
<u>General Plant</u>									
324.10	System Control Computer Equipment	96,006.00	0%	15-R4	80,281.07	0.00	0.00	0.00	0.00
372.10	Office Equipment/Computers	1,572.20	0%	7-R4	555.56	139.84	0.00	0.00	139.84
389.00	Other Miscellaneous Equipment	16,475.29	0%	25-R3	2,248.78	2,150.83	0.00	0.00	2,150.83
393.00	Tools, Shop & Garage Equipment	1,609.00	0%	15-R3	300.00	164.82	0.00	0.00	164.82
395.00	Power Operated Equip	0.00	5%	12-R3	0.00	0.00	0.00	0.00	0.00
396.50	Transportation Equipment	42,229.15	10%	8-R3	25,103.85	42,229.15	0.00	-2,789.32	45,018.47
397.00	Miscellaneous Equipment	28,924.27	0%	25-R4	6,517.03	5,538.44	0.00	0.00	5,538.44
	TOTAL General Plant	186,815.91			115,006.29	50,223.08	0.00	-2,789.32	53,012.40
	TOTAL DEPRECIABLE PLANT	15,758,851.24			8,142,008.30	4,550,827.06	1,222,622.70	-2,789.32	3,330,983.68
<u>NON-DEPRECIABLE PLANT</u>									
	TOTAL NON-DEPRECIABLE PLANT	0.00							
	TOTAL UTILITY PLANT IN SERVICE	15,758,851.24							

Table 2 - PLANT ONLY - KS--Appendix

Hawaii Water Service Company
 Kona Wastewater (KS)

Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utility Book Depreciation Reserve and Average Remaining Lives as of December 31, 2011

Account No.	Description	Original Cost 12-31-11	Estimated Future Net Salvage % Rate	Original Cost Less Est. Future Net Salvage	Book Depreciation Reserve	Unrecovered Original Cost	A.S.L./ Survivor Curve	Average Remaining Life	Annual Depreciation Accrual	Annual Depreciation Rate
DEPRECIABLE PLANT										
Collection Plant										
354.00	Structure & Improvements	5,339,404.11	0%	5,339,404.11	1,306,713.83	4,032,690.28	*45-R4	15.00 (1)	268,846.02	5.04%
355.00	Power Generation Equipment	495,804.71	0%	495,804.71	61,975.35	433,829.36	45-R4	41.50	10,453.72	2.11%
360.00	Collection Sewers Force	76,204.11	0%	76,204.11	4,947.76	71,256.35	55-R4	51.67	1,379.07	1.81%
361.00	Collection Sewers Gravity	4,535,759.00	0%	4,535,759.00	415,982.16	4,119,776.84	65-R4	52.99	77,746.31	1.71%
362.00	Special Collecting Structure	7,896.57	0%	7,896.57	631.17	7,265.40	30-R4	27.52	264.00	3.34%
370.00	Receiving Wells/Waste Treatment Plant	1,794,143.00	0%	1,794,143.00	449,350.76	1,344,792.24	*45-R4	15.00 (1)	89,652.82	5.00%
370.10	Pumping Equipment	3,287,382.75	0%	3,287,382.75	1,036,493.12	2,250,889.63	30-R3	17.83	126,241.71	3.84%
	TOTAL Collection Plant	15,536,594.25	0.00	15,536,594.25	3,276,094.15	12,260,500.10			574,583.64	3.70%
Treatment & Disposal Plant										
380.10	Treatment & Disposal Equip	35,441.08	0%	35,441.08	1,887.13	33,553.95	30-R3	28.53	1,176.09	3.32%
	TOTAL Treatment & Disposal Plant	35,441.08	0	35,441.08	1,887.13	33,553.95			1,176.09	3.32%
General Plant										
324.10	System Control Computer Equipment	96,006.00	0%	96,006.00	0.00	96,006.00	15-R4	2.46	39,026.83	40.65%
372.10	Office Equipment/Computers	1,572.20	0%	1,572.20	139.84	1,432.36	7-R4	4.53	316.19	20.11%
389.00	Other Miscellaneous Equipment	16,475.29	0%	16,475.29	2,150.83	14,324.46	25-R3	21.59	663.48	4.03%
393.00	Tools, Shop & Garage Equipment	1,609.00	0%	1,609.00	164.82	1,444.18	15-R3	12.20	118.38	7.36%
395.00	Power Operated Equip	0.00	0%	0.00	0.00	0.00	12-R3	N/A	0.00	0.00%
396.50	Transportation Equipment	42,229.15	0%	42,229.15	45,018.47	-2,789.32	8-R3	2.72	-1,025.49	-2.43%
397.00	Miscellaneous Equipment	28,924.27	0%	28,924.27	5,538.44	23,385.83	25-R4	19.37	1,207.32	4.17%
	TOTAL General Plant	186,815.91	0.00	186,815.91	53,012.40	133,803.51			40,306.71	21.58%
	TOTAL DEPRECIABLE PLANT	15,758,851.24	0.00	15,758,851.24	3,330,993.68	12,427,857.56			616,066.45	3.91%
NON-DEPRECIABLE PLANT										
	TOTAL NON-DEPRECIABLE PLANT	0.00								
	TOTAL UTILITY PLANT IN SERVICE	15,758,851.24								
(1) ARL Extended to 15 Years to Mitigate Proposed Depreciation Rates--at Management Request										

Table 2-Gross Salvage-KS--Appendix

Hawaii Water Service Company
 Kona Wastewater (KS)

Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utilization of Book Depreciation Reserve and Average Remaining Lives as of December 31, 2017

Account No.	Description	Original Cost 12-31-17	Estimated Future Gross Salvage %	Estimated Future Amount	Original Cost Less Salvage	Book Depreciation Reserve	Net Original Cost Less Salvage	A.S.L./ Survivor Curve	Average Remaining Life	Annual Depreciation Accrual	Annual Depr Rate
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
<u>DEPRECIABLE PLANT</u>											
Collection Plant											
354.00	Structure & Improvements	5,339,404.11	0.0%	0.00	5,339,404.11	0.00	0.00	*45-R4	15.00 (1)	0.00	0.00%
355.00	Power Generation Equipment	495,804.71	0.0%	0.00	495,804.71	0.00	0.00	45-R4	41.50	0.00	0.00%
360.00	Collection Sewers Force	76,204.11	0.0%	0.00	76,204.11	0.00	0.00	55-R4	51.67	0.00	0.00%
361.00	Collection Sewers Gravity	4,535,759.00	0.0%	0.00	4,535,759.00	0.00	0.00	65-R4	52.99	0.00	0.00%
362.00	Special Collecting Structure	7,896.57	0.0%	0.00	7,896.57	0.00	0.00	30-R4	27.52	0.00	0.00%
370.00	Receiving Wells/Waste Treatment Plant	1,794,143.00	0.0%	0.00	1,794,143.00	0.00	0.00	*45-R4	15.00 (1)	0.00	0.00%
370.10	Pumping Equipment	3,287,382.75	0.0%	0.00	3,287,382.75	0.00	0.00	30-R3	17.83	0.00	0.00%
	TOTAL Collection Plant	15,536,594.25		0.00	15,536,594.25	0.00	0.00			0.00	0.00%
Treatment & Disposal Plant											
380.10	Treatment & Disposal Equip	35,441.08	0.0%	0.00	35,441.08	0.00	0.00	30-R3	28.53	0.00	0.00%
	TOTAL Treatment & Disposal Plant	35,441.08	0.0%	0.00	35,441.08	0.00	0.00			0.00	0.00%
General Plant											
324.10	System Control Computer Equipment	96,006.00	0.0%	0.00	96,006.00	0.00	0.00	15-R4	2.46	0.00	0.00%
372.10	Office Equipment/Computers	1,572.20	0.0%	0.00	1,572.20	0.00	0.00	7-R4	4.53	0.00	0.00%
389.00	Other Miscellaneous Equipment	16,475.29	0.0%	0.00	16,475.29	0.00	0.00	25-R3	21.59	0.00	0.00%
393.00	Tools, Shop & Garage Equipment	1,609.00	0.0%	0.00	1,609.00	0.00	0.00	15-R3	12.20	0.00	0.00%
395.00	Power Operated Equip	0.00	5.0%	0.00	0.00	0.00	0.00	12-R3	N/A	0.00	0.00%
396.50	Transportation Equipment	42,229.15	10.0%	4,222.92	38,006.23	(2,789.32)	(1,433.60)	8-R3	2.72	(627.06)	-1.25%
397.00	Miscellaneous Equipment	28,924.27	0.0%	0.00	28,924.27	0.00	0.00	25-R4	19.37	0.00	0.00%
	TOTAL General Plant	186,815.91		4,222.92	182,592.99	(2,789.32)	(1,433.60)			-527.06	-0.28%
	TOTAL DEPRECIABLE PLANT	15,758,851.24		4,222.92	15,754,628.32	(2,789.32)	(1,433.60)			-527.06	0.00%
<u>NON-DEPRECIABLE PLANT</u>											
	TOTAL NON-DEPRECIABLE PLANT	0.00									
	TOTAL UTILITY PLANT IN SERVICE	15,758,851.24									

(1) ARL Extended to 15 Years to Mitigate Proposed Depreciation Rates--at Management Request

Hawaii Water Service Company
 Kona Wastewater (KS)

Original Cost Per Books, Adjustments, and Original Cost Per Depreciation Study
 as of December 31, 2017

Account No. (a)	Description (b)	Original Cost Per Book 12-31-11 (c)	Company Pending Adjustment (d)	Original Cost Per Depreciation Study Data 12-31-11 (e)
<u>DEPRECIABLE PLANT</u>				
<u>Collection Plant</u>				
354.00	Structure & Improvements	5,339,404.11		5,339,404.11
355.00	Power Generation Equipment	495,804.71		495,804.71
360.00	Collection Sewers Force	76,204.11	0.00	76,204.11
361.00	Collection Sewers Gravity	4,535,759.00		4,535,759.00
362.00	Special Collecting Structure	7,896.57		7,896.57
370.00	Receiving Wells/Waste Treatment Plant	1,794,143.00		1,794,143.00
370.10	Pumping Equipment	3,287,382.75		3,287,382.75
	TOTAL Collection Plant	15,536,594.25	0.00	15,536,594.25
<u>Treatment & Disposal Plant</u>				
380.10	Treatment & Disposal Equip	35,441.08		35,441.08
	TOTAL Treatment & Disposal Plant	35,441.08	0.00	35,441.08
<u>General Plant</u>				
324.10	System Control Computer Equipment	96,006.00		96,006.00
372.10	Office Equipment/Computers	0.00	1,572.20	1,572.20
389.00	Other Miscellaneous Equipment	16,475.29		16,475.29
393.00	Tools, Shop & Garage Equipment	1,609.00		1,609.00
395.00	Power Operated Equip	1,572.20	-1,572.20	0.00
396.50	Transportation Equipment	42,229.15		42,229.15
397.00	Miscellaneous Equipment	28,924.27		28,924.27
	TOTAL General Plant	186,815.91	0.00	186,815.91
	TOTAL DEPRECIABLE PLANT	15,758,851.24	0.00	15,758,851.24
<u>NON-DEPRECIABLE PLANT</u>				
	TOTAL NON-DEPRECIABLE PLANT	0.00	0.00	0.00
	TOTAL UTILITY PLANT IN SERVICE	15,758,851.24	0.00	15,758,851.24

Table 4 - KS--Appendix

Hawaii Water Service Company
 Kona Wastewater (KS)

Company's Book Reserve and Allocation of Book Reserve
 Based Upon Calculated Reserve
 As of December 31, 2017

Acct. No.	Description	Original Cost 12-31-17	Net Salvage Rate	A.S.L./ Survivor Curve	Book Reserve 12-31-17
(a)	(b)	(c)	(d)	(e)	(g)
<u>DEPRECIABLE PLANT</u>					
<u>Collection Plant</u>					
354.00	Structure & Improvements	5,339,404.11	-10%	*45-R4	1,636,790.07
355.00	Power Generation Equipment	495,804.71	0%	45-R4	61,975.35
360.00	Collection Sewers Force	76,204.11	-25%	55-R4	8,382.21
361.00	Collection Sewers Gravity	4,535,759.00	-25%	65-R4	1,087,331.84
362.00	Special Collecting Structure	7,896.57	-10%	30-R4	696.35
370.00	Receiving Wells/Waste Treatment Plant	1,794,143.00	-20%	*45-R4	666,786.87
370.10	Pumping Equipment	3,287,382.75	-15%	30-R3	1,036,493.12
	TOTAL Collection Plant	15,536,594.25			4,498,455.81
<u>Treatment & Disposal Plant</u>					
380.10	Treatment & Disposal Equip	35,441.08	-15%	30-R3	2,148.17
	TOTAL Treatment & Disposal Plant	35,441.08			2,148.17
<u>General Plant</u>					
324.10	System Control Computer Equipment	96,006.00	0%	15-R4	0.00
372.10	Office Equipment/Computers	1,572.20	0%	7-R4	139.84
389.00	Other Miscellaneous Equipment	16,475.29	0%	25-R3	2,150.83
393.00	Tools, Shop & Garage Equipment	1,609.00	0%	15-R3	164.82
395.00	Power Operated Equip	0.00	5%	12-R3	0.00
396.50	Transportation Equipment	42,229.15	10%	8-R3	42,229.15
397.00	Miscellaneous Equipment	28,924.27	0%	25-R4	5,538.44
	TOTAL General Plant	186,815.91			50,223.08
	TOTAL DEPRECIABLE PLANT	15,758,851.24			4,550,827.06
<u>NON-DEPRECIABLE PLANT</u>					
	TOTAL NON-DEPRECIABLE PLANT	0.00			0.00
	TOTAL UTILITY PLANT IN SERVICE	15,758,851.24			4,550,827.06

Table 5- KS--Appendix

Hawaii Water Service Company
 Kona Wastewater (KS)

Summary of Original Cost of Utility Plant in Service as of December 31, 2017 and Present and Proposed Parameters

Account No.	Description	Present Parameters				Proposed Parameters				Average Remain. Life (m)		
		Net Salvage		W/COR		Net Salvage		W/COR				
		W/COR %	Gross Salv %	Gross COR %	Implicit ASL (Yrs)	Depr Rate (h)	W/COR %	Gross Salv %	Gross COR %		A.S.L./Survivor Curve (i)	Life Span To Yr (j)
12-31-17	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	
DEPRECIABLE PLANT												
Collection Plant												
354.00	Structure & Improvements	5,339,404.11	0%	0%	46.9	2.13%	-10%	0%	-10%	*45-R4	2026	8.45
355.00	Power Generation Equipment	495,804.71	0%	0%	30.0	3.33%	0%	0%	0%	45-R4		15.00 (1)
360.00	Collection Sewers Force	76,204.11	0%	0%	30.0	3.33%	-25%	0%	-25%	55-R4		51.67
361.00	Collection Sewers Gravity	4,535,759.00	0%	0%	53.7	1.86%	-25%	0%	-25%	65-R4		52.99
362.00	Special Collecting Structure	7,896.57	0%	0%	30.0	3.33%	-10%	0%	-10%	30-R4		27.52
370.00	Receiving Wells/Waste Treat. Plant	1,794,143.00	0%	0%	45.2	2.21%	-20%	0%	-20%	*45-R4	2026	8.45
370.10	Pumping Equipment	3,287,382.75	0%	0%	39.8	2.51%	-15%	0%	-15%	30-R3		17.83
	TOTAL Collection Plant	15,536,594.25										
Treatment & Disposal Plant												
380.10	Treatment & Disposal Equip	35,441.08	0%	0%	30.0	3.33%	-15%	0%	-15%	30-R3		28.53
	TOTAL Treatment & Disposal Plant	35,441.08										
General Plant												
324.10	System Control Computer Equipmen	96,006.00	0%	0%	N/A	0.00%	0%	0%	0%	15-R4		2.46
372.10	Office Equipment/Computers	1,572.20	0%	0%	N/A	0.00%	0%	0%	0%	7-R4		4.53
389.00	Other Miscellaneous Equipment	16,475.29	0%	0%	30.0	3.33%	0%	0%	0%	25-R3		21.59
393.00	Tools, Shop & Garage Equipment	1,609.00	0%	0%	30.0	3.33%	0%	0%	0%	15-R3		12.20
395.00	Power Operated Equip	0.00	0%	0%	30.0	3.34%	5%	5%	5%	12-R3		N/A
396.50	Transportation Equipment	42,229.15	0%	0%	N/A	0.00%	10%	10%	10%	8-R3		2.72
397.00	Miscellaneous Equipment	28,924.27	0%	0%	30.0	3.33%	0%	0%	0%	25-R4		19.37
	TOTAL General Plant	186,815.91										
	TOTAL DEPRECIABLE PLANT	15,758,851.24										
NON-DEPRECIABLE PLANT												
	TOTAL NON-DEPRECIABLE PLANT	0.00										
	TOTAL UTILITY PLANT IN SERVICE	15,758,851.24										

*Life Span Method Utilized. Service Lives Vary.

(1) ARL Extended to 15 Years to Mitigate Proposed Depreciation Rates--at Management Request

Table 6- KS--Appendix
(1 of 2)

Hawaii Water Service Co--Wastewater
Summary of ASL's and Net Salvage Percent
From Industry Depreciation Studies

Account No. (b)	Description (c)	Original Cost 12/31/017 (c)	Current Implicit ASL (Yrs)	Proposed ASL	Avg of ASL's	Summary of ASL's				
						Sum of ASL's	Arizona -Am. Sewer	Illinois-Am Sewer	New Jersey Amer-Sewer	
<u>DEPRECIABLE PLANT</u>										
Collection Plant										
324.10	System Control Computer Equip	96,006.00	N/A	15-R4						
	TOTAL Collection Plant	96,006.00								
Treatment & Disposal Equip										
354.00	Structure & Improvements	5,339,404.11	47	*45-R4	37	110	40	40	30	
360.00	Collection Sewers Force	76,204.11	30	55-R4	58	174	50	64	60	
361.00	Collection Sewers Gravity	4,535,759.00	54	65-R4	68	204	73	66	65	
362.00	Special Collection Structure	7,896.57	30	30-R4						
370.10	Pumping Equipment	3,287,382.75	45	30-R3	19	57	15	25	17	
380.10	Treatment & Disposal Equip	35,441.08	30	30-R3	20	41	21	20		
	TOTAL Treat. & Disposal Plant	13,282,087.62								
General Plant										
389.00	Other Miscellaneous Equipment	16,475.29	30	25-R3						
	TOTAL General Plant	16,475.29								
	SUBTOTAL Depreciable Plant	13,394,568.91								

**Table 6- KS--Appendix
 (2 of 2)**

**Hawaii Water Service Co-Wastewater
 Summary of ASL's and Net Salvage Percent
 From Industry Depreciation Studies**

Account No. (b)	Description (c)	Original Cost 12/31/017 (c)	Proposed NS %	Summary of Net Salv %'s			
				Avg Net Salv %	Sum of NS %'s	Arizona -Am. Sewer	Illinois-Am Sewer
<u>DEPRECIABLE PLANT</u>							
Collection Plant							
324.10	System Control Computer Equip	96,006.00	0%				
	TOTAL Collection Plant	96,006.00					
Treatment & Disposal Equip							
354.00	Structure & Improvements	5,339,404.11	-10%	-12%	-35%	-10%	-15%
360.00	Collection Sewers Force	76,204.11	-25%	-30%	-90%	-40%	-10%
361.00	Collection Sewers Gravity	4,535,759.00	-25%	-22%	-65%	-40%	-25%
362.00	Special Collection Structure	7,896.57	-10%				
370.10	Pumping Equipment	3,287,382.75	-15%	-15%	-45%	-30%	-15%
380.10	Treatment & Disposal Equip	35,441.08	-15%	-13%	-25%	-25%	
	TOTAL Treat. & Disposal Plant	13,282,087.62					
General Plant							
389.00	Other Miscellaneous Equipment	16,475.29	0%				
	TOTAL General Plant	16,475.29					
	SUBTOTAL Depreciable Plant	13,394,568.91					

Makalei Committed Capacity

description	Utility Plant In Service 12/31/2018	Accumulated Depreciation 12/31/2018	Accumulated Depreciation 12/31/2019	Average accumulated depreciation	Average Net Plant
HR-5 PUMP	\$ 506,136	\$ 506,136	\$ 506,136	\$ 506,136	\$ -
HR-1 TO 4 PUMP	\$ 507,019	\$ 507,019	\$ 507,019	\$ 507,019	\$ -
SCADA HR WELLS 1-4	\$ 129,504	\$ 129,504	\$ 129,504	\$ 129,504	\$ -
SCADA HR WELL 5	\$ 647,485	\$ 647,485	\$ 647,485	\$ 647,485	\$ -
HR 1 TO 4 TRANSMISSION(16" WATERLINE)	\$ 770,629	\$ 235,341	\$ 248,057	\$ 241,699	\$ 528,930
HR-5 TO TRANSMISSION TO 620' AND PR TANKS	\$ 1,298,362	\$ 381,262	\$ 387,451	\$ 384,356	\$ 914,006
	\$ 3,859,135	\$ 2,406,747	\$ 2,425,652	\$ 2,416,200	\$ 1,442,936
Makalei %	35.15%				
Utility Plant	\$ 3,859,135				
Accumulated Depreciation	\$ (2,416,200)				
ADIT Fed	\$ (8,704)				
ADIT State	\$ 3,877				
Subtotal	\$ 1,438,109				
Capacity Commitment to Makalei	25.37%				
Makalei Committed Capacity	\$ 364,848				

Makalei Committed Capacity

description	Utility Plant In Service 12/31/2018	Accumulated Depreciation State 12/31/2018	Accumulated Book Depreciation 12/31/2018	ADIT State 12/31/2018	Accumulated Depreciation State 13/31/2019	Accumulated Book Depreciation 12/31/2019	ADIT State 12/31/2019	Average ADIT State
HR-5 PUMP	\$ 506,136 \$	310,970 \$	506,136 \$	12,491 \$	330,406 \$	506,136 \$	11,247 \$	11,869
HR-1 TO 4 PUMP	\$ 507,019 \$	311,513 \$	507,019 \$	12,512 \$	330,982 \$	507,019 \$	11,266 \$	11,889
SCADA HR WELLS 1-4	\$ 129,504 \$	64,648 \$	129,504 \$	4,151 \$	69,621 \$	129,504 \$	3,832 \$	3,992
SCADA HR WELL 5	\$ 647,485 \$	323,225 \$	647,485 \$	20,753 \$	348,088 \$	647,485 \$	19,161 \$	19,957
HR 1 TO 4 TRANSMISSION(16" WATERLINE)	\$ 770,629 \$	473,474 \$	235,341 \$	(15,241) \$	503,067 \$	248,057 \$	(16,321) \$	(15,781)
HR-5 TO TRANSMISSION TO 620' AND PR TANKS	\$ 1,298,362 \$	797,694 \$	381,262 \$	(26,652) \$	847,550 \$	387,451 \$	(29,446) \$	(28,049)
	\$ 3,859,135 \$	2,281,524 \$	2,406,747 \$	8,014 \$	2,429,713 \$	2,425,652 \$	(260) \$	3,877
Makalei %	35.15%							
Utility Plant	\$ 3,859,135							
Accumulated Depreciation	\$ (2,416,200)							
ADIT Fed	\$ (8,704)							
ADIT State	\$ 3,877							
Subtotal	\$ 1,438,109							
Capacity Commitment to Makalei	25.37%							
Makalei Committed Capacity	\$ 364,848							

Other Committed Capacity

	Utility Plant in Service 12/31/2018	Utility Plant in Service 12/31/2019	Average plant in service	Accumulated Depreciation 12/31/2018	Accumulated Depreciation 12/31/2019	Average accumulated depreciation	Average Net Plant
Structures and Improvements	\$ 2,723,337	\$ 2,789,337	\$ 2,756,337	\$ 720,844	\$ 805,528	\$ 763,186	\$ 1,993,151
Pumping Equipment	\$ 3,587,911	\$ 4,175,831	\$ 3,881,871	\$ 2,237,961	\$ 2,404,725	\$ 2,321,343	\$ 1,560,528
Treatment Equipment	\$ 503,140	\$ 515,838	\$ 509,489	\$ 142,712	\$ 153,597	\$ 148,155	\$ 361,334
Transmission & Distribution Plant	\$ 11,203,059	\$ 11,220,507	\$ 11,211,783	\$ 3,305,769	\$ 3,490,426	\$ 3,398,098	\$ 7,813,686
Reservoirs	\$ 2,575,847	\$ 2,886,847	\$ 2,731,347	\$ 770,097	\$ 846,310	\$ 808,203	\$ 1,923,144
Wells	\$ 803	\$ 803	\$ 803	\$ 45	\$ 67	\$ 56	\$ 747
Less distribution	\$ (5,544,080)	\$ (5,544,080)	\$ (5,544,080)	\$ (1,503,685)	\$ (1,593,967)	\$ (1,548,826)	\$ (3,995,254)
	\$ 15,050,018	\$ 16,045,083	\$ 15,547,551	\$ 5,673,743	\$ 6,106,686	\$ 5,890,214	\$ 9,657,336
Utility Plant	\$ 15,547,551						
Accumulated Depreciation	\$ (9,657,336)						
ADIT Fed	\$ 129,253						
ADIT State	\$ 56,357						
Subtotal	\$ 6,075,824						
Stroud		0.61%					
Stroud Committed Capacity	\$ 36,868						
Robarts		0.73%					
Robarts Committed Capacity	\$ 44,241						

Other Committed Capacity

	Utility Plant in Service 12/31/2018	Accumulated Depreciation Fed 12/31/2018	Accumulated Book Depreciation 12/31/2018	ADIT Fed 12/31/2018	Accumulated Depreciation Fed 12/31/2019	Accumulated Book Depreciation 12/31/2019	ADIT Fed 12/31/2019	Average ADIT Fed
Structures and Improvements	\$ 2,723,337	\$ 1,492,450	\$ 720,844	\$ (152,469)	\$ 1,604,024	\$ 805,528	\$ (157,815)	\$ (155,142)
Pumping Equipment	\$ 3,587,911	\$ 1,490,642	\$ 2,237,961	\$ 146,092	\$ 1,657,675	\$ 2,404,725	\$ 145,949	\$ 146,020
Treatment Equipment	\$ 503,140	\$ 126,566	\$ 142,712	\$ 3,106	\$ 147,199	\$ 153,597	\$ 1,178	\$ 2,142
Transmission & Distribution Plant	\$ 11,203,059	\$ 3,578,220	\$ 3,305,769	\$ (55,477)	\$ 3,805,277	\$ 3,490,426	\$ (63,933)	\$ (59,705)
Reservoirs	\$ 2,575,847	\$ 1,539,419	\$ 770,097	\$ (152,046)	\$ 1,654,893	\$ 846,310	\$ (159,825)	\$ (155,935)
Wells	\$ 803	\$ 96	\$ 45	\$ (10)	\$ 129	\$ 67	\$ (12)	\$ (11)
Less distribution	\$ (5,544,080)	\$ (3,219,045)	\$ (1,503,685)	\$ 338,902	\$ (3,440,808)	\$ (1,593,967)	\$ 364,865	\$ 351,883
	\$ 15,050,018	\$ 5,008,349	\$ 5,673,743	\$ 128,097	\$ 5,428,389	\$ 6,106,686	\$ 130,408	\$ 129,253
Utility Plant	\$ 15,547,551							
Accumulated Depreciation	\$ (9,657,336)							
ADIT Fed	\$ 129,253							
ADIT State	\$ 56,357							
Subtotal	\$ 6,075,824							
Stroud								0.61%
Stroud Committed Capacity	\$ 36,868							
Robarts								0.73%
Robarts Committed Capacity	\$ 44,241							

Other Committed Capacity

	Utility Plant in Service 12/31/2018	Accumulated Depreciation State 12/31/2018	Accumulated Book Depreciation 12/31/2018	ADIT State 12/31/2018	Accumulated Depreciation State 13/31/2019	Accumulated Book Depreciation 12/31/2019	ADIT State 12/31/2019	Average ADIT State
Structures and Improvements	\$ 2,723,337	\$ 1,432,752	\$ 720,844	\$ (45,562)	\$ 1,539,863	\$ 805,528	\$ (46,997)	\$ (46,280)
Pumping Equipment	\$ 3,587,911	\$ 1,431,017	\$ 2,237,961	\$ 51,644	\$ 1,591,368	\$ 2,404,725	\$ 52,055	\$ 51,850
Treatment Equipment	\$ 503,140	\$ 121,503	\$ 142,712	\$ 1,357	\$ 141,311	\$ 153,597	\$ 786	\$ 1,072
Transmission & Distribution Plant	\$ 11,203,059	\$ 3,435,091	\$ 3,305,769	\$ (8,277)	\$ 3,653,066	\$ 3,490,426	\$ (10,409)	\$ (9,343)
Reservoirs	\$ 2,575,847	\$ 1,477,842	\$ 770,097	\$ (45,296)	\$ 1,588,697	\$ 846,310	\$ (47,513)	\$ (46,404)
Wells	\$ 803	\$ 93	\$ 45	\$ (3)	\$ 123	\$ 67	\$ (4)	\$ (3)
Less distribution	\$ (5,544,080)	\$ (3,090,283)	\$ (1,503,685)	\$ 101,542	\$ (3,303,176)	\$ (1,593,967)	\$ 109,389	\$ 105,466
	\$ 15,050,018	\$ 4,808,015	\$ 5,673,743	\$ 55,407	\$ 5,211,253	\$ 6,106,686	\$ 57,308	\$ 56,357
Utility Plant	\$ 15,547,551							
Accumulated Depreciation	\$ (9,657,336)							
ADIT Fed	\$ 129,253							
ADIT State	\$ 56,357							
Subtotal	\$ 6,075,824							
Stroud								
Stroud Committed Capacity	\$							
Robarts								
Robarts Committed Capacity	\$							

0.61%

0.73%

True-up Adjustment Amortization

	Amount	Useful life	Annual Amortization	2015	2016	2017	2018	2019
Operation								
Water	\$ 1,052,368	43	\$ 24,474	\$ 1,052,368	\$ 1,027,894	\$ 1,003,421	\$ 978,947	\$ 954,473
Sewer	\$ 794,204	23	\$ 34,531	\$ 794,204	\$ 759,673	\$ 725,143	\$ 690,612	\$ 656,082

True-up Adjustment Amortization

	Amount	Useful life	Annual Amortization	2020	2021	2022	2023	2024	2025	2026	2027	2028
Operation												
Water	\$ 1,052,368	43	\$ 24,474	\$ 930,000	\$ 905,526	\$ 881,052	\$ 856,579	\$ 832,105	\$ 807,631	\$ 783,158	\$ 758,684	\$ 734,210
Sewer	\$ 794,204	23	\$ 34,531	\$ 621,551	\$ 587,020	\$ 552,490	\$ 517,959	\$ 483,429	\$ 448,898	\$ 414,367	\$ 379,837	\$ 345,306

True-up Adjustment Amortization

	Amount	Useful life	Annual Amortization	2029	2030	2031	2032	2033	2034	2035	2036	2037
Operation												
Water	\$ 1,052,368	43	\$ 24,474	\$ 709,737	\$ 685,263	\$ 660,789	\$ 636,316	\$ 611,842	\$ 587,368	\$ 562,895	\$ 538,421	\$ 513,947
Sewer	\$ 794,204	23	\$ 34,531	\$ 310,775	\$ 276,245	\$ 241,714	\$ 207,184	\$ 172,653	\$ 138,122	\$ 103,592		

KONA WATER SERVICE COMPANY, INC
WATER OPERATIONS

2019 TEST YEAR
COST OF SERVICE STUDY

by

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January 31, 2019

**2019 TEST YEAR
COST OF SERVICE STUDY
KONA WATER SERVICE COMPANY, INC
WATER OPERATIONS**

Introduction

This report sets forth the procedures, findings, and results of a cost of service allocation study for the Kona Water Service Company, Inc. – Water Operations (the “Company”). The cost of service allocation study developed herein is based on the financial and operating parameters developed by the Company for use in a rate filing.

A discussion of the rationale employed for cost of service allocation studies, including a description of the allocations, together with the resulting tables and a general discussion of rate and tariff design follows.

General

The cost of service study utilizes the “Base – Extra Capacity Method” as set forth in the American Water Works Association M1 Manual of Water Supply Practices entitled “Principles of Water Rates, Fees, and Charges (all editions). This methodology identifies operating costs and allocates the Company’s annual revenue requirements to functional cost categories. The functional costs are briefly described as follows:

- Base costs include those costs which would generally be incurred if the water system were operated at a uniform rate year-round and customers received water on the same basis.
- Extra capacity costs include those costs related to peak rates of water use in excess of average requirements.
- Customer costs include those costs associated with connection and serving customers irrespective of the volume of water used or demand requirements imposed.

The costs of the water utility are first assigned to several functional cost categories through the use of allocation factors which are developed for each item of operating expense, rate base element, capital expenditure, and other costs. Once the cost of service has been determined by functional cost category, the next step is the allocation of such costs to the customer classifications.

Customer classifications, or equivalent customer groups, are the groupings of those customers who have similar service, consumption, and demand characteristics. The present

study identifies and analyzes the following customer groups: residential, non-residential and irrigation.

The proper allocation of the cost of service requires that each customer group be charged with a portion of the base cost, the extra capacity cost and the customer cost in accordance with the respective needs and use of the service rendered. This is accomplished by allocating the functional costs to each customer group in the proportion that each respective group bears a responsibility for the costs relative to the total cost responsibility of all customers served by the system. The sum of all functional costs attributable to a customer group is the total cost of service to be recovered from that group.

The base, the extra capacity, and the customer costs, when summarized by customer groups, define the total cost of service to be recovered from each customer group. This summation also provides identity of the responsibility of each customer group for each of the functional costs which together constitute the total cost of service.

Annual Revenue Requirements

The initial step in the establishment of customer tariff rates for water utility service is the identification or development of an annual revenue requirement. The Company has provided their proposed 2019 test year annual revenue requirements to be filed with the Hawaii Public Utilities Commission as follows:

Operation & Maintenance Expense	\$2,429,336
Annual Depreciation Expense	476,258
Taxes Other Than Income Taxes	254,212
Public Company Allocation	101,687
Utility Operating Income	580,249
Income Taxes	<u>139,645</u>
Total Revenue Requirement	\$3,981,387

As subsequently discussed herein, this study results in the allocation of \$3,981,387 total annual revenue requirement set forth above to the various customer classes.

A comparison of the cost of service allocation results, the current revenue levels received from each customer class and proposed revenues will indicate the degree to which each customer class is meeting its cost responsibilities will be discussed later in this report.

The results of that comparison are used to provide a guideline for use in the proposed rate design.

Water Production/System Delivery

A necessary step in a water cost of service allocation study is the development of the appropriate allocation factors for the functional cost elements. Therefore, it is necessary to determine the system-wide water production and delivery on average day, maximum day, and maximum hour bases.

Based upon a review of the system delivery data from the reverse osmosis plant, the service territory and the customer base it was determined that the system maximum day to average day ratio should be established at 1.59 times. We find this ratio reasonable and appropriate for use in the development of the functional cost allocations. This means that for costs allocated on a maximum day basis, 62.89 percent of the cost is assigned to the Base Cost function, while 37.11 percent of the cost is assigned to the Extra Capacity Cost – Maximum Day function.

Based upon the system delivery data it has been determined that the maximum hour to average hour ratio of 3.00 times or 300 percent. This results in costs allocated on a maximum hour basis, 33.33 percent of the cost is assigned to Base Cost Function and 66.67 percent of the cost is assigned to the Extra Capacity Cost – Maximum Hour Function.

The system factor for transmission and distribution mains is 3.09 times based on the system delivery data and data specific to the Company's water operations. This results in the following factors for T&D mains functionalization: 32.36 percent for Base Cost Function, 19.09 percent for Extra Capacity – Maximum Day and 48.55 percent for Extra Capacity – Maximum Hour Cost function.

Application of Functional Cost Allocation Factors

These three factors allocate costs to the Base Cost function and the Extra Capacity Cost – Maximum Day and/or Maximum Hour functions. In addition to these three factors, several other functional cost allocation factors are utilized in the cost of service analysis. A number of these additional factors allocate costs only to one specific cost function – either Base Cost, Extra Capacity Cost – Maximum Hour, Customer Cost – Commercial, Customer Cost – Meters or Customer Cost – Services. An additional factor is used to allocate purchase

power costs to the base, maximum day and maximum hour functions in order to recognize the significant demand element in purchase power costs.

A supporting schedule to the cost of service analysis sets forth the description of the functional cost allocation factors and their application to the various revenue requirements is attached to this report and identified as Schedule No. 1, Pages 1 to 12.

Water Consumption Analysis

In order to develop the various factors needed to allocate functional costs to the customer groups and to allow for detailed rate design, a summary of customer group water usage by meter size and consumption level is required. Such a summary is known as a billing analysis or bill frequency distribution and contains billing and consumption data for an entire twelve-month period to account for the effects of any seasonal variation in consumption patterns. The water use data for the Test Year twelve months ended December 31, 2019 are as follows:

<u>Customer Group</u>	<u>Water Use</u> <u>1,000 Gallons</u>
Residential	179,159
Non-Residential	23,389
Irrigation	<u>8,975</u>
Total	211,253

This information was provided by the Company and was utilized in the development of the customer group allocation factors. The application of these factors and the cost of service allocation for the water system are discussed in the following section.

Cost of Service Allocation

The Company's total cost of service is synonymous with its total annual revenue requirement. As developed herein this is the amount needed from all customers, in total, to permit the Company to meet all annual operating requirements. A cost of service allocation study allocates the total cost of service, that is, the revenue requirement among groups or classes of customers in accordance with recognized principles and generally accepted procedures in order to obtain an indication of the relative cost responsibilities of each such

class of customers. A cost of service allocation is one of a number of factors that may be considered in designing the rates and charges that produce the required revenues.

The allocation of the cost of service of the water system of the Company to the customer classifications of residential, non-residential, and irrigation is set forth in Schedule 2 of this report.

The development of the factors used in the allocation of the functional costs to the customer groups is set forth on Schedule 1. Schedule 2 illustrates the estimated consumption as well as the non-coincident maximum day and maximum hour usage by customer group. The consumption data is based on the consumption levels discussed previously. Maximum daily and maximum hourly totals for customer groups are based on the application of customer group demand factors to the average consumption. These demand factors are conservative estimates based on a review of the system characteristics coupled with available information, experience of other studies, and professional judgement.

We performed a review of water use of the residential and non-residential classes. Based upon this analysis and our extensive experience in performing water load analysis and fully allocated cost of service studies, we have selected the following maximum day and maximum hour class allocation factors:

Customer Class	Maximum Day/ Average Day	Maximum Hour/ Average Hour
Residential	2.00	3.00
Non-Residential	1.90	3.50
Irrigation	1.90	3.00

The maximum day and the maximum hour demands experienced by a water utility system are a result of the interaction of the individual demands of the individual demands of each customer using the system at that time. The total of the estimated demands represents the non-coincident demand. That is, due to diversity between groups, the sum of the individual customer group's coincidental peak requirements are non-coincident to the system. The estimated demand factors used in these studies are considered reasonable for cost allocation purposes.

Schedule 2 sets forth a description of the allocation codes which designate the groups of percentage which are utilized to allocate the amount of a given cost element to the customer groups or classes.

Accordingly, the Company's proposed and filed 2019 annual revenue requirement was allocated to each customer class. The comparison of revenues at present rates, cost of service allocated revenue requirement and 2019 proposed rate design revenues by customer class is shown on Schedule 3. The results show that revenues by class from proposed rates compared with cost of service allocated revenues for all customer classes match very closely and there is no need for consideration of rate re-design based on cross-subsidization considerations.

Rate Design

Seldom, if ever, are rates exactly in line with the cost of service indications at any given time, nor is it usually possible to design rate structures which are in complete exact agreement with all aspects of a cost of service allocation study. Generally, minor differences will exist just as a matter of normal circumstances. Cost of service allocations are the products of analyses based in part on judgement and experience, and their results provide a substantial guide in the design of rates. Actual rate design, in addition to relying on the results of cost of service analyses, should also include consideration of policy matters, actual budget procedures, impact of rate changes, future planning, special customer characteristics, and judicial regulatory, and contract requirements. Management has the responsibility of adopting a proposed schedule of rates that are fair, just and reasonable.

As stated above, the revenue levels generated by customer class are very close and well-conform with the cost of service-based allocation of revenues.

Conclusion

The studies discussed in this report have considered the Company's filed revenue requirement for Test Year 2019 and have used this requirement as the basis for developing a proposed schedule of rates and charges. The studies and recommendations set forth herein provide useful guides for the development of a system of equitable rates and charges. The rates as designed generate revenue from each class are a fraction of a percent different from the cost of service study.

Schedule 1
 Page 1 of 13

Kona Water Service Company, Inc. Water Operations
 Summary of Functional Cost Allocation Factors

Allocation Code	Description	Base Cost	Extra Cap Max Day	Extra Cap Max Hour	Customer Meters	Customer Services	Check Total
20	Base Cost	100.00 %	0.00 %	0.00 %	0.00 %	0.00 %	100.00 %
21	Base/Ex C - Max Day	62.89 %	37.11 %	0.00 %	0.00 %	0.00 %	100.00 %
22	Base/Ex C - Max Hour	33.33 %	0.00 %	66.67 %	0.00 %	0.00 %	100.00 %
24	Meters	0.00 %	0.00 %	0.00 %	100.00 %	0.00 %	100.00 %
25	Services	0.00 %	0.00 %	0.00 %	0.00 %	100.00 %	100.00 %
27	Depreciated Plant	94.27 %	5.38 %	0.00 %	0.00 %	0.35 %	100.00 %
29	Total Plant in Service	94.72 %	5.01 %	0.00 %	0.00 %	0.27 %	100.00 %
33	Total Rate Base	90.72 %	8.53 %	0.16 %	0.00 %	0.60 %	100.01 %
37	T&D Operation	32.36 %	19.09 %	48.55 %	0.00 %	0.00 %	100.00 %
38	T&D Maintenance	32.36 %	19.09 %	48.55 %	0.00 %	0.00 %	100.00 %
41	Pumping	32.36 %	19.09 %	48.55 %	0.00 %	0.00 %	100.00 %
43	Purchased Power	85.00 %	10.00 %	5.00 %	0.00 %	0.00 %	100.00 %
44	T&D Mains	32.36 %	19.09 %	48.55 %	0.00 %	0.00 %	100.00 %
45	Distribution Storage	10.00 %	15.00 %	75.00 %	0.00 %	0.00 %	100.00 %
46	Total O&M Expense	75.51 %	16.30 %	6.00 %	0.00 %	2.19 %	100.00 %
47	Admin. & Gen'l Expense	48.67 %	28.72 %	8.63 %	0.00 %	13.98 %	100.00 %
48	Labor Benefits	72.61 %	23.14 %	4.25 %	0.00 %	0.00 %	100.00 %
<u>System Factors:</u>							
	Max Day - Average Day	159 %	Base 62.89 %	Max Day 37.11 %			
	Max Hour - Average Hour	300 %	33.33 %		66.67 %		
	T&D Mains	309 %	32.36 %	19.09 %	48.55 %		

Schedule 1
 Page 2 of 13

Kona Water Service Company, Inc. Water Operations

Test Period Ending December 31, 2019
 Allocation of Pro Forma Rate Base

Acct. No.	Description	Total Investment	Base Invest.	Extra Cap Max Day	Extra Cap Max Hour	Customer Meters	Customer Services	Code
Exhibit KWSC Water 7.2 Pro Forma Utility Plant in Service								
5	Intangible	\$ 51,245	\$ 51,245	\$ -	\$ -	\$ -	\$ -	20
6	Land and land rights	-	-	-	-	-	-	33
7	Structures and Improvements	2,756,337	1,733,460	1,022,877	-	-	-	21
8	Pumping Equipment	3,881,871	3,881,871	-	-	-	-	20
9	Treatment Equipment	509,489	509,489	-	-	-	-	20
10	Transmission & Distribution Plant	11,211,783	11,211,783	-	-	-	-	20
11	Reservoirs	2,731,347	2,731,347	-	-	-	-	20
12	Wells	803	505	298	-	-	-	21
13	Office Furniture and Equipment	6,546	4,116	2,429	-	-	-	21
14	Transportation	174,919	110,007	64,913	-	-	-	21
15	Tools and Laboratory Equipment	57,790	-	-	-	-	57,790	25
16	General Plant	-	-	-	-	-	-	21
17	Asset Retirement Obligation	-	-	-	-	-	-	47
18	Hawaii Water GO Allocation	47,417	47,417	-	-	-	-	20
19	Big Island Allocation	358,607	358,607	-	-	-	-	20
Total Plant in Service		\$ 21,788,154	\$ 20,639,847	\$ 1,090,517	\$ -	\$ -	\$ 57,790	
(Percent Code 29)		100.00 %	94.72 %	5.01 %	0.00 %	0.00 %	0.27 %	
Exhibit KWSC Water 7.4 Pro Forma Depreciation Reserve								
5	Intangible	\$ (7,049)	\$ (7,049)	\$ -	\$ -	\$ -	\$ -	20
6	Land and land rights	-	-	-	-	-	-	33
7	Structures and Improvements	(763,186)	(479,968)	(283,218)	-	-	-	21
8	Pumping Equipment	(2,321,343)	(2,321,343)	-	-	-	-	20
9	Treatment Equipment	(148,155)	(148,155)	-	-	-	-	20
10	Transmission & Distribution Plant	(3,398,098)	(3,398,098)	-	-	-	-	20
11	Reservoirs	(808,203)	(808,203)	-	-	-	-	20
12	Wells	(56)	(35)	(21)	-	-	-	21
13	Office Furniture and Equipment	(6,546)	(4,116)	(2,429)	-	-	-	21
14	Transportation	(130,118)	(81,831)	(48,287)	-	-	-	21
15	Tools and Laboratory Equipment	(9,110)	-	-	-	-	(9,110)	25
16	General Plant	-	-	-	-	-	-	21
17	Global Settlement	-	-	-	-	-	-	20
18	Hawaii Water GO Allocation	(29,255)	(29,255)	-	-	-	-	20
19	Big Island Allocation	(108,711)	(108,711)	-	-	-	-	20
Total Pro Forma Depr. Reserve		\$ (7,729,828)	\$ (7,386,764)	\$ (333,954)	\$ -	\$ -	\$ (9,110)	
Total Depreciation Reserve %		100.00 %	95.56 %	4.32 %	0.00 %	0.00 %	0.12 %	
Depreciated Plant		\$ 14,058,327	\$ 13,253,083	\$ 756,563	\$ -	\$ -	\$ 48,680	
(Percent Code 27)		100.00 %	94.27 %	5.38 %	0 %	0.00 %	0.35 %	

Schedule 1
 Page 3 of 13

Kona Water Service Company, Inc. Water Operations

Test Period Ending December 31, 2019
 Allocation of Pro Forma Rate Base

Acct. No.	Description	Total Investment	Base Invest.	Extra Cap Max Day	Extra Cap Max Hour	Customer Meters	Customer Services	Code
Exhibit KWSC Water 7.15								
Rate Base Additions								
16	Working Capital Construction Work in Progress	\$ 210,919	\$ 159,265	\$ 34,380	\$ 12,655	\$ -	\$ 4,619	46
Total Additions		\$ 210,919	\$ 159,265	\$ 34,380	\$ 12,655	\$ -	\$ 4,619	46
Rate Base Deductions								
Exhibit KWSC Water 7.8								
CAC & CIAC Plant:								
5	Intangible	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	20
6	Land and land rights	-	-	-	-	-	-	33
7	Structures and Improvements	-	-	-	-	-	-	21
8	Pumping Equipment	-	-	-	-	-	-	20
9	Treatment Equipment	-	-	-	-	-	-	20
10	Transmission & Distribution Plant	(5,544,080)	(5,544,080)	-	-	-	-	20
11	Reservoirs	-	-	-	-	-	-	20
12	Wells	-	-	-	-	-	-	21
13	Office Furniture and Equipment	-	-	-	-	-	-	21
14	Transportation	-	-	-	-	-	-	21
15	Tools and Laboratory Equipment	-	-	-	-	-	-	25
16	General Plant	-	-	-	-	-	-	21
17	Global Settlement	-	-	-	-	-	-	20
18	Hawaii Water GO Allocation	-	-	-	-	-	-	20
19	Big Island Allocation	-	-	-	-	-	-	20
Total CIAC		\$ (5,544,080)	\$ (5,544,080)	\$ -	\$ -	\$ -	\$ -	-
Exhibit KWSC Water 7.9								
5	Intangible	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	20
6	Land and land rights	-	-	-	-	-	-	33
7	Structures and Improvements	-	-	-	-	-	-	21
8	Pumping Equipment	-	-	-	-	-	-	20
9	Treatment Equipment	-	-	-	-	-	-	20
10	Transmission & Distribution Plant	1,605,758	1,605,758	-	-	-	-	20
11	Reservoirs	-	-	-	-	-	-	20
12	Wells	-	-	-	-	-	-	21
13	Office Furniture and Equipment	-	-	-	-	-	-	21
14	Transportation	-	-	-	-	-	-	21
15	Tools and Laboratory Equipment	-	-	-	-	-	-	25
16	General Plant	-	-	-	-	-	-	21
17	Global Settlement	-	-	-	-	-	-	20
18	Hawaii Water GO Allocation	-	-	-	-	-	-	20
19	Big Island Allocation	-	-	-	-	-	-	20
Total Accum. Depreciation		\$ 1,605,758	\$ 1,605,758	\$ -	\$ -	\$ -	\$ -	-
Total CAC & CIAC		\$ (3,938,322)	\$ (3,938,322)	\$ -	\$ -	\$ -	\$ -	-

Schedule 1
 Page 4 of 13

Federal and State Income Tax

ADIT Federal and State

Exhibit KWSC
 Water 7.10

Federal ADIT

5	Intangible	\$ 7,049	\$ 7,049	\$ -	\$ -	\$ -	\$ -	20
6	Land and land rights	-	-	-	-	-	-	33
7	Structures and Improvements	1,548,237	973,686	574,551	-	-	-	21
8	Pumping Equipment	1,574,159	1,574,159	-	-	-	-	20
9	Treatment Equipment	136,883	136,883	-	-	-	-	20
10	Transmission & Distribution Plant	3,691,748	3,691,748	-	-	-	-	20
11	Reservoirs	1,597,156	1,597,156	-	-	-	-	20
12	Wells	112	71	42	-	-	-	21
13	Office Furniture and Equipment	6,546	4,116	2,429	-	-	-	21
14	Transportation	156,727	98,565	58,161	-	-	-	21
15	Tools and Laboratory Equipment	45,759	-	-	-	-	45,764	25
16	General Plant	-	-	-	-	-	-	21
17	Global Settlement	-	-	-	-	-	-	20
18	Hawaii Water GO Allocation	41,707	41,707	-	-	-	-	20
19	Big Island Allocation	268,412	268,412	-	-	-	-	20
20	Total Federal ADIT	\$ 9,074,494	\$ 8,393,552	\$ 635,183	\$ -	\$ -	\$ 45,759	
21	Accumulated Book Depreciation	\$ 6,124,069	\$ 5,773,160	\$ 329,475	\$ -	\$ -	\$ 21,434	27
22	ADIT Balance	\$ (584,814)	\$ (553,936)	\$ (29,299)	\$ -	\$ -	\$ (1,579)	29

Exhibit KWSC
 Water 7.12

State ADIT

5	Intangible	\$ 6,767	\$ 6,767	\$ -	\$ -	\$ -	\$ -	20
6	Land and land rights	-	-	-	-	-	-	33
7	Structures and Improvements	1,486,307	934,739	551,569	-	-	-	21
8	Pumping Equipment	1,511,192	1,511,192	-	-	-	-	20
9	Treatment Equipment	131,407	131,407	-	-	-	-	20
10	Transmission & Distribution Plant	3,544,078	3,544,078	-	-	-	-	20
11	Reservoirs	1,533,270	1,533,270	-	-	-	-	20
12	Wells	108	68	40	-	-	-	21
13	Office Furniture and Equipment	6,284	3,952	2,332	-	-	-	21
14	Transportation	150,458	94,623	55,835	-	-	-	21
15	Tools and Laboratory Equipment	43,929	-	-	-	-	43,929	25
16	General Plant	-	-	-	-	-	-	21
17	Global Settlement	-	-	-	-	-	-	20
18	Hawaii Water GO Allocation	40,039	40,039	-	-	-	-	20
19	Big Island Allocation	257,675	257,675	-	-	-	-	20
20	Total State ADIT	\$ 8,711,514	\$ 8,057,810	\$ 609,776	\$ -	\$ -	\$ 43,929	
21	Accumulated Book Depreciation	\$ 6,124,069	\$ 5,773,160	\$ 329,475	\$ -	\$ -	\$ 21,434	27
22	ADIT Balance	\$ (165,596)	\$ (156,853)	\$ (8,296)	\$ -	\$ -	\$ (447)	29
	Total Federal and State ADIT	\$ 17,786,009	\$ 16,451,362	\$ 1,244,959	\$ -	\$ -	\$ 89,888	
	Total Federal and State ADIT Balances	\$ (750,410)	\$ (710,789)	\$ (37,595)	\$ -	\$ -	\$ (2,026)	

Exhibit KWSC
 Water 7.14

Unamortized Hawaii General Excise Tax Credit

Exhibit KWSC
 Water 7

Net Salvage Adjustment

	Unamortized Hawaii General Excise Tax Credit	(287,055)	(271,898)	(14,381)	-	-	(774)	29
14	Net Salvage Adjustment	(123,445)	(116,927)	(6,185)	-	-	(333)	29
15	True-up Adjustment	(966,710)	(915,668)	(48,432)	-	-	(2,610)	29
16	Makalei Committed Capacity	(364,848)	(345,584)	(18,279)	-	-	(985)	29
	Other Committed Capacity	(81,109)	(76,826)	(4,064)	-	-	(219)	29
	Total Deductions	(6,511,900)	(6,376,014)	(128,936)	-	-	(6,947)	
	Total Pro Forma Rate Base	\$ 7,757,346	\$ 7,036,334	\$ 662,007	\$ 12,655	\$ -	\$ 46,352	
	Rate Base %	100.01 %	90.72 %	8.53 %	0.16 %	0.00 %	0.60 %	
	(Percent Code 33)							

Schedule 1
 Page 5 of 13

Kona Water Service Company, Inc. Water Operations
 Test Period Ending December 31, 2019
 Allocation of Pro Forma Operation and Maintenance Expense

No.	Description	Total Cost	Base Cost	Extra Cap Max Day	Extra Cap Max Hour	Customer Meters	Customer Services	Code
Historic Operations & Maintenance Expense								
Pumping Taxes								
7030XX	Pumping Taxes	-	-	-	-	-	-	41
Total Pumping Taxes Operations		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Purchased Water								
7040XX	Purchased Water	-	-	-	-	-	-	43
Total Purchased Water Operations		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Purchasing Power								
7262XX	Purchased Power	\$ 1,402,846	\$ 1,192,419	\$ 140,285	\$ 70,142	\$ -	\$ -	43
Total Purchasing Power Operations		\$ 1,402,846	\$ 1,192,419	\$ 140,285	\$ 70,142	\$ -	\$ -	
Source of Supply Operations Expense								
701001	Source of Supply Wages	\$ 43,200	\$ 43,200	\$ -	\$ -	\$ -	\$ -	20
701000	Supervision & Engineering	-	-	-	-	-	-	20
702000	Operation Expense	-	-	-	-	-	-	20
702010	Contract Services - Engineering	-	-	-	-	-	-	20
703002	Miscellaneous - Other	271	271	-	-	-	-	20
703010	Allocation of Payroll	-	-	-	-	-	-	20
703020	Allocation of Transportation	-	-	-	-	-	-	20
703030	Allocation of Miscellaneous Entries	-	-	-	-	-	-	20
Total Source of Supply Operations		\$ 43,470	\$ 43,471	\$ -	\$ -	\$ -	\$ -	
Source of Supply Maintenance Expense								
706001	Source of Supply Maintenance Wages	\$ 32,231	32,231	-	-	-	-	20
706000	Supervision & Engineering	-	-	-	-	-	-	20
707000	Structures & Improvements	-	-	-	-	-	-	20
708000	Coil & Impound Reservoirs	-	-	-	-	-	-	20
709000	Lake, River, Other Intake	-	-	-	-	-	-	20
711000	Wells	2,713	2,713	-	-	-	-	20
712000	Supply Mains	-	-	-	-	-	-	20
Total Source of Supply Maintenance		\$ 34,944	\$ 34,944	\$ -	\$ -	\$ -	\$ -	
Water Treatment and Water Quality Oper. Exp.								
741001	Water Treatment Wages	\$ 67,447	\$ 42,417	\$ 25,029	\$ -	\$ -	\$ -	21
741000	Supervision & Engineering	-	-	-	-	-	-	21
742000	Operation Labor & Expense	11,353	7,140	4,213	-	-	-	21
742001	Sampling at Wells	1,262	794	468	-	-	-	21
742002	Inorganic Laboratory Expense	258	162	96	-	-	-	21
742003	Organic Laboratory Expense	-	-	-	-	-	-	21
742004	Bacterial Laboratory Expense	402	253	149	-	-	-	21
742005	Laboratory Administration Expense	-	-	-	-	-	-	21
742006	Outside Lab Fees	954	600	354	-	-	-	21
743000	Miscellaneous	5,350	3,365	1,985	-	-	-	21
744000	Chemical & Filter Material	113,898	71,630	42,267	-	-	-	21
745000	Water Trmt Allocation In/Out	-	-	-	-	-	-	21
745010	Allocation of Payroll	-	-	-	-	-	-	21
745020	Allocation of Transportation	-	-	-	-	-	-	21
745030	Allocation of Miscellaneous Entries	-	-	-	-	-	-	21
Total Water Treatment and Water Quality Oper. E		\$ 200,923	\$ 126,361	\$ 74,561	\$ -	\$ -	\$ -	

	T & D Operation Expense (Percent Code 37)	100.00 %	32.36 %	19.09 %	48.55 %	0.00 %	0.00 %
758001	Trans. & Dist. Maint. Wages	\$ 6,512	\$ 2,107	\$ 1,243	\$ 3,161	\$ -	\$ -
758000	Supervision & Engineering	-	-	-	-	-	-
759000	Structures & Improvements	-	-	-	-	-	-
760000	Reservoirs & Tanks	431	139	82	209	-	-
761000	Mains	2,891	936	552	1,404	-	-
763000	Services	31	10	6	15	-	-
764000	Meters	2,685	869	513	1,304	-	-
765000	Hydrants	204	66	39	99	-	-
Total Trans. & Dist. - Maintenance Expense		\$ 12,754	\$ 4,127	\$ 2,435	\$ 6,192	\$ -	\$ -
	Total T & D Maintenance % (Percent Code 38)	100.00 %	32.36 %	19.09 %	48.55 %	0.00 %	0.00 %
Total Trans. and Dist. O&M		\$ 40,421	\$ 13,080	\$ 7,716	\$ 19,625	\$ -	\$ -
	Total Trans. and Dist. O&M %	100.00 %	32.36 %	19.09 %	48.55 %	0.00 %	0.00 %

Schedule 1
 Page 8 of 13

Kona Water Service Company, Inc. Water Operations
 Test Period Ending December 31, 2019
 Allocation of Pro Forma Operation and Maintenance Expense

Acct. No.	Description	Total Cost	Base Cost	Extra Cap Max Day	Extra Cap Max Hour	Customer Meters	Customer Services	Code
Historic Operations Expense (continued)								
Pumping								
721001	Pumping Wages	\$ 11,012	\$ 3,563	\$ 2,102	\$ 5,347	\$ -	\$ -	41
721000	Supervision & Engineering	810	262	155	393	-	-	41
722000	Power Prod Exp	-	-	-	-	-	-	41
723000	Fuel For Power Production	-	-	-	-	-	-	41
724000	Pumping Expense	12,134	3,927	2,316	5,891	-	-	41
725000	Miscellaneous	6,655	2,153	1,270	3,232	-	-	41
725010	Allocation of Payroll	-	-	-	-	-	-	41
725020	Allocation of Transportation	-	-	-	-	-	-	41
725030	Allocation of Miscellaneous Entries	-	-	-	-	-	-	41
726100	Fuel For Pumping	-	-	-	-	-	-	41
Total Pumping Operating Expense		\$ 30,611	\$ 9,905	\$ 5,843	\$ 14,863	\$ -	\$ -	
729001	Pumping & Maintenance Wages	\$ 12,305	\$ 3,982	\$ 2,349	\$ 5,974	\$ -	\$ -	41
729000	Supervision & Engineering	-	-	-	-	-	-	41
730000	Structures & Improvements	781	253	149	379	-	-	41
732000	Pumping Equipment	5,514	1,784	1,053	2,677	-	-	41
733000	Other Pumping Plant	-	-	-	-	-	-	41
Total Pumping Maintenance Expense		\$ 18,600	\$ 6,019	\$ 3,551	\$ 9,030	\$ -	\$ -	
Pumping for Wastewater								
727101	Pumping for Wastewater Wages	\$ 1,563	\$ 506	\$ 298	\$ 759	\$ -	\$ -	41
727100	Supervision & Engineering	-	-	-	-	-	-	41
727110	Operations Expenses	-	-	-	-	-	-	41
727300	Fuel For Power Production	-	-	-	-	-	-	41
727310	Contractual Svcs - Testing	-	-	-	-	-	-	41
727320	Equipment Rental	-	-	-	-	-	-	41
727900	Miscellaneous	-	-	-	-	-	-	41
728000	Pumping for Wastewater Allocation In/Out	-	-	-	-	-	-	41
Total Pumping for Wastewater Operations		\$ 1,563	\$ 506	\$ 298	\$ 759	\$ -	\$ -	
728101	Pumping for Wastewater Wages	1,943	\$ 629	\$ 371	\$ 943	\$ -	\$ -	41
728100	Maintenance Expense	-	-	-	-	-	-	41
728500	Materials & Supplies	45	15	9	22	-	-	41
728610	Contractual Svc - Testing	-	-	-	-	-	-	41
728900	Miscellaneous Expense	6	2	1	3	-	-	41
Total Pumping for Wastewater Maintenance		\$ 1,994	\$ 646	\$ 381	\$ 968	\$ -	\$ -	
Collection								
704101	Collection Wages	\$ 289	\$ 94	\$ 55	\$ 140	\$ -	\$ -	41
704100	Supervision & Engineering	-	-	-	-	-	-	41
704110	Operations Expense	-	-	-	-	-	-	41
704120	Chemicals	-	-	-	-	-	-	41
704900	Miscellaneous Expenses	37	12	7	18	-	-	41
Total Collection		\$ 326	\$ 106	62	158	0	\$ -	
Collection Maint.								
713101	Collection Maint Wages	\$ 453	\$ 147	\$ 86	\$ 220	\$ -	\$ -	41
713100	Maintenance Expense	403	130	77	196	-	-	41
713000	Materials & Supplies	-	-	-	-	-	-	41
713900	Miscellaneous Expense	6	2	1	3	-	-	41
Total Collection Maint.		\$ 861	\$ 279	164	419	0	\$ -	

Schedule 1
 Page 9 of 13

Customer Account Expenses

771001	Customer Accounts Wages	\$	17,209	\$	-	\$	-	\$	-	\$	17,209	25
771000	Supervision		-		-		-		-		-	25
772000	Meter Reading		170		-		-		-		170	25
773000	Laboratory Misc		-		-		-		-		-	25
773100	Office Salaries		-		-		-		-		-	25
773201	Collecting Expense		-		-		-		-		-	25
773202	Collection Agency Fees		-		-		-		-		-	25
773300	Postage		818		-		-		-		818	25
773400	Cust. Records - Supplies & Exp		2,494		-		-		-		2,494	25
773401	Cust. Records - Equip. Rentals		619		-		-		-		619	25
773402	Cust. Records - Equip. Maint.		-		-		-		-		-	25
773403	Cust. Records - Software Maint.		-		-		-		-		-	25
774100	Other Stationery & Print		-		-		-		-		-	25
774200	Telephone		13		-		-		-		13	25
774201	Telephone - General		141		-		-		-		141	25
774202	Telephone - Cellular		6,548		-		-		-		6,548	25
774203	Telephone - Telemeter		3,122		-		-		-		3,122	25
774204	Telephone - Leased Lines		603		-		-		-		603	25
774300	Other Utilities & Janitor		349		-		-		-		349	25
774400	Flat Rate Inspections		21		-		-		-		21	25
774500	Conservation Expense		83		-		-		-		83	25
774501	Conservation Wages		-		-		-		-		-	25
774600	Leak Adjustment Expense		-		-		-		-		-	25
775000	Uncollectible Accounts		(417)		-		-		-		(417)	25
776000	Cust Acct Allocation In/Out		-		-		-		-		-	25
776010	Allocation of Payroll		-		-		-		-		-	25
776020	Allocation of Transportation		-		-		-		-		-	25
776030	Allocation of Miscellaneous Entries		0		-		-		-		-	25
Total Customer Account Expense		\$	31,773	\$	-	\$	-	\$	-	\$	31,773	

Subtotal, Operation & Maintenance
 Without Power, Chemicals,
 & Purchased Water

\$ 227,337 \$ 110,649 \$ 65,289 \$ 19,625 \$ - \$ 31,773

Subtotal O&M % 100.00 % 48.67 % 28.72 % 8.63 % 0.00 % 13.98 %
 (Percent Code 47)

Office Expense

791001	Administrative & General Wages	\$	80,278	\$	39,071	\$	23,056	\$	6,928	\$	-	\$	11,223	47
791000	Admin & Gen Salary		134		65		38		12		-		19	47
792100	Employees Dues		429		209		123		37		-		60	47
792200	Postage		1,710		832		491		148		-		239	47
792300	Telephone		4,962		2,415		1,425		428		-		694	47
792301	Telephone - General		187		91		54		16		-		26	47
792302	Telephone - Cellular		28		14		8		2		-		4	47
792303	Telephone - Answering Service		161		78		47		15		-		23	47
792304	Telephone - Leasing Lines		10		5		3		1		-		1	47
792400	Stationery and Printing		165		80		47		14		-		23	47
792500	Office Supplies & Expense		2,188		1,065		628		189		-		306	47
792501	Office Supplies		517		252		149		45		-		72	47
792502	Temporary Labor		-		-		-		-		-		-	47
792505	Bank Fees		4,238		2,063		1,217		366		-		592	47
792600	Travel & Incidental Exp		5,764		2,805		1,656		497		-		806	47
792601	Travel - Meals		2,294		1,116		659		198		-		321	47
792602	Meals at CWS		99		48		28		9		-		14	47
792603	Training & Seminars		1,822		887		523		157		-		255	47
792604	Conferences		130		63		37		11		-		19	47
792605	Internal Projects		-		-		-		-		-		-	47
792606	Community Service		7		3		2		1		-		1	47
792700	G.O. Building Expense		2,285		1,112		656		197		-		320	47
Total Office Expense		\$	107,410	\$	52,274	\$	30,847	\$	9,271	\$	-	\$	15,018	

Schedule 1
 Page 10 of 13

Injuries and Damages								
793000	Property Insurance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	48
794100	Compensation Insurance	11,118	8,072	2,573	473	-	-	48
794200	Occupational Sick Leave	-	-	-	-	-	-	48
794300	Safety Training	-	-	-	-	-	-	48
794400	Liability Insurance	10,352	7,517	2,395	440	-	-	48
Total Injury & Damages		\$ 21,470	\$ 15,589	\$ 4,968	\$ 913	\$ -	\$ -	
Empl Pension & Benefits								
795101	Savings Plan	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	48
795102	Retirement Fund Expense	116,746	84,760	27,025	4,961	-	-	48
795103	Other Benefits	-	-	-	-	-	-	48
795104	Trasop Expenses	-	-	-	-	-	-	48
795200	Group Insurance	-	-	-	-	-	-	48
795201	Retiree Group Heal & Life Ins	-	-	-	-	-	-	48
795260	PBOP Amortization	-	-	-	-	-	-	48
795300	Employees Welfare Admin	-	-	-	-	-	-	48
795309	Employees Welfare Admin transferred In/Out	-	-	-	-	-	-	48
795400	Company Sponsored Benefits - Allocation In/Out	120,677	87,623	27,925	5,129	-	-	48
795501	Off-Duty Time - Sick Leave	-	-	-	-	-	-	48
795502	Disability Benefits - Recd	-	-	-	-	-	-	48
795504	Disability Benefits - Employer	195	142	45	8	-	-	48
795099	Off Duty Time - Allocations In/Out	-	-	-	-	-	-	48
795600	Off Duty Time - All Other	65,402	47,488	15,134	2,780	-	-	48
907100	Vacation	-	-	-	-	-	-	48
908000	Floating Holiday	-	-	-	-	-	-	48
Total Employee Benefits		\$ 303,020	\$ 220,013	\$ 70,129	\$ 12,878	\$ -	\$ -	
Outside Services Employed								
797000	Regulatory Commission Expense	\$ 52,750	\$ 38,302	\$ 12,206	\$ 2,242	\$ -	\$ -	48
798100	Legal Expense	2,744	1,992	635	117	-	-	48
798200	Other Outside Services	9,025	6,553	2,088	384	-	-	48
798201	Training Consultants	-	-	-	-	-	-	48
798202	Auditors & Accountants	-	-	-	-	-	-	48
798203	Engineering Consultants	-	-	-	-	-	-	48
Total Outside Services		\$ 64,519	\$ 46,847	\$ 14,929	\$ 2,743	\$ -	\$ -	
Misc General Expenses								
796000	Franchise Requirements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	47
797001	PUC Reimbursement Fees	-	-	-	-	-	-	47
799100	Company Dues	1,469	715	422	127	-	205	47
799200	Institutional Advertising	98	48	28	8	-	14	47
799300	Fee Of Fiscal Agents	-	-	-	-	-	-	47
799400	General Corporate Expense	76	37	22	7	-	10	47
799500	Miscellaneous General Exp	12,098	5,888	3,474	1,044	-	1,691	47
799501	Moving Cost-Employee	3,388	1,649	973	292	-	474	47
799502	Merger Related Expenses	-	-	-	-	-	-	47
799503	Charitable contributions	-	-	-	-	-	-	47
799600	Accrued Payroll Distrib	-	-	-	-	-	-	47
799700	G&A Allocation In/Out	-	-	-	-	-	-	47
799710	Allocation of Payroll	-	-	-	-	-	-	47
799720	Allocation of Transportation	-	-	-	-	-	-	47
799730	Allocation of Miscellaneous Entries	-	-	-	-	-	-	47
Total Misc General Expense		\$ 17,129	\$ 8,337	\$ 4,919	\$ 1,478	\$ -	\$ 2,394	
Admin & General Maintenance								
805100	General Struct & Improv	2,823	1,374	811	244	-	394	47
805200	General Equipment	3,418	1,664	982	295	-	477	47
805300	Accrued Payroll Distribution	-	-	-	-	-	-	47
805410	Allocation of Payroll	-	-	-	-	-	-	47
805420	Allocation of Transportation	-	-	-	-	-	-	47
805430	Allocation of Miscellaneous Entries	-	-	-	-	-	-	47
Total Admin & General Maintenance		\$ 6,241	\$ 3,038	\$ 1,793	\$ 539	\$ -	\$ 871	
Rent								
8110XX	Rent Expense	23,333	11,356	6,701	2,014	-	3,262	47
Total Rent Operations		\$ 23,333	\$ 11,356	\$ 6,701	\$ 2,014	\$ -	\$ 3,262	
Total Admin. and General		\$ 519,788	\$ 346,098	\$ 127,585	\$ 27,822	\$ -	\$ 18,283	
Total Pro Forma O&M Expense		\$ 2,429,337	\$ 1,834,170	\$ 396,049	\$ 145,800	\$ -	\$ 53,318	
Total Pro Forma O&M Expense % (Percent Code 46)		100.00 %	75.51 %	16.30 %	6.00 %	0.00 %	2.19 %	
Total Labor Expense		\$ 225,830	\$ 163,983	\$ 52,252	\$ 9,595	\$ -	\$ -	
Total Labor Expense %		100.00 %	72.61 %	23.14 %	4.25 %	0.00 %	0.00 %	

Schedule 1
 Page 11 of 13

Kona Water Service Company, Inc. Water Operations

Test Period Ending December 31, 2019
 Allocation of Pro Forma Depreciation Expense

Acct. No.	Description	Total Cost	Base Cost	Extra Cap Max Day	Extra Cap Max Hour	Customer Meters	Customer Services	Code
Exhibit KWSC Water 7.6 Pro Forma Depreciation Expense								
103030	Intangibles	\$ 6,401	\$ 6,401	\$ -	\$ -	\$ -	\$ -	20
103061	Land	-	-	-	-	-	-	20
103110	Structures & Improvement - Supply Plant	3,087	3,087	-	-	-	-	20
103210	Structures & Improvement - Pumping Plant	46	46	-	-	-	-	20
103310	Structures & Improvement - Treatment Plant	81,550	81,550	-	-	-	-	20
103240	Pumping Equipment	158,764	158,764	-	-	-	-	20
103241	System Control Computer Equipment	8,000	8,000	-	-	-	-	20
103320	Water Treatment Plant	10,884	10,884	-	-	-	-	20
103434	Transmission & Distribution Mains	58,955	58,955	-	-	-	-	20
103435	Ductile Iron Pipe	123,493	77,665	45,828	-	-	-	21
103164	Supply Mains	548	345	203	-	-	-	21
103460	Meters & Meter Boxes	974	-	-	-	974	-	24
103480	Hydrants	688	433	255	-	-	-	21
103420	Reservoirs & Tanks	76,213	47,930	28,283	-	-	-	21
103421	Tank Painting	-	-	-	-	-	-	21
103150	Wells	22	14	8	-	-	-	21
103720	Office Furn & Equip	-	-	-	-	-	-	21
103721	Electronic Equipment/Computers	-	-	-	-	-	-	21
103730	Transportation Equipment	6,162	3,875	2,287	-	-	-	21
103740	Store Equipment	1,309	823	486	-	-	-	21
103750	Laboratory Equipment	191	120	71	-	-	-	21
103770	Power Operated Equipment	-	-	-	-	-	-	21
103780	Tools, Shop, Garage Equipment	1,113	700	413	-	-	-	21
103790	General Plant	-	-	-	-	-	-	21
103925	Asset Retirement Obligation	-	-	-	-	-	-	47
Exhibit KWSC Water 7.4								
	Global Settlement	-	-	-	-	-	-	20
Exhibit KWSC Water 7.4								
	Hawaii Water GO Allocation	1,780	866	511	154	-	249	47
Exhibit KWSC Water 7.4								
	Big Island Allocation	25,338	12,332	7,277	2,187	-	3,542	47
Subtotal Depreciation Expense		\$ 565,518	\$ 472,790	\$ 85,622	\$ 2,341	\$ 974	\$ 3,791	
Exhibit KWSC Water 7.9								
5	Intangible	-	\$ -	\$ -	\$ -	\$ -	\$ -	20
6	Land and land rights	-	-	-	-	-	-	33
7	Structures and Improvements	-	-	-	-	-	-	21
8	Pumping Equipment	-	-	-	-	-	-	20
9	Treatment Equipment	-	-	-	-	-	-	20
10	Transmission & Distribution Plant	(89,260)	(89,260)	-	-	-	-	20
11	Reservoirs	-	-	-	-	-	-	20
12	Wells	-	-	-	-	-	-	21
13	Office Furniture and Equipment	-	-	-	-	-	-	21
14	Transportation	-	-	-	-	-	-	21
15	Tools and Laboratory Equipment	-	-	-	-	-	-	25
16	General Plant	-	-	-	-	-	-	21
17	Global Settlement	-	-	-	-	-	-	20
18	Hawaii Water GO Allocation	-	-	-	-	-	-	20
19	Big Island Allocation	-	-	-	-	-	-	20
Subtotal CIAC Depreciation Expense		\$ (89,260)	\$ (89,260)	\$ -	\$ -	\$ -	\$ -	
Pro Forma Depr. Exp.		\$ 476,258	\$ 383,530	\$ 85,622	\$ 2,341	\$ 974	\$ 3,791	
Depreciation Exp. %		100.00 %	80.53 %	17.98 %	0.49 %	0.20 %	0.80 %	

Schedule 1
 Page 12 of 13

Kona Water Service Company, Inc. Water Operations

Test Period Ending December 31, 2019
 Allocation of Pro Forma Revenue Requirement

Description	Total Cost	Base Cost	Extra Cap Max Day	Extra Cap Max Hour	Customer Meters	Customer Services	Code
Pro Forma Revenue Requirement							
Operation & Maintenance Expenses	\$ 2,429,337	\$ 1,834,170	\$ 396,049	\$ 145,800	\$ -	\$ 53,318	
Depecciation & Amortization Expenses	476,258	383,530	85,622	2,341	974	3,791	
Exhibit KWSC Water 8.21 799998 Taxes Other Than Income Taxes	254,212	230,621	21,684	407	-	1,525	33
PubCo Allocation In/out	101,687	92,238	8,678	167	-	614	33
Total Operating Expenses							
Before Income Taxes	\$ 3,261,494	\$ 2,540,559	\$ 512,033	\$ 148,715	\$ 974	\$ 59,248	
Exhibit Water KWSC 8.22 State Income Taxes	10,030	9,099	856	16	-	60	33
Exhibit Water KWSC 8.22 Federal Income Taxes	129,615	117,587	11,056	207	-	778	33
Exhibit KWSC Water 6 28 Utility Operating Income	\$ 580,249	\$ 526,402	\$ 49,495	\$ 928	\$ -	\$ 3,481	33
Total Revenue Requirement	\$ 3,981,388	\$ 3,193,647	\$ 573,440	\$ 149,866	\$ 974	\$ 63,567	
Total Revenue Requirement %	100.00 %	80.21 %	14.40 %	3.76 %	0.02 %	1.61 %	
Other Revenues	-	(1)	-	-	-	-	33
Net Revenue Requirement	\$ 3,981,387	\$ 3,193,646	\$ 573,440	\$ 149,866	\$ 974	\$ 63,567	

Schedule 1
 Page 13 of 13

Kona Water Service Company, Inc. Water Operations

Test Period Ending December 31, 2019
 Development of Labor Allocator

Description	Total Cost	Base Cost	Extra Cap Max Day	Extra Cap Max Hour	Customer Meters	Customer Services
Labor Expenses						
Supply	\$ 75,431	\$ 75,431	\$ -	\$ -	\$ -	\$ -
Water Treatment	130,636	82,157	48,479	-	-	-
T&D Operation	13,252	4,288	2,530	6,434	-	-
T&D Maintenance	6,512	2,107	1,243	3,161	-	-
Subtotal Above	225,830	163,983	52,252	9,595	-	-
Code 48	100.00 %	72.61 %	23.14 %	4.25 %	0 %	0.00 %
Benefits Labor	-	-	-	-	-	-
Total Labor	225,830	163,983	52,252	9,595	-	-
Percents	100.00 %	72.61 %	23.14 %	4.25 %	0 %	0.00 %

Schedule 2
 Page 1 of 3

Kona Water Service Company, Inc. Water Operations

Summary of Water Customer Class Allocation Factors

Allocation Code	Description	Residential	Non-Residential	Irrigation	Check Total
60	Base Cost	84.70 %	11.06 %	4.24 %	100.00 %
61	Maximum Day	85.84 %	10.14 %	4.02 %	100.00 %
62	Maximum Hour	79.20 %	16.45 %	4.35 %	100.00 %
64	Meters	63.63 %	35.88 %	0.49 %	100.00 %
65	Services	79.89 %	19.30 %	0.81 %	100.00 %

Kona Water Service Company, Inc. Water Operations

Customer Class Allocation
 Water Pro Forma Net Revenue Requirement

	Total	Residential	Non-Residential	Irrigation	Allocation Code
Base Cost	\$ 3,193,646	\$ 2,705,019	\$ 353,217	\$ 135,410	60
Maximum Day	573,440	492,240	58,147	23,052	61
Maximum Hour	149,866	118,694	24,653	6,519	62
Meters	974	620	349	5	64
Services	63,567	50,784	12,269	515	65
Total	\$ 3,981,493	\$ 3,367,357	\$ 448,635	\$ 165,501	
	100.01 %	84.58 %	11.27 %	4.16 %	

Schedule 2
 Page 2 of 3

Kona Water Service Company, Inc. Water Operations

Water Customer Class Allocation Factors

Customer Class	Annual Consumption			Maximum Day				Maximum Hour				Customer Costs		Meters		Services	
	(1) Thousand Gallons	(2) MGD	(3) %	(4) % of AvDay	(5) Amount MGD	(6) Excess (5)-(2)	(7) %	(8) % of AvDay	(9) Amount MGD	(10) Excess (9)-(5)	(11) %	(12) Bills	(13) %	(14) Equiv Units	(15) %	(16) Equiv Units	(17) %
Residential	179,159	0.491	84.70	200	0.982	0.491	85.84	300	1.473	0.491	79.20	2,640	88.00	516.0	63.63	394.0	79.89
Non-Residential	23,389	0.064	11.06	190	0.122	0.058	10.14	350	0.224	0.102	16.45	312	10.40	291.0	35.88	95.2	19.30
Irrigation	8,975	0.025	4.24	190	0.048	0.023	4.02	300	0.075	0.027	4.35	48	1.60	4.0	0.49	4.0	0.81
Grand Total	211,523	0.580	100.00	580	1.152	0.572	100.00		1.772	0.620	100.00	3,000	100.00	811	100.00	493.2	100.00
Allocation Code			60				61				62				64		65

Schedule 2
 Page 3 of 3

Kona Water Service Company, Inc. Water Operations

Development of Equivalent Water Meters and Equivalent Services

Residential

<u>Meter Size</u>	<u>Number of Meters</u>	<u>Eq. Meter Ratio</u>	<u>Equiv. Meters</u>	<u>Eq. Svc Ratio</u>	<u>Equiv. Services</u>	<u>Number of Bills</u>
5/8"	74	1.0	74.0	1.0	74.0	888
1"	132	2.5	330.0	2.0	264.0	1,584
2"	14	8.0	112.0	4.0	56.0	168
Total	220		516.0		394.0	2,640

Non-Residential

<u>Meter Size</u>	<u>Number of Meters</u>	<u>Eq. Meter Ratio</u>	<u>Equiv. Meters</u>	<u>Eq. Svc Ratio</u>	<u>Equiv. Services</u>	<u>Number of Bills</u>
5/8"	1	1.00	1.0	7.0	7.0	12
1"	8	2.5	20.0	2.0	16.0	96
1.5"	7	5.0	35.0	2.7	18.9	84
2"	5	8.0	40.0	4.0	20.0	60
3"	1	15.0	15.0	4.0	4.0	12
4"	2	25.0	50.0	5.3	10.6	24
6"	1	50.0	50.0	8.0	8.0	12
8"	1	80.0	80.0	10.7	10.7	12
Total	26		291.0		95.2	312

Irrigation

<u>Meter Size</u>	<u>Number of Meters</u>	<u>Eq. Meter Ratio</u>	<u>Equiv. Meters</u>	<u>Eq. Svc Ratio</u>	<u>Equiv. Services</u>	<u>Number of Bills</u>
5/8"	4	1.0	4.0	1.0	4.0	48
Total	4		4		4	48
Grand Totals	250		811		493	3,000

Schedule 3
 Page 1 of 1

Kona Water Service Company, Inc. Water Operations
 Comparison Between Water Revenue from Existing Rates, the Indicated Cost of Service Revenues
 and Revenues at Proposed Rates

Class	Test Year Revenue Present Rates	Percent	Indicated Cost of Service Revenues	Percent	At Proposed Rates	Percent
Residential	3,028,338	85.82%	3,367,251	84.57%	3,403,254	85.48%
Non-Residential	430,221	12.19%	448,635	11.27%	496,166	12.46%
Irrigation	70,269	1.99%	165,501	4.16%	81,967	2.06%
Total Customer Class Revenue	3,528,828		3,981,387		3,981,387	
Other Revenue	0	0.00%	0	0.00%	0	0.00%
Total Customer Class Revenue	<u>3,528,828</u>	100.00%	<u>3,981,387</u>	100.00%	<u>3,981,387</u>	100.00%

KONA WATER SERVICE COMPANY, INC.
WASTEWATER OPERATIONS

2019 TEST YEAR
COST OF SERVICE STUDY

by

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January 31, 2019

**2019 TEST YEAR
COST OF SERVICE STUDY
KONA WATER SERVICE COMPANY, INC.
WASTEWATER OPERATIONS**

INTRODUCTION

This report sets forth the procedures, findings, and results of a cost of service allocation study for the Kona Water Service Company, Inc. – Wastewater Operations (“Company” or “Wastewater Operations”). The cost of service allocation study developed herein is based on the financial and operating parameters developed by the Company for use in a rate filing.

A discussion of the rationale employed for cost of service allocation studies, including a description of the allocations, together with illustrative tables and a general discussion of rate and tariff design follows.

GENERAL

The total cost of service is a utility’s revenue requirement. This amount is determined by establishing the revenues needed from all customers, in total, to permit the utility to recover its expenses and taxes and to produce a fair return on its rate base. The determination of the Company’s revenue requirement involves the issues pertaining to revenues, expenses, taxes, rate of return and rate base that are typically raised in a rate proceeding.

A sewer system cost of service allocation study provides the cost information necessary to develop appropriate fixed (or customer) charges and volumetric usage charges. A cost of service allocation study is one of a number of factors that may be considered in developing a schedule of rates and charges that will produce the required revenues if actual sewer flows are equal to estimated test year flows. We have allocated the annual revenue requirement based on a cost-causative basis using wastewater flows. Wastewater flows are usually calculated on the basis of estimated daily flows by customer and class using metered water use data obtained from the Company. Metered water use data provides an accurate basis for the cost allocations and the

customer tariff rate designs. Using metered water used by customer class, the Company develops sewer flows for billing. Using that information, we have accurately allocated the costs to customers based upon the level of service provided. Having metered water use data and basing the cost allocations on that data is a benefit to both the customers and the utility.

The method employed in wastewater cost allocation studies is the classification of the system's total annual revenue requirements according to cost-causative operations performed by the wastewater collection and treatment facilities. Costs are categorized to be flow or volume-related, BOD related, suspended solids-related or customer-related. Costs related to the collection system are segregated and treated separately in the allocation process. In this study, the cost allocation process is based upon an adaptation of an allocation methodology originally developed for use in water utility cost allocation studies. Costs are identified and allocated to the functional cost categories of flow, demand, customer accounting, and customer facilities costs, then such functionalized costs are allocated to customer classes. An explanation will follow below in this report regarding the other cost-causative elements normally considered in the allocation process.

FUNCTIONAL COSTS

Flow costs include those costs which vary with the amount of wastewater collected in the sewerage system. These costs include power and fuel for pumping and other collecting, pumping, transmission and treatment expenses under average sewage flow conditions.

Demand costs include those costs related to the facilities which meet the peak rates of use, or demands, placed on the sewerage system by the users of the service. These costs include capital costs for plant facilities designed to meet peak requirements and the related operation and maintenance expenses under flow conditions greater than average.

Customer costs include those costs associated with connecting and serving customers independent of the volume of sewage contributed or the demand requirements imposed upon the

system. Customer costs have been subdivided into customer accounting costs and customer facilities costs. Customer accounting costs include the commercial operations related to billing and collecting activities while customer facilities costs include capital and operating costs related to service connections.

The costs of the sewerage utility are assigned to the various functional cost categories through the use of allocation factors which are developed for each item of capital investment, operating expense, taxes, and other items. Certain costs, such as power and fuel for pumping, are assigned entirely to the flow cost function. Other costs, such as the commercial expenses related to billing and collecting, are assigned directly to the customer accounting function. Many cost elements, however, are not specifically related to a single cost function and are therefore allocated on the basis of other relevant factors. For example, collecting system operation and maintenance expenses are allocated to the flow cost function and the demand cost function on the basis of the ratio of maximum to average flows.

A wastewater cost of service study should also consider other cost-causative factors such as infiltration/inflow (I/I) volumes, strength of wastewater and the quantity of sludge produced through the treatment process. The use of cost-causing factors in the allocation process should be limited to those factors for which information is available or determined with reasonable effort. In an effort to understand the wastewater system's dynamics, the authors of this report and study visited the wastewater plants, pumping stations and toured the service territory.

We determined that I/I should not be assigned to a specific class of customers since no determinations of I/I flows or studies have been performed. Therefore, I/I costs will be treated as normal flows in the rate design process. It was also determined that no additional allocations would be required to segregate costs associated with strength of wastewater or the quantity of sludge. The customer base indicates that the wastewater flows would be described as domestic

and would not contain flow characteristics requiring additional treatment processes or would result in abnormal quantities of sludge.

Finally, when summarized, the flow, the demand, the customer accounting, and the customer facilities costs define the total cost of service and provide guidelines for the development of a schedule of rates and charges which allows for the recovery of the sewerage system costs from the users of the service.

CUSTOMER COSTS

The next step in the allocation process is a distribution of the functional costs to the customer classes. For the purpose of this study, the distribution of the annual revenue requirements is based upon the total annual wastewater flows by customer class and maximum-to-average daily demand by customer class. The volume related costs are allocated to the customer classes in proportion to the total flow for the system. The demand related costs are allocated based on maximum-to-average daily flows on the system by class. Customer service and billing related costs are allocated based upon the customer units and billing requirements.

Wastewater flow data include average day flow by customer class and maximum day flow systems. We use the monthly billed sewer flow data of the Wastewater Operations that derived from metered water use data provided by Company's water utility, Kona Water Service Company, Inc. – Water Operations. Since the water volumes from the reverse osmosis plant that directly feeds the water volumes used by Kona water customers is 211.523 million gallons and the wastewater plant treated 20.355 million gallons in 2017. That is, only 9.6% of the water volumes flowed through the wastewater plant whereas the typical level of US domestic residential indoor uses of water is 41% of total water consumption. There are a number of causes for this difference. Many customers in the service area had been installing private wells to reduce water cost and therefore such water use does not flow to the sewer system. This affect both metered water and associated sewer volumes. Another is that the customers use

extraordinary levels of potable water use for landscape irrigation and pools that will not flow to the wastewater plant. Also, most of the homes in the service area are not primary homes and therefore occupancy rates are very low – this mainly affects the peak relative to average usage. Therefore, occupants create high levels of wastewater flow for short periods of time and the remainder of the year they cause none so the average wastewater flow is very low.

The wastewater flows by class used to allocate rate class costs come from the billed sewer flows from the Wastewater Operations that are based on metered water usage. The maximum-to-average ratios for the residential and non-residential classes for allocating demand related costs are driven by the maximum-to-average ratio for the wastewater plant derived from actual plant data for 2016 (2017 was missing data).

Customer related costs have been treated separately in this study and include customer billing, collection and customer service related expenses.

REVENUE REQUIREMENT

As previously discussed, the total cost of service is synonymous with a utility's revenue requirement. The total revenue requirement for a sewerage utility should be sufficient to ensure the provision of adequate sewerage service and to ensure the maintenance, development, and perpetuation of the sewerage system. The principal components of the revenue requirement for an investor-owned sewerage utility comprise operation and maintenance expenditures; depreciation requirements; income and other taxes; and, operating income or return on investment. Cost of service studies for investor-owned sewerage utilities reporting to a regulatory authority are often prepared in conjunction with the processing of a rate relief application and the concurrent development of a pro forma revenue requirement. This particular study is based on a revenue requirement of \$2,027,187 as developed by the Company within the context of the current rate proceeding.

This revenue requirement provides for the following expense categories:

Operating and Maintenance	\$857,452
Depreciation	553,793
Taxes Other Than Income Tax	129,436
Public Company Allocation	55,684
Income Taxes	84,521
Net Operating Income	<u>346,301</u>
Total Revenue Requirement	<u>\$2,027,187</u>

As subsequently discussed herein, this study results in the allocation of the \$2,027,187 annual revenue requirement to the functional cost components. This functional cost allocation then becomes an input in the development of a schedule of rates and charges for sewerage service.

PLANT INVESTMENT/RATE BASE

The Company maintains its plant investment in fixed capital accounts by plant function. Under this system, the original cost and the related depreciation reserve for utility plant in service as of December 31, 2019 has been projected as follows:

<u>Functional Plant Account</u>	<u>Original Cost</u>
Intangible	\$23,333
Land and land rights	0
Structures and Improvements	5,372,404
Pumping Equipment	3,514,929
Treatment Equipment	666,193
Transmission & Distribution Plant	4,643,223
Source of Supply	1,794,143
Office Furniture and Equipment	1,572
Power Generation Equipment	495,805
Transportation	57,379
Tools and Laboratory Equipment	21,960
General Plant	21,972
Hawaii Water GO Allocation	26,070
Big Island Allocation	194,421
Wastewater Administration	<u>106</u>
Total Utility Plant In Service	\$16,833,511

<u>Functional Plant Account</u>	<u>Depreciation Reserve</u>
Intangible	\$2,334
Land and land rights	0
Structures and Improvements	2,062,218
Pumping Equipment	1,370,633
Treatment Equipment	38,238
Transmission & Distribution Plant	1,227,933
Source of Supply	815,611
Office Furniture and Equipment	614
Power Generation Equipment	77,668
Transportation	39,062
Tools and Laboratory Equipment	2,763
General Plant	6,024.50
Hawaii Water GO Allocation	16,080
Big Island Allocation	58,627
Wastewater Administration	<u>89</u>
Total Accumulated Depreciation Reserve	\$5,717,892

The combination of the original cost and the depreciation reserve results in the net utility plant in service. This is an important input in the development of the net investment rate base

which also includes contributions in aid of construction, deferred taxes from depreciation, excess reserve, and excess deferred tax liability.

The pro forma rate base used in this study may be summarized as follows:

Original Cost Utility Plant in Service	\$16,833,511
Depreciation Reserve	(5,717,892)
Contributions in Aid of Construction	(5,222,029)
Deferred Taxes from Depreciation	(381,405)
General Excise Tax Credit	(175,821)
Working Capital	76,095
Net Salvage Adjustment	(109,425)
True-Up Adjustment	<u>(673,347)</u>
 Total Pro Forma Rate Base	 \$4,628,687

The rate base is allocated to the several functional cost categories in accordance with the methodology previously described. The results of the rate base allocation are then subsequently used to allocate investment related revenue requirement items such as income taxes and utility operating income.

FUNCTIONAL COST OF SERVICE ALLOCATION

The allocation of the Company's cost of service to the previously defined functional cost components is set forth on a series of three schedules contained in Schedule 1. Descriptions of the individual schedules are given herein.

Schedule No. 1, pages 1 to 4 presents the details, in tabular form, of the allocation of the original cost of plant in service and rate base to the previously defined cost functions. Columns (1) and (2) on Schedule No. 1 sets forth an account number and a description of the item being allocated. The allocations to the several cost functions are shown in Columns (4) through (7), while the right-most column, i.e. Column (8), indicates an allocation code for the specific allocation factor used to assign each cost element to the cost functions. The allocations set forth on Schedule No. 1 utilize the utility plant in service and depreciation reserve data that were

previously summarized in a previous section of this report. The allocations to the cost functions were made in accordance with the concepts which were previously described.

Schedule 1, pages 5 to 7 is constructed in a format which is similar to that of the previous pages. It sets forth the details of the allocation of the operation and maintenance expense, the annual depreciation expense, the amortization expense, taxes other than income taxes, income taxes, and utility operating income as adjusted and projected by the Company for the twelve months ending December 31, 2019. The data utilized on Schedule No. 1, pages 5 to 7 were previously summarized in the Revenue Requirement discussion in this report.

The allocation codes mentioned above are simply reference characters which designate groups of percentages that are used to allocate the total amount of any given cost element to the several cost functions. Page 8 through 13 of Schedule No. 1 describe the codes and illustrate their development.

COST OF SERVICE ALLOCATION RESULTS

The functional cost of service allocation results may be summarized as follows:

<u>Cost Function</u>	<u>Amount</u>
Flow Costs	\$734,721
Demand Costs	989,269
Total Customer Costs – Commercial	22,535
Total Customer Costs - Service	280,662
Total Revenue Requirement	<u>\$2,027,187</u>

The allocated costs by function are further allocated to each customer class in proportion to the total flow for the system.

CUSTOMER COST OF SERVICE ALLOCATION

The allocation to customer class or group employs the results from the functional allocation of the annual revenue requirement \$2,027,187 by flow, demand and commercial, and

assigns those costs to the residential, multifamily, non-residential and public authority based upon cost causative factors. Schedule No. 2, pages 1 to 6 contains the results of those allocations. The allocations to customer class employs four (4) allocation factors that are set forth and described on Schedule No. 2, pages 2 to 6.

Page 2 of Schedule No. 2 summarizes the allocation process to customer class as follows:

	<u>Residential</u>	<u>Non-Residential</u>
Flow	\$492,116	\$242,605
Demand	880,747	108,522
Commercial	20,910	1,625
Services	<u>238,085</u>	<u>\$42,577</u>
	\$1,631,858	\$395,329

Schedule 2, page 4 shows the development and analysis of the estimated customer class wastewater flows used to allocate flow related costs. The demand-related costs are allocated by the customer class maximum-to-average day ratios that represent the relative peak demand placed on the system by each customer class. These ratios for residential and non-residential classes were obtained by reference to the wastewater plant ratio of 2.50.

REVENUES FROM PRESENT RATES

A comparison was made of revenues by customer class at present rates, cost of service allocations of revenue requirement and the revenues at proposed rates. Present rates and proposed rates generate the same proportions of revenues for each class as they based on the same rate design. The relevant comparison is between revenues at present rates and cost of service indicated revenues as forth on Schedule No. 3. The results show that there is somewhat of a difference between the present revenues and what the cost of service study shows. Residential revenue is 86 percent versus cost of service at 81 percent, and non-residential is 14 and 20 percent.

Although non-residential could be assigned much more revenues by a pure cost of service approach, we do not find a compelling reason to completely re-structure rate design at this time to completely reflect the cost of service results. This is the first complete embedded and fully allocated cost of service study ever done for the Company. Our additional reasoning is discussed in the following section.

CONCLUSION

The studies discussed in this report have allocated the revenue requirement of the Company to a series of functional cost classifications that were allocated to customer class. The results of the studies discussed herein can provide reasonable guidelines to be utilized in restructuring the Company's rates and charges for service. It must be noted that seldom, if ever, are rates exactly in line with the cost of service indications at any given time. Generally, minor differences will exist just as a matter of normal circumstances. Cost of service allocations are the products of analyses based in part on judgment and experience and their results provide a substantial aid in the design of rates.

Attempts to exactly meet cost of service indications in one rate adjustment can impose large and undue burdens on individual customer groups. Rather than impose large changes in one step, most rate analysts favor a process of gradually bringing revenue generation in line with cost of service indications so as to avoid or dampen large and abrupt changes in rate structure.

Actual tariff design, in addition to relying on the results of cost of service analyses, should also include consideration of policy matters, impact of rate changes, future planning, special customer characteristics, and judicial, regulatory, and contract requirements.

Schedule 1
 Page 1 of 13

Kona Water Service Company, Inc. Wastewater Operations

Summary of Functional Cost Allocation Factors

Allocation Code	Description	Flow Cost	Demand Cost	Customer Related Commercial Cost	Customer Related Services Cost	Check Total
A	Flow Costs	100.00	0.00	0.00	0.00	100.00 %
B	Demand Costs	0.00	100.00	0.00	0.00	100.00 %
C	Customer Costs - Commercial	0.00	0.00	100.00	0.00	100.00 %
D	Customer Costs - Services	0.00	0.00	0.00	100.00	100.00 %
E	Average Day Flow to Maximum Day Flow	40.00	60.00	0.00	0.00	100.00 %
F	G&A Salaries & Wages, Employee Benefits & Worker's Comp.	49.07	20.00	0.13	30.80	100.00 %
G	Administrative and General	43.65	24.24	0.00	32.11	100.00 %
H	Office Rent and Furniture and Equipment	48.98	19.96	0.32	30.74	100.00 %
I	Other Rate Base Costs	23.22	75.95	0.00	0.83	100.00 %
J	Other Insurance and G&A Miscellaneous Expense	48.82	20.19	1.62	29.37	100.00 %
K	Income Taxes	38.61	60.23	0.00	1.16	100.00 %
L	Revenue Related Taxes, Expenses & Net Income	36.24	48.80	1.11	13.85	100.00 %

Schedule 1
 Page 2 of 13

Kona Water Service Company, Inc. Wastewater Operations

Test Year Ending December 31, 2019
 Allocation of Pro Forma Rate Base

Account Number (1)	Account Title (2)	Total Cost (3)	Flow Cost (4)	Demand Cost (5)	Customer Related		Allocation Code (8)
					Commercial Cost (6)	Services Cost (7)	
Utility Plant in Service:							
<i>Exhibit KWSC</i>							
<i>Sewer 7.2</i>							
5	Intangible	23,333	0	23,333	0	0	B
6	Land and land rights	0	0	0	0	0	E
7	Structures and Improvements	5,372,404	2,148,962	3,223,442	0	0	E
8	Pumping Equipment	3,514,929	0	3,514,929	0	0	B
9	Treatment Equipment	666,193	266,477	399,716	0	0	E
10	Transmission & Distribution Plant	4,643,223	0	4,643,223	0	0	B
11	Source of Supply	1,794,143	0	1,794,143	0	0	B
12	Office Furniture and Equipment	1,572	770	314	5	483	H
13	Power Generation Equipment	495,805	495,805	0	0	0	A
14	Transportation	57,379	25,048	13,909	0	18,424	G
15	Tools and Laboratory Equipment	21,960	9,586	5,323	0	7,051	G
16	General Plant	21,972	9,591	5,326	0	7,055	G
17	Hawaii Water GO Allocation	28,070	11,380	6,319	0	8,371	G
18	Big Island Allocation	194,421	84,865	47,128	0	62,429	G
19	Wastewater Administration	106	48	26	0	34	G
	Total Utility Plant In Service	16,833,511	3,052,528	13,677,131	5	103,847	

Schedule 1
 Page 3 of 13

Kona Water Service Company, Inc. Wastewater Operations

Test Year Ending December 31, 2019
 Allocation of Pro Forma Rate Base

Account Number (1)	Account Title (2)	Total Cost (3)	Flow Cost (4)	Demand Cost (5)	Customer Related		Allocation Code (8)
					Commercial Cost (6)	Services Cost (7)	
Accumulated Depreciation Reserve:							
<i>Exhibit KWSC</i>							
<i>Sewer 7.4</i>							
5	Intangible	2,334	0	2,334	0	0	B
6	Land and land rights	0	0	0	0	0	E
7	Structures and Improvements	2,062,218	824,887	1,237,331	0	0	E
8	Pumping Equipment	1,370,633	0	1,370,633	0	0	B
9	Treatment Equipment	38,238	15,295	22,943	0	0	E
10	Transmission & Distribution Plant	1,227,933	0	1,227,933	0	0	B
11	Source of Supply	815,611	0	815,611	0	0	B
12	Office Furniture and Equipment	614	301	123	2	189	H
13	Power Generation Equipment	77,668	77,668	0	0	0	A
14	Transportation	39,062	17,051	9,469	0	12,543	G
15	Tools and Laboratory Equipment	2,763	1,206	670	0	887	G
16	General Plant	6,024.50	2,630	1,460	0	1,934	G
17	Hawaii Water GO Allocation	16,080	7,019	3,898	0	5,163	G
18	Big Island Allocation	58,827	25,591	14,211	0	18,825	G
19	Wastewater Administration	89	39	21	0	28	G
	Total Accumulated Depreciation Reserve	5,717,892	971,687	4,706,637	2	39,569	
	Net Plant in Service	11,115,619	2,080,841	8,970,494	3	64,278	

Schedule 1
 Page 4 of 13

Kona Water Service Company, Inc. Wastewater Operations

Test Year Ending December 31, 2019
 Allocation of Pro Forma Rate Base

Account Number (1)	Account Title (2)	Total Cost (3)	Flow Cost (4)	Demand Cost (5)	Customer Related		Allocation Code (8)
					Commercial Cost (6)	Services Cost (7)	
Other Rate Base Items:							
<i>Exhibit KWSC</i>							
<i>Sewer 7.8</i>							
<i>Exhibit KWSC</i>							
<i>Sewer 7.9</i>							
<u>Net Contributions in Aid of Construction</u>							
5	Intangible	0	0	0	0	0	B
6	Land and land rights	0	0	0	0	0	E
7	Structures and Improvements	0	0	0	0	0	E
8	Pumping Equipment	0	0	0	0	0	B
9	Treatment Equipment	0	0	0	0	0	E
10	Transmission & Distribution Plant	(5,222,029)	0	(5,222,029)	0	0	B
11	Source of Supply	0	0	0	0	0	B
12	Office Furniture and Equipment	0	0	0	0	0	H
13	Power Generation Equipment	0	0	0	0	0	A
14	Transportation	0	0	0	0	0	G
15	Tools and Laboratory Equipment	0	0	0	0	0	G
16	Global Settlement	0	0	0	0	0	A
17	Hawaii Water GO Allocation	0	0	0	0	0	G
18	Big Island Allocation	0	0	0	0	0	G
19	Wastewater Administration	0	0	0	0	0	G
	Total Net Contributions in Aid of Construction	(5,222,029)	0	(5,222,029)	0	0	
8	Customer Advances	0	0	0	0	0	I
9	Customer Deposits	0	0	0	0	0	I
<i>Exhibit KWSC</i>							
<i>Sewer 7.10</i>							
	Accumulated Deferred Taxes: Federal	(298,198)	(69,242)	(226,481)	0	(2,475)	I
<i>Exhibit KWSC</i>							
<i>Sewer 7.12</i>							
	Accumulated Deferred Taxes: State	(83,207)	(19,321)	(83,196)	0	(691)	I
<i>Exhibit KWSC</i>							
<i>Sewer 7.14</i>							
	Unamortized Hawaii Capital Goods Excise Tax Credit	(175,821)	(40,826)	(133,536)	0	(1,459)	I
<i>Exhibit KWSC</i>							
<i>Sewer 7.6</i>							
	Net Salvage Adjustment	(109,425)	(25,408)	(83,108)	0	(909)	I
<i>Exhibit KWSC</i>							
<i>Sewer 7</i>							
	True-up Adjustment	(673,347)	(156,351)	(511,407)	0	(5,589)	I
<i>Exhibit KWSC</i>							
<i>Sewer 7.15</i>							
	Working Capital	76,095	17,669	57,794	0	632	I
	Total Other Rate Base Items	(6,485,932)	(293,479)	(6,181,963)	0	(10,491)	
	Total Pro Forma Rate Base	4,829,687	1,787,362	2,788,531	3	53,787	

Schedule 1
 Page 5 of 13

Kona Water Service Company, Inc. Wastewater Operations

Test Year Ending December 31, 2019
 Allocation of Pro Forma Operating & Maintenance Expenses

Account Number (1)	Account Title (2)	Total Cost (3)	Flow Cost (4)	Demand Cost (5)	Customer Related		Allocation Code (8)
					Commercial Cost (6)	Services Cost (7)	
<u>Pumping Expenses</u>							
O&M Exp. Worksheet	Salaries & Wages	62,531	62,531	0	0	0	A
O&M Exp. Worksheet	Purchased Power	0	0	0	0	0	A
O&M Exp. Worksheet	Miscellaneous Expense	14,086	14,086	0	0	0	A
	Total Pumping Expenses	76,617	76,617	0	0	0	
<u>Treatment & Disposal Expenses</u>							
O&M Exp. Worksheet	Salaries & Wages - Operating (Collection 25%)	52,828	0	0	0	52,828	D
O&M Exp. Worksheet	Salaries & Wages - Operating (Treatment 75%)	46,419	18,568	27,851	0	0	E
O&M Exp. Worksheet	Salaries & Wages - Maint. (Collection 25%)	1,070	0	0	0	1,070	D
O&M Exp. Worksheet	Salaries & Wages - Maint. (Treatment 75%)	11,893	4,757	7,136	0	0	E
O&M Exp. Worksheet	Purchased Power	134,488	53,795	80,693	0	0	E
O&M Exp. Worksheet	Chemicals	3,663	3,663	0	0	0	A
O&M Exp. Worksheet	Materials & Supplies (Collection 25%)	7,982	0	0	0	7,982	D
O&M Exp. Worksheet	Materials & Supplies (Treatment 75%)	(427)	(171)	(256)	0	0	E
O&M Exp. Worksheet	Contractual Services - Testing	345	0	0	0	345	D
O&M Exp. Worksheet	Misc. Expense - Operating (Collection 25%)	30,755	0	0	0	30,755	D
O&M Exp. Worksheet	Misc. Expense - Operating (Treatment 75%)	59,220	23,688	35,532	0	0	E
O&M Exp. Worksheet	Misc. Expense - Maint. (Collection 25%)	806	0	0	0	806	D
O&M Exp. Worksheet	Misc. Expense - Maint. (Treatment 75%)	912	365	547	0	0	E
	Total Treatment & Disposal Expenses	349,952	104,065	151,503	0	93,784	
<u>Customer Accounts Expenses</u>							
O&M Exp. Worksheet	Salaries & Wages	235	0	0	235	0	C
O&M Exp. Worksheet	Bad Debt Expense	0	0	0	0	0	C
O&M Exp. Worksheet	Miscellaneous Expenses	9,585	0	0	9,585	0	C
	Total Customer Accounts Expenses	9,820	0	0	9,820	0	
<u>General & Administrative Expenses</u>							
O&M Exp. Worksheet	Salaries & Wages	120,801	59,277	24,160	157	37,207	F
O&M Exp. Worksheet	Employee Pensions & Benefits	179,125	87,897	35,825	233	55,170	F
O&M Exp. Worksheet	Materials & Supplies	2,504	1,093	607	804	0	G
O&M Exp. Worksheet	Contractual Services - Legal	1,157	505	280	372	0	G
O&M Exp. Worksheet	Contractual Services - Other	6,219	2,715	1,507	1,997	0	G
O&M Exp. Worksheet	Building / Property Rental	13,312	6,520	2,657	43	4,092	H
O&M Exp. Worksheet	Insurance - General Liability	5,713	2,494	1,385	1,834	0	G
O&M Exp. Worksheet	Insurance - Worker's Compensation	7,979	3,915	1,596	10	2,458	F
O&M Exp. Worksheet	Insurance - Other	0	0	0	0	0	J
O&M Exp. Worksheet	Regulatory Commission Expense	52,500	25,631	10,600	651	15,418	J
O&M Exp. Worksheet	Miscellaneous Expense	31,753	15,502	6,411	514	9,326	J
	Total General & Administrative Expenses	421,063	205,549	85,028	6,815	123,671	
	Total Operation & Maintenance Expense	857,452	386,831	236,531	16,635	217,455	

Schedule 1
 Page 6 of 13

Kona Water Service Company, Inc. Wastewater Operations

Pro Forma Test Year Ending December 31, 2019
 Allocation of Depreciation Expense

Account Number (1)	Account Title (2)	Total Cost (3)	Flow Cost (4)	Demand Cost (5)	Customer Related		Allocation Code (8)
					Commercial Cost (6)	Services Cost (7)	
103,030	Intangible Plant	4,667	1,867	2,800	0	0	E
103,540	Structures & Improvement	285,946	114,378	171,568	0	0	E
103,701	Pumping Equipment	161,181	0	161,181	0	0	B
103,801	Treatment & Disposal Equipment	27,218	10,887	16,331	0	0	E
103,800	Collection Sewers Force	(1,049)	(458)	(254)	0	(337)	G
103,810	Collection Sewers Gravity	(47,888)	(20,816)	(11,560)	0	(15,313)	G
103,820	Special Collecting Structure	(166)	(72)	(40)	0	(53)	G
103,840	Flow Measuring Devices	0	0	0	0	0	G
103,820	Outfall Sewer Lines	0	0	0	0	0	G
103,850	Reuse Transmission & Distribution System	0	0	0	0	0	G
103,890	Other Equipment	(379)	(165)	(92)	0	(122)	G
103,550	Power Generation Equipment	10,461	10,461	0	0	0	A
103,700	Receiving Wells	99,216	0	99,216	0	0	B
103,955	Office Furn & Equip	316	155	63	1	97	H
103,965	Transportation Equipment	(2,112)	(922)	(512)	0	(678)	G
103,930	Tools, Shop, Garage Equipment	517	517	0	0	0	A
103,950	Power Operated Equipment	0	0	0	0	0	A
103,960	Communication Equipment	0	0	0	0	0	G
103,975	Stores Equipment	623	272	151	0	200	G
103,980	General Plant	916	400	222	0	294	G
17	Hawaii Water GO Allocation	982	429	238	0	315	G
18	Big Island Allocation	13,122	5,728	3,181	0	4,213	G
19	Wastewater Administration	22	10	5	0	7	G
	Total Depreciation Expense	553,793	122,671	442,498	1	(11,377)	

Schedule 1
 Page 7 of 13

Kona Water Service Company, Inc. Wastewater Operations

Pro Forma Test Year Ending December 31, 2019
 Allocation of Total Revenue Requirement

Account Number (1)	Account Title (2)	Total Cost (3)	Flow Cost (4)	Demand Cost (5)	Customer Related Commercial Cost (6)	Services Cost (7)	Allocation Code (8)
<u>Total Revenue Requirement</u>							
	Operation and Maintenance Expense	857,452	386,831	236,531	16,635	217,455	
	Depreciation Expense	553,793	122,671	442,498	1	(11,377)	
<i>Exhibit KWSC Sewer 8.11</i>							
2	PubCo Allocation	55,684	20,180	27,174	618	7,712	L
<i>Exhibit KWSC Sewer 8.20</i>							
	<u>Taxes Other Than Income Taxes</u>						
5	Public Company Service Tax	119,300	43,234	58,218	1,324	16,524	L
7	Public Utility Fee	10,136	3,673	4,946	113	1,404	L
	Total Taxes Other Than Income Taxes	129,436	46,907	63,164	1,437	17,928	
	Total Operating Expenses Before Income Taxes	1,596,365	576,589	769,367	18,691	231,718	
<i>Exhibit KWSC Sewer 8.21</i>							
	<u>Income Taxes</u>						
11,12,13,14	State	7,165	2,766	4,315	0	84	K
17	Federal	77,356	29,867	46,592	0	897	K
22	Total Income Taxes	84,521	32,633	50,907	0	981	
<i>Exhibit KWSC Sewer 6</i>							
28	Operating Income	346,301	125,499	168,995	3,844	47,963	L
	Total Revenue Requirement	2,027,187	734,721	989,269	22,535	280,662	
	Total Revenue Requirement %	100.00 %	36.24 %	48.80 %	1.11 %	13.84 %	

Schedule 1
 Page 8 of 13

Kona Water Service Company, Inc. Wastewater Operations

Development of Functional Cost Allocation Factors

Factor A - Allocation of Costs Which Vary with Total Flow

Costs which vary with the volume of sewage collected and treated are allocated 100% to the flow cost function.

Factor B - Allocation of Costs Related to Demand

Costs which are related to the users' capacity requirements for maximum flow conditions are allocated 100% to the demand cost function.

Factor C - Allocation of Costs Related to Customer - Commercial

Costs that are allocated 100% to the customer - commercial cost function.

Factor D - Allocation of Costs Related to Customer - Service

Costs that are allocated 100% to the customer - service cost function.

Factor E - Allocation of Costs Related to Average Day Flow to Maximum Day Flow

Cost that are allocated to the flow cost function and to the demand cost function on the basis of the average day flow to maximum day flow as follows:

Cost Function (1)	Ratio (2)	Allocation % (3)
Base	1.00	40.00
Extra Capacity	<u>1.50</u>	<u>60.00</u>
Maximum Day	2.50	100.00

Factor F - Allocation of General & Administrative Salaries and Wages, Employee Benefits, and Worker's Compensation Insurance

General & administrative salaries and wages, employee benefits, and worker's compensation insurance are allocated to the cost function in accordance with the composite allocation of all other salaries & wages as follows:

Cost Function (1)	Allocated Collecting System Maintenance Expenses (2)	Allocation % (3)
Base	\$ 85,856	49.07
Extra Capacity	34,987	20.00
Customer - Commercial	235	0.13
Customer - Services	<u>53,896</u>	<u>30.80</u>
	\$ 174,974	100.00

Schedule 1
 Page 9 of 13

Kona Water Service Company, Inc. Wastewater Operations

Development of Functional Cost Allocation Factors

Factor G - Allocation of Administrative and General Expenses

Certain administrative and general expenses are allocated to the cost functions in accordance with the composite allocation of operation and maintenance expenses with the exception of power and fuel as follows:

Cost Function (1)	Allocated Operation and Maintenance Expenses (2)	Allocation % (3)
Base	\$ 127,487	43.65
Extra Capacity	70,810	24.24
Customer - Commercial	0	0.00
Customer - Services	<u>93,784</u>	<u>32.11</u>
	\$ 292,081	100.00

Factor H - Allocation of Office Rent and Office Furniture and Equipment

Office rent and the capital costs related to office furniture and equipment are allocated to the cost functions in accordance with the composite allocation of customer and general and administrative salaries and labor costs as follows:

Cost Function (1)	Allocated Customer/ and G&A Labor (2)	Allocation % (3)
Base	\$ 59,277	48.98
Extra Capacity	24,160	19.96
Customer - Commercial	392	0.32
Customer - Services	<u>37,207</u>	<u>30.74</u>
	\$ 121,036	100.00

Factor I - Allocation of Other Rate Base Costs

Other rate base costs are allocated to the cost functions in accordance with the composite allocation of the total rate base costs as follows:

Cost Function (1)	Allocated Rate Base (2)	Allocation % (3)
Base	\$ 4,024,215	23.22
Extra Capacity	13,161,739	75.95
Customer - Commercial	7	0.00
Customer - Services	<u>143,416</u>	<u>0.83</u>
	\$ 17,329,377	100.00

Schedule 1
 Page 10 of 13

Kona Water Service Company, Inc. Wastewater Operations

Development of Functional Cost Allocation Factors

Factor J - Allocation of Other Insurance and G&A Miscellaneous Costs

Other insurance and G&A miscellaneous costs are allocated to the cost functions in accordance with the composite allocation of all other G&A costs as follows:

Cost Function <u>(1)</u>	Depreciated Original Cost <u>(2)</u>	Allocation % <u>(3)</u>
Base	\$ 164,416	48.82
Extra Capacity	68,017	20.19
Customer - Commercial	5,450	1.62
Customer - Services	<u>98,927</u>	<u>29.37</u>
	\$ 336,810	100.00

Factor K - Allocation of Operating Income and Income Taxes

Operating income and income taxes are allocated to the cost functions in accordance with the composite allocation of all rate base items as follows:

Cost Function <u>(1)</u>	Rate Base <u>(2)</u>	Allocation % <u>(3)</u>
Base	\$ 1,787,362	38.61
Extra Capacity	2,788,531	60.23
Customer - Commercial	3	0.00
Customer - Services	<u>53,787</u>	<u>1.16</u>
	\$ 4,629,683	100.00

Factor L - Allocation of Revenue Related Taxes, Expenses & Net Income

Regulatory commission expenses, amortization expense, other income taxes, and net income are allocated to the cost functions in accordance with the composite allocation of all other cost of service elements as follows:

Cost Function <u>(1)</u>	Cost of Service <u>(2)</u>	Allocation % <u>(3)</u>
Base	\$ 542,135	36.24
Extra Capacity	729,936	48.80
Customer - Commercial	16,636	1.11
Customer - Services	<u>207,059</u>	<u>13.85</u>
	\$ 1,495,766	100.00

Schedule 1
 Page 11 of 13

Kona Water Service Company, Inc. Wastewater Operations

Elements for Development Factor F

Account Number (1)	Account Title (2)	Total Costs (3)	Flow Costs (4)	Demand Costs (5)	Customer Related	
					Commercial Costs (6)	Services Costs (7)
Exp. Worker Salaries & Wages		62,531	62,531	0	0	0
Exp. Worker Salaries & Wages - Operating (Collection 25%)		52,826	0	0	0	52,826
Exp. Worker Salaries & Wages - Operating (Treatment 75%)		46,419	18,568	27,851	0	0
Exp. Worker Salaries & Wages - Maint. (Collection 25%)		1,070	0	0	0	1,070
Exp. Worker Salaries & Wages - Maint. (Treatment 75%)		11,893	4,757	7,136	0	0
Exp. Worker Salaries & Wages		235	0	0	235	0
Total Above Expenses		174,974	85,856	34,987	235	53,896
		100.00 %	49.07 %	20.00 %	0.13 %	30.80 %

Elements for Development Factor G

Account Number (1)	Account Title (2)	Total Costs (3)	Flow Costs (4)	Demand Costs (5)	Customer Related	
					Commercial Costs (6)	Services Costs (7)
<u>Pumping Expenses</u>						
Exp. Worker Salaries & Wages		62,531	62,531	0	0	0
Exp. Worker Miscellaneous Expense		14,086	14,086	0	0	0
<u>Treatment & Disposal Expenses</u>						
Exp. Worker Salaries & Wages - Operating (Collection 25%)		52,826	0	0	0	52,826
Exp. Worker Salaries & Wages - Operating (Treatment 75%)		46,419	18,568	27,851	0	0
Exp. Worker Salaries & Wages - Maint. (Collection 25%)		1,070	0	0	0	1,070
Exp. Worker Salaries & Wages - Maint. (Treatment 75%)		11,893	4,757	7,136	0	0
Exp. Worker Chemicals		3,663	3,663	0	0	0
Exp. Worker Materials & Supplies (Collection 25%)		7,982	0	0	0	7,982
Exp. Worker Materials & Supplies (Treatment 75%)		(427)	(171)	(256)	0	0
Exp. Worker Contractual Services - Testing		345	0	0	0	345
Exp. Worker Misc. Expense - Operating (Collection 25%)		30,755	0	0	0	30,755
Exp. Worker Misc. Expense - Operating (Treatment 75%)		59,220	23,688	35,532	0	0
Exp. Worker Misc. Expense - Maint. (Collection 25%)		806	0	0	0	806
Exp. Worker Misc. Expense - Maint. (Treatment 75%)		912	365	547	0	0
Total Above Expenses		292,081	127,487	70,810	0	93,784
		100.00 %	43.65 %	24.24 %	0.00 %	32.11 %

Elements for Development Factor H

Account Number (1)	Account Title (2)	Total Costs (3)	Flow Costs (4)	Demand Costs (5)	Customer Related	
					Commercial Costs (6)	Services Costs (7)
<u>Customer Accounts Expenses</u>						
Exp. Worker Salaries & Wages		235	0	0	235	0
<u>General & Administrative Expenses</u>						
Exp. Worker Salaries & Wages		120,801	59,277	24,160	157	37,207
Total Above Expenses		121,036	59,277	24,160	392	37,207
		100.00 %	48.97 %	19.96 %	0.32 %	30.75 %

Schedule 1
 Page 12 of 13

Kona Water Service Company, Inc. Wastewater Operations

Elements for Development Factor I

Account Number (1)	Account Title (2)	Total Costs (3)	Flow Costs (4)	Demand Costs (5)	Customer Related	
					Commercial Costs (6)	Services Costs (7)
	Total Utility Plant In Service	16,833,511	3,052,528	13,677,131	5	103,847
	Total Accumulated Depreciation Reserve	5,717,892	971,687	4,706,637	2	39,569
	Total Net Contributions in Aid of Construction	(5,222,029)	0	(5,222,029)	0	0
	Net Salvage Adjustment	0	0	0	0	0
	Total Above Expenses	17,329,373	4,024,215	13,161,739	7	143,416
		100.00 %	23.22 %	75.95 %	0.00 %	0.83 %

Elements for Development Factor J

Account Number (1)	Account Title (2)	Total Costs (3)	Flow Costs (4)	Demand Costs (5)	Customer Related	
					Commercial Costs (6)	Services Costs (7)
	Exp. WorkshetSalaries & Wages	120,801	59,277	24,160	157	37,207
	Exp. WorkshetEmployee Pensions & Benefits	179,125	87,897	35,825	233	55,170
	Exp. WorkshetMaterials & Supplies	2,504	1,093	607	804	0
	Exp. WorkshetContractual Services - Legal	1,157	505	280	372	0
	Exp. WorkshetContractual Services - Other	6,219	2,715	1,507	1,997	0
	Exp. WorkshetBuilding / Property Rental	13,312	6,520	2,657	43	4,092
	Exp. WorkshetInsurance - General Liability	5,713	2,494	1,385	1,834	0
	Exp. WorkshetInsurance - Worker's Compensation	7,979	3,915	1,596	10	2,458
	Total Above Items	336,810	164,416	68,017	5,450	98,927
		100.00 %	48.82 %	20.19 %	1.62 %	29.37 %

Elements for Development Factor K

Account Number (1)	Account Title (2)	Total Costs (3)	Flow Costs (4)	Demand Costs (5)	Customer Related	
					Commercial Costs (6)	Services Costs (7)
	Total Rate Base	4,629,687	1,787,362	2,788,531	3	53,787
		100.00 %	38.61 %	60.23 %	0.00 %	1.16 %

Elements for Development Factor L

Account Number (1)	Account Title (2)	Total Costs (3)	Flow Costs (4)	Demand Costs (5)	Customer Related	
					Commercial Costs (6)	Services Costs (7)
	Total Operation & Maintenance Expense	857,452	386,831	236,531	16,635	217,455
	Depreciation Expense	553,793	122,671	442,498	1	(11,377)
	Income Taxes					
	State	7,165	2,766	4,315	0	84
	Federal	77,356	29,867	46,592	0	897
	Total Above Items	1,495,766	542,135	729,936	16,636	207,059
		100.00 %	36.25 %	48.80 %	1.11 %	13.84 %

Schedule 1
 Page 13 of 13

Kona Water Service Company, Inc. Wastewater Operations

Depreciation Expense
 Test Year Ending December 31, 2019

Account Title (2)	2019 Depr Exp (3)	Inc. Tax Credit (4)	Net Depr Exp (5)
<i>Exhibit HWSC Sewer</i>			
7.6			
<i>Exhibit HWSC Sewer</i>			
7.9			
<u>Non Dep Plant</u>			
103030 x Intangible Plant	4,667	0	4,667
Total Non Depreciable Plant	4,667	0	4,667
<u>Structure & Improv.</u>			
103540 x Structures & Improvement	285,946	0	285,946
Total Structures and Improvements	285,946	0	285,946
<u>Pumping Equip</u>			
103701 x Pumping Equipment	161,181	0	161,181
Total Pumping Equipment	161,181	0	161,181
<u>Treatment Equipment</u>			
103801 x Treatment & Disposal Equipment	27,218	0	27,218
Total Treatment	27,218	0	27,218
<u>T&D Plant</u>			
103600 x Collection Sewers Force	(1,049)	0	(1,049)
103610 x Collection Sewers Gravity	(47,688)	0	(47,688)
103620 x Special Collecting Structure	(166)	0	(166)
103640 x Flow Measuring Devices	0	0	0
103820 x Outfall Sewer Lines	0	0	0
103850 x Reuse Transmission & Distribution System	0	0	0
103890 x Other Equipment	(379)	0	(379)
Total Transmission & Distribution Plant	(49,282)	0	(49,282)
<u>Power Gen. Equip</u>			
103550 x Power Generation Equipment	10,461	0	10,461
Total Power Generation Equipment	10,461	0	10,461
<u>Source of Supply</u>			
103700 x Receiving Wells	99,216	0	99,216
Total Source of Supply	99,216	0	99,216
<u>Office Furniture & Equip</u>			
103955 x Office Furn & Equip	316	0	316
Total Office Furn & Equip	316	0	316
<u>Transportation</u>			
103965 x Transportation Equipment	(2,112)	0	(2,112)
Total Transportation Equipment	(2,112)	0	(2,112)
<u>Tools and Lab Equip.</u>			
103930 x Tools, Shop, Garage Equipment	517	0	517
103950 x Power Operated Equipment	0	0	0
103960 x Communication Equipment	0	0	0
103975 x Stores Equipment	623	0	623
Total Tools and Laboratory Equipment	1,140	0	1,140
<u>General Plant</u>			
103980 x General Plant	916	0	916
Total General Plant	916	0	916
<i>Exhibit HWSC Sewer</i>			
7.5			
<u>Other</u>			
17 x Hawaii Water GO Allocation	982	0	982
18 x Big Island Allocation	13,122	0	13,122
19 x Wastewater Administration	22	0	22
	14,126	0	14,126
Total	553,793	0	553,477

Schedule 2
 Page 1 of 6

Kona Water Service Company, Inc. Wastewater Operations

Allocation Codes For Customer Groups

Alloc. Code	Description	Residential	Non-Residential	Check Total
60	Flow Cost	66.98 %	33.02 %	100.00 %
61	Demand Cost	89.03 %	10.97 %	100.00 %
62	Customer Costs - Commercial	92.79 %	7.21 %	100.00 %
63	Customer Costs - Services	84.83 %	15.17 %	100.00 %

Kona Water Service Company, Inc. Wastewater Operations

Allocation To Customer Groups

	Total Cost \$	Residential \$	Non-Residential \$	AC
<u>Operation & Maintenance Expense:</u>				
Flow Cost	386,831	259,099	127,732	60
Demand Cost	236,531	210,584	25,947	61
Customer Cost - Commercial	16,635	15,436	1,199	62
Customer Cost - Services	217,455	184,467	32,988	63
Total Operation & Maintenance Expense	857,452	669,586	187,866	
	100.00%	78.09%	21.91%	
<u>Depreciation Expense:</u>				
Flow Cost	122,671	82,165	40,506	60
Demand Cost	442,498	393,956	48,542	61
Customer Cost - Commercial	1	1	0	62
Customer Cost - Services	(11,377)	(9,651)	(1,726)	63
Total Depreciation Expense	553,793	466,471	87,322	
	100.00%	84.23%	15.77%	
<u>Amortization Expense:</u>				
Flow Cost	20,180	13,517	6,663	60
Demand Cost	27,174	24,193	2,981	61
Customer Cost - Commercial	618	573	45	62
Customer Cost - Services	7,712	6,542	1,170	63
Total Amortization Expense	55,684	44,825	10,859	
	100.00%	80.50%	19.50%	
<u>Taxes Other Than Income Taxes:</u>				
Flow Cost	46,907	31,418	15,489	60
Demand Cost	63,164	56,235	6,929	61
Customer Cost - Commercial	1,437	1,333	104	62
Customer Cost - Services	17,928	15,208	2,720	63
Total Taxes Other Than Income Taxes	129,436	104,194	25,242	
	100.00%	80.50%	19.50%	
<u>Miscellaneous Non-Utility Expenses:</u>				
Flow Cost	0	0	0	60
Demand Cost	0	0	0	61
Customer Cost - Commercial	0	0	0	62
Customer Cost - Services	0	0	0	63
Total Miscellaneous Non-Utility Expenses	0	0	0	

Schedule 2
 Page 2 of 6

Kona Water Service Company, Inc. Wastewater Operations

Allocation To Customer Groups

	Total Cost \$	Residential \$	Non-Residential \$	AC
<u>Income Taxes:</u>				
Flow Cost	32,633	21,858	10,775	60
Demand Cost	50,907	45,323	5,584	61
Customer Cost - Commercial	0	0	0	62
Customer Cost - Services	981	832	149	63
 Total Income Taxes	 84,521	 68,013	 16,508	
	100.00%	80.47%	19.53%	
<u>Net Income:</u>				
Flow Cost	125,499	84,059	41,440	60
Demand Cost	168,995	150,456	18,539	61
Customer Cost - Commercial	3,844	3,567	277	62
Customer Cost - Services	47,963	40,687	7,276	63
 Total Net Income	 346,301	 278,769	 67,532	
	100.00%	80.50%	19.50%	
 Total Cost of Service	 2,027,187	 1,631,858	 395,329	
	100.00%	80.50%	19.50%	
 Total Flow Cost	 734,721	 492,116	 242,605	
	100.00%	66.98%	33.02%	
 Total Demand Cost	 989,269	 880,747	 108,522	
	100.00%	89.03%	10.97%	
 Total Customer Cost - Commercial	 22,535	 20,910	 1,625	
	100.00%	92.79%	7.21%	
 Total Customer Cost - Services	 280,662	 238,085	 42,577	
	100.00%	84.83%	15.17%	

Schedule 2
Page 3 of 6

Kona Water Service Company, Inc. Wastewater Operations

Development of Customer Group Factors

Factor 60 - Allocation of Base Costs

Costs are allocated to Base Cost to the Customer Groups in accordance with the percentage of wastewater flows by each individual customer group.

Factor 61 - Allocation of Maximum Day Costs

Costs are allocated to Maximum Day Cost to the Customer Groups in accordance with the ratio of the excess maximum day demand of each individual customer group to the total non-coincident excess daily demand for all customer groups.

Factor 62 - Allocation of Costs Related to Customer - Commercial

Costs are allocated to Customer Cost - Commercial to the Customer Groups in accordance with the percentage of bills issued to each individual customer group.

Factor 63 - Allocation of Costs Related to Customer - Services

Costs are allocated to Customer Cost - Services to the Customer Groups in accordance with the percentage of equivalent services of each individual customer group.

Schedule 2
 Page 4 of 6

Kona Water Service Company, Inc. Wastewater Operations

Development of Allocation Factors to Customer Groups

Customer Group	Annual Flows			% of Average	Maximum Day		
	1000 Gal.	Per Day	%		Amount	Excess	%
Residential	13,633.0	37.351	66.98	500	186.755	149.404	89.03
Non-Residential	6,722.0	18.416	33.02	200	36.832	18.416	10.97
Grand Total	20,355.0	55.767	100.00		223.587	167.820	100.00
Allocation Code			60				61

Schedule 2
 Page 5 of 6

Kona Water Service Company, Inc. Wastewater Operations

Development of the Equivalent Meters and Services Factors
 and the Factor Based on the Number of Bills

Customer Group	Number of Bills	%	Equiv. Services	%	Equiv. Meters	%
Residential - Monthly	206	92.79	369	84.83	92.79279	68.22
Non-Residential - Mor	16	7.21	66	15.17	7.207207	31.78
Grand Total	222	100	435	100	708	100
Allocation Code		62		63		63

Schedule 2
 Page 6 of 6

Kona Water Service Company, Inc. Wastewater Operations

Development of Equivalent Services

Customer Group	Customer Name	Meter Size	Number of Meters	Service Size	Eq. Svc. Ratio	Equiv. Services	Percent	Eq. Meter Ratio	Equiv. Meters	Percent
Residential		5/8"	69		1.0	69		1.0	69	
		1"	124		2.0	248		2.5	310	
		2"	13		4.0	52		8.0	104	
			206			369	84.83 %		483	68.22 %
Non-Residential		5/8"	1		7.0	7		1.0	1	
		1"	4		2.0	8		2.5	10	
		1 1/2"	4		2.7	11		5.0	20	
		2"	3		4.0	12		8.0	24	
		3"	1		4.0	4		15.0	15	
		4"	1		5.3	5		25.0	25	
		6"	1		8.0	8		50.0	50	
		8"	1		10.7	11		80.0	80	
		16			66	15.17 %		225	31.78 %	
Grand Total		222			435	100.00 %		708	100.00 %	
		===			===	=====		===	=====	

Schedule 3
 Page 1 of 1

Kona Water Service Company, Inc. Wastewater Operations

Revenue Comparison Between Customer Groups
 Revenues at Present Rates vs. Indicated Cost of Service

Customer Group	---- Present Rates ----		----- Indicated Cost of Service -----				----- Proposed Rates -----	
	Total	Percent	Total	Deduct: Effluent Rev.	Adj. Total	Percent	Total	Percent
Residential	\$1,567,995	86.18%	\$1,631,858	\$0	\$1,631,858	80.50%	\$1,721,357	84.91%
Non-Residential	251,535	13.82%	395,329	0	395,329	19.50%	305,830	15.09%
Totals	\$1,819,530	100.00%	\$2,027,187	\$0	\$2,027,187	100.00%	\$2,027,187	100.00%

KONA WATER SERVICE COMPANY, INC.
A subsidiary of Hawaii Water Service Company, Inc.
Kukio, Hawaii

Tariff No. 1
Original Sheet No. 57

EXHIBIT "B"

KONA WATER SERVICE COMPANY, INC.

Application for Water/Sewage Treatment Service

The undersigned hereby applies to Kona Water Service Company, Inc., for water and sewage treatment utility service at the following location; and, in consideration for the provision of such service, agrees to pay all charges incurred at such location for such utility service and to abide by all rules, regulations and provisions prescribed by Kona Water Service Company, Inc., as authorized by the Public Utilities Commission of the State of Hawaii relating to utility service, and/or rates. The undersigned unconditionally guarantees payment of all charges for utility service during his/her tenure as owner of the location described herein, including, but not limited to, charges incurred by present and future tenants of the owner or other parties having access to said location. The installation charge should be included on the first invoice. Please return this form to the Kona Water Service Company, Inc. representative for processing.

METER INSTALLATION REQUEST

Date of application: _____

Applicant's name: _____

Owner's name: _____

By Authorized Agent: _____

Lot Number: _____

Billing Address: _____

Signature [Owner]: _____

Installation Date Requested: _____

No. of Toilets: _____

Comments: _____

Potable
Domestic

Sewage

For Office Use Only

Installation Charge: _____

Meter Serial:
Number: _____

Meter Number: _____

Meter Size: _____

Reading When Installed: _____

Install Date: _____

Installed By: _____

Date Service
Started: _____

Comments: _____

Issued: January 7, 2009

Effective: December 1, 2008

By: Thomas Smegal, III, Vice President - Regulatory

Exhibit KWSC-T-200
Direct Testimony of Anthony Carrasco



Kona Water Service Company General Rate Case
Docket No. 2018-0388
February 2019

Table of Contents

Introduction..... 1
Labor..... 3
Fuel and Power 4
Chemicals..... 5
Materials and Supplies..... 6
Waste Disposal..... 6
Affiliated Charges..... 7
Outside Services..... 10
Repairs and Maintenance..... 10
Rents 11
Insurance..... 12
Regulatory..... 12
General and Administrative..... 13
Customer Accounts..... 13

1 **KONA WATER SERVICE COMPANY GENERAL RATE CASE**

2 **DIRECT TESTIMONY OF ANTHONY CARRASCO**

3
4 **Introduction**

5 **Q. Please state your name, position, and business address.**

6 A. My name is Anthony Carrasco. My business mailing address is 69-180 Waikoloa Beach
7 Drive Unit N3, Waikoloa, Hawaii, 96738. I am the General Manager of Hawaii Water Service
8 Company, Inc. (“Hawaii Water”).

9
10 **Q. Please summarize your educational background and professional experience.**

11 A. I have attended numerous courses in water treatment, water distribution and utility
12 management at the University of California, Sacramento and through the Hawaii Water Rural
13 Association. My Operators Certifications include: Hawaii Department of Health Water
14 Distribution Operator IV and Treatment Operator IV certifications. I also have California State
15 Water Resource Control Board Distribution Operator V and Treatment Operator IV
16 certifications.

17 I am a veteran who served in the United States Navy Seabees from January 1983 to 1986,
18 receiving an Honorable Discharge with an R-1 reenlistment rating. From 1986 to 1989, I worked
19 as a Construction Foreman for an underground utility construction company. I worked for
20 California Water Service Company (“Cal Water”) as an Operator from 1989 to 2000, a
21 Superintendent from 2000 to 2004, a District Manager from 2004 to 2016, and Director of Field
22 Operations in 2016. I have been in my current position as General Manager since 2016.

23
24 **Q. What is the purpose of your testimony in this proceeding?**

25 A. The purpose of my testimony in this proceeding is to explain the details of the 2019 test
26 year expense estimates and inflation methodology for Kona Water Service Company (“KWSC”).

27
28 **Q. Please describe the general methodology in determining test year expense estimates.**

29 A. An average of the most recent three-year actual recorded expenses (2016-2018) was used
30 as the basis for most administrative, operational, and maintenance expenses in the test year.

1 Since recorded expense data for 2018 was only available through June at the time the application
2 was prepared, all 2018 expenses have been annualized. The annualized 2018 expenses will be
3 updated with actuals when recorded 2018 expenses become available.

4 A three-year average from 2016 to 2018 is a reasonable starting point to forecast test year
5 expenses and reflects normal operations of the district. Payroll, employee benefits, rents,
6 insurance, and regulatory expenses have been estimated using different methodologies, as
7 described in more detail in my testimony.

8 In addition, certain expenses include both direct charges and allocated expenses. Hawaii
9 Water has nine business units, some of which are directly owned by Hawaii Water and some of
10 which are owned by subsidiaries of Hawaii Water. Each business unit is treated separately for
11 rate making purposes. For the most part, each business unit functions independently from one
12 another. However, there are several functions which are shared among the local business units to
13 maximize economies of scale. These functions include project management and engineering
14 work, operations and business management, and customer service management. Prior to 2013,
15 expenses for Hawaii Water were allocated to each business unit using the four-factor allocation
16 method and recorded as an expense in each business unit under the corresponding expense
17 category. Beginning in 2013, certain expenses that were allocated to specific administrative,
18 operational, and maintenance accounts from Hawaii Water General Office (“Hawaii Water
19 GO”), Big Island operations, and Wastewater Administration were allocated as a single line item.
20 For trending and analysis purposes, expenses that were allocated to KWSC from Hawaii Water
21 GO, Big Island, and Wastewater Administration from 2016 to 2018 are shown as separate line
22 items and then added to expenses directly charged to KWSC. An average of the sum of direct
23 and allocated charges was used to determine test year expenses.

24 Recorded expenses were adjusted with a Consumer Price Index (“CPI”) factor to account
25 for changes in prices of goods and services from the averaging period up to the test year. This
26 was done using a two-step process. First, the annual recorded expenses were adjusted to 2019
27 dollars using Honolulu CPI and then a three-year average of the adjusted figures was calculated.
28 Published U.S. Department of Labor Bureau of Labor and Statistics data was used to adjust
29 recorded expenses.¹ Since federal CPI data is not available for neighbor islands, the best

¹ http://data.bls.gov/pdq/SurveyOutputServlet?series_id=CUURA426SA0,CUUSA426SA0

1 available data, which was for Honolulu, was used.² This is an appropriate index for Hawaii
2 Island and Maui operations. Details of inflation factors are shown on Exhibits KWSC Water 8.4
3 and KWSC Sewer 8.3.³

4 The methodology of adjusting certain recorded expenses by CPI is reasonable for rate
5 making because it better represents forecasted costs during the test year. The inclusion of a CPI
6 inflation factor acknowledges the fact that the purchasing power of a dollar diminishes over time.
7 If a CPI factor was not used to adjust recorded expenses, obsolete costs would be used to
8 determine test year expenses, and a reasonable opportunity to recover forecasted expenses during
9 the test year would not exist.

10 Estimated operating and maintenance expenses for the test year are described and
11 discussed below.

12

13 **Labor**

14 Hawaii Water's labor costs are shared among the various companies and systems
15 operated by Hawaii Water in Hawaii, and each system's share of the labor cost is based on a
16 four-factor allocation methodology. The four-factor allocation methodology is discussed in more
17 detail in the Direct Testimony of Robert Stout (Exhibit KWSC-T-100). Labor expense is based
18 on the cost of total labor, including wages, benefits and payroll taxes. The complete breakdown
19 of Hawaii Water's payroll expense as allocated by the proposed four-factor percentages is shown
20 on Confidential Exhibit KWSC-T-201. As this exhibit contains employee names and payroll,
21 this exhibit is submitted pursuant to Protective Order No. 36174. Payroll for 2019 was
22 calculated by escalating the estimated 2018 payroll by 3.0%, which is the expected increase in
23 payroll. In order to reflect actual operating costs, the estimated 2018 payroll figures will be
24 updated with actual 2018 payroll figures once they become available.

25 Consistent with Hawaii Water's and its subsidiaries' recent rate cases, KWSC accepts the
26 Consumer Advocate's position that pension costs should be included in test year expenses, but

² <http://dbedt.hawaii.gov/economic/library/faq/faq03/>

³ The exhibits contain identical information.

1 401k employer matching expenses should be excluded.⁴ Although KWSC believes that it is
 2 appropriate for 401k employer matching expenses to be recovered in rates as a part of total
 3 compensation costs for its employees, consistent with Hawaii Water's acceptance of the
 4 Consumer Advocate's position in the recent rate cases for Hawaii Water and its subsidiaries,
 5 KWSC is including pension costs and excluding 401k employer matching expenses in this rate
 6 case. The total labor estimate for KWSC is summarized in the table below:

Division	Payroll	Benefits	Taxes	Total	Exhibit Reference
KWSC Water	\$392,877	\$248,736	\$33,533	\$675,146	KWSC Water 8.6
KWSC Sewer	\$281,958	\$180,017	\$23,835	\$485,810	KWSC Sewer 8.5

7 **Table 201. Labor Expense.**

8

9 Details of labor expense for each division can be found in the corresponding Exhibits listed in
 10 the table above.

11 Benefits expense is based on a study conducted by the Milliman Group regarding
 12 estimates for Pension and Retiree Healthcare, and is exclusive of 401k employer matching
 13 expenses. Active employee healthcare is based on actual healthcare premiums for Hawaii
 14 Water's employees. The portion allocated to KWSC is estimated using a four-factor allocation
 15 method. The test year calculation is based on the 2018 figures for pension and benefits because
 16 2019 figures were not available at the time it prepared its application. The calculation will be
 17 updated with 2019 figures once they are available.

18

19 **Fuel and Power**

20 Purchased power expense varies with the amount of water pumped from wells or the
 21 amount of wastewater pumped from lift stations and treated at the wastewater treatment plant
 22 ("WWTP"). This expense was estimated by calculating a unit cost [\$ / kWh] of power for the
 23 test year and multiplying it by the expected kWh usage in the test year. A unit cost for purchased
 24 power was calculated by taking the ratio of recorded power cost and recorded power use for each
 25 year. The unit cost for the test year was estimated by taking a three-year average from 2016 to

⁴ See, e.g., In re Kona Water Service Company, Inc., Docket No. 2013-0375, In re West Hawaii Water Service Company, Inc., Docket No. 2017-0450, In re West Hawaii Sewer Service Company, Inc., Docket No. 2017-0449.

1 2018 of the calculated unit cost. Projected power use for the test year was estimated by taking a
 2 three-year average from 2016 to 2018 of recorded power use. Purchased power expense for
 3 KWSC’s water operations was adjusted by amounts billed back to Makalei. Fuel for power
 4 production expense was estimated by taking a three-year average of recorded fuel for production.
 5 This expense reflects the cost of fuel used for the emergency generators. The generators need to
 6 be run periodically to ensure they run properly in case of emergency. The following table
 7 summarizes the projected energy consumption, energy expense, unit cost of power, and fuel for
 8 power production expense for the test year for KWSC:

Division	Energy Consumption [kWh]	Energy Expense [\$]	Unit Cost [\$ / kWh]	Fuel for Power Production	Total Fuel and Power	Exhibit Reference
KWSC Water	5,054,175	\$1,402,348	\$0.2775	\$497	\$1,402,846	KWSC Water 8.7
KWSC Sewer	428,724	\$133,269	\$0.3108	\$1,220	\$134,489	KWSC Sewer 8.6

9 **Table 202. Fuel and Power Expense.**

10
 11 Details of fuel and power expense for each division can be found in the corresponding Exhibits
 12 listed in the table above.

13
 14 **Chemicals**

15 Chemicals are purchased for water operations to treat and disinfect water in the water
 16 distribution system. Chemicals are purchased for wastewater operations to treat wastewater
 17 pumped to the WWTP. Chemical purchased include hypochlorite, sodium carbonate, and
 18 flocculants for both water and wastewater operations, and other materials relating to the WWTP.

19 The test year chemical expense was estimated by taking a three-year average from 2016 –
 20 2018 of CPI-adjusted recorded expenses. The following table summarizes chemical expense for
 21 KWSC:

1

Division	Chemicals	Exhibit Reference
KWSC Water	\$114,012	KWSC Water 8.9
KWSC Sewer	\$3,694	KWSC Sewer 8.8

2

Table 203. Chemical Expense.

3

4 Details of chemicals expense for each division can be found in the corresponding Exhibits listed
5 in the table above.

6

7 **Materials and Supplies**

8 Materials and supplies expense is grouped using the following categories: treatment and
9 disposal, water treatment and water quality, transmission and distribution, collection, and
10 pumping. The test year materials and supplies expense for KWSC is calculated by taking a
11 three-year average from 2016 – 2018 of CPI-adjusted recorded expenses. The following table
12 summarizes materials and supplies expense for KWSC:

Division	Materials and Supplies	Exhibit Reference
KWSC Water	\$1,961	KWSC Water 8.10
KWSC Sewer	\$8,966	KWSC Sewer 8.9

13

Table 204. Materials and Supplies Expense.

14

15 Details of materials and supplies expense for each division can be found in the corresponding
16 Exhibits listed in the table above.

17

18 **Waste Disposal**

19 Waste disposal expense consists of fees for the removal and disposal of dewatered sludge
20 from the WWTP. The test year waste disposal expense was estimated by taking a three year
21 average from 2016 – 2018 of CPI-adjusted recorded expenses. No waste disposal expense is

1 anticipated for KWSC Water. The following table summarizes waste disposal expense for
2 KWSC:

Division	Waste Disposal	Exhibit Reference
KWSC Water	\$ -	KWSC Water 8.11
KWSC Sewer	\$3,506	KWSC Sewer 8.10

3 **Table 205. Waste Disposal Expense.**

4
5 Details of waste disposal expense for each division can be found in the corresponding Exhibits
6 listed in the table above.

7
8 **Affiliated Charges**

9 California Water Service Group (“CWSG”) includes several subsidiaries which include
10 Hawaii Water, Cal Water, Washington Water Service Company (“WWSC”), and New Mexico
11 Water Service Company (“NMWSC”). CWSG’s expenses are allocated to its subsidiaries based
12 on relative proportions of work being performed. A large portion of the work resides in
13 Customer Support Services (“CSS”) of Cal Water. Within CSS, there are a number of
14 departments that provide support services for its subsidiaries. These include corporate
15 governance (CEO, CFO, Corporate Secretary, etc.), audit, accounting and finance, information
16 technology, human resources, and communications. These functions are provided centrally at
17 CSS because it is more cost effective to do so than to hire the specific expertise needed for each
18 particular subsidiary. This centralized service model has been shown to result in lower costs
19 than staffing up locally for all necessary back office expertise such as noted above.

20 CSS departments incur capital project and operating costs each month. These costs are
21 allocated to the appropriate business units each month to determine the business units’ operating
22 results, plant in service, regulatory assets, regulatory liabilities, and other balance sheet accounts.
23 CSS department costs are allocated to business units using one of two methods: 1) direct charge
24 method or 2) pooled cost method.

25 The direct charge method is used whenever CSS employees are assigned to specific
26 business unit capital or operating projects. Using the direct charge method, CSS department
27 employees’ direct labor, benefits, business travel, and/or any other costs incurred are charged

1 directly to business unit capital and expense projects each month. However, when it is not
 2 possible to use the direct charge method, the pooled cost method is used. The direct charge
 3 method cannot be used for services provided by CSS department employees that benefit two or
 4 more business units. These indirect CSS department costs are allocated to business units using
 5 the four-factor allocation method.

6 Prior to 2013, the four-factor cost (non-direct charged) affiliated expenses were allocated
 7 to the respective business units on a department by department basis. Thus, there were
 8 allocations from each of the shared functions departments previously mentioned. Beginning in
 9 2013, a department called Public Company (“PubCo”) was created to accumulate the respective
 10 expenses of the different CSS departments which are then allocated as a line item to the
 11 respective business units. Thus, the PubCo department provides the line item detail visibility
 12 while Hawaii Water receives one monthly expense entry. This is allocated to the individual
 13 business units using the four-factor allocation method.

14 The CSS departments’ whose expenses are allocated through PubCo to CWSG’s
 15 subsidiaries provide a direct benefit to the subsidiaries by reducing overall operating costs.
 16 Many of the centralized functions that are shared among the subsidiaries are shown on the table
 17 below:

Group Functions/Departments	Group's Corporate and/or Shared Service Function Responsibility
General Office	Corporate costs including BOD fees, property and liability insurance, audit fees, RSA, SEC, common stock fees, etc.
Treasurer, CFO	Establishes, maintains and enforces Corporate Financial Governance including strategy, policy, standards, practices and programs as well as Investor Relations, Internal and Management Reporting, Financial Planning and Forecasting, Corporate Policy for Treasury, Cash Management, Risk Management, Corp Borrowings, Stock, Pensions, Process Improvement, etc. All corporations must have a Treasurer.
Internal Audit	Establishes, maintains and enforces Corporate Audit Governance including audit policy and procedures, SOX Compliance and reporting, coordination of all external and 3rd party audit services for entire enterprise. Provides a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.
Legal	Establishes, maintains and enforces various legal activities including budget, strategy, and case management for the entire enterprise.
Controller and Financial Reporting and Accounting shared services	Establishes, maintains and enforces External Financial Reporting Governance including Corporate Policy and Controls, Enterprise Accounting Operations, Corporate Consolidations, SEC Reporting, External Audit coordination, Payroll, etc.
CEO, President	Sets and oversees the execution the Corporate vision and strategy, Corporate governance and plans, Investor Relations. Manages Corporate Directors, Subsidiary General Managers, etc. All corporations must have a President.

Corporate Secretary	Leads the Company's compliance efforts with respect to legislative and regulatory developments affecting corporate governance. Responsible for anticipating and addressing corporate governance/reputation risks, develops independent standards for the Board of Directors and their committees, develops Company's governance principles and policies. All corporations must have a Corporate Secretary.
Continuous Improvement	Supports the Continuous Improvement process for the entire enterprise.
IT Security and Compliance	Responsible for all IT cyber security, SOX compliance, Data Room configurations, and ensuring company is compliance with various standards such as NIST, PCI, etc.
IT Infrastructure	Responsible for all IT network architecture to ensure goal of 99.999% uptime of hardware, servers, phone lines, etc.
Finance	Supports the enforcement of Corporate Financial Governance, includes risk management, treasury, planning and analysis activities.
Management Development	Establishes, maintains and enforces Management Development governance including strategy, policy, standards, practices and programs for entire enterprise. Ensures the enterprise has active program that identifies or attracts, develops and retains resources for future key position within the enterprise.
IT Technical Support	Responsible for IT User trouble shooting, help desk, phones, websites, etc.
Human Resource Administration	Establishes, maintains and enforces Human Resource governance including policy, standards, practices and programs for entire enterprise.
IT Governance /Administration	Establishes, maintains and enforces IT Governance policy, standards, practices and programs for the entire enterprise.
Corp Communications	Establishes, maintains and enforces all Corporate Communication governance including policy, standards and procedures leading to the design, development and approval of content whether verbal, written or display material for entire enterprise.

1 In Hawaii Water’s most recent case for its Ka’anapali, Pukalani and Waikoloa districts,
 2 Hawaii Water and the Consumer Advocate agreed to remove incentive compensation as well as
 3 certain other expenses from account 791000 from the overall allocation of affiliated charges to
 4 the district.⁵ While KWSC believes that incentive compensation is an important part of a regular
 5 compensation package that retains talented individuals in a competitive market, this adjustment
 6 was applied in this rate case to affiliated charges that are allocated to KWSC, consistent with the
 7 stipulation that the Commission adopted from the Ka’anapali, Pukalani and Waikoloa cases.
 8 KWSC and HWSC reserve the right to re-advocate this issue in future rate cases.

9 The test year affiliated charges expense is based on a three-year average from 2016 –
 10 2018 of the adjusted allocation. The following table summarizes affiliated charges expense for
 11 KWSC:

12

⁵ Decision and Order No. 33908 filed on September 12, 2016 in Docket No. 2015-0230 at 32; Stipulation of the Parties for Full Settlement filed on July 22, 2016 in Docket No. 2015-0230 at 14 and 26 – 27; Proposed Decision and Order No. 34822 filed on September 15, 2017 in Docket No. 2015-0236 at 31; Proposed Decision and Order No. 35878 filed on November 15, 2018 in Docket No. 2017-0450 at 32-33; Proposed Decision and Order No. 35877 filed on November 13, 2018 in Docket No. 2017-0449 at 34-36.

1

Division	Affiliated Charges	Exhibit Reference
KWSC Water	\$101,687	KWSC Water 8.12
KWSC Sewer	\$55,684	KWSC Sewer 8.11

2

Table 206. Affiliated Charges Expense.

3

4 Details of affiliated charges expense for each division can be found in the corresponding Exhibits
5 listed in the table above.

6

Outside Services

8 Outside services expense is organized using the following categories: legal expense, other
9 outside services, and training consultants. Outside services is comprised of technical fees, legal
10 fees, and other consulting services. Outside services expense was estimated for the test year by
11 taking a three year average from 2016 – 2018 of CPI-adjusted recorded expenses. The following
12 table summarizes outside services expense for KWSC:

Division	Outside Services	Exhibit Reference
KWSC Water	\$9,025	KWSC Water 8.13
KWSC Sewer	\$6,219	KWSC Sewer 8.12

13

Table 207. Outside Services Expense.

14

15 Details of outside services expense for each division can be found in the corresponding Exhibits
16 listed in the table above.

17

Repairs and Maintenance

19 Repairs and maintenance expense is organized using the following categories: source of
20 supply, pumping, water treatment, transmission and distribution, other production and
21 distribution, and administrative and general. In Hawaii Water's accounting system, certain
22 expenses are grouped with repairs and maintenance: chemicals, materials and supplies, waste
23 disposal. These amounts are deducted from the total repairs and maintenance expense so that

1 these expenses are not double counted. Repairs and maintenance expense is estimated for the
2 test year by taking a three year average from 2016 – 2018 of CPI-adjusted recorded expenses.
3 The following table summarizes outside services expense for KWSC:

Division	Repairs and Maintenance	Exhibit Reference
KWSC Water	\$92,007	KWSC Water 8.14
KWSC Sewer	\$108,633	KWSC Sewer 8.13

4 **Table 208. Repairs and Maintenance Expense.**

5
6 Details of repairs and maintenance expense for each division can be found in the corresponding
7 Exhibits listed in the table above.

8

9 **Rents**

10 Rents expense consists of expenses related to existing leases. The actual amounts
11 payable under existing property leases for the administrative offices in the Waikoloa Highlands
12 Shopping Center in Waikoloa and the Waikoloa Base yard were allocated to KWSC. The
13 Waikoloa Highlands Shopping Center lease ends in October 2019, two months before the end of
14 the test year. KWSC annualized the monthly cost of the lease for the purposes of the rate case.

15 KWSC Water also has a lease with the Department of Land and Natural Resources,
16 which is included in the test year expense. The following table summarizes rents expense for
17 KWSC:

Division	Rents	Exhibit Reference
KWSC Water	\$23,333	KWSC Water 8.15
KWSC Sewer	\$13,312	KWSC Sewer 8.14

18 **Table 209. Rents Expense.**

1 Details of rental expense for each division can be found in the corresponding Exhibits listed in
2 the table above.

3

4 **Insurance**

5 Insurance expense is estimated using costs allocated from Cal Water to Hawaii Water GO
6 Department 790. These costs are then allocated to the Hawaii business units using the four-
7 factor methodology. The test year insurance expense is based on a quote from Marsh Insurance
8 for 2017/18. The 2018/19 quote was not available when the application was prepared. The test
9 year insurance estimate will be revised once the 2018/19 figure is available. The following table
10 summarizes insurance expense for KWSC:

Division	Insurance	Exhibit Reference
KWSC Water	\$10,352	KWSC Water 8.16
KWSC Sewer	\$5,713	KWSC Sewer 8.15

11

Table 210. Insurance Expense.

12

13 Details of insurance expense for each division can be found in the corresponding Exhibits listed
14 in the table above.

15

16 **Regulatory**

17 Regulatory expense includes expected work and activities related to completing this rate
18 case. These functions include preparation and filing expense, discovery and settlement expense,
19 and hearings and briefing expense. Regulatory expense also includes the cost of the cost of
20 service studies and depreciation studies. The total rate case expense is estimated to be \$211,000
21 and \$210,000 for KWSC Water and KWSC Sewer, respectively. In order to plan and make the
22 best use of its resources, KWSC proposes a four-year amortization period for regulatory
23 expenses, which is based on a four-year rate cycle.⁶ The following table summarizes regulatory
24 expense for KWSC:

⁶ KWSC's rates were last increased in 2015 in Decision and Order No. 32944 filed on September 10, 2015 in Docket No. 2013-0375, and the rates to be approved in the present rate case are expected to become effective in 2019.

Division	Regulatory	Exhibit Reference
KWSC Water	\$52,750	KWSC Water 8.17
KWSC Sewer	\$52,500	KWSC Sewer 8.16

1 **Table 211. Regulatory Expense.**

2
3 Details of regulatory expense for each division can be found in the corresponding Exhibits listed
4 in the table above.

5
6 **General and Administrative**

7 General and administrative expense is organized using the following categories: office
8 expense and miscellaneous general and administrative expense. Office supplies expense consists
9 of expenses related to postage, telephone expenses, stationary and printing, bank fees, travel and
10 incidental expense, meals during travel, training and seminars, conferences, and internal projects.
11 Test year general and administrative expense was estimated by taking a three-year average from
12 2016 – 2018 of CPI-adjusted recorded expenses. The following table summarizes general and
13 administrative expense for KWSC:

Division	General and Administrative	Exhibit Reference
KWSC Water	\$33,343	KWSC Water 8.19
KWSC Sewer	\$25,024	KWSC Sewer 8.18

14 **Table 212. General and Administrative Expense.**

15
16 Details of general and administrative expense for each division can be found in the
17 corresponding Exhibits listed in the table above.

18
19 **Customer Accounts**

20 Customer accounts expenses includes customer records, other stationary and print,
21 telephone expenses, other utilities and janitor expense, and uncollectible accounts expense. The
22 test year customer accounts expense was estimated by taking a three year average from 2016 –

1 2018 of CPI-adjusted recorded expenses. The following table summarizes customer accounts
2 expense for KWSC:

Division	Customer Accounts	Exhibit Reference
KWSC Water	\$14,564	KWSC Water 8.20
KWSC Sewer	\$9,588	KWSC Sewer 8.19

3 **Table 213. Customer Accounts Expense.**

4

5 Details of customer accounts expense for each division can be found in the corresponding
6 Exhibits listed in the table above.

7

8 **Q. Does this conclude your testimony?**

9 A. Yes, it does.

HWSC Payroll 2019 (estimate)

3.00%

DeptID	Name	Descr	DC (Direct Charge)/GA (General Allocation)	Unit	Group	Payroll	% Expense	% Capital	Expense	Capital
727		Utility Operator III	DC	Kona	HRL		100%	0%		
726		Utility Operator I	DC	Kona	HRL		100%	0%		
726		Utility Operator I	DC	Kona	HRL		100%	0%		
726/727		Superintendent	DC	Kona	SAL		93%	7%		
726		Utility Operator II	DC	Kona	HRL		100%	0%		
727		Utility Operator II	DC	Kona	HRL		100%	0%		
726/727		Foreman	DC	Kona	HRL	\$ 415,553	100%	0%	\$ 408,292	\$ 7,261
720		Chemist	GA	Big Island	HRL		100%	0%		
720		WQ Laboratory Technician	GA	Big Island	HRL		100%	0%		
720		Utility Plant Operator III	DC	Big Island	HRL		100%	0%		
720		Cross Control Specialist	DC	Big Island	HRL		90%	10%		
720		Utility Worker PT (No benefits)	DC	Big Island	HRL		100%	0%		
720		Utility Worker	DC	Big Island	HRL	\$ 365,450	100%	0%	\$ 358,735	\$ 6,695
790		Customer Service Rep	GA	Gen. Admin.	HRL		100%	0%		
790		Customr Svrc Rep - PT No Benefits	GA	Gen. Admin.	HRL		100%	0%		
790		Operations Clerk	GA	Gen. Admin.	HRL		100%	0%		
790		Customer Service Manager	GA	Gen. Admin.	SAL		98%	2%		
790		Operations Clerk	GA	Gen. Admin.	HRL		100%	0%		
790		Accountant	GA	Gen. Admin.	SAL		94%	6%		
790		Customer Service Rep	GA	Gen. Admin.	HRL		100%	0%		
790		General Manager	GA	Gen. Admin.	SAL		79%	21%		
790		Sr. Accountant	GA	Gen. Admin.	SAL		90%	10%		
790		Accounting Manager	GA	Gen. Admin.	SAL		82%	18%		
790		Business Analyst	GA	Gen. Admin.	HRL		100%	0%		
790		Engineering Manager	GA	Big Island	SAL		57%	43%		
790		Project Manager	GA	Gen. Admin.	SAL		4%	96%		
790		Elect. Mech. Technician	GA	Gen. Admin.	HRL		85%	15%		
790		Elect. Mech. Technician	GA	Gen. Admin.	HRL		85%	15%		
790		Elect. Mech. Technician	GA	Gen. Admin.	HRL	\$ 1,326,847	85%	15%	\$ 1,055,069	\$ 271,778
796		Mgr of Waste Water Systems	GA	Wastewater Admin.	SAL		100%	0%		

HWSC Payroll 2019 (estimate)

Direct Charges		Allocation	
Maui (710)		Maui (710)	
Kaanapali	100%	Kaanapali	74.31%
Pukalani	100%	Pukalani	25.69%
Big Island (720)		Big Island (720)	
Waikaloa Water, Sewer and Resort	100%	Kona Water	50%
		Kona Sewer	50%



DeptID	Name	Descr	DC (Direct Charge)/GA (General Allocation)	Unit	Group
727	[Redacted]	Utility Operator III	DC	Kona	HRL
726	[Redacted]	Utility Operator I	DC	Kona	HRL
726	[Redacted]	Utility Operator I	DC	Kona	HRL
726/727	[Redacted]	Superintendent	DC	Kona	SAL
726	[Redacted]	Utility Operator II	DC	Kona	HRL
727	[Redacted]	Utility Operator II	DC	Kona	HRL
726/727	[Redacted]	Foreman	DC	Kona	HRL
720	[Redacted]	Chemist	GA	Big Island	HRL
720	[Redacted]	WQ Laboratory Technician	GA	Big Island	HRL
720	[Redacted]	Utility Plant Operator III	DC	Big Island	HRL
720	[Redacted]	Cross Control Specialist	DC	Big Island	HRL
720	[Redacted]	Utility Worker PT (No benefits)	DC	Big Island	HRL
720	[Redacted]	Utility Worker	DC	Big Island	HRL
790	[Redacted]	Customer Service Rep	GA	Gen. Admin.	HRL
790	[Redacted]	Customer Svc. Rep - PT No Benefits	GA	Gen. Admin.	HRL
790	[Redacted]	Operations Clerk	GA	Gen. Admin.	HRL
790	[Redacted]	Customer Service Manager	GA	Gen. Admin.	SAL
790	[Redacted]	Operations Clerk	GA	Gen. Admin.	HRL
790	[Redacted]	Accountant	GA	Gen. Admin.	SAL
790	[Redacted]	Customer Service Rep	GA	Gen. Admin.	HRL
790	[Redacted]	General Manager	GA	Gen. Admin.	SAL
790	[Redacted]	Sr. Accountant	GA	Gen. Admin.	SAL
790	[Redacted]	Accounting Manager	GA	Gen. Admin.	SAL
790	[Redacted]	Business Analyst	GA	Gen. Admin.	HRL
790	[Redacted]	Engineering Manager	GA	Big Island	SAL
790	[Redacted]	Project Manager	GA	Gen. Admin.	SAL
790	[Redacted]	Elect. Mech. Technician	GA	Gen. Admin.	HRL
790	[Redacted]	Elect. Mech. Technician	GA	Gen. Admin.	HRL
790	[Redacted]	Elect. Mech. Technician	GA	Gen. Admin.	HRL
796	[Redacted]	Mgr of Waste Water Systems	GA	Wastewater Admin.	SAL

HWSC Payroll 2019 (estimate)

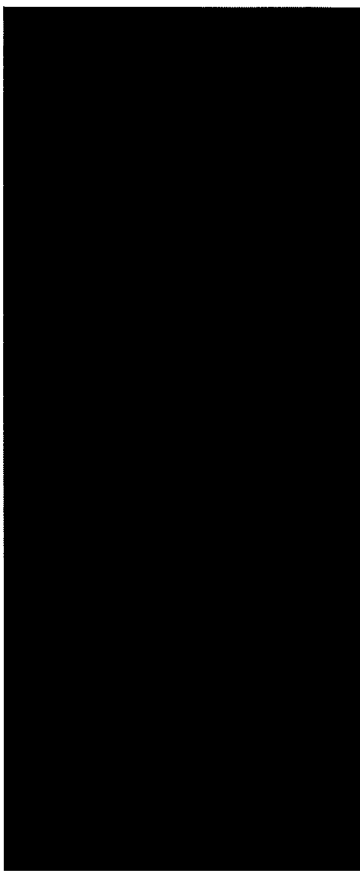
Allocation	
Big Island (720)	
Water	19.17%
Sewer	15.14%
Resort Water	20.81%
Resort Sewer	21.51%
Resort Irrigation	0.94%
Kona Water	14.09%
Kona Sewer	8.34%

DeptID	Name	Descr	DC (Direct Charge)/GA (General Allocation)	Unit	Group
727	[REDACTED]	Utility Operator III	DC	Kona	HRL
726	[REDACTED]	Utility Operator I	DC	Kona	HRL
726	[REDACTED]	Utility Operator I	DC	Kona	HRL
726/727	[REDACTED]	Superintendent	DC	Kona	SAL
726	[REDACTED]	Utility Operator II	DC	Kona	HRL
727	[REDACTED]	Utility Operator II	DC	Kona	HRL
726/727	[REDACTED]	Foreman	DC	Kona	HRL
720	[REDACTED]	Chemist	GA	Big Island	HRL
720	[REDACTED]	WQ Laboratory Technician	GA	Big Island	HRL
720	[REDACTED]	Utility Plant Operator III	DC	Big Island	HRL
720	[REDACTED]	Cross Control Specialist	DC	Big Island	HRL
720	[REDACTED]	Utility Worker PT (No benefits)	DC	Big Island	HRL
720	[REDACTED]	Utility Worker	DC	Big Island	HRL
790	[REDACTED]	Customer Service Rep	GA	Gen. Admin.	HRL
790	[REDACTED]	Custmr Svrc. Rep - PT No Benefits	GA	Gen. Admin.	HRL
790	[REDACTED]	Operations Clerk	GA	Gen. Admin.	HRL
790	[REDACTED]	Customer Service Manager	GA	Gen. Admin.	SAL
790	[REDACTED]	Operations Clerk	GA	Gen. Admin.	HRL
790	[REDACTED]	Accountant	GA	Gen. Admin.	SAL
790	[REDACTED]	Customer Service Rep	GA	Gen. Admin.	HRL
790	[REDACTED]	General Manager	GA	Gen. Admin.	SAL
790	[REDACTED]	Sr. Accountant	GA	Gen. Admin.	SAL
790	[REDACTED]	Accounting Manager	GA	Gen. Admin.	SAL
790	[REDACTED]	Business Analyst	GA	Gen. Admin.	HRL
790	[REDACTED]	Engineering Manager	GA	Big Island	SAL
790	[REDACTED]	Project Manager	GA	Gen. Admin.	SAL
790	[REDACTED]	Elect. Mech. Technician	GA	Gen. Admin.	HRL
790	[REDACTED]	Elect. Mech. Technician	GA	Gen. Admin.	HRL
790	[REDACTED]	Elect. Mech. Technician	GA	Gen. Admin.	HRL
796	[REDACTED]	Mgr of Waste Water Systems	GA	Wastewater Admin.	SAL

HWSC Payroll 2019 (estimate)

Allocation	
Hawaii General Office (790)	
Kaunapali	21.73%
Pukalani	6.87%
Waikaloa Water	12.83%
Waikaloa Sewer	10.02%
Waikaloa Resort Water	13.27%
Waikaloa Resort Sewer	18.18%
Waikaloa Resort Irrigation	0.75%
Kona Water	10.56%
Kona Sewer	5.80%

DeptID	Name	Descr	DC (Direct Charge)/GA (General Allocation)	Unit	Group
727	[REDACTED]	Utility Operator III	DC	Kona	HRL
726	[REDACTED]	Utility Operator I	DC	Kona	HRL
726	[REDACTED]	Utility Operator I	DC	Kona	HRL
726/727	[REDACTED]	Superintendent	DC	Kona	SAL
726	[REDACTED]	Utility Operator II	DC	Kona	HRL
727	[REDACTED]	Utility Operator II	DC	Kona	HRL
726/727	[REDACTED]	Foreman	DC	Kona	HRL
720	[REDACTED]	Chemist	GA	Big Island	HRL
720	[REDACTED]	WQ Laboratory Technician	GA	Big Island	HRL
720	[REDACTED]	Utility Plant Operator III	DC	Big Island	HRL
720	[REDACTED]	Cross Control Specialist	DC	Big Island	HRL
720	[REDACTED]	Utility Worker PT (No benefits)	DC	Big Island	HRL
720	[REDACTED]	Utility Worker	DC	Big Island	HRL
790	[REDACTED]	Customer Service Rep	GA	Gen. Admin.	HRL
790	[REDACTED]	Customer Svrc Rep - PT No Benefits	GA	Gen. Admin.	HRL
790	[REDACTED]	Operations Clerk	GA	Gen. Admin.	HRL
790	[REDACTED]	Customer Service Manager	GA	Gen. Admin.	SAL
790	[REDACTED]	Operations Clerk	GA	Gen. Admin.	HRL
790	[REDACTED]	Accountant	GA	Gen. Admin.	SAL
790	[REDACTED]	Customer Service Rep	GA	Gen. Admin.	HRL
790	[REDACTED]	General Manager	GA	Gen. Admin.	SAL
790	[REDACTED]	Sr. Accountant	GA	Gen. Admin.	SAL
790	[REDACTED]	Accounting Manager	GA	Gen. Admin.	SAL
790	[REDACTED]	Business Analyst	GA	Gen. Admin.	HRL
790	[REDACTED]	Engineering Manager	GA	Big Island	SAL
790	[REDACTED]	Project Manager	GA	Gen. Admin.	SAL
790	[REDACTED]	Elect. Mech. Technician	GA	Gen. Admin.	HRL
790	[REDACTED]	Elect. Mech. Technician	GA	Gen. Admin.	HRL
790	[REDACTED]	Elect. Mech. Technician	GA	Gen. Admin.	HRL
796	[REDACTED]	Mgr of Waste Water Systems	GA	Wastewater Admin.	SAL



HWSC Payroll 2019 (estimate)

Allocation	
Pukalani	17.22%
Waialua Sewer	24.52%
Waialua Resort Sewer	45.16%
Kona	13.10%

DC (Direct Charge)/GA (General Allocation)

Group

Unit

Descr

Name

DeptID

727		DC	Kona	HRL	Utility Operator III	
726		DC	Kona	HRL	Utility Operator I	
726		DC	Kona	HRL	Utility Operator I	
726/727		DC	Kona	SAL	Superintendent	
726		DC	Kona	HRL	Utility Operator II	
727		DC	Kona	HRL	Utility Operator II	
726/727		DC	Kona	HRL	Foreman	
720		GA	Big Island	HRL	Chemist	
720		GA	Big Island	HRL	WQ Laboratory Technician	
720		DC	Big Island	HRL	Utility Plant Operator III	
720		DC	Big Island	HRL	Cross Control Specialist	
720		DC	Big Island	HRL	Utility Worker PT (No benefits)	
720		DC	Big Island	HRL	Utility Worker	
790		GA	Gen. Admin.	HRL	Customer Service Rep	
790		GA	Gen. Admin.	HRL	Customer Svc Rep - PT No Benefits	
790		GA	Gen. Admin.	HRL	Operations Clerk	
790		GA	Gen. Admin.	SAL	Customer Service Manager	
790		GA	Gen. Admin.	HRL	Operations Clerk	
790		GA	Gen. Admin.	SAL	Accountant	
790		GA	Gen. Admin.	HRL	Customer Service Rep	
790		GA	Gen. Admin.	SAL	General Manager	
790		GA	Gen. Admin.	SAL	Sr. Accountant	
790		GA	Gen. Admin.	SAL	Accounting Manager	
790		GA	Gen. Admin.	SAL	Business Analyst	
790		GA	Gen. Admin.	HRL	Engineering Manager	
790		GA	Big Island	SAL	Project Manager	
790		GA	Gen. Admin.	SAL	Elect. Mech. Technician	
790		GA	Gen. Admin.	HRL	Elect. Mech. Technician	
790		GA	Gen. Admin.	HRL	Elect. Mech. Technician	
796		GA	Wastewater Admin.	SAL	Mgr of Waste Water Systems	

Exhibit KWSC-T-300
Direct Testimony of Martin Roush



Kona Water Service Company General Rate Case
Docket No. 2018-0388
February 2019

Table of Contents

Introduction	1
Capital Improvement Projects and System Descriptions	2
Water System (Kona Well Field).....	2
Reverse Osmosis (“RO”) Water Treatment Plant (“RO Plant”).....	3
Wastewater System.....	4
Kukio Wastewater Treatment Facility (“Kukio WWTP”).....	5

1 **KONA WATER SERVICE COMPANY GENERAL RATE CASE**
2 **DIRECT TESTIMONY OF MARTIN ROUSH**

3
4 **Introduction**

5 **Q. Please state your name, position, and business address.**

6 A. My name is Martin Roush. I am the Capital Delivery and Wastewater Manager of Hawaii
7 Water Service Company, Inc. (“Hawaii Water”). Kona Water Service Company (“KWSC”) is a
8 wholly-owned subsidiary of Hawaii Water. My business mailing address is 2010 Honoapiilani
9 Hwy, Lahaina, HI 96761.

10
11 **Q. Please summarize your educational background and professional experience.**

12 A. I received a Bachelor of Science in Electrical Engineering 1988 and Master of Science in
13 Civil Engineering 1995 both from the University of Arizona. I also received a Master of Public
14 Administration (“MPA”) from the University of Guam in 2012.

15 I am a licensed Professional Civil Engineer in Arizona, California, Hawaii, and Guam. I
16 am also a licensed Professional Electrical Engineer in Arizona. My Operators Certification
17 includes Hawaii Department of Health Wastewater Treatment Operator IV, Water Distribution
18 Operator IV, and Water Treatment Operator II. I also hold a certificate as a Certified Public
19 Manager from Arizona State University.

20 I worked as an Engineer for the City of Tucson from 1985 to 1995. From 1995 to 1999, I
21 worked as a Construction Manager for various engineering firms. I worked as a Division
22 Manager for the Town of Oro Valley, AZ from 1999 to 2001. From 2001 to 2006, I worked as
23 the Public Works/Utility Director for the Town of Sahuarita, AZ. I worked as the City Manager
24 for the City of Benson, AZ from 2006 to 2008. From 2009 to 2014, I worked as the General
25 Manager for the Guam Waterworks Authority. My previous position with Hawaii Water as
26 Assistant General Manager was from 2014 – 2018. I have been in my current position as Capital
27 Delivery and Wastewater Manager since 2018.

1 **Q. What is the purpose of your testimony in this proceeding?**

2 A. The purpose of my testimony in this proceeding is to support capital investment projects
3 made by KWSC since its last rate case.

4

5 **Capital Improvement Projects and System Descriptions**

6 **Q. Please describe the capital improvements that have been made by KWSC since its**
7 **last rate case, Docket No. 2013-0375.**

8 A. KWSC has made a number of capital improvements for its water and wastewater systems
9 since the last rate case. Additionally, KWSC plans to make several capital improvements during
10 the Test Year. Exhibit KWSC-T-301 provides a description and justification for each capital
11 improvement project greater than \$25,000.

12

13 **Q. Please describe KWSC's water system, water treatment plant, wastewater system,**
14 **and wastewater treatment plant.**

15 A. By way of background, the following are descriptions of KWSC's water system, water
16 treatment plant, wastewater system, and wastewater treatment plant to which the capital projects
17 described in Exhibit KWSC-T-301 apply.

18

19 **Water System (Kona Well Field)**

20 KWSC's water system is currently comprised of five wells, Kona Huehue Ranch ("HR")
21 Well HR-1 through H-5, which provide water to the Kukio, Maniniowale, Stroud, and Makalei
22 water systems. Four of these wells—HR-1, HR-2, HR-3, and HR-4—pump into storage Tank A
23 and Tank B. Tanks A and B both hold 500,000 gallons at an elevation of 1,600 feet with a
24 combined storage of 1 million gallons. Booster B pumps to Tank #1 from Tanks A and B at an
25 elevation of 1,815 feet. HR-5 pumps into the transmission system downstream of Tank #1. Tank
26 #1 gravity feeds down to the KWSC Reverse Osmosis ("RO") Water Treatment Plant ("RO
27 Plant") via a transmission line. HR-5 connects to the transmission system downstream of Tank
28 #1.

1 After flowing through the RO Plant, the treated potable water is stored onsite in a
2 500,000 gallon tank at an elevation of 620 feet. The water then gravity flows to two tanks,
3 1,000,000 gallons and 500,000 gallons, with a combined storage of 1.5 million gallons adjacent
4 to each other at an elevation of 312 feet. As noted above, water from these tanks serve the
5 Kukio, Maniniowale, Stroud, and Makalei communities.

6
7 Reverse Osmosis (“RO”) Water Treatment Plant (“RO Plant”)

8 The RO Plant was constructed in 2005 and consists of an Anti-Scalant Addition System,
9 Pre-filters, RO Membranes Assembly, Blending System, Sodium Hexa-Meta-Phosphate
10 (“SHMP”) Addition System, Sodium Hypochlorite Addition System, and Degasification System.
11 The total system is computer controlled utilizing a Process Logic Controller (“PLC”). The total
12 system was designed and supplied by Enaqua to reduce minerals and other contaminants from
13 the water source.

14 The overall primary purpose of the RO System is to remove dissolved salts/minerals,
15 suspended particles and organic matter from the feed water. The RO System is a single pass
16 unit. The RO membrane elements are spiral wound, thin film composite type. The RO
17 membrane elements are housed inside pressure vessels. One to seven RO elements are arranged
18 in the pressure vessels. These elements are in series within the pressure vessels.

19 The Anti-Scalant Addition System injects measured volumes of an anti-scaling chemical
20 into the process stream to prevent the precipitation of sparingly soluble salts like calcium sulfate
21 and silica within the process piping and on the RO membrane surfaces. An excess build-up of
22 these salts results in membrane fouling and reduces the effectiveness of the process. The Anti-
23 Scalant Addition System allows for sustained and enhanced performance of the RO membranes.
24 The primary function of the RO Pre-Filters is to remove small suspended particles from the feed
25 water, protect the RO membranes from fouling, and encourage static mixing of pretreatment
26 chemicals. The pre-filter works by removing any suspended solids greater than 5 microns. By
27 removing the larger suspended solids, the pre-filter allows the RO membrane filter to process a
28 greater volume of water. The RO pre-filter protects the RO membranes and ensures

1 the RO membrane is not retired prematurely. The pre-filter is a basic filter system similar to the
2 function of a coffee filter, except the pre-filter requires pressure to drive the high head-loss
3 across the filter.

4 The purpose of the Blending System is to add back some dissolved minerals to the post
5 RO-treated high-purity water to improve the taste of the potable water and to augment final
6 potable water capacity to meet the system demand.

7 The SHMP Addition System injects measured volumes of SHMP into the product water
8 prior to distribution. Product water from the RO system is aggressive and can corrode equipment
9 in the distribution system. SHMP acts as a corrosion inhibitor and prevents the corrosion of the
10 piping system in the distribution system. Without the SHMP corrosion inhibitor pipes, fittings,
11 and system components in the distribution system would corrode at a much faster rate, thus
12 reducing the life of the distribution system.

13 The Degasification System removes carbon dioxide from the process stream. Carbon
14 dioxide can be naturally occurring in the water source or can form when acid is dosed into the
15 feed water for pH control. The degasification system consists of two tall cylindrical towers.
16 Each tower is packed with a bed of plastic packing material. The water is pumped to the top of
17 each tower and allowed to cascade down the packing material while a draft of forced air is
18 introduced by a blower from the bottom of the tower. This process removes carbon dioxide.

19 A train is a bank of pressure vessels that houses the RO membranes. Each train consists
20 of 12 pressure vessels connected in parallel. Each pressure vessel directs pressurized water
21 through seven RO membranes connected in series providing the RO treatment process.

22 Each RO train produces two types of effluent: permeate, which is the fresh water, and
23 concentrate, which is the brine. The permeate water is recovered and used as potable water for
24 the drinking water supply. The concentrate water is sent to the golf course irrigation lake to be
25 used for irrigation.

26

27 Wastewater System

28 The KWSC wastewater system consists of gravity sewer mains, numerous sewer
29 manholes, and nine Sewer Pump Stations (“SPS”) to collect and transport domestic wastewater
30 to the Kukio Wastewater Treatment Facility (“Kukio WWTP”). Two of the nine stations are

1 privately owned but maintained by KWSC. The SPS takes sewage from a lower elevation and
2 lifts it to a higher elevation where it can resume flowing downhill by gravity or under force main
3 conditions toward the Kukio WWTP. SPS 1, 3, 4, 5, 6, and 7 have automatic backup emergency
4 electrical generators and transfer switches. SPS 2 is backed up by the Kukio Beach Club
5 emergency generator. The general layout of the pump stations consists of two submersible
6 wastewater pumps mounted on a rail system in a wet well. This configuration is ideal for
7 maintenance by the operators without having to enter into the confined space.

8
9 Kukio Wastewater Treatment Facility (“Kukio WWTP”)

10 The Kukio WWTP is located on Hawaii island along Highway 19, north of the Kona
11 International Airport. The plant treats wastewater from the Kukio community, which is
12 comprised of roughly 200 homes with approximately 20-30 of those homes being full-time
13 residences and the rest being vacation residences. The average daily flow of the Kukio WWTP
14 ranges between 30,000 and 55,000 gallons per day (“GPD”). During the peak holiday week of
15 Christmas to New Year’s, the flows into the Kukio WWTP have spiked to up to 100,000 GPD
16 and sometimes greater flows.

17 The Kukio WWTP is a Class 2 secondary treatment plant which uses “Moving Bed
18 Reactor” (“MBR”) contactors for secondary treatment. The use of the abbreviation “MBR” for
19 “Moving Bed Reactor” may be somewhat confusing given the widespread use of “MBR” for
20 “Membrane Bioreactor” in current wastewater treatment parlance. However, in the context of
21 the Kukio WWTP, “MBR” refers to Moving Bed Reactor. The MBR treatment system was
22 supplied by Pacific Keystone Technologies, a company that is no longer in business. This
23 technology is a hybrid of Moving Bed Bioreactor (“MBBR”) and Rotating Biological Contactor
24 (“RBC”). It uses fixed-film biological growth on plastic media (similar to MBBR). However,
25 rather than using compressed air bubbled through the media for oxygenation, as is the case in the
26 MBBR process, the media is kept in large rotating baskets, which tumble the media above the
27 water surface in the reactor tank to oxygenate the surface of the media, as is the case in the RBC
28 process.

1 The Kukio WWTP currently operates with a screened raw sewage equalization basin,
2 three MBR tanks (each with four rotating baskets of media) and their associated primary and
3 secondary clarifiers, and an infiltration pond for effluent disposal. The biosolids are treated by
4 aerobic digestion and are periodically transferred to a sludge bagger for dewatering, and then
5 completely air dried and disposed of in a landfill.

6 **Q. Please describe the importance of replacing pumping equipment in KWSC's well**
7 **field.**

8 A. As described in more detail in Exhibit KWSC-T-301, several of KWSC's capital
9 improvement projects involved the replacement of failed pump equipment. The wells in
10 KWSC's well field are more than 1000 feet deep which places great stress on the pumps and
11 motors even during normal operation. While the pumps and motors are designed to operate at
12 these depths, regular operations can cause the equipment to fail. KWSC does not have
13 interconnections with other nearby systems, so when pumping equipment fails, there is no
14 additional water supply to supplement demand while the well is brought back online. The
15 demand is either met by running other wells in KWSC's well field for longer than normal
16 periods of time, or in some cases, KWSC notifies its customers of mandatory conservation
17 measures until the well is back online. Therefore, replacement of failed well pumps in an
18 expeditious manner is critical to the resilience of KWSC's water system.

19 Failure to replace failed well pumps can result in mandatory conservation measures,
20 water shortages, and costly repairs. For example, the Hawaii County Department of Water
21 Supply ("HCDWS") issued various degrees of water conservation mandates for most of 2017 in
22 its North Kona District due to numerous well failures. In June 2017, five of the HCDWS's 13
23 system wells were simultaneously inoperative and HCDWS had to issue emergency restrictions
24 limiting water use to only health and sanitation purposes. This was more severe than the 25%
25 mandatory restriction that had been in place for earlier in 2017 in the North Kona District.
26 Similarly, in 2017, both wells operated by KWCR Corporation, dba Kohala Ranch Water
27 Company ("KRWC") failed simultaneously. As a result, KRWC did not have a water source for
28 its customers.

1 These two examples demonstrate the serious and adverse impacts of well pump failures
2 and the resulting loss of water supply on public health and welfare. Moreover, pump failures can
3 result in the loss of economic value of landscaping that could not be irrigated and the loss of
4 confidence by the public in their water system if well pumps are not maintained or replaced on a
5 proactive and expeditious manner. Therefore, KWSC prioritizes the replacement of pumping
6 equipment on a prudent schedule to ensure a reliable and resilient water system.

7

8 **Q. Does this conclude your testimony?**

9 A. Yes, it does.

Table of Contents

KWSC WATER PROJECTS (726)

<u>Project Description & Work Order Number</u>	<u>Cost</u>	<u>Year</u>	<u>Page</u>
HR-1 Well Pump (WO 103799)	\$101,064	2016	1
HR-1 Well Pump Equipment (WO 118614)	\$ 44,313	2019	2
HR-2 Well Pump (WO 99772)	\$102,438	2014	3
HR-2 Well Pump Replacement (WO 109757)	\$ 64,054	2017	4
HR-2 Well Pump Equipment (WO 114639)	\$111,601	2017	5
HR-3 Well Pump (WO 102722)	\$117,190	2016	6
HR-3 Well Pump Equipment (WO119302)	\$ 99,302	2019	7
HR-4 Well Pump Equipment (WO 112204)	\$177,751	2018	8
HR-5 Well Pump Equipment (WO 119543)	\$201,940	2019	9
HR-5 Power Transformer (WO 114685)	\$ 58,214	2017	10
Pre-Filter Pressure Vessel (WO 93477)	\$ 79,690	2016	11
Pre-Filter Skid Platform (WO 97224)	\$ 30,873	2016	12
RO Membrane Train B (WO 97229)	\$ 54,241	2018	13
SCADA Computer & Software (WO 112030)	\$ 39,445	2019	14
Junction Boxes for Pump Leads (WO 118150)	\$ 82,586	2019	15
Tank Modulating Float Valves (WO 112045)	\$311,000	2019	16
Superintendent Vehicle (WO 118345)	\$ 41,410	2018	18

KWSC WASTEWATER PROJECTS (727)

<u>Project Description & Work Order Number</u>	<u>Cost</u>	<u>Year</u>	<u>Page</u>
SPS Pump Control Replacement (WO 93717)	\$ 39,282	2016	19
SPS 2 6" Pump Discharge Pipe (WO 97220)	\$ 61,343	2019	20
MBR Gearboxes (WO 97221)	\$ 46,518	2017	21
WWTP Pressure Vessel Change (WO 110437)	\$ 25,273	2017	22
WWTP Drums Replacement (WO 11439)	\$424,061	2018	23
SCADA Computer & Software (WO 112032)	\$ 27,511	2019	24
Upgrade Preliminary Design (WO 114440)	\$ 46,666	2018	25

SHARED PROJECTS

<u>Project Description & Work Order Number</u>	<u>Cost</u>	<u>Year</u>	<u>Page</u>
726 & 727 – Kukio Office Expansion (WO 67610)	\$132,000	2019	26
720 - SCADA Vulnerability Assessment	\$ 41,804	2018	27
790 - SCADA Upgrade 2018	\$ 78,082		
(WO 117252 & 118883)	\$119,886		
720 - 2019 New Boom Truck (WO 118340)	\$353,553	2019	29
790 – Wastewater Manager Vehicle	\$44,547	2019	30

726 – HR-1 Well Pump Replacement

Project ID / WO 103799

Project Cost: \$101,064

Description:

Well HR-1 (State Well No. 4559-01) is located in the Keauhou Aquifer at an elevation of 1,592 feet. HR-1 was constructed around 1984 or 1985. HR-1 has a capacity of 350 gallons per minute (“gpm”) with a 200 horsepower pump. HR-1 taps the island’s basal lens, where fresh water floats on underlying salt water.

Project 103799 consisted of the replacement of the HR-1 well pump. Replacement of the full pumping assembly equipment was needed to return the well pump back into operation. Full pumping assembly equipment includes the submersible pump, motor protector, compiling, submersible motor, check valve, and protection (epoxy coating). The HR-1 well pump failed due the age of the pump. The pump was over seven years old and the pump capacity declined over time. HR-1 is critical for operations because it supplements HR-2, HR-3, and HR-4 in providing drinking water to the Kona Water System. HR-1 is also a crucial part of the Time of Use (“TOU”) energy conservation plan to reduce electric energy use, bringing down the cost for electric power from Hawaii Electric Light Company.

The project was completed on 10/06/2016 at a total cost of \$148,623. The total project cost is broken down in the table below.

HR1 Well Pump	\$139,329.77
Capitalized Interest	\$ 11,42.17
BNS Reclass	\$ 2.26
Overhead	\$ 5,602.09
Labor	\$ 2,496.74
Other	\$ 49.99
Total	\$148,623.02

Pursuant to the 1991 Makalei Agreement, KWSC’s cost was adjusted to 68% of the final cost or \$101,064.

726 – HR-1 Well Pump Replacement

Project ID / WO 118614

Project Cost: \$44,313

Description:

Well HR-1 (State Well No. 4559-01) is located in the Keauhou Aquifer at an elevation of 1,592 feet. HR-1 was constructed around 1984 or 1985. HR-1 has a capacity of 350 gpm with a 200 horsepower pump. Well HR-1 taps the island's basal lens, where fresh water floats on underlying salt water.

Project 118614 was a pump replacement project, completed because the submersible well pumping equipment in HR-1 failed. A month after Project 103799 was put in service, the torque of the pump sheared off the structure support of the discharge head. The well pump and column shaft had fallen to the bottom of the well after a connector coupling on the column broke apart, causing the equipment to drop roughly 120 feet.

The well pump is needed to supplement HR wells 2-5 in providing water supply to the Kukio community and to aid in balancing pump runtimes and well rest periods. It also allows KWSC to balance water quality that is sent to the RO plant. Keeping the HR-1 pump online increases reliability of KWSC's water production system.

This project will be completed in 2019 at an estimated total cost of \$65,000. Pursuant to the 1991 Makalei Agreement, KWSC's cost was adjusted to 68% of the final cost or \$44,313.

726 – HR-2 Well Pump Replacement (2014)

Project ID / WO 99772

Project Cost: \$102,438

Description:

HR-2 (State Well No. 4459-01) draws water from the Keauhou Aquifer and is located at an elevation of approximately 1,500 feet. HR-2 has a capacity of 500 gallons per minute (gpm) with a 300 horsepower pump. HR-2 taps the island's basal lens, where fresh water floats on underlying salt water.

Project 99772 replaced the well submersible pump at HR-2. Due to corrosion and wear of the pump bowls, the pump capacity declined over time. After some time, the well pump at HR-2 simply failed and could not be repaired. Well pump HR-2 is needed to maintain water supply to the Kukio, Maniniowale, Stroud, and Makalei communities.

The chronology of the three HR-2 projects is as follows:

- In October 2014, KWSC completed Project 99772 the installation of a new pump.
- In April 2017, KWSC completed Project 109757 installation of a new pump.
- In September 2017, KWSC completed Project 114639 which installed a new motor and motor protector.

In October 2014, KWSC completed the subject Project 99772 and installed a new pump when because the HR-2 submersible pump failed due to corrosion of the pump bowls and the flow from the well dropped to 0 gpm.

The project was completed on 10/31/2014 at a total cost of \$150,644. The total project cost is broken down in the table below.

HR-2 Well Pump	\$ 63,174.13
Other	\$ 87,469.77
Total	\$150,643.90

Pursuant to the 1991 Makalei Agreement, KWSC's cost was adjusted to 68% of the final cost or \$102,438.

726 – HR-2 Well Pump Replacement (April 2017)
Project ID / WO 109757
Project Cost: \$64,054
Description:

Project 109757 consisted of replacing the HR-2 well pump in 2017. The HR-2 well pump motor had failed, and as a result, three wells were simultaneously out of service in the Kona well field (Wells HR-1, HR-2 and HR-4 were all out of service at this time). As a result of the pump failures, water storage tank levels approached critically low levels. Unless the Well HR-2 pump was immediately replaced, KWSC would not have been able to maintain sufficient fire flow and line pressure while sustaining the minimum water storage tank levels for fire suppression.

The chronology of the three HR-2 projects is as follows:

- In October 2014, KWSC completed Project 99772 the installation of a new pump.
- In April 2017, KWSC completed Project 109757 installation of a new pump.
- In September 2017, KWSC completed Project 114639 installation of a new motor.

In April 2017, KWSC completed Project 109757 installation of a new pump. The pump flow declined over time and when the pump was pulled, KWSC discovered that the pump bowls and the impeller blades had major damage.

The project was completed in 04/20/2017 at a total cost of \$94,198. The total project cost is broken down in the table below.

HR2 Well Pump Replacement	\$ 84,604.79
Capitalized Interest	\$ 34.71
Overhead	\$ 7,046.25
Labor	\$ 2,511.81
Total	\$ 94,197.56

Pursuant to the 1991 Makalei Agreement, KWSC's cost was adjusted to 68% of the final cost or \$64,054.

726 – HR-2 Well Motor & Motor Protector Replacement (September 2017)

Project ID / WO 114639

Project Cost: \$111,601

Description:

Project 114639 consisted of replacing the submersible well motor and motor protector with a new motor and motor protector. The motor and motor protector that failed had been in service since 2012. At the time, three out of five well pumps (HR-1, HR-2, and HR-4) were offline awaiting repairs. The wells that were in operation (wells HR-3 and HR-5) were challenged to keep up with water demand. These wells were operating around the clock despite having a conservation notice in place. Because the well equipment was being run continuously for extended periods of time, the water quality at HR-3 began showing signs of degradation including increases in chloride concentration and electrical conductivity. When a well is not running, the aquifer can recharge so that water quality can be improved. Further, operators can manage water quality by balancing the amount of pumping across the well field, which allows for increased and more consistent water quality. To that end, HR-2 needed to be brought back online as soon as possible to supplement the water supply, provide relief for HR-3 and HR-5, and ensure reliable water service to KWSC's customers.

The chronology of the three HR-2 projects is as follows:

- In October 2014, KWSC completed Project 99772 the installation of a new pump.
- In April 2017, KWSC completed Project 109757 installation of a new pump.
- In September 2017, KWSC completed Project 114639 installation of a new motor.

The project was completed in 09/17/2017 at a total project cost of \$164,119. The table below breaks out the cost.

HR-2 Well Pump Equipment	\$ 68,541.23
Capitalized Interest	\$ 214.25
Overhead	\$ 21,378.91
Labor	\$ 3,905.18
Other	\$ 70,079.65
Total	\$164,119.22

Pursuant to the 1991 Makalei Agreement, KWSC's cost was adjusted to 68% of the final cost or \$111,601.

726 – HR-3 Well Pump Replacement (2016)

Project ID / WO 102722

Project Cost: \$117,190

Description:

Well HR-3 (State Well No. 4558-01) is located in the Kiholo Aquifer at an elevation of 1,541 feet. HR-3 began pumping in the early 1990s. HR-3 has a capacity of 500 gpm with a 300 horsepower pump. HR-3 taps the island's basal lens, where fresh water floats on underlying salt water. HR-3 is important because the well is one of the higher production wells for the Kukio potable water system.

Project 102722 involved replacing the HR-3 well pump. At the time, the HR-3 well pump was out of service due to a motor failure in October 2014. As a result, pump equipment needed to be replaced in order to produce water from the HR-3 well. Replacement of the well pump equipment was also needed to allow down time for maintenance of other pumps and aquifer recharge of the other HR well sites.

The project was completed on 02/22/2016 at a total cost of \$172,338. The total project cost is broken down in the table below.

HR-3 Well Pump	\$164,687.50
Capitalized Interest	\$ 112.48
Overhead	\$ 6,696.59
Labor	\$ 841.38
Total	\$172,337.95

Pursuant to the 1991 Makalei Agreement, KWSC's cost was adjusted to 68% of the final cost or \$117,189.81.

726 – HR-3 Well Motor and Motor Protector Replacement (2019)

Project ID / WO 119302

Project Cost: \$99,302

Description:

Project 119302 consists of the replacement of the HR-3 motor and motor protector. The motor and motor protector were damaged due to an electrical failure in the motor control center (MCC) panel. An inspection of the MCC panel revealed that the short circuit was caused by a gecko entering the panel. All access into the MCC panel has since been sealed off. KWSC needs to replace this well pump equipment in order to keep up with water system demand, to allow down time for maintenance of other pumps, and to recharge the other HR well sites.

This project will be completed in 2019 at an estimated cost of \$146,033. Pursuant to the 1991 Makalei Agreement, KWSC's cost was adjusted to 68% of the final cost or \$99,302.

726 – HR-4 Well Pump & Equipment Replacement (2018)

Project ID / WO 112204

Project Cost: \$177,751

Description:

Well HR-4 (State Well No. 4459-01) is located in the Keauhou Aquifer at an elevation of 1,550 feet. HR-4 began pumping in the early 1990s. HR-4 has a capacity of 500 gpm with a 300 horsepower pump. HR-4 taps the island's basal lens, where fresh water floats on underlying salt water.

Project 112204 consisted of replacing the well pump equipment at Well HR-4 because it failed. The pump's flow output rate had been down to 350 gpm from the normal operating range of 580 – 600 gpm. The flow rate eventually dropped to zero when the motor protector shaft failed. The previous pump equipment had been installed in 2010. The pump facility pumps water to supply potable water to the Makalei, Stroud, Kukio, and Maniniowale communities. Replacement of the well pumping equipment at HR-4 was essential to ensure continuous water supply to these communities.

The project also consisted of the replacement of corroded 6" black iron national pipe thread ("NPT") threaded column pipe with 6-inch galvanized API 8 round threaded column pipe. The replacement column pipe was necessary to extend the life of the well at HR-4 because the previous column pipe was heavily corroded. Further, the previous pipe was threaded NPT, which isn't recommended for columns as deep as HR-4. The replacement galvanized pipe is threaded API 8 round, which is a deeper, tapered thread designed to "lock" the pipe together by providing more interlocking surface area. This thread design is also better suited to support the heavy weight of the submersible pumping equipment. The replacement column pipe is needed to keep the water pumping equipment at HR-4 operational. Life expectancy of the equipment is 5-10 years.

The project was completed at a total cost of \$261,399 on 04/10/2018. The total project cost is broken out in the table below.

HR-4 Well Pump Equipment	\$202,604.38
Capitalized Interest	\$ 1,339.37
BNS Reclass	\$ 87.60
Overhead	\$ 23,097.53
Labor	\$ 5,807.33
Retirements	\$ 28,462.50
Total	\$261,398.71

Pursuant to the 1991 Makalei Agreement, KWSC's cost was adjusted to 68% of the final cost or \$177,751.

726 – HR-5 Well Pump, Motor, and Motor Protector Replacement (2019)

Project ID / WO 119543

Project Cost: \$201,940

Description:

Well HR-5 supplies water to the Kukio and Maniniowale communities and is normally run to help maintain water level in Tank A, Tank B, and Tank 1 when demand is high. HR-5 is also equipped with a power transfer switch and stand by emergency generator.

Project 119543 consists of removing the well pumping equipment at HR-5 to inspect its condition and replacing the entire assembly. The well pumping equipment at HR-5 failed on 11/13/18. During troubleshooting, KWSC discovered that the motor winding on the center phase had shorted and required replacement. When the equipment was pulled, KWSC further discovered that the motor was "locked" and the motor protector and pump were difficult to turn when rotated by hand. The pump shroud and check valve were also badly corroded and needed to be replaced.

This is an emergency project because currently there are only two active wells to supply Kukio, Maniniowale, and Makalei communities, and KWSC needs HR-5 to be operational to ensure that it has an adequate supply of water for said communities.

The project is expected to be placed in service in 2019 at an estimated cost of \$201,940.

726 – HR-5 Power Transformer**Project ID / WO 114685****Project Cost: \$58,214****Description:**

Project 114685 consisted of replacing the power transformer at HR-5. The step-up transformer is required to bring the existing voltage up from 480 Volts to the required motor voltage of 2,411 Volts. Replacement of the power transformer at HR-5 was necessary to ensure reliable, trouble free operation of HR-5. Because oil was leaking from the seals at the connection terminals, the transformer experienced trouble with burnt connection terminals and its exterior was badly rusted. Replacement of the seals was not recommended by the manufacturer or technicians because the overall condition of the transformer casing was poor. Without the power transformer, well HR-5 would not be able to pump water.

Project 114685 was completed in 11/17/2017 at a cost of \$58,214. The cost is broken out in the table below.

HR5 Power Transformer	\$49,808.02
Capitalized Interest	\$1.01
Overhead	\$7,621.53
Labor	\$770.58
BNS Reclass	\$12.90
Total	\$58,214.04

726 – Pre-Filter Pressure Vessel**Project ID / WO 93477****Project Cost: \$79,690****Description:**

Project 93477 consisted of the addition of one new Pre-Filter Pressure Vessel to the existing two Pre-Filter Pressure Vessels at the KWSC Reverse Osmosis (“RO”) Water Treatment Plant (the “RO Plant”). Having a third Pre-Filter Pressure Vessel allows KWSC to perform maintenance on one Pre-Filter Pressure Vessel while the other two remain in operation, which improves service reliability.

The project was completed on 11/02/2016 at a cost of \$79,690. The cost is broken down in the table below.

Pre-Filter Pressure Vessel	\$ 74,171.70
Capitalized Interest	\$ 578.20
Overhead	\$ 1,302.61
Labor	\$ 3,236.95
Other	\$ 400.93
Total	\$ 79,690.39

726 – Pre-filter Skid Platform
Project ID / WO 97224
Project Cost: \$30,873
Description:

Project 97224 consisted of installing a new 10 foot x 4 foot x 6 foot working platform with stairs and railing in the pre-filter gallery at the RO Plant. The RO Plant previously did not have an operator platform for operators to access the pressure vessel lids in order to change and maintain the pre-filter bags. Before the platform was constructed, the plant operator would have to climb onto the plumbing in order to access the pressure vessel lids and pre-filter bags, which presented a serious safety hazard due to the potential for falling or other injury. The new platform significantly reduces this safety risk.

The project was completed on 11/02/2016 at a cost of \$30,873. The cost is broken down in the table below.

Pre-filter Skid Platform	\$ 12,499.92
Capitalized Interest	\$ 166.72
Overhead	\$ 686.23
Labor	\$ 16,782.67
Other	\$ 737.15
Total	\$ 30,872.69

726 – RO Membrane Train B

Project ID / WO 97229

Project Cost: \$54,241

Description:

A membrane train is a bank of pressure vessels that house the RO membranes. Each train contains 12 pressure vessels connected in parallel. Each pressure vessel directs pressurized water through seven RO membranes connected in series, which, in sum, comprises the RO treatment process.

Each RO train produces two types of effluent: permeate, which is the fresh water, and concentrate, which is the brine. The permeate water is recovered and used as potable water for the drinking water supply. The concentrate water is sent to the golf course irrigation lake to be used for irrigation.

Project 97229 consisted of the replacement of the RO membranes within Train B of the RO Water Treatment Plant. Prior to this replacement, the flow rate of Train B had decreased below expected levels. The life expectancy of the RO membrane, which is normally five to seven years, is a function of the water quality being treated. Recently, due to the age of the filters, water quality in the permeate began to deteriorate because salt was passing through the filters. In addition the flow rate out of Train B began to deteriorate. The project was needed to provide a higher quality permeate and increase the flow rate in Train B.

The project was completed on 09/21/2018 at a cost of \$54,241. The cost is broken down in the table below.

RO Membranes Train B	\$37,782.00
Overhead	\$7,387.36
Other	\$1,062.25
Labor	\$7,443.29
AFUDC	\$220.84
BNS Reclass	\$345.09
Total	\$54,240.83

726 – RO Plant SCADA Computer & Software Replacement

Project ID / WO 112030

Project Cost: \$39,445

Description:

A fully functional SCADA system provides, among other things: remote monitoring, operational control, historic data collection, and data reporting. The SCADA data makes KWSC's water and wastewater management system possible. Benefits to the potable water system include decreasing the number of service interruptions and a strategy to measure and reduce water loss. Benefits to the wastewater system include decreasing the likelihood of a sewer overflow. Moreover, the SCADA system can help reduce the number of after-hour call outs. Additionally, the SCADA system provides advanced warning of potential problems so that preventive action can be implemented. This increases operational reliability.

Project 112030 consists of replacing the SCADA Computer and Software for the RO Plant. As discussed above, the SCADA computer is a vital component in the operation of the water system and its replacement is necessary to keep the system functional. The existing SCADA computer operates on Windows XP, which is no longer supported by Microsoft. SCADA software cannot be updated due to the outdated XP operating system, and most alarm tags are no longer supported by the alarm auto-dialing system. Components for computer hardware are also obsolete and not readily available. Therefore, an upgrade is needed so that the SCADA computer and software can be supported and troubleshot as necessary.

The project is expected to be placed in service in 2019 at an estimated cost of \$39,445.

726 – Junction Boxes for Pump Leads

Project ID / WO #118150

Project Cost: \$82,586

Description:

The junction boxes form an integral part of a circuit protection system where circuit integrity has to be provided. Current enclosures around the splices from the well pump motor leads to the step-up electrical transformer at each well site are substandard as they are not lockable. In addition, the existing fiberglass junction boxes are deteriorated and pose a safety risk.

The pump motor leads carry at least 2,400 volts and present a significant arc flash risk to those working nearby. An arc flash (also called a flashover) is the light and heat produced as part of an arc fault, a type of electrical explosion or high-volume discharge that results from a low-impedance connection through air to ground or another voltage phase in an electrical system.

Project 118150 consists of replacing the substandard electrical boxes enclosing the medium voltage well pump motor lead splices to the step-up electrical transformer at each well site. This includes all five HR wells (HR-1 HR-2, HR-3, HR-4, and HR-5). These boxes will be lockable for safety and security purposes, and also more resistant to weather deterioration. The junction boxes will contain terminal blocks for attaching all electrical leads and provide shielding against arc flashes. The junction boxes are required to be outdoor weather rated Ingress Protection (IP) 66 or IP 67. Stainless steel boxes will be used for this project. If constructed out of stainless steel instead of fiberglass (as are currently present), the boxes are expected to last for 20 years.

The project is expected to be placed in service in 2019 at an estimated cost of \$82,586.

726 – Tank Modulating Float Valves

Project ID / WO 112045

Project Cost: \$311,000

Description:

The mauka to makai water transmission system is explained below.

When the water level drops to a preset level in the two 312 ft. storage tanks, an altitude valve opens and water begins flowing from the 0.5 MG storage tank that is next to the RO Plant and has a 620 ft. elevation spillway. When the 620 ft. tank drops to a preset water level, the RO Plant draws water from the mauka-to-makai transmission system. Initially, water to the RO Plant comes from the volume stored in the 16-inch pipeline between the RO Plant and the lowest of the three 0.056 MG steel tanks (lowest tank is at the 1,145 ft. elevation). Upon the start of the RO cycle, there is no water in the two higher 0.056 MG tanks or in their connecting pipelines. When the RO Plant's operating cycle begins, the pressure to the RO Plant at the upstream side of its inlet pressure reducing valve ("PRV") is about 220 pounds per square inch ("psi"), reflecting the head difference between the lowest 0.056 MG tank and the RO's PRV. As water passes through the RO, the pressure on the PRV drops. When it reaches about 200 psi, the opening of the flow control valve to the uppermost of the three 0.056 MG tanks is triggered. Water then flows into that tank from the 1,810 ft. 1.0 MG tank, down the 16-inch pipeline to the middle 0.056 MG tank, down the 16-inch pipeline to the lowest 0.056 MG tank, and from there to the RO Plant. Water flow down this corridor is essentially an unpressurized open channel with the altitude valves to the middle and lowest 0.056 MG tanks not functioning. Pressure to the RO plant fluctuates, which triggers the opening and closing of the control valve to the uppermost 0.056 MG tank.

The start-stop delivery of water level down the mauka-to-makai corridor is an operating issue for the RO Plant because the flow into the plant is variable and inconsistent. The issue can be addressed by keeping the three 0.056 MG tanks and the 16-inch mauka-to-makai pipeline full of water.

In its "Analysis of and Recommendations for the Mauka-to-Makai Transmission Corridor of the Kukio Water System", KWSC's consultant, Water Resource Engineering, recommended that KWSC install 8-inch modulating float valves with anti-cavitation trims to the inlets to each of the three 0.056 MG tanks. These valves will vary the flow into each tank to maintain the water level of each tank at a pre-set height. Presently, each of the 0.056 MG tanks has a 12-inch inlet pipe with a control valve (flow control on the upper tank and altitude valves on the lower two tanks) and an 8-inch bypass line. The modulating float valves will be installed on the 8-inch bypass lines and the 12-inch lines will be closed. With these valves in place, response to an RO operating cycle would be essentially immediate and the pressure drop at the RO Plant's PRV would be nominal (several psi as friction loss in the 16-inch, 7,837-ft. long pipe from the lowest 0.056 MG tank to the RO Plant) and the pressure would be constant for the remainder of the RO operating cycle.

Project 112045 consists of the installation of three modulating float valves on the Kukio mauka to makai water transmission system at the three 0.056 MG tanks located at the 1,145 ft. elevation, 1,345 ft. elevation, and 1,545 ft. elevation, respectively. Additionally, the existing valve vault covers at the 1,345-ft. tank site and the 1,145-ft. tank site require modification for installation of the float valves and access for ongoing maintenance. Specifically, the existing valve vault covers require being unburied and removed. With new hatchways, two buried vaults would be extended to the surface and converted to open vaults with openable lids.

The project is expected to be placed in service in 2019 at an estimated cost of \$311,000.

726 – Superintendent Vehicle

WO # 118345

Project Cost: \$41,410.12

Description:

Project 118345 is the purchase of a new vehicle for the KWSC operations superintendent and replaces vehicle V209205, the current superintendent vehicle. V209205 is a 2010 Toyota Tacoma, which will remain in service as a pool vehicle until it is retired from service. The existing vehicle has 169,793 miles and is eight years old. The replacement vehicle for V209205 is a 2018 Chevrolet Silverado. The KWSC operations superintendent is located on Hawaii Island and provides field support for KWSC.

The KWSC superintendent oversees all operations for KWSC and, therefore, needs transportation to all water and wastewater facilities. The KWSC superintendent also responds to operations in the field in the event of an emergency.

The new vehicle must be able to drive up to the Hu'e Hu'e well field and water transmission main in normal conditions, which requires a reliable four-wheel drive vehicle. The roads to the Hu'e Hue well field and water transmission main are very rocky, rugged, and remote in certain sections. The new vehicle must be able to carry loads, pull trailers and equipment, and seat five people in order to conduct system reconnaissance and perform field review of maintenance and construction projects with operators, consultants, and state or county regulators. In order to meet the requirements of the KWSC superintendent's duties, the new vehicle must have the following features: four-wheel drive, traction control, a towing capacity of at least 5,000 lb, 17" wheels with all terrain tires, off road suspension, and a back-up camera.

The project was completed on 11/27/2018 at a cost of \$41,410.12. This cost is broken out in the table below:

Superintendent Vehicle	\$41,483.61
Overhead	\$829.67
Labor	\$96.84
Total	\$41,410.12

727 – SPS Pump Control Replacement

Project ID / WO 93717

Project Cost: \$39,282

Description:

The KWSC wastewater system includes gravity sewer mains, numerous sewer manholes, and nine Sewer Pump Stations (“SPS”) to collect and transport domestic wastewater to the Kukio Wastewater Treatment Facility (the “Kukio WWTP”). Two of the nine SPSs are privately owned but maintained by KWSC. The SPS takes sewage from a lower elevation and lifts it to a higher elevation where it can resume flowing downhill by gravity or under force main conditions toward the Kukio WWTP. SPS 1, 3, 4, 5, 6, and 7 have automatic backup emergency electrical generators and transfer switches. SPS 2 is backed up by the Kukio Beach Club emergency generator. The general layout of the SPSs consists of two submersible wastewater pumps mounted on a rail system in a wet well. This configuration is ideal for maintenance because it does not require working in a confined space.

Project 93717 consists of a switch to Multitrode Multismart Units at SPS 1, 2, 3, 4, 5, 6, and 7. The existing station pump controllers were failing. The new control system allows direct communication with Hawaii Water’s SCADA system for controlling, monitoring, and reporting. The new control system will help prevent wastewater spills by reducing potential SPS failures.

The project was completed on 11/28/2016 at a cost of \$39,282. The cost is broken down in the table below.

SPS Pump Control Replacement	\$ 29,350.44
Capitalized Interest	\$ 220.52
Overhead	\$ 647.86
Labor	\$ 8,113.44
Other	\$ 949.79
Total	\$ 39,282.05

727 – SPS 2 6" Pump Discharge Pipe

Project ID / WO 97220

Project Cost: \$61,343

Description:

Project 97220 involves replacing approximately 60 feet of 6-inch diameter pump discharge pipe at SPS 2. The discharge pipes at SPS 2 are in poor condition, which could result in a sewage spill. This discharge pipe is located within the Kukio Golf and Beach Club cottage grounds and is in close proximity to the anchialine ponds, a swimming pool, and the ocean. A wastewater spill could result in adverse impact to customers, wildlife, and the environment.

The project is expected to be placed in service in 2019 at an estimated cost of \$61,343.

727 – MBR Gearboxes

Project ID / WO 97221

Project Cost: \$46,518

Description:

Project 97221 consisted of the replacement of ten MBR gearboxes at the Kukio WWTP as they were in poor condition and were either failing or had already failed. Gearbox failure due to wear can occur approximately every three years, depending on the amount of sludge treated. The scope of the project consisted of replacing six of the ten gearboxes; four other gearboxes were purchased under a separate project (Project 96756).

The MBR gearboxes are critical infrastructure at the Kukio WWTP and must be kept in operating condition because wastewater treatment cannot occur without them. In the past, KWSC has attempted to repair the gear boxes, but these attempts have ultimately failed. As a result, KWSC had no choice but to purchase new MBR gearboxes. The replacement MBR gearboxes allow the WWTP to continue wastewater treatment for the Kukio community.

The project was completed on 02/10/2017 at a cost of \$46,518. The cost is broken down in the table below.

MBR Gearboxes	\$ 35,665.05
Capitalized Interest	\$ 318.90
Overhead	\$ 3,043.93
Labor	\$ 7,490.33
Total	\$ 46,518.21

727 – WWTP Pressure Vessel Change

Project ID / WO 110437

Project Cost: \$25,273

Description:

One of the critical pieces of equipment at the Kukio WWTP is the air compressor system, which, among other things, powers the sludge feed forward pumps. During a routine inspection it was discovered that the pressure vessel in the air compressor system had developed a crack, which jeopardized its integrity and created a significant safety risk. The system was immediately shut down when the crack was discovered. KWSC rented an air compressor system that provided a temporary solution to provide the necessary compressed air. However, this temporary emergency system was not permitted by the State of Hawaii for permanent use.

Project 110437 consisted of the removal of the damaged pressure vessel and the installation of the new pressure vessel in the WWTP Blower Room. After the installation of the new pressure vessel, operators re-attached the compressor motors and brought the air compressor system back online.

The project was completed on 5/18/2017 at a cost of \$25,273. The cost is broken down in the table below.

WWTP Pressure Vessel Change	\$ 17,900
Capitalized Interest	\$ 5.36
Overhead	\$ 2,086.34
Labor	\$ 5,263.22
Other	\$ 18.28
Total	\$ 25,273.20

727 – WWTP Drums Replacement (Critical Asset Rehab)**Project ID / WO 114439****Project Cost: \$424,061****Description:**

The Kukio Treatment Plant Conditional Needs Assessment (“Condition Assessment”) report dated July 2017 by Water Works Engineers (WO111368) identified several critical assets at the WWTP as failed or failing. Among those critical assets noted as failed or failing were at least four of the WWTP’s 12 Geo-Reactor rotating biological contactor drums and their contained biological growth media. As part of the Condition Assessment, Water Works Engineers explored rehabilitating the drums.

Ultimately, Water Works Engineers was contracted under Project 114439 to assist with, among other things, locating a source for replacement or rehabilitation of the Geo-Reactor drums. Water Works Engineers found the original manufacturer of the Geo-Reactor drums, Parkson Corporation, and solicited a proposal for the construction and installation of replacement drums and media. KWSC subsequently took over negotiations and solicited the current proposal for manufacture of four OEM replacement Geo-Reactor drums and the contained media, as well as provision of replacement media for four more of the drums where the media are disintegrating. This work is required to keep the plant operational. Without this project, the treatment capacity of the existing WWTP would not be able to keep up with generated wastewater effluent, leading to a wastewater violation.

The project was completed on 08/08/2018 at a cost of \$424,060.58. The table below breaks out the cost.

WWTP Drums Replacement	\$277,227.77
AFUDC	\$3,919.56
Overhead	\$40,583.85
Other	\$66.99
Labor	\$37,972.99
BNS Reclass	\$1,309.58
Retirements	\$62,979.84
Total	\$424,060.58

727 – WWTP SCADA Computer & Software

Project ID / WO 112032

Project Cost: \$27,511

Description:

As discussed in the description of Project 112030 above, the SCADA computer is a vital component in the operation of the wastewater system and its replacement is necessary to keep the system functional.

WO 112032 consists of replacing the SCADA Computer and Software for the Kukio WWTP. The existing SCADA computer operates on Windows XP, which is no longer supported by Microsoft. SCADA software cannot be updated due to the outdated XP operating system, and most alarm tags are no longer supported by alarm auto-dialing system. Components for computer hardware are also obsolete and not readily available. Therefore, a hardware and software upgrade is necessary so that the SCADA computer can be supported and troubleshot as needed.

The project is expected to be placed in service in 2019 at an estimated cost of \$27,511.

727 – Upgrade Preliminary Design
Project ID / WO 114440
Project Cost: \$46,666
Description:

Water Works Engineers (“WWE”) was retained by KWSC in Project 114440 to provide professional engineering support to evaluate and recommend whether KWSC should rehabilitate or replace certain components of the existing WWTP. The Upgrade Preliminary Design Report prepared by WWE is the current Master Planning Document providing recommendations for WWTP component rehabilitation or replacement.

The preliminary design report was completed in 08/2018 at a cost of \$46,666. The table below breaks out the cost.

Upgrade Preliminary Design	\$28,837.27
Capitalized Interest	\$818.92
Overhead	\$5,716.19
Labor	\$11,153.14
BNS Reclass	\$140.11
Total	\$46,665.63

726 & 727 – Kukio Office Expansion

Project ID / WO 67610

Project ID / WO 67607

Project Cost: \$132,000

Description:

The KWSC administrative office serves KWSC's water and wastewater utilities. The office serves as the main location that provides essential operational support functions such as the wastewater laboratory and SCADA monitoring and controls. The office consists of one 22-foot by 24-foot room, which provides the following functions for KWSC employees: administrative office, lunch room, wastewater treatment plant laboratory, employee work stations, and employee personal storage lockers.

The current office size and configuration no longer allows KWSC to perform its essential operational support functions in an efficient and safe manner. The wastewater treatment plant laboratory and lunch table are located within close proximity of each other (approximately 7 feet). Further, six employees do not have storage lockers.

The project will modify the floor plan of the existing building by: (1) constructing interior walls to separate the lab and lunchroom/meeting room; (2) creating sufficient locker space for all the employees; and (3) installing a door to link the operator office to the adjoining supervisor office. This project will improve the safety and efficiency of the office by providing separate, easily accessible work areas for the laboratory, private changing area, and the lunch area. This project will also provide a second exit route for emergency evacuation.

The project is expected to be placed in service in 2019 at an estimated cost of \$132,000. The cost will be split evenly between Kona Water and Kona Sewer.

720 – SCADA Vulnerability Assessment

790 – SCADA Upgrade 2018

Project ID / WO 117252 & 118883

Project Cost: \$41,804 + \$78,082 = \$119,886

Description:

Projects 117252 and 118883 are projects that upgrade network security. The first part of the project is the master planning phase or the SCADA Vulnerability Assessment (“SCADA VA”) project. The SCADA VA defined the scope of work for the second part of the project (“SCADA Upgrade 2018” or “2018 SCADA Upgrade”).

The SCADA system provides: remote monitoring, operational control, historic data collection, and data reporting. The water SCADA system includes equipment that transmits well and tank site data to the field office. The wastewater system includes equipment that transmits wastewater treatment plant and wastewater lift station data to the field office. SCADA equipment provides real time data and has the ability to report emergency levels and variances to the operator. It gives the operator the ability to check the system remotely by laptop. All wells, tanks, pump stations, wastewater treatment plants, and wastewater lift stations are connected to the system. Benefits of SCADA to the potable water systems include decreasing the number of service interruptions and a strategy to measure and reduce water loss. Benefits to the wastewater system include decreasing the likelihood of a sewage overflow. The SCADA system provides advanced warning of potential problems so that corrective action can be implemented to increase operational reliability.

As noted above, Project 117252 was a vulnerability assessment on the SCADA network. It reviewed the Information Technology and Operation Technology systems and pinpointed the weaknesses that required a fix/patch to prevent a security breach. (Weaknesses were exploits that hackers could use to compromise a system.) With the recent Equifax breach due to lack of patching, a company’s network is only as secure as its latest vulnerability assessment. Hawaii Water completed this assessment to determine the weaknesses in its SCADA system and apply fixes to those weaknesses. If a security vulnerability is fixed, then an attacker will not have that chance to compromise a system. The SCADA system must be evaluated regularly for security vulnerabilities. This will prevent a potentially massive cyber security breach that would compromise vast amounts of sensitive data. Additionally, this project put Hawaii Water in closer alignment with the NIST 800-53 framework that the company is trying to follow. The project allows Hawaii Water to quickly detect and fix vulnerabilities and will prevent a reportable breach, litigation and/or fines.

The 2018 SCADA Upgrade for all Hawaii Water Service systems replaced three servers with six hard drives. As defined in the SCADA VA, the existing SCADA System did not meet security requirements addressed by a Pen Test remediation study. The assessment concluded that these three locations had security flaws in both systems that could not be mitigated through patching. Furthermore, the existing SCADA

hardware at Hawaii treatment plants had reached their end of life and were no longer supported by the manufacturer.

These projects were completed in 11/2018 at a cost of \$41,804 and \$78,082 for Project 117252 and Project 118883, respectively. The costs are broken out in the two tables below.

SCADA Vulnerability assessment	\$34,065.51
Capitalized Interest	\$312
Overhead	\$5,462.13
Labor	\$2,209.56
BNS Reclass	\$63.56
Total	\$41,803.88

SCADA Upgrade 2018	\$49,395.92
AFUDC	\$251.69
Overhead	\$13,215.38
Labor	\$14,092.67
BNS Reclass	\$1,126.29
Total	\$78,082.05

720 – 2019 New Boom Truck

Project ID / WO #118340

Project Cost: \$353,553

Description:

Project 118340 replaces the 1991 crane truck, vehicle number 191HCM-V20222 on the Big Island. The crane truck was a Simon Truck Crane, Model #1647, Serial No. 4800791023 with a 20 foot boom. The crane truck failed a safety certification inspection on October 20, 2017. The safety certification inspection is required in order to meet the requirements of the State of Hawaii Department of Labor and Industrial Relations Title 12 and Division of Occupational Safety and Health Subtitle 8, Chapter 136. Examples of some of the deficiencies on the crane truck included: (1) leakage from main control valve hose and fittings; (2) rear sub frame bolts from stabilizer were loose (3) leakage from control valve (4) leakage from bottom of rotating motor; (5) stress crack on housing of hook end; and (6) safety lever was damaged. The crane was immediately red-tagged and removed from service on October 20, 2017 after the deficiencies of the crane inspection were discovered and documented.

A boom truck is a commercial truck-mounted crane. A crane is a large machine with long movable components on a rotating superstructure or turntable, which are used to move or forklift heavy objects by attaching them to the crane with fixed cables or strong wires.

The boom truck will serve the Waikoloa Village wastewater system, Waikoloa Resort system, Kukio wastewater system, Waikoloa irrigation system, Waikoloa Village and Resort water system, and the Kukio water system. Additionally, the boom truck could be used at the Waikoloa and Kukio base yards.

The boom truck has a wide variety of uses, including the handling of pumps, motors, pipes, pipe fittings, valves and other heavy material. The boom truck's biggest advantage is its mobility.

On the wastewater side, having a boom truck during an emergency could potentially prevent a sewer spill because the operators could begin repairs much more quickly as compared to the time it takes time to find a crane contractor who can mobilize its crane onsite to help with an emergency. On the potable water side, having a boom truck during an emergency could greatly reduce the amount of water loss due to a leak due to the decrease in response time.

The project is expected to be placed in service in 2019 at an estimated cost of \$353,553.

790 – Wastewater Manager Vehicle

WO # 119213

Project Cost: \$44,547

Description:

WO 119213 is the purchase of a replacement vehicle for V208200 which has 206,849 miles and is 10 years old. V208200 is a 2008 Nissan Frontier and the replacement vehicle is a Toyota 4Runner. The new replacement vehicle is for the Capital Delivery/Wastewater Manager. The Capital Delivery/Wastewater Manager is physically located on Maui. The position provides field support to the Pukalani and Ka'anapali utilities as well as support for all of Hawaii Water's wastewater operations. One aspect of the Capital Delivery/Wastewater Manager duties is to perform field evaluations of capital projects to assess the existing condition of the infrastructure. Other duties of the Capital Delivery/Wastewater include: construction management and construction inspection of capital projects in remote sites and assistance with operations in the field the event of an emergency.

The new vehicle must be able to make it up to the Ka'anapali well field in normal conditions which requires a robust and reliable 4 wheel drive vehicle. The roads to the Ka'anapali well field are steep, rugged, and remote. The new vehicle must be able to seat 5 in order conduct system reconnaissance and field review of capital projects with operators, consultants, and state or county regulators. In order to meet the requirements of the Capital Delivery/Wastewater Manager's duties.

The project is expected to be completed in 2019 at a cost of \$44,547. This cost is broken out in the table below:

Wastewater Manager Vehicle	\$42,807.98
Overhead	\$872.97
Labor	\$840.29
BNS Reclass	\$25.81
Total	\$44,547.05

CONFIDENTIALITY LOG

Application

Docket No. 2018-0388

Reference	Identification of Item	Basis of Confidentiality/Restriction	Harm
Exhibit KWSC 2, Schedule G	Principal and Payment Amounts of Promissory Note	Confidential business and financial information not publicly disclosed.	<p>Applicant's parent company considers this information to be confidential because it can be used to determine the purchase price paid for the assets of KWSC, which Applicant's parent considers highly confidential, and was treated as confidential in Docket No. 2008-0109.</p> <p>Public disclosure of this confidential information could disadvantage Applicant's parent company in any future negotiations for the acquisition of other utilities.</p>
Exhibit KWSC 2, Schedule I.1	Method of calculating dividends paid by Applicant's parent company.	Confidential business and financial information not publicly disclosed.	Applicant's parent company considers this information to be highly confidential. Public disclosure of this confidential information could disadvantage Applicant's parent company in any future negotiations for the acquisition of other utilities.
Exhibit KWSC-T-201	Payroll Allocations	Privacy; confidential business and financial information not publicly disclosed.	Applicant's employees have a privacy interest in this information. In addition, disclosure of this information would harm Applicant in recruiting and retaining qualified employees, in employee morale, as well as the cost of addressing any potential improper use of the confidential information.

VERIFICATION OF PAUL TOWNSLEY

STATE OF California)
COUNTY Santa Clara) SS.

PAUL TOWNSLEY, being first duly sworn, deposes and says:

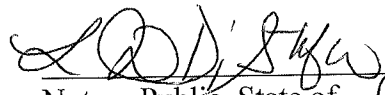
1. That he is the Vice President-Regulatory Matters of KONA WATER SERVICE COMPANY, INC. ("KWSC") and is the duly appointed representative of KWSC in the above matter;
2. That he has read the foregoing Application and exhibits, and knows the contents thereof; and
3. That he is authorized by KWSC to verify, and he does verify, that the contents of the foregoing Application are true to the best of his knowledge, information, and belief.

FURTHER AFFIANT SAYETH NAUGHT.

DATED: February, 22, _____, 2019.


PAUL TOWNSLEY

Subscribed and sworn to before me
this 22 day of February 2019


Notary Public, State of California
My commission expires: 1-21-2021



CERTIFICATE OF SERVICE

I hereby certify that on this date, copies of the foregoing document were duly served on the following, by having said copies delivered as set forth below:

DIVISION OF CONSUMER ADVOCACY
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS
335 Merchant Street, Room 326
Honolulu, Hawaii 96813

3 COPIES VIA
HAND-DELIVERY

THE HONORABLE HARRY KIM
Mayor
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

1 COPY VIA
U.S. MAIL

DATED: Honolulu, Hawaii, February 28, 2019.



JEFFREY T. ONO
DAVID Y. NAKASHIMA
JOHN E. DUBIEL
Attorneys for Applicant
KONA WATER SERVICE COMPANY, INC.