BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAI'I

)

In the Matter of the Application of

KONA WATER SERVICE COMPANY, INC.

For a General Rate Increase and For Approval of Revisions of Its Tariff

664290

Docket No. 2018-0388

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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

JEFFREY T. ONO DAVID Y. NAKASHIMA JOHN E. DUBIEL Watanabe Ing LLP 999 Bishop Street, Suite 1250 Honolulu, Hawaii 96813 Telephone: (808) 544-8300

Attorneys for Applicant KONA WATER SERVICE COMPANY, INC.

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAI'I

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

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

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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:

		Proposed	Percent
Monthly Water Fees	Present Rate	Rate	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.

<u>Schedules</u>

A.	Amount and kinds of stock authorized by articles of incorporation and amount outstanding.
В.	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
М.	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. <u>KWSC Water Operations</u>

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. <u>Testimonies and Supporting Exhibits</u>

Exhibit KWSC-T-100 Testimony of Robert Stout

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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
Exhibit KWSC-T-104 Exhibit KWSC-T-105 Exhibit KWSC-T-106 Exhibit KWSC-T-107	Committed Capacity Adjustment True-up Amortization KWSC Water Cost of Service Study

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. <u>Request for Waiver</u>.

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 Delloitte & 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).

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

VII. <u>CONCLUSION</u>

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

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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.

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

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

Kona Water Service Company 1 **Property and Equipment** 2 3 4 Property Kona Water Service Company, Inc. (KWSC) provides potable water and wastewater 5 services within the Company's authorized service area. In addition, KWSC provides untreated 6 water to properties within and adjacent to its service territory. 7 8 9 Plant Water System 10 KWSC's water system is comprised of five wells (HR-1 through HR-5) with the ability to 11 have a sixth well installed. Wells HR-1 through HR-5 have the capability of producing 12 approximately 2.5 million gallons per day (gpd). KWSC's water system also consists of two 13 booster pump stations, nine tanks in various locations, and approximately 32,000 linear feet of 14 16 inch pipeline in-service in its system that transmits the water to the distribution systems 15 within its service territory. A portion of the water pumped from wells is directed to the West 16 Hawaii Veteran's Cemetery and Makalei before it is treated by the Reverse Osmosis treatment 17 system. The rest of the water pumped from the wells flows to the Reverse Osmosis treatment 18 system, where it is treated to serve KWSC's customers in the residential developments known as 19 the Kukio Beach Club and Manini'owali. KWSC also provides potable water to Kua Bay State 20 Beach Park. The KWSC system has approximately nine water tanks with a capacity of 4.17 21 million gallons. The telemetry controls encompass the wells, reservoirs, transmission lines and 22 Reverse Osmosis system. 23 24 25 Wastewater System KWSC's wastewater system has seven pump stations located throughout its service 26

kwsc s wastewater system has seven pump stations recured in organization feedback in organization
territory to facilitate the flow thorough transmission mains to the waste water treatment plant,
which has a treatment capacity of approximately 100,000 gpd. Each pump station is equipped
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.

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Docket No. 2018-0388 Exhibit KWSC 2, Schedule A Amount and Kinds of Stock Witness: Stout

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

Description	# of Shares <u>Authorized</u>	# of Shares <u>Issued</u>	PAR Value Per <u>Share</u>	Total PAR <u>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

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

None

Docket No. 2018-0388 Exhibit KWSC 2, Schedule C Security Agreements, Mortgages, and Deeds of Trust Witness: Stout

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

None

Docket No. 2018-0388 Exhibit KWSC 2, Schedule D Unaudited Financial Statements for the year ended December 31, 2017 Witness: Stout

KONA WATER SERVICE COMPANY

BALANCE SHEET DECEMBER 31, 2017

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

Docket No. 2018-0388 Exhibit KWSC 2, Schedule D Unaudited Financial Statements for the year ended December 31, 2017 Witness: Stout

KONA WATER SERVICE COMPANY

BALANCE SHEET DECEMBER 31, 2017

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

Docket No. 2018-0388 Exhibit KWSC 2, Schedule D KONA WATER SERVICE COMPANY Witness: Stout

INCOME STATEMENT DECEMBER 31, 2017

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

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Docket No. 2018-0388 Exhibit KWSC 2, Schedule D

KONA WATER SERVICE COMPANY Witness: Stout

INCOME STATEMENT DECEMBER 31, 2017

ACCOUNT NUMBER

CY 2017

OPERATING EXPENSES - WATER

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	1,847,322

Docket No. 2018-0388 Exhibit KWSC 2, Schedule D

KONA WATER SERVICE COMPANY

INCOME STATEMENT DECEMBER 31, 2017

ACCOUNT	
NUMBER	

CY 2017

OPERATING EXPENSES - WASTEWATER

	NET OPERATING INCOME / (LOSS)	3,147,448
	Total Operating Expenses	2,177,753
	Total Operating Expenses - Wastewater	330,431
720.11 775.11	Reclaimed Wtr Distr - Materials & Supplies Reclaimed Wtr Distr - Miscellaneous Expense	0 4,284
720.10	Reclaimed Wtr Treat - Maint - Matls & Supplies	v
701.10	Reclaimed Wtr Treat - Maint - Salaries & Wages	Ő
758.9	Reclaimed Wtr Treat - Insurance - Wrk Comp	0
750.9	Reclaimed Wtr Treat - Transportation Expense	0
720.9	Reclaimed Wir Treat - Waterials & Supplies	20
718.9	Reclaimed Wtr Treat - Materials & Supplies	õ
701.9	Reclaimed Wtr Treat - Salaries & Wages Reclaimed Wtr Treat - Chemicals	0
110.0		0
775.6	Treat & Dipsosal - Maint - Misc Expense	1,407
735.6	Treat & Dipsosal - Maint - Contractual Svc - Test	0
720.6	Treat & Dipsosal - Maint - Materials & Supplies	3,326
701.6	Treat & Dipsosal - Maint - Salaries & Wages	0
775.5	Treat & Disposal - Miscellaneous Expense	14,970
750.5	Treat & Disposal - Transportation Expenses	6,576
742.5	Treat & Disposal - Rental of Equipment	2,777
736.5	Treat & Disposal - Contractual Svc - Other	0
735.5	Treat & Disposal - Contractual Svc - Testing	985
731.5	Treat & Disposal - Contractual Svc - Engr	0
720.5	Treat & Disposal - Materials & Supplies	2,564
718.5	Treat & Disposal - Chemicals	2,924
711.5	Treat & Disposal - Sludge Removal Expense	3,730
710.5	Treat & Disposal - Purchased WW Treatment	-
701.5	Treat & Disposal - Salaries & Wages	67,164 0
• •		67,164
701.4	Pumping - Maint - Misc Expense	0
701.4	Pumping - Maint - Salaries & Wages	0
742.3	Pumping - Miscellaneous Expense	7,089
735.5 742.3	Pumping - Rental of Equipment	0
731.3	Pumping - Contractual Svc - Testing	1,348
731.3	Pumping - Contractual Svc - Engr	0
718.3	Pumping - Chemicals	0
716.3	Pumping - Fuel for Power Production	1,148
701.3	Pumping - Salaries & Wages	37,209
775.2	Collection - Maint - Miscellaneous Expense	16,706
735.2	Collection - Maint - Contractual Svc - Testing	4,387
720.2	Collection - Maint - Materials & Supplies	808
701.2	Collection - Maint - Salaries & Wages	14,191
715.3	Purchased Power	136,816
		400.040

Docket No. 2018-0388 Exhibit KWSC 2, Schedule D KONA WATER SERVICE COMPANY

Witness: Stout

INCOME STATEMENT

DECEMBER 31, 2017

ACCOUNT NUMBER

CY 2017

614,258

OTHER INCOME & EXPENSES;

403.	Depreciation Expense	466,108
403.	Amortization Expense	0
	Taxes Other Than Income	0
408.	Revenues - Jobbing & Contract Work	0
415. 416.	Costs & Expenses - Jobbing & Contract Work	0
419.	Interest and Dividend Income	0
413.	Nonutility Income	467
421.	Miscellaneous Nonutility Expenses	0
427.	Interest Expense / (Income)	158,187
	Total Other Income & Expenses	624,761
	GENERAL & ADMINISTRATIVE EXPENSES:	
	Quelence Associate Solarios & Wages	13 173

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
	Admin & General - Contractual Svc - Engr	0
631.8	Admin & General - Contractual Svc - Acctg	0
632.8	Admin & General - Contractual Svc - Legal	3,150
633.8	Admin & General - Contractual Svc - Other	14,213
636.8	Admin & General - Building/Property Rental	6,400
641.8	Admin & General - Insurance - Gen Liab	71,925
657.8	Admin & General - Insurance - Worker's Comp	12,073
658.8	Admin & General - Insurance - Worker s Comp	0
659.8	Admin & General - Insurance - Other	53,994
667.8	Admin & General - Regulatory Comm Expense	643,227
675.8	Admin & General - Misc Expense	045,227
	Total General & Administrative Expenses	1,154,146
	NET INCOME/(LOSS) BEFORE INCOME TAXES	1,368,541
409	Income Tax Expense / (Benefit)	754,283

NET INCOME/(LOSS)

Docket No. 2018-0388 Exhibit KWSC 2, Schedule E Unaudited Financial Statements for the six months ended June 30, 2018 Witness: Stout

KONA WATER SERVICE COMPANY

BALANCE SHEET JUNE 30, 2018

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

Docket No. 2018-0388 Exhibit KWSC 2, Schedule E Unaudited Financial Statements for the six months ended June 30, 2018 Witness: Stout

KONA WATER SERVICE COMPANY

BALANCE SHEET JUNE 30, 2018

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

Docket No. 2018-0388 Exhibit KWSC 2, Schedule E Unaudited Financial Statements for the six months ended June 30, 2018 KONA WATER SERVICE COMPANY Witness: Stout

INCOME STATEMENT JUNE 30, 2018

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

Docket No. 2018-0388 Exhibit KWSC 2, Schedule E Unaudited Financial Statements for the six months ended June 30, 2018 KONA WATER SERVICE COMPANY Witness: Stout

INCOME STATEMENT JUNE 30, 2018

ACCOUNT NUMBER

CY 2018

OPERATING EXPENSES - WATER

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	2,039
	Total Operating Expenses - Water	830,803

Page 2 of 4

Docket No. 2018-0388 Exhibit KWSC 2, Schedule E

Witness: Stout

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

INCOME STATEMENT JUNE 30, 2018

ACCOUNT NUMBER	.	CY 2018
	OPERATING EXPENSES - WASTEWATER	
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 & Dipsosal - Maint - Salaries & Wages	0
720.6	Treat & Dipsosal - Maint - Materials & Supplies	648
735.6	Treat & Dipsosal - Maint - Contractual Svc - Test	0
775.6	Treat & Dipsosal - 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 - Matls & Supplies	0
720.11	Reclaimed Wtr Distr - Materials & Supplies	0
775.11	Reclaimed Wtr Distr - Miscellaneous Expense	1,636
	Total Operating Expenses - Wastewater	152,317
	Total Operating Expenses	983,120
	NET OPERATING INCOME / (LOSS)	1,554,235

Docket No. 2018-0388 Exhibit KWSC 2, Schedule E KONA WATER SERVICE COMPANY

Witness: Stout

INCOME STATEMENT JUNE 30, 2018

ACCOUNT NUMBER

CY 2018

451,989

OTHER INCOME & EXPENSES;

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)	73,732
	Total Other Income & Expenses	307,506

GENERAL & ADMINISTRATIVE EXPENSES:

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
620.8 631.8	Admin & General - Contractual Svc - Engr	0
632.8	Admin & General - Contractual Svc - Acctg	0
633.8	Admin & General - Contractual Svc - Legal	0
	Admin & General - Contractual Svc - Other	4,256
636.8	Admin & General - Building/Property Rental	6,400
641.8	Admin & General - Insurance - Gen Liab	29,395
657.8	Admin & General - Insurance - Worker's Comp	5,988
658.8	Admin & General - Insurance - Other	0
659.8	Admin & General - Regulatory Comm Expense	29,322
667.8	Admin & General - Misc Expense	301,520
675.8	Admin & Ocheral - Mice Experies	
	Total General & Administrative Expenses	512,342
NET INCOME/(LOSS) BEFORE INCOME TAXES		734,387
	Income Tox Exponse / (Benefit)	282,397
409	Income Tax Expense / (Benefit)	

NET INCOME/(LOSS)

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

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None

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

Kona Water Service Company, Inc. Each Note Outstanding

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

Amount Interest Rate Term Agreement Date Due Date Monthly Payment

Туре

5.50% 30 years 12/31/2011 12/20/2041

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*

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

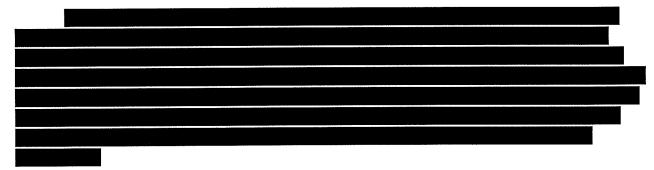
9

*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.

CONFIDENTIAL INFORMATION Deleted Pursuant to Protective Order No. 36174

Docket No. 2018-0388 Exhibit WHUC 2, Schedule I.1 Dividends Witness: Stout

Explanation of Dividends paid by Hawaii Water.



Hawaii Water Dividend Payment Summary 2016

Period Ending	Amo	ount Paid
Q2 2016		
Q3 2016		
Total	\$	126,652

STATEMENT OF INCOME Twelve Months Ended June 30, 2016

	HWSCO 12M This Year
Operating revenue	\$22,090,074
Operating expenses: Operations:	
Purchased water Purchased power	254,194 6,698,827
Pump taxes	0
Administrative and General	4,582,455
GO Allocations	1,029,437
Other operations	3,227,939
Total operations	15,792,853
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	20,596,312
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 (109,482)
Interest:	(109,402)
Interest on long-term debt	0
Other interest	1,274,529
Interest capitalized	(30,787)
Amortization of bond premium and expense, net	O O
	1,243,742

NET INCOME

140,538

STATEMENT OF INCOME Twelve Months Ended September 30, 2016

	HWSCO
	12M
	This Year
Operating revenue	\$22,333,474
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	3,275,761
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	1,613,400
Total operating expenses	20,320,746
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	39,729
	(57,771)
Interest:	_
Interest on long-term debt	0
Other interest	1,283,280
Interest capitalized	(32,131)
Amortization of bond premium and expense, ne	
	1,251,149

NET INCOME

703,808

Cash balance as of 9/30/2016

3,257,904

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Hawaii Water Dividend Payment Summary 2017

Period Ending	Amo	ount Paid	Notes
Q4 2016			Calculated Dec 2016 but paid in Jan 2017
Q1 2017			
Q2 2017			·
Q3 2017			_
Total	\$	674,108	=

STATEMENT OF INCOME Twelve Months Ended December 31, 2016

	HWSCO
	12M
	This Year
Operating revenue	\$22,873,033
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	15,022,253
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	20,481,109
Total operating expenses	20,101,100
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
	(75,401)
Interest:	
Interest on long-term debt	0
Other interest	1,281,101
Interest capitalized	(32,502)
Amortization of bond premium and expense, n	
	1,248,599

NET INCOME

1,067,924



STATEMENT OF INCOME Twelve Months Ended March 31, 2017

	HWSCO 12M <u>This Year</u> \$22,832,121
Operating revenue	ΦΖΖ,03Ζ, ΙΖΙ
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	15,021,130
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	20,470,164
	0.004.057
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
-	(57,516)
Interest:	0
Interest on long-term debt	1,289,973
Other interest	(33,142)
Interest capitalized	
Amortization of bond premium and expense, ne	1,256,831
	1,200,001

NET INCOME

1,047,611

ROTECTIVE	STATEMENT OF INCOME
Т	welve Months Ended June 30, 201 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	
	(37,893)
Interest: Interest On Long-Term Dept	. 0
Other Interest	1,309,379
Interest Capitalized	(34,847)
Amort of Bond Prem and Exp, Net	(04,047)
Amore of Bond From and Exp, Not	1,274,532
	\$1,272,840

	STATEMENT OF INCOME Twelve Months Ended September 30, 2017
	HWSCO This Year
	This real
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	3,867,929
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	1,767,513
Total Operating Expenses	21,570,970
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	79,565
	(115,705)
Interest:	
Interest On Long-Term Dept	0
Other Interest	1,333,812
Interest Capitalized	(41,154)
Amort of Bond Prem and Exp, Net	0
	1,292,658
NET INCOME	\$1,105,676

Hawaii Water Dividend Payment Summary 2018

Amo	ount Paid
\$	539,354

Docket No. 2018-0388 Exhibit KWSC 2 Schedule I.1 Dividends Witness: Stout

Statement of Income Twelve Months Ending December 31, 2017

	This Year
	······································
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	16,318,299
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	21,917,924
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
	(103,395)
Interest:	
Interest On Long-Term Dept	0
Other Interest	1,360,705
Interest Capitalized	(3,322)
Amort of Bond Prem and Exp, Net	0
	1,357,383
Equity Earnings of Subsidiaries	0
NET INCOME	\$917,041
NET INCOME	\$717,041

Statement of Income Twelve Months Ending March 31, 2018

	HWSC	
	This Year	
perating Revenue	\$24,305,636	
perating 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	3,967,563	
Total Operations	16,310,439	
Maintenance	812,833	
Depreciation and Amortization	2,313,026	
Federal income taxes	543,686	
State income taxes	116,836	
	1,752,183	
Taxes Other Than Income Taxes		
Total Operating Expenses	21,849,004	
t Operating Income	2,456,632	
her 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	73,942	
neone raxes on oner meone and pap	(122,826)	
terest;		
Interest On Long-Term Dept	0	
Other Interest	1,390,830	
Interest Capitalized	(14,977)	
Amort of Bond Prem and Exp, Net	0	
	1,375,853	
quity Earnings of Subsidiaries	0	
IET INCOME	\$957,953	

.

Statement of Income Twelve Months Ending June 30, 2018

	нм
	This Year
perating Revenue	\$24,210,892
perating 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	16,369,505
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	21,847,174
t Operating Income	2,363,719
ther 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
meenie ruxes en outer meenie and mp	(157,665)
iterest:	
Interest On Long-Term Dept	0
Other Interest	1,421,890
Interest Capitalized	(27,774)
Amort of Bond Prem and Exp. Net	(,)
	1,394,116
quity Earnings of Subsidiaries	0
IET INCOME	\$811,938

Statement of Income Twelve Months Ending September 30, 2018

,

	HWS	
	This Year	
perating Revenue	\$24,160,742	
perating Expenses:		
Operations:		
Purchased Water	216,304	
Purchased Power	7,489,043	
Pump Taxes	, í í í í í í í í í í í í í í í í í í í	
Administrative and General	3,762,391	
GO Allocation	1,149,903	
Other Operations	3,382,204	
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	1,780,282	
Total Operating Expenses	22,354,990	
Total Operating Expenses		
Operating Income	1,805,752	
her 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	64,866	
	(180,581)	
terest:		
Interest On Long-Term Dept	0	
Other Interest	1,457,200	
Interest Capitalized	(35,787)	
Amort of Bond Prem and Exp, Net	0	
	1,421,413	
uity Earnings of Subsidiaries	0	
	\$908,758	

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

Docket No. 2018-0388 Exhibit KWSC 2, Schedule K Option Elected by KWSC Witness: Stout

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 statues, 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.

i

Docket No. 2018-0388 Exhibit KWSC 2, Schedule O Statement of Increase Witness: Stout

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)	Ohanna in Devenues
1			Dragont	^	dditional		est Year posed Rates	Change in Revenues
2 3			Present Rates		Amount	FIU	7.48%	12.3%
3			Traco	······				•
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	\$	5,348,358	\$	660,216	\$	6,008,574	-
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 & Maintenace	\$	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	\$	3,444,161	\$	~	\$	3,444,161	
22	Taxes Other than Income Taxes	\$	341,493	\$	42,155	\$	383,647	
23	Depreciation	\$	1,030,050			\$	1,030,050	
23	Amortization	\$	_			\$	-	
25	Income Taxes	\$	63,124	\$	161,042	\$	224,165	
26	Diff. due to changing factors	•		\$	(0)	\$	(0))
27	Total Operating Expenses	\$	4,878,828	\$	203,197	\$	5,082,024	-
28	Operating Income	\$	469,531	\$	457,019	\$	926,550	=
29	Average Rate Base	\$	12,387,033	\$	-	\$	12,387,033	-
30	Return on Rate Base		3.79%				7.48%	,

Docket No. 2018-0388 Exhibit KWSC 4 Witness: Stout 2/28/2019

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

Line No.							
1			At		At		
2	Description	D	ec. 31, 2018	D	ec. 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)
10	Accumulated Deferred Taxes: State	\$	(247,770)	\$	(249,836)	\$	(248,803)
	Unamortized Hawaii Capital Goods Excise Tax	•	(· · /		• • •		
12	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:			•	007.044	•	007 044
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

ine No.	Utility Account	Property Description		Pla	nt in Service	In Service Date	De	cumulated preciation //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	\$	34,499		\$	4,109
6	103210	Structures & Improvement - Pumping Plant	t					
7		Lawn Building		\$	1,609	6/1/2012	\$	300
8			Total	\$	1,609		\$	300
9	103310	Structures & Improvement - Treatment Plant						
10		1.0 MG Water Filtration Plant		\$	2,647,464	12/15/2005	\$	633,303
11			Total	\$	2,647,464		\$	633,303
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
				\$	23,786	10/1/2014	\$	1,932
20		HR2 well power transformer		\$	102,438	5/1/2015	\$	10,043
21		HR2 well pump		ф Ф			φ \$	1,158
22		HR2 well starter		\$	11,342	12/1/2013		
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
				\$	14,119	9/1/2010	\$	2,588
31		Work Order Addition		\$	11,588	9/1/2010	\$	2,124
32		Work Order Addition			81,931	9/1/2012	\$	10,936
33		Work Order Addition		\$				
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
0		VFD drives @ booster pumps		\$	3,476	6/1/2017	\$	51
41			Total	\$	2,126,920		\$	1,171,515
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
44 45		Foxboro Pressure Trans Cal 0-58 in H2O		\$	3,053	9/1/2012	\$	407
45 46		Foxboro Pressure Trans Cal 0-92 in H2O		\$	1,527	9/1/2012	\$	204
					• • • • • • • •		*	

Line No.	Utility Account	Property Description		Plar	nt in Service	In Service Date	De	cumulated preciation 2/31/2017
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	\$	936,150		\$	925,565
50			rotar	<u>Ψ</u>	330,100		<u> </u>	020,000
. 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	\$	336,009		\$	132,096
		w to to 0 Distribution Maine						
62	103434	Transmission & Distribution Mains		¢	2,209,833	1/1/2003	\$	682,166
63		CIAC Phase 1A		\$ \$	359,777	1/1/2003	Ψ \$	78,274
64		CIAC Phase 3 Increment 1		φ \$	420,555	1/1/2007	\$	91,497
65		CIAC Phase 3 Increment 2		φ \$	27,749	6/1/2011	\$	4,567
66		Flow Control Vault Lid		Ψ \$	6,352	6/1/2013	\$	757
67		Sampling Station Pressure Reducer (Outside the WFP)		\$	5,000	1/1/2006	\$	5,000
68		Road R and Access Road to 312'		\$	28,004	10/31/2004	\$	28,004
69 70		Road R and Access Road to 312		\$	2,284	12/31/2003	\$	637
70 71		Road R and Access Road to 312		\$	598,554	3/31/2003	\$	175,904
			Total	\$	3,658,108		\$	1,066,807
72								
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
		Transmission lines from the 620' down to the 312' 1	MG			6/30/2003	\$	134,706
77		tank (5K' of 16" line)		\$	466,290	0,00,2000	Ψ	101,100
78			Total	\$	7,484,413		\$	2,052,050
79	103164	Supply Mains HR5 12" butterfly valve		\$	14,617	12/1/2016	\$	396
80		HK5 12 Dutterny valve		Ŷ		,		
81			Total	\$	14,617		\$	396
		Livelya sto						
82	103480	Hydrants		\$	29,795	5/1/2014	\$	2,731
83		12 Fire Hydratns		Ψ	20,100	0/1/2011	Ŧ	_1
84			Total	\$	29,795		\$	2,731
	400400	Reservoirs & Tanks						
85	103420	312' .5MG Glass fused steel tank		\$	730,957	1/1/2006	\$	173,935
86		312' .5MG Glass fused steel tank		\$	1,038,092	3/31/2003	\$	305,333
87		620' .5MG Glass fused steel tank		\$	732,112	6/30/2003	\$	211,673
88 89		Anti climbs for Kona Water tanks A,B,C,#1		\$	6,200	4/1/2012	\$	1,224
		field supervision		\$	61,699	3/1/2010	\$	8,946
90		neiu supervision		*	,			•

Line No.	Utility Account	Property Description		Pla	nt in Service	In Service Date	Dep	cumulated preciation /31/2017
91		Work Order Addition		\$	6,787	3/1/2010	\$	984
92			Total	\$	2,575,847		\$	702,094
93 94	103150	Wells HR3 4" Neptune water meter UME		\$	803	11/1/2016	\$	23
95			Total	\$	803		\$	23
96	103721	Electronic Equipment/Computers						. (.
97 98		Work Order Addition Color Copier		\$ \$	649 5,897	12/1/2010 12/1/2010	\$ \$	649 5,897
			Total	\$	6,546		\$	6,546
99			Total		0,540		<u> </u>	0,040
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 12/1/2011	\$ \$	30,183 5,269
104		2 Engines		\$ \$	6,071 4,920	12/1/2013	э \$	2,870
105		New med size DOT Approved Trailer		э \$	56,542	5/1/2013	φ \$	29,617
106		F450 - Flat bed truck		Ψ	50,542	5/1/2014		
107			Total	\$	154,214		\$	122,179
108	103750	Laboratory Equipment						=0
109		Work Order Addition		\$	232	12/1/2011	\$	73
110		Work Order Addition		\$	2,346	12/1/2011	\$	743
111			Total	\$	2,577		\$	816
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
445			Total	\$	28,232		\$	1,844
115								
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	\$	370 674
121		DR mower 20hp pro tow behind		\$	3,351	4/1/2014	\$	316
122		Portable meter		\$	1,244 33	6/1/2013 9/1/2013	\$ \$	8
123		Work Order Addition		\$ \$	33 1,540	4/1/2012	э \$	456
124		Work Order Addition		э \$	3,073	6/1/2013	\$	794
125		Water Data Logger		\$ \$	3,539	6/1/2013	\$	885
126 127		Water Main PSI Monitoring Weed sprayer 27gal		\$	494	4/1/2014	\$	99
128			Total	\$	18,387		\$	4,373
120								

Line No.	Utility Account	Property Description		Plan	t in Service	In Service Date	Dep	umulated preciation /31/2017
129	HAWAII GE	NERAL 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	\$	355 355
167		Desktop-HIWKLCS38		\$	807	12/1/14	\$	355
168		Desktop-HIWKCLS36		\$	807	12/1/14	\$	355
169		Desktop-HIWKLCS41		\$	807	12/1/14	\$	
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	\$ ¢	24,859 463
174		Miscellaneous Kitchen Equipment		\$	981	12/1/10	\$ ¢	463 225
175		laptop for CS Mgr		\$	1,496	4/1/14	\$	220
			Total	\$	387,436		\$	260,210
176			illa		007,100		<u> </u>	

Line No.	Utility Account	count Property Description Prant in Gervice		t in Service	In Service Date	De	cumulated oreciation /31/2017
177		HAWAII GENERAL OFFICE ALLOCATIONS	^	04474	04 7004	•	50 500
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 ISLAN	D					
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
203		Ford Explorer	\$	37,497	9/1/12	\$	19,372
205		2014 Nissan Frontier. V214001	\$	35,122	4/1/14	\$	18,815
205		3 Ipad for Hawaii Island	\$	2,542	9/1/13	\$	1,574
		Desk w Drawer	\$	959	9/1/12	\$	501
207			\$	1,311	9/1/12	\$	466
208		69"x43"x 18"	\$	725	12/1/11	\$	110
209		Diesel tank	\$	7,621	12/1/11	\$	7,621
210		GIS Software	\$	1,202	8/1/15	\$	145
211		Backflow Test Kit-Midwest 835	\$ \$	495,319	10/1/14	\$	40,485
212		Big Island SCADA 2012	5 \$	298	9/1/12	¢	155
213		Book Case	-	4,401	6/1/12	\$	4,401
214		Motorola Hardware	\$				2,144
215		Work Order Addition	\$	2,144	6/1/12	\$	544
216		Misc. Wiring & Cables	\$	544	6/1/12	\$	
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	\$	(
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	\$	19,14
228 229		Desk Dock	\$	2,793	12/1/10	\$	2,793
LL J		Personnel Lift	\$	5,844	6/1/12	\$	2,175

Line No.	Utility Account	Property Description	Plan	t in Service	In Service Date	De	cumulated preciation 2/31/2017
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
230		Internal labor	\$	21,402	7/1/13	\$	3,210
239		Knoll task chair	\$	13,806	2/1/14	\$	2,186
240 241		1 laptops	\$	1,165	4/1/13	\$	791
241		1 laptops	\$	1,165	4/1/13	\$	791
		Laptops	\$	1,631	11/1/16	\$	272
243			\$	525	9/1/12	\$	274
244		Lateral File Work Order Addition	\$	1,447	12/1/11	\$	245
245			\$	4,571	12/1/11	\$	752
246		Work Order Addition	¥ \$	16,749	6/1/11	\$	16,749
247		Work Order Addition	\$ \$	19,704	6/1/13	Ψ \$	12,901
248		New IP phone system	\$ \$	9,847	12/1/13	Ψ \$	2,010
249		New Hydraulic Hammer	գ \$	6,706	2/1/13	Ψ \$	1,062
250		Office Furnishings	э \$		9/1/12	գ Տ	2,080
251		Office furniture & equip		4,134	9/1/12	э \$	2,080
252		Work Order Addition	\$	47	9/1/12	Ф \$	32
253		Work Order Addition	\$	90	12/1/16		28
254		Portable generator 3500w, EMT's	\$	518		\$	
255		Power Quality Analyzer	\$	8,416	3/1/15	\$	1,192
256		Printer Cart	\$	75	9/1/12	\$	39 97
257		Projector-Dell 1610HD	\$	626	12/1/16	\$	
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
200		0					

Line No.	Utility Account	Property Description	Pla	Plant in Service		De	cumulated preciation 2/31/2017
263		Total	\$	1,799,041		\$	532,163
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
270		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 ½"	\$ 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

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

Quantity Charge

Gallons per month per meter	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 Exhibit KWSC Water 4 Present Rate Schedule Tariff Novithess: Stout Second Revised Sheet No. 52 Cancels First Revised Sheet No. 52

Docket No. 2018-0388

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, nonpotable 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

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

SECTION D-1

Water Service Rates

Meter Charge

Meter Size / Service	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	Monthly Charge
10,000 gallons per month	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

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, nonpotable 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)

Docket No. 2018-0388 Exhibit KWSC Water 5 Proposed Rate Schedule Witness: Stout Tariff No. 1 KONA WATER SERVICE COMPANY, INC. A subsidiary of Hawaii Water Service Company, Inc. Kukio, Hawaii

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

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

Line No.			(1)		(2)		(3)	
1			(')		(~)	Т	est Year	Change in Revenues
2			Present		Additional		posed Rates	
2			Rates		Amount		7.48%	12.8%
5			11000	·				•
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	\$	3,528,828	\$	452,560	\$	3,981,387	-
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	
	Waste/Sludge Disposal	\$	-	\$	-	\$	-	
13	Affiliated Charges	\$	101,687	\$	-	\$	101,687	
14	Professional and Outside Services	\$	9,025	\$	-	\$	9,025	
15	Repairs & Maintenace	\$	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	\$	2,531,024	\$	-	\$	2,531,024	
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	\$	3,261,853	\$	139,286	\$	3,401,138	_
28	Operating Income	\$	266,975	\$	313,274	\$	580,249	=
29	Average Rate Base	\$	7,757,346	_\$	-	\$	7,757,346	_
30	Return on Rate Base		3.44%				7.48%	

0

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

Line No. 1 Gross Revenue Factor 1.000000 Additional Revenue 2 3 Less: 0.000000 4 Bad Debts 0.058850 5 PSCT 0.005000 6 PUC Fee 0.06385 0.000000 0.063850 7 Franchise Subject to Income Tax 8 0.936150 9 Less: 0.047331 0.050560 State Income Tax 10 0.196592 0.210000 Federal Income Tax 11 0.260560 0.243923 12 0.692227 Remaining for Net Income 13 0.307773 14 Expense for each \$1 of Revenue 15 Factor for Moving Rate Base (1-Bad Debt%-Revenue Taxes-Income tax on Addl. Revenue) 16 = 0.6922270465 17 1,444612725 **Revenue Factor** 18 19 Additional Revenue Requirements 7.48% 20 Proposed rate of return 580.249 21 Multiply rate base @ present rates by the above proposed ROR 313,274 22 Subtract the net income @ present rates from the above net income 23 Divide the above difference by the moving rate base factor to 452,560 determine the additional revenue requirements @ the proposed ROR 24 25 Multiply the add'l revenues by the bad debt factor 28896 26 Multiply the add'I revenues by the revenue tax factor

110390 27 Multiply the add'l revenues by the inc tax on add'l revenue 3,401,138 28 Total Expenses at Proposed Rates 580,249 29 Subtract total expense from total revenues @ proposed rates 0.0 30 Subtract NI before WC change from NI after WC change 0.0 31 Divide change in NI by desired rate of return 7,757,346 32 Calculate change in rate base 7.48% 33 Test - Divide NI by rate base

Docket No. 2018-0388 Exhibit KWSC Water 7 Witness: Stout 2/28/2019

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

Line No. 1			At	At ec. 31, 2019		Average
2	Description	D	ec. 31, 2018	 ec. 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				•	
12	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			 (4.000.004)	\$	(81,109)
17	subtotal	\$	(4,982,671)	\$ (4,968,904)	\$	(6,511,900)
18	Add:				•	040.040
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

Docket No. 2018-0388 Exhibit KWSC Water 7.1 Witness: Stout 2/28/2019

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

Line No.

1 Rate Base @ Dec. 31, 2018

2	Description	Comp	Water Service any, Inc. Water Operations	Adjust	ments		
3	Plant In Service	\$	21,219,001	\$	-	\$	21,219,001
4	Accumulated Depreciation Reserve	\$	7,447,069	\$	-	\$	7,447,069
5	Net Plant-in-Service	\$	13,771,932	\$	-	\$	13,771,932
6	Deduct:						
7	Net Contributions in Aid of Construction	\$	(3,982,952)	\$	-	\$	(3,982,952)
8	Customer Advances	\$	-	\$	-	\$	-
9	Customer Deposits	\$	-	\$	-	\$	-
10	Accumulated Deferred Taxes: Federal	\$	(562,321)	\$	-	\$	(562,321)
11	Accumulated Deferred Taxes: State	\$	(159,235)	\$	-	\$	(159,235)
40	Unamortized Hawaii Capital Goods	\$	(278,163)	\$	-	\$	(278,163)
12 13	Excise Tax Credit subtotal	\$	(4,982,671)	\$		\$	(4,982,671)
14	Add:					•	010.010
15	Working Capital	\$	210,919	\$	-	\$	210,919
16	subtotal	\$	210,919	\$	-	\$	210,919

17 Rate Base @ Dec. 31, 2019

18	Description	Comp	Water Service any, Inc. Water Operations	Adjust	ments		
19	Plant In Service	\$	22,357,308	\$	-	\$	22,357,308
20	Accumulated Depreciation Reserve	\$	8,012,586	\$		\$	8,012,586
21	Net Plant-in-Service	\$	14,344,722	\$	-	\$	14,344,722
22	Deduct:			•		^	(0.000.000)
23	Net Contributions in Aid of Construction	\$	(3,893,692)	\$	-	\$	(3,893,692)
24	Customer Advances	\$	- ,	\$	-	\$	-
25	Customer Deposits	\$	-	\$	-	\$	-
26	Accumulated Deferred Taxes: Federal	\$	(607,306)	\$	-	\$	(607,306)
27	Accumulated Deferred Taxes: State	\$	(171,958)	\$	-	\$	(171,958)
28	Unamortized Hawaii Capital Goods Excise Tax Credit	\$	(295,947)	\$	-	\$	(295,947)
29	subtotal	\$	(4,968,904)	\$	-	\$	(4,968,904)
30	Add:			•		<u>^</u>	040.010
31	Working Capital	\$	210,919	\$	-	\$	210,919
32	subtotal	\$	210,919	\$	-	\$	210,919

Docket No. 2018-0388 Exhibit KWSC Water 7.2 Witness: Stout 2/28/2019

Line	No.

- 0														-	
2	Balance as of	Add	Additions	Retirements		Adjustments	Balanc	Balance as of	Additions	ions	Retirements		Adjustments	Bal	Balance as of
c	Dec 31 2017	Jan. 1, 20	2018 to	Jan. 1, 2018 to Dec. 31.		Jan. 1, 2018 to Dec. 31.	Dec. 3	Dec. 31, 2018	Jan. 1, 2019 to	2019 to	Jan. 1, 2019 to Dec. 31,	-	Jan. 1, 2019 to Dec. 31,	Dec	Dec. 31, 2019
7		Dec. 31, 3	31, 2018	2018		2018			Dec. 31, 2019	, zuls	2019		2019		
3 Description															
4												•		•	
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Kona Water Service Company, Inc. Water Operations Plant Additions (1/1/18 to 12/31/19)

Docket No. 2018-0388 Exhibit KWSC Water 7.3 Witness: Stout 2/28/2019

Docket No. 2018-0388 chibit KWSC Water 7.3 Witness: Stout 2/28/2019	39,732 47,771 144,199 10,014 49,355 52,220 8,787 53,201	464,513 68,015 68,773 353,553 36,773 41,804 432,130 63,273
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Kona Water Service Company, Inc. Water Operations Plant Additions (11/1/18 to 12/31/19) Test Year Ending December 31, 2019		1 I I I
ater Service Company, Inc. Water Op Plant Additions (1/1/18 to 12/3/1/9) Test Year Ending December 31, 2019	~~~ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	w www
npany. (1/1/18		213
rvice Con Additions ar Ending	s s 144,199 s s s s s s s s s s s s s s s s s s	\$ 154,213 \$ 55, 5 \$ 5 \$ 5 \$ 5 \$ 1
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24 2018 Toyata Tacoma TRD 4x4
55 ScADA Report Writer System
57 Base Yard Security Cameras
57 Base Yard Security Cameras
58 Big Istand Radio Communication
58 EMT Service Truck
50 EMT Service Truck
51 ScADA radio data link
52 PLANT ADDITIONJ
53 Total

KWSC Water Allocation
 KWSC Water Allocation
 Projects closed to plant 1/1/2019 to 12/31/2019:
 Boom Truck (WO 116340)
 Valve Exercise Trailer (WO 118326)
 SCADA Vuhnerability Assessment (WO 117552)
 Fotal

70 KWSC Water Allocation

Docket No. 2018-0388 Exhibit KWSC Water 7.4 Witness: Stout 2/28/2019

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

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Line No.	-

		Actual	Actual Cost															Test Year	ar
	_	Depr Base	Depr Base		Balance as of	De	Dep. Exp.	Retirements	Adjustments	ents	Balance as of		Dep. Exp.	Retir Ian 1	Retirements	Adjustments Ian 1 2019 to	nents 019 to	Balance as of	as of
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	→ 4	2 575 847	\$ 2575,847	5 LTV	202 064	6	68,002	, с	ы		\$ 770,097	297 X	\$ 76,213	ь	•	ь	ı	\$ 84	846,310
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Big Island Allocation	\$	258,956	\$ 326,970	. 079	\$ 76,600	ω	19,442	، ب	ŵ	,	ac ac	96,042	855'07 \$	A	ı	A	•	7 ¢	6/0 ⁻
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Exhibit KWSC Water 7.5 121,379 Witness: Stout 2/28/2019 846,310 6,546 10,416 30,145 10,249 2,404,725 133,199 7,834,067 805,528 153,597 3,311,907 67 Dec. 31, 2019 Test Year Acc. Dep. Ь С Dep. Exp. Jan. 1, 2019 95,398 76,213 2,613 1,780 476,258 6,162 25,338 84,684 166,763 10,884 22 6,401 to Dec. 31, 1 ī ī 2019 ω 720,844 142,712 3,216,509 127,037 7,803 6,546 28,365 3,848 770,097 45 96,042 2,237,961 7,357,809 . Dec. 31, 2018 Acc. Dep. Kona Water Service Company, Inc. Water Operations ω Test Year Ending December 31, 2019 4,858 Jan. 1, 2018 to 10,616 2,613 896 19,442 428,837 83, 133 94,526 68,002 22 Dec. 31, 2018 3,848 140,881 1 1 . ı Dep. Exp. Depreciation Expense (Book) **~~~~** မာ 132,096 3,121,983 702,094 637,711 2,097,080 6,546 5,190 27,470 76,600 23 122,179 6,928,972 Dec. 31, 2017 ı ī ī Acc. Dep. φ •••••••• Transmission & Distribution Plant Tools and Laboratory Equipment Office Furniture and Equipment Structures and Improvements Asset Retirement Obligation Hawaii Water GO Allocation Treatment Equipment Land and land rights Pumping Equipment Big Island Allocation Transportation General Plant Description Reservoirs Intangible Wells Total Line °. ო 4 5 ~---2

Docket No. 2018-0388

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Deciet No. 2016-0285 Enhol Kondo Water 7, 5 Kondo Water Service Company, Inc. Water Operations Accumutated Depreciation Ectoreme Detai Accumutated Depreciation Ectoreme Detai Teet Year Ending December 31, 2019	Accumulated Xccumulated Accumulated Accumulated Xccumulated 2019 Plant Balance Depreciation Evente Depreciation Depreciation Expense Accumulated 2019 Plant Balance Depreciation Evente Depreciation Evente Depreciation (123/12019) Expense Rate Rate (123/12019) Expense Rate (123/12019) (123/12019		5 5 5 5 5 5 - 5 6.001 5 5	\$ 4,109 \$ 300 \$ 633,303		20.274 \$ 1,171.515 \$ 524,841 \$ (100.354) \$ 2886,70 1.3% 456% \$ 38,966 \$ 130.205 \$ 1,400.074 \$ 548,475 \$ 5 3,405,945 \$ 16467 \$ 158,776 \$ 158,537 26,10 \$ 205,565 \$. \$ 376,5945 \$ 394,59 0.009% 0.82% \$ 305 \$ 7,516 \$ 903,272 \$ 39,445 \$. \$ 375,595 \$ 318 \$ 0.000 \$ 941,242 26,10 \$ 203,506 \$ 5,4484 \$ (103,354) \$ 3,945,50 0.009% 0.82% \$ 305 \$ 7,516 \$ 903,272 \$ 39,445 \$. \$ 375,595 \$ 318 \$ 0.000 \$ 941,242 2,341,316 \$ 507,500 \$ 5,4484 \$ (103,354) \$ 3,746,50 \$ 0.009% 0.82% \$ 305 \$ 7,516 \$ 5,03,700 \$. \$ 4,302,599 \$ 0.000 \$ 5,440,50 \$ 0.000		8600 \$ 12006 \$ 167.131 \$. \$ 503.140 2.46% 2.11% \$ 12.377 \$ 10.516 \$ 142.712 \$ 12688 \$. \$ 515.338 \$ 12.606 \$ 10.564 \$ 12.237 3600 \$ 12.016 \$ 167.13 \$. \$ 503.140		5 106807 3 3687 5 3661/805 11/00 5 3050/805 5 11/00 5 3050/805 5 11/00 5 3050/805 5 11/00 5 3050/805 5 11/00 5 3050/805 5 11/00 5 3050/805 5 11/00 5 3050/805 5 11/00 5 3050/805 5 11/00 5 3050/805 5 11/00 5 3050/805 5 11/00 5 3050/805 5 11/00 5 3050/805 5 11/00 5 3050/805 5 11/00 5 3050/805 5 11/00 5 3050/805 5 11/00 5 11/00 5 11/20 5 11/20 5 11/20 5 11/20 5 11/20 5 11/20 5 11/20 5 11/20 5 11/20 5 11/20 5 11/20 5 12/20 5 1	06304 5 3171.080 5 16.126 5 · 5 11.200.059 5 17.522 5 107.52 5 107.55 5 3.335.769 5 17.448 5 · 5 17.200.507 5 217.522 5 194.658 5 3.409.455	 <u>\$ 702,064</u> <u>\$ 5 5575,647</u> \$	803 \$ 23 \$ - \$ - \$ 803 2.49% 2.69% \$ 20 \$ 22 \$ 45 \$ • \$ • \$ 803 \$ 20 \$ 22 \$ 67	<u>\$</u> 23 <u>\$</u> -		5 5 6545 5		144214 \$ 122,179 \$ · \$ · \$ 154,214 005% 3.15% \$ 16,421 \$ 4,839 \$ 727,077 \$ 41,410 \$ · \$ 196,624 \$ 20,843 \$ 6,162 \$ 133,158 133,158 134,159 \$ · \$ 12,178 \$ · \$ 136,174 \$ · \$ 12,178 \$ · \$ 136,124 \$ 00564 \$ 005		5 5 779 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	<u>\$ 5,190</u> <u>\$ 8,593</u> <u>\$ - 557,790</u>	
	Life Account Description (1231/2017) No.	KWSC Water ke Plant	3 (0000) ritergible Plant 4 (0006) Land 5 Total Nan Deprociable Plant <u>5 * * * * * * * * * * * * * * * * * * </u>	Sincitures and improvements (103110 Structures & Improvement - Supply Plant 103210 Structures & Improvement - Treatment Plant 103310 Structures & Improvement - Treatment Plant	11 Total Structures and improvements 5 2,883,377 2 Pumping Equipment	103240	-	17 103320 Water Treatment Plant \$ 358,009 18 7 dell Treatment Equipment \$ 306,009	Transmission & Distribution Plant	20 102434 Tamantesion & Distribution Mains \$ 3658,108 21 102434 Tamantesion & Distribution Mains \$ 3658,108 22 102434 Tamantesion & Distribution Mains \$ 1468,108 22 102454 S 1248,401 \$ 14,617 23 102480 Mains \$ 14,617		27 103420 Reservoirs & Larries Todal Reservoirs <u>5 2575847</u>	23 Wells on conservation 5 803	Total Wels S	Office Furniture and Equipment	33 103721 Electronic Equipment/Computers > 0.309 34 Total Office Furniture and Equipment <u>\$ 6.546</u>	35 Transportation	36 103730 Transportation Equipment 5 154,214 37 Total Transportation 5 154,214	Tools and Laboratory Equipment	38 1037d Stores Equipment 5 28,222 4 01375 Laketaver Fraghement 5 28,237 41 10378 Total, Strong Equipment 5 18,588	Total Tools and Laboratory Equipment	43 Total KMSC Water Plant 520 195 566

Page 1 of 1

8-0388 iter 7.7 © Stout 8/2019		liated lation rve 1019)	1,312 4,682 4,682 4,593 4,59 4,23 4,23 4,23 4,23 5,94 4,25 5,94 4,16 1,1796 5,94 4,16 1,1796 5,94 4,11 1,1766 5,94 4,11 1,1766 5,94 4,11 5,94 4,11 5,94 5,956 5,95	61,944 22,278 37,450 37,451 47,364 47,364 30,329 30,450 30,550 30
t No. 2011 WSC Wa Witness 2/2		Accumulated Depreciation Reserve (12/31/2019)	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Docket No. 2018-0388 Exhibit KWSC Water 7.7 Witness: Stout 2/28/2019		Depreciation Expense	281 855 855 855 855 855 855 855 85 7 7 7 7	3,629 1,307 1,379 1,723 2,199 2,199 2,199 2,779 1,780 1,780 1,780 1,780 1,780
		1	885 885 885 885 885 885 885 885 77 77 77 77 77 77 78	8 1 2 2 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9
		Plant Balance (12/31/2019)	16 865 5 5 5 6 865 5 5 5 5 6 865 5 3<	 110.534 5 5 57.743 5 57.743 5 54.653 54.653 54.654 55.54.207 55.54.207 55.54.207 55.54.207 56.54.207 56.54.207
		2019 Retirements		
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		2019 Additions	ა ა ა ა ა ა ა ა ა ა ა ა ა ა ა ა ა ა ა	s 26.574 5 9.573 5 10.246 5 110.246 5 110.025 5 113.022 5 113.022 5 1122.029 5 1122.029
		Accumulated Depreciation Reserve (12/31/2018)	1,033 1,033 4,127 4,127 4,127 5,28 5,2 5,295 5,295 5,313 5,13 5,13 5,13 5,13 5,13 5,13 5,	58.216 20.971 20.971 35.2778 35.2778 35.2778 35.2778 15.755 15.755 288.640
		Accu Depr Re (12/3	, , , , , , , , , , , , , , , , , , ,	
	X	Depreciation Éxpense	28 28 <td> 8 1.827 8 430 9 430 8 430 </td>	 8 1.827 8 430 9 430 8 430
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	sland)	Present Rate	1,67% 10,00% 10,00% 10,00% 10,00% 10,00% 10,00% 10,00% 10,00% 10,00% 10,00% 10,00% 10,00% 10,00% 11,00% 10,00% 11,00% 11,00% 20,	
	Kona Water Service Company, inc. Water Operations ed Deprectation and Deprectation Expense Detail (Hawaii Water, Big Island) Test Year Ending December 31, 2019	Plant Balance (12/31/2018)	16.865 5.050 5.5500 5.5500 5.5500 5.5500 5.5500 5.5500 5.5500 5.5500 5.5500	83,959 30,244 51,327 50,065 50,065 50,065 50,076 84,301 2,772 387,455 387,455
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	er Service (and Depre- est Year Enc	2018 Additions	งงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงง	
	Kona Wat Depreciation Te	Accumulated Depreciation Reserve (12/31/2017)	2,2567 2,2567 3,562 3,562 3,562 3,562 4,5 4,5 2,704 5,704 5,704 5,704 1,7,161 1,269 1,1280 8,102 4,63 1,114 1,1161 1,116 1,1269 1,1269 1,1269 1,1269 1,1269 1,1269 1,1269 1,1269 1,1269 1,1269 1,1269 1,127 8,858 3,5555 3,5555 3,5555 3,5555 3,5555 3,5555 3,5555 3,55555 3,55555 3,5555 3,55555555	66,533 17,880 33,389 34,537 17,287 17,297 17
	Accumulated		, , , , , , , , , , , , , , , , , , ,	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
	Accu	Ptant Balance (12/31/2017)	16,865 3,066 5 3,066 5 3,066 5 3,066 5 3,066 5 5,550 7 3,066 5 5,550 7 7 7 7 5 7 7 7 5 7 7 7 5 7 5 7 7 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 6 7 7 7 7 7 7 7 8 7 8 7 8 7 8 7 8 7 8 7	84,174 5 26,623 5 91,713 5 91,713 5 51,423 5 1,423 5 21,423 5 20,900 5 40,900 5 2,2474 5 387,436
		Useful P Life in P Mos	057 770 057 720 057 720 051 720 051 720 051 720 051 720 051 720 051 720 051 720 050	21.67% 7.28% 10.34% 13.13% 0.71% 5.85% 5.85%
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		Description	Huwall GENERAL OFFICE 290 Lesendd Improvements aeski, cont table, chairs Cheny Dewet Cheny Dewet Cheny Creektach Cheny Creektach Cheny Creektach Cheny Creektach Cheny Creektach Cheny Shell EF Cheny Shell Chenks Cheny Chek Regency Lateral File Cheny Desk Chenk Lateral File Cheny Desk Chenk Lateral File Cheny Desk Chenk Lateral File Effect MAD Made Chery Desk Chenk Cagnur Now Mather E Dig & Line Model 3550 Telephone ELCTSNICS (53) Chekhop-HIMKLCS3 Deskhop-HIMKLC	HAWAII GENERAL OFFICE ALLOCATIONS 701 - Kaana 701 - Puerko 721 - Waikoloa W 722 - Waikola Reson K 723 - Waikola Reson Ka 725 - Waikola Reson Ka 725 - Kona W 726 - Kona W
		Line No		32 22 22 22 22 22 22 22 22 22 22 22 22 2

Docket No. 2018-0388 Exhibit KWSC Water 7.7 Wftness: Stout 228/2019		Accumulated Depreciation Reserve (12/31/2019)	2,1968 5,195 5,195 5,195 5,195 5,195 5,195 5,195 5,195 2,005
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		Plant Balance (12/31/2019)	งงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงง
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		2019 Additions	
		Accumulated Depreciation Reserve (12/31/2018)	1.51 7.57 2.53 7.57 2.53 7.57 2.53 7.57 2.53 7.57 2.53 7.57 2.53 7.57 2.53 7.57 2.53 7.57 2.53 7.57 2.33 7.57 2.33 8.13 2.33 8.14 2.33 8.14 2.33 8.14 2.33 8.14 3.33 8.14 3.33 8.14 3.34 8.14 3.34 8.14 3.34 8.14 3.34 8.14 3.34 8.14 3.34 8.14 3.34 8.14 3.34 8.14 3.34 8.15 3.34 8.25 3.35 8.34 3.34 8.34 3.34 8.34 3.34 8.34 3.34
		1	297 597 572 572 572 572 572 507 138 138 138 138 33,568 33,568 33,568 33,568 33,568 33,568 33,568 33,568 33,568 33,568 33,568 33,568 33,568 33,568 33,568 33,568 34,48 35,588 36,17 18 2,568 36,17 18 2,568 36,17 18 2,568 36,17 18 2,568 36,17 18 2,568 36,17 18 2,568 36,17 18 2,568 36,17 18 2,568 36,17 18 2,568 36,17 18 2,568 36,17 18 2,568 36,17 18 2,568 36,17 18 2,568 36,17 18 2,568 36,17 18 2,568 36,17 18 2,558 36,17 18 2,558 36,17 18 2,558 36,17 18 2,558 36,17 18 2,558 36,17 18 2,558 36,17 18 2,558 36,17 36,17 18 2,558 36,17 36,1
		Depreciation Expense	งงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงงง
		Rate	14.29% 15.25% 15.50% 15.50% 15.50% 15.50% 15.50% 15.50% 15.50% 10.00% 10.00% 10.00% 10.00% 10.00% 10.00% 11.22% 12.25% 12
	g Island)	Present Rate	70000000000000000000000000000000000000
	/ater, Big	Plant Batance (12/31/2018)	2,08:1 2,2,8:7 2,2,8:7 2,2,8:7 45,5 3,3:15 2,5,3:0 3,3:50 3,50 3,50 3,50 3,50 3,50 3,50 3,50 3,
	perations Hawaii V 9	Plant (12/3	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
	. Water Op se Detail (F er 31, 2015	2018 Adjustments	
	any, Inc n Expeni Jecembe	Adju	****
	Kona Water Service Company, Inc. Water Operations Accumulated Depreciation and Depreciation Experise Detail (Hawaii Water, Big Island) Test Year Ending December 31, 2019	2018 Additions	
	Water S ation and Test y	59 - 79	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
	Kona ated Depreci	Accumulated Depreciation Reserve (12/31/2017)	1,2,14 60 61 62 63 61 62 63 64 65 66 67 67 68 69 60 60 61 62 63 64 65 66 67 68 68 69 60 61 62 63 64 65 66 67 68 68 68 68 68 68 68 68 68 68 68 68 68 68 68 68 68
	Accumul	17)	2,2,081 2,3,875 2,3,875 455 3,3,17 455 3,3,17 455 3,3,17 455 3,3,17 455 3,3,17 455 3,3,17 455 3,3,17 3,5,17
		Plant Balance (12/31/2017)	
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Image: state in the s	Docivet No. 2018-0388 Exhibit KWSC Water 7.7 Witness: Stout 2/28/2019	Accumulated Depreciation Reserve (12/31/2019)	55	276	1,925	000	1,045	3,648	5 1,109 5 2,144	2,660	5 6,208		3	327	397	\$ 1,495	5 42,239	8.367			3 280	5 1.129	5 73	5 161 5 2389	9,613	\$ 2,003	÷	\$ 1,879	s 5,285	\$ 7,647	\$ 9,277 \$ 77 088	\$ 1,462	\$ 11,352	5 35,355 5 3677	\$ 4,180	\$ 837,988	s 160,051 \$ 121,374		\$ 197,680 \$ 8,302	1	5 66,569	\$ 837,988
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Description Description <thdescription< th=""> <thdescription< th=""></thdescription<></thdescription<>	Kona Wi Viated Depreciatio	Accumulated Depreciation Reserve				S 230	\$ 10,588	5 1,045	5 586	s 1.026	\$ 2.969	\$ 483	\$ 437 \$	s 228	39 \$	S 190 S 715	\$ 30,481	\$ 4,963	S 6,564	\$ 28,143	\$ 88	\$ 470 5 276	2)C \$	с С	1 I	, , , ,	, 	s 145	69 1	\$ 1,057 \$		\$ 51.092	• • • • • • • •	' 9	ч, 19 19	\$ 532,162	\$ 97,566	5 101 836	\$ 135,173	\$ 5,418	5 /6,600	\$ 532.162
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Page 3 of 3

						Exhib	Exhibit KWSC Water 7.8 Witness: Stout 2/28/2019
	Kona Water Co Test	Kona Water Service Company, Inc. Water Operations Contributions in Aid of Construction Test Year Ending December 31, 2019	Inc. Water Operati Construction mber 31, 2019	suo			
Line No.						A di cetano ato	Test Year Balance as of
	Balance as of Dec. 31, 2017	Additions Jan. 1, 2018 to Dec. 31, 2018	Adjustments Jan. 1, 2018 to Dec. 31, 2018	Balance as of Dec. 31, 2018	Additions Jan. 1, 2019 to Dec. 31, 2019	Adjustments Jan. 1, 2019 to Dec. 31, 2019	Dec. 31, 2019
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19 Big Island Allocation	۰ ۶	, S	، بە	' ب	' ه	' ج	ı ج
20 Total	\$ (5,544,080)	•	، ج	\$ (5,544,080)	ب	' ج	\$ (5,544,080)

Docket No. 2018-0388 Exhibit KWSC Water 7.9 Witness: Stout 2/28/2019

		Kon An	Kona Water Service Company, Inc. Water Operations Amortization of Contributions in Aid of Construction Test Year Ending December 31, 2019	e Compa ontributio Ending D	ater Service Company, Inc. Water Opr zation of Contributions in Aid of Consti Test Year Ending December 31, 2019	er Operations Construction 2019								
Line No.							•						Test Year	
·	Amount	Amortization	Acc. Amort. Balance as of		Amortization	Adjustment		Acc. Amort. Balance as of	Amortization	ation	Adjustment	ent	Balance as of	ō ر
	Received	Rate	Dec. 31, 2017		Jan. 1, 2018 to Dec. 31, 2018	Jan. 1, 2018 to Dec. 31, 2018		Dec. 31, 2018	Jan. 1, 2019 to Dec. 31, 2019	2019 31, 9	Jan. 1, 2019 to Dec. 31, 2019	019 31,	Dec. 31, 2019	19
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	\$ 5,544,080	1.61%	\$ 1,471,869	ф	89,260	۰ ج	G	1,561,128	۵ م	89,260	ф		s 1,650,388	388
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15 Tools and Laboratory Equipment	، ب	ı	ہ ب	ю	ı	ч Ф	ŝ	,	6	ı	6	1		,
16 General Plant	، ج	,	، ب	ŝ	I	۱ دى	Ф	ı	ф		ŝ	1		,
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19 Big Island Allocation	ı ج	ı	۲ د	↔	·	י ج	69	4	69	ı	ŝ			
	\$ 5 541 D80		\$ 1471869	6	89.260	6	vs	1.561.128	ю 69	89.260	6		\$ 1,650,388	388
20 I 0181	>>>*++>*			1			. 			11 				

Zillul NVSC Valet 1.10 Witness: Stout 2/28/2019		Test Year Acc. Tax Dep.	Balance as of Dec. 31, 2019		10,249	1	1,604,024	1,657,675	147,199	3,805,277	1,654,893	129	6,546	162,496	48,465	ı	ı	43,240	285,899	9,426,092	6 267 100	0,202,130	(607,306)
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			Adjustments		י נא	ہ ج	י נא	ı ج	י נא	۱ دە	י ש	י נא	י נא	۱ دى	۱ نۍ	י ج	י ج	י נא	י ש	۔ ج			
			Dep. Exp.		6,401	ł	111,573	167,033	20,634	227,057	115,474	32	ı	11,539	5,412	1	ı	3,065	34,975	703,195			
			De		ь	φ	φ	ω	ዓ		Ф	φ	ь	ω	φ	Ś	θ	ዏ	Ф	φ			
	berations ederal 3	Acc. Tax Dep.	Balance as of Dec. 31, 2018		3,848	1	1,492,450	1,490,642	126,566	3,578,220	1,539,419	96	6,546	150,957	43,053	I	ı	40,175	250,924	8,722,897		5,885,941	(562,321)
	ater Op es - Fe i1, 2019	Acc.	Balar Dec.		60	Ф	. 40	6	6	÷	÷	÷	ŝ	¢	Ś	÷	\$	ь	\$	\$		ы	Ф
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	mpany, ed Incor ig Dece		Adjustments		1	'	1	1	ı	I	1	ı	'	1	•	ï	1	•	1	1			
	ce Cor)eferre Endin		Ad		Э	+ (∕;	, ч	ŝ	ŝ	ŝ	Ś	ю	· 69	ശ	ഗ	θ	Ś	ω	Ś	ю			
	Kona Water Service Company, Inc. Water Operations Accumulated Deferred Income Taxes - Federal Test Year Ending December 31, 2019		Dep. Exp.		3 848)))	108.933	143.516	20.126	226.359	103.034	32		6.797	6.811	'	•	838	31,275	651,570			
	ona V Acci				v ,	÷ €	÷ 67	÷ €3	+ (7	• •	ŝ	6	• • •	6	• •	· və	ŝ	Ś	ŝ	м			
	X	Acc. Tax Dep.	Balance as of Dec. 31, 2017			,	1 383 517	1 347 126	106 440	3 351 861	1 436.385	64	6 546	144 160	36.241		•	39.337	219,650	8,071,327		5,457,104	(863,651)
		Acc	Bala Dec.		ų	, 4	÷ ↔	} €	÷ ↔	÷		÷	÷ €4	÷ €4	,	÷↔	н со	• ഗ	, сэ	ы		θ	↔
		le D	- 0 -	4 Description			b Land and land rights	•		9 Iteaurient Equipritent 10 Transmission & Distribution Plant					14 Italisportation 15 Tools and Jahoratory Englinment			18 Hawaii Water GO Allocation		20 Total		21 Accumulated Book Depreciation	22 ADIT Balance
		Line No.					- •		-	•				`		•	•		•	-			

Docket No. 2018-0388 Exhibit KWSC Water 7.10

Docket No. 2018-0388 Exhibit KWSC Water 7.11 Witness: Stout 2/28/2019	Accumulated Depreciation 2017 2018 2019	S - S 3,848 S 7,696 S - S - S 2,553 S - S 3,848 S 10,249	\$ 4,213 \$ 5,056 \$ 5,899 \$ 1,560 \$ 1,873 \$ 2,185 \$ 676 \$ 901 \$ 1,126 \$ - \$ 1,235 \$ 2,470 \$ - \$ 1,235 \$ 2,640 \$ - \$ - \$ 2,640 \$ 6,449 \$ 9,064 \$ 14,319	\$ 386 \$ 450 \$ 515 \$ 386 \$ 450 \$ 515	\$ 1,376,681 \$ 1,482,580 \$ 1,588,478 \$ 1,376,681 \$ 1,482,580 \$ 1,588,478 \$ 2 \$ 2 \$ 2 \$ 1,376,681 \$ 1,482,336 \$ 1,589,190	\$ 871 \$ 1,089 \$ 1,306 \$ 209 \$ 3,144 \$ 542 \$ 531 \$ 598 \$ 542 \$ 531 \$ 598 \$ 664 \$ 531 \$ 1,09 \$ 1,133 \$ 531 \$ 1,09 \$ 1,133 \$ 306 \$ 1,199 \$ 1,133 \$ 304,125 \$ 34402 \$ 34,173 \$ 304,212 \$ 324,402 \$ 34,173 \$ 3,204,512 \$ 324,402 \$ 34,173 \$ 12,283 \$ 16,300 \$ 34,173 \$ 133 \$ 14,063 \$ 34,172 \$ 133 \$ 14,063 \$ 34,172 \$ 303,682 \$ 32,343 \$ 34,917 \$ 303,682 \$ 33,343 \$ 34,917 \$ 5 </th
Kona Water Service Company, Inc. Water Operations Accumulated Deferred Income Taxes - Federal (Detail) Test Year Ending December 31, 2019	Annual Amortization Tax Tax 2017 2018 2019 Method Period	10 \$ - \$ 3,848 \$ 3,848 10 \$ - \$ - \$ 2,553 5 - \$ 3,848 \$ 6,401	SL-25 25 \$ 843 \$ 843 \$ 843 SL-25 25 \$ 312 \$ 312 \$ 312 SL-25 25 \$ 312 \$ 312 SL-25 25 \$ 225 \$ 225 SL-25 25 \$ - \$ 1,235 \$ 1,235 SL-25 25 \$ - \$ - \$ 2,640 S L-25 25 \$ - \$ 5,255	SL-25 25 \$ 64 \$ 64 \$ 64 \$ 64 \$ 64 \$ 64	SL-25 25 \$ 105,899 \$ 105,899 \$ 105,899 \$ 105,899 \$ 105,899 \$ 105,899 \$ 105,899 \$ 105,899 \$ 264	1 SL-25 25 5 218 5 218 5 218 5 218 5 218 5 218 5 218 5 218 5 218 5 218 5 105 5 <
₹ \$	Tax Cost In Service Date	\$ 38,482 7/1/2018 \$ 25,526 7/1/2019 Total \$ 64,009	\$ 21,066 9/17/2013 \$ 7,802 9/17/2013 \$ 7,802 9/17/2013 \$ 7,802 9/17/2013 \$ 7,802 9/17/2013 \$ 5,631 3/11/2015 \$ 30,873 7/1/2016 \$ 66,000 11/50/2019 Total \$ 131,372	ant \$ 1,609 6/1/2012 Total <u>\$ 1,609</u>	\$ 2,647,464 12/15/2005 \$ 2,302 7/1/2018 \$ 6,590 12/31/2018 Total \$ 2,656,356	5,443 4/1/2014 5 2,618 1/1/2016 5 3,390 3/1/2016 5 3,390 3/1/2016 5 3,991 1/1/2016 5 3,991 1/1/2016 5 9,991 1/1/2016 5 9,991 1/1/2016 5 9,991 1/1/2016 5 1,1342 1/1/2016 5 102,438 5/1/2016 5 11,342 1/1/2016 5 11,342 1/1/2016 5 11,342 1/1/2016 5 10/1/2014 1/1/2016 5 11,342 1/1/2016 5 11,342 1/1/2016 5 11,342 1/1/2016 5 16,569 1/1/1/2016 6 1,569 9/1/2010 5 16,756 9/1/2010 5 16,769 9/1/2010 5 11,676 9/1/2010 5 11,
	Property Description	103030 Intangible Plant Transmission system assessment (WO 109099) Power System Assessment (WO 118149)	 Structures & Improvement - Supply Plant 30"x94" Steel Doors 36"x94" Steel Doors 56"x94" Steel Doors Emergency Shower-HR1, HR5, Makalei Pre-filter Skid Platform (WO 67607) Kukio Office Expansion (WO 67607)) Structures & Improvement - Pumping Plant Lawn Building	 Structures & Improvement - Treatment Plant 1.0 MG Water Filtration Plant Staircases for RO Plant (WO 97225) RO Plant Overhead Lighting (WO 118185) 	Pumping Equipment ABB 6" Electromagnetic Flowmeter Auto transfer switch @ RO Plant Check Valves for Wells Engineering Labor Field Labor HR1 motor starter HR2 well power transformer HR2 well power transformer HR2 well power transformer HR3 well pump Korko Trater HR3 well pump Replace Pump Equipment Field labor Work Order Addition
	Line Utility No. Account	- 1030 3 2 4	5 103110 6 8 10 11	12 103210 13 14	15 103310 16 17 18 19	20 21 22 22 22 23 23 23 23 23 23 23 23 23 23

Page 1 of 9

Witness: Stout 2/28/2019			2019	65,388 ar age	262 62	27	156	417	8,085	5,124	281	8 928	4,657	692	4,156	658	1,773	3,3U3 2,070	3,972	0/0'0	1,117,151		977	1,466	116	403 267 507	72.522	99,924	1,578	540,524		145	229	1,100	302	175	483	65,462	12,598	113	2 2 2	6.375	4,339	1,216	675
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		Accumulated Depreciation	2018	58,849	26,363	24	125	278	4,043	2,562	140	4 464	2,329	346	ı	•	1	1	·	ŧ	989,142		855	1,282	855	421 336 607	67.342	94,046		501,500		97	153	000 01	43,233	131	402	58,189	10,498	56	28 28 28	3.188	2,170	608	337
		Accumulat	2017	52,310 \$	20,309 \$				69 1	ب من	69 6 1	A) 44	, ,	69 1	s '	ۍ ۱	۰ (ул (1	¢¢ و ۱	₽ '	883,072 \$		733 \$		733 \$	310 703 &			\$	464,054 \$		48 \$	76 \$ 662 \$	000 \$			322 \$		8,398 \$, ,				ዓ ነ	6 9 1
			20	60	<i>•</i> 9 €	э 69	• • •	\$	Ś	\$	6 6	0 0	, со	ŝ	в	\$	\$	\$	\$	A	Ś		Ś	θ,	69 6	∧ 6	⊕ ¢?	• •) (у	S		₩	69 6	₽ 6	∂ 63	• •	60	ŝ	69	69 6	¢.	, 6	Ф	ŝ	69
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			2019	6,539	2,539	676'7 3	3.6	139	4,043	2,562	140	011.7	2.329	346	4,156	658	1,773	3,303	3,972	8,0/8	128,009		123	183	122	19	5 180	5.875	1,578	39,024		48	ř	77	1,20,5 76	2 4	8	7,274	2,100	56	40 06	3 188	2,170	608	33.
	ations Detail)	Annual Amortization	2018	6,539 \$	2,539 \$ 2,539 \$	9 8 8 7 7 7	31 ¢					(,110 \$			69 1	ده	ۍ ۱	ن دی	ው (-	i I	106,070 \$		122 \$					5,878 \$	÷↔	37,446 \$		48 \$				• • •	80 \$			56 \$	49 9 9 9 9 9				
	Kona Water Service Company, Inc. Water Operations Accumulated Deferred Income Taxes - Federal (Detail) Test Year Ending December 31, 2019	Annual A	2017 2	6,539 \$	2,539 \$ 2,539 \$		31 ¢			6 7	ю. ,	99 G	ю. , ,	• 69 •	• (А) (1)	69 1	ŝ	69 1	ч Ч	' •	85,077 \$ 1		122 \$					5,878,5		37,446 \$					\$ 120'S				2,100 \$	ю, (,	А 6 1	•) (/		ن ې	
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	ervice Com eferred Inco ear Ending		Tax Period	25	25	0 K	25	25	25	25	25	25	67 72	25	25	25	25	25	25	25			25	25	52	5 2	22	20	25			25	25 21	N d	5 7	12	5	25	5	22	N 7	5 6	171	5	5
	na Water Se sumulated D Test Y		Tax Method	SL-25	SL-25	51.25 25.12	SI-25	SI-25	SL-25	SL-25			SL-25	SL-25	SL-25	SL-25	SL-25	SL-25	SL-25	SL-25			SL-25			SL-25	SL-25	SL-23	sc-25 SL-25			SL-25	SL-25	SL-25	SL-25 SL-25							SL-23			
	Acc		In Service	9/1/2010	9/1/2010	9/1/2010	5/1/2015	6/1/2017	7/1/2018	7/1/2018	7/1/2018	7/1/2018	8102/11/	10/31/2018	7/1/2019	7/1/2019	2/28/2019	8/31/2019	5/31/2019	6/30/2019			9/1/2012	9/1/2012	9/1/2012	9/1/2012	1/1/2006	2/31/2003	7/1/2019			11/1/2017	8/1/2017	3/1/2015	3/31/2005	0102/1/11	4/1/2014	12/1/2011	6/1/2014	7/1/2018	7/1/2018	8102/1//	7/1/2018	11/30/2018	12/31/2018
			Tax Cost	163,470	63,466 T0,200	73,230 75	c/ 181	3 476	101,064	64,054	3,509	177,751	111,601	8 648	103,892	16,441	44,313	82,586	99,302	201,940	3,200,236		3,053	4,580	3,053	1,527	647,485	146,047	140,347 39,445	975,595		1,208	1,911	5,529	88,034 4 800	1,0550	2 012	181,840	52,490	1,407	1,161	698 70 600	54 241	15,194	8,435
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			Property Description	rotector			er	\$	sc 66)	ent (WO109757)	HR-2 6" Gate Valve Replacement (WO 116460)	t (WO 112204)	t (WO 114639)	VO 114000)	Critical Infrastructure - Well Pump (WO 18337)	s (WO 112031)	t (WO 118614)	ads (WO 118150)	t (WO 119302)	t (WO 119543)		Contras Control Committee Equipment	omputer Equipme	I 0-50 in H2O	al 0-58 in H2O	al 0-92 in H2O		1	int are (WO 112030)		Water Treatment Plant	large	@ Makalei			dund u	dwnd i			109369)	ets (WO 102601)	r (WO 114855)	(VUC 334/1/)	0 97228)	230)
			Property [Standby Pump, Motor, and Protector	uu	Pump and Motor Installation	UME for well pump flow meter	HK3 SCADA for Generator	VFD arrives @ pooster purrips HR-1 Well Pump (WO 103799)	HR-2 Well Pump Replacement (WO109757)	Gate Valve Replace	HR-4 Well Pump Equipment (WO 112204)	HR-2 Well Pump Equipment (WO 114639)	HR-5 Power Italisiumer (WO 11400) UD E Solonoid and Value (MO 118186)	ierioiu ariu vaive (v ofrastructure - Well	HB-1 - HB-5 Power Monitors (WO 112031)	HR-1 Well Pump Equipment (WO 118614)	Junction Boxes for Pump Leads (WO 118150)	HR-3 Well Pump Equipment (WO 119302)	HR-5 Well Pump Equipment (WO 119543)			Foxboro Pressure Trans Cal 0-300 in PSI	Foxboro Pressure Trans Cal 0-50 in H2O	Foxboro Pressure Trans Cal 0-58 in H2O	Foxboro Pressure Trans Cal 0-92 in H2O	SCADA HR Well 5	SCADA HR Wells 1-4	SCADA Water Fitration Plant SCADA Computer & Software (WO 112030)		Water Tre	6" check valve @ RO discharge	Chemical Injection Pumps @ Makalei	Chlorine Analyzer	Degassing Station	Grundtos chemical injection pump	Grunaros cnemical injection pump Vuivio DO Diant VED	nbrane	RO Membranes	Kukio RO EC Sensor (WO 109369)	Chemical containment pallets (WO 102601)	RO Plant Surge Suppressor (WO 114855)	Pre-Filler Pressure Vesser (WU 33477) DO Mamhrane Train R (MO 97939)	Water Quality Sensors (WO 97228)	Victaulic Coupling (WO 97230)
				Standby	Sub Column	Pump an			HR-1 WF	HR-2 We	HR-2 6"	HR-4 W	HR-2 W		Dritical la	HR-1 - F	HR-1 W	Junction	HR-3 W	HR-5 W			Foxhoro	Foxboro	Foxboro	Foxboro	SCADA	SCADA	SCADA			6" chect	Chemic	Chlorine	Degass	Grundfo	Grunard Kukio D	RO Membrane	RO Mer	Kukio R	Chemic	RO Pla	PIC-FILL	Water (Victauli
			Utility	Account																		******	102241								103320														
			Line	43. 43	4	45	46	47	48 40	50	51	52	23	55	00 97	20	282	59	60	61	62	8	50 20	65	66	67	88	69 1	70	72	73	24	75	76	11	8 i	6, 6	81	82	83	84	85	40 60	5 8	8

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Docket No. 2018-0388 Exhibit KWSC Water 7.11 Witness: Stout

No. 2018-0388 SC Water 7.11 Witness: Stout 2/28/2019			2019	504 508	147,199	1,502,687	187,084 218,689	066'6	1,7/9 2,800	17,923	407,017	296	2,349,816	1,532,349	524,028 2,511,634	317,077	4,885,088	2,339	832	3,171	162 698	860	7,151	7,151	409,336 705,903 497,836 1,984	
Docket No. 2018-0388 Exhibit KWSC Water 7.11 Witness: Stout 2/28/2019		Accumulated Depreciation		252 \$ - \$	126,566 \$		6 69	ж о (1,524 \$ 2,600 \$		9 69	148 \$	2,203,343 \$ 2,	ۍ جو	3	298,426 \$	4,585,711 \$ 4,	1,754 \$	416 \$	2,170 \$	8 ' 8 %	81 \$	5,959 \$	5,959 \$	380,098 \$ 664,379 \$ 468,552 \$ 1,736 \$	
		Accumulated		69 69 1 '	106,440 \$		69 69		1,270 \$ 2.400 \$		359,132 \$	۰ ۱	2,056,871 \$	\$	462,377 \$ 2,216,147 \$	279,774 \$	4,286,335 \$	1,169 \$	ب	1,169 \$	ው ው 1 ነ	۰ ۱	4,767 \$	4,767 \$	350,859 \$ 622,855 \$ 439,267 \$ 1,488 \$	
				აა	S	69	609 64	} ↔ •	и и	60 6	A 43	\$	¢	\$	ማ ማ	\$	\$	↔ •	69	\$	69 69 69	s	φ	\$	የት የት የት	
			2019	252 508	20,634	88.393	14,391 16 822	1,110	254 200	1,120	942 23,942	148	146,472	102,157	30,825 147,743	18,652	299,377	585	416	1,001	81 698	617	1,192	1,192	29,238 41,524 29,284 248	
	- Operations deral (Detail) 2019	Annual Amortization	2018	\$ 252 \$ \$ - \$	\$ 20,126 \$	88 393	\$ 14,391 \$ \$ 16,897 \$	1,110	\$ 254 \$	\$ 1,120	91 23,942	148	\$ 146,472 \$	\$ 102,157	\$ 30,825 \$ \$ 147,743 \$	\$	\$ 299,377 \$	Ś	416	\$ 1,001 \$	\$ 8 \$ \$ \$	\$ 81 \$	\$ 1,192 \$	\$ 1,192 \$	 \$ 29,238 \$ 41,524 \$ 29,284 \$ 29,284 	
	Kona Water Service Company, Inc. Water Operations Accumulated Deferred Income Taxes - Federal (Detail) Test Year Ending December 31, 2019	An	1 2017	25 \$ - 25 \$ -	\$ 13,440	-		o_ ← A 43			25 \$ 91 25 \$ 23,942		\$ 146,324	-	25 \$ 30,825 25 \$ 147,743	\$	\$ 299,377	25 \$ 585		\$ 585	25 \$ - 25 \$ -	\$	25 \$ 1,192	\$ 1,192	25 \$ 29,238 25 \$ 41,524 25 \$ 29,284 25 \$ 29,284	
	later Service Co ated Deferred Ir Test Year Endir		Tax Tax Method Period															-25	-25		-25 -25		-25		SL-25 SL-25 SL-25 SL-25	
	Kona W Accumu			019 5		11110003 CI 25		6/1/2011 SL-25	6/1/2013 SL-25		12/31/2003 SL-25 3/31/2003 SL-25	12/31/2018 SL-25		1/1/2005 SL-25	6/30/2003 SL-25 6/30/2003 SL-25			12/1/2016 SL-25	12/31/2018 SL-25		7/1/2018 SL-25 2/28/2019 SL-25		5/1/2014 SL-25		1/1/2006 SL 3/31/2003 SL 6/30/2003 SL 4/1/2012 SL	
			Tax Cost	6,305 12,698	515,838	200 033	359,777	420,555 27,749	6,352 E 000	28,004	2,284 598,554	3,697	3,661,805	2,553,915	770,629 3 693 579	466,290	7,484,413	14,617	10,400	25,017	2,029 17,448	19,477	29,795	29,795	730,957 1,038,092 732,112 6,200	
				<i></i> м м	Total \$	6	A (A (ю ю	69 G	A €A	აა	\$	Total \$	\$	<i>v</i> > <i>v</i>		Total \$	÷	S	Total \$	69 69 69	Total \$	69	Total \$	~ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
			Property Description	RO Bypass Blend Controller (WO 119025) Sampling Station (WO 118151)		Transmission & Distribution Mains	CIAC Phase 1A CIAC Phase 3 Increment 1	CIAC Phase 3 Increment 2 Flow Control Vault Lid	Sampling Station	Pressure Reducer (Outside the WEP) Road R and Access Road to 312'	Road R and Access Road to 312' Broad R and Access Road to 312'	Kukio FCV Via-val Pilot Filter (WO 117161)		Ductile Iron Pipe CIAC - Distribution Water lines	HR 1 to 4 Transmission(16" Waterline)	Transmission lines from the 620' down to the 312' 1MG tank (5K' of 16' line)		Supply Mains HR5 12" butterfly valve	10" Gate Valve (WO 108112)		Meters & Meter Boxes HR-1 & HR-4 Meter Replacement (WO 113505) Meter Replacement Program (WO 118392)		Hydrants 12 Fire Hydratns		Reservoirs & Tanks 312' .5MG Glass fused steel tank 312' 1MG Glass fused steel tank 620' .5MG Glass fused steel tank Anti climbs for Kona Water tanks A,B,C,#1	
			Utility	HIDDOOL		103434								103435				103164			103460		103480		103420	
			Line	90	92	33	94 95	96 76	86	96 100	101	103	104	105 106	107	109	110	111 112	113	114	115 116 117	118	119 120	121	122 123 124 125	

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Docket No. 2018-0388

No. 2018-0388 SC Water 7.11 Witness: Stout 2/28/2019	6	24,680 2,715 12,440	1,654,893	129	129	649 5,897	6,546	15,742 39,247 31,692 6,071 4,920 56,542 8,282	62,496	232 2,346	2,577	12,335 13,150 1,141	26,626	866 1,393 831 1,572 2,902 1,189 1,189 1,540
Docket No. 2018-0388 Exhibit KWSC Water 7.11 Witness: Stout 2/28/2019	reciation 2019	22,212 \$ 2,443 \$ - \$	419 \$	1	96 \$	649 \$ 5,897 \$	6,546 \$	15,742 \$ 39,247 \$ 31,692 \$ 6,071 \$ 4,920 \$ 53,285 \$ 53,285 \$	\$	01.00	,577 \$	12,335 \$ 11,319 \$ 420 \$	24,074 \$	866 \$ 1,331 \$ 680 \$ 1,426 \$ 1,078 \$ 1,078 \$ 29 \$ 1,471 \$
	Accumulated Depreciation 2018	\$ \$ \$	\$ 1,539,	67	\$	ີ ນ ເຊ	\$	လ လ လ လ လ လ လ လ လ လ လ လ လ လ လ လ လ လ လ လ	\$ 150,95	\$ \$	\$ 2	\$ \$ 11 \$	\$ 24	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
	Accur 2017	19,744 2,172 -	1,436,385	64	64	649 5,897	6,546	15,742 39,247 31,692 6,071 4,636 46,772	144,160	221 2,241	2,463	11,624 8,267 -	19,891	828 1,207 469 1,279 2,304 2,304 267 267 267
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		468 271 440	74	32	32		.	- - 257 282	539			- ,831 720	2,552	- 62 147 111 111 69 69
	lion 2019	\$ 2,468 \$ 271 \$ 12,440	\$ 115,474		÷	ው የ	Ś	8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	\$ 11,5	ფფ	φ	~ ~	s	~~~
erations al (Detail)	Annual Amortization 2018	2,468 271 -	103,034	32	32	1 1	-	 - 283 6,514	6,797	10 105	115	710 3,052 420	4,183	39 1124 147 2399 1111 111 138
tater Service Company, Inc. Water Ope ated Deferred Income Taxes - Federa Test Year Ending December 31, 2019	Annua 2017	2,468 \$ 271 \$ - \$	103,034 \$		32 \$	29 \$ 263 \$	292 \$		7,080 \$	21 \$ 209 \$	230 \$	1,421 \$ 5,087 \$ - \$	6,508 \$	77 5 124 5 296 5 296 5 296 5 419 5 111 5 111 5 137 5 137 5
npany, Inc. come Taxe	20	6 6 6 6	\$ 10	25 \$	s	7 \$ 7	Ś		Ś	7 \$ 7	÷	ຈ ເ ເ ເ	Ś	~~~~~~~~~~
ervice Cor beferred In 'ear Endiny	Tax Period	25 25 25		7						~ ~		10.10		
Kona Water Service Company, Inc. Water Operations Accumulated Deferred Income Taxes - Federal (Detail) Test Year Ending December 31, 2019	Tax Method	SL-25 SL-25 SL-25		SL-25		MACRS 7 MACRS 7		MACRS 5 MACRS 5 MACRS 5 MACRS 5 MACRS 5 MACRS 5 MACRS 5		MACRS 7 MACRS 7		MACRS 5 MACRS 5 MACRS 7		MACRS 7 MACRS 7 MACRS 7 MACRS 7 MACRS 7 MACRS 7 MACRS 7 MACRS 7
Kor Accu	In Service	3/1/2010 3/1/2010 7/1/2019		11/1/2016		12/1/2010 12/1/2010		5/1/2011 3/1/2010 5/1/2011 12/1/2013 5/1/2013 5/1/2014		12/1/2011 12/1/2011		6/1/2013 12/1/2016 7/1/2018		12/1/2011 4/1/2012 9/1/2016 9/1/2014 4/1/2014 6/1/2013 9/1/2013 9/1/2013
	u (47	803	803	649 5,897	6,546	15,742 39,247 31,692 6,071 4,920 56,542 41,410	95,624	232 ,346	,577	12,335 15,898 2,941	31,174	866 393 208 646 544 33 33 33 540
	Tax Cost	61,699 6,787 311,000	2,886,847	60	œ	5,8,6	6,5	15,742 39,247 31,692 6,071 4,920 56,542 41,410	195,6	N N	2,	15,15,27	31,	్రారార్యంల్ లో
		6 6 7 6 7 7 7 7 7 8 7 8 7 8 7 8 7 8 7 8	Totai \$. (/)	Total \$	69 69	Total \$	~~ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Total \$	ጭ භ	Total \$	69 69 69	Total \$	
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	cription	NO 11204		ME.		Electronic Equipment/Computers ar Addition ier		Transportation Equipment a DOT Approved Trailer d truck f Vehicle (replacement) (WO		quipment		iipment		Tools, Shop, Garage Equipment est n. Hammer & Accessories Hammer & Accessories eter Addition r Addition
	Property Description	at Valves (wells er meter UN		c Equipme		portation Approved cle (replac		Laboratory Equipment lition lition		Stores Equipment ner VO 106194)		shop, Gara & Access tow behin n
	đ	一道生		Wells HR3 4" Neptune water meter UME		Electronic Work Order Addition Color Copier		<u> </u>		Labo Work Order Addition Work Order Addition		Stores Equ 40' Storage Container Forklift, Yale 50LX Safety Cabinets (WO 106194)		Tools, Shop, Garage E Fire Flow Test Spill Contain. Brush cutters Brush cutters Demolition Hammer & Accessories DR mower 20hp pro tow behind Portable meter Work Order Addition Work Order Addition
		field supervision Work Order Add Tank Modulating		HR3 4" Nt		El Work Order / Color Copier		T Tery X Mule Toyota Tacoma Toyota Tacoma 2 Engines New med size C F450 - Flat bed Superintendent		Work Orc Work Orc		40' Stora Forklift, Y Safety C		Too Fire Flow Test Spill Contain. Brush cutters Demolition Har DR mower 20h Portable meter Work Order Ac
	Utility	Account		103150		103721		103730		103750		103740		103780
	Line	127 128 129	130	131 132	133	134 135 136	137	138 139 141 142 144 145	146	147 148 149	150	151 152 153 154	155	155 157 158 158 160 161 163 163

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Docket No. 2018-0388 Exhibit KWSC Water 7.11 Writness: Stout 2/28/2019	Accumulated Depreciation 2017 2018 2019	S 2,387 S 2,662 \$ 2,936 \$ \$ 2,936 \$ \$ 3,065 \$ 3,381 \$ 3,331 \$ 3,331 \$ 3,321 \$ 3,331 \$ 3,321 \$ 3,321 \$ 3,321 \$	\$ 13,888 \$ 16,401 \$ 19,262	\$ (1.325.900) \$ (1.414.293) \$ (1.502,686) \$ (158,302) \$ (172,693) \$ (1.507,686) \$ (185,044) \$ (201,866) \$ (218,689) \$ (1,669,246) \$ (1.788,852) \$ (1,908,459)	\$ (1,328,036) \$ (1,430,192) \$ (1,532,349)	\$ (1,328,036) \$ (1,430,192) \$ (1,532,349)		\$ 9,490 \$ 11,596 \$ 13,102 \$ 3,060 \$ 3,060 \$ 3,060 \$ 3,060 \$ 5,650 \$ 5,550 \$ 5,550 \$ 5,550 \$ 5,550 \$	509 \$ 509 \$ 6 404 \$ 509 \$ 6 204 \$ 509 \$ 6 204 \$ 509 \$ 6 204 \$ 509 \$ 6	2,037 \$ 2,037 \$ 2 429 \$ 429 \$	793 \$ 793 \$ 71 \$ 71 \$ 391 \$ 391 \$	468 \$ 468 \$ 308 \$ 308 \$	487 \$ 487 333 \$ 333 7na \$ 709	988 \$ 988 \$	513 \$ 513 \$	2,280 \$ 2,386 \$ 2	2,108 \$ 2,510 \$ 355 \$ 434 \$ 7,161 \$ 7,161 \$	
Kona Water Service Company. Inc. Water Operations Accumulated Deterned Income Taxes - Federal (Detail) Test Vara Fordion December 31, 2019	Tax Tax 2017 2018 2019 Method Period		\$ 1,967 \$ 2,513 \$ 2,860	SL-25 25 \$ (88,333) \$ (88,393) \$ (88,393) SL-25 25 \$ (14,391) \$ (14,391) \$ (14,391) SL-25 25 \$ (16,822) \$ (16,822) \$ (16,822) \$ (119,607) \$ (119,607) \$ (119,607)	SL-25 25 \$ (102,157) \$ (102,157) \$ (102,157)	\$ (102,157) \$ (102,157) \$ (102,157)		MACRS7 7 \$ 2,950 \$ 2,106 \$ 1,506 MACRS7 7 \$ 136 \$ - \$ - MACRS7 7 \$ 136 \$ - \$ - MACRS7 7 \$ 252 \$ - \$ - MACRS7 7 \$ 38 \$ - \$ -	9 49 49 6 9 49 49 6 9 49 49 6 9 49 49 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7 5 91 5 - 5 7 5 19 5 - 5 7 5 19 5 - 5	ი ი ი ი ი ი ი ი ი ი ი ი ი ი ი ი ი ი ი	7 \$ 21 \$ - \$	MACRS 7 7 \$ 22 \$ - \$ - MACRS 7 7 \$ 15 \$ - \$ -			MACRS 7 7 \$ 25 \$ - \$ MACRS 7 7 \$ 213 \$ 106 \$	MACRS 5 5 5 5 5 5 351 351 MACRS 7 7 5 110 5 79 79 79 110 5 79 110 5 79 110 5 79 110 5 79 110 5 1	€ • •
Kon	Tax Cost In Service	Date 373 6/1/2013 539 6/1/2013 494 4/1/2014 517 7/1/2018 335 7/1/2018	Total \$ 24,039	\$ (2,209,833) 1/1/2003 \$ (359,777) 1/1/2007 \$ (420,555) 1/1/2007 Total \$ (2,990,165)	\$ (2,553,915) 1/1/2005	Total \$ (2.553,915)		\$ 16,865 5/1/15 \$ 3,060 3/1/10 \$ 5,650 12/1/10 \$ 5,650 12/1/10 \$ 855 12/1/10	509 404	2		- 468 308 308	487 333	c	513	567 1 2,386 1		1,101
	Property Description	Water Data Logger Water Main PSI Monitoring Weed sprayer 27gal Mauka SCADA generators (WO 102602) Metal detector (WO 102603)		CONTRIBUTIONS IN AID OF CONSTRUCTION 103434 Transmission & Distribution Mains CIAC Phase 1A CIAC Phase 3 Increment 1 CIAC Phase 3 Increment 2	Ductile Iron Pipe CIAC - Distribution Water line		HAWAII GENERAL OFFICE	790 Leasehold Improvements desks, conf table, chairs 2 Cubical Work Stations Cherry Desk	Cherry Drawer Cherry Credenza Cherry Comer Unit	Regency Library Chairs Cherry Desk Shell 66'	24" x 71" Credenza Shells Cherry Keyboard Drawer	Executive Chair Desk Pedestal F/F Cherry Sheft Unit	Cherry Storage Hutch Cherry Credenza 66"	Regency Desk 2 Drawer Lateral File	3, 42" 4 Drawer Lateral File Cabinets Cherry Desk Pedestal B/B/F	Regency Lateral File Fireproof safe for Customer Service office.	Ricoh Aficio MP C3001 790 Office Furniture	Automated Electronic Defibrillators
		No. Account 165 166 167 168 169	170	171 CONTRIBL 172 103434 173 174 175 175	177 103435 178	179	180 HAWAII G	181 182 183	185 186 187	188 189 190	191	193 194 195	196 197	198 199	200 201	202 203	20 4 205	206

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No. 2018-0388 SC Water 7.11 Witness: Stout 2/28/2019		2019	237	1,666	1 207	8,102	744	37,185 1111	807	807	807	807	807	16,633	132,361	92,429 24,850	24,009 981	1,496	8,909	15,616	406,866	88,170	31,761	53,901	42,072 52,427	52,526	2,908	43,240	23,862		2,081 23 867	22.871	186	91	2,U/5 1 067	1,275	27,030 35,679	26,901	26,395
Docket No. 2018-0388 Exhibit KWSC Water 7.11 Witness: Stout 2/28/2019	iation	2	7 \$	სა ც	A) 44 D ►			5 5 5 6 7 6 7 6 7 6 7 6 7 7 7 7 7 7 7 7						\$ 0			ο. •			ь	\$ 0	_	_					5 \$			τ C		\$		ж Э С		0 0 9 4		
Doc Exhibit	Accumulated Depreciation	2018	23	1,666	1 207	8,102	744	37,185 1111	760	760	760	09/ 160	760	14,600	132,361	92,429	24,033	1,410	'	•	378,029	81,921	29,510	50,081	39,090	43,040 62,740	2,702	40,175	22,17		2,081	22.871	149	200	1,660	1,147	27,030 35.679	26,901	26,39
	ccumulate		237 \$	96 8 8	6 00 00 00			85 \$				667 \$			61 \$			38 6		\$	24 \$					30 e			15 \$		61 \$ 67 \$				1,245 \$ 637 \$	1,020 \$			
	4	2017	2	1,666	10,080	8,102	2	37,185	9	9	9 (00	9 9	12,567	132,361	92,429 04 050	24,039 180	1.238	. '	•	372,624	80.956	25,605	47,813	37,329	43,437 67,730	2,782	39,337	21,6		1,961	22.871			, d	,0,	27,030 35,670	26,901	26,3
			\$	69 (Α¥	, 69	ы	6 3 6	÷↔	69	\$	^ 6	• ••	63	6 3 -	69 6	e e	÷ ↔	69	\$	Ś	\$	\$	\$	696	¢, ¢λ	\$	ŝ	\$		63 6	9 (9	• • •	\$	₩ ₩	9 69	63 6	, 09	ф
		2019	.	ı	ı			•	46	46	46	46 46	94	2,033	ŀ	1		- 86	8,909	15,616	28,837	6.249	2,251	3,820	2,982	3,786 4.786	206	3,065	1,691		ı	1 1	37	18	415	127	•		
st (jie	tization		s	69 (9 U	9 69	\$	6 9 6	93 e			93 93 93		2,033 \$	сэ 1	ю. '	÷> €	- 172 \$		\$	5,405 \$		422 \$			\$ 111 \$ 268			317 \$		120 \$	γ, φ.	37 \$		415 \$ 212 \$	412 \$	сэ с		
Operation deral (Det	Annual Amortization	2018	\$	ч 69 (, 	ი თ ი თ	ج	ഗം പ	, • •	ю 19	\$	φ, φ,			ക					s	\$ 5'7		- 6			- ~ • •					` မာ	n v	ж	<i>с</i> э -		а (A			
tater Service Company, Inc. Water Ope ated Deferred Income Taxes - Federa Test Year Ending December 31, 2019	Anr	2017		ı	ı		•	a.	- 63	93	93 1	8 8 8	3 G	3,389	ı	6,849	,	- 172	1	•	15,797	3 437	1,086	2,027	1,583	2,097	118	1,668	916		240		37	18	415	127	ı	- 1,549	1,520
mpany, Ir rcome Ta 1g Decem			1			കം പെറ		ۍ د د		9 49 21 (2		es er					no n No e			\$ \$	ω		* *			* *		\$ %				ค.ศ ถ.ศ				25 \$		n n A	сı Ф
ervice Co leferred Ir 'ear Endir		Tax Period	1																			2019 21.67%	7.81%	13.25%		13.13%	0.71%	10.63%	5.86%		10	0.10					10.1	2 10	ю
Kona Water Service Company, Inc. Water Operations Accumulated Deferred Income Taxes - Federal (Detail) Test Year Ending December 31, 2019		Tax	MACRS 3	MACRS 5	MACRS 5	MACRS 5 MACRS 5	MACRS 5	MACRS 5	MACRS 5	MACRS 5	MACRS 5	MACRS 5	MACRS 5	MACRS 5	MACRS 3	MACRS 3	MACRS 5	MACRS 5	MACRS 5	MACRS 5		2018 21.67%	7.81%	13.25%	10.34%	13.13% 16.60%	0.71%	10.63%	5.86%		MACRS 5	MACRS	SL-25	SL-25	SL-25	SL-25 SL-25	MACRS 5	MACRS 5	MACRS
Kon Accu		Service	1/10		12/1/10	01/1/21	12/1/11	12/1/11	11/1/21	12/1/14	12/1/14	12/1/14	12/1/14			3/1/14	3/1/10	01/1/71				2017 21 73%	6.87%	12.83%	10.02%	13.27% 18 18%	5%	10.56%	30%		12/1/13	11/1/21	6/1/15	6/1/15	6/1/15	61/1/9 12/1/10	12/1/10	6/1/12	6/1/12
		In Service			. ,		•														1 4																_	_	
		Tax Cost	237	1,666	10,686	1,207	744	37,185	111,1 807	807	807	807	807	17,650	132,361	92,429	24,859	1981	44.547	78,082	510,065	110 817	35.049	65,448	51,098	67,699 92 712	3,808	53,846	29,588		2,081	23,867	931	455	10,373	5,312 3,187	27,030	26,901	26,395
		Tax	Ś	ŝ	с я (ю и	÷↔	Se (9 9	э (э	ь	69 6	0 V	ж	ŝ	ŝ	6 9 6	÷> ↔	.	• • •	s	. y	э 6 9	e ve	69	w w	, со	\$	\$		\$	19 64	э 6 9	ŝ	69 6	÷+ (*)	69 (лю	\$
																					Total																		
						one	2												13)			TIONS									s								
		Property Description			Finisher	Monitors Mitel ED Din 6 Line Model 8560 Telephone		stern						oarade	2 2			ment	laptop tot Co ingi Mestewater Manager Vehicle (WO 119213)	118883)		HAWAII GENERAL OFFICE ALLOCATIONS				<u>د</u> بر	tion				(2)Replacement Op Computer Stations		svard						
		Property D	Now	ner	Ricoh MP 4001SP Copier w/Finisher	Model 85	311	8-way video conferencing system	ser printer	39	37	38	50	790 Server & Server room upgrade	Hawaii Business Unit Software		phone system with 8 phones	Miscellaneous Kitchen Equipment	her Vehicl	SCADA Upgrade 2018 (WO 118883)		L OFFICE		ater	wer	723 - Waikoloa Resort Water 724 - Maikoloa Desort Sewer	725 - Waikoloa Resort Irrigation				p Comput	L .	1990 Eagle FUINIIL 20' Container Shelving-Basevard	20' Container Shelving-EMT	eyard				
		ц.	or Capture	5140 scan	4001SP (oid 6 Line	DNICS 168	eo confere	ackard la:		Desktop-HIWKLCS37	Desktop-HIWKLCS38	Desktop-HIVKULS35	er & Serve	usiness Ur	hware	stem with	eous Kitcl	ter Manar	Jpgrade 2		GENERAI	ai lapaii calani	721 - Waikoloa Water	722 - Waikoloa Sewer	iikoloa Re iikoloa Pe	likoloa Re	- Kona Water	- Kona Sewer		cement O	Mobile office trailer	ainer Shel	ainer Shel	20' Container-Baseyard	20' Container-EMT Storage Contr	rontier	itan CAB	CAB
			License for Capture Now	Fujitsu Fi6140 scanner	Ricoh MP	Monitors Mitel EP F	ELECTRONICS [681]	8-way vid	Hewlett Packard laser printer	Desktop-HIWKLC339	Desktop-i	Desktop-	Desktop-	790 Servi	Hawaii Bu	RMS Software	phone sy	Miscellaneous Kitt	Wastewa	SCADA (HAWAI	701 - Pukalapan	721 - Wa	722 - Wa	723 - We	725 - Wa	726 - Koi	727 - Kor	0	(2)Repla	Mobile o	20 Conta	20' Conta	20' Conti	20' Container- Storage Contr	Nissan Frontier	FORD XCAE	FORD XCAB
		Utility	Account																											BIG ISLAND									
			NO. A	208	209	210 211	212	213	214	216 216	217	218	219	221	222	223	224	225	077 277	228	229	230	107	233	234	235 236	237	238	239	240 BI	241	242	244 244	245	246	247 248	249	250 251	252
			I																																				

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Docket No. 2018-0388 Exhibit KWSC Water 7.11 Witness: Stout 2/28/2019

Accumulated Depreciation

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

Annual Amortization

	ISUU ADI	2		Doricol	22	2017	2018	5107	•	2017	50107	5019
Account		² c	ا سا	Ferloa	é	1 767 ¢			¢	30 500 \$	30,500 \$	30,500
Ford F-150				n u	9 9	0 101'1			.	30,500 \$	30,500 \$	30,500
Ford F-150	001 00 4	VM 21/1/6		n ur	9 U	1,131 \$			÷	30,500 \$	30,500 \$	30,500
				ייר	.	1 460 \$, 1 , 49	ə <a< td=""><td>25,350 \$</td><td>25,350 \$</td><td>25,350</td></a<>	25,350 \$	25,350 \$	25,350
FRUNTER Ford Evolution	\$ 37 497	9/1/12 MA	MACRS 5	о ю	, со с	2.160 \$		י د ده	69	37,497 \$	37,497 \$	37,497
2014 Nissan Frontier, V214001		-	MACRS 5	S	\$	4,046 \$	4,046	\$ 2,023	ŝ	29,053 \$	33,099 \$	35,122
3 Ipad for Hawaii Island	\$ 2,542	~	MACRS 5	ŝ	\$	293 \$	146	' د	\$	2,396 \$	2,542 \$	2,542
Desk w Drawer	\$ 959	~	MACRS 7	2	ф	86 \$	86	\$ 43	\$	831 \$	916 \$	666
69"x43"x 18"	\$ 1,311	_	MACRS 7	7	\$	117 \$	117	28	6 9 (1,135 \$	1,253 \$	1,311
Diesel tank		_	MACRS 7	7	ь	65 \$	32	•	<i>1</i>	693 \$ - 224 \$	\$ 67.1	67.) -
GIS Software		_	MACRS 5	ъ.	69	69 1			φ,	7,621 \$	7,621 \$	7,621
Backflow Test Kit-Midwest 835		2 ≤	MACRS 5	ŝ	¢)	231 \$	138	2 138	\$	856 \$	994 \$	1,133
Big Island SCADA 2012	\$ 495,319	2	IACRS 5	ι Ω	ക	7,061 \$	57,061	5 28,530	<i>i</i> 9 (409,728 \$	466,788 \$	495,319
Book Case	\$ 298	~ .	AACRS 7	- ·	69 6	27 \$	51	8 21 21	÷ 6	\$ 907	4 497 6 107 1	282
Motoroia Hardware	\$ 4,401	~	MACKS 5	n ۱	\$	254 \$,	<i>₽</i> (4 int 4	4,401 4	4,40
Work Order Addition	\$ 2,144	~	MACRS 5	ιΩ I	ŝ	124 \$		י אינא	\$	2,144 \$	2,144 \$	2,144
Misc. Wiring & Cables	\$ 544	~	MACRS 5	5	ф	31 \$	•	і Ю	\$	544 &	544 S	544 1
Work Order Addition	\$ 747	6/1/12 MA	MACRS 5	5	ŝ	43 \$	•	' 69	ф	747 \$	747 \$	747
1 desktops	\$ 1,133	4/1/13 MA	MACRS 5	S	ь	131 \$	65	1 69	ю	1,068 \$	1,133 \$	1,133
1 desktops		4/1/13 MA	MACRS 5	5	ω	131 \$	65	۰ ده	\$	1,068 \$	1,133 \$	1,133
Desktop-HIWKLOC56	•	4	MACRS 5	5	ŝ	181 \$	181	\$ 91	ь	1,301 \$	1,482 \$	1,572
Desktop-HIWKLOC57	\$ 1,613	12/1/14 MA	MACRS 5	с,	÷	186 \$	186	\$ 93	Ś	1,334 \$	1,520 \$	1,613
dryer @ baseyard		4/1/17 MA	MACRS 5	5	ŝ	101 \$	161	\$ 97	\$	101 \$	261 \$	358
Exec Chair	\$ 351	9/1/12 MA	MACRS 7	7	ŝ	31 \$	31	\$ 16	ማ	304 \$	335 \$	351
Work Order Addition		~	AACRS 5	5	ŝ	9 9	n	' 9	ŝ	48 \$	51 \$	51
Work Order Addition	\$ 182	~	MACRS 5	5	ŝ	11 \$		۰ ج	÷	182 \$	182 \$	182
Work Order Addition	\$ 13,813	2	AACRS 5	5	ŝ	296 \$,	י אפ	Ф	13,813 \$	13,813 \$	13,813
EMT Laptop		4	ACRS 5	5	ŝ	519 \$	519	\$ 260	\$	3,730 \$	4,249 \$	4,509
Hand Helds	\$ 19,147	2	AACRS 5	5	ф	ч 1	1	' \$	ф	19,147 \$	19,147 \$	19,147
Desk Dock		2	ACRS 5	5	G	نې ۱	ı	۰ ب	ф	2,793 \$	2,793 \$	2,793
Personnel Lift		2	ACRS 5	£	\$	337 \$	ī	' \$	\$	5,844 \$	5,844 \$	5,844
Software		9/1/12 MA	ACRS 5	5	ф	173 \$	•	۰ ج	ŝ	2,995 \$	2,995 \$	2,995
Hardware	\$ 8,824	2	ACRS 5	5	ŝ	508 \$		۰ ج	\$	8,824 \$	8,824 \$	8,824
Gradall lifting hook attachment		4 ≥	IACRS 5	£	ŝ	280 \$	280	\$ 140	ŝ	2,008 \$	2,287 \$	2,427
Forklift	27	2	IACRS 5	ŝ	ф	ب ۱	r	۰ ج	ŝ	27,625 \$	27,625 \$	27,625
HON chair		4	ACRS 7	7	69	\$ 62	57	\$ 57	\$	438 \$	494 \$	551
Hydro Jetter	\$ 5,941	2	ACRS 5	£	÷	۰ دە	1	۰ ۲	\$	5,941 \$	5,941 \$	5,941
Ice Maker-Manitowac ID-0452A		29	ACRS 5	£	ь	1,451 \$	871	\$ 523	ŝ	2,359 \$	3,230 \$	3,752
Ingersoll Needle/Chisel Scl		2 0	ACRS 5	5	ф	83 \$	42	، ج	s	728 \$	173 \$	1/3
Internal labor	\$ 21,402	4M E1/1/7 MA	ACRS 5	5	69	2,465 \$	1,233	•	S	20,169 \$	21,402 \$	21,402
Knoll task chair		2/1/14 MP	ACRS 7	7	\$	1,724 \$	1,233	\$ 1,231	ŝ	9,493 \$	10,726 \$	11,957
1 laptops	\$ 1,165	4/1/13 MP	ACRS 5	5	\$	134 \$	67	۰ ج	\$	1,098 \$	1,165 \$	1,165
1 laptops		4/1/13 MA	IACRS 5	ഹ	ь	134 \$	67	ج	ŝ	1,098 \$	1,165 \$	1,165
Laptop, EMT-HIWKOCLT02	-	11/1/16 MP	AACRS 5	ŝ	ŝ	522 \$	313	\$ 188	63	848 \$	1,161 \$	1,349
Lateral File		2	MACRS 5	ŝ	ŝ	30 \$	•	، ج	S	525 \$	525 \$	525
Work Order Addition		2	IACRS 5	5	ф	ب ن	•	، ج	ŝ	1,447 \$	1,447 \$	1,447
Work Order Addition	\$ 4,571	12/1/11 MF	ACRS 5	ŝ	ŝ	۰ دی	,	، ج	ŝ	4,571 \$	4,571 \$	4,571
Work Order Addition	-	6/1/11 M/	ACRS 5	ъ	ь	ري ۱		' \$	\$	16,749 \$	16,749 \$	16,749
New IP phone system	\$ 19,704	6/1/13 M/	ACRS 5	5	ŝ	2,270 \$	1,135	, 69	\$	18,569 \$	19,704 \$	19,704
New Hydraulic Hammer	\$ 9,847	12/1/13 M/	ACRS 5	5	¢A	1,134 \$	567	، ج	\$	9,280 \$	9,847 \$	9,847
Office Fumishings	\$ 6.706	2/1/14 M/	ACRS 7	7	69	838 \$	599	\$ 598	U	4.611 \$	5.210 \$	5.808

		2019	4,134	7 4 00	428	7,932	75	518	8,770 3 506	0,000 10 588	1,045	6,851	1,478	18,510	27,664	130,50	3 947	0,041 15	994	68	332	1,248	58,793	6,817	30130	32,269	169	2,537	1,807	471	3.822	11,536	5,207	25,665 27 4 E A	21,134 6 175	4 569	15,051	13,918	16,884	328,447	110,0	70.711	7,355	8,361	1,952,580
	Accumulated Depreciation	2018	3,950 \$	74 00 8	369 \$	6,962 \$	75 \$	446 \$ 5 770 \$	8,770 \$ 2018 \$	3,010 \$	1,045 \$	5,897 \$	1,393 \$	15,932 \$	10,640 \$	40,119 \$	\$ 202'1	15 5	994 \$	51 \$	249 \$	936 \$	58,793 \$	6,817 \$	9,017 4 9,0120 6	23,153 \$	161 \$	1,691 \$	1,204 \$	344 \$ 026 \$	020 1911 S	5,768 \$	2,003 \$	9.871 \$	10,444 \$	1 757 \$	10,992 \$	5,353 \$	6,494 \$	328,447 \$	\$ 1/G'9 \$ 9/0 Z	9 49 7	, ч	с о I	1,713,713 \$
	Accumulate	2017	3,581 \$	24 24 24 24 24	269 \$	5,993 \$	75 \$	326 \$	8,770 \$ 2,204 \$	2,204 5	1,045 \$	4,307 \$	1,223 \$	11,636 \$	به و ا	33,083 \$	0,40U 4	-,40- 15 €	937 \$	34 \$	166 \$	624 \$	58,793 \$	6,817 \$	9,017 &	23,133 \$ 32,269 \$	146 \$	846 \$	602 \$	132 \$ 247 £	9 49 	• 69 1	ري ۱	69 6 1	1 735 6	• • • • •	4,228 \$	\$ '	ۍ ۱	309,528 \$	6,198 \$ \$	• •	е у (, ч	1,525,970 \$
			s e	₽.4	9 49 69	\$	↔	\$	69 6	₽ 4	э (л)	• ••	\$	\$	\$, е	<i>ө</i> и	9 U	÷ √1	60	ŝ	\$	63 -	о (A 6	⊳ 60	\$	\$	ŝ	67 6	9 V	e e e	ŝ	6 7 6	ΦU	9 (÷↔	\$	69 -	\$	69 6	9 (÷ ↔	\$	Ś
		61	184		60	970	1	72	-	465		954	85	2,578	17,024	7,462	1,214	000		17	83	312	ı	ı	ı	1 1	8	846	602	127	1 911	5,768	3,204	15,794	16,/10 1 666	1,000 2,812	4.059	8,565	0,390	ı		70 711	7.355	8,361	238,867
	tion	2019	69 (e e	э 6 9	69	⇔	69	69 6	A 6	м м	• • •	ŝ	ŝ	\$	69 (₽ 6	A 4	, .) (A)	69	\$	\$	\$	¢7 (, 4	• • •	\$	\$	6 9 (A 4	÷ ↔	↔	с ,		¢ φ	÷ ↔	\$	\$	\$	69 6	• 4	- 	Ф	\$
rations (Detail)	Annual Amortization	2018	369	·	66	970	ī	120	, 2	814		1,590	170	4,296	10,640	12,437	2,023	01.R	57	17	83	312	ľ	,	ŀ		15	846	602	212	508 1 911	5,768	2,003	9,871	10,444	1 757	6.764	5,353	6,494	18,919	379	0+0'1		ı	187,743
iter Ope Federal I, 2019	Annual /	~	\$ 60	n n N	n ya n ya	8 9	4 \$	\$ 0	ب جب ب	A Q	A (A	90 20	20 \$	51 \$	↔	8 8 8	2 [A 6	9 4 14	\$ 12	83 \$	312 \$	86 \$	69	69 (÷> €	15 \$	46 \$	02 \$	132 \$	₽ ₩	÷ 69	↔	69 (69 6 1	ρ ψ Ω	58 58	Ś	θ	837 \$	ۍ 28	9 U	, 69	69	ω
Inc. Wa Taxes - ember 31		2017	36		9	1,616		200	• 7	1,356		2,6!	170	7,16′	'	20,728	3,3/2	176'1	· ·			ŝ	3,386	'	1			¢0	9	₩.	n i		•	I	1 1		4.228			37,8	-				179,356
later Service Company, Inc. Water Opt ated Deferred Income Taxes - Federa Test Year Ending December 31, 2019		. 1	2	69 6 10 11	o vo o	5	5 \$	5 \$	vo.u vo.u	ດ ເ ອ	n u	აფ ი	5 \$	5	5 \$	ው • •	ມ ເ	ມ ພ	9.64 ว.เ.	25 ¢	25 \$	25 \$	5 \$	بھ د	ທ ທ	ມ ເມີ	* *	25 \$	25 \$	цо и	n k v	55 &	5	ഹ	696 1.0 1	ค. ค. น	n n	5	с, Ф	ഹ	ω, ι ις ι	0 4	2 U 9 69	сл Ф	
ervice C eferred I ear End		Tax Period																																								_			
Kona Water Service Company, Inc. Water Operations Accumulated Deferred Income Taxes - Federal (Detail) Test Year Ending December 31, 2019		Tax Method	MACRS 7	MACRS 5	MACRS 5	MACRS 5	MACRS 5		MACRS 5	MACKS 5	MACRS 5	MACRS 5	MACRS 5	MACRS 5	-				S SACAM		0 0					MACRS 5				MACRS 5			MACRS 5	_		MACKS 5	MACRS					MACKSD		_	
A A		In Service	9/1/12	9/1/12	12/1/16	3/1/15	9/1/12	12/1/16	12/1/11	12/1/16	11/1/11	12/1/16	10/1/14	3/1/16	9/30/18	3/1/16	3/1/16	3/1/16	11/171	3/1/16	3/1/16	3/1/16	9/1/12	12/1/10	12/1/10	12/1/10	9/1/12	21/1/6	9/1/17	12/1/17	11/1/21	12/31/18	11/30/18	8/31/18	7/1/18	11/15/01	6/30/17	7/1/18	1/25/18	7/1/13	7/1/13	81/1// 01/22/3	91/16/C	9/30/19	
		Tax Cost	4,134	47	90 518	8,416	75	626	8,770	4,239	10,588	8.282	1,478	22,377	53,201	64,775	10,539	4,771	C1	426	2.073	7,800	58,793	6,817	9,017	29,139 37 760	169	21,139	15,054	662	1,587	41,111 144,199	10,014	49,355	52,220	8,6/3 o 707	0,767 21 139	26,765	32,468	328,447	6,577	39,732 262 662	36 773	41,804	2,695,684
		F	\$	φ, (л (/) (/)	÷	⇔	\$	с , с	њ v	ж		s	\$	\$	\$	() (A) 6	9 (ə 69	• •	s	ŝ	\$	69 6	9 6A	↔	69	ŝ	69 6	ө н а	\$	ŝ	6 9 (6 9 6	<i>6</i> 4	• ••	69	\$	69 (9 6	A ∉	, 63	Total \$
		Property Description	Office furniture & equip	Work Order Addition	Work Order Addition Doctable researcher 3500w EMT's	Power Quality Analyzer	Printer Cart	Projector-Dell 1610HD	Electrical Upgrade	Respirator supplied air system	Richo Copier Dicho Eco Modulo	RICOM MPC3004-Engineering office	Role computer wilaptop for Eng Mar	SCADA iNET-II 900 Dual Gateway	SCADA radio data link	SCADA upgrade 2013	SCADAPack 32	Scaffolding	Work Order Addition	l ools & Equipment Trailar amarcancy compressor	Trailer emergency compressor Trailer emergency generator FG6500	Trailer, emergency 6'x12' w/ramp	Work Order Addition	V208214, Ford F-150	V208216, Chevy Silverad	V208217, Chevy 3500	V200222, UO 101 4 RUNNER Visitor Chair	Air Combressor, portable	Septic Tank, Baseyard	Socket fusion kit, 20-63mm	Socket welding prep	SCAUA Report Writer System Firel Station	Base Yard Security Cameras	Big Island Radio Communication	EMT Service Truck	Handheld Meter Readers	EMI Service Truck Loois Dortable Air Commessor	Itron Handheld Meter Readers	Engineering PM Vehicle	Jetting/Vacuum Truck/Pukatani	Jetting/Vacuum Truck/Pukalani	2018 Toyota Tacoma TRD 4x4	BOOM ruck (VVU 1834U) Valva Evarcisa Trailar ///// 118376)	SCADA Vulnerability Assessment (WO 117252)	
		Utility	Account																																		:								
		Line	304 304	305	306	308	309	310	311	312	313	314	316	317	318	319	320	321	322	323	324	326	327	328	329	330	331	333	334	335	336	33/ 338	339	340	341	342	343	345	346	347	348	349	350	352	353

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Utility Account	Property Description	F	Tax Cost	Kor Acci In Service Date	Kona Water Service Company, Inc. Water Operations Accumulated Deferred Income Taxes - Federal (Detail) Test Year Ending December 31, 2019 Annual Amortiza Tax Tax 2017 2018 Method Period Period	ater Service Company, Inc. Water Ope ated Deferred Income Taxes - Federa Test Vear Ending December 31, 2019 Annual ax Tax 2017 trhod Period 2017	ny, Inc. W le Taxes - scember 3 2017	Mater C - Fede 31, 201 Annu 7	ater Operations Federal (Detail) 1, 2019 Annual Amortization 2018	tion	2019		Accumu 2017	Exhibit KWS V V Accumulated Depreciation 2018	Decreciation Depreciation Depreciation 2019 Depreciation 2019
	BIG ISLAND ALLOCATIONS 721 - Waikoloa Water 722 - Waikoloa Sewer 723 - Waikoloa Resort Water 724 - Waikoloa Resort Sewer		494,224 375,109 515,855 684,723	2017 18.33% 13.92% 19.14% 25.40%	2018 19.10% 14.48% 23.59% 0 aa%	2019 19.10% 14.48% 19.25% 23.59% 0 99%	* * * * * * * * * * * * *	32,883 \$ 24,958 \$ 34,322 \$ 45,558 \$ 1876 \$	35,858 27,193 36,140 44,288	<u></u>	45,622 34,597 45,982 56,348 2.367	<u></u>	279,770 \$ 212,342 \$ 292,015 \$ 387,607 \$ 15,535 \$	327,309 248,213 329,890 404,262 16,978	<pre>\$ 372,932 \$ 372,932 \$ 282,811 \$ 375,871 \$ 460,610 \$ 19,345</pre>
Kannal '	rzo- vankora resolu migatori 726 - Kona Water 727 - Kona Sewer) (A) (A)	210,311	14.39% 7.80%	14.64% 7.94%	14.64% 7.94%		25,817 \$ 13,993 \$		 ө ө	34,975 18,975	လ လ	219,650 \$ 119,053 \$	250,924 136,136	\$ 285,899 \$ 155,111

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Docket No. 2018-0388 Exhibit KWSC Water 7.12 Witness: Stout 2/28/2019	Kona Water Service Company, Inc. Water Operations Accumulated Deferred Income Taxes - State Test Year Ending December 31, 2019	Test Year Acc. Tax Dep. Acc. Tax Dep. Balance as of	7 Dep. Exp. Adjustments Dec. 31, 2018 Dep. Exp. Adjustments Dec. 31, 2019	2 601	0,034 & - & 0, 0,14 & 0,140 & 0	\$ 104.576 \$ - \$ 1,432.752 \$ 107,111 \$ -	\$ 137.776 \$ - \$ 1,431,017 \$ 160,352 \$ - \$	\$ 19.321 \$ - \$ 121,503 \$ 19,808 \$ - \$	\$ 217,305 \$ - \$ 3,435,091 \$ 217,975 \$ - \$	\$ 98,913 \$ - \$ 1,477,842 \$ 110,855 \$ - \$ 1,588,	\$ 31 \$ - \$ 93 \$ 31 \$ - \$	\$ - \$ - \$ 6,284 \$ - \$ - \$	\$ 6,525 \$ - \$ 144,919 \$ 11,077 \$ - \$ 1	\$ 6,539 \$ - \$ 41,331 \$ 5,196 \$ -	۰ ۰ ۰ ۰ ۰ ۰ ۰ ۰ ۰ ۰	· · · · · · · · · · ·	\$ 805 \$ - \$ 38,568 \$ 2,942 \$ -	\$ 30,024 \$ - \$ 240,887 \$ 33,576 \$ -	<u>3 \$625,507 \$0 \$8,373,981 \$675,067 \$0 \$9,049,048</u>	\$5,885,941 \$6,362,198	8) (\$171,958) (\$171,958)
	vice Company, Inc. Water Op ed Deferred Income Taxes - S ar Ending December 31, 2019	Acc Bal	Adjustments			• • • •	• 6 9	י א	۰ ج	۰ ۱	י א	ł	י א	' ہ	۰ ب	، ب	י א	۰ د	\$		
	Kona Water Sen Accumulate Test Yes	Acc. Tax Dep. Balance as of	Dec. 31, 2017 Dep.	ť			1.293.241 \$	102.183 \$	7,786 \$	1,378,930 \$	62 \$	6,284		34,792 \$	ı	ı	37.763	210,864 \$	\$7,748,473 \$62	\$ 5,457,104	(\$146 648)
		Line No. 2	3 4 Description			 b Land and land rights 7 Structures and Improvements 			~		-		•		0				20 Total	21 Accumulated Book Depreciation	

 Ulity Property Description count 103030 Intangible Plant 103030 Intangible Plant Transmission system assessment (WO 109099) Power System Assessment (WO 118149) Power System Assessment (WO 118149) 103110 Structures & Improvement - Supply Plant 30"X94" Steel Doors 36"X94" Steel Doors 36"Y94" Steel Doors 56"Y94" Steel Doors 56"Y54" Steel Doors 	Tax Cost 5 36,943 5 24,505 Total 5 61,448 5 7,490 5 61,648 5 63,560 5 63,560 5 63,560	In Service Date 7/1/2018 7/1/2013 9/17/2013 3/11/2013 3/11/2013	Kona Water Service Company, Inc. Water Operations Accumulated Deferred Income Taxes - State (Detail) Test Year Ending December 31, 2019 Annual Amorti Tax Tax 2017 2018 Method Period 2017 2018 0 10 \$ - \$ 3,65 0 10 \$ - \$ 3,65 0 10 \$ - \$ 3,65 5 - \$ 2,5 5 - \$ 2,5 5 - \$ 5,5 5 - \$ 5,5 - \$ 5,5 - \$ 5,5 -	ppany, Inc. Water hcome Taxes - S p December 31, 2 2017 S - 2017 S - 2017 S - 2017 S - 2016 S - 216 S - 216 S - 216	22 26 26 56 56 56 56 56 56 56 56 56 56 56 56 56	19 3,694 6,145 809 809 2,16 2,534	Accur 2017 Accur 5 5 5 1.488 5 5 1.488 5 649 5	Mui Accumulated Depreciation 2018 - \$ 3.694 \$ - \$ 3.694 \$ - \$ 3.694 \$ - \$ 1.798 \$ 488 \$ 1.798 \$ 649 \$ 1.798 \$ 649 \$ 1.716 \$ - \$ 1.186 \$ - \$ 5 1.655 \$\\- \$ 5 1.655 \$\\- \$ 5 1.655 \$\\- \$ 5 1.655 \$\\- \$ 5 1.655 \$\\- \$ 5 1.655 \$\\- \$ 5 1.655 \$\\- \$ 5 1.655 \$\\- \$ 5	Witness: Stout 2/28/2019 2/28/2019 318 2019 3694 \$ 7,389 - \$ 2,451 3,694 \$ 7,389 - \$ 2,451 3,694 \$ 7,389 - \$ 2,451 3,694 \$ 9,839 1,798 \$ 2,451 1,798 \$ 2,663 1,786 \$ 2,087 865 \$ 1,081 1,186 \$ 2,5534
103210 Structures & Improvement - Pumping Plant Lawn Building	Total <u>\$ 126,117</u> \$ 1,544 Total <u>\$ 1,544</u>	6/1/2012	SL-25 25	\$ 1,325 \$ 62 \$ 62	25 \$ 2,510 \$ 62 \$ 62 \$ 62 \$ 62 \$	5,045 62 62	\$ 6,191 \$ 371 \$ 371	s 8,702 S \$ 432 S \$ 432 S	13,746 494 494
103310 Structures & Improvement - Treatment Plant 1.0 MG Water Filtration Plant Staircases for RO Plant (WO 97225) RO Plant Overhead Lighting (WO 118185)	\$ 2,541,565 \$ 2,210 \$ 6,326 Total \$ 2,550,102	12/15/2005 7/1/2018 12/31/2018	SL-25 25 SL-25 25 SL-25 25	\$ 101,663 \$ - \$ - \$ 101,663	\$ 101,663 \$ \$ 88 \$ \$ 253 \$ \$ 102,004 \$	101,663 88 253 102,004	\$ 1,321,614 \$ - \$ 1,321,614	\$ 1,423,277 \$ \$ 1,423,277 \$ \$ 253 \$ \$ 1,423,618 \$	1,524,939 177 506 1,525,622
ABB 6" Electromagnetic Flowmeter Auto transfer switch @ RO Plant Check Valves for Wells Engineering Labor HR1 motor starter HR2 well power transformer HR2 well power transformer HR2 well pump HR2 well pump HR3 well pump HR3 well pump HR3 Well Pump HR3 Well Pump HR3 Well Pump HR4 Formp HR4 Formp Elekl blanr Field blanr	 5.225 5.225 5.2513 5.253 5.253	4/1/2014 1/1/12016 3/1/2016 9/1/2016 9/1/2016 1/2/1/2014 1/2/1/2014 1/2/1/2014 1/2/1/2014 1/2/1/2014 1/2/1/2014 1/2/1/2016 9/1/2010 9/1/2010 9/1/2010	SL-25 SL-25	 209 209 209 504 604 109 109	200 200 200 200 200 200 200 200	209 201 101 130 64 109 334 109 3,54 4,500 3,516 7,296 64 64 64 64 64 64	 \$ 2836 \$ 2601 \$ 2601 \$ 5500 \$ 767 \$ 767 \$ 767 \$ 767 \$ 767 \$ 51534 \$ 5155 \$ 5155 		1,254 1,254 521 5,420 5,430 1,535 5,480 1,535 5,480 3,049 3,049 3,049 21,097 25,098 20,098 20,0000 20,0000 20,0000 20,0000 20,0000 20,0000 20,00000000
reur actor Work Order Addition Work Order Addition Work Order Addition Work Order Addition Replace Check	11 78 71 710	9/1/2010 9/1/2010 9/1/2010 9/1/2010 9/1/2010		0 4		742 542 3,146 4,417	\$ 5,939 \$ 4,337 \$ 3,560 \$ 18,877 \$ 35,340	 \$ 6,682 \$ \$ 4,879 \$ \$ 4,005 \$ \$ 22,023 \$ \$ 39,757 \$ 	7,424 5,422 4,450 25,169 44,175

6102/82/2		2019	62,773 24 371	28,120	26	150	400	7,762	4,919	269	13,651	8,571	4,4/1	2 080	0,303 121	100	3 171	3 813	7.754		1,072,465	938	1 407	938	469	348,088	69,621	95,927	1,515	518,903		139	220	1,062	50,708	230	168	403 67 044	02,044 12 094	108	88	54	6,120	4,166	1,10/	<u>}</u>
	Accumulated Depreciation		56,495 \$ 21 034 \$	25.308 \$				3,881 \$		135 \$	6,826 \$			5.52 &	96 1		ን ሀ			•	949,576 \$ 1	821 \$		821 \$	-			90,284 \$		481,440 \$		6 3 \$						380 \$		54 5				2,083 \$ 503 \$		
	Accumulate		50,218 \$	22 496 S					ۍ ۱	69 1	دی ۱	ዓ י	69 (, Ч	ф.	ф. '	9 U		÷ •3	•	847,749 \$	\$ 202	1055	202						445,492 \$			73 \$					3 019 4			• 6 9 •	ده ۱	6 9 -		ΑΥ 1 :	•
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		2019	6,277	2,431	3,012	30	133	3.881	2,460	135	6,826	4,285	2,235	332	3,989	631 100	1,102	3, 1/ 1 2 012	3,013 7 754	1211	122,889	717	111	717	59	24,863	4,973	5,643	1,515	37,463		46	73	212	3,381	73	42	11	6,983 2.016	54	45	27	3,060	2,083	583	1 20
ations)etail)	Annual Amortization	2018 20		2,43/ 3		30 ¢				135 \$	6,826 \$			N			,	¢, e	• •	•	101,828 \$ 1	3 7 t t	11/ 0		* * 6 <u>5</u>				69 1	35.948 \$		46 \$	73 \$						6,983 \$ 2016 \$	5 4 5 5 4 5					583 \$	
Kona Water Service Company, Inc. Water Operations Accumulated Deferred Income Taxes - State (Detail) Test Vear Ending December 31, 2019	Annual /	2017 2	··· ·	2,431 \$		* 8 30 *			• • •	\$ 1	\$)	ся ,	ده	ب ص			به ون ۱	ю '	₩	,	81,674 \$	5 1777	0 1 1	0/1 0/1	9 49 					35.948 \$	1	46 \$	73 \$			73 \$			6,983 \$ 7,046 \$			• • •	• \$		ю '	9 1
later Service Company, Inc. Water Opt ulated Deferred Income ^T axes - State I Test Year Ending December 31, 2019		Tax Period	1	22 5 2 2 2		5 25 8						25 \$					25 \$		70 57 52		Ś		07 07	6 4 0 7	γ γ γ γ				25 \$	ŝ	•		25 \$										25 \$			
tona Water Sen Accumulated De Test Yea		Tax Method	SL-25	SL-25 51 25	51-75 SI 75	SL-23 SL-25	SL-23 SL-25	SI -25	SL-25	SL-25	SL-25	SL-25	SL-25	SL-25	SL-25	SL-25	SL-25	SL-25	SL-25 SL 25	SL-25		LO CO	SL-25	SL-25	SL-23 SL-25	SL-23	SL-23	SI -25	SL-25			SI -25	SL-25	SL-25	SL-25	SL-25	SL-25	SL-25	SL-25	52-15 56 IS	SL-23	SI -25	SL-25	SL-25	SL-25	SL-25
-		In Service Date	9/1/2010	9/1/2010	01/02/1/6	5/1/2011	5/1/2013	1102/110	7/1/2018	7/1/2018	7/1/2018	7/1/2018	7/1/2018	10/31/2018	7/1/2019	7/1/2019	2/28/2019	8/31/2019	5/31/2019	6/30/2019			2102/1/6	2102/1/6	2102/1/6	31/2/1/5	1/1/2006	3/31/2003	7/1/2019			7100/11/1	8/1/2017	3/1/2015	3/31/2005	11/1/2016	11/1/2016	4/1/2014	12/1/2011	5/1/2014	8106/1/2	7/1/2018	7/1/2018	7/1/2018	11/30/2018	12/31/2018
		Tax Cost li	156,931	60,927	70,300	750	755 5		61 492	3.368		107,137	55,885		99,737				95,330	193,862	3,072,227		2,931	4,397	2,931	1,400 671 586	~ ~	141 069	37,867	036 571	1 10'000	1 160	1 835	5,308	84,513	1,814	1,052	1,931	174,566	50,390 1 251	100,1	670	76,503	52,071	14,586	8,097
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		Property Description	Standby Pump, Motor, and Protector	Sub Column	Pump and Motor Installation	UME for well pump flow meter	HR3 SCADA for Generator	VFU drives @ booster pumps	HK-1 Well Pump (WO 103/99)	HR-2 Well Fullip Replacement (WO 109791) HD 3 6" Gate Vialve Benjacement (MO 11646())	HR-2 0 Gate valve replacement (WO 112704) HP-4 Well Prime Equipment (WO 112204)	HR-2 Well Pump Faujoment (WO 114639)	HR-5 Power Transformer (WO 114685)	HR-5 Solenoid and Valve (WO 118186)	Critical Infrastructure - Well Pump (WO 118337)	HR-1 - HR-5 Power Monitors (WO 112031)	HR-1 Well Pump Equipment (WO 118614)	Junction Boxes for Pump Leads (WO 118150)	HR-3 Well Pump Equipment (WO 119302)	HR-5 Well Pump Equipment (WO 119543)		103241 System Control Computer Equipment	Foxboro Pressure Trans Cal 0-300 in PSI	Foxboro Pressure Trans Cal 0-50 in H2O	Foxboro Pressure Trans Cal 0-58 in H2O	Poxboro Pressure Trans Cal 0-92 In HZU		SCAUA HR Wells 1-4 SCADA Mator Effection Diant	SCADA Computer & Software (WO 112030)			103320 Water Treatment Plant	o crieck valve @ no uiscularige Chomical Inication Drimos @ Matalai	Chlorine Analyzer	Decassing Station	Grundfos chemical injection pump	Grundfos chemical injection pump	Kukio RO Plant VFD	RO Membrane	RO Membranes	Kukio RO EC Sensor (WO 109369)	Chemical containment pallets (VVU 102001)	Pre-Filter Pressure Vessel (WO 93477)	RO Membrane Train B (WO 97229)	Water Quality Sensors (WO 97228)	Victaulic Coupling (WO 97230)
		Utility	Account																			10324										10332														
		Line	43	44	45	46	41	48	49	20	51 21	2 2	5 5	55	56	57	58	59	60	61	62	63	64	65	99	67	89	69	5 5	r T	71	73	75	76	22	78	62	80	81	82	8 : 8	8 2	88	87	88	88

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No. 2018-0388 SC Water 7.13 Witness: Stout 2/28/2019	თ	484 488	141,311	, 4 42,579 170 601	209,941 209,541	0,000 1,707 2,688	17,206	1,491 390,736 284	2,255,823	1,471,055 503,067 2,411,168 304,394	4,689,684	2,245 799	3,044	156 670	826	6,865	6,865	392,962 677,666 477,923 1,905
Docket No. 2018-0388 ibit KWSC Water 7.13 Withess: Stout 2/28/2019	ation 2019	<u>ه</u> ی	,	***		.		ო ოფია	\$ 2,2	\$ \$ \$ \$ 5 4 5 3 4 5 4 5 4 5 7 4	\$ 4,6	69 69	ŝ	აა	s	Ś	s	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
Docket No. 2018-0388 Exhibit KWSC Water 7.13 Wftness: Stout 2/28/2019	Accumulated Depreciation 2018	242	121,503	1,357,721	193,792 8 5 2 5	1,463 2,406	16,130	1,403 367,752 142	2,115,210	1,372,985 473,474 2,269,335 286,489	4,402,283	1,684 399	2,083	78 -	78	5,721	5,721	364,894 637,804 449,810 1,667
	ccumulat	აა	83 \$	63 6				16 \$ 67 \$	596 \$	% % % %	φ	1,123 \$ - \$,123 \$	\$	\$	\$ 11	\$ 11	6,825 \$ 17,941 \$ 11,697 \$ 1,429 \$
	A 2017		102,183	1,272,864	177,642	1,220	15,055	1,316 344,767 -	1,974,5	1,274,914 443,882 2,127,502 268,583	4,114,881	£, ,	1,1			4,577	4,57	336,825 597,941 421,697 1,429
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									1 11						1 11		1 16	
	2019	242 488	19,808	84,858	16,149 16,149	244	1,075	88 22,984 142	140,613	98,070 29,592 141,833 17,906	287,401	561 399	961	78 670	748	1,144	1,144	28,069 39,863 28,113 238
s (irtization 3	242 \$ - \$	321 \$		16,149 \$			88 \$ 22,984 \$ 142 \$	140,613 \$	98,070 \$ 29,592 \$ 141,833 \$ 17,906 \$,401 \$	561 \$ 399 \$	961 \$	78 \$ - \$	78 \$	1,144 \$,144 \$	28,069 \$ 39,863 \$ 28,113 \$ 238 \$
- Operatio ate (Deta	Annual Amortization 2018	6 69	\$ 19,				A 69	ოოო	\$ 140		\$ 287,	69 69	÷	\$	s	ф	\$	
nc. Water Faxes - St ther 31, 2	An 2017	1 1	12,903	84,858	16,149	244 244	1,075	88 22,984 -	140,471	98,070 29,592 141,833 17,906	287,401	561 -	561			1,144	1,144	28,069 39,863 28,113 238
mpany, li Income J ng Decem	-	60 60 	S	6 6	₩	9 69 E	A 44	6 69 69	\$	\$\$ \$\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$		\$	የ የ	Ś	\$	\$	\$\$ \$\$ \$\$ \$
tater Service Company, Inc. Water Opt ulated Deferred Income Taxes - State. Test Year Ending December 31, 2019	Tax Period	25		25	52 52 52	25 25	52 72	25 25 25		25 25 25 25		25 25		25 25		25		25 25 25
Kona Water Service Company, Inc. Water Operations Accumulated Deferred Income Taxes - State (Detail) Test Year Ending December 31, 2019	Tax Method	SL-25 SL-25		SL-25	SL-25 SL-25	SL-25 SL-25	SL-25 SL-25	SL-25 SL-25 SL-25		SL-25 SL-25 SL-25 SL-25		SL-25 SL-25		SL-25 SL-25		SL-25		SL-25 SL-25 SL-25 SL-25
AG		7/1/2018 5						12/31/2003 5 3/31/2003 5 12/31/2018 5		1/1/2005 (6/30/2003 (6/30/2003 (6/30/2003 (12/1/2016 12/31/2018		7/1/2018 2/28/2019		5/1/2014		1/1/2006 3/31/2003 6/30/2003 4/1/2012
	In Service Date	12/31 7/1		11	553	1/9	1/1 10/31	12/31 3/31 12/31		1/1 6/3(6/3(12/		71. 2/28		51		33 1 6(3) 8
	ost	6,053 12,190	15,204	21,440	345,386 403,733 00000	∠0,039 6,098	4,800 26,884	2,193 574,612 3,549	15,333	,451,758 739,804 ,545,836 447,638	85,036	14,033 9,984	24,017	1,947 16,750	18,698	28,603	28,603	701,719 996,568 702,828 5,952
	Tax Cost	۲ ده دی	\$ 495,	2				يا موجو	\$ 3,515,	\$ 2,451, \$ 739, \$ 3,545, \$ 447,	\$ 7,185,	6 69	so l		¢	ы	\$	\$ \$ \$ \$ \$ \$
			Total						Total	1MG	Total		Total		Total		Total	
		5)						61)		anks o the 312'				113505) 392)				1#
	scription	VO 11902		Mains			e WFP) 12'	12' 12' WO 1171		/atertine) and PR T 20' down t				1ent (WO (WO 118;				ank ank ank nks A,B,C
	Property Description	ntroller (V 0 118151		tribution	nent 1 nent 2		utside the Road to 3	Road to 3 Road to 3 lot Filter (vater lines ion(16" V in to 620' om the 6'		ve 108112)		xes Replacen Program				s ied steel t ed steel ta ed steel t Water ta
	đ	Blend Co tation (W		ion & Dis e 1A	e 3 Increr e 3 Increr	ol Vault Li	educer (C 1 Access	l Access d Access Vla-val Pi		n Pipe Tribution V Transmiss ansmissio on lines fi		ui ns utterfly val alve (WO		Meter Bo R-4 Meter lacement		dratns		s & Tank Glass fus Glass fus Glass fus Glass fus
		RO Bypass Blend Controller (WO 119025) Sampling Station (WO 118151)		Transmission & Distribution Mains CIAC Phase 1A	CIAC Phase 3 Increment 1 CIAC Phase 3 Increment 2	Flow Control Vault Lid Sampling Station	Pressure Reducer (Outside the WFP) Road R and Access Road to 312'	Road R and Access Road to 312' Road R and Access Road to 312' Kukio FCV Vla-val Pilot Filter (WO 117161)		103435 Ductile Iron Pipe CIAC - Distribution Water lines HR 1 to 4 Transmission(15° Waterline) HR-5 to Transmission to 620 and PR Tanks Transmission lines from the 620' down to the 312' 1MG tank (5K of 16" line)		103164 Supply Mains HR5 12" butterfly valve 10" Gate Valve (WO 108112)		103450 Meters & Meter Boxes HR-1 & HR-4 Meter Replacement (WO 113505) Meter Replacement Program (WO 118392)		103480 Hydrants 12 Fire Hydratns		103420 Reservoirs & Tanks 312' .5MG Glass fused steel tank 312' 1MG Glass fused steel tank 620' .5MG Glass fused steel tank Anti climbs for Kona Water tanks A,B,C,#1
	Utility	S. R.		103434 Tr	001	τω	<u>а</u> (Х	ийх		103435 103435 101111 1011111		103164 S + 1		103460 * F		103480 }		1034201
		90	92	93 94	95 96	97 98	66 66	101 102 103	104	105 106 107 108	110	111 112 113	114	115 116 117	118	119 120	121	122 123 124 125 126
		-1 -1																

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Docket No. 2018-0388 Exhibit KWSC Water 7.13 Witness: Stout 2/28/2019	Accumulated Depreciation 2017 2018 20	\$ 18,954 \$ 21,323 \$ 23,692 \$ 2,085 \$ 2,346 \$ 2,606 \$ - \$ - \$ 11,942	\$ 1,378,930 \$ 1,477,842 \$ 1,588,697	\$ 62 \$ 93 \$ 123 \$ 62 \$ 93 \$ 123	\$ 623 \$ 623 \$ 623 \$ 5,661 \$ 5,661 \$ 5,661	\$ 6,284 \$ 6,284 \$ 6,284	\$ 15,113 \$ 15,113 \$ 15,113 \$ 15,113 \$ 37,677 \$ 37,677 \$ 37,677 \$ 37,677 \$ 37,677 \$ 37,677 \$ 37,677 \$ 37,677 \$ 30,425 \$ 30,425 \$ 30,425 \$ 30,425 \$ 5,828 \$ 5,828 \$ 5,828 \$ 5,828 \$ 4,451 \$ 4,723 \$ 4,723 \$ 4,723 \$ 44,901 \$ 51,154 \$ 54,281 \$ 5,281 \$ - \$ 51,154 \$ 54,281 \$ 54,281 \$ - \$ 51,154 \$ 7,951 \$ 7,951	\$ 138,394 \$ 144,919 \$ 155,996	\$ 212 \$ 222 \$ 222 \$ 2,152 \$ 2,252 \$ 2,252 \$ 2,364 \$ 2,474 \$ 2,474	11,159 \$ 11,841 \$ 7,936 \$ 10,866 \$ - \$ 403 \$	8 19,095 \$ 23,111 \$ 26,091	794 5 794 5 832 5 832 5 832 5 832 5 832 5 1,338 5 1,338 5 1,338 5 1,338 5 1,338 5 1,338 5 1,338 5 1,338 5 1,338 5 1,338 5 1,338 5 1,510 5 2,212 5 1,368 5 1,510 5 2,7786 5
Kona Water Service Company, Inc. Water Operations Accumulated Deferred Income Taxes - State (Detail) Test Year Ending December 31, 2019	Tax T Method Pe	0 <u>SL-25 25 </u> \$ 2 ,369 \$ 2 ,369 \$ 2 ,369 0 SL-25 25 \$ 261 \$ 261 \$ 261 9 SL-25 \$ 261 \$ 261 9 SL-25 \$ 41 ,942	\$ 98,913 \$ 98,913 \$ 110,855	6 SL-25 25 \$ 31 \$ 31 \$ 31 <u>5 31 \$ 31 \$ 31 \$ 31 </u>	10 MACRS7 7 \$ 28 \$ - \$ -	<u>\$ 280 \$ - \$ -</u>	11 MACRS 5 5 5 5 5 5 5 5 5 5 1 10 MACRS 5 5 5 5 5 5 5 5 1 11 MACRS 5 5 5 5 5 5 5 1 11 MACRS 5 5 5 5 5 5 5 1 13 MACRS 5 5 5 5 5 272 5 1 14 MACRS 5 5 5 5 5 7 9 7 127 19 MACRS 5 5 5 5 5 7 9 7 13 7 951 1	\$ 6,797 \$ 6,525 \$ 11,077	11 MACRS7 7 \$ 20 \$ 10 \$ - 11 MACRS7 7 \$ 201 \$ 100 \$ - \$ 221 \$ 110 \$ -	MACRS 5 5 5 1,364 \$ 682 \$ MACRS 5 5 5 4,884 \$ 2,930 \$ MACRS 7 7 5 - \$ 4,03 \$	\$ 6,248 \$ 4,016 \$ 2,450	11 MACRS 7 7 5 74 5 37 5 - 12 MACRS 7 7 5 119 5 119 5 60 16 MACRS 7 7 5 284 5 141 5 141 13 MACRS 7 7 5 141 5 141 5 141 13 MACRS 7 7 5 107 5 141 5 141 14 MACRS 7 7 5 107 5 107 5 107 13 MACRS 7 7 5 3 3 3 3 3 3 3 13 MACRS 7 7 5 132 3
	Tax Cost In Service Date	\$ 59,231 3/1/2010 \$ 6,515 3/1/2010 \$ 6,515 3/1/2010 \$ 298,560 7/1/2019	Totai <u>\$ 2,771,373</u>	\$ 771 11/1/2016 T T 1	ັນ ເຈເຊ	Total <u>\$ 6,284</u>	(WO 118345) \$ 33,677 \$ 5/1/2011 \$ 37,677 \$ 3/1/2011 \$ 30,425 \$ 5/1/2011 \$ 5,828 12/1/2011 \$ 54,281 \$ 5/1/2014 \$ 54,281 \$ 7/1/2019	Total \$ 187,799	\$ 222 12//2011 \$ 2.252 12//2011 Total \$ 2.474	8 8 8 2 12 1	Total \$ 29,927	 \$ 832 \$ 12/1/201 \$ 1,338 4/1/201 \$ 1,560 1/1/2013 \$ 3,217 4/1/2013 \$ 1,194 6/1/2013 \$ 1,194 6/1/2013 \$ 1,194 \$ 1,194 \$ 1,194 \$ 1,12012
	Utility Account	Teconing field supervision Work Order Addition Tank Modulating Float Valves (WO 112045)		103150 Wells HR3 4" Neptune water meter UME	103721 Electronic Equipment/Computers Work Order Addition Color Copier		103730 Transportation Equipment Tery X Mule Toyota Tacoma Toyota Tacoma 2 Engines New mad size DOT Approved Trailer F450 - Flat bed truck Superintendent Vehicle (replacement) (WO 118345)		103750 Laboratory Equipment Work Order Addition Work Order Addition	103740 Stores Equipment 40 Storage Container Forklift, Yale 50LX Safety Cabinets (WO 106194)		103780 Tools, Shop, Garage Equipment Fire Flow Test Spill Contain. Bush cutters Demolition Hammer & Accessories DR mower 20hp pro tow behind Portable meter Work Order Addition Work Order Addition
	Line	127 128 129	130	131 132	134 135 136	137	138 139 141 142 144 145	146	147 148 149 150	151 152 153	155	156 157 158 158 160 161 162 162

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Docket No. 2018-0388 Exhibit KWSC Water 7.13 Witness: Stout 2/28/2019	Accumulated Depreciation 2017 2018 201	\$\$ 2.292 \$\$ 2.555 \$\$ 2.818 \$\$ 2.033 \$\$ 2.942 \$\$ 3.246 \$\$ 3.265 \$\$ 2.942 \$\$ 3.246 \$\$ 3.265 \$\$ 2.942 \$\$ 3.246 \$\$ 3.265 \$\$ 2.942 \$\$ 3.246 \$\$ 3.265 \$\$ 2.942 \$\$ 3.246 \$\$ 3.265 \$\$ 2.942 \$\$ 3.246 \$\$ 3.265 \$\$ 2.942 \$\$ 3.246 \$\$ 3.265 \$\$ 2.942 \$\$ 3.246 \$\$ 3.265 \$\$ 2.942 \$\$ 3.246 \$\$ 3.265 \$\$ 2.942 \$\$ 3.246 \$\$ - \$\$ 142 \$\$ 385	\$ 13,332 \$ 15,745 \$ 18,491	\$ (1.272,864) \$ (1.357,721) \$ (1.442,579) \$ (151,970) \$ (165,785) \$ (179,601) \$ (177,642) \$ (193,792) \$ (209,941)	\$ (1,602,476) \$ (1,717,298) \$ (1,832,121)	\$ (1,274,914) \$ (1,372,985) \$ (1,471,055)	\$ (1,274,914) \$ (1,372,985) \$ (1,471,055)		9,110 \$ 11,133 \$ 1 2,938 \$ 2,938 \$	5,424 \$ 5,424 821 \$ 821	68 \$ 68 \$ 489 \$ 489 \$	388 \$ 388 \$	272 \$ 272 \$ 1.955 \$ 1.	412 \$ 412 \$ 761 \$ 761 \$		376 \$ 376 \$ 449 \$ 449 \$	295 \$ 295 468 \$ 468	320 \$ 320 \$	681 \$ 681 948 \$ 948	2,754 \$ 2,754 \$ 2	492 \$ 492 \$ 545 \$ 545 \$	2,189 \$ 2,291 \$ 2,081 \$ 2,418 \$	\$ 416 \$ 6,875	
Kona Water Service Company, Inc. Water Operations Accumulated Deterred Income Taxes - State (Detail) Test Year Ending December 31, 2019	Annual Amortization Tax 2017 2018 2019 Period	6/12013 MACRS 7 7 \$ 263 \$ 263 \$ 263 6/12013 MACRS 7 7 \$ 303 \$ 303 \$ 303 4/12014 MACRS 7 7 \$ 59 \$ 42 \$ 42 7/12018 MACRS 7 7 \$ 5 59 \$ 42 \$ 42 7/1/2018 MACRS 7 7 \$ 5 5 633 \$ 1,086	\$ 1,888 \$ 2,413 \$ 2,746	1/1/2003 SL-25 25 \$ (84,858) \$ (84,858) \$ (84,858) 1/1/2007 SL-25 25 \$ (13,815) \$ (13,815) \$ (13,815) 1/1/2007 SL-25 25 \$ (16,149) \$ (16,149) \$ (16,149)	<u>\$ (114,822) \$ (114,822) \$ (114,822) \$ (114,822)</u>	1/1/2005 SL-25 25 \$ (98,070) \$ (98,070) \$ (98,070)	<u>\$ (98,070) \$ (98,070) \$ (98,070)</u>		5/1/2015 MACRS 7 7 \$ 2,832 \$ 2,022 \$ 1,446 3/1/2010 MACRS 7 7 \$ 131 \$ - \$ -	MACRS 7 7 \$ 242 MACRS 7 7 \$ 37	MACRS 7 7 \$ 3 \$ -	MACKS7 7 \$ 17 \$ -	\$ 12 \$ 87	MACKS7 7 \$ 18 \$ -	MACRS 7 5 3 5 -	\$ 17 \$ 20	7 \$ 13 \$ 7 \$ 21 \$ -	MACRS 7 7 \$ 14 \$ - \$	\$ \$ 40	MACRS 7 7 \$ 123 \$ - \$	7 \$ 22 \$ 1	MACRS7 7 \$ 205 \$ 102 3 MACRS6 6 6 661 6 337	MACRS 7 7 8 706 8 76 8 MACRS 7 7 8 106 8 76 8 MACRS 5 8 - 8 - 8	
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		Water Data Logger Water Main PSI Monitoring Weed sprayer 27gal Mauka SCADA generators (WO 102602) Metal detector (WO 102603)		CONTRIBUTIONS IN AID OF CONSTRUCTION 103434 Transmission & Distribution Mains CIAC Phase 1A CIAC Phase 3 Increment 1 CIAC Phase 3 Increment 2		Ductile Iron Pipe CIAC - Distribution Water line		HAWAII GENERAL OFFICE	790 Leasehold Improvements desks_conf table_chairs	2 Cubical Work Stations	Cherry Drawer	Cherry Credenza Cherry Corner Unit	Regency Library	Cherry Desk Shell 66	24 X / 1 Credenza Smells Cherry Keyboard Drawer	Executive Chair Desk Pedestal F/F	Cherry Shelf Unit	Cherry Storage Hutch Cherry Credenza 66"	Regency Desk	z urawer Lateral File 3, 42" 4 Drawer Lateral File Cabinets	Cherry Desk Pedestal B/B/F Revency I ateral File	Frequencies and the service office.	Ricon Aricio MP C3001 790 Office Furniture Automated Electronic Defibrillators	
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Turn Turn <th< td=""><td></td><td></td><td></td><td>227</td><td>10,259</td><td>1,159</td><td>7,778</td><td>714</td><td>1,066</td><td>640</td><td>640</td><td>640</td><td>640</td><td>640</td><td>12,064</td><td>121,001 88.732</td><td>23,864</td><td>941</td><td>1,188</td><td></td><td></td><td>11,100</td><td>77 718</td><td>24,581</td><td>45,900</td><td>35,836</td><td>65,020</td><td>2,671</td><td>37,763</td><td>20,751</td><td></td><td>1,883</td><td>21.956</td><td>107</td><td>52</td><td>1,195</td><td>612 970</td><td>25,949</td><td>34,252</td><td>25,825 25,339</td><td></td></th<>				227	10,259	1,159	7,778	714	1,066	640	640	640	640	640	12,064	121,001 88.732	23,864	941	1,188			11,100	77 718	24,581	45,900	35,836	65,020	2,671	37,763	20,751		1,883	21.956	107	52	1,195	612 970	25,949	34,252	25,825 25,339	
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Docket No. 2018-0388 Exhibit KWSC Water 7.13 Witness: Stout 2/28/2019

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

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	Property Description	Ford F-150	Ford F-150	Ford F-150	FRONTIER	Ford Explorer	2014 Nissan Frontier. V214001	3 Ipad for Hawaii Island	Desk w Drawer	69"x43"x 18"	Diesel tank	UIS SOITWARE	BackTow Test Ni-Tviuwest 000 Rin Island SCADA 2012	Book Case	Motorola Hardware	Work Order Addition	Misc. Wiring & Cables	Work Order Addition	1 desktops	1 desktops		drver @ basevard	Exec Chair	Work Order Addition	Work Order Addition	Work Order Addition	EMIL Laptop Hand Helds	Desk Dock	Personnel Lift	Software	Hardware Gradall lifting hook attachment	Forklift	HON chair	Hydro Jetter	Ice Maker-Manitowac ID-0452A	Ingersoll Needle/Unisel SCI	internal labor Knoll task chair	1 lantons	1 laptops	Laptop, EMT-HIWKOCLT02	Lateral File	Work Order Addition	Work Order Addition	Work Order Addition	
Line No. 2255 2255 2255 2255 2255 2255 2255 22	Utility Account																																										_	_	

Docket No. 2018-0388 Exhibit KWSC Water 7.13 Witness: Stout 2/28/2019

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

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preciation	2019	3,792 \$	4 C 4 8 7 8	354 \$	6,684 \$	72 \$	428 \$	8,419 \$	2,897 \$	10,164 \$	1,003 \$	3,001 4	15,295 \$	10.215 \$	» из	69	3,261 \$	14 \$	954 \$	49 \$	239 \$	\$	69 (ю (<i>9</i> 0	21,9/3 \$	• ↔	1623 \$	156 \$	330 \$	792 \$	1,834 \$	5,537 \$	1,923 \$	4,4/0 4	0,020 S	1.687 \$	10,553 \$	5,139 \$	9	<u>ده</u>	6,314 \$	¢ 670'/	•9 €4	es es		1,645,165 \$ 1,8
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	In Service Date	9/1/2012	9/1/2012	9/1/2012	3/1/2016	9/1/2012	12/1/2016	12/1/2011	12/1/2016	11/1/2011	11/1/2011	12/1/2016	10/1/2014	3/1/2016	9/30/2018	3/1/2010	3/1/2016	12/1/2011	6/1/2013	3/1/2016	3/1/2016	3/1/2016	9/1/2012	12/1/2010	12/1/2010	12/1/2010	12/1/2008	9/1/2012	1102/1/6	1102/1/6	12/1/2017	7/1/2018	12/31/2018	11/30/2018	8/31/2018	7/1/2018	1102/12/01	6/30/2010	7/1/2018	1/25/2018	7/1/2013	7/1/2013	7/1/2018	5/31/2019	9/3//2019	2 0 10 20 20	
	Tax Cost	3,969	45	87	49/ 8 080	0,000	601	8,419	4,069	10,164	1,003	7,951	1,419	21,482			111,01		954	409						27,973			20,293		~ ~		`				8,326		25	31			ŝ	.,	35,302	101 04	2,587,856
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	Property Description	Office furniture & equip	Work Order Addition	Work Order Addition	Portable generator 3500w, EMT's	Power Quality Analyzer	Printer Carl Droiector, Dell 1610HD	Flectrical Undrade	Resurator subplied air system	Richo Copier	Richo Fax Module	RICOH MPC3004-Engineering office	Rpic computer w/laptop for Eng Mgr	SCADA iNET-II 900 Dual Gateway	SCADA radio data link	SCADA upgrade 2013	SCADAPack 32	Scattolding	VVUIN VIGEI AUGUACI Toole & Equipment	Troiler emernency compressor	Trailer, entregency compressor Trailer emergency generator FG6500	Trailer emercency 6'x12' w/ramp	Work Order Addition	V208214, Ford F-150	V208216, Chevy Silverad	V208217, Chevy 3500	V208222, '08 TOY 4 RUNNER	Visitor Chair	Air Compressor, portable	Septic Tank, Baseyard	Sucket lusion kili, 20-0311111 Socket welding prep	SCADA Report Writer System	Fuel Station	Base Yard Security Cameras	Big Island Radio Communication	EMT Service Truck	Handheld Meter Readers	EMT Service Iruck Lools	Portable Alr Compressor Itron Landhald Mater Bearlars	Encineering PM Vehicle	Jetting/Vacuum Truck/Pukalani	Jetting/Vacuum Truck/Pukalani	2018 Toyota Tacoma TRD 4x4	Boom Truck (WO 118340)	Valve Exercise Trailer (WO 118326)	SCADA Vuinerability Assessment (WO 111/232)	
	Utility	ACCOUNT																																													
	Line	304	305	306	307	308	202	311	312	313	314	315	316	317	318	319	320	321	322	676	325	305	327	328	329	330	331	332	333	334	335 326	337	338	339	340	341	342	343	345 245	346	347	348	349	350	351	302	353

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2/28/2019		2019		358,014	271,498	360,837	442,186	18,571	274,463	148,907
	Accumulated Depreciation	2018		314,217 \$	238,285 \$	316,694 \$	388,092 \$	16,299 \$	240,887 \$	130,690 \$
	Accumulate	2017 2		268,579 \$	203,848 \$	280,334 \$	372,103 \$	14,913 \$	210,864 \$	114,290 \$
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		2019		43,797	33,213	44,143	54,094	2,272	33,576	18,216
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rations Detail)	Annual Amortization	2018		34,423	26,105	34,695	42,517	1,786	26,390 \$	14,318 \$
tter Ope State (I	Annual			ده 80	\$ 60	\$ 6†	35 \$	33 \$	34 \$	13,433 \$
Inc. Wa Taxes -		2017		31,568	23,95	32.94	43,735	1,7	24,784	13,4;
mpany, Income	ig rece			%	\$ %	% \$	%	\$ %	\$ %	\$ %
later Service Company, Inc. Water Ope ulated Deferred Income Taxes - State (Tax Period	2019	19.10%	14.48%	19.25%	23.59%	%66.0	14.64%	7.94%
Kona Water Service Company, Inc. Water Operations Accumulated Deferred Income Taxes - State (Detail)	DI 162 I	Tax Method	2018	19.10%	14.48%	19.25%	23.59%	%66.0	14.64%	7.94%
Ϋ́́		In Service Date	2017	18.33%	13.92%	19.14%	25.40%	1.02%	14.39%	7.80%
		Cost		4.455	50 105	15 221	57 334	26.345	72,498	11,898
		Tax Cost		5 474	36	4	657	, (1	\$ 372	\$ 201
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		Property Description	BIG ISLAND ALLOCATIONS	701 - Waikoloa Water	21 - Viaikoloa Vakol 700 - Maikoloa Sawar	722 - Waikata Devoi	724 Maikalas Resolt Valei 724 Maikalas Desart Sever	rze - wanoroa neson ocwa 725 - Maikoloa Resort Irrigation	726 - Kona Water	727 - Kona Sewer
		Utility Account	ш		- 17	- 1	• 1*			^{- ،} د
		Line No.	354	255	256	2000	250	250	360	361

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Docket No. 2018-0388 Exhibit KWSC Water 7.13 Witness: Stout

	Unamortized HCGETC 2018 2019	1,385 \$ - \$ 1,385 \$	640 S 237 S 189 S 1,186 S 1,186 S 2,252 S	46 S 46 S	46.595 \$ 42.359 86 \$ 42.359 263 \$ 243 46.937 \$ 42.687	174 5 174 5 119 5 725 5 725 5 725 5 7261 5 7302 5 745 5 755 345 755 5 756 5 755 5 755 5 755 5 261 5 27 5 285 5 2861 5 2861 5 2861 5 2861 5 2862 5 2861 5 2861 5 2861 5 2861 5 2861 5 286 5 286 5 286 5 286 5 286 5 286 5 286 5 286 5 286 5 </th
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npany. Inc. Wi oods Excise Ta o December 3	2017	999 99	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	8 V.	36 S 4,236 4 S - 11 S - 50 S 4,236	100 100 <td< td=""></td<>
Kona Water Service Company, Inc. Water Operations Hawaii Capital Goods Excise Tax Credit Tast Year Ending December 31, 2019	Annual Amodization		s 33 5 5 34 5 6 9 6 9 7 106 5 210 5 210	ω w	S 4.236 S 4.236 S 11	
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	State Tax Cost	36,943 \$ 24,505 \$ 51,448 \$	20,224 \$ 7,490 \$ 5,405 \$ 29,638 \$ 63,360 \$ 126,117 \$	1,544 S	2,541,565 \$ 2,210 \$ 6,326 \$ 2,550,102 \$	5,225 5, 225 5, 225 5, 225 5, 225 5, 3, 2515 5, 3, 2515 5, 3, 2515 5, 3, 2515 5, 3, 2515 5, 3, 2515 5, 3, 2515 5, 2, 2518 5, 3, 11, 552 5, 5, 252 5, 5, 11, 552 5, 5, 21, 552 5, 5, 21, 552 5, 5, 21, 552 5, 5, 21, 552 5, 5, 21, 552 5, 5, 21, 552 5, 5, 21, 552 5, 5, 21, 552 5, 5, 21, 552 5, 5, 21, 552 5, 5, 21, 552 5, 5, 21, 552 5, 5, 21, 552 5, 5, 21, 552 5, 5, 21, 552 5, 5, 21, 552 5, 21, 502 5, 21, 502 5, 21, 502 5, 21, 502 5, 21, 502 5, 21, 502 5, 21, 502 5, 21, 502 5, 21, 502 5, 21, 502 5
		38,482 \$ 25,526 \$ 64,009 \$	21,066 S 7,805 S 5,631 S 30,873 S 66,000 S 66,000 S	1,609 \$ 1,609 \$	2,647,464 \$ 2,302 \$ 6,590 \$ 2,656,356 \$	5,443 5 5,618 5 3,2618 5 3,2618 5 3,2618 5 5,919 5 9,9241 5 5,927 5 1,2743 5 1,127 5 1,127 5 1,177 5 2,200 2 3,270 5 5 2,200 2 3,270 5 5 2,200 2 3,270 5 5 2,200 2 5 2,200 5 5 2,200 5 5 5 2,200 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
	Federal Tax	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	NNNNN N	5 S	ო ოო	***************************************
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		9) Total	Total	Total	nt Total	50) 37) Total
	Property Description	1 4 8	(0) Structures & Improvement - Supply Plant 30:264" Steel Doors 55:44" Steel Doors Energency Shower-HR1, HRS Matalei Energency Shower-HR1, HRS Matalei Pre-filler Skid Platform (WO 67807) Kukio Office Expansion (WO 67807)	Structures & Improvement - Pumping Plant Lawn Building	103310 Structures & Improvement - Treatment Plant 1.0 MG Water Fitration Plant Starcases for RO Plant (WO 119185) RO Plant Overhead Lighting (WO 119185)	AB E bumping Eukometer Auto transfer switch @ RO Plant Auto transfer switch @ RO Plant Auto transfer switch @ RO Plant Engineering Labor Filed Labor HET motor stateter HET motor stateter HET motor stateter HET and promp HEZ well pump HEZ well pump (WO 11955) HEZ Well Pump Equipment (WO 11955)
		count 103030 Intangible Plant Transmission sys Power System A	103110 Structures 30"x84" Ste 36"x94" Ste 5"x94" Ste Emergency Pre-filter Sk Kukio Office	103210 Structures Lawn Buildi	3310 Structures 1.0 MG Wi Staircases RO Plant C	103240 Bumping Equipment 103240 BUB (Electroning) Cleak Values for Viewer State Cleak Labor Engineering Labor HR1 motor stater HR2 well pump HR2 well pump Nork Order Addit Nork Ord
	e Utility	Ac				10 6 6 6 6 6 6 6 6 6 6 6 6 6
	Line	N - 0 - 0 - 4	v∞r∞02 t	12 12	291 13 19 19 19 19 19 19 19 19 19 19 19 19 19	<u> </u>

Docket No. 2018-0388 Exhibit KWSC Water 7.14

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Witness: Stout 2/28/2019	CGETC 2019		~~~~~			- • 00	ა აა	• • • •	n va va		<i>ა ა ა</i>	.		63 \$ 1		აა		s	ააა ა	348 \$ 10	515 \$ 399 \$	914 S	78 \$ - \$	78 \$	953 \$
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			& & & & & 30 0 0 0 50 0 0 0			¢ 170'i		2.113 S	7619 \$				20 23	5,888 \$			112 \$ 717 \$ 62 \$ 16,281 \$ 12 \$		61,294 \$ 20,961 \$ 100,465 \$ 12,683 \$	95,404 \$	94 \$ 33 \$	127 \$	8 8 59 6	34	285 \$
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Kona Water Service Company, Inc. Water Operations Havai Capital Goods Excise 1 ax Credit Test Year Ending December 31, 2019	Annual Amotisation	TTORICATION		0.01	N .	۲.		, -							e,			Ś		1					
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	HCGETC		22 18 18 17 18 17 17 17 17 17 17 17 17 17 17 17 17 17	61 25,899 5,180	5,878 1,578	39,024	48 76	221 3,521 76	44 80	7,274 2,100	8 8 8	3,188 2,170	608 337 252 508	20,634			1,120 91 23,942	Î	102,157 30,825 147,743 18,652	299,377	585 416	1,001	81 698	179	1,192
			2,931 \$ 4,397 \$ 2,931 \$			936,571 \$							14,586 \$ 8,097 \$ 6,053 \$ 12,190 \$	5,204 S			4,800 \$ 26,884 \$ 2,193 \$ 574,612 \$		2,451,758 \$ 739,804 \$ 3,545,836 \$ 447,638 \$	185,036 \$	14,033 \$ 9,984 \$	24,017 \$	1,947 \$ 16,750 \$	18,698 \$	28,603 \$
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	Federal Tax	Cost	3,053 4,580 3,053	1,527 647,485 129,504	146,947 39,445	975,595	1,208 1,911	5,529 88,034 1,890	1,096 2.012	181,840 52,490	1,407 1,161 698	79,690 54,241	15,194 8,435 6,305 12,698	515,838	2,209,833 359,777	420,555 27,749 6 262	598,554	3,697 3,661,805	2,553,915 770,629 3,693,579 466,290	7,484,413	14,617 10,400	25,017	2,029 17,448	19,477	29,795
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	Drovedy, Decorintion	any Description	System Control Computer Equipment Foxboro Pressure Trans Cal 0-300 in PSI Foxboro Pressure Trans Cal 0-50 in H2O Foxboro Pressure Trans Cal 0-58 in H2O	Foxboro Pressure Trans Cal 0-92 in H2O SCADA HR Well 5 SCADA HR Wells 1-4	SCADA Water Filtration Plant SCADA Computer & Software (WO 112030)		Water Treatment Plant 6" check valve @ RO discharge Chamical Injaction Plantos @ Mstatei	0	ction pump		Kukio RO EC Sensor (WO 109369) Chemical containment pallets (WO	KO Plant Surge Suppressor (WO 114033) Pre-Fitter Pressure Vessel (WO 93477) RO Membrane Train B (WO 97229)	Water Quality Sensors (WO 97228) Victaulic Coupling (WO 97230) RO Bypass Blend Controller (WO 119025)		íbution Maír ent 1	ent 2	Samping Station Pressure Reducer (Outside the WFP) Road R and Access Road to 312' Road R and Access Road to 312' Road R and Access Road to 312'	t Fitter (WO	Ductile Iron Pipe CAC - Distribution Water lines CAC - Distribution Water lines HR-16 of Transmission to 620° and PR Tanks Transmission runs from the 620° down to the		e (08112)		ss teplacement rogram (WO		
	à	do1	ntrol Comp essure Trans essure Trans essure Trans	essure Trans t Well 5 t Wells 1-4	SCADA Water Filtration Plant SCADA Computer & Software		atment Plan Ive @ RO d	Chlorine Analyzer Degassing Station	Grundfos chemical injection pump Kukio RO Plant VFD	anes	SC Sensor () containment	surge Suppre Pressure Ves rane Train B	Water Quality Sensors (WO 97 Victaulic Coupling (WO 97230) RO Bypass Blend Controller (V		Transmission & Distributi CIAC Phase 1A CIAC Phase 3 Increment 1	CIAC Phase 3 Increment 2 Flow Control Vault Lid	samping station Pressure Reducer (Outside the W Road R and Access Road to 312 Road R and Access Road to 312' Road R and Access Road to 312'	/ Vla-val Pilo	on Pipe stribution Wa Transmissio ransmission ransmission sion lines fror	ופווא (אר טו וויופ)	Suppfy Mains HR5 12" butterfly valve 10" Gate Valve (WO 108112)		Meter Boxe IR-4 Meter R placement P		ydratns
			103241 System Control Computer Equipment Foxboto Pressure Trans Cal 0-300 in PS Foxboto Pressure Trans Cal 0-50 in H2C Foxboro Pressure Trans Cal 0-58 in H2C	Foxboro Pressure Ti SCADA HR Well 5 SCADA HR Wells 1	SCADA W		103320 Water Treatment Plant 6" check valve @ RO di Chamical Injection Pumu	Chlorine Analyzer Degassing Station	Grundfos chemical in Kukio RO Plant VFD	RO Membrane RO Membranes	Chemical o	Pre-Filter F RO Membr	Water Que Victaulic C RO Bypas:		103434 Transmission & Distribution Mains CIAC Phase 1A CIAC Phase 3 Increment 1	CIAC Pha Flow Cont	Samping Station Pressure Reduce: Road R and Acce Road R and Acce Road R and Acce	Kukio FC/	103435 Ductitle Iron Pipe CIAC - Distribution Water lines HR 1 to 4 Transmission 10 620 1 HR-5 to Transmission to 620 1 Transmission lines from the 62		i4 Supply M HR5 12" t 10" Gate \		30 Meters & HR-1 & H Meter Rej		103480 Hydrants 12 Fire Hydratns
	Utility	Account	103241				103320								10343.						103164				
	Line	No	8 8 8 8 8 9 8 9	68 68	225	72	73 74 75	2 92 11	02 08	81	882	85 86 87	8886	82	93 95 95	96 76	88 89 00 10 10 10 10	103 104	105 105 107 108 109	110	111 112 113	114	115 116 117	118	119

Docket No. 2018-0388 Exhibit KWSC Water 7.14

118-0388 ater 7.14 iss: Stout /28/2019	2019	906	12,865 13,288 9,371 169 1,481	11,942 49,278	27	27		•	 1,325	1,325		'	- 127 84	211	333 ° , (0 0 1 7 7 7 7 7 7 7 7 8 8 8 8 8 8 8 8 8 8 8	204	375,057	(28,286)
Docket No. 2018-0388 Exhibit KWSC Water 7.14 Witness: Stort 2/28/2019	HCGETC	953 \$	14,034 \$ 14,949 \$ 10,542 \$ 179 \$ 174 \$ 174 \$		28 \$	28 \$	5 55 1 1	- s	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	с э	м м • •	×	- \$ 254 \$ 101 \$	355 \$	່ 0 ສິສິສ ດ 23 ສີ (3 ດ 7 ສີ 8 ອ 28 ດ ເຊັ້າ ອີ	320 S	367,967 S	(31,822) \$
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	ation 2019	\$ 286	<pre>\$ 16.373 \$ 28,236 \$ 19.913 \$ 19.913 \$ 79 \$ 987 \$ 109</pre>		en en	s	\$ 26 \$ 236	\$ 262	s 630 5 1,570 5 1,268 5 1,268 5 2,43 5 2,262 5 331	\$ 6.500	8 8 9 4 9 4	s 103	\$ 493 \$ 509 \$ 34	\$ 1,036	25312382 - 2535888 2531238 - 253588888888888888888888888888888888888	s 75	\$ 501,468	\$ (60,107)
	Accumulated Amortization 7 2018 2	238 2	15,204 26,575 18,742 69 888 888 988	1 1	4	4	26 236	262	630 1,570 1,268 243 243 243 243 243	6,169	ο 2	103	493 382 17	892	8828887-965 <u>5</u> 489	642	466,078	(56,572) \$
	Accumula 2017	191 S	14,034 \$ 24,914 \$ 17,571 \$ 790 \$ 87 \$		64 (7)	3 2	26 \$ 236 \$	262 \$	630 \$ 1,570 \$ 1,268 \$ 243 \$ 243 \$ 197 \$ 1,809 \$ -	5,716 \$	0 9 8 8	103 \$	493 - 554 55 -	748 \$	8844444 884444 885248 89348 89348 89348 8938 8938 8938 8938	509 S	432,245 \$	(53,036) \$
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r Operation Credit	2018	\$ 48	5 1,170 5 1,170 5 1,171 5 1,171 5 1,171 5 99		ŝ	s	, , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	- \$	• • • • • • • • • • • • • • • • • • •	\$ 49;	s s 1	\$	~ ~ ~ ~	S 24	ຎຎຎຎຎຎຎຎຎຎຎ	\$ 13	\$	s
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Kona Water Service Company, Inc. Water Operations Havaii castel Goots San 2 and Card	Annual	S S		ით თ	ŝ	s	w w	s	~~ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	s	69 69	s	აა ა	\$	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Ş	\$	Ŵ
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		1 26	29,238 41,524 29,284 2,468 2,468	2/1 12,440 15,474	32	32	26 236	262	630 1,570 1,268 197 197 1,656	7,825	9 4 9	103	493 636 118	1,247	888887877828 88887877828 8888787788 8888787788 888878778 888878 888878 888878 888878 888878 888878 888878 888878 888878 888878 888878 888878 888878 888878 888878 888878 888878 888878 888878 88778 88778 88778 88778 88778 88778 88778 88778 88778 88778 88778 88778 88778 88778 88778 88778 87778 87778 87778 87778 87778 8777777	962	876,525	(88,393)
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		95 s	357 \$ 092 \$ 200 \$ 599 \$			803 \$	649 \$ 5,897 \$	6,546 \$	15,742 \$ 39,247 \$ 31,692 \$ 6,071 \$ 4,920 \$ 56,542 \$	624 \$	232 \$ 2,346 \$	2,577 \$	12,335 \$ 15,898 \$ 2,941 \$	174 \$	866 \$ 866 \$ 1,393 \$ 1,208 \$ 3,351 \$ 3,550 \$ 3,500 \$ 3,	t,039 \$	3,132 \$	9,833) \$
	Federal Tax	Cost 29,	<pre>\$ 730,957 \$ 730,957 \$ 1,038,092 \$ 732,112 \$ 6,200 \$ 61,699</pre>	1.		s	ي مريد	S.	ოფიათა იეფ⊬ი 4 8 £	\$ 195.62	\$ \$	\$ 2	8 S S S	\$ 31.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	\$ 2	\$ 21,913,1	s (2,209,8
	la Contine Date		1/1/2006 3/31/2003 6/30/2003 4/1/2012 3/1/2010		11/1/2016		12/1/2010 12/1/2010	1 8	5/1/2011 3/1/2010 5/1/2011 12/1/2011 12/1/2013 5/1/2014 7/1/2019		12/1/2011		6/1/2013 12/1/2016 7/1/2018		12/12011 4/1/2012 11/1/2012 4/1/2013 6/1/2013 6/1/2013 6/1/2013 6/1/2013 6/1/2013 7/1/2018			1/1/2003
	2	Total		Total		Total		Total	â	Total		Total		Total		Total		
			#	345)					WO 118345						02)			
	c.	Lioberty Description	103420 Reservoirs & Tanks 312. NG Glass fused steel lank 620'. SMG Glass fused steel lank 620'. SMG Glass fused steel lank Ant dinhs for Kran Water lanks A.B.C.#1 field supervision	Work Order Addition Tank Modulating Float Valves (WO 112045)	eter UME		omputers		Transportation Equipment Transportation Equipment Toyota Tacoma 2 Engines New med size DOT Approved Trailer New med size DOT Approved Trailer Sciperintendent Verbick (replacement) (WO 113345) Superintendent Verbick				6194)		fools, Shop, Garage Equipment (relay, Test, Benk, Carage Equipment Spill Contain. Bush cuthers Bush cuthers Bush cuthers Bush cuthers Bush cuthers Bush cuthers Bush cuthers Bush cuthers Bush cuthers Cores Addition Work Cores Addition Work Cores Addition Work Cores Addition Work Cores Addition Work Spirayer 27gal Weat Spirayer 27gal Weat Spirayer 27gal Weat Spirayer 27gal		~	CONTRIBUTIONS IN AID OF CONSTRUCTION 103434 Transmission & Distribution Mains CIAC Phase 1A
	c		. Tanks ass fused stu ss fused ste ass fused st ass fused st on Vate	ddition ing Float Va	ine water m		quipment/C Addition		ion Equipm ma ma to DOT App ed truck ent Vehicle (Equipment Addition Addition		ipment Container 50LX hets (WO 10		Tools, Shop, Garage Equipment Fire How Test Shill Contain Brush Cutters Brush Cutters Demotion Harmer & Accessories Demotion Harmer & Accessories Demotion Harmer & Accessories Work Order Addition Work Order Addition Weak Order		TOTAL KWSC WATER	D OF CONS ion & Dístri e 1A
			eservoirs & 12' .5MG GI 12' 1MG Gk 20' .5MG Gk nti climbs fo sid supervisi	vork Order , ank Modula	Wells HR3 4" Neptune water meter UME		Electronic Equipment/Computers Work Order Addition Color Copier		103730 Transportation Equipment Tery X Mude Toyota Tecoma Toyota Tecoma 2 Engines New med size DOT Approve F450 - Fat bed fuck Superitrandent Vehide (rep)		103750 Laboratory Equipment Work Order Addition Work Order Addition		103740 Stores Equipment 40° Storage Container Forkift, Yale 50LX Safety Cabinets (WO 106194)		Tools, Shop, Garage Equipment Fire Flow Test Spill Contains Bush cufters Demoliton tammer & Accessorie Demoliton tammer & Accessorie Demoliton tammer & Accessorie Work Colex Addition Work Colex Addition Work Colex Addition Work Colex Addition Work Colex Addition Work Colex Addition Weed Sprayer 27 gan Weed Sprayer 20 gan Wee		TOTAL KW	TONS IN A Transmiss CIAC Phas
	Calify	Account	103420 R 3420 R 26 오 광 광	×⊢	103150 Wells HR34		103721 E W C				1037501		103740		103780			CONTRIBUT 03434
	ine	No: A	122 123 125 126		131	133	134 135 136	137	138 139 142 145 145 145	146	147 148 149	150	151 152 153	155	155 157 158 159 163 165 165 165 165 168 168	170	171	172 C 173 1 174

2018-0388 Water 7.14 ness: Stout 2/28/2019		2019	(6,908)	(8,075)	(43,268)	(40,863)	(40,863)	(84,131)	:	- 193	,						ı ı							~ .	• •	•			• •		,						1,426 2,499	4,124		894 526 546 542
Docket No. 2018-0388 Exhibit KWSC Water 7,14 Witness: Stout 2/28/2019		Unamortized HCGETC 2018	83)	(8.748) \$	(48,053) \$	(44.949) \$	(44,949) \$	(93,001) \$		289 \$ - \$	59 G	, , , ,	ۍ د ۱	י ני ט פ ו	• •		• • •	, , , ,	ы ю 1 1	ы ю 1 г	, , ,		24 5	rs ≓,	 			ۍ د ۱	е ор г г) (N) (••••	- 69 6	- - - -	ы и , ,		• • •	465 \$		101 355 54 55 55 55 55 55 55 55 55 55 55 55 5
		Unamori 2017	59) \$	(9,420) \$	(52,837) \$	(49,035) S	(49,035) \$	(101,872) \$		385 S	ю. ,	• •	5 U 1		лы 	00 U	• •• •	• •	ы ю 1 1	ათ ი ი	(A) (A) 1 1	, o, o	- 6 4 9 8 8	- 1 - 1	59 KA 1 I	, 1	10 10 1 1	• •	• ••	69 69 69 69	9 69 6	0 0 0		\$ 5 707	юн ия 1 - 1	, t , t		782 \$		170 54 78 85 78 85 85 85 85
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		ion 2019	(7.483)	(8,748)	(76.338)	(61,294)	(61,294)	(137,632)		482 122	226	τ, ω	20	273	18	32	, 1 ;	<u>n (1</u>	9 10	40 28	115	3 23 3	s <u>5</u> s	286	67	427	324	08 9	445	33	33	32 32	89	5,294	3,697		356	5 16,279		s 3.528 5 1.271 5 2.157 5 2.158 5 2.138
		Accumulated Amortization 7 2018 2	(806	(8.075) \$	(71.554) \$	(57.208) \$	(57,208) \$	(128,762) \$		385 5 122 5	226 5	4 M	20 \$	5 5	s 2 18	32 \$	v 6 ; v 8 ;	5 2	6 6 8 8	28 5	115 52	183	26	286 3	9 67 67	427	324 5	8	44 3	32 5	8 2	88	8	5,294 5,294	3,697	500	3	15,032		3,257 1,173 1,991 1,554 1,554
		Accumulat 2017	332) \$	(7,402) \$	66,770) \$	(53,121) \$	(53,121) \$	(119,891) \$ (128,762) \$		289 \$ 122 \$	226 S	47 m 19 m 19 m	20 S	2 12	81 5 17 5	32 \$	υų. 1999 1999	12 \$	19 \$ 13 \$	28 40 \$	115 S	5 23 - 5 7 -	8 EZ :	11 \$ 286 \$	9 9 9 9 9	427 \$	48 S 324 S	30 2	1,48/ 5 44 5	26 \$ 76 \$	59 S	26 \$ 26 \$	592	5,294 S	3,697 \$	300	, . , .	14,716 S		3,197 \$ 1,011 \$ 1,888 \$ 1,474 \$ 1,474 \$ 1,953 \$
		2	1	eve e	s	\$	s	ŝ		ათ	• • •	<i>ю</i> и	<i>w</i> 0	n vî	1 0 01	6	n in	n n	w w	69 VI	• • •	• •• •	n (n (ი ი	\$	э сэ -	s n	· ~ ·	n n	ю v	a va	un u	o oo o	s so	vi v	• • • •		∽		~~ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
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	ations	α	261	(573) S	(4,784) \$	(4,086) \$	(4,086) \$	(8,871) \$		8 , 8 ,									• •				24	4						99	οo	ц С	ω	141		9	<u>1</u>	330		25 24 8 54 83 48 54
	. Water Opera e Tax Credit er 31, 2019	2018	761 \$ 20	(673) \$	(4,784) \$ (4	(4,086) \$ (4	(4,086) \$ (4	(8,871) \$ (6		96 \$ 17 \$	32 \$	5 V V	5	8 6 7 77	ດ ເຊິ່າ ເຊິ່າ	0 0	0 0 0 0	69 69 17 17	0 0 0 0	4 4 8 4	ອີດ ເຊິ່	n en ;	24 \$	4 4 0 0		о из 	00 UP) e) i	 	6 6 6 6	~~	5 V 6 V	9 69 9 60		1,232 \$	• • • •	× • • •	1.687 \$		366 \$ 116 \$ 216 \$ 169 \$ 224 \$
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	Kona Water Service Company, Inc. Water Operations Hawaii Capital Goods Excise Tax Credit Test Year Ending December 31, 2019	Annual	ortization	(673) (673)	(4.784)	(4.086)	(4,086)	(8,871)		96 7 F	32	S C	ŝ	0 0	Ωr	1.0	00	6 N	1 10 10	4 4	, 6 ,	n m ;	14	57	; ť	85	10	9 9	297 9	ω u	o o	94	e c	141 1.765	1.232	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	356 356 625	5.185		1,124 405 687 536 681
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			HCGELC	(14,391) (16,822)	(119,607)	(102,157)	(102,157)	(221,763)		675	226	34	20	16	5	33	3 16	95	1 E E	28	115	53	95 122	25 286	0 0 1	6/ 427	48	30	1,487 44	32	33	32	32	706 5,294	3,697	994 39	50 1,782 3.123	20.403		4,421 1,593 2,703 2,110 2,110
			ŀ	s vi	8	s (1	8	\$ (;		ۍ د د	м м	ۍ د ب	• ••	~ ~ ~ ~	5 4 10 1	n (n	ა ა ა ა	ა. ა.) ~ (× 4 ×	6 10 0 10	- 0	φų vv	0 00 0	9 9 9 9	5 G	0 4 0 0	8 9 8 9	2	4 4 8 9	5 2	774 5	s 5 s 5	8	2 F	8 8 8 8 8 8 8		2 2	8 8 8 8 8 8 3 3 5 8 8 3 3 5 8 8
			State Tax Cost	(345,386) (403,733)	(2,870,558)	(2,451,758)	(2,451,758)	(5,322,317)		16,190	5,42,	821	2.84	388 272	36.1	76	376	44	468	883					s 227 5 227									\$ 16,94 \$ 127.06			5 1,436 5 42,765 5 74,959	780.662	0.201	\$ 106,112 \$ 38,224 \$ 64,870 \$ 50,633 \$ 64,299
			r L	5) S	2	\$ (9)	5)	30) S		35 35	8 8 8 8	55 \$, s 2 60	8 8	37 \$	429 5 793 5	2 1 S	468 306	9 62 F	383																	1,496 44,547 78.082	210 065	sii Sii	
		Federal Tax	2	\$ (359,777) \$ (420,555)	\$ (2,990,165	\$ (2,553,915)	\$ (2,553,915)	\$ (5,544,080)		\$ 16,8		\$ 855 24		\$ 404 \$ 284			ء م				\$ 988 \$ 2,868																e e e e e e e e e e e e e e e e e e e			 \$ 110,534 \$ 39,817 \$ 39,817 \$ 52,743 \$ 52,743 \$ 52,743 \$ 52,743
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			In Service Date	111		1111				5/11	12/1	12/1	12/1	12/1	12/1	5	12/1	121	121	121	121	121	12/1	1/2	121	212	12/	5 <u>5</u>	121	4 1 2	2 2	12	<u> </u>	121	<u>м</u>	12 N	7 22			% 21,67% 7.81% 13.25% 10.34%
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			cription					ETS													oinets		Fireproof safe for Customer Service office. Ricoh Aficio MP C3001		IO IS	isher		Mitel EP Dig 6 Line Model 8560 Telephone ELECTRONICS [681]	Ę					rade		ent	laptop for CS Mgr Wastewater Manager Vehicle (WO 119213) SCODA Fittmand 2010 01000 119223	franci		HAWAII GENERAL OFFICE ALLOCATIONS 700 - Katamapal 701 - Fukalam 721 - Waikoloa Water 722 - Waikoloa Sever
			Property Description	52		r line		TOTAL CONTRIUBUTED ASSETS		ments						slis	'n				2 Drawer Lateral File 3, 42" 4 Drawer Lateral File Cabinets	3/B/F	omer Se	1	Automated Electronic Defibrillators License for Capture Now	ier wffil	Monitors	del 8560	8-way video conferencing system	priner				790 Server & Server room upgrade	SOLWARD	phone system with 8 phones Miscellaneous Kitchen Equipment	laptop for CS Mgr Wastewater Manager Vehicle (WO 1 SCODD 11 Jacordo 2016 AMO 1166623)			HAWAII GENERAL OFFICE AL 700 - Kaanapali 701 - Pukalan 721 - Waikoloa Water 722 - Waikoloa Sewer 723 - Waikoloa Resort Water
			Prope	Internen		e on Wate		IUBUTE		790 Leasehold Improvements	desks, confitable, chairs 2 Cubical Work Stations		ņ	, nit		nell 66' inza She	Cherry Keyboard Drawer	F.F	Hutch	za 66"	al Fije r Lateral	Cherry Desk Pedestal B/B/F Recency Lateral File	Fireproof safe for Custo Ricoh Aficio MP C3001	hiture	Automated Electronic Det License for Capture Now	Fujitsu Fi6140 scanner Ricoh MP 4001SP Cor	5	Line Mo S [681]	Inference	Hewlett Packard laser printer Desktop-HIWKLCS40	(LCS39	Desktop-HIWKLCS38	Desktop-HIWKCLS36 Desktop-HIWKLCS41	Server ro		with 8 p Kitchen	Mgr anager			ERAL O ali a Water a Sewer a Resori
				nase 3 ir nase 3 ir		Iron Pip Distributi		CONTR	DFFICE	sehold	conf tabl al Work	Desk	Cherry Drawer Cherry Credenza	Cherry Corner Unit		Cherry Desk Shell 66' 24'' x 71'' Credenza S	Cherry Keyboar	Desk Pedestal F/F	Cherry Shelf Unit Cherry Storage Hutch	Cherry Credenza 56" Regency Desk	ker Later 4 Drawe	Desk P cv Later	of safe ' Aficio MI	790 Office Furniture	ated Ele e for Ca	Fi6140 MP 400	5	P Dig 6	video co	n racka	HWH-do	WIH-do	4WH-qo	erver &	RMS Software	system	laptop for CS Mgr Wastewater Manag	angalan t		All GEN Kaanap Pukalan Waikolo Waikolo Waikolo
				CIAC Phase 3 Increment 1 CIAC Phase 3 Increment 2		Ductile Iron Pipe CIAC - Distribution Water line		TOTAL	VERAL (790 Lea	desks, L	Cherry Desk	Cherry Drawer Cherry Creden	Cherry	Chairs	Cherry 24" x 7:	Cherry	Desk P	Cherry Cherry	Cherry Regen	2 Drav 3, 42" 4	Cherry Regen	Firepro Ricoh /	10 062	Autorn	Fujitsu Ricoh I	Monito	Mitel E ELEC	8-way	Deskto	Deskte	Deskt	Deskte	790 S	RMS (phone Miscel	Waste Waste	200		HAW 700 - 721 - 722 - 723 -
		-	Utility Account			103435			HAWAII GENERAL OFFICE																															
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		724 - Waikoloa Resort Sewer	727 - Kona Water 727 - Kona Sewer		(2)Replacement Op Computer Stations	blie ou. 36 Eagl	20' Container Shelving-Baseyard 20' Container Shelving-EMT	Contai	Storage Contr	Nissan Titan	FORD XCAB FORD XCAB	rd F-15	Ford F-150 Ford F-150	FRONTIER Ford Evaluate	2014 Nissan Frontier. V214001 3 Inod for Hawaii Island	Desk w Drawer	69"x43"x 18" Diesel tank	IS Soff	Big Island SCADA 2012 Book Case	otorola	Work Order Addition	1 desktops	1 desktops Desktop-HIWKLOC56	Desktop-HIWKLO dryer @ baseyard	xec Chi /ork Orc	Wark Order Addition Work Order Addition	EMT Laptop	Desk Dock	Personnel Lift Software	Hardware Gradall lifting hook attachment	Forklift HON chair	Hydro Jetter	Ice Maker-Mantowac IU-U452A Ingersoll Needie/Chisel Scl	Internal labor Knoll task chair	1 laptops 1 laptops	Laptop, EMT-HIWKOCLT02 Lateral File	Work Order Addition Work Order Addition	Work Order Addition New IP phone system	New Hydraulic Hammer Office Fumishings	Office furniture & equip
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Kona Water Service Company, Inc. Water Operations Hawaii Capital Goods Excise Tax Credit Test Year Ending December 31, 2019		Annual	Amortization																															o <i>(</i> 0	(0)		a (a	6		"		6	<i>с</i> э <i>и</i>	s s	\$
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		Ę	S	ŝ	ŝ	6 9 6	AV	n vi	n vo	S)	€ 7 10	a va	ŝ	va vi	5 05	Ś	<i>~</i> ~	ev e	\$	лv	\$	vs v	9 (9	Ŵ	is us	s	us u	, 0, 6	6 6	A VA	50 0	• ••	\$	us en	• • •	<i>u</i> , v	ю ю — о	\$	s		9 69 9 19			~~~	
		State Tax Cost	45	87	497	8,080	27 801	8 419	4,069	10,164	1,003	1,419	21,482	51,073 62 184	10,117	4,580	954 954	409	1,990	7,488 56.441	6,545	8,656	30,978	162	20,293	636	1,524 AE 861	138,431	9,613	47,381 50,131	8,326	20,293	25,694	31,170	6,314	38,143	339,411 35,302	40,132	2,587,856		374.82	498,16	610,471	25,639 378,918	205,57
		State		ŝ	S	S (v v	n v	ə və	64	69 6	AW	\$	w w	• ••	ю	və v	л и л	ŝ	w w	• ••	юu	A 10	60	ил ил 	~	vn u	• •	(A (~ ~ ~	ۍ دی د	н ин 	\$	50 V	, v	89 F	~ ~ ~ ~	~	0				\$ 0		
		Federai Tax	Cost 47	. 06	518	8,415	275 676	626 8 770	4.239	10,588	1,045	1 478	22,377	53,201 6.4 775	10,539	4,771	15	426	2,073	7,800	6,817	9,017	32,269	169	21,139	662	1,587	144,199	10,014	49,355 52,220	8,673	21,135	26,765	32,46	5,57 6,57	39,73	353,553 36,773	41,80	2,695,68/		02'51C	518,91	635,90	26,707 394,706	214,14
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		la Conire Date	DULID DUL	9/1/201	12/1/2016	3/1/201	9/1/2012	12/1/2016	11/02/1/21	11/1/2011	11/1/201	12/1/2016	3/1/2016	9/30/2018	3/1/2016	3/1/2016	12/1/2011	3/1/2016	3/1/2016	3/1/2016	12/1/2010	12/1/20	12/1/2008	9/1/20	9/1/2017	12/1/2017	12/1/2017	12/31/2018	11/30/2018	8/31/2018 7/1/2018	10/31/2017	6/30/2017	7/1/2018	1/25/2018	7/1/2013	7/1/20	5/31/2019 7/31/2019	9/30/2019			39.1U%	19.2	23.59%	14.6	7.9
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			doud	vadition	erator 3500	/ Analyzer		11610HD	grade	pplied an :	odule	3004-Engi	er wiaptop	o data link	ade 2013 32	ł	Addition	pment	gency gen	gency 6'x1	Addition and F=150	nevy Silver	hevy 3500 e TOV A P	2 4 10 10	sor, portal	n kit. 20-6	ing prep	oort Writer	Security Ca	adio Com	eter Read	e Truck To	eld Meter I	PM Vehic	Jum Truck	a Tacoma	k (WO 118 ico Troilor	ise rraier Inerability /		D ALLOC/	oloa Water	oloa Sewe oloa Resoi	oloa Resol	- Waikoloa Resort Irrigation	Sewer
				Work Order Addition	Portable generator 3500w, EMT's	Power Quality Analyzer	Printer Cart	Projector-Dell 1610HD	Electrical Upgrade	Respirator supplied air system Rícho Copier	Richo Fax Module	RICOH MPC3004-Engineering office	Rplc computer wriaptop tor Errg wigi SCADA iNET-II 900 Dual Gateway	SCADA radio data link	SCADA upgrade 2013 SCADA upgrade 2013	Scaffolding	Work Order Addition	Tools & Equipment	aller, emer	Trailer, emergency 6'x12' w/ramp	Work Order Addition V208214 Ford F=150	V208216, Chevy Silverad	V208217, Chevy 3500 V208272 Ver TOV 4 PLINNEP	V 208222, UR Visitor Chair	Air Compressor, portable	Septic Lank, Baseyard Socket fusion kit. 20-63mm	Socket welding prep	SCADA Report Writer System	Ease Yard Security Cameras	Big Island Radio Communication	Handheld Meter Readers	EMT Service Truck Tools	Fortable All Compressor Itron Handheld Meter Readers	Engineering PM Vehicle	Jetting/Vacuum Truck/Pukalani tetting/Vacuum Truck/Pukalani	2018 Toyota Tacoma TRD 4x4	Boom Truck (WO 118340) Webs Exercise Trailer (MO 118326)	vare exercise Trailer (woo 110520) SCADA Vulnerability Assessment (WO 117252)		BIG ISLAND ALLOCATIONS	721 - Waikoloa Water	722 - Waikoloa Sewer 723 - Waikoloa Resort Water	24 - Waike	725 - Waik	727 - Kona Sewer
		Lititiv		WC WC	Por	οd.	Ρη	24	ພື້	л Ц Л	, ig	Щ. Ж	4 N	SC	у у	ώ Υ	Ň	5 F	ΞĔ	Ē	3 \$: 5	22		Ă	ර ග්	Ň	οů		αúŭ	π	шċ	1.12	ω.	- <u>,</u> -	าณี	ω >	> ()		ш	~ 1	- 1-		~ <u>F</u>	- - F
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Page 6 of 6

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

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 & Maintenace	\$ 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	 12
16	Working Cash	\$ 210,919

Docket No. 2018-0388 Exhibit KWSC Water 8 Witness: Stout 2/28/2019

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

			Test Year	En	ding Decemb	er	31, 2019								
Line												-	Test Year		Test Year
No. 1			0044		0045		2016		2017		2018		esent Rates n 1, 2019 to		posed Rates in 1, 2019 to
•			2014		2015		2016		2017		2010		ec. 31, 2019 10		ec. 31, 2019 10
2												0	30. 31, 2019		80. 31, 2019
3	Revenues														
4	Water														
5	Residential														
6	Single-family	¢	24 700	¢	46.803	\$	62,536	\$	63,006	\$	65.742	\$	64,673	\$	73,105
7	Fixed revenue	\$ \$		\$		•	1,826,197	Ψ \$	1,946,297	Ψ \$	1,708,497	φ \$	1,974,206	\$	2,142,366
8	Metered Revenue	-	1,233,037	\$ ¢		Ф \$	974,062	Ф \$	1,072,138	φ \$	1,031,088	Ф \$	989,459	Ψ \$	1,187,782
9	Power Cost Charge	\$	1,050,513	\$ \$	933,361		2,862,796	\$	3,081,441	\$	2,805,327	\$	3,028,337	· · · · · · · · · · · · · · · · · · ·	3,403,254
10	subtotal	Φ	2,318,272	Φ	2,430,484	Ψ	2,002,790	ψ	0,001,441	Ψ	2,000,021	Ψ	0,020,007	Ŷ	0,100,201
11	Non-Residential														
12	Multi-Family													•	05 450
13	Fixed revenue	\$		\$		\$	14,125	\$	13,117		16,212		19,111		35,150
14	Metered Revenue	\$	226,562	\$		\$	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			•	400.000	•	550,935	÷	617,866	\$	592,561	\$	675,146	\$	675,146
29	Labor Expenses	\$	243,872	\$	430,833	\$ \$	1,380,455	\$ \$	1,426,936	φ \$	1,389,492	\$	1,402,846		1,402,846
30	Fuel & Power	\$	1,662,173	\$	1,439,475	э \$	103,848	ф \$	123,394	ф \$	97,487	\$	114,012		114,012
31	Chemicals	\$ \$	93,939 390	\$ \$	114,218	ф \$	103,848	\$	2,382	÷ S	3,072		1,961		1,961
32	Materials & Supplies	Դ Տ	290	ф \$	-	φ \$	174	\$	2,002	\$	0,012	\$	1,001	\$	-
33	Waste/Sludge Disposal		101,962	Ψ \$	112,171	\$	85,529	\$	107,810	\$	118.536	\$	101,687		101,687
34	Affiliated Charges	\$ \$	75,706	Ф \$	16,354	ф \$	5,506	\$	12,724	\$	7,539	\$	9,025	\$	9,025
35	Professional and Outside Services	э \$	423,057	\$	280,898	\$	76,799	\$	120,515	\$	64,605	\$	92,007		92,007
36	Repairs & Maintenace	φ \$	21,050	\$	24,760	\$	18,516	\$	15,549	\$	19,354	\$	23,333		23,333
37	Rental Expenses	Ψ \$	2,963	\$	3,421	\$	4,590	\$	1,360	\$	1,902		10,352		10,352
38	Insurance Expenses Regulatory Expenses	Ψ \$	2,300	\$	66,568	\$	39,221	ŝ	35,720	Ś	38,301	\$	52,750		52,750
39		\$	(36,010)		34,386	\$		\$	30,976	\$	39,547	\$	33,343	\$	33,343
40	General & Administrative Expenses	\$	4,278	\$	4,414	\$	13,658	\$	12,436	\$	15,442	\$	14,564		14,564
41	Customer Accounts Expenses Taxes Other than Income Taxes	φ \$	169,538	\$	199,313	\$	234,767	\$	251,566	\$	251,566	\$	225,316		254,212
42		φ \$	331,466	\$	331,710	\$	279,157	\$	259,079	\$	259,079	\$	476,258		476,258
43 44	Depreciation Amortization	9 \$		\$	-	\$		\$	-	\$		\$	_	\$	-
44 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
			(474 120)	¢	(214,726)	¢	392,360	\$	421,301	\$	335,287	\$	266,975	\$	580,249
47	NET INCOME/(LOSS)	\$	(474,138)		(214,120)	φ	552,500	\$	721,001	Ψ			200,070	<u> </u>	

Docket No. 2018-0388 Exhibit KWSC Water 8.1 Witness: Stout 2/28/2019

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

Line No.			2211		0045		2016		2017		2018		Test Year resent Rates an 1, 2019 to	Pro	Fest Year posed Rates n 1, 2019 to
			2014		2015		2010		2017		2010		ec. 31, 2019		c. 31, 2019
1	14/-1														0.0112010
2 3	Water Residential														
4	Single-family customers														
4 5	Fixed revenue	\$	34,722	\$	46,803	\$	62,536	\$	63.006	\$	65,742	\$	64,673	\$	73,105
5 6	Metered Revenue	\$	1,233,037	ŝ	1,456,330	\$	1.826,197		1,946,297	\$	1,708,497	\$	1 974 206	\$	2,142,366
-		ŝ	1,050,513	\$	933,361		974.062		1,072,138	\$	1,031,088		989,459	\$	1,187,782
7	Power Cost Charge	Ψ	1,000,010	Ψ	000,001	¥	0. 10	Ŧ		•	.1				
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	\$		\$	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
19	subtotal	<u> </u>		<u> </u>											
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

Docket No. 2018-0388 Exhibit KWSC Water 8.2 Witness: Stout 2/28/2019

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

No. 1	Usage / Volumetric measurements						Test	Year
'	bauge / volumente medearemente	2014	2015	2016	2017	2018	Present	Proposed
2	Water						Rates	Rates
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

		Test Year Endi	ng December a	1, 2013				
Line								
No.	Customer Count						Test `	(ear
1		2014	2015	2016	2017	2018	Present Rates	Proposed Rates
2	Water						Rates	Rates
3	Residential							
4	Single-family	73	73	72	72	74	74	74
5	5/8"		73 0	0	0	/4 0	0	0
6	3/4" 1"	0 125		132	132	132	132	132
7			129 0	132	0	0	132	0
8	1.5"	1	13	13	13	14	14	14
9	2"	12	0	0	0	0	0	0
10	3"	0			0	0	0	0
11	4"	0	0	0	0	· 0	0	0
12	6"	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	11	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

Docket No. 2018-0388 Exhibit KWSC Water 8.4 Witness: Carrasco 2/28/2019

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,CUUSS 49FSA0

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

No.						
1	Allocations from Big Island (Dept 720)	2012 - 2015	2016	2017	2018	2019
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	Wajkoloa 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%
U		100.00%	100.00%	100.00%	100.00%	100.00%
9	Allocations from Hawaii General Office (790)			- /	a (aab (04.070/
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%
10		100.00%	100.00%	100.00%	100.00%	100.00%

Docket No. 2018-0388 Exhibit KWSC Water 8.6 Witness: Carrasco 2/28/2019

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

Line No. 1 2			2014		2015		2016		2017		2018	Jan	est Year 1, 2019 to c. 31, 2019
3	Expenses												
4	Payroll:							-				•	000 077
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	•	7 4 7	¢	74 4 99	¢	104 400	\$	131,760	\$	109,782	\$	120,872
8	Health Care Benefits (Medical and Dental)	\$	747	\$	74,138	\$	124,429	э \$	10,095	Ψ \$	4,529	Ψ \$	11,118
9	Workers Compensation	\$	3,737	\$	4,062	\$	14,378	Φ				\$	116,746
10	Pension		84,144		110,026		82,179		94,588	. T.	104,149	<u>پ</u> \$	248,736
11	Total Employee Benefits	\$	88,628	\$	188,226	\$	220,986	\$	236,444	\$	218,460	φ	240,750
12	Payroli Taxes			•	10.001	•	47.070	¢	20 505	\$	22,806	\$	31,834
13	FICA	\$	20,225	\$	19,301	\$	17,376	\$	20,595		22,808	գ Տ	259
14	FUTA	\$	173	\$	167	\$	154	\$	164	\$			
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

Docket No. 2018-0388 Exhibit KWSC Water 8.7 Witness: Carrasco 2/28/2019

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

Line No. 1 2			2014		2015		2016		2017		2018	Ja	Test Year n 1, 2019 to sc. 31, 2019
3	Expenses [\$]												
4 5	Kukio Water Filtration Mamalahoa Hy #P296	\$ \$	32,848 1,760,849	\$ \$	26,600 1,508,442	\$ \$	26,957 1,438,074	\$ \$	28,905 1,459,584	\$ \$	29,185 1,419,728	\$ \$	25,702 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 12	Kukio Water Filtration Mamalahoa Hy #P296		82,104 4,683,600		81,693 4,985,100		93,669 5,533,200		93,974 5,272,200		90,251 4,824,900		92,631 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

Docket No. 2018-0388 Exhibit KWSC Water 8.8 Witness: Carrasco 2/28/2019

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

Line No.

1		ΤYΙ	Expense [\$]	TY Power Consumed [kWh]	3 Year Avg Production [TG]	Pump Efficiency [kWh / TG]	city Unit § / kWh]
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				

Docket No. 2018-0388 Exhibit KWSC Water 8.9 Witness: Carrasco 2/28/2019

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

Line No.									
1	Description		2014	 2015	 2016	 2017	 2018	Jan	est Year 1, 2019 to 5. 31, 2019
2 3	Chemicals subtotal	<u></u>	93,939 \$93,939	\$ 114,218 114,218	\$ 103,848 103,848	\$ 123,394 123,394	\$ 97,487 97,487	\$ \$	108,243 108,243
4 5 6	In 2019 Dollars Chemicals Total	\$	<u>104,351</u> 104,351	\$ 125,605 125,605	\$ <u>111,997</u> 111,997	\$ <u>129,784</u> 129,784	\$ 100,255 100,255	\$	114,012 114,012

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Docket No. 2018-0388 Exhibit KWSC Water 8.10 Witness: Carrasco 2/28/2019

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

Line No.

NO. 1	Description	2	014	2	2015	2	2016	:	2017		2018	Jan	est Year 1, 2019 to c. 31, 2019
2 3	Direct Charge to KWSC Water 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						()	•		•		¢	6
10	Treatment and Disposal	\$	22	\$	94	\$	18	\$	-	\$	-	\$	0
11	Water Treatment and Water Quality	\$	-	\$	-	\$	-	\$	-	\$	-	\$ \$	-
12	Transmission & Distribution	\$	-	\$	-	\$	-	\$ \$	-	\$ \$	-	э \$	-
13	Collection	\$	-	\$	- ,	\$ \$	-	э \$	- 10	э \$	-	գ \$	- 3
14 15	Pumping subtotal	<u>\$</u> \$	<u>17</u> 39	\$ \$	<u>4</u> 98	<u>ې</u> \$	18	\$	10	\$		\$	9
16 17 18 19 20 21 22	Direct and Allocated Professional & Outside Services Treatment and Disposal Water Treatment and Water Quality Transmission & Distribution Collection Pumping subtotal	\$ \$ \$ \$ \$ \$	289 - - - 140 429	\$ \$ \$ \$ \$	94 - - - 4 98	\$ \$ \$ \$ \$	192 - - - - 192	\$ \$ \$ \$ \$	2,262 - - - 130 2,392	\$ \$ \$ \$ \$	3,072 - - - - 3,072	\$ \$ \$ \$ \$	1,842 - - 4 <u>3</u> 1,885
23	In 2019 Dollars	\$	321	\$	103	\$	207	\$	2,379	\$	3,159	\$	1,915
24	Treatment and Disposal	э \$	-	\$	-	\$	-	\$		\$	-	\$	-
25	Water Treatment and Water Quality	\$	-	\$	_	\$	-	\$	-	\$	-	\$	-
26	Transmission & Distribution	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
27 28	Collection	\$	156	•	5	\$	-	\$	136	\$		\$	45
28 29	Pumping Total	\$	477		108	\$	207	\$	2,516	\$	3,159	\$	1,961
20	וטנמו												

Docket No. 2018-0388 Exhibit KWSC Water 8.11 Witness: Carrasco 2/28/2019

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

Line No.													st Year
1	Description	2	2014	2	015	2	016	2	017	2	018		, 2019 to 31, 2019
2 3	Sludge Removal subtotal	\$ \$	-	\$\$	-	\$ \$		\$ \$	-	\$ \$	-	\$ \$	-
4 5 6	In 2019 Dollars Sludge Removal Total	\$	-	\$ \$	-	\$ \$	-	\$ \$	-	\$ \$	-	\$ \$	

Docket No. 2018-0388 Exhibit KWSC Water 8.12 Witness: Carrasco 2/28/2019

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

Line No.

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No. 1	Description		2014		2015	2016		2017	2018	Jai	Test Year n 1, 2019 to ec. 31, 2019
2	PubCo	\$	101,962	\$	112,171	\$ 85,529	\$	107,810	\$ 118,536	\$	101,687
3	Total		\$101,962		\$112,171	 \$85,529		\$107,810	 \$118,536	\$	101,687
4 5	Allocated to Hawaii Water Service Co PubCo	\$	1,004,551	\$	1,105,133	\$ 913,790	\$	1,021,249	\$ 1,115,378	\$	1,016,806
6 7 8	PubCo Allocation Adjustment for Account 791000 Adjusted Allocation	\$ \$ \$	101,962 (5,781) 96,181	\$ \$ \$	112,171 (9,591) 102,580	\$ 85,529 (6,202) 79,327	\$ \$ \$	107,810 (6,154) 101,657	\$ 118,536 (6,766) 111,770	\$	108,061 (6,374) 101,687

Docket No. 2018-0388 Exhibit KWSC Water 8.13 Witness: Carrasco 2/28/2019

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

Ν	1	D	
IV	K)	•

No. 1	Description	<u></u>	2014	 2015	 2016		2017		2018	Jan	est Year 1, 2019 to . 31, 2019
2	Direct Charge to KWSC Water							•		•	4 407
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							•		•	4 404
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	\$ _	\$		\$	-	<u>\$</u>	
12	subtotal	\$	7,075	\$ 4,543	\$ 2,277	\$	1,669	\$	2,862	\$	2,269
13	Direct and Allocated Professional & Outside Services										0.004
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	\$ -	\$	-	<u>\$</u>	-	\$	
18	subtotal	\$	75,706	\$ 16,354	\$ 5,506	\$	12,724	\$	7,539	\$	8,590
19	In 2019 Dollars					•		•		•	0 744
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

Docket No. 2018-0388 Exhibit KWSC Water 8.14 Witness: Carrasco 2/28/2019

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

Line No.

No.												Test Year
1	Description	 2014		2015		2016		2017		2018		an 1, 2019 to Dec. 31, 2019
2	Direct Charge to KWSC Water											
3	Source of Supply	\$	\$	3,398		6,093		1,321	\$		\$	2,784
4	Pumping	\$ 	\$	22,471	\$		\$	44,993	\$		\$	17,466
5	Treatment and Disposal	\$ 	\$	315,199	\$		\$	144,112	\$	108,619	\$	121,237
6	Transmission & Distribution	\$ 	\$	16,601	\$		\$	15,181	\$	13,140	\$	14,308
7	A&G	\$ •	\$	874	\$	4,368			\$	2,031		2,765
8	Mileage	\$ 	\$	27,744	\$		\$	22,833	\$	18,892		21,879
8	less chemicals	\$	\$	(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	\$ 	\$	-	\$		\$	21	\$		\$	8
14	Pumping	\$	\$	461	\$		\$	566	\$	258	\$	295
15	Treatment and Disposal	\$ 	\$	1,266	\$		\$	443	\$	833	\$	475
16	Transmission & Distribution	\$ -,	\$	3,345	\$		\$	3,253	\$	6,304	\$	4,393
17	A&G	\$ 3,317	\$	3,428	\$		\$	2,962	\$	4,011	\$	3,155
18	Mileage	\$ 	\$	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				•		•	4.040		0.40	¢	2,792
22	Source of Supply	\$,	\$	3,398		6,093		1,342	\$	942	\$ \$	2,792
23	Pumping	\$ - 4	\$	22,932	\$		\$	45,558	\$	599		,
24	Treatment and Disposal	\$ 	\$	316,465	\$	111,129	\$	144,555	\$	109,451	\$	121,712 18,702
25	Transmission & Distribution	\$ 	\$	19,945	\$	18,227	\$	18,434	\$	19,444	\$ \$	5,920
26	A&G	\$ ÷,	\$	4,302	\$	6,860	\$	4,859	\$	6,042	ф \$	30,548
27	Mileage	\$ 17,330	\$	28,172	\$	31,406	\$	31,552	\$	28,684	•	•
28	less chemicals	\$ (93,939)		(114,218)		(103,848)		(123,394)		(97,487)		(108,243)
29	less materials & supplies	\$ (429)		(98)		(192)		(2,392)	ֆ Տ	(3,072)	э \$	(1,885)
30	less waste disposal	\$ -	\$	-	\$	-	\$ \$	100 515	ֆ \$	64,605		87,307
31	subtotal	\$ 423,057	\$	280,898	\$	76,799	Ф	120,515	Φ	64,605	φ	67,507
32	In 2019 Dollars	0.007	•	0 707	۴	6,571	¢	1,411	\$	969	\$	2,984
33	Source of Supply	\$	\$	3,737		7,684	э \$	47,918	ф \$	616	\$	18,739
34	Pumping	\$ 3,901	\$	25,218	\$	119,849	Ф \$	152,041	\$	112,560	\$	128,150
35	Treatment and Disposal	\$ 524,013	\$	348,012	\$ \$		ф \$	19,389	φ \$	19,996	\$	19,681
36	Transmission & Distribution	\$ 	\$	21,934		19,657	Ф \$		ф \$	6,214	φ \$	6,241
37	A&G	\$ 	\$	4,731	\$ ¢	7,398		5,111	ֆ Տ	29,499	φ \$	32,185
38	Mileage	\$	\$	30,980	\$	33,871	\$ \$	33,186 (129,784)	•	(100,255)		(114,012)
39	less chemicals	\$ (104,351)		(125,605)		(111,997) (207)		(129,764) (2,516)		(100,255) (3,159)		(1,961)
40	less materials & supplies	\$ (477)		(108)		(207)	ֆ \$	(2,010)	ф \$	(5,155)	\$	(1,001)
41	less waste disposal	 -	\$ \$	308,900	\$ \$	82,826	\$	126,756		66,439	<u> </u>	92,007
42	Total	\$ 469,946	Ф	200,900	Φ	02,020	Ŷ	120,100	Ŷ	00,409	Ψ	52,007

Docket No. 2018-0388 Exhibit KWSC Water 8.15 Witness: Carrasco 2/28/2019

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

Line No. Test Year Jan 1, 2019 to 2018 2015 2016 2017 Description 2014 1 Dec. 31, 2019 5,716 \$ 9,149 \$ 6,554 \$ 10,533 Waikoloa Office and Baseyard 5,560 \$ \$ 8,250 \$ 2 Department of Land and 6,400 \$ 12,800 \$ 12,800 12,800 \$ 19,200 \$ \$ 12,800 \$ Natural Resources \$ \$ 19,354 \$ 23,333 15,549 \$ 24,760 \$ 18,516 3 \$ 21,050 Total Maikalaa \sim J ∩ffi Dont

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)	\$ 10,533

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

l	 i	r	٦	е

Line No. 1	Description			2014		2015		2016	2017		2018	Ja	Test Year n 1, 2019 to ec. 31, 2019
2 3 4	Direct Charge to KWSC Water Liability Insurance - General, Auto, Umbrella, and etc subtotal	see (1) below	\$	<u>156</u> 156	\$ \$	<u>348</u> 348		<u>1,862</u> 1,862	 <u>125</u> 125		<u>71</u> 71	\$	
5 6 7	Allocated From Hawaii Water to KWSC Water Liability Insurance - General, Auto, Umbrella, and etc subtotal		\$ \$	2,806 2,806	\$ \$	3,073 3,073		2,729 2,729	1,236 1,236			\$	
8 9 10	Direct and Allocated Insurance Liability Insurance - General, Auto, Umbrella, and etc Total		\$	2,963 2,963	\$	3,421 3,421	\$ \$	4,590 4,590	1,360 1,360	_	1,902 1,902		10,352 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
	4-factor allocation to Hawaii	3.10%
14	4-factor allocation to KWSC Water	10.63%
	Total (12 x 13 x 14)	\$ 10,352

Docket No. 2018-0388 Exhibit KWSC Water 8.17 Witness: Carrasco 2/28/2019

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

Line No 1 2	Description PREPARATION AND FILING		Test Year
3 4	Rate case consulting		
4 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	\$ \$ \$ \$ \$ \$	137,500
20	subotal	Φ	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	•	40 500
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

Docket No. 2018-0388 Exhibit KWSC Water 8.18 Witness: Carrasco 2/28/2019

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

No.	

1	Description	u	2014	 2015	 2016	2017	 2018	Ja	Test Year n 1, 2019 to ec. 31, 2019
2 3	Direct Charge to KWSC Water Regulatory Expense	\$	-	\$ 64,215	\$ 32,910	 35,571	\$ 38,301		
4	subtotal	\$	-	\$ 64,215	\$ 32,910	\$ 35,571	\$ 38,301	\$	-
5 6	Allocated From Hawaii Water to KWSC Water Regulatory Expense	\$	-	\$ 2,353	\$ 6,311	\$ 149	\$ _		
7	subtotal	\$	-	\$ 2,353	\$ 6,311	\$ 149	\$ 	\$	-
8 9	Direct and Allocated Regulatory Regulatory Expense	\$	-	\$ 66,568	\$ 39,221	\$ 35,720	\$ 38,301	\$	52,750
10	Total	\$		\$ 66,568	\$ 39,221	\$ 35,720	\$ 38,301	\$	52,750

Docket No. 2018-0388 Exhibit KWSC Water 8.19 Witness: Carrasco 2/28/2019

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

Ν	О.

1	Description	2014		2015	2016		2017		2018	Ja	Test Year n 1, 2019 to ec. 31, 2019
_											
2	Direct Charge to KWSC Water	\$ (61,123)	¢	7,167	\$ 5,257	\$	5,533	\$	9,421	\$	6,737
3	Office Supplies				212	\$	225	\$	4,906		1,781
4	Misc G&A	\$ 288	\$	1,891	\$ 	· ·		,		\$	8,518
5	subtotal	\$ (60,835)	\$	9,058	\$ 5,469	\$	5,757	\$	14,327	Φ	0,510
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 & Adminsitrative										
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
17	iulai	 <u> </u>			 	-					

Docket No. 2018-0388 Exhibit KWSC Water 8.20 Witness: Carrasco 2/28/2019

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

Line

No.

1	Description	2	2014		2015		2016		2017		2018	Ja	Test Year in 1, 2019 to ec. 31, 2019
2 3	Direct Charge to KWSC Water Customer Accounts	\$	853	\$	(5,740)	\$	-	\$	(1,157)	\$	133	\$	(341)
4	subtotal		\$853	\$	(5,740)	\$	-	\$	(1,157)	\$	133	\$	(341)
5 6 7	Allocated From Hawaii Water to KWSC Water Customer Accounts subtotal	\$	3,426 3,426		<u>10,153</u> 10,153	\$	<u>13,658</u> 13,658	\$	<u>13,594</u> 13,594	\$	<u>15,309</u> 15,309	\$	<u>14,187</u> 14,187
8 9 10	Direct and Allocated Customer Accounts Customer Accounts Total Customer Accounts	<u>\$</u> \$	4,278 4,278	\$	4,414 4,414	\$ \$	<u>13,658</u> 13,658	\$ \$	12,436 12,436	\$	15,442 15,442		<u>13,846</u> 13,846
11 12 13 14	In 2019 Dollars Customer Accounts Conservation Total	\$ \$ \$	4,752 - 4,752	\$ \$ \$	-	\$ \$ \$		\$ \$ \$	13,080 - 13,080	\$ \$ \$	15,880 - 15,880	\$ \$	14,564 - 14,564

Docket No. 2018-0388 Exhibit KWSC Water 8.21 Witness: Stout 2/28/2019

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

•

Line No. 1 2 3	Revenue Taxes	Rev Pres Rate		 enues at bosed es	Tax Rates	Tax Pres Rate		 es at bosed es
4 5 6	Public Company Service Tax (Pursuant to HRS § 239)	\$	3,528,828	\$ 3,981,387	5.885%	\$	207,672	\$ 234,305
7 8	Public Utility Fee (Purusant to HRS § 269-30)	\$	3,528,828	\$ 3,981,387	0.500%	\$	17,644	\$ 19,907
9	Total Revenue Taxes					\$	225,316	\$ 254,212
10	Total Taxes Other Than Income Taxes					\$	225,316	\$ 254,212

Docket No. 2018-0388 Exhibit KWSC Water 8.22 Witness: Stout 2/28/2019

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

No.						
				At		At
				Present	I	Proposed
				Rates		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
Ũ		Less:				
10	State income Tax	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		•	10.000	<u>^</u>	400.045
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%
20	Federal			21.0000%		21.0000%
21	- Guglai					

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			(1)		(2)		(3)
No. 1				or Yea	ar Ended Decem	ber 31	
2			Present		Proposed		Proposed
2			Rates		Increase		tes (7.48%)
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 & Maintenace	\$	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%

Docket No. 2018-0388 Exhibit KWSC Water 10 Witness: Stout 2/28/2019

HAWAII WATER SERVICE COMPANY PROJECTED RATE OF RETURN

		PRO FORM	IA AVERAGE CA	PITAL	RATE OF
		AMOUNT	RATIO	EFF. RATE	RETURN
Estimated Average Rat	e of Return	<u>2019</u>			
Long-Term Debt	\$	3,614,923	46.6%	5.50%	2.56%
Common Stock		4,142,423	53.4%	9.20%	4.91%
	······	7,757,346	100.00%		7.48%
	Long-Term Debt	Long-Term Debt \$	AMOUNTEstimated Average Rate of Return 2019Long-Term Debt\$ 3,614,923Common Stock4,142,423	AMOUNTRATIOEstimated Average Rate of Return 2019Long-Term Debt\$ 3,614,923Common Stock4,142,42353.4%	Estimated Average Rate of Return 2019 Long-Term Debt \$ 3,614,923 46.6% 5.50% Common Stock 4,142,423 53.4% 9.20%

Docket No. 2018-0388 Exhibit KWSC Water 11 Witness: Stout 2/28/2019

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

Line No. 1	Revenue Requirement	Prese	ent Rates	 Incremental	Prop	oosed Rates	% Increase
2	No Phase-in	\$	3,528,828	\$ 452,560	\$	3,981,387	12.8%

Main Kora Meter Service Comparty In: Water Operation: Tark Yor Endo Deening 31.013 Proposed -1. Rov Not % increase 1 Fed 3.5% 5.07.7% 5 3.471 Romonal in the intermediation of the intermediatintermediatintermediation of the intermediation of the intermedia											Doc	Docket No. 2018-0388 Exhibit KWSC Water 12 Witness: Stout 2/28/2019
Rovenue Requirement Split Present Incremine Shit Proposed -r. Rev Req % Increase Flood 3.5% S 2.37/4 S 2.47/1 S 2.47/1 S 2.9.25% 2.3.25% 2.3.25% Flood 06.5% S 2.168/169/5 S 2.43/13 9.108.105 2.3.25% 2.3.2376 5.2.3778 5.5.5% 2.3.778 5.5.5% 2.3.778 5.5.5% 2.3.778 5.5.5% 2.3.778 5.5.5% 2.3.778 5.5.5% 2.3.778 5.5.5% 5.5			Kona Water ' Test		', Inc. ign embe	Water Operation r 31, 2019	S					
Field 35% 5 24/31 4.2% 5 1000000 22% 22% Need 96.5% 5 23,030 96.6% 5 23,030 56.6% 5 5,000 65.6% 5 5,000 65.6% 5 5,000	line	Revenue Requirement	Split	Present	-	ıcremental	Proposed Revenue Split	Proposed	+/- Rev Req	% Inc	rease	
Metered US.57 S 2.471/19 S 2.471/19 S 0.01 Fixed Revenue 95.5 3.538.137 5 3.61.337 50 12.87.5 0.01 Fixed Revenue Number of Long Str 5 3.61.137 5 3.61.137 5 3.61.137 5 3.61.137 0.01 0.0	•	Fixed	1	1 '	s e	24,471	% 8	108,255			29.2% 8 5%	
Total S 3,01,337 S0 12,8% Number of Number of Present Number of Number of Present Number of Present Number of Present Number of Present Number of Present Number of Present Present Proposed % Incres Fixed Revenue 100,567 5 15,57 75 5 12,270 5 140 4,337 5 15,71 7 5 4,337 5 15,71 7 5 4,337 5 16,103 5 16,213 5 16,103 5 16,103 5 16,103 5 16,103 5 16,103 5 16,103 5 16,103 5 16,103 5 16,103 5 16,103 5 16,103 5 16,103 5 16,103 5 16,103 5 16,103 5 16,103 5 16,103 5 16,103 5 16,103 16,103 16 16,103 16 16,103 16 16 16,103 16 16 16		Metered PCC			л v	193,939 234,150		2,470,764 1,402,348			0.0.0	
Read Revenue Number of Resenti Number of Revenues Rumber of Rumber	• •	Total	S	3,528,828	с S	452,560	\$	3,981,387	\$0		12.8%	
Current Ratio Meter Size Present Proposed Services Services Fresont Present Proposed % Incres 100 3/4" 5 13.80 5 1557 75 21.420 5 14.013 100 3/4" 5 2.05.01 5 1557 0 0 5 2.420 5 14.013 120 3/4" 5 16.03 5 2.34 7 7 5 14.013 10.55 120 3/4" 5 16.04 5 2.34 7 7 5 3.86 14.01 120 3/4" 5 166.40 5 2.37.91 1 1 1 5 1 1 1 5 1 1 1 5 1	1	Fixed Revenue					Number of	Number of		ú	-	
100 5/6" 5 13.50 5 15.57 75 12.420 5 14.013 100 3/4" 5 1.36 5 5.57 1 4.93 5 5.61 120 2 " 5 2.64.0 5 2.53.4 1 7 5 3.86 1.62.78 5 5.013 5 1.62.78 5 5.013 5 1.62.78 5 5.013 5 1.62.78 5 5.013 5 1.62.78 5 5.013 5 1.62.78 5 5.013 5 1.62.78 5 5.013 5 1.62.78 5 5.013 5 5.713 5.771 5 5.713 5 5.713 5 5.713 5 5.713 5 5.713 5 5.713 5 5.713 5 5.713 5 5.713 5 5.713 5 5.712 5 5.712 5 5.712 5 5.712 5 5.712 5 5.712 5<	9	Current Ratio	Meter Size	Present		Proposed	Services (Present)	Services (Proposed)	Present Revenues	Prop Reve	osed enues	% Increase
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192 1*2 2 28.40 5 23.81 7 5 60.51 5 60.51 5 60.51 5 60.51 5 7 13 5 5 5 11 1 5 3 3 5 11 13 5 10 20 10 20 10 20 10 20 10 20 10 20 10 2	- ∞	1.00			ŝ	15.57	0			\$. •	12.8%
336 11/2" 5 46.20 5 5.2.34 7 7 5 3.88 1 5 4.397 5 4.397 5 4.397 5 4.397 5 1.375 5 1.371 5 1.375 5 1.371 5 1.371 5 1.371 5 1.371 5 1.371 5 1.371 5 1.371 5 7.11 5 7.11 5 7.11 5 7.11 5 7.11 5 7.11 5 7.11 5 7.11 5 7.11 5 7.11 5 7.11 7 5 7.11 7 7 7 7 7 7 7 7 7.11 7	0	1.92	-	26.40	\$	29.85	140			ŝ	50,151	13.1%
4.59 2 6.3.10 5 7.1.39 19 19 14.387 5 16.278 19.17 5 63.10 5 14.279 1 1 5 3.94 5 5.713 5 7113 15.04 5 166.40 5 237.98 1 1 5 3.94 5 5.712 55.03 5 166.40 5 856.74 1 1 5 3.94 5 5.712 55.03 5 166.40 5 856.74 1 1 1 5 3.96.75 5 7.173 55.03 5 166.40 5 856.74 1 1 5 100.261 5 5.712 5 6 0 1 1 1 1 5 108.255 5.712 6 0 1 1 1 1 1 5 100.261 5 5.712 10 0<	10	3.36	1 1/2"	46.20	ω	52.34	7			ь	4,397	13.3%
9.17 3* 5 63.10 5 142.79 1 1 5 757 5 1/713 15.28 5 165.40 5 237.97 2 5 3997 5 5/71 55.03 8 55.03 8 166.40 5 237.91 1 1 1 997 5 5/713 55.03 8 5 166.40 5 237.64 1 1 1 5 1097 5 5/713 55.03 8 5 7 246 246 8 5,774 5 102.865 Revidental 5 356.40 5 385.76 189 189 8 8 5 107.965 Contage 5 336.76 189 189 8 107.965 977.166 246 5 107.965 Contage 5 236.40 5 386.76 189 189 5 107.965 107.965	5	4.59		63.10	φ	71.39	19			\$	16,278	13.1%
15.28 4" 5 165.40 5 237.37 2 5 3.94 5 5.711 4 35.03 % 5 166.40 5 475.98 1 1 5 1.997 5 5.712 18 35.03 % 5 166.40 5 956.74 2.46 5 93.784 5 108.255 41 Residential 5 356.40 5 356.76 189 5 83.744 5 107.095 41 Residential 5 356.40 5 386.76 189 189 5 80.315 5 877.166 Residential 5 356.40 5 386.76 189 5 80.315 5 877.166 Residential 5 366.40 5 386.76 189 5 80.315 5 877.166 Cutage 5 366.40 5 386.76 246 5 107.695 107.695	12	9.17		63.10	φ	142.79	*	~ '		сэ (1,713	126.3%
30.37 6 5 106.40 5 473.36 1 1,97 1,997 3 1,997 3 1,997 3 1,997 3 1,997 3 1,997 3 1,997 3 1,997 3 1,997 3 1,997 3 1,997 3 1,997 3 1,971 4 1	13	15.28		166.40		237.97	сı т	N *		ن ې د	5,717 5,712	43.0%
Name Control 246 246 246 5 83,784 5 108,255 Ready to Serve Present Proposed RTS Count RTS Count Present Proposed % Increase Residential 5 336,40 5 336,76 189 808,315 5 107,166 % Increase Residential 5 267,30 5 396,76 189 808,315 5 107,166 % Increase Residential 5 267,30 5 396,40 5 386,76 189 808,315 5 107,166 Business 5 366,40 5 386,76 246 5 107,166 % Increase Lotal 5 366,40 5 386,76 246 111,197 5 105,740 Metered Sales (10,001 - 29,999) [TC] 5 3.664 Sales (Proposed) Revenues Revenues % Increase Metered Sales (75,000 and over) [TC] 5 3.33,237 5 1,105,740 <td>4 7 7</td> <td>10.05 75.03</td> <td></td> <td>166.40</td> <td></td> <td>85674</td> <td></td> <td>- ~</td> <td></td> <td>ə 69</td> <td>3,7 12 10.281</td> <td>414.9%</td>	4 7 7	10.05 75.03		166.40		85674		- ~		ə 69	3,7 12 10.281	414.9%
Ready to Serve Fresent Proposed RTS Count RTS Count Present Proposed % Increas. Residential 5 356.40 5 386.76 189 5 803.315 5 877.166 % Increas. Residential 5 257.30 5 386.76 189 5 803.315 5 877.166 % Increas. Residential 5 257.30 5 386.76 189 5 99.436 5 177.166 % % Cottage 5 356.40 5 386.76 26 5 111.197 5 170.505 %	16	22.22			•		246			\$	108,255	
Residential \$ 336.76 189 189 5 877,166 Cottage \$ 31 308.315 5 877,166 Business \$ 31 31 31 5 99,436 5 107,905 Business \$ 31 31 31 5 99,436 5 107,905 Business 36.76 31 31 5 99,436 5 107,905 Display 36.76 26 246 2 111,197 5 120,668 Total 246 246 246 3 1,018,948 1,105,740 Metered Sales (0 - 10,000) [TG] \$ 336.76 346 5 1,105,740 20,568 8 1,016,740 2 Metered Sales (0 - 10,000) [TG] \$ 3.3664 Sales (Proposed Sales (Proposed 8 1,050 1,057,140 2 4,15,67 8 1,026,740 8 1,026,740 2 <	17	Ready to Serve		Present		Proposed	RTS Count (Present)	RTS Count (Proposed)	Present Revenues	Prop Reve	oosed snues	% Increase
Cottage 5 267.30 5 290.07 31 5 99,436 5 107,905 Busines 5 356.40 5 386.76 26 211,197 5 107,905 Busines 5 356.40 5 386.76 26 5 111,197 5 120,668 Dotal Total 246 246 5 1,018,948 5 1,105,740 Metered Revenue Present Proposed Sales (Present) Sales (Present) Sales (Proposed) Revenues Revenues Metered Sales (0 - 10,000) [TG] 5 3.3.655 38,642 8 130,178 5 141,267 Metered Sales (30,000 - 74,999) [TG] 5 3.3.642 8 33.642 8 130,178 5 141,267 Metered Sales (75,000 and over) [TG] 5 9.033 8 733,377 5 741,367 Bulk Interruptible [TG] 5 2.5034 8.975 8.975 8.975 7.23,778 7.23,467 <td>F</td> <td>Residential</td> <td>\$</td> <td></td> <td></td> <td>386.76</td> <td></td> <td>89</td> <td></td> <td></td> <td>877,166</td> <td>8.5%</td>	F	Residential	\$			386.76		89			877,166	8.5%
Busines 5 356.40 5 386.76 26 5 111,197 5 120,668 Total Zotal Zotal Zotal S 1018,948 1,105,740 20,668 20,688 20,20,668 20,267 20,267 20,267 20,467 20,467 20,467 20,467 20,467 20,467 20,467 20,467 20,467 20,467 20,467 20,467 20,467 20,467 20,417 20,467 20,467 <td></td> <td>Cottage</td> <td>\$</td> <td></td> <td></td> <td>290.07</td> <td>31</td> <td></td> <td></td> <td></td> <td>107,905</td> <td>8.5%</td>		Cottage	\$			290.07	31				107,905	8.5%
Total 246 246 3 1,018,948 3 1,105,740 Metered Revenue Present Present Proposed % Increas Metered Sales (0 - 10,000) [TG] \$ 3.3658 \$ 38,642 \$ 313,178 \$ 141,267 Metered Sales (10,001 - 29,999) [TG] \$ 3.3658 \$ 3.6558 38,642 \$ 313,178 \$ 141,267 Metered Sales (75,000 and over) [TG] \$ 2.3069 \$ 2.3069 \$ 2.5034 8 0,030 \$ 723,778 \$ 741,267 Bulk Interruptible [TG] \$ 2.3069 \$ 2.5034 8 0,030 \$ 723,778 \$ 785,429		Business	\$		Ś	386.76	26			Ş	120,668	8.5%
Metered Revenue Present Present Proposed % Increas Metered Sales (0 - 10,000) [FG] \$ - \$ - \$ - \$ Number of the second	1° 0	Total					246		-	\$,105,740	
Metered Sales (0 - 10,000) [TG] \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ \$ - \$ \$ \$ 141,267 \$ 145,831 \$ Metered Sales (75,000 and over) [TG] \$ 2.0,437 \$ 145,831 \$ 141,267 \$ 2.3,457	22	Metered Revenue		Present		Proposed		ales (Proposed)	Present Revenues	Prop Reve	oosed enues	% Increase
Metered Sales (10,001 - 29,999) [TG] \$ 3.3688 \$ 3.6558 38,642 \$ 130,178 \$ 141,267 Metered Sales (30,000 - 74,999) [TG] \$ 6.2063 \$ 6.7349 61,750 \$ 38,542 \$ 415,881 Metered Sales (75,000 and over) [TG] \$ 9.0438 \$ 9.8141 80,030 \$ 723,778 \$ 755,429 Bulk Interruptible [TG] \$ 2.3069 \$ 2.5034 8,975 \$ 20,704 \$ 156,637	53	Metered Sales (0 - 10,000) [1	s	1	22,126				I	%0.0
Metered Sales (30,000 - 74,999) [TG] \$ 6.2063 \$ 6.7349 61,750 \$ 383,237 \$ 415,881 Metered Sales (75,000 and over) [TG] \$ 9.0438 9.8141 80,030 80,030 \$ 723,778 \$ 785,429 Bulk Interruptible [TG] \$ 2.3069 \$ 2.5034 8,975 \$ 20,704 \$ 22,467	24	Metered Sales (10,001 - 29,				3.6558	38,642			ŝ	141,267	8.5%
Metered Sales (75,000 and over) [TG] \$ 9.0438 9.8141 80.030 \$ 723,778 \$ 785,429 Bulk Interruptible [TG] \$ 2.3069 \$ 2.5034 8,975 \$ 9.77 \$ 723,778 \$ 785,429	25	Metered Sales (30,000 - 74,				6.7349	61,750			ŝ	415,881	8.5%
Bulk Interruptible [TG] \$ 2.3069 \$ 2.5034 8,975 8,975 \$ 20,704 \$ 22,407	26	Metered Sales (75,000 and t				9.8141	80,030		-	су е	785,429	8.5%
	27	Bulk Interruptible [TG]	\$			2.5034	C16,8		4		22,401	%C.8

Docket No. 2018-0388 Exhibit KWSC Water 12 Witness: Stout 2/28/2019

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

ç			Decent	Dronced	Salae (Procent) S	Sales (Pronosed)	Present	Proposed	% Increase
87	29 Power Cost Charge		LIESCIIL	Lupuscu	cares (i research	cares (Lisboard)	Revenues	Revenues	
30	PCC	ę	5.1913	s 6.2319	211,523	211,523 \$	1,168,199	\$ 1,402,348	
31	Total PCC Revenue								

I OTAL PCC Revenue

Line No.	Utility Account	Property Description		Pla	ant in Service	In Service Date	De	cumulated epreciation 2/31/2017
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	\$	5,339,404		\$	1,636,790
11	103241	System Control Computer Equipment						
12		STP - SCADA		\$	96,006	4/1/2003	\$	96,006
13			Total	\$	96,006		\$	96,006
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 diaphram pumps		\$	18,509	3/1/2014	\$	2,365
37			Total	\$	3,287,383		\$	1,036,493
38	103801	Treatment & Disposal Equipment				- ، ـ ـ	*	
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	\$	35,441		\$	2,148
42	103600	Collection Sewers Force		*	F 0/F	A14 1004 4	¢	050
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 1,316
48		Rplc HDL 6" flygt check valve		\$	10,528	4/1/2014	\$	1,010

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

90 Total 3 42.229 \$ 5 42.229 91 103930 Tools, Shop, Garage Equipment Portable Studge Pumo State 93 \$ 1.119 3/1/2014 \$ 143 93 Toolbox for Trailer 24x18 \$ 400 9/1/2016 \$ 22 94 Total \$ 1.609 \$ 169 95 103975 Stores Equipment 96 \$ 6,963 5/1/2014 \$ 888 97 Total \$ 6,963 5/1/2014 \$ 888 98 103975 Stores Equipment 99 \$ 1.841 4/1/2012 \$ 329 900 AC Colis \$ 1.841 4/1/2012 \$ 363 103 Gas Detector \$ 2,783 12/1/2011 \$ 572 104 Total \$ 2,783 12/1/101 \$ 2,287 105 HAWAII GENERAL OFFICE \$ 104 \$ 3,060 3/1/10 <td< th=""><th>Line No.</th><th>Utility Account</th><th>Property Description</th><th></th><th>Plar</th><th>nt in Service</th><th>In Service Date</th><th>Dep</th><th>umulated preciation /31/2017</th></td<>	Line No.	Utility Account	Property Description		Plar	nt in Service	In Service Date	Dep	umulated preciation /31/2017
92 Dratabic Studge Pump 3/4hp \$ 1,119 3/1/2014 \$ 143 93 Toolbox for Trailer 24x18 \$ 490 9/1/2016 \$ 165 94 Total \$ 1.609 \$ 165 95 103375 Stores Equipment \$ 6.953 5/1/2014 \$ 888 97 Total \$ 6.953 5/1/2014 \$ 888 98 103375 General Plant \$ 1.641 4/1/2012 \$ 3.29 90 ACI Cols \$ 1.841 4/1/2012 \$ 3.29 101 Hazmat Cab \$ 1.841 4/1/2011 \$ 2.39 103 Gas Detector \$ 2.763 12/1/2011 \$ 983 103 Gas Detector \$ 16865 5/1/15 \$ 7.49 104 Total \$ 2.1972 \$ 4.650 105 HAWAII GENERAL OFFICE \$	90			Total	\$	42,229			
36 103975 Stores Equipment 96 103975 Stores Equipment \$ 6,953 5/1/2014 \$ 888 97 Total \$ 6,963 \$ 988 103970 General Plant \$ 1,641 4/1/2012 \$ 329 96 103970 General Plant \$ 1,641 4/1/2012 \$ 329 100 AC Colis \$ 1,942 12/1/2011 \$ 329 101 Hazmat Cab. \$ 1,814 4/1/2012 \$ 339 103 Gas Detector \$ 2,783 12/1/2011 \$ 983 103 Gas Detector \$ 2,783 12/1/2011 \$ 983 104 Total \$ 2,972 \$ 4,650 105 HAWAII GENERAL OFFICE \$ 16,865 5/1/10 \$ 3,2,977 105 Cobical Work Stations \$ 3,660 12/1/10 \$ 3,2,977 </td <td>92</td> <td>103930</td> <td>Portable Sludge Pump 3/4hp</td> <td></td> <td>\$</td> <td></td> <td></td> <td></td> <td></td>	92	103930	Portable Sludge Pump 3/4hp		\$				
96 20' Modified Storage Container \$ 6,953 5/1/2014 \$ 888 97 Total \$ 6,953 \$ 888 98 103970 General Plant \$ 10,641 4/1/2012 \$ 329 100 AC Coils \$ 10,641 4/1/2012 \$ 329 101 Hazmat Cab. \$ 1,814 4/1/2012 \$ 363 103 Gas Detector \$ 2,783 12/1/2011 \$ 572 104 Total \$ 21,972 \$ 4,850 105 HAWAII GENERAL OFFICE * * 749 2,397 106 790 Leasehold Improvements \$ 16,865 5/1/15 \$ 749 107 desskonft able, chairs \$ 3,060 3/1/10 \$ 2,937 108 2 Cubical Work Stations \$ 5,060 12/1/10 \$ 3,945 110 Cherry Draver \$ \$	94			Total	\$	1,609		\$	165
98 103970 General Plant 99 Spill Contain. \$ 1,641 4/1/2012 \$ 329 100 AC Colls \$ 10,952 12/1/2011 \$ 2,403 101 Hazmat Cab. \$ 1,814 4/1/2012 \$ 3329 102 Work Order Addition \$ 4,752 12/1/2011 \$ 983 103 Gas Detector \$ 2,783 12/1/2011 \$ 972 104 Total \$ 2,783 12/1/2011 \$ 3655 105 HAWAII GENERAL OFFICE \$ 4,650 \$ 16,865 5/1/15 \$ 749 107 deaks, cont table, chairs \$ 3,060 3/1/10 \$ 2,362 109 Cherry Desk \$ 5,650 12/1/10 \$ 3,562 109 Cherry Drawer \$ 71 12/1/10 \$ 3,462 111 Cherry Drawer \$ 509 12/1/10 \$ 3,462 112 Cherry Drawer \$ 2,037 12/1/10 \$ 3,262 112 Cherry Drawer \$ 309 12/1/10 \$ 3,262 112 </td <td></td> <td>103975</td> <td></td> <td></td> <td>\$</td> <td>6,953</td> <td>5/1/2014</td> <td>\$</td> <td>888</td>		103975			\$	6,953	5/1/2014	\$	888
Spill Contain. \$ 1.641 4/1/12012 \$ 3.29 100 AC Coils \$ 10952 12/1/2011 \$ 2.403 101 Hazmat Cab. \$ 1.814 4/1/2012 \$ 363 102 Work Order Addition \$ 2.783 12/1/2011 \$ 983 103 Gas Detector \$ 2.783 12/1/2011 \$ 572 104 Total \$ 2.1972 \$ 4.650 105 HAWAII GENERAL OFFICE \$ 16,865 5/1/15 \$ 7.49 106 790 Leasehold Improvements \$ 16,865 5/1/10 \$ 2.367 108 2 Cubical Work Stations \$ 5.650 12/1/10 \$ 2.367 108 2 Cubical Work Stations \$ 5.650 12/1/10 \$ 3.592 110 Cherry Dawer \$ 71 12/1/10 \$ 3.211 112 Cherry Comer Unit \$ 2.844 12/1/10 \$ 2.178 114 Chairs \$ 2.037 12/1/10 \$ 1.284 115 Cherry Dawie Shell 66' \$ 4.429 12/1/10 \$ 1.284	97			Total	\$	6,953		\$	888
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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					\$				
131 Automated Electronic Demandate \$ 237 12/1/10 \$ 237 132 License for Capture Now \$ 1,666 12/1/10 \$ 1,666 133 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									
132 Eldense for Capitale Now \$ 1,666 12/1/10 \$ 1,666 133 Fujitsu Fi6140 scanner \$ 10,686 12/1/10 \$ 10,686 134 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	131				\$				
133 Fujitsu Holi40 seamel \$ 10,686 12/1/10 \$ 10,686 134 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									
134 Nicoli Mir 400 rol Copiel Wirminities \$ 1,207 12/1/10 \$ 1,207 135 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			Fujitsu Fi6140 scanner		Ф Ф				
135 Monitors 136 Mitel EP Dig 6 Line Model 8560 Telephone \$ 8,102 12/1/10 \$ 8,102 137 ELECTRONICS [681] \$ 744 12/1/11 \$ 744 137 ELECTRONICS [681] \$ 744 12/1/11 \$ 37,185									
137 ELECTRONICS [681] \$ 744 12/1/11 \$ 744 137 ELECTRONICS [681] \$ 7749 12/1/11 \$ 744									
157 ELECTRONICC[CCT]									
								\$	37,185

Line No.	Utility Account	Property Description		Plar	nt in Service	In Service Date	De	cumulated preciation /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-HIWKCLS36		\$	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	\$	387,436		\$	260,210
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
170	Storage Contr	\$ 3,187	12/1/10	\$ 1,505
172	Nissan Frontier	\$ 27,030	12/1/10	\$ 17,874
172	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

Line No.	Utility Account	Property Description	Plan	in Service	In Service Date	Dep	umulated preciation 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
193		1 desktops	\$	1,133	4/1/13	\$	769
		1 desktops	\$	1,133	4/1/13	\$	769
195		Desktop-HIWKLOC56		1,572	12/1/14	\$	693
196		Desktop-HIWKLOC57	\$ \$	1,613	12/1/14	\$	710
197			\$	503	4/1/17	\$	9
198		dryer @ baseyard	\$	351	9/1/12	\$	183
199		Exec Chair	¢ V	51	9/1/13	\$	31
200		Work Order Addition	\$ \$	182	9/1/12	\$	182
201		Work Order Addition	\$ \$	13,813	6/1/12	\$	13,519
202		Work Order Addition	\$ \$		3/1/14	\$	2,469
203		EMT Laptop		4,509			19,147
204		Hand Helds	\$ \$	19,147	12/1/10	\$	
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
212		Ice Maker-Manitowac ID-0452A	\$	4,536	9/1/16	\$	403
213		Ingersoll Needle/Chisel Scl	\$	773	9/1/13	\$	123
		Internal labor	\$	21,402	7/1/13	\$	3,210
215		Knoll task chair	\$	13,806	2/1/14	\$	2,186
216			\$	1,165	4/1/13	\$	791
217		1 laptops	\$	1,165	4/1/13	\$	791
218		1 laptops	\$	1,631	11/1/16	\$	272
219		Laptop, EMT-HIWKOCLT02	\$	525	9/1/12	\$	274
220			\$	1,447	12/1/11	\$	245
221		Work Order Addition	\$	4,571	12/1/11	\$	752
222		Work Order Addition	Ф \$	16,749	6/1/11	\$	16,749
223		Work Order Addition	¢ ¢	19,704	6/1/13	\$	12,901
224		New IP phone system	\$		12/1/13	Ψ \$	2,010
225		New Hydraulic Hammer	\$	9,847			1,062
226		Office Furnishings	\$	6,706	2/1/14	\$	
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
235		Richo Copier	\$	10,588	11/1/11	\$	10,588
230		Richo Fax Module	\$	1,045	11/1/11	\$	1,045
		RICOH MPC3004-Engineering office	\$	8,282	12/1/16	\$	1,282
238		Rpic computer w/laptop for Eng Mgr	\$	1,478	10/1/14	\$	686
239		SCADA iNET-II 900 Dual Gateway	\$	22,377	3/1/16	\$	1,026
240			\$	64,775	3/1/16	\$	2,969
241		SCADA upgrade 2013	\$ \$	10,539	3/1/16	\$	483
242		SCADAPack 32	\$	4,771	3/1/16	\$	437
243		Scaffolding	ዋ ው	4,77	12/1/11	\$	2
244		Work Order Addition	\$		6/1/13	э \$	228
245		Tools & Equipment	\$	994			39
246		Trailer, emergency compressor Trailer, emergency generator EG6500	\$ \$	426 2,073	3/1/16 3/1/16	\$ \$	190

276

277

278

279

701 - Pukalani

722 - Waikoloa Sewer

727 - Kona Sewer

724 - Waikoloa Resort Sewer

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Line No.	Utility Account	Property Description		Plar	t in Service	In Service Date	De	cumulated preciation /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	\$	1,799,041		\$	532,163
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	WASTEW	ATER ADMINISTRATION						
273		IPad 3 - WW Mgr.		\$	810	9/1/2013		430
274			Total	\$	810		\$	430
275		WASTEWATER ADMINISTRATION ALLOCATION	S	¢	139	17 22%	\$	74

\$ \$

\$

\$

139

199

366

106

17.22%

24.52%

45.16%

13.10%

\$

\$

\$

\$

74

105

194

56

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:

	(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

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

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

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

Line								
No.			(1)		(2)		(3)	
1							ēst Year	Change in Revenues
2			Present	A	dditional	Pro	posed Rates	
3			Rates	/	Amount		7.48%	. 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	\$	1,819,531	\$	207,656	\$	2,027,187	-
8	Labor Expenses	\$	485,810	\$	-	\$	485,810	
9	Fuel & Power	\$	134,489	\$	-	\$	134,489	
10	Chemicals	\$	3,694	\$	-	\$	3,694	
10	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 & Maintenace	\$	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	\$	913,137	\$	-	\$	913,137	-
. 00	Taxes Other than Income Taxes	\$	116,177	\$	13,259	\$	129,436	
22		φ \$	553,793	Ψ	10,200	\$	553,793	
23	Depreciation Amortization	\$	-			\$	-	
24 25	Income Taxes	\$	33,868	\$	50,652	\$	84,521	
	Diff. due to changing factors	Ψ	55,000	\$	(0)	\$	(0)	
26 27		\$	1,616,975	\$	63,911	\$	1,680,886	-
21	Total Operating Expenses	Ψ	1,010,010	Ψ	00,011	+	.,,	
28	Operating Income	\$	202,556	\$	143,745	\$	346,301	=
29	Average Rate Base	\$	4,629,687	\$		\$	4,629,687	-
30	Return on Rate Base		4.38%				7.48%)

0.0

4,629,687

7.48%

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

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

30 Subtract NI before WC change from NI after WC change

31 Divide change in NI by desired rate of return

32 Calculate change in rate base

33 Test - Divide NI by rate base

Docket No. 2018-0388 Exhibit KWSC Sewer 7 Witness: Stout 2/28/2019

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

Line

No.			At		At		
2	Description	D	ec. 31, 2018	D	ec. 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)
4.0	Unamortized Hawaii Capital Goods Excise Tax						
12	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:			•	70.005	•	70.005
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	Data Rass at Branasad Ratas					\$	4.629.687

20 Rate Base at Proposed Rates

\$ 4,629,687

Docket No. 2018-0388 Exhibit KWSC Sewer 7.1 Witness: Stout 2/28/2019

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	Description	Co	Water Service ompany, Inc. water Operations	Adjusti	nents		
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:					•	(5,000,705)
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 13	Excise Tax Credit subtotal	\$	(5,867,234)	\$		\$	(5,867,234)
14	Add:	\$	76,095	\$	-	\$	76,095
15	Working Capital	Ψ \$	76,095	\$	-	\$	76,095
16	subtotal	Φ	70,000	Ŷ		Ţ	
17	<u>Rate Base @ Dec. 31, 2019</u>						
18	Description		a Water Service ompany, Inc.	Adjust	tments		

18	Description		ompany, Inc.	Adjust	ments		
		Waste	water Operations			·	47,000,704
19	Plant In Service	\$	17,026,731	\$	-	\$	17,026,731
20	Accumulated Depreciation Reserve	\$	6,062,553	\$	-	\$	6,062,553
20	Net Plant-in-Service	\$	10,964,178	\$	-	\$	10,964,178
22	Deduct:			۴		¢	(5,154,264)
23	Net Contributions in Aid of Construction	\$	(5,154,264)	\$	-	φ	(0, 104, 204)
24	Customer Advances	\$	-	\$	-	\$	-
25	Customer Deposits	\$	-	\$	-	\$	-
	Accumulated Deferred Taxes: Federal	\$	(283,527)	\$	-	\$	(283,527)
26		¢	(77,878)	\$	-	\$	(77,878)
27	Accumulated Deferred Taxes: State	φ	(11,010)	¥		Ŧ	
28	Unamortized Hawaii Capital Goods	\$	(175,607)	\$	-	\$	(175,607)
20	Excise Tax Credit						(5.001.076)
29	subtotal	\$	(5,691,276)	\$	-	Þ	(5,691,276)
30	Add:			^		¢	76,095
31	Working Capital	\$	76,095	\$	-	Ф	
32	subtotal	\$	76,095	\$	-	\$	76,095

Docket No. 2018-0388 Exhibit KWSC Sewer 7.2 Witness: Stout 2/28/2019

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

Test Year	balance as of	Dec. 31, 2019		46,666	·	5,405,404	3.567.556	720 602		4, 643, 223	1,794,143	1,572	495,805	57.379	71 060	21,300	21,972	29,666	211,585	106	201	17,026,731	
Test	balan	Dec. 3		ф	φ	Ф	69	. 6	•	æ	ф	ф	\$	63	• 6	0 •	Ь	ф	Ф	e	,	s	
	ients	9.31, 9.31,		ı	,	,	,			,		,	ı			1		•			1		
	Adjustments	to Dec. 31, 2019 2019 2019		\$	ക	¢	69	• 6	ο (\$	ы	ω	ь	¢.	• •	^	ഗ	θ	Ф	6	Ð	ь	
1	Retirements	Jan. 1, ∠019 to Dec. 31, 2019		ı	,	ı	ı		ı	ı	ı	ı	ı	,		ı	,	ı	,		ı	-	
	Reti	to [⇔	ω	G	6	→ €	,	Ś	ю	ዓ	ω	H	} €	A	¢	ω	θ	e	Ð	60	
	Additions	Jan. 1, 2019 to Dec. 31, 2019		46,666	ı	66.000	105 254	101,000	127,000	•	ı	ı	,			ı	ı	7,192	34,328	-		386,439	
	Ă	Jan. Dec		ᡋ	ω	ю	e ef	€	A	θ	Ś	ω	69	e	÷ •	\$	ω	θ	ŝ	• •	A	φ	
	Balance as of	Dec. 31, 2018		1	,	5 339 404	3 462 302	0,404,004	602,693	4,643,223	1,794,143	1.572	495,805	E7 270	510,10	21,960	21,972	22,474	177,257		901	\$ 16.640.292	
	Bal	Dec		ŝ	69	÷ ef	, 4	ə (ю	ω	ю	ю	÷.	• •	.	ю	ω	ю	63	• •	s	ι φ	
	Adjustments	Jan. 1, 2018 to Dec. 31, 2018		•	,	,		•	ı	ł	•	1	1		ı	•	•	ı	•		ſ	1	
	Adju	to D		ю	G	e e) 6	.	ю	ф	ф	6	+ 64	÷e	A	Ś	ь	Ś	G.	•	Ь	6	
	Retirements	Jan. 1, 2018 to Dec. 31, 2018		1	ı			ł	,	ı	,	1		I	•	ı	•	,	,		i	•	
	Reti	to D	1	ю	¥		, 6	Ð	ф	¢	63	÷ (e e	• •	A	φ	θ	69	e e	•	ф	÷	>
	Additions	Jan. 1, 2018 to Dec. 31, 2018		•	ľ			18,914	567,252	6,888	1				15,150	13,399	ı	,	36 901		,	718 503	200'01 -
	Ă	Jan. 1, 2 Dec. 31		6	e e	.	9 (æ	ω	ы	¢.	, 4) 6	÷ (s	ю	ω	• •	• •	÷	ю	¢	
	Balance as of	Dec. 31, 2017		ı			0,000,404	3,383,389	35,441	4,636,335	1 794 143	1,101,110	200 200	430,000	42,229	8,562	21.972	22 474	110 257		106	4 15 021 780	10, 22, 1, 100
	Bal	Dec		¢.		€	A (\$	ω	6	e e	,	, e	9 ·	Ś	Ś	6			\$	ю	ø	•
	-		Description	toto actible		Land and land rights	Structures and Improvements	Pumping Equipment	Treatment Equipment	Transmission & Distribution Plant				Power Generation Equipment	Transportation	Tools and Laboratory Equipment	General Plant	Uctive and rain. Howen Motor CO Allocation		big Island Allocation	Wastewater Administration	T	l otal
No.	-		D N M	<u>1</u> 1 4		ינ מ	7 S	е 8	T 6	, t-				13 13	14 14	15 1	-			ם 12	19 V		20 101

Docket No. 2018-0388 Exhibit KWSC Sewer 7.3 Witness: Stout 2/28/2019

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

Line No.

Land	Services Equipment 1 6 2 3 2 3 3 5 4 5 5 5 5 5 5 5 5 5 5 5 5	\$\$ 16,400 \$\$ 16,400 \$\$ 5 \$\$ 5 \$\$ 5 \$\$ 127,000 \$\$ 5 \$\$ 15,700 \$\$ 5 \$\$ 127,000 \$\$ 5 \$\$ 127,000 \$\$ 5 \$\$ 127,000 \$\$ 5 \$\$ 127,000 \$\$ 5 \$\$ 127,000 \$\$ 5 \$\$ 127,000 \$\$ 5 \$\$ 127,000 \$\$ 5 \$\$ 127,000 \$\$ 5 \$\$ 127,000 \$\$ 5	5 78.082 5 5 5 5 5 5 5 5 44.547 5 5 5 5 44.547 5 78.082 5 5 5 5 5 5 5 5 7 <th>5 5</th> <th>5 - 5 - 5 - 5 - 5 - 5 353,553 5 - 5 353,553 5 - 5 353,553 5 - 5 353,553 5 - 5 353,553 5 5 363,553 5 - 5 363,553 5 - 5 363,553 5 - 5 363,553 5 - 5 363,773 5 - 5 363,773 5 - 5 363,773 5 - 5 363,773 5 - 5 363,773 5 - 5 363,773 5 - 5 363,773 5 - 5 363,773 5 - 5 41,804 5 - 5 41,804 5 - 5 - 5 41,804 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5</th>	5 5	5 - 5 - 5 - 5 - 5 - 5 353,553 5 - 5 353,553 5 - 5 353,553 5 - 5 353,553 5 - 5 353,553 5 5 363,553 5 - 5 363,553 5 - 5 363,553 5 - 5 363,553 5 - 5 363,773 5 - 5 363,773 5 - 5 363,773 5 - 5 363,773 5 - 5 363,773 5 - 5 363,773 5 - 5 363,773 5 - 5 363,773 5 - 5 41,804 5 - 5 41,804 5 - 5 - 5 41,804 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5
No. 1 Breakdown of Capital Additions: Proiects closed to plant 1/1/2018 to 12/31/2018:	 Trujets cuest to part, microlos de concesto part, microlos de concesto y part, microlos de concesto Blower (MO 108772) Areation Blower (MO 108772) Effluent sand filter ty-pass (MO 10833) Coll Containment (MO 108795) Norage cantest (MO 106195) WMTP Pressure Vessel Change (MO 110437) SPS#7 Soft Starter (WO 1051595) SPS#7 Soft Starter (WO 1051595) SPS#7 Soft Starter (WO 105195) SPS#7 Soft Starter (WO 105195) SPS#7 Soft Starter (WO 110437) SPS#7 Soft Starter (WO 110437) SPS#7 Soft Starter (WO 110437) SPS#7 Lateral replacement (WO 110437) SPS#7 Lateral replacement (WO 114439) Level Transduces (WO 37201) Effluent Flow Meter (WO 1172047) Effluent Flow Meter (WO 1172047) Effluent Flow Meter (WO 1172047) SPS#5 Submersible Pump Rebuild (WO 118922) Total 	 Projects closed to plant 1/1/2019 to 12/31/2019: SPS1-SPS7 Power Monitors (WO 11/2034) Tank Rehab Project (WO 11/81/20) Tank Rehab Project (WO 11/81/20) SPS42 6" Pump Discharge Pipe (WO 97/20) SCADA Computer & Software (WO 11/2032) Kukio Office Expansion (WO 67/51/0) Kukio WWTP Upgrade - Preliminary Design (WO 11/440) Total 	 Hawaii Water General Office Capital Projects (790) Watewater Manager Vehicle (WO 119213) SCADA Upgrade 2016 (WO 118833) Total KWSC Sewer Allocation 		 46 Projects closed to plant 1/1/2019 to 12/31/2019: 47 Boom Truck (WO 118340) 48 Valve Exercise Trailer (WO 118326) 48 SCADA Vulnerability Assessment (WO 117252) 50 Total

51 KWSC Sewer Allocati

Docket No. 2018-0388

Exhibit KWSC Sewer 7.5 Witness: Stout 2/28/2019

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

Test Year	Acc. Dep.	Dec. 31, 2019
	Dep. Exp.	Jan. 1, 2019 to Dec. 31, 2019
	Acc. Dep.	Dec. 31, 2018
	Dep. Exp.	Jan. 1, 2018 to Dec. 31, 2018
	Acc. Dep.	Dec. 31, 2017

4,667	•	2,205,190	1,451,223	51,846	999,996	865,219	772	82,898	38,006	3,333	6,483	16,571	65,188	66	5,791,491
ю	ю	ω	ω	ω	ω	Ь	ω	ω	θ	θ	ω	ω	ω	φ	φ
4,667	I	285,946	161,181	27,218	(49,283)	99,216	316	10,461	(2,112)	1,140	916	982	13,122	22	553,793
ω	ю	ю	ω	ω	ω	ക	Υ	ω	ω	ω	ω	ω	ω	ω	မ
ı	ı	1,919,245	1,290,042	24,629	1,049,278	766,003	456	72,437	40,118	2,193	5,566	15,589	52,066	78	5,237,699
ഗ	ф	ю	ω	6	Ś	ω	Ś	ю	Ś	ю	ю	Ś	φ	ω	φ
ı	ı	282,454	157,543	22,480	(49,283)	99,216	316	10,461	(2,112)	1,140	916	494	10,548	22	534,197
ω	ю	ю	ю	ŝ	с о	ю	Ś	6	Ф	ŝ	Ś	Ф	с с	θ	ь
1	ı	1.636.790	1,132,499	2.148	1.098.561	666.787	140	61.975	42.229	1.053	4,650	15,094	41.518	56	4,703,502
ക	÷.	ŝ	н (9	• •	н (6	• •	69	• •	ŝ	ŝ	÷ 69	н со	ŝ	ь

Treatment Equipment Transmission & Distribution Plant Tools and Laboratory Equipment General Plant Source of Supply Office Furniture and Equipment Structures and Improvements Power Generation Equipment Hawaii Water GO Allocation Wastewater Administration Big Island Allocation Land and land rights Pumping Equipment Transportation Description Intangible 20 Total No. ო 2

Devide No. 2018-0386 Cons Ware Servic Company, Inc. Wasteward Operations Accurations Depreciation and Depreciations Accurated Depreciation and Depreciations Accurated Depreciation and Depreciations 22/22/19	ig ucentare st. s. v. s. Accumulated Toposed Depreciation Expertee Accumulated 2019 Part Balance Depreciation Depreciation Expension Expension Toposed Expense Precision Expense Section Reserve 2019 0	uspression nearent Additions Retitements (12/31/2019) Rate) (Proposed Rato) (12/31/2018)				<u>5 · · · 5 · · 5 · · 5 · · 5 · 4666</u> <u>5 · 5 • 4667</u> <u>5 · 4667</u> <u>5 · 4667</u> <u>5 · 4667</u>			3 4		40.65% 5 - 5 - 5 50.06 5 27,511 5 - 5 12,3577 5 - 5 - 5 95,006 4,65% 5 84,555 5 157,543 5 17,44,035 5 77,743 5 - 5 3,444,039 5 86,477 5 161,181 5 1,365,277	<u>5 84.326</u> <u>5 (57)543</u> <u>5 (52)543</u> <u>5 (65,254</u> <u>5 5 (55,754</u> <u>5 3597,556</u> <u>5 86,477</u> <u>5 (161,181</u> <u>5 (461,223</u>		20,056 S 22,450 S 24,528 S 12/,000 S - \$ /27,058 S 24,524 S 27,570 S 20,056 S 27,245 S 27,579 S 24,555 S 27,576 S 27,578 S 24,555 S 27,578 S 24,555 S 25,555 S 24,555 S 25,555 S 25,5555 S 25,5555 S 25,555 S 25,5555 S 25,5555 S 25,5555 S 25,55555 S 25,55555 S 25,5555 S 25555 S 25,5555 S 25555 S 25,5555 S 25555555555	<u>3 2008 5 21.40</u> 5 24.60 5 127.00 5 · 5 7.2003 2 · 21.20 2 · 21.20		5 - 5	<u>5 88006</u> <u>5 68,248</u> <u>5 1,164,809</u> <u>5 5 5 - 5 4,643,229</u> <u>5 88006</u> <u>5 88,248</u> <u>5 1,271,67</u>		<u>\$ 39,677</u> <u>\$ 99,216</u> <u>\$</u>		211% \$ 16,227 \$ 10,461 \$ 72,437 \$ • \$ • \$ 405,805 \$ 16,527 \$ 10,461 \$ 82,568	<u>s 16527</u> <u>5 10.461</u> <u>5 72.437</u> <u>5 5 5 466.805</u> <u>5 16.527</u> <u>5 10.461</u> <u>5 82.686</u>	• • •	<u> </u>		57,379 \$ - \$ (2,112) \$	<u>s - 5 (2,112)</u> <u>s 40,118</u> <u>s - 5 5,7379</u> <u>s - 5 (2,112)</u> <u>s 38,006</u>		S - S - S 7,023 S 244 S 517 S S - S 14,932 S 459 S 623 S S - S - S 14,932 S 459 S	<u>\$ 722 5 1,140 5 2,199 5 5 5 5 72 5 1140 5 3.33</u>		2 349 2 2289 2 - 2 71212 2 722 2 30 3	5 916 5 5.286 5 - 3 - 3 2.1372 5 		
kona Wate Service Comma Accumulated Dynociation	Accumulated Devectation 2018 2018 Plant Balance F	Plant Beamore Universation 2.010 (1231/1011) Reserve Additions Retirements (1231/2016) Rate F			5 5 5 5 5 5 5 5 5 1000% 11 5 5 5 5 5 5 5 5 5 5	<u>x · 5 · 5 · 5 · 5 · 5 · 5 · 5 · 5 · 5 · </u>			\$ 5,339,404 \$ 1,636,790 \$ - \$ - \$ 5,339,404 2,13% ⁵ \$ 5,339,404 \$ 1,536,790 <u>\$ - \$ 5,339,404</u>		\$ 96,006 \$ 96,006 \$ - \$ - \$ 96,006 0.00% # \$ \$ 3287,333 \$ 1,036,433 \$ 78,914 \$ - \$ 3,366,236 2,51% 4	\$ 1,132,499		35,441 \$ 2,148 \$ 567,252 \$ - \$ 602,693 3.33%	<u>5 35,441</u> <u>5 21,48</u> <u>5 557,252</u> <u>5 - </u> <u>5 602,653</u>		7 7 200 5 8.382 5 6.806 5 - 5 8.1097 3.33% 5 4.55679 5 10.323 5 - 5 4.55679 1.039% 5 4.556779 5 10.323 5 - 5 4.556779 1.039% 5 7.807 5 - 5 - 5 - 5 3.234% 5 1.6475 5 2.151 5 - 5 - 5 3.03%	<u>5 4(595,335</u> <u>5 1(D86,56)</u> <u>5 6,888</u> <u>5 - 5 4,643,223</u>		5 1,794,143 5 666,787 5 · 5 · 5 1,794,143 2.21% <u>c 1784,143</u> 5 666 ,787 5 · 5 · 5 1,794,143		\$ 495,805 \$ 61,375 \$ - \$ - \$ 495,805 3,33%	<u>\$ 495,005</u> <u>\$ 61,575</u> <u>\$ - </u> <u>\$ 495,805</u>		s 1,572 s 140 s - s - s 1,572 0,00% . <u>s 1,572 s 140 s - s - s 1,572</u>		\$ 42,229 \$ 42,229 \$ 15,150 \$ - \$ 57,379 0.00%	<u>\$ 42,228</u> <u>\$ 42,229</u> <u>\$ 15,150</u> <u>\$ - \$ \$ 57,379</u>		\$ 1609 \$ 165 \$ 5,420 \$ - \$ 7,029 3,33% \$ 6,963 \$ 888 \$ 7,979 \$ - \$ 14,922 3,33%	<u>\$ 8,562</u> <u>\$ 1053</u> <u>\$ 13,339</u> <u>\$ -</u> <u>\$ 21,960</u>		21,972 \$ 4,650 \$ -	<u>s 4,650</u> <u>s</u> <u>s</u> <u>s</u> <u>s</u>	<u>\$ 15,758,881</u> \$ 4,646,833 \$ 681,602 \$ - \$ 16,440,454	
		Line Account No. Account	1 KWSC Sewer	2 Non Depreciable Plant	3 103030 interrepible Plant 4 103051 Land	5 Total Non Depreciable Plant	6 Depreciable Plant	7 Structures and improvements	8 103540 Structures & Improvement - Transmission & Distribution Plant o Trada Structures and Improvements	Pumping Equipme	103241		14 Treatment Equipment	15 103801 Treatment & Disposal Equipment	16 Total Treatment Equipment	17 Transmission & Distribution Plant	18 103600 Callection Severe Force 19 103610 Callection Severe Gravity 20 103650 Seceral Collecting Structure 21 103850 Chine Equations	22 Total Transmission & Distribution Plant	23 Source of Supply	24 103/00 Receiving Wells	25 Power Generation Equipment	103550		29 Office Furniture and Equipment	30 103955 Office Furn & Equip 34 Total Office Furniture and Equipment	Transportation	33 103965 Transportation Equipment	34 Transportation	35 Tools and Laboratory Equipment	36 103330 Tools, Shop, Garage Equipment 37 103975 Stores Equipment	38 Total Tools and Laboratory Equipment	39 General Plant	40 103970 General Plant		42 Total KWSC Sewer Plant	

Docket No. 2018-0388 Exhibit KWSC Sewer 7.7 Witness: Stout 2/28/2019		Accumulated Depreciation Reserve (12/31/2019)	1 312	2,979	4,692	710	423	335	236	1,691	356	929 92	325	389	256	405	580	820	2,382	426	471	1,/96 200	27 22	7,161	237	1,666	1.207	8,102	744	51.100 1111	586	586	286 586	586	586	132,361	13,479	24,859 504	324	6,364	1,952	285,385	61 844	22,278	37,807	29,510 27.475	47,364	2,040	50,529 16 737	12121
ket No. KWSC Wit		Acc Dep (12)	v	\$	\$	10 U	e vi	• və	\$	ŝ	<i>w</i> 1	n v	м	ю	ŝ	ю	A U	, v	ŝ	ŝ	\$	00	9 VI	• • •	ъ	60 G	n (n	Ś	ы	n u	69	ю (н (А	Ś	"	n vn	ŝ	w 0	n va	\$	64	s					9 W			÷
Doci Exhibit		Depreciation Expense	781	306		35	- 1 <u>5</u>			\$ 204		e -	30.		а 31								9 9 9 9 9		•	, ,	 	•	، دە	н н А Ф		\$ 115 241	s 115				\$ 2,311		6 G 6 G	\$ 6,364	\$ 1,952	\$ 16,746					s 2,779			****
		Plant Balance (12/31/2019)	16 965	3,060						2,037		193			308	487	333	886	2.868	513	567	2,386	3,044 631	7.161	237	1,556	1 207	8,102	744	51,185 1111	807	807	807	807	807	132,361	92,429	24,859	1.496	44,547	78,082	510,065	140 634	39,817	67,573	52,743 ec p7e	84,653	3,645	54,207	t o'o'
		Pla (12	v	•••	\$	6	~ ~	ъ 69	s vi	ŝ	\$	un u	ev e	s	ŝ	\$	<i>и</i> и	• <i>⊌</i>	0	\$	ŝ	\$	n v		\$	69 1	n n	\$	ŝ	n v	• •	69 (A (1	\$	69 E	θ 69	ф	\$	A 41	\$	s	<u>م</u>	u	A V)	ŝ	in u	A (A	69 e	5	,
		2019 Retirements	ų	۱ جەن	' s	, 	•••	 	• •	5	' \$	•••	, , , ,,	۰ دە	' \$	دە	' •	, , , ,	, ,	' \$	•	' ശ	· ·	, , , ,		• •	, , ,		دە		• • •	هر	, , , ,	م	"	 	\$		~ ·	, , ,	Ф	•	i	• •			• • • •			•
		2019 Additions			ı	•				•	'	•		,	ı	,		•		ı	•	1			,	•		•	•	•	•	'		•	•	• •	•	•		44,547	78,082	122,629	VC 5.7.4	9,573	16,246	12,680	76, 103 20,352	876	13,032	1, 134
		201	6	, ∾			w					in u				ŝ					Ś			_		s		- 67	<i>с</i> э -	<i>u</i> , u	•••					л и 		ю.	» и	°↔	G	∞		л (л) -			A 64			9
		Accumulated Depreciation Reserve (12/31/2018)	100 1	2,673			373		207	÷	313	579	78C	342	225	356	244	510 104	2 095	375	415	~	2/9	. 2			S 10,686			37,185	s 470		470				11,168		5 529 S	. ю	s.	s 268,640					\$ 35,275 \$ 44,585			
		1	•	306 \$			~ :	5 U U			43 S	0 r	~ 5 30 ~	21	31 \$	\$ 6 10	8 8 8		200	51	57 \$		76 5			,			1		115		115						6 F	, ; ,	ı	1 1								
		Depreciation Expense	•	8 8 8 8			5 U					\$					ю (, v , v			\$	<i>i</i> o o		, vi	s	<u>ه</u> ه	• •	s	۰ ۵ ۴	, w			, ,		175'Z \$	\$ 2,311		s v		s	\$ 8,430		s 1,827 S 658			s 1,107 s 1,399			7
		ate							n .c	0	.0					ۍ	. مې	<u>,</u>	• •	و. ہ	و	ş				\$	× 4		2	* :	e 2	%	* *	* *	%	* *	2.0	%		• *	ş									
	WW Admin)	Present Rate		10,00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.003	10.00%	%00.01 %00.01	10.00%	10,009	10.003	2.50%	MUC.2	20.00	20.00	20.00	20.00	20.00%	20.00				14.29%		70,00%				0.00% 14.29%	2,509	1 0								
	i İsland,	alance 2018)		3.060	5.650	855	5.5	505	284	2,037	429	793	202	468	308	487	333	200	2002	513	567	2,386	3,044	7 161	237	1,666	10,686	8.102	744	37,185	807	807	807	807	807	17,650	92,429	24,859	981 1 406	02 - 7	'	387,436		83,959 30,244	51,327	40,063	50,876 64.301	2,769	41,175	27,122
	oeration ater, Big	Plant Balance (12/31/2018)		A VI			ю.	<i>د</i> ،	n +	• ••	s	\$	<i>.</i> ,	9 U	. 69	s	ŝ	<i>м</i> (n u		6	69	м е	.	o 6	\$	<i>.</i> , .,	• • •	\$	\$	n (n	ŝ	به د	e vo		ശം			<i>w</i> w	а 69	s	s		w w		\$	ю ю	+ 64	\$	\$
	łastewater Op alt (Hawaii W/ er 31, 2019	2018 Retirements			,	•		•			,	,	ı			•	,	1	•			ı	ı			,	•		ī	•		1						,			ī				. 1	•		,	•	
	, inc. V ise Det ecembe	Retir		69 69	5	ŝ	\$	<i>w</i> 1	() (a va	69	ŝ	<i>ა</i> ი	A U		ŝ	ŝ	\$	<i>"</i> (• €	• • •	ŝ	s	<i>м</i> 1	n v	e ve	\$	0 V	• ••	\$	~ 4	• • •		n u	\$	6 9 6	o vo	\$	\$ \$	n vi	9 69	¢\$		w w	, w	ŝ	00 VI	ŝ	s	s
	sr Service Company, Inc. Wastewater (Depreciation Expense Detail (Hawaii V Test Year Ending December 31, 2019	2018 Additions		• •		•	•	•	ı		,	•	•	•		1	ı	1	•			•	·	•		·	•		,	•			•	• •	•	•		•	•		1	•		• •			• •			'
	iter Ser Id Depr Test	8		0 N						n 4										9 4 0 9		8	С	42		. 9 . 9			2 2												, .,	0		533	, . 					84
	Kona Water Service Company, Inc. Waterwater Operations Accumulated Depreciation and Depreciation Expense Detail (Hawaii Water, Big Island, WW Admin) Test Y foar Ending December 31, 2019	Accumulated Depreciation Reserve (12/31/2017)		\$ 749 \$ 2367		s 53		\$ 321		S 1284		\$ 500		241		\$ 307	\$ 210		5 62 - 62	00'- 	s 358	S 1.31	s 20	8 G	S /,161 c 227	\$ 1,666	\$ 10,686	21'Z'	72 5 5 5	\$ 37,185	s 2	8 8 8 8	е С С	5 7 5 7	м м м	\$ 6.724 c 100.264	8'8' 8'8' 8'8'	S 24,8	0 0 7 7	50 U	 	\$ 260,210		\$ 56,5 * 17,8	s 33,3	\$ 26.0	\$ 34,537 \$ 47.297	ເ ເ ເ	\$ 27.4	\$ 15,0
	mulated D	lance 017)		16,865					40 40 20 20 20 20 20 20 20 20 20 20 20 20 20						308	487	333	709	988	2,808 513	567	2.386	3.044	631	7,161	1,666	10,686	207	744	37,185	1,111	807	807	807 807	807	17,650	12,429	24,859	981	1,496 -		387,436		84,174 D6.673	19.713	38,813	51,423 70,422	2,893	40,900	22.474
	Accu	Plant Balance (12/31/2017)		φ.								. 09	\$								• vi		69		<i>ы</i> с	ი თ			, 00		<i>с</i> л <i>и</i>		69	w w						w w	, 10	S 31					w v		- 1	Ś
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		In Service		5/1/2015	10/02/02	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	01/02/1/21	12/1/2010	12/1/2010	12/1/2010	12/1/2010	0102/1/21	12/1/2010	12/1/2011	5/1/2015	5/1/2015	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2011	12/1/2011	12/1/2011	12/1/2014	12/1/2014	12/1/2014	12/1/2014	5/1/2015	3/1/2010	3/1/2010	12/1/2010	4/1/2014	1/31/2019									
																						بو						;	auc											1010	(c) 7		CATIONS	700 - Kaanapali	721 - Waikoloa Water	722 - Waikoloa Sewer	Resort Water	esort Irrigation	726 - Kona Water	- Kona Sewer
		Description	HAWAII GENERAL OFFICE	ments	<i>a</i>	0						als	er							3, 42" 4 Drawer Lateral File Cabinets	5/5/1	Regency Lateral / 45 Firenciof safe for Customer Service office.	_		Defibriliators	M	Ricoh MP 4001SP Copier w/Finisher		Mitel EP Dig 6 Line Model Sobul Felephone #1 FCTRONICS (681)	ing system	printer					oom upgrade	Software	hones	Equipment	1010 OWO 1401	wastewater manager venicie (wo macua) SCADA Upgrade 2018 (WO 118883)		HAWAII GENERAL OFFICE ALLOCATIONS	Υ.	721 - W	722 - W	723 - Waikoloa Resort Water	725 - Waikoloa Resort Sewer 725 - Waikoloa Resort Irrigation	726	727
		ē	HAWAII GE	790 Leasehold Improvements	desks, confitable, chairs	vork sualibits k	wer	denza	Cherry Corner Unit	ibrary	Challis Chomy Doev Shall 66'	24" x 71" Credenza Sheils	Cherry Keyboard Drawer	Chair	Desk Pedestal F/F	Cherry Stilell Unik Chamy Storade Hutch	Cherry Credenza 66")esk	Drawer Lateral File	rawer Lateral	Cherry Desk Pedestal 5/5/F Despoy Lataral Cite	ate for Custo	Ricoh Aficio MP C3001	790 Office Furniture	Automated Electronic Defibrillators	License for Capture Now Fuilten Fi6140 scanner	4001SP Cop		Mitel EP Dig 6 Line Mo Fil FOTRONICS (681)	8-way video conferencing system	Hewlett Packard laser printer	Desktop-HIWKLCS39	Desktop-HIWKLCS37	Desktop-HWKLCS38	Desktop-HWKLCS41	790 Server & Server room upgrade	Hawaii Business Unit Software	civics sources with 8 phones	Miscellaneous Kitchen Equipment	laptop for CS Mgr	ter wanager Ipgrade 2016		AII GENERA							
) Lease	iks, con	z Cubical we Cherry Desk	Cherry Drawer	Cherry Credenza	erry Cor	Regency Library	Chams De	×71" C	erry Ke)	Executive Chair	sk Pede	Cherry Shell Unit	erry Cre	Regency Desk	Drawer L	42" 4 DI	арроні	enroof s	oh Afic	0 Office	Itomater	cense To iiten File	oh MP	Monitors	FCTRC	way vide	swlett P	esktop-t vsktop-F	ssktop-F	esktop-ł	sktop-	10 Serve	Hawaii Busines DMC Software	NDE SVS	iscellan	ptop for	CADA L	Total	HAW							
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Page 1 of 3

Docket No. 2018-0388 Exhibit KWSC Sewer 7.7 Witness: Stout 2/28/2019	Accumulated Depreciation Reserve (12/31/2019) \$ 285,385	 5,198 5,198 5,194 5,195 5,230 5,230 5,230 5,230 5,231 5,235 5,255
Dock Exhibit	Depreciation Expense \$ 16.745	287 287 287 287 287 287 287 287 287 287 287 287 287 287 287 287 288 287 288 2
	Plant Balance (12/31/2019) \$ 510,065	2,081 2,087 2,087 351 355 5,087 351 355 355 351 355 355 351 355 355 351 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 355 37,457 355 355 37,457 355 355 37,457 355 355 37,457 355 355 361 37,457 355 37,457 355 355 361 37,457 355 361 37,457 355 361 37,457 355 361 37,457 355 361 37,457 355 361 365 355 361 365 355
	2019 Retirements	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
	2019 Additions \$ 122,629	
	Accumulated Depreciation Reserve (12/31/2018)	 1,714 1,718 4,652 4,652 4,653 83 861 1,718 1,716 1,727 1,716 1,728 <
	Depreciation Expense S 8.430	2.2 2.2
N Admin)	ate	14,23% 2,50% 2,50% 2,50% 2,50% 6,67% 6,67% 10,00% 110,00% 110,00% 111,00% 114,23% 14,33% 14,33%14,33% 14,33% 14,33%14,33% 14,33% 14,33%14,33% 14,33%14,33% 14,33%14,3
kona Water Service Company, Inc. Wastewater Operations Kona Water Service Company, Inc. Wastewater Operations Accumulated Depreciation and Depreciation Expense Denail (Hawaii Water, Big Island, WW Admin)	Plant Balance {12/31/2018} \$ 387.436	 2,081 2,081 2,081 331 331 331 331 331 332 331 332 331 332 331 331 331 331 332 332 332 332 332 332 331 332 333 332 333 333 344 344 344 344 344 356 335 356 335 356 336 336 344 344 344 344 356 356<
nc, Wastewater Oj ⊧ Detai≹ (Hawaii W.	cember 31, 2019 2018 Retirements	
ervice Company, li preciation Expense	st Year Ending Dec 2018 Additions	
Kona Water S. preciation and De	Tes Accumulated Depreciation Reserve (12/31/2017) S 260,210	1,2,14 1,2,14 6,70 6,050 6,70 6,050 6,70 6,050 6,70 6,050 6,70 6,050 6,70 6,050 7,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 15,757 144 146 1,457 144 2,447 55 2,459 63 2,455 71,2 2,53 71,3 2,53 71,3 2,545 55 2,155 55
Accumulated De		 2.081 5.5 5.6 5.6 5.8 5.9 5.9 5.9 5.9 5.9 5.9 5.9
	Useful Life in PI Mos	4 8 4 8 4 8 4 8 4 8 4 8 4 8 4 8 4 8 4 8 4 8 4 8 4 8 4 8 6
	In Service	12/12015 12/12015 6/12015 6/12015 6/12015 6/12015 6/12015 6/12015 6/12012 9
	Description	BIG SLAND BIG SLAND (2)Replacement Op Computer Stations 1996 Elagi Fronkin 1996 Elagi Fronkin 20 Container Sheking-Baseyard 20 Deskrop-Hilvin-Loc55 20 Deskrop-Hilvin-Loc55 20 Deskrop-Hilvin-Coc55 20 Deskrop-Hilving & Cable 20 Deskrop & Deskrop-Hilving & Cable 20 Deskrop-Hilving & Cable 2
	Line No 61	C 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

228/2019	Accumulated Depreciation Reserve (12/31/2019)	2,034 5,54 5,55 1,548 6,538 1,0,648 1,0,648 1,0,648 1,0,109 6,5,36 6,5,060 1,0,109 6,5,266 6,2,060 1,0,109 1,0,109 1,1,259 6,2,255 6,2,256 6,2,053 1,1,259 1,1,757 1,1	158,550 120,236 159,800 195,826 85,845 121,524 121,549 65,945 830,130	754 754	151 189 314 754	
	- I	471 421 421 421 88 28 7 1183 7 1183 7 1183 7 1183 7 1183 8 2119 7 1133 1 1133 1 1133 2 104 1 123 2 2363 3 50 3 300 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 5 3 5 3 5 3 5 3 5 3 5 3 5 3 5 3 5 5 5 <	31,550 \$ 23,926 \$ 31,799 \$ 38,968 \$ 1,637 \$ 24,187 \$ 24,188 \$ 165,188 \$	162 \$	32 5 41 5 5 67 5 5 162 5 162 5	
	1	8,416 5 8,416 5 6,28 5 6,28 5 1,048	\$ 499,853 \$ 379,060 \$ 5 379,060 \$ 5 617,373 \$ 5 617,373 \$ 5 617,373 \$ 5 617,373 \$ 5 25,929 \$ 5 25,929 \$ 5 207,901 \$ 5 \$ 2 207,901 \$ 2 207,901 \$ 5 \$ 2 207,901 \$ 5 \$ 2 207,901 \$ 2 207,901 \$ 2 207,901 \$ 2 207,901 \$ 5 \$ 2 207,901 \$ 2 2 207,901 \$ 2 2 2 207,901 \$ 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	\$ 810 \$ 810 \$ 810	5 162 5 5 203 5 5 337 5 5 8108 5 810 5 5 810	
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	019 Additions	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	s 67,527 s 51,208 s 68,059 s 83,403 s 3,403 s 3,503 s 3,503 s 3,503 s 3,563 s 3,553 s 3,553 s 3,553 s 3,553 s 3,553 s 5 3,5553 s 5 3,5553 s 5 3,5553 s 5 3,5553 s 5 3,55553 s 5 3,5555555555555555555555555555555555	, , ,	ч ч ч ч ч ч ч ч	
		1.613 1.613 47 1.613 47 1.613 47 1.613 47 1.001 1.858 1.058 1.853 1.473 1.863 1.433 1.863 1.653 1.858 1.0548 1.858 1.1330 1.858 5.636 7.47 667 7.47 663 7.47 663 7.47 663 7.47 663 7.47 663 7.48 7.48 7.49 7.49 7.465 7.49 7.47 663 7.48 7.48 7.48 7.48 7.48 7.48 7.48 7.48 7.48 7.48 7.53 7.48 7.53 7.48 7.53 7.48 7.53 7.48 8.82 7.136 <t< td=""><td>s 127,000 s 96,310 s 128,001 s 156,859 s 97,588 s 97,588 s 52,822 s 564,943</td><td>\$ 592 \$ 592</td><td>s s s 113 246 5 5 7 9 5 7 9 5 922</td></t<>	s 127,000 s 96,310 s 128,001 s 156,859 s 97,588 s 97,588 s 52,822 s 564,943	\$ 592 \$ 592	s s s 113 246 5 5 7 9 5 7 9 5 922	
		x x x x x x x x x x x x x x x x x x x	<pre>\$ 25,360 \$ 19,232 \$ 25,560 \$ 31,323 \$ 1,16 \$ 10,548 \$ 10,548 \$ 132,781</pre>	\$ 162 \$ 162	\$ \$ 32 \$ 67 5 162 5 162 5 162	
VW Admin)	ę	10.00% 14.28% 5.05		20.00%		
Kona Waer Service Company. Inc. Wastewater Operations ceciation and Depreciation Expense Dehald (Hawaii Water, Big Island, WW Admin) Tost Year Endrig December 31, 2019	Plant Balance (12/31/2018)	8,416 75 8,416 75 5 8,239 75 5,1068 1,005 5 1,005 5,3201 5 5,539 1,005 6 2,2377 5,539 6 2,2377 5,539 6 2,171 1,771 7 1,505 5,5139 6 2,1139 5,5133 5 2,139 5,5133 6 1,504 1,5171 7 8073 2,6137 6 2,1139 5,5133 5 3,22468 5,5133 5 3,22468 5,5133 5 3,22468 5,5133 5 3,22468 5,5220 5 3,52468 5,5220 5 3,52468 5,5220 5 3,52468 5,5220 5 5,5220 5,532468 5 5,5220 5,52364 5 5,523564 5,523564	\$ 432,326 \$ 327,852 \$ 327,852 \$ 435,734 \$ 533,969 \$ 233,969 \$ 533,969 \$ 331,433 \$ 179,815 \$ 179,815 \$ 2,263,554 \$ 2,263,554	\$ 810 <u>\$ 810</u>	s 162 s 203 s 203 s 703 s 703 s 703 s 703	
, Inc. Wastewater (ise Detail (Hawaii \ seember 31, 2019	2018 Retirements	· · · · · · · · · · · · · · · · · · ·	· · · · · · ·	, , , , ,	, , , , , , , , , , , , , , , , , , ,	
Service Company, Sepreciation Exper est Year Ending D	2018 Additions	0 464.610 0 464.610	\$ \$, , , ,	, , , , , , , " " " " " " "	
Kona Water Depreciation and [7	Accumulated Depreciation Reserve	7.102/16/11/1 5 5 5 5 38 38 38 1.182 38 5 38 38 38 1.185 5 1.1025 5 5 100.588 1.0.588 5 1.0.588 686 686 686 1.045 5 2.068 686 1.025 5 2.068 686 1.025 5 2.0481 686 1.025 5 2.0481 686 1.025 7 2.0481 7 2.0481 88 3.0481 5 3.7162 5 5 655 1.057 5 5 655 1.057 5 5 655 5 7 5 5 5 <td>s 97,566 S 74,051 S 101,836 S 135,173 S 76,600 S 76,600 S 41,578 S 332,162</td> <td>\$ 430 \$ 430</td> <td>s s s s s s s s s s s s s s s s s s s</td>	s 97,566 S 74,051 S 101,836 S 135,173 S 76,600 S 76,600 S 41,578 S 332,162	\$ 430 \$ 430	s s s s s s s s s s s s s s s s s s s	
Accumulated Dep	Plant Balance (12/31/2017)	S 8,416 75 5 75 75 5 75 75 5 75 75 5 75 75 5 75 75 5 75 75 5 10,53 711 10,53 711 711 10,53 717 711 10,53 717 711 10,53 717 711 10,53 717 711 10,53 717 711 10,53 717 711 10,53 717 711 20,73 20,133 711 20,133 5,133 711 20,133 5,133 711,130 5,133 5,031 75,054 5,031 5,032 75,055 5,031 5,032 75,056 5,031 5,032 75,056 5,032 5,031 75,056 5,032	 \$ 329,834 \$ 250,340 \$ 456,969 \$ 456,969 \$ 18,315 \$ 140,357 \$ 1799,041 	\$ 810 \$ 810	5 5 5 139 5 5 5 139 5 6 106 5 8 106	
	Useful Life in Mos		19.10% 14.48% 19.25% 23.59% 0.99% 14.64% 7.94%	013 60	20.06% 25.00% 41.63% 13.30%	
	In Service	31/02/15 31/02/15 11/02/12 11/02/	Total	9/1/2013	ATIONS	
	Description	 Dower Cuality Analyzer (Intrinser Carl Prinyer Prinker Prinker Prinyer Prinker Prinker /li> Prinker<td>a Bis Isi LAND. ALLOCATIONS 721 - Waikoloa Waar 722 - Waikoloa Resort Water 723 - Waikola Resort Water 724 - Waikolaa Resort Ingation 726 - Kona Water 1727 - Kona Sewer</td><td>WASTEWATER ADMINISTRATION 19ad 3 - WW Mgr. Total</td><td>WASTEWATER ADMINISTRATION ALLOCATIONS 22 - N-Bukalan 222 - Wakalan 224 - Waikolas Sewer 724 - Waikolas Resort Sewer 727 - Kona Sewer</td>	a Bis Isi LAND. ALLOCATIONS 721 - Waikoloa Waar 722 - Waikoloa Resort Water 723 - Waikola Resort Water 724 - Waikolaa Resort Ingation 726 - Kona Water 1727 - Kona Sewer	WASTEWATER ADMINISTRATION 19ad 3 - WW Mgr. Total	WASTEWATER ADMINISTRATION ALLOCATIONS 22 - N-Bukalan 222 - Wakalan 224 - Waikolas Sewer 724 - Waikolas Resort Sewer 727 - Kona Sewer	
	Line No	131 78 78 <th 78<="" td=""><td>176 Bb 177 771 178 77 179 72 181 72 181 72 181 72 183 72 183 72 183 72 183 72 183 72 184 72 183 72 184 72 1</td><td>185 W 186 IP 187 Tc</td><td>881 891 77 77 72 72 72 72</td></th>	<td>176 Bb 177 771 178 77 179 72 181 72 181 72 181 72 183 72 183 72 183 72 183 72 183 72 184 72 183 72 184 72 1</td> <td>185 W 186 IP 187 Tc</td> <td>881 891 77 77 72 72 72 72</td>	176 Bb 177 771 178 77 179 72 181 72 181 72 181 72 183 72 183 72 183 72 183 72 183 72 184 72 183 72 184 72 1	185 W 186 IP 187 Tc	881 891 77 77 72 72 72 72

Docket No. 2018-0388 Exhibit KWSC Sewer 7.8 Witness: Stout 2/28/2019

Test Year

	Balance as of	Additions	Adjustments	Balance as of	Additions	Adjustments	Balance as of	
- c	Dec. 31, 2017	Jan. 1, 2018 to Dec. 31, 2018 CIAC	Jan. 1, 2018 to Dec. 31, 2018	Dec. 31, 2018	Jan. 1, 2019 to Dec. 31, 2019 CIAC	Jan. 1, 2019 to Dec. 31, 2019	Dec. 31, 2019	
2 3 Description						i		
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5 Intangible) (• •	• 6	÷	۰ ۲	•	ı ب	
6 Land and land rights	۰ ب	۰ ۶	۱ ه	• •	÷ 6		÷ 6	
7 Structures and Improvements	' ج	' ہ	۰ ج	۱ ا	י אי	י הי	• •	
8 Primina Fauinment	' \$	، ج	۔ ج	ہ ہ	•	י אפי	י אי	
	، دى	، ج	، ج	، ج	' ډه	ı م	, Э	
	\$ (7,365,808)	۰ ج	۰ ج	\$ (7,365,808)	، ج	، ج	\$ (7,365,808)	
11 Source of Supply		۰ ج	۱ ج	\$	۰ ج	ہ ج	۰ د	
12 Office Furniture and Equipment	' S	۱ دی	ج	۰ ب	ہ م	י אי	, ,	
13 Power Generation Equipment	ہ ج	، ج	' ج	۰ دە	' •	, 9	, ,	
14 Transportation	۔ ج	' ∽	ہ ج	, ю,	י אינ	י הנ	, ¢¢	
15 Tools and Laboratory Equipment	۰ ج	۰ ده	ہ ھ	,	י אינ	י הי	• •	
16 General Plant	ۍ ۲	، م	י אי	। अञ्च (י אינ	۰ ۶	' ଚ	
17 Hawaii Water GO Allocation	۰ ه	' ه	، جو	י א	י אינ	• •	,	
18 Big Island Allocation	' ج	' ه	י אי	, Э	י אפ	, 9.6	' ? 6	
19 Wastewater Administration	+ ج	' ج	، ھ	•	י א	ĥ	•	

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Docket No. 2018-0388 Exhibit KVVSC Sewer 7.9 Witness: Stout 2/28/2019

	Test Year Acc. Amort. t Balance as of	9 Dec. 31, 2019		۰ م	۱ ب	۰ دی	ı م	и 1	\$ 2,211,544	, Ю	, Ю	י אס (, Ю-1	י אי	، ج	۱ به	۱ هم ا	ч 99	\$ 2,211,544
	Adjustment	Jan. 1, 2019 to Dec. 31, 2019		، ج	י לא	÷	ч Ф	ч 69	; •	ч 19	ч Ф	ч өр	ч Ф	•	ч Ф	ч ю-	۰ بور	، ب	۰ ج
	Amortization	Jan. 1, 2019 to Dec. 31, 2019		·	ı	ı	ı	ı	135,531		ł	ı	ı	•	ł	ı	ı	I	135,531
	Am	to		φ	θ	φ	Ф	Ь	ω	\$	ŝ	Ω	€÷	6 9	ŝ	60	ю	Ф	6
	Acc. Amort. Balance as of	Dec. 31, 2018		ı	1	ł	·	ł	2,076,013	ı	ı	ı	1	3	ı	·	ı	ı	2,076,013
	Ac Balá	Dec		ф	ю	ф	ω	ф	ф	ω	Ф	Ф	ю	ю	Ф	θ	ю	ю	φ
Operations truction	Adjustment	Jan. 1, 2018 to Dec. 31, 2018		ı	.'	I		ı	•	ı	'	ı	ı	ı	ı	'	ı	ı	5
ewater f Const 1, 2019	Ac	Jar to		ф	ь	ŝ	ю	θ	↔	φ	ω	ь	θ	θ	Ś	θ	↔	Ś	↔
y, Inc. Wast ons in Aid o December 3	Amortization	Jan. 1, 2018 to Dec. 31, 2018		•	•	•	ı	1	135,531	•	١	•	•	1	ı	ı	ı	1	135,531
ompany ntributi nding E	Αu	Jan Dec		ю	ю	θ	ю	ю	ю	θ	Ю	↔	θ	θ	θ	θ	Ю	θ	φ
Kona Water Service Company, Inc. Wastewater Operations Amortization of Contributions in Aid of Construction Test Year Ending December 31, 2019	Acc. Amort. Balance as of	Dec. 31, 2017		ı	ı	•	ı	ı	1,940,482	ı	,	1	ı	ı	ł	ı	ı	ı	1,940,482
a Wate Amorti				ŝ	69	\$ %	\$	\$	\$ %	\$	\$ %	\$	\$ %	%	%	G	θ	⇔	φ.
Kon	Amortization	Rate		1	ı	0.00%	0.00%	0.00%	1.84%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	ł	I		
	Amount	Received		•	,	ı	1	i	7,365,808	•	,	·	,	٠	·	ı	,	•	7,365,808
	4	~ ~		¢.	• 69	ŝ	÷	Ś	G	Ф	ω	ŝ	ŝ	ь	Ś	Ś	ω	↔	မာ
			Description	Internitio	I and and land rights	Structures and Improvements	Primpina Equipment	Freatment Equipment	Transmission & Distribution Plant	Source of Supply	Office Furniture and Equipment	Power Generation Equipment	Transportation	Tools and Laboratory Equipment	General Plant	Hawaii Water GO Allocation	Big Island Allocation	Wastewater Administration	छ
	No.	- ^	3 De	ь г Inte	2 2 2 2 2	N Str	- 60 10 10 10	Tre	10 Tra	11 Sol	12 Off	13 Po	14 Tra	15 Tot	16 Ge		18 Bio		20 Total

.

Witness: Stout 2/28/2019	Test Year Acc. Tax Dep. Balance as of Dec. 31, 2019	4,667	ı	1,560,444	2,121,720	56,131	32,813	1,125,891	1,482	118,993	50,107	5,715	21,972	23,862	155,111	108	5,279,015	3,851,009	(283,527)
>	Te Acc. Bala Dec.	¢	φ	сл	ശ (Ь	Ь	ф	Ф	ω	φ	φ	ω	ω	¢	θ	φ	Ф	Ф
	Adjustments																ı ج		
	Dep. Exp.	4,667	ı		-	~		7	181	-	4,848		154	1,691	3 18,975	0	\$ 403,409		
perations eral	Acc. Tax Dep. Balance as of Dec. 31, 2018	ن ې ۱		1,458,118 \$					1,301 \$	99,161 \$	45,259 \$	3,629 \$	21,818 \$	22,171 \$		102 \$	4,875,607 \$	3,297,217	(312,869)
Vastewater C Taxes - Fed ber 31, 2019	Acc. T Balan Dec. 3	φ	\$	ь	θ	φ	Ь	ь	ω	ф	ф	\$	\$	θ	ω	θ	\$	θ	Ф
mpany, Inc. V stred Income ding Decemb	Adjustments																۰ ج		
Kona Water Service Company, Inc. Wastewater Operations Accumulated Deferred Income Taxes - Federal Test Year Ending December 31, 2019	Dep. Exp.	,	1	99,686	138,492	24,108	4,987	71,766	181	19,832	3,030	1,557	1,134	555	17,083	14	382,426		
Kona Wa Acc		ري	ب ۱		1,840,526 \$										119,053 \$	88	4,493,181 \$	2,763,019	(570,827)
	Acc. Tax Dep. Balance as of Dec. 31, 2017	÷) ()	\$ 1.3	\$ 1,8		Ś								Ф		\$ 4,4	\$	\$
		Description	and and land rights	Structures and Improvements	Pumping Equipment	Freatment Equipment	Fransmission & Distribution Plant	Source of Supply	Office Furniture and Fourinment	Power Generation Equipment	Transportation	Tools and I aboratory Equipment	General Plant	Hawaii Water GO Allocation	Bio Island Allocation	Vastewater Administration	al	21 Accumulated Book Depreciation	ADIT Balance
	Line No. 3 2 1	4 Des		7 Stru		,					•				18 Bio		20 Total	21 Acc	22 ADI

Docket No. 2018-0388 Exhibit KWSC Sewer 7.10

2/28/2019	-	2019	4,667	4,667	791 1,936,135 489 610	2,019 876 411,716 1,141,301	2,640	3,496,580	65,284 1,100 66,385		260 442	4,997	6,012 2,274	3,577 2,048	4,860	6,134 4,353	319,127 310,127	1,343,293	9,280 89	3	506 6.340	6,201	486 4.442	314	3.143
5	Accumulated Depreciation	2018	ب ب	ю 1		1,683 \$ 730 \$ 380,046 \$ 1 074,166 \$	-	3,280,363 \$	61,444 \$ - \$ 61,444 \$		228 387 \$			2,980 \$ 1.707 \$		5,611 \$ 3,627 \$	297,852 \$		8,249 \$ 78 \$		455 \$ 5.283 \$		405 \$ 3.702 \$		* E74 G
	Accumula	2017	ب ج	↔		1,346 \$ 584 \$ 348,375 \$ 1007 031 \$		3,066,787 \$	57,604 \$ - \$ 57,604 \$		195 \$ 331 \$ 327 \$	3,998 \$		2,384 \$ 1.365 \$		4,489 \$ 2,902 \$		2/0,2// \$	7,218 \$ 67 \$		405 \$ 4227 \$	134	324 \$ 2962 \$	* * * 1 1	6
			ц	S	<u></u> 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9			w	<u></u> өө өө		69 69 6 19	<i>₽</i> ₩	<i>в</i> , е <u>о</u> ,	<i>ч</i> э <i>ч</i> л	69	<i>ю</i> и	6 9 6	<i>₽</i> ₩	un u	÷ ↔	69 69	9 (9	69 69	+ 63	e
		2019	4,667	4,667	198 113,890 98 102	337 146 31,670 67 135	2,640	216,216	3,840 1,100 4,941		33 55	353 500	1,002 379	596 341	810	1,122 725	21,275	c/z/rz 79,017	1,031		51 1 057	1,033	81	157	
perations (Detail)	Annual Amortization	2018	6 9 1	دی ۱	113,890 \$ 98 \$ 98 \$ 102 \$	337 \$ 146 \$ 31,670 \$ 57 135 \$		213,576 \$	3,840 \$ - \$ 3.840 \$	11			1,002 \$ 379 \$	596 \$ 341 \$		1,122 \$ 725 \$		Z1,Z/5 \$ 79,017 \$	1,031 \$		51 \$ 1057 \$		81 \$	157 \$	
Wastewater O txes - Federal ther 31, 2019	Annual	2017	6 9 '	\$ '	113,890 \$ 98 \$ 98 \$ 102 \$		61,135 \$ - \$	213,576 \$	3,840 \$ - \$ 3,840 \$				1,002 \$ 379 \$	596 \$ 341 \$		1,122 \$ 725 \$		21,275 \$ 79.017 \$		 -	51 \$ 1 067 \$		81 \$ 740 \$	9 9 9	
Kona Water Service Company, Inc. Wastewater Operations Accumulated Deferred Income Taxes - Federal (Detail) Test Year Ending December 31, 2019		Tax Period	10	φ	25 8 25 8 25 8		25 \$ 25 \$	ω	₹¥ 52 52 52	•	25 \$ 25 \$	25 \$ 25 \$	25 \$ 25 \$						25 25						
t Water Service cumulated Defe Test Yea		Tax Method	SL-10		SL-25 SL-25 SL-25 SL-25	SL-25 SL-25 SL-25	SL-25 SL-25		SL-25 SL-25) SL-25) SL-25	t SL-25 I SI-25		+ SL-25	t SL-25		5 SL-25 3 SI-25		2 SL-25 2 SL-25		4 SL-25		4 SL-25 8 SL-25)
Konz Ac		In Service Date	2/28/2019		9/1/2016 1/1/2003 5/1/2015	10/1/2014 10/1/2014 1/1/2007	4/1/2003 11/30/2019		4/1/2003 7/1/2019		7/1/2012 7/1/2012	12/1/2016 9/1/2010	6/1/2014 6/1/2014	6/1/2014	6/1/2014	6/1/2014 6/1/2014	11/15/2005	11/15/2005 4/1/2003	6/1/2011	7/1/2012 7/1/2012	9/1/2010	2/1/2014 2/1/2014	1/1/2014	3/1/2014 7/1/2018	
		Tax Cost	46,666	46,666	4,945 2,847,258 2,447 2 542	8,414 3,652 791,762	1,678,385 66,000	5,405,404	96,006 27,511	110'071	813 1,381	8,835 12,492	25,048 9.476	14,902	8,533 20,248	28,056 18,136	531,879	531,879 1 975 431	25,778	279 164	1,265	26,416 25,836	2,025	18,509 3.925	0,010
			\$	Total \$	69 69 69 6		ფ ფ	Total \$	- 	Ola	\$	() ()	6 7 64	• • •	<i>ж</i>	69 6	o (∕o)	6 3 6	÷ ↔ ÷	19 69 1	· 69 (ю Ю	. W	69 69	•
		Property Description	Intangible Plant Kukio WWTP Upgrade - Preliminary Design (WO 114440)		103540 Structures and Improvements A/C unit-Kukio IT-Fujitsu 2T CIAC Phase 1A Emergency shower-SPS384	Lift Station hatch 36 x49 -LS1 Lift Station hatch 36"x60"-LS2.3.5 Lift Station hatch 48"X72"-LS4 STP Plant Retrofit	WWTP Bldg Kukio Office Expansion (WO 67610)		System Control Computer Equipment STP - SCADA SCADA Computer & Software (WO 112032)		Pumping Equipment 4" HDL Ball check valve Kukio WW 6" HDL ball check valve Kukio WW	Carbon odor scrubbers LS1&2 Elvet 15HP Submersche Wastewater Pump	Flygt Pump CP3152.091/454 HT 6"	Flygt Pump NP3153.091/466 HT 4"	Flygt Pump NP3171.091/434 MR 6" Flyot Pump NP3171.091/434 MT 6"	Flygt Pump NP3202.180/460 HT 6"	Flygt Pump NP33153.091/462 H1 4 Lift Station 6 and related force main	Lift Station 7 and related force main	Lift stations 1-5 New discharge piping and flush/mix valve.	PUMPING EQUIPMENT [270] DIMPING EQUIPMENT [270]		SPS#4 6" Flygt Discharge Pump sDS4mimn discharge nine&flush valve	widen sludge pump	Wilden T8 diaphram pumps SDS#7 Soft Startor (M/O 117505)	
		Utility Account			103540 Struct A/C ur CIAC Emerg	LT St	WWT Kukio		103241 STP - SCAE		103701 4" HD 6" HD	Carbo	Flygt	Flygt	Flygt	Flygt	Hygt Lift S	S HI	New	PUM	MUA	SPS	wilde	pliv Soco	6L0
		Line No. A		ю	45001-	∞ o 0 t	12	14	15 17	8	19 20	3 5	24	59 79	27 28	53 5	30 31	32	8 8	35 26	37	38	} 6	41	42

Page 1 of 8

Docket No. 2018-0388 Exhibit KWSC Sewer 7.11 Writness: Stout

Stouf 2019			101	768	1,5U3 656	2,454	,055,336	114	5,557	3,721 5,712	2,022	5,080	56,131	1,259	509	3,893 510	9,089	2,527	248 248	18,337		2,109,672	205,801 36 400	278,972	8,949	639,884	929	1	1,573	3,954	3,954
Witness: Stout 2/28/2019		ttion 2019		, 			\$ 2,055	ŝ			69 69		\$						AW	\$ 18		2		\$ 27		\$ 2,63	69 (Ą	\$	€9	φ
		Accumulated Depreciation	000		151		,917,574	85		1,861 2,856			26,943	1,049	436	2,920	7,791	2,106	124	15,014		1,969,027	189,970	257,513	8,260	2,458,454	774	403	1,257	3,295	3,295
		ccumulate		ጽዓም	69 69	, с, е	\$	57 \$		÷> ↔	69 6	A VA	35 \$	839 \$,947 \$ 364 \$			_ት ዓ	\$ 06		\$	39 \$			\$	619 \$		941 \$	36 \$	36 \$
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		0100	5		751	2	137,762	28		\$ 1,861 \$ 2.856		5 16,962 5,080	\$ 29,188			\$ 973	-		\$ 152 \$ 124	\$ 3,324		4	\$ 15,831			\$ 181,430	\$ 155	5 161	\$ 316	\$ 629	\$ 659
erations (etail)		Annual Amortization		293 \$ 384 \$		1 1	134,652 \$	28		1,861 \$ 2.856 \$		16,962 3	24,108			973			152 124	3,324				21,459		181,430	155		316	659	659
swater Ope Federal (D	I, 2019	Annual Ar		69 69		<i>м</i> ю	ŝ	28 28		69 69 1 1		69 69 1	,418 \$	210 \$		973 \$ 72 \$			ю. ч.	3,048 \$		\$		21,459 \$		ŝ	155 \$		316 \$	659 \$	659 \$
Inc. Waste e Taxes -	scember 3.	1100		., .,			\$ 131,495	¥				69 69 69	\$ 1,						ഗ ഗ	\$ \$		\$ 140,645	v	5 ⁷ V		\$ 181,430	69	69	ф	ŝ	Ś
Company, arred Incom	Test Year Ending December 31, 2019	Тах	Period	52 52	25 25	22 72		75	25	25 25	25	25 25		25	25	25 25	52	25	25 25			25	25	55	25		25	25		25	
Kona Water Service Company, Inc. Wastewater Operations Accumulated Deferred Income Taxes - Federal (Detail)	Test Yea	Tax	> I	SL-25 SL-25	SL-25	SL-25 SL-25		CI 75	SL-25	SL-25 SL-25	SL-25	SL-25 SL-25		SI -25	SL-25	SL-25 61 25	SL-23	SL-25	SL-25 SL-25			SL-25	SL-25	SL-25 SL-25	SL-25		SL-25	sL-25		SL-25	
Kona Wa Accum		vice	1			7/1/2019 SI		2 310016		7/1/2018 S		7/1/2018 S 7/1/2019 S		4/1/2014 S			10/1/2013 S		7/1/2018 S 7/1/2018 S			1/1/2005 5		1/1/2007 5				6/1/2016		2/1/2014 \$	
		In Service	Date	112	11/30			104	ર્સ દ	1	12	22		4	12/	19		-	~ ~	1	IL	1				1 11			1 11		
			l ax Cost	7,318 9,605	18,783	16,400 61,343	3,444,039	012	34,731	46,518	25,273	424,061 127,000	729,693	5 245	1,816	24,332	1,821	10,528	3,788 3,100	83,092		3,516,120	395,771	70,174 536,485	17,209	4,535,759	3,870	4,027	7,897	16,475	16,475
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					22)		Total	+			(-		Total							Total	5					Total			Total		Total
			tion		(WO 1189	12034) /O 97220)		Equipmen			NO 11043	114439)		Force			5		18883) 11280)			Gravity					Structure			ient WWTP	
			Property Description	93720) 117440)	np Rebuild	tors (WO ge Pipe (V		Treatment & Disposal Equipment	ŭ×	7221)	l Change (nent (WO 0 118152)		Collection Sewers Force	S#5	5	Valve LS#	valve	ass (WO 10 ent (WO 1			Collection Sewers Gravity ion Sewer lines	3 Increm	4 7 7 7	Plant		Special Collecting Structure / Storage Tank	ank		Other Equipment omputer-Kukio WW	
			Prope	cers (WO Meter (WO	ersible Pun	ower Moni np Dischar		eatment &	нQ40 met r MBR. Fal	(es (WO 9	ure Vesse	s Replacer Project (WI		Collecti	e Kukio SP	ge pipe, 50	lygt Check	oe-Lo #o flygt check	filter by-pa I replacem			Collectic ction Sewe	nal Phase	3 Incremer 3 Incremer	le Phase 3		Special C	Storage Ta		Oth ADA Comp	
				Level Transducers (WO 93720) Effluent Flow Meter (WO 117440)	SPS#5 Submersible Pump Rebuild (WO 118922)	SPS1-SPS7 Power Monitors (WO 112034) SPS#2 6" Pump Discharge Pipe (WO 97220)		Ĕ.	DU prope tor HU40 meter Gearboxes for MBR. Falk	MBR Gearboxes (WO 97221)	WWTP Pressure Vessel Change (WO 110437)	WWTP Drums Replacement (WO 114439) Tank Rehab Project (WO 118152)		Collection	6" Fluct Tayle Kukio SPS#5	LS#1 discharge pipe, 50'	Replace 6" Flygt Check Valve LS#4	Uischarge Pipe-Lo #5 Roic HDL 6" flygt check valve	Effluent sand filter by-pass (WO 108883) SPS#1 lateral replacement (WO 101280)			Collection Sever lines	CIAC Additional Phase 3 Increm	CIAC Phase 3 Increment 1 CIAC Phase 3 Increment 2	Collection Line Phase 3 Plant		Special Collec 4,000gal WW Storage Tank	Wastewater Storage Tank		Other Equipment Replace SCADA Computer-Kukio WWTP	
		111111-0	Account	E#	SP.	g S S		103801	J Ö	ME	₹≶	A Ta		103600	ۍ ،	, LS	å i	ප් සී	шŸ			103610 Cl	0	0 C	σŏ		103620 4,1	Ś		103890 Re	
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Docket No. 2018-0388 Exhibit KWSC Sewer 7.11

0388 7.11 Stout 2019		2,890 66,235 5,403 4,252 4,252 9,143 9,143 271,495 271,495	14,497 34,147 24,706 21,620 24,024 118,993	1,482 1,482 13,576 13,576 13,576 13,576 2,883 7,878 7,878	969 337 2,102 1,669 638 638 2,307
No. 2018-0388 SC Sewer 7.11 Witness: Stout 2/28/2019	ion 2019		\$ 14 \$ 24 \$ 24 \$ 118		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Docket No. 2018-0388 Exhibit KWSC Sewer 7.11 Witness: Stout 2/28/2019	Accumulated Depreciation 2018	2,684 \$ 5,065 \$ 7,989 \$ 7,989 \$ 4,028 \$ 8,605 \$ 8,605 \$ 8,605 \$ 1,054,125 \$	12,080 \$ 28,456 \$ 20,589 \$ 18,016 \$ 20,020 \$ <u>99,161 \$</u>	1,301 \$ 1,301 \$ 1,301 \$ 13,576 \$ 13,576 \$ 2,883 \$ 3,030 \$ 3,030 \$	870 8 276 9 774 9 1,920 9 319 9 1,710 9
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	2019	206 4,416 338 533 268 111 538 44,472 20,884 71,766	2,416 5,691 4,118 3,603 4,004 19,832	181 181 4,848 4,848	100 61 1,327 1,488 319 319 597
suoj		206 \$ 4,416 \$ 338 \$ 533 \$ 533 \$ 268 \$ 164,472 \$ 20,884 \$ 71,766 \$	2,416 \$ 5,691 \$ 4,118 \$ 3,603 \$ 4,004 \$ 19,832 \$	181 \$ 181 \$ 3,030 \$ 3,030 \$	100 \$ 86 \$ 774 \$ 960 \$ 319 \$ 319 \$
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Vastewate es - Fedé ber 31, 20	Ann 2017	206 4,416 338 533 533 533 533 111 538 44,472 20,884 20,884	2,416 5,691 4,118 3,603 4,004 19,832	302 302 - 746 766 - 912 - 912	140 120 260 278 278 278
ny, Inc. V ome Tax Decemt	~	8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	e e e e e e 52 52 e e 52 52 e	<mark>๛ ๛๛๛๛ ๛</mark>	25 S S S S S S S S S S S S S S S S S S S
ar Service Company, Inc. Wastewater (ated Deferred Income Taxes - Federa Test Year Ending December 31, 2019	Tax Period	23 2	0 0 N N N		
Kona Water Service Company, Inc. Wastewater Operations Accumulated Deferred Income Taxes - Federal (Detail) Test Year Ending December 31, 2019	Tax Method	SL-25 SL-25 SL-25 SL-25 SL-25 SL-25 SL-25 SL-25 SL-25 SL-25	SL-25 SL-25 SL-25 SL-25 SL-25	MACRS 5 MACRS 5 MACRS 5 MACRS 5 MACRS 5 MACRS 5 MACRS 5	MACRS 7 MACRS 7 MACRS 7 MACRS 7 SL-25 SL-25
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	In Service Date	12/31/ 6/30/ 11/11 10/1 11/1 4/1 4/1	4/1 4/1 4/1 4/1	51 12/1 1/1	मेर्च मेर ल स
	Cost	5,161 110,392 8,442 13,315 6,707 2,774 13,446 13,446 13,446 5,22,106 5,22,106	60,402 142,279 102,943 90,082 100,098	1,572 1,572 1,572 12,816 12,816 12,954 2,883 15,150 15,150	1,119 490 5,420 7,029 6,953 7,979 7,979
	Tax Cost	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Խ Խ Խ Խ Խ Խ	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
			Total	Total	Total Total
			ment	eut	priment
	scription	P C	Power Generation Equipment ator 35DSFAA 35kw lerator 80DSFAD 60kw ator 125DSGAB 125kw ator 100DSGAA 125kw ator 150DSGAC 60kw	Office Furn & Equip 04 Transportation Equipment dition adition adition	Tools, Shop, Garage Equipment udge Pump 3/4hp Trailer 24/18 ment (WO 102605) stores Equipment Stores Equipment A Storage Container binets (WO 106195)
	Property Description	Receiving Wells ent Plant ent Plant ent Plant ent Plant ent Plant ent Plant ent Plant ent Plant ent Plant	Generati SFAA 35 0DSFAD DSGAB 1 DSGAA 1 DSGAC 6 DSGAC 6	fice Furr portation	thop, Ga i 74/hp 74/18 74/18 0 102605 8 102605 8 102605 8 102605 8 102605 8 102605 8 102605 9 Contain 10616
	P	F Treatme Treatme Treatme Treatme Treatme Treatme Treatme	Power 1 rator 35D snerator 6 rrator 125 rrator 150 rrator 150	Of Trans ATV ukio er Additior	Tools, S Iudge Pur r Trailer 2 mment (W' mment (W' abinets (V abinets (V
		Wastewater Treatment Plant Wastewater Treatment Plant	Power Generation Eq SPS1 generator 35DSFAA 35kw SPS3&7 generator 60DSFAD 60kw SPS3 generator 125DSGAB 125kw SPS5 generator 100DSGAA 125kw SPS6 generator 150DSGAC 60kw	Office Furn & Laptop-HIKUK04 Transportation I Kawasaki ATV 4x4 UTV Sm UTV Kukio Work Order Addition Work Order Addition Electric Golf Cart (WO 112047)	Tools, Shop, Garag Portable Sludge Pump 34hp Toolbox for Trailer 24x18 Oil Containment (WO 102605) Stores Equi 20' Modified Storage Container Storage Cabinets (WO 106195)
	Utility Account		033550 v v v v v	1039555 1039655 E<039655 E<039655	103975 103975
			0	101 102 102 102 102 102 102 103 103 103 103 103 103 103 103 103 103	11111111111111111111111111111111111111
	Line No.				

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Docket No. 2018-0388 Exhibit KWSC Sewer 7.11 Witness: Stout 2/28/2019 Accumulated Depreciation 2017 2018 2019	\$ 1,421 \$ 1,568 \$ 1,641 \$ 1,0,952 \$ 10,952 \$ 10,952 \$ 10,952 \$ 1,31,33 \$ 1,31,43 \$ 1,31,43 \$ 1,31,43 \$ 1,31,43 \$ 1,31,43 \$ 1,31,43 \$ 1,31,43 \$ 1,31,43 \$ 1,31,43 \$ 1,31,43 \$ 1,31,43 \$ 1,31,43 \$ 1,31,43 \$ 1,31,43 \$ 1,31,43 \$ 1,31,43 \$ 2,1,63,53 4,782 5 4,782 5 4,782 5 4,782 5 2,783 2 2,783 2,7783 \$ 2,669 5 2,7783 5 2,783 5 2,783 5 7,783 \$ 2,0,683 5 21,818 5 21,972	\$ (1,708,355) \$ (1,822,245) \$ (1,936,135) \$ (1,708,355) \$ (1,822,245) \$ (1,936,135)	\$ (1,828,382) \$ (1,969,027) \$ (2,109,672) \$ (174,139) \$ (189,970) \$ (205,801) \$ (30,877) \$ (33,864) \$ (36,490) \$ (236,053) \$ (257,513) \$ (278,972) \$ (2,269,452) \$ (2,450,194) \$ (2,630,936)	5 9,490 5 11,596 5 13,102 5 5,650 5 5,650 5 5,650 5 5,650 5 5,650 5 5,650 5 5,650 5 5,650 5 5,650 5 5,650 5 5,650 5 5,650 5 5,650 5 5,650 5 5,650 5 5,650 5 5,09 5 5,690 5 5,650 5 5,650 5 5,09 5 5,09 5 5,630 5 5,650 5 404 5 404 5 404 5 404 5 71 5 713 5 2,037 5 2,037 5 71 5 713 5 713 5 713 5 71 5 713 5 713 5 713 5 71 5 713 5 713 5 713 5 713 5
Kona Water Service Company. Inc. Wastewater Operations Accumulated Deferred Income Taxes - Federal (Detail) Test Year Ending December 31, 2019 Annual Amortization ce Tax Tax 2017 2018 2019 Method Period Period	MACRS 7 MACRS 7 MACRS 7 MACRS 7 MACRS 7	s SL-25 25 \$ (113,890) \$ (113,800) \$ (113,	s SL-25 s SL-25 s SL-25 s (140,645) \$ (140,645) \$ (140,645) s (15,831) s (15,831) \$ (15,831) s (15,831) s (2,807) \$ (2,807) s (2,1459) s (2,1459) s (2,1459) s (2,1459) s (2,1459) s (2,1450) s (2,14	MACRS7 7 \$ 2,950 \$ 1,506 MACRS7 7 \$ 2,950 \$ 2,106 \$ 1,506 MACRS7 7 \$ 235 \$ - \$ - \$ - MACRS7 7 \$ 235 \$ - \$ \$ - \$ - \$ - \$ - \$ - \$ - \$ > - \$ > - \$ \$ - \$ - \$ - \$ > - \$ \$ \$ \$ \$ \$ \$ >
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Page 4 of 8

No. 2018-0388 SC Sewer 7.11 Witness: Stout 2/28/2019		2019	490	7,161	1 566	1,000 10.686	1,207	8,102	744	3/,185 1111	807	807	807	80/	807	16.633	132.361	92,429	24,859	981	1,496	8,909 15,616		406,866	88 170	31.761	53,901	42,072	53,427 67 526	2.908	43,240	23,862		2,081	23,867	22,8/1 186	5 5	2.075	1,062	1,275	27,030 35.679	-
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Docket No. 2018-0388 Exhibit KWSC Sewer 7.11 Witness: Stout 2/28/2019

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

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Docket No. 2018-0388 Exhibit KWSC Sewer 7.11 Witness: Stout 2/28/2019

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

	2019	9,847	5,808	4,134 47	06	428	7,932	75	518	8,770	3,506	10,588	1,045	6,851	1,4/8	27 664	53.581	8.717	3,947	15	994	68	332	1,248	58,793	6,817	9,017	32,269	169	2,537	1,807	471	1,130	3,822	5 207	25,665	27,154	6,175	4,569	15,051	13,918	16,884	328,447	6,577	20,661	7 365	CCC, 1
Accumulated Depreciation		9,847 \$	5,210 \$	\$ 008,5 \$ 7 \$	s 06	369 \$	6,962 \$	75 \$	446 \$	8,770 \$	3,018 \$	10,588 \$	1,045 \$	5,897 \$	1,393 \$	10,640 \$	46.119 \$	7.503 \$	3,397 \$	15 \$	99 4 \$	51 \$	249 \$	936 \$	58,793 \$	6,817 \$	4 /10'A	23,133 \$	161 S	1,691 \$	1,204 \$	344 \$	825 \$	1,911 \$ 5750 \$	0,700 ¢	9.871 \$	10,444 \$	4,510 \$	1,757 \$	10,992 \$	5,353 \$	6,494 \$	328,447 \$	6,577 \$	7,946 \$ \$	÷ €	ю. '
Accumulat		9,280 \$	4,611 \$	3,581 \$	s 6	269 \$	5,993 \$	75 \$	326 \$	8,770 \$	2,204 \$	10,588 \$	1,045 \$	4,307 \$	1,223 \$	11,030 \$ ¢	33683 \$	5 480 \$	2.481 \$	15 \$	937 \$	34 \$	166 \$	624 \$	58,793 \$	6,817 \$	9,U17 \$	29,139 &	146 S	846 \$	602 \$	132 \$	317 \$	ب و	9 0	9 69 1 1	ري ۱	1,735 \$	۰ ۲	4,228 \$	ب من	\$	309,528 \$	6,198 \$	19 1	1 1	•
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Annual Amortization	2018 20	567 \$	599 \$	369 \$ *	9 (9 66 66	970 \$	- 6 3	120 \$	ю 1	814 \$	69 1	ہ ج	1,590 \$	170 \$	4,296 \$	10,040 \$	2 0 0 3 4	916 \$))))	57 \$	17 \$	83 \$	312 \$	(¢)	ب	69 (1	1 1	- 1 2 2 3 2 3	846 \$	602 \$	212 \$	508 \$	1,911 \$	5,/58 &	2,003 &	10.444 \$	2,775 \$	1,757 \$	6,764 \$	5,353 \$	6,494 \$	18,919 \$	379 \$	7,946 \$	А ('	÷⊅ ∙
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	In Service Date	1/13	2/1/14 1		1 21/1/8	3/1/12			12/1/16	12/1/11	12/1/16	11/1/11	11/1/11	12/1/16	10/1/14	3/1/16	9/30/18	31/1/5	01/1/0	12/1/10	6/1/13	3/1/16	3/1/16	3/1/16	9/1/12	12/1/10	12/1/10	12/1/10	80/1/21	21/1/8	21/1/6	12/1/17	12/1/17	7/1/18	12/31/18	11/30/18	7/1/18	10/31/17	7/1/18	6/30/17	7/1/18	1/25/18	7/1/13	7/1/13	7/1/18	5/31/19	7/31/19
	Cost	9,847	6,706	4,134	47	510 510	010 8.416	0,410 75	626 626	8 770	4,239	10,588	1,045	8,282	1,478	22,377	53,201	64,775	10,039	4,77 - 35	700	426	2.073	7.800	58,793	6,817	9,017	29,139	32,269	109	15.054	662	1,587	47,771	144,199	10,014	52 220	8673	8,787	21,139	26,765	32,468	328,447	6,577	39,732	353,553	36,773
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	Property Description						w, EMH S				vetem	i)acciii		teering office	for Eng Mgr	al Gateway						100001	pressor arator EG6500	o' w/ramp			p		JNNER	2	<u>v</u>	mm		System		neras	Inflication	2	si	5	eaders	á	oukalani	oukalani	RD 4x4	40)	WO 118326)
	Propei	New Hvdraulic Hammer	Office Furnishings	Office furniture & equip	Work Order Addition	Work Order Addition	Portable generator 3500w, EMI 's	Power Quality Analyzer	Printer Cart	Projector-Dell 1010HD	Electrical Upgrade Desnirator sumliad air system	Respirator supplicu ali si Dicho Conier	Richo Fax Module	RICOH MPC3004-Engineering office	Rplc computer w/laptop for Eng Mgr	SCADA iNET-II 900 Dual Gateway	SCADA radio data link	SCADA upgrade 2013	SCADAPack 32	Scattolding	VVOrk Urder Addition		Trailer, enreigency compressor Trailer emergency reperator EG6500	Trailer emergency genclator ECV	Work Order Addition	V208214, Ford F-150	V208216, Chevy Silverad	V208217, Chevy 3500	V208222, '08 TOY 4 RUNNER	Visitor Chair	All Colliplessol, polidui Sentic Tank Rasevard	Socket fusion kit. 20-63mm	Socket welding prep	SCADA Report Writer System	Fuel Station	Base Yard Security Cameras	BIG ISIANG RADIO COMMUNICATION	EMI Service Truck Handheld Mater Peaders	FMT Service Truck Tools	Portable Air Compressor	Itron Handheld Meter Readers	Engineering PM Vehicle	Jetting/Vacuum Truck/Pukalani	Jetting/Vacuum Truck/Pukalani	2018 Toyota Tacoma TRD 4x4	Boom Truck (WO 118340)	Valva Evercice Trailer (MO 118326)
	Utility	Account																																													
	Line	259 259	260	261	262	263	264	265	266 267	/97	262	607 020	271	272	273	274	275	276	277	278	5/2	107	107	202	284	285	286	287	288	289	290	292	293	294	295	296	167	2967	300	301	302	303	304	305	306	307	308

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Docket No. 2018-0388

Docket No. 2018-0388 Exhibit KWSC Sewer 7.12 Witness: Stout 2/28/2019		Test Year Acc. Tax Dep. Balance as of	Dec. 31, 2019	 \$ 4,480 \$ 1,498,026 \$ 2,036,852 \$ 31,501 \$ 1,080,855 \$ 114,233 \$ 48,103 \$ 148,907 \$ 22,907 \$ 148,907 \$ 148,907 \$ 22,907 \$ 3,851,009 	(\$77,878)
Docke Exhibit KV			Adjustments	Ş	
			Dep. Exp.	 4,480 98,233 98,233 136,994 28,020 4,654 4,654 148 1624 18,216 18,216 \$387,272 	
	ater Operations s - State 2019	Acc. Tax Dep. Balance as of	Dec. 31, 2018	 \$ - \$ 1,399,794 \$ 1,899,857 \$ 1,899,857 \$ 25,865 \$ 26,713 \$ 1,011,960 \$ 1,011,960 \$ 1,249 \$ 26,713 \$ 26,713 \$ 26,713 \$ 26,713 \$ 26,713 \$ 26,713 \$ 27,217 \$ 33,297,217 	(\$88,535)
	Kona Water Service Company, Inc. Wastewater Operations Accumulated Deferred Income Taxes - State Test Year Ending December 31, 2019		Adjustments	0\$	
	r Service Comp umulated Defer Test Year Endin		Dep. Exp.	 \$ 95,698 \$ 95,698 \$ 132,952 \$ 132,952 \$ 132,952 \$ 132,952 \$ 174 \$ 174 \$ 19,039 \$ 1,495 /ul>	
	Kona Wate Acc	Acc. Tax Dep. Balance as of	Dec. 31, 2017	 \$ - \$ 1,304,095 \$ 1,766,905 \$ 2,722 \$ 21,926 \$ 943,065 \$ 1,075 \$ 76,156 \$ 1,989 \$ 19,856 \$ 19,856 \$ 114,290 \$ 114,290 \$ 114,290 \$ 114,290 \$ 20,751 \$ 114,290 \$ 48,313,454 	
				ents on Plant ment uipment ion on	
			Description	Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Source of Supply Office Furniture and Equipment Power Generation Equipment Transportation Tools and Laboratory Equipment General Plant Hawaii Water GO Allocation Big Island Allocation Wastewater Administration Total	ADIT Balance
		No. 1 v.			

2018-0388 iewer 7.13 ess: Stout 2/28/2019	σ	4,480	4,480	760 1,858,690 470 586 1,939 1,939 395,248 395,248 1,095,649 2,534	3,356,716	62,673 1,056	63,729	250 250 424 2,771 2,771 2,183 3,473 2,183 3,471 2,183 4,79 4,79 8,655 5,179 4,79 8,909 8,909 8,909 8,909 5,955 5,903 5,9555 5,9555 5,95555 5,955555555
Docket No. 2018-0388 Exhibit KWSC Sewer 7.13 Writness: Stout 2/28/2019	Accumulated Depreciation 2019 2019	ب ب	φ.	570 \$ 1,34 1,749,355 \$ 1,84 3,355 \$ 1,84 488 \$ 1,615 \$ 364,844 \$ 3 364,844 \$ 3 364,844 \$ 3 1,031,199 \$ 1,0	3,149,149 \$ 3,3	58,986 - \$	58,986 \$	219 \$ 371 \$ 371 \$ 1,018 \$ 4,317 \$ 1,819 \$ 2,861 \$ 3,888 \$ 5,388 \$ 3,888 \$ 3,888 \$ 5,328 \$ 3,585 \$ 285,938 \$ 3,585 \$ 4,967 \$ 4,967 \$ 4,967 \$ 3,554 \$ 3,556 \$ 3,554 \$ 3,556 \$ 3,
	Accumulate 2017 20	ب ب	۰ ۱	380 \$ 1,640,022 \$ 1, 1,640,022 \$ 1, 282 \$ 390 \$ 1,292 \$ 334,440 \$ 1, 966,749 \$ 1,	2,944,116 \$ 3,	55,299 \$ - \$	55,299 \$	187 \$ 3187 \$ 3187 \$ 3187 \$ 33847 \$ 3,847 \$ 3,347 \$ 3,347 \$ 3,347 \$ 4,309 \$ 4,309 \$ 5,514 \$ 1,37198 \$ 5,514 \$ 6,929 \$ 38 \$ 38 \$ 5,845 \$ 5,845 \$ 38 \$ 38 \$ 311 \$ 5,929 \$ 38 \$ 38 \$ 38 \$ 38 \$ 311 \$ 5,956 \$ 38 \$ 38 \$ 38 \$ 311 \$ 5,956 \$ 38 \$ 38 \$ 311 \$ 5,956 \$ 38 \$ 311 \$ 5,956 \$ 38 \$ 311 \$ 5,956 \$ 5,14 \$ 5,956 \$ 38 \$ 311 \$ 5,956 \$ 5,14 \$ 5,956 \$ 5
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erations etail)	Annual Amortization 2018 20	ب	\$	109,335 \$ 1 94 \$ 98 \$ 323 \$ 30,404 \$ 64,450 \$	205,033 \$ 2	3,687 \$ - \$	3,687 \$	31 \$ 53 \$ 53 \$ 53 \$ 53 \$ 53 \$ 53 \$ 564 \$ 572 \$ 5
Kona Water Service Company, Inc. Wastewater Operations Accumulated Deferred Income T axes - State (Detail) Test Year Fridind December 31, 2019	Annual / 2017 2	ب ب	\$ 1	109,335 % 94 % 98 % 30,404 % 30,404 % 54,450 %	205,033 \$	3,687 \$ - \$	3,687 \$	31 \$ \$ 33 \$ \$ 33 \$ \$ 33 \$ \$ 33 \$ \$ 33 \$ \$ 339 \$ \$ 339 \$ \$ 339 \$ \$ 339 \$ \$ 338 \$ \$ 338 \$ \$ 572 \$ \$ 572 \$ \$ 572 \$ \$ 572 \$ \$ 572 \$ \$ 572 \$ \$ \$ 20,424 \$ \$ \$ 20,424 \$ \$ \$ 20,424 \$ \$ \$ 20,424 \$ \$ \$ \$ 20,424 \$ \$ \$ \$ 20,424 \$ \$ \$ \$ 328 \$ \$ \$ 20,424 \$ \$ \$ \$ \$ \$ \$ 778 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$
er Service Company, Inc. Wastewater (ulated Deferred Income Taxes - State (Test Year Finding December 31, 2013	Tax Period	10	¢	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	S	25 \$ 25 \$	S	• • • • • • • • • • • • • • • • • • •
a Water Service ccumulated De Test Yea	Tax Method	SL-10		SL-25 SL-25 SL-25 SL-25 SL-25 SL-25 SL-25 SL-25 SL-25 SL-25		SL-25 SL-25		2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.
Kon A	In Service Date	2/28/2019		9/1/2016 9/1/2015 5/1/2015 5/1/2014 10/1/2014 10/1/2014 4/1/2007 4/1/2007 11/30/2019		4/1/2003 7/1/2019		7/1/2012 7/1/2016 9/1/2016 9/1/2014 6/1/2014 6/1/2014 6/1/2014 6/1/2014 6/1/2014 1/1/5/2005 1/1/1/2012 7/1/2012 7/1/2012 1/1/2014 7/1/2013 7/1/2013 7/1/2013 7/1/2013
	Tax Cost Ir	44,799	44,799	4,747 2,733,368 2,349 2,440 8,077 3,506 760,092 1,611,249 63360	5,189,188	92,166 26,411	118,577	780 780 1,325 8,481 11,993 9,097 9,097 9,097 9,097 11,928 8,1306 8,132 510,604 510,604 510,604 510,604 1,214 1,214 1,214 1,214 26,359 26,334 1,940 1,214 1,216 1,214 22,359 25,359 1,940 1,216 3,768 3,771
	F	69	Total \$		Total \$	64 64	Total \$	
	Property Description	103030 Intangible Plant Kukio WWTP Upgrade - Preliminary Design (WO 11440)		103540 Structures and Improvements A/C unit-Kukio IT-Fujitsu 2T CIAC Phase 1A Emergency shower-SPS3&4 Lift Station hatch 36"x48"-LS1 Lift Station hatch 48"x72"-LS4 STP Plant Retroft WMTP Blag Kukio Define Evension AMO 675410)		103241 System Control Computer Equipment STP - SCADA SCADA Computer & Software (WO 112032)		 103701 Pumping Equipment 4" HDL Ball check valve Kukio WW 6" HDL ball check valve Kukio WW Carbon odor scrubber kukio WW Carbon odor scrubber Wastewater Pump Flygt Pump NP3127.090/4859 HT4" Flygt Pump NP3127.090/4859 HT4" Flygt Pump NP3127.030/4850 HT 4" Flygt Pump NP3171.031/434 MT 6" Flygt Pump NP3171.031/436 HT 4" Lift Station 6 and related force main Lift Station 6 and related force main Lift Station 7 and related force main Lift Station 1-5 New discharge pipeging and flush/mix valve. PUMPING EQUIPMENT [270] PUM
	Utility Account	103030		10354		10324		
	Line No.	0	ы	450000000000000000000000000000000000000	2 4	15 16 17	18	₽ 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8

Page 1 of 8

Docket No. 2018-0388 Exhibit KWSC Sewer 7.13 Witness: Stout 2/28/2019	Accumulated Depreciation 2017 2018 2019	S - S 281 S 562 S - S 289 S 738 S - S 389 S 738 S - S 721 S 1,443 S - S - S 630 S - S - S 630 S 1,711,606 S 1,840,871 S 1,973,122	55 5 82 5 109 5 2,667 5 4,001 5 5,335 5 - 5 1,786 5,335 5 - 5 1,742 5,484 5 - 5 970 5 1,941 5 - 5 16,284 3,2568 5 - 5 16,284 3,2568 5 - 5 - 5,484 5 - 5 16,284 3,2568 5 - 5 - 5,484 5 - 5 16,284 3,2568 5 - 5 - 5,484 5 - 5 16,284 3,2568 5 - 5 - 5,484 5 - 5 - 5,484 5 - 5 - 5,484 5 - 5 - 5,484 5 - 5 - 5,484 5 - 5 - 5,484 5 - 5 - 5,487 5 5 5,865 5,5866 5,	\$ 806 \$ 1,007 \$ 1,208 \$ 349 \$ 418 \$ 488 \$ 349 \$ 2813 \$ 488 \$ 1869 \$ 2803 \$ 3737 \$ 350 \$ 2803 \$ 377 \$ 350 \$ 420 \$ 490 \$ 1,617 \$ 2,021 \$ 2,456 \$ 1,617 \$ 2,021 \$ 2,456 \$ 1,617 \$ 2,021 \$ 2,456 \$ 1,617 \$ 2,021 \$ 2,456 \$ 1,617 \$ 2,021 \$ 2,456 \$ - \$ 145 \$ 2,316 \$ - \$ 119 \$ 2,338 \$ 11,1,222 \$ 14,413 \$ 17,604	\$1,755,247 \$1,890,266 \$2,025,285 \$167,174 \$12,371 \$197,569 \$29,641 \$32,336 \$35,031 \$256,611 \$247,212 \$267,813 \$7,769 \$7,930 \$8,591 \$2,185,943 \$2,360,116 \$2,534,289	\$\$594 \$\$743 \$\$892 \$\$309 \$\$464 \$\$618 \$\$309 \$\$464 \$\$618 \$\$904 \$\$1,207 \$\$1,510 \$\$904 \$\$1,207 \$\$1,510 \$\$\$2,531 \$\$3,163 \$\$3,796 \$\$\$\$2,531 \$\$3,163 \$\$3,796
Kona Water Service Company, Inc. Wastewater Operations Accumulated Deferred Income Taxes - State (Detail) Tay Year Finding December 31, 2019	Ta	SL-25 SL-25 SL-25 SL-25 SL-25 SL-25	21/12016 SL-25 25 \$ 27 \$ 27 \$ 27 31/12016 SL-25 25 \$ 1,334 \$ 1,334 \$ 7/1/2018 SL-25 25 \$ 1,334 \$ 1,334 7/1/2018 SL-25 25 \$ - \$ 2,742 7/1/2018 SL-25 25 \$ - \$ 2,742 7/1/2018 SL-25 25 \$ - \$ 2,742 7/1/2018 SL-25 25 \$ - \$ 970 7/1/2019 SL-25 25 \$ - \$ 16,284 7/1/2019 SL-25 25 \$ - \$ 4,877	4/1/2014 SL-25 25 \$\$ 201 \$\$ 201 \$\$ 201 2/1/2013 SL-25 25 \$\$ 70 \$\$ 70 \$\$ 70 3/1/2016 SL-25 25 \$\$ 934 \$\$ 934 \$\$ 934 10/1/2013 SL-25 25 \$\$ 70 \$\$ 70 \$\$ 70 10/1/2013 SL-25 25 \$\$ 1,247 \$\$ 1,247 \$\$ 1,247 10/1/2013 SL-25 25 \$\$ 1,247 \$\$ 1,247 \$\$ 1,247 4/1/2014 SL-25 25 \$\$ 1,247 \$\$ 1,247 \$\$ 1,247 1/1/2018 SL-25 25 \$\$ 1,247 \$\$ 1,247 \$\$ 1,247 1/1/2018 SL-25 25 \$\$ 1,247 \$\$ 1,247 \$\$ 1,46 7/1/2018 SL-25 25 \$\$ \$\$ 2,19 \$\$ 1,19 7/1/2018 SL-25 25 \$\$	1/1/2005 SL-25 25 \$ 135,019 \$ 135,019 \$ 135,019 1/1/2007 SL-25 25 \$ 15,198 \$ 15,198 \$ 15,198 1/1/2007 SL-25 25 \$ 2,695 \$ 2,695 \$ 2,695 1/1/2007 SL-25 25 \$ 20,601 \$ 20,601 \$ 20,601 1/1/2007 SL-25 25 \$ 20,601 \$ 20,601 \$ 661 \$ 67,4173 \$ 774,173 \$ 774,173 \$ 774,173 \$ 774,173 \$ 774,173 \$	4/1/2014 SL-25 25 \$ 149 \$ 149 \$ 149 6/1/2016 SL-25 25 \$ 155 \$ 155 \$ 155 5 303 \$ 303 \$ 303 2/1/2014 SL-25 25 \$ 633 \$ 633 \$ 633 \$ 633 5 633 \$ 633 \$ 633 \$ 633
	Tax Cost In Service Date	\$ 7,026 7/1/2018 \$ 9,221 7/1/2018 \$ 9,221 7/1/2018 \$ 9,221 7/1/2018 \$ 18,032 11/3002018 \$ 15,744 7/1/2019 \$ 5,889 7/1/2019 Total \$ 3,305,277	\$ 682 1 \$ 33,342 \$ 34,657 \$ 44,657 \$ 44,657 \$ 44,657 \$ 24,262 \$ 407,098 \$ 121,920 Total \$ 700,505	\$ 5,035 4/1/2 \$ 1,744 12/12 \$ 1,744 12/12 \$ 23,339 3/17 \$ 11,748 10/11 \$ 31,163 12/11 \$ 31,163 12/11 \$ 31,163 12/11 \$ 31,163 12/11 \$ 31,163 12/11 \$ 31,163 12/11 \$ 31,163 12/11 \$ 3,637 7/11 \$ 2,976 7/11 Total \$ 79,769	\$ 3,375,475 1/1/ \$ 3,375,475 1/1/ \$ 379,940 1/1/ \$ 67,367 1/1/ \$ 515,026 1/1/ \$ 16,521 1/1/ \$ 16,521 1/1/	S 3,715 4/1/ \$ 3,866 6/1/ Total \$ 3,866 6/1/ Total \$ 7,581 6/1/ \$ 15,816 2/1/ 2/1/ Total \$ 15,816 2/1/
	ity Property Description	Level Transducers Effluent Flow Mete SPS#5 Submersib SPS1-SPS7 Powe SPS#2 6" Pump D	103801 Treatment & Disposal Equipment DO probe for HQ40 meter Gearboxes for MBR, Falk MBR Gearboxes (WO 97221) Aeration Blower (WO 108778) WWTP Drums Replacement (WO 114430) Tank Rehab Project (WO 118152)	103600 Collection Sewers Force 4" HDL Flygt check valves 6" Flygt Valve Kukio SPS#5 LS#1 discharge pipe. 50" Replace 6" Flygt Check Valve LS#4 Discharge Pipe-LS #5 Rpic HDL 6" flygt check valve Effluent sand filter by-pass (WO 10883) SPS#1 lateral replacement (WO 101280)	103510 Collection Severs Gravity CIAC - Collection Sever lines CIAC - Additional Phase 3 Increm CIAC Phase 3 Increment 1 CIAC Phase 3 Increment 2 Collection Line Phase 3 Plant	103520 Special Collecting Structure 4,000gal WW Storage Tank Wastewater Storage Tank 103890 Other Equipment Replace SCADA Computer-Kukio WWTP
		No. Account 44 45 45 47 48 49	55 55 55 55 55 55 55 55 55 55 55 55 55	59 60 64 64 65 65 65 65 65 65 65 65 65 65 65 65 65	69 71 72 75 75 75 75	77 78 79 78 78 78 78 78 78 78 78 78 78 78 78 78

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Docket No. 2018-0388 Exhibit KWSC Sewer 7.13 Writness: Stout 2/28/2019		Accumulated Depreciation	2017 2018 2019	2,378 \$ 2,576 \$	55,108 \$ 59,347 \$ 6	4,003 \$ 4,003 7450 \$ 7,660	3,606 \$ 3,863 \$	1,598 \$ 1,704 \$	7,745 \$ 8,261 \$	\$ 640,397 \$ 683,090 \$ 725,783 \$ 220,538 \$ 240,586 \$ 260,635	\$ 943,065 \$ 1,011,960 \$ 1,080,855		9,278 21 864	21,034 \$ 21,310 \$	\$ 17,296 \$	15,375 \$ 19,219	\$ 76,156 \$ 95,195 \$ 114,233	\$ 1,075 \$ 1,249 \$ 1,422	\$ 1,075 \$ 1,249 \$ 1,422	12,303 \$ 12,303 \$	13,033 \$ 13,033 \$	\$ 12,436 \$ 12,436 \$ 12,436 \$ 2,768 \$ 2,768 \$ 2,768	- \$ 2,909 \$	\$ 40,540 \$ 43,449 \$ 48,103	739 \$ 835	\$ 264 \$ \$ 743 \$ 2	\$ 921 \$ 1,843 \$ 3,272	1.068 \$ 1.335 \$	- \$ 306 \$	\$ 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		In Service Date Tax Tax 2017 2018 2019 Method Period 2017 2018 2019	\$ 198 \$ 198 \$	SL-25 25 \$ 4,239 \$ 4,239 \$ 4	SL-25 25 \$ 324 \$ 324	\$ 511 \$ 511 \$ \$ 258 \$ 258 \$	SL-25 25 \$ 107 \$ 107 \$	SL-25 25 \$ 516 \$ 516 \$	4/1/2003 SL-25 25 \$ 42,693 \$ 42,693 \$ 42,693 1/1/2007 SL-25 25 \$ 20,049 \$ 20,049 \$ 20,049			SL-25 25 \$ 2,319 \$ 2,319 \$ 2	SL-25 25 \$ 5,464 \$ 5,464	25 \$ 3,459 \$ 3,459 \$	SL-25 25 \$ 3,844 \$ 3,844	\$ 19,039 \$ 19,039 \$ 19,039	5/1/2015 MACRS 5 5 \$ 290 \$ 174 \$ 174	s 290 S 174 S 174	י א א	MACRS5 5 \$ - \$ - \$		\$ - \$ 2,909	\$ 876 \$ 2,909 \$ 4,654	MACRS 7 7 \$ 134 \$ 96	\$ 82 \$ \$ 743 \$ 1,2	<u>\$ 249 \$ 922 \$ 1,429</u>	сілк лк с 187 5 267 5	7/1/2018 SL-25 25 \$ - \$ 306 \$ 306	\$ 267 \$ 573 \$ 573
			Utility Property Description Tax Cost In Account	103/00 Receiving weits Montourator Treatment Plant S 4.955	\$ 105	\$	69 E		4.57	0,1 0,1 0,1	Total <u>\$ 1,722</u>		\$ 57	\$ 130	SPS4 generator 125DSGAB 125kw \$ 98,825 SPS5 renerator 100DSGAA 125kw \$ 86,479	96 \$	Total <u>\$ 475,973</u>	103955 Office Furn & Equip Laptop-HIKUK04 \$ 1,509	Total \$ 1,509	103965 Transportation Equipment	īΰ	Kukio	Work Order Addition \$ 2,/108 Electric Goif Cart (WO 112047) \$ 14,544	Total \$ 55,084	ment \$	Toolbox for Trailer 24x18 \$ 470 Oil Containment (WO 102605) \$ 5,203	Total \$ 6,747	÷	20' Moduled Storage Container \$ 0.073 Storage Cabinets (WO 106195) \$ 7,660	Total \$ 14.334
			Line No.	83	85 85	86	87	88	68 G	6 16	33 26	;	94 95	96	97 98	o 66	100	101 102	103	104	භ 100	107	108 109	110	111	113	115	116	117 118	119

Page 3 of 8

Docket No. 2018-0388 Exhibit KWSC Sewer 7.13 Witness: Stout 2/28/2019	epreciation	2017 2018 2019	1.365 \$ 1,505	10,045 \$ 10,514 \$ 1	1,508 \$ 1,663	с у су	S 19,856 \$ 20,945 \$ 21,093			\$ (1,640,021) \$ (1,749,355) \$ (1,858,690)	\$ (1,640,021) \$ (1,749,355) \$ (1,858,690)	(1 755 247) \$ (1 890 266)	(167,174) \$ (182,371) \$	\$ (29,641) \$ (32,336) \$ (35,031) \$ (22,6611) \$ (247,212) \$ (267,813)	* (212,72) * (110,022)	\$ (2,178,674) \$ (2,352,186) \$ (2,525,638)		\$ 9,110 \$ 11,133 \$ 12,578 \$ 2,938 \$ 2,938 \$ 2,938	5,424 \$ 5,424 \$	821 68	489 \$ 489 \$	388 \$ 388 \$	272 \$ 272 \$ 1955 \$ 1955 \$	412 \$	761 \$ 761 \$	68 \$ 68 376 \$ 376	449 \$ 449 \$	295 \$ 295	468 \$ 468 \$ 220 \$ 220 \$	520 \$ 320 \$ 681 \$ 681 \$	948 \$ 948 \$	2,754 \$ 2,754	545 \$ 545 \$ 545 \$	2,189 \$ 2,291 \$ 2	2,081 \$ 2,418
Kona Water Service Company, Inc. Wastewater Operations Accumulated Deferred Income Taxes - State (Detail)	Annual Amortization	d 2017 2018 2019	141 \$ 141	939 \$ 469 \$	155 \$ 155 \$	\$ 410 \$ 205 \$ - \$ 239 \$ 119 \$ -	\$ 1,883 \$ 1,089 \$ 148			\$ (109,335) \$ (109,335) \$ (109,335)	\$ (109,335) \$ (109,335) \$ (109,335)	e (100 010) e (125 010)	\$ (153,013) \$ (153,013) \$ (\$ (15,198) \$ (15,198) \$	\$ (2,695) \$ (2,695) \$	\$ (100'07) \$ (Z0'00'0) \$	\$ (173,512) \$ (173,512) \$ (173,512)		\$ 2,832 \$ 2,022 \$ 1,446 \$ 131 \$ 5 5 -	\$	\$ 37 \$ -	γγ γγ γγ γγ γγ γγ γγ γγ	\$ 17 \$ - \$	6 12 6 1 1 6 1 6 6	s 01 s	\$ 34 \$ - \$	ο 1 ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο ο	\$ 20 \$ 1 \$	\$ 13 \$ -	\$ 21 \$ ' \$	8 8 9 8 7 8 9 8 9 8 9 8 9 8 9 8 9 8 9 8 9 8 9 8 9	\$ 42 \$ · • •	\$ 123 \$ - \$	• • • • • • • • • • • • • • • • • • •	\$ 205 \$ 102	\$ 561 \$ 337 \$
Kona Water Service Com Accumulated Deferre		In Service Date Tax Tax Method Period		MACRS 7	MACRS 7	12/1/2011 MACRS 7 7 12/1/2011 MACRS 7 7				1/1/2003 SL-25 25		:	1/1/2005 SL-25 25 25 1/1/2007 SL-25 25		1/1/2007 SL-25 25			5/1/2015 MACRS 7 7		MACRS 7	12/1/2010 MACRS / / /	MACRS 7	MACRS 7	12/1/2010 MACKS / / 12/1/2010 MACKS 7 7	MACRS 7	MACRS 7		MACRS 7	MACRS 7	12/1/2010 MACRS 7 7	MACRS 7	MACRS 7	MACRS 7	12/1/2010 MACKS / /	MACRS 5
		Tax Cost		- 10		\$ 4,591 \$ 2.671	21			ission & Distribution Plant \$ (2,733,368)	Total \$ (2,733,368)		\$ (3,375,475) \$ (379,940)	(67	\$ (515,026)	Total \$ (4,337,808)		16	\$ 2,938 \$ 5,424			& 409 \$ 388		\$ 1,955 \$ 412	1-		015 \$		\$ 468		- 201 A A A A A A A	2			9 V V
		Utility Property Description Account	2	Spill Contain.	Hazmat Cab.	Work Order Addition	0000		CONTRIBUTIONS IN AID OF CONSTRUCTION	103540 Structures & Improvement - Transmission & Distribution Plant CIAC Phase 1A \$		103610 Collection Sewers Gravity	CIAC - Collection Sewer lines	CIAC Additional Priase 3 indenti CIAC Phase 3 increment 1	CIAC Phase 3 Increment 2		HAWAII GENERAL OFFICE	790 Leasehold Improvements	desks, conf table, chairs 2 Cunical Work Stations	cherry Desk	Cherry Drawer	Cherry Credenza Cherry Corner Unit	Regency Library	Chairs Cham. Dask Shall 66'	24" x 71" Credenza Shells	Cherry Keyboard Drawer		Uesk Pedestal F/F Cherv Sheff Unit	Cherry Storage Hutch	Cherry Credenza 66"	Regency Desk	z Drawer Lateral File Cabinets 3. 42" 4 Drawer Lateral File Cabinets	Cherry Desk Pedestal B/B/F	Regency Lateral File	Fireproof safe for Customer Service office. Ricoh Aficio MP C3001
		Line No.	120	121	123	124	126	071	127	128 129	130	131	132	133	135	136	137	138	139	141	142	143	145	146	14/	149	150	151	153	154	155	150	158	159	160 161

No. 2018-0388 SC Sewer 7.13 Witness: Stout 2/28/2019		2019	470	6,875	227	1,599 10.260	1 159	7,778	714	35,698 1 nee	774	774	774	4//	774	15.968	127,067	88,732	23,864	941	1,436	8,553	14,332	390,592	61210	30.491	51,745	40,389	51,290 64 825	2,792	41,510	22,907		1,998	22,912 24 655	906,12 179	87	1,992	1,020	25,949	34,252
Docket No. 2018-0388 Exhibit KWSC Sewer 7.13 Witness: Stout 2/28/2019	Depreciation		416 \$	6,875 \$		1,599 \$ 0.250 \$	1159 \$	7.778 \$		35,698 \$ 1 066 \$			730 \$	730 \$							1,353 \$	99 G	Ð	362,908 \$	70 644 \$				4/,655 \$			21,284 \$		1,998 \$					816 \$ 1 102 \$		
Û	Accumulated Depreciation	2018	341 \$	\$	\$	ю.	10,259 \$ 11	ə v ə	\$	<u>ن</u> ه،				640 \$ 640 \$	640 %	э 69	\$	ŝ	\$	\$	ه • 80	ю. '	↔	<u>357,719 \$ 36</u>	÷	74581 \$ 2	\$	69 (• ••	\$	20,751 \$ 2		ŝ	69 6					, w	
		2017	s				-		÷			• \$\$	\$	69 (A 4		-	\$				69 (A	\$ 351							\$						9 69		69 6		
			54								45	45	45	45	45 AF	1 1 1	}				83	53	76	84		5,999 2 161	67	2,863	3,635 4 EQE	198	942	1,624				36	17	398	204	<u> </u>	
		2019		•	•	1	,		1	'		-				-		'	,	1		8,553	14,992	27,684										,	•						
ations ail)	Annual Amortization	80	76 \$	• • • • •	¢ ? '	ن جن ا	ю. ч	њ (я , , ,	• • • •	ю (1	, og		\$ 68		50 G					ری ۱	165 \$	ю) (,	ю 1	5,189 \$		4 971,1 2 201			681 \$		551 \$	304 \$		115 \$, "			204 \$		1
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Vastewa xes - Sti er 31, 20	An	2017	106	3 .	ł	'n	ı	1 1	•	,	, ^g	68	89	68 8	8	3 753		6,575	1	ı	165	ı	ł	15,165		3,295	1,946	1,519	2,013	113	1,601	880		230	,	-	96 t	398	204	171	Ĩ
y, Inc. V come Ta Decemb		2	4	÷ 69	69	69	ω.	₽ 4	. Ф	\$	es e) 69	ŝ	ŝ	69 6	ΑU	ə 65	ж	\$	ø	Ś	ŝ	S	φ		69 6	ŝ		69 6	э 69	s	÷		\$	\$	696	9 (4	69	69 6	м м	\$
er Service Company, Inc. Wastewater (Lidated Deferred Income Taxes - State (Test Year Ending December 31, 2019		Tax Period	2010	- v	ი	ŝ	ις, ι	ۍ د	n no	ŝ	un u	ი ი	5	S	ц С I	ດແ	റ ന	, ro	5	ŝ	ŝ	2	S		2019	21.67%	13.25%	10.34%	13.13%	0.71%	10.63%	5.86%		ŝ	5	υ υ	57 27	25	25 25	ς Γ	£
Kona Water Service Company, Inc. Wastewater Operations Accumulated Deferred Income Taxes - State (Detail) Test Year Ending December 31, 2019		Tax Method	MACDS 7	MACRS 5	MACRS 3	MACRS 5	MACRS 5	MACHS 5	MACRS 5	MACRS 5	MACRS 5	MACRS 5	MACRS 5	MACRS 5	MACRS 5	MACKS 5	MACRS 3	MACRS 3	MACRS 5	MACRS 5	MACRS 5	MACRS 5	MACRS 5		2018	21.67%	13.25%	10.34%	13.13%	0.71%	10.63%	5.86%		MACRS 5	MACRS 5	MACRS 5	SL-25	SL-25	SL-25	SL-25 MACRS 5	MACRS 5
Kona		In Service Date	E1110115	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2010	12/1/2011	12/1/2011	12/1/2011	12/1/2014	12/1/2014	12/1/2014	12/1/2014	12/1/2014	0102/1/0	3/1/2014	3/1/2010	12/1/2010	4/1/2014	2/28/2019	1/31/2019		2017	21.73% 6.07%	0.01 %	10.02%	13.27%	0 75%	10.56%	5.80%		12/1/2013	12/1/2011	12/1/2010	C102/1/9	6/1/2015	6/1/2015	12/1/2010	12/1/2010
		Tax Cost Ir	909	6.875	227	1,599	10,259	1,159	714	35,698	1,066	774	774	774	774	774	10,944	88.732	23,864	941	1,436	42,765	74,959	489,662		106,384	53,047 62,831	49,054	64,991	89,003 3,656	51,692	28,404		1.998	22,912	21,956	894	9,958	5,100	3,060	34,252
		Та	e	о и	• • •	ዓ	ŝ	6 9 6	o 60	\$	6 9 (A 4	↔	\$	ŝ	<i>с</i> э (A 4	Ģ 43	в со	θ	\$	ŝ	ю	Total \$		ю	р (4)	• • •	69 (A 4	} 69	\$		S	ж	69 (÷9 6	÷ 43	6 9 (4 9 4	÷↔
		Property Description		790 Office Fumiture Automated Electronic Defibriliators	License for Capture Now	Fujitsu Fi6140 scanner	Ricoh MP 4001SP Copier w/Finisher	Monitors	Mitel EP Dig 6 Line Model 3550 1 elephone FI FCTRONICS [681]	8-way video conferencing system	Hewlett Packard laser printer	Desktop-HIWKLCS40	Desktop-HIWKLCS37	Desktop-HIWKLCS38	Desktop-HIWKCLS36	Desktop-HIWKLCS41	790 Server & Server room upgrade	Hawaii Business Unit Software	note system with 8 phones	Miscellaneous Kitchen Equipment	laptop for CS Mgr	Wastewater Manager Vehicle (WO 119213)	SCADA Upgrade 2018 (WO 118883)	T	HAWAII GENERAL OFFICE ALLOCATIONS	700 - Kaanapali	/01 - Pukalani 721 - Maikoloa Mater	722 - Waikoloa Sewer	723 - Waikoloa Resort Water	724 - Waikoloa Resort Sewer	725 - Walkolda Resoluti Ingalion 726 - Kona Water	727 - Kona Sewer	UN	(2)Renlacement On Computer Stations	(z)replacement of computer stations Mobile office trailer	1996 Eagle Forklift	20' Container Shelving-Baseyard	zu Container Stretvirig-⊂ivit 20' Container-Baseyard	20' Container-EMT	Storage Contr	Nissan Titan Nissan Titan
		Utility	Account																														BIG ISLAND								
		Line	No.	162	164	165	166	167	168 160	170	171	172	174	175	176	177	178	179	181	182	183	184	185	186	187	188	189	191	192	193	195	196	197	108	199	200	201	203	204	205	207

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

2019	25,825	25,339	082'6Z	002,62	29,250	35 997	33,717	2.441	921	1,259	696	7,316	1,087	475,506	286	4,225 2,050 2	5,003	717	1.088	1,088	1,509	1,549	344	337	49	C/1	13,200	18,382	2,681	5,610	2,875	8,471	26.52U	529	5,703	3,602	742	20,546	11,479	1,119	1,119	CRZ'L	504 1 200	1,389	10.770	10,015
	25,825 \$	25,339 \$	29,280 \$	23,200 \$	23,20U \$	35 997 \$	31775 \$	2 441 \$	880.5	1.202 \$	696 \$	7,316 \$	954 \$	448,117 \$	273 \$	4,225 5	5,039 &	717 \$	1 088 \$	1,088 \$	1,422 \$	1,459 \$	251 \$	322 \$	49 \$	¢ 6/L	13,200 \$	18.382 \$	2,681 \$	5,610 \$	2,875 \$	8,4/1 \$	2,130 \$	475 \$	5,703 \$	3,100 \$	742 \$	20,546 \$	10,297 \$	1,119 \$	1,119 \$	1,115 \$ 604 \$	504 \$	1,389 \$	4,300 4	10,0/9 4
	25,825 \$	25,339 \$	29,280 \$	29,280 \$	29,20U \$ 21,236 \$	35 097 \$	27,891 \$	2,000 \$	797 \$	1.090 \$	665 \$	7,316 \$	821 \$	393,338 \$	247 \$	4,225 \$	4 500'A	9717 9	1025 \$	1.025 \$	1,249 \$	1,281 \$	97 \$	292 \$	46 \$	\$ 9/1	13,260 \$	18.382 \$	2,681 \$	5,610 \$	2,875 \$	8,471 \$	76 520 \$	420 \$	5,703 \$	2,264 \$	\$ 669	19,362 \$	9,113 \$	1,054 \$	1,054 \$	814 \$ 504 \$	504 \$	1,389 \$	4,000 4 4 010 4	15,079 \$
8	Ş	↔ .	69 (<i>•</i> , €	A 6	9 4	, 4	, 4	• •	÷va	. 69	69	ŝ	69	69	99 (96	9 6	э <i>ч</i>	ev (\$	\$	\$	⇔	\$	÷9 (<i></i>	÷ •4	, со	\$	\$\$	69 (<i>•</i>	9 6 9	• • •	÷	69	\$	\$	\$	69 (÷> 6	69 6	<i>э</i> 6	θ 6	A (
2019	1	,	ı		1	1	1 017	746'	- •	- - -	¦ ,	,	133	27,389	13		I	1		1 1	87	68	93	15	ı	·	-	0 1 1			ı		134	54		502	,	ı	1,182	,	1	180	ı	•	ı	
	со 1	64) 1	ю '	9 9 (به و	÷,		000t 00		02 v 117 v	31 5	, ,	133 \$	54,778 \$	26 \$	69 (<i>е</i> (љ. ,	- - -	9 4 8	174 \$	178 \$	154 \$	30 \$	ക ന	ው (1	- 40 - 10	9 4 0 1 1 1	÷••∍ ∙ •	ۍ ۱	сэ ı	ہ ہو ا	268 \$,	ж С	836 \$	43 \$	1,183 \$	1,184 \$	64 \$	64 \$	301 \$	ю, е	69 6 1	л е	64) 1
2018	,487 \$	160 \$	687 \$	687 \$	687 \$	4 07 4	0 4 0 4	9 6 + -	e e co	02 9 112 8	67 s	, ' \$	222 \$	54,778 \$ 54	25 \$	243 \$	119 \$	20 20 20	4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 -	4 2 2 4 4 2 5 4	174 S	178 \$	97 \$	30 \$	9 8	10 \$	764 \$	1 0 0 0 0 0	-, ,	323 \$	166 \$	488 \$	268 \$ \$	- 4 76	ه د م 2	393 \$	85 \$	2,367 \$,655 \$	129 \$	129 \$	501 \$	29 \$	69 6 1	ж (,	ر ه
2017	\$ 17	\$ 1'7	s 1,6	s.	s .	- c	10,2 4	0 0 0	• • •	A 4	ə 49	о <i>к</i> о	69	\$ 54.	Ф	69	69 (÷ +	A 6	9 4	ə 69	• • •	\$	\$	ŝ	ഗ	6 9 6	9 4	ት የት	\$	\$	69	69 G	A 4	э <i>с</i> э	- - 69	Ф	\$	\$	ŝ	\$	6 9 (\$	φ.	÷	ю
Tax Period	5	5	ŝ	S	ι Ω	<u>م</u> ۱	ດເ	n u	1 0			- 5	5	5	7	с,	ιΩ I	۵ ۱	о ч	אח	о ч а	ъ с	5	7	ŝ	S	ເດຍ	n u	n n	S	5	2	ις ι	0 6	- 5	о ко	5	5	7	5	ۍ ۱	ۍ ا	ۍ ا	ις, ι	۰ n	ъ
Tax Method	MACRS 5	MACRS 5	MACRS 5	MACRS 5	MACRS 5	MACKS 5	MACKS 5	MACKS 5		MACKS /		MACRS 5	MACRS 5	MACRS 5	MACRS 7	MACRS 5	MACRS 5	MACRS 5	MACKS 5	MACKS 5	MACRS 5			MACRS 7				C CAURA			MACRS 5	_						MACRS 5		MACRS 5				MACRS 5	MACRS 5	MACRS 5
In Service Date	6/1/2012	6/1/2012	9/1/2012	9/1/2012	9/1/2012	6/1/2012	2102/1/6	4/1/2014	5102/1/9	9/1/2012	3/ 1/2012	12/1/2011	8/1/2015	10/1/2014	9/1/2012	6/1/2012	6/1/2012	6/1/2012	6/1/2012	4/1/2013	4/1/2013	12/1/2014	4/1/2017	9/1/2012	9/1/2013	9/1/2012	6/1/2012	3/1/2014	12/1/2010	6/1/2012	9/1/2012	9/1/2012	12/1/2014	0102/1/21	12/1/2014	9/1/2016	9/1/2013	7/1/2013	2/1/2014	4/1/2013	4/1/2013	11/1/2016	9/1/2012	12/1/2011	12/1/2011	6/1/2011
Tax Cost	25.825	25,339	29,280	29,280	29,280				2,441	921			1.154	4	286	4,225	¢,		•		1 500		-		49	175	£		18,382 2.681		2		2	26,520	ſ	04		20	13	÷	÷	-		-		16.079
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Property Description								2014 Nissan Frontier. V214001	aii Island				olo outware Backflow Test Kit-Michwest 835	NDA 2012		ware	ddition	Cables	ddition				ALOCUT Jard		ddition	ddition	ddition						Gradall lifting hook attachment			nyuro Jeuer na Makar-Manitowan ID0452 A	de/Chisel Scl		lir			Laptop, EMT-HIWKOCLT02		ddition	ddition	ddition
		FORD XCAB	Ford F-150	Ford F-150	Ford F-150	FRONTIER	Ford Explorer	2014 Nissan F	3 Ipad for Hawaii Island	Desk w Drawer	69"x43"x 18"	Diesel tank	Backflow Test	Bin Island SCADA 2012	Book Case	Motorola Hardware	Work Order Addition	Misc. Wiring & Cables	Work Order Addition	1 desktops	1 desktops	Desktop-HIVVLUC30	drver @ basevard	Exec Chair	Work Order Addition	Work Order Addition	Work Order Addition	EMT Laptop	Hand Helds	Personnel l ift	Software	Hardware	Gradall lifting	Forklift	HON chair	rryaro Jeuer Ice Maker-Ma	Indersoll Needle/Chisel Scl	Internal labor	Knoli task chair	1 laptops	1 laptops	Laptop, EMT-	Lateral File	Work Order Addition	Work Order Addition	Work Order Addition
Utility	Account																				_		_						~ -				~	**		0 •	_ ~		. ~		. ~		. 4	2	ç	7
Line	QZ	200	210	211	212	213	214	215	216	217	218	219	022 102	222	223	224	225	226	227	228	229	230	151	202	234	235	236	237	238	202	241	242	243	244	245	245	248	249	250	251	252	253	254	255	256	257

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New Hydraulic Hammer

Account Utility

Line

Office Furnishings

Office furniture & equip

Work Order Addition

Work Order Addition

Power Quality Analyzer Projector-Deil 1610HD

Printer Cart

Electrical Upgrade

Richo Fax Module

Richo Copier

SCADA radio data link SCADA upgrade 2013

Work Order Addition

SCADAPack 32

Scaffolding

Tools & Equipment

9,453 5,576 3,969 8,656 27,973 30,978 162 1,734 452 1,085 24,638 26,068 7,060 17,770 26,558 51,438 8,369 2,435 3,669 14,449 19,834 67,882 ,614 1,419 1,198 6,545 11,074 4,995 13,361 16,208 315,309 411 8.419 3,366 10,164 003 56,441 497 6,57 6.31 2019 Accumulated Depreciation 27,973 30,978 5,139 6,234 6,545 8,656 1,623 1,156 9,476 10,026 4,330 1,687 10,553 6.314 8,419 10,164 15,295 10,215 7,203 239 899 56,441 1,834 5,537 1,923 315,309 7,629 9,453 5,001 2,897 1,003 44.275 954 6,684 5,661 1,337 354 3.26 2018 27,973 30,978 2,116 10,164 1,003 4,134 11,171 32,335 2.382 6,545 8,656 812 578 1,665 4,059 5,950 8,419 56,441 140 5,753 1,174 899 159 599 297,147 8,908 3,437 33 4,427 5 87 259 313 5.261 127 2017 2,475 16,343 7,164 1,165 528 293 5,537 5,537 15,162 15,162 16,042 1,599 2,699 3,896 8,222 8,222 9,974 12,206 67,882 812 578 122 7,060 8.026 916 82 16 57 931 69 469 8 300 574 2019 Annual Amortization Kona Water Service Company, Inc. Wastewater Operations Accumulated Deferred Income Taxes - State (Detail) Test Year Ending December 31, 2019 1,942 5,537 1,923 9,476 10,026 6,494 4,125 10,215 11,939 879 2,664 5,139 1,527 163 300 18,162 80 578 834 1,687 6.234 812 203 488 7.629 8 2018 6,874 19,899 1,466 1.665 4,059 1,302 2,544 3,237 36,324 163 812 578 127 159 3.251 ,089 804 1,55, 2017 Tax Period SL-25 SL-25 SL-25 MACRS 5 MACRS 5 SL-25 SL-25 MACRS 5 Tax Method MACRS F MACRS 5 MACRS 5 MACRS 5 MACRS 7 MACRS 5 MACRS 7 MACRS 7 MACRS 5 MACRS 5 MACRS 5 MACRS 5 MACRS { MACRS { MACRS 5 MACRS ! MACRS (MACRS MACRS MACRS SL-25 SL-25 5/31/2019 7/31/2019 9/30/2019 9/1/2012 9/1/2017 7/1/2013 7/1/2018 3/1/2016 3/1/2016 9/1/2012 12/1/2010 12/31/2018 11/30/2018 7/1/2018 12/1/2016 3/1/2015 9/1/2012 12/1/2016 11/1/2011 12/1/2016 10/1/2014 6/1/2013 3/1/2016 9/1/2017 7/1/2018 1/25/2018 7/1/2013 3/1/2016 12/1/2010 7/1/2018 3/1/2016 3/1/2016 12/1/2010 12/1/2008 12/1/2017 12/1/2017 7/1/2018 8/31/2018 10/31/2017 6/30/2017 9/1/2012 12/1/2016 3/1/2016 9/30/2018 9/1/2012 12/1/2011 9/1/2012 In Service Date 12/1/2011 11/1/201 2/1/201 12/1/20 6,545 8,656 27,973 30,978 162 20,293 138,431 9,613 47,381 50,131 8,436 20,293 25,694 31,170 315,309 6,314 38,143 339,411 35,302 40,132 14,452 21,482 51,073 62,184 636 8,326 6,438 3.969 1,524 45,861 5 497 8,080 8,419 4,069 10,164 1,003 1,419 10,117 4,580 1,990 7,488 56,441 9,453 6 7,951 60 Tax Cost Valve Exercise Trailer (WO 118326) SCADA Vulnerability Assessment (WO 117252) railer, emergency generator EG6500 Property Description RICOH MPC3004-Engineering office Rpic computer w/laptop for Eng Mgi SCADA INET-II 900 Dual Gateway Portable generator 3500w, EMT's Trailer, emergency 6'x12' w/ramp Big Island Radio Communication Jetting/Vacuum Truck/Pukalani 2018 Toyota Tacoma TRD 4x4 frailer, emergency compressor V208217, Chevy 3500 V208222, '08 TOY 4 RUNNER Itron Handheld Meter Readers Jetting/Vacuum Truck/Pukalani SCADA Report Writer System Respirator supplied air system Base Yard Security Cameras Socket fusion kit, 20-63mm

V208216, Chevy Silverad

V208214, Ford F-150

Work Order Addition

Air Compressor, portable

Visitor Chair

Septic Tank, Baseyard

Socket welding prep

Fuel Station

Page 7 of 8

Boom Truck (WO 118340)

EMT Service Truck Tools

Handheld Meter Readers Portable Air Compressor Engineering PM Vehicle

EMT Service Truck

Docket No. 2018-0388 Exhibit KWSC Sewer 7.13 Witness: Stout 2/28/2019 Obspreciation 318 318 2018 314 2019 318 314 2019 318 314 2019 314 2019 314 2019 314 2019 314 2019 314,217 314,217 328,285 328,285 328,092 388,092 314,571 15,593 16,694 380,037 130,690 33 133 133,5 133 133	Accumulated Depreciation 2018 2018 332 \$ 1,645,165 \$ 334 \$ 314,217 \$ 334 \$ 316,694 \$ 103 \$ 316,694 \$ 363 \$ 2,200,887 \$ 563 \$ 733 \$	11 11 11 11 11 11 11 11 11 11 11 11 11
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No. 2018-0388 SC Sewer 7.14 Witness: Stout 2/28/2019		:	2019	1,680	1,680	166 36,445 78 77 111 15,202 21,483 2,534 2,534	CCC'01	1,229 1,056	2,285	22 23 36 36 36 36 36 45 45 55 45 55 44 36 11 1446 55 15 65 55 55 1446 1446 1446	159 52
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			iption	Intangible Plant Kukio WWTP Upgrade - Preliminary Design (WO 114440)		õ		System Control Computer Equipment STP - SCADA SCADA Computer & Software (WO 112032)		17 Purnping Equipment 6" H-DL Ball check valve Kuko WW 6" H-DL Ball check valve Kuko WW Carbon oddr scrubhers 15142 Fligt Pump NB9152.091468 HT 4" Fligt Pump NB9152.091468 HT 4" Fligt Pump NB9171.091448 HT 4" State 100 117440 SP544 mp decharge pipe&flish valve widen studge Pump Widen Stadge Pump Pumpa SP54 schurp decharge pipe&flish Valve Widen Stadge Pump Pumpa SP54 schurp decharge pipe&flish Valve Widen Stadge Pump Pumpa SP54 schurp decharge pipe&flish Valve Widen Stadge Pump Pumpa SP54 schurp decharge Pipe (V0 0.112440) SP54 Schurp flisher (V0 0.117440) SP54 Schurp flisher (V0 0.117440) WMTF Pums Reploement (V0 0.114430) WMTF Pums Reploement (V0 0.114430) Hank Rehad Project (V0 0.118152) Hank Rehad Project (V0 0.118152) WMTF Pums Reploement (V0 0.114430) Hank Rehad Project (V0 0.118152) Hank Reha	
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	Descriptic	re LS#4	e WO 1085 WO 101		e se te		e j		-Kukio V		55555555555		ment .35kw AD 60kw A 125kw A 125kw C 50kw				nt 2047)		lipment hp 505)	
	Property Description	be, 50' heck Vah	#0 theck vah by-pass (acement		s Gravity Sewer lin Dase 3 In ement 1 ement 2 ase 3 Pla		g Structi rage Tan ge Tank		t Compute		Receiving Wells Wastewater Treatment Plant Wastewater Treatment Plant Wastewater Treatment Plant Wastewater Treatment Plant Wastewater Treatment Plant Wastewater Treatment Plant Wastewater Treatment Plant. P		Power Generation Equipment SPS1 generator 35DSFAA 35kw SPS387 generator 125DSAB 06kw SPS4 generator 125DSCAB 125kw SPS5 generator 10DDSCAA 125kw SPS6 generator 150DSCAC 50kw		dini		Transportation Equipment Kavasaki ATV 44 UTV 44 UTV Work Order Addition Work Order Addition Electric Golf Cart (WO 112047)		rage Eq Pump 3/4 er 24x18 (WO 102	
		charge pit	e ripe-Lo 6" flygt o and filter teral repl		m Sewer offection 1 ditional P ase 3 Inci ase 3 Inci ase 3 Inci		Collectin WW Sto ater Stora		scADA		ng Wells ater Trea ater Trea ater Trea ater Trea ater Trea ater Trea ater Trea		Generation enerator generator enerator enerator enerator		urn & Ed HIKUK04		Transportation Equ Kawasaki ATV 4x4 UTV Sm UTV Kukio Work Order Addition Electric Golf Carl (W		Shop, Ga e Sludge c for Traile tainment	
		LS#1 discharge pipe. 50 Replace 6" Flygt Check Valve LS#4	Discratge Frpe-LS #⊃ Rpic HDL 6" ftggt check valve Effluent sand fitter by-pass (NO 108883) SPS#1 lateral replacement (NO 101280)		Collection Sewers Gravity CIAC - Collection Sewer lines CIAC Additional Phase 3 Increm CIAC Phase 3 Increment 1 CIAC Phase 3 Increment 2 Collection 1 ins Phase 3 Plant		103620 Special Collecting Structure 4,000gal WW Storage Tank Wastewater Storage Tank		103890 Other Equipment Replace SCADA Computer-Kukio WWTP				103550 Power Generation Equipment SPS1 generator 35DSFAA 35kw SPS387 generator 05DSFAB 725kw SPS4 generator 125DSC4A 125kw SPS5 generator 100DSC4A 125kw SPS6 generator 150DSC4A 75bw		103955 Office Furn & Equip Laptop-HIKUK04		103965 Transportation Equipment Kawasaki ATV 4x4 UTV 2x4 UTV Kuko Sm UTV Kuko Vork Addition Electric Golf Cart (WO 1120		103330 Tools, Shop, Garage Equipment Portable Sludge Pump 3/4hp Toolbox for Trailer 24x18 Oil Containment (WO 102605)	
	Utility Account				103610		103620		103890		103700		103556		103955		103961		10393(
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	ied Amortizati 2018	56 S 13 S	68 S	66 5 438 5 73 5 73 5 73 5 73 5 71 71 71 7 7 7 7 7 7 7 7 7 8 7 7 7 7 7	879 \$	359,585 \$	(72,890) \$	(72,890) \$	(78.761) \$ (7,599) \$ (1,347) \$ (10,301) \$	(98,008) \$	(170,898) \$ (182,683)	$ \begin{array}{c} 385\\ 226\\ 228\\ 228\\ 228\\ 228\\ 228\\ 228\\ 228$
	Accumulated Amortization 2017 2018	- 44 S S	44 S	56 438 62 8 191 8 8 8 7 11 5 8 5 8 5 6 7 19 1 5 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	859 \$	333,227 \$	(68,334) \$	(68,334) \$	(73,135) \$ (6,966) \$ (1,235) \$ (9,442) \$		(159,112) \$ ($\begin{array}{c} 238\\ 238\\ 226\\ 34\\ 32\\ 34\\ 32\\ 32\\ 32\\ 32\\ 32\\ 32\\ 32\\ 32\\ 32\\ 32$
	20	s so	s	~~~	s	т 69	s	s			5 9	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
	2019	11 13	24	° , ² , ,	20	26,835	(4,556)	(4,556)	(5,626) (633) (112) (858)	(7,230)	1,785)	8 9
suc		69 69 	s	~~~~~	\$	69		s	(5.626) \$ 1 (633) \$ (112) \$ (858) \$	230) \$	(11.785) \$ (11.785)	8
Operati	2018	1.6	24	6 10 16 16	126	26,463	(4,556) \$	(4,556)	(5.62 (63 (11 (85	(7.23	(11,78	δ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
/astewater E Tax Cred	2017	- 11 S S	11 S	9 63 70 8 70 8 8 8 8 8 9 8 9 8 9 8 9 8 9 8 9 8 9 8	126 \$	25,380 \$	(4,556) \$	(4,556) \$	(5,626) \$ (633) \$ (112) \$ (858) \$	(7,230) \$	(11,785) \$	฿ ๒ ฿ ๓ ๐ ๓ ๗ ๗ ๗ ๗ ๗ ๗ ๗ ๗ ๗ ๗ ๗ ๗ ๗ ๗ ๗ ๗ ๗
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Kona Water Service Company, Inc. Wastewater Operations Hawaii Capital Goots Exists in 20 Cred Test Year Ending Ocenher 31, 2019	Annual Amortization	11	24	6 63 15 7 16	126	27.279	(4,556)	(4,556)	(5,626) (633) (112) (858)	(7.230)	(11,785)	8 L X n o u u u ú u n o u u u u u a a á u u 4 4 2 u ú 8 5 8 0 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
a Water Sen Hawaii Test Y	AAme	ww	\$	იიიიი	s	ŝ	ŵ	s	አ N N N	s	s	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
Konz	Amortization Period	25		~~~~			25		25 25 25			アアアアファマアアアファファファファフランののののののののの
	HCGETC	278 319	597	66 438 73 191	879	669,548	(113,890)	(113,890)	(140,645) (15,831) (2,807) (21,459)	(180,742)	(294,632)	228 228 328 33 33 34 33 34 32 32 32 32 32 32 32 32 32 32 32 32 32
	¥	აა	s	ა ააააა	\$	v s	ŝ	s	8 K K K K	5	s ()	
	State Tax Cost	6,675 7,660	14,334	1,576 10,514 1,741 4,591 2,671	21,093	16,069,159	(2,733,368)	(2,733,368)	(3,375,475) (379,940) (67,367) (515,026)	(4,337,808)	(7,071,176)	16,190 5,2738 8,273 8,273 8,273 8,273 8,68 4,89 7,1955 7,1955 7,1955 7,1955 8,615 8,715 8,615 8,615 8,615 8,615 8,715 8,615 8,615 8,715 8,615 8,715 8,715 7,
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	(Cost	6,953 7,979	14,932	1,641 10,952 1,814 4,782 2,783	21,97	16,738,708	(2,847,258)	2.847.25	(3,516,120) (395,771) (70,174) (536,485)	518,550)	(7,365,808)	16,865 3,066 5,655 855 855 855 855 857 2,037 71 73 857 793 308 868 308 308 308 2,868 303 17 7161 7166 713 567 709 868 2,386 567 7161 7166 716 716 716 717 7167 716
	eral Ta:							Π	(3,5 (3,5 (3,5)	4)	~	
	Federal Tax Cost	w w	s	ოიოი	s	Ś	\$) \$	ა	\$ (4,	s	
		5/1/2014 \$ 7/1/2018 \$	s	4/1/2012 \$ 12/1/2011 \$ 4/1/2012 \$ 12/1/2011 \$ 12/1/2011 \$	\$		1/1/2003 \$) S		<u>\$ (4</u>		\$/12015 \$ \$/12015 \$ \$\frac{1}{2}\frac{1}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}1
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			Total				1/1/2003 \$	w	ა	S (4		Sr12015 Sr12015 3712010 12712010000000000
	In Service Date		Total				1/1/2003 \$	w	8 2002/1/1 8 7002/1/1 8 7002/1/1 7 7002/1/1	S (4	v	Sr12015 Sr12015 3712010 12712010000000000
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		5/12014	Total	4/12012 12/12012 4/12012 12/12011	Total	\$	1/1/2003 \$	w	8 2002/1/1 8 7002/1/1 8 7002/1/1 7 7002/1/1	S (4	v	Ments 5/1/2015 12/1/2015 12/1/2015 12/1/2016 12/1/2016 <
	In Service Date	5/12014	Total	4/12012 12/12012 12/12012 4/12012 12/12011	Total	\$	1/1/2003 \$	w	8 2002/1/1 8 7002/1/1 8 7002/1/1 7 7002/1/1	S (4	S RUBUTED ASSETS	Improvements 5/12015 Stations 3/12010 Stations 12/1/2010 Stations 12/1/2010 Dat 12/1/2010 Date 12/1/2010 Date 12/1/2010 Hutch 12/1/2010 Hutch 12/1/2010 En 12/1/2010 <td< td=""></td<>
	In Service Date	5/12014	Totat	4/12012 12/12012 12/12012 4/12012 12/12011	Total	\$	1/1/2003 \$	w	8 2002/1/1 8 7002/1/1 8 7002/1/1 7 7002/1/1	S (4	S RUBUTED ASSETS	Improvements 5/12015 Stations 3/12010 Stations 12/1/2010 Stations 12/1/2010 Dat 12/1/2010 Date 12/1/2010 Date 12/1/2010 Hutch 12/1/2010 Hutch 12/1/2010 En 12/1/2010 <td< td=""></td<>
	Property Description In Service Date	7 Stores Equipment 5/12014 20 Modified Storage Container 5/12014 Storage Cathinets (WO 106195) 7/12018	Total	General Plant Saill Contain. 4/1/2012 AC Colis 12/1/2011 Hazmat Coli. 12/1/2011 Novo Koleer Addition 12/1/2011 Cess Charlent 12/1/2011	Total		1/1/2003 \$	w	Collection Sewers Gravity (1/1/2005 S CIAC - Collection Sewer lines (1/1/2007 S CIAC - Additional Phase a Increment (1/1/2007 S CIAC - Phase 3 Increment 1 (1/1/2007 S	S (4	S RUBUTED ASSETS	Improvements 5/12015 Stations 3/12010 Stations 12/1/2010 Stations 12/1/2010 Dat 12/1/2010 Date 12/1/2010 Date 12/1/2010 Hutch 12/1/2010 Hutch 12/1/2010 En 12/1/2010 <td< td=""></td<>
	In Service Date	103975 Stores Equipment 103975 Stores Equipment 20 Modified Storage Container S1/12014 Storage Cabinets (NOV 106155) 71/2018	119 Total S	4/12012 12/12012 12/12012 4/12012 12/12011	Total	\$	\$	w	8 2002/1/1 8 7002/1/1 8 7002/1/1 7 7002/1/1	S (4	v	79 Lasenbol Impovements \$/12015 79 Lasenbol Impovements \$/12015 desks.cont blak, chains 12/1/2010 Chenry Dask 12/1/2010 Chenry Stell Bit 12/1/2010 Regenry Uler Bit

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Docket No. 2016-0388 Exhibit KWSC Sewer 7.14 Witness: Sourd 2/28/2019		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	36 8 2 4 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
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	iization 2019	NNNNNNNNNNNN NNNNNNNNNNNNNNNNNNNNNNNN	- 0 - 0 0 - 0 0 - 0 0 0 0 0	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
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			10,000 67,573 667,573 552,743 552,743 84,653 3,645 5 3,645 5 3,645 5 3,645 5 2,914 5 5 2,914 5 5 2,914 5 5 2,914 5 5 5 2,914 5 5 5 2,917 5 5 5 5 2,917 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2,2081 22,2087 455 5,375 5,5777 5,5775 5,5777 5,5775 5,57775 5,57775 5,5775 5,5775 5,5775
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	In Service Date			12/12012013 12/12015 6/12015 6/12015 6/12015 6/12015 6/12010 12/12010 12/12010 6/12012 9/12012 9/12012 9/12012 9/12012 12/12014 12/12014 6/12012 6/12000000000000000000000000000000000000
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		roperty Description Desktop-HIWKLCS39 Desktop-HIWKLCS39 Desktop-HIWKLCS38 Desktop-HIWKLCS36 Desktop-HIWKLCS36 Desktop-HIWKLCS36 Desktop-HIWKLCS36 Desktop-HIWKLCS36 Desktop-HIWKLCS36 Desktop-HIWKLCS36 Desktop-HIWKLCS36 Desktop-HIWKLCS36 Desktop-HIWKLCS37 793 Servet & Server from High Professor Macellaneous (kthen Equipment Biop for CS Mgr Macellaneous (kthen Equipment Biop for CS Mgr Mace	er er ation	Jee Stations +yard 835
		Desktop-HIWKLC539 Desktop-HIWKLC539 Desktop-HIWKLC531 Desktop-HIWKLC538 Desktop-HIWKCL536 Desktop-HIWKCL536 Desktop-HIWKCL536 Desktop-HIWKCL536 Desktop-HIWKCL536 Desktop-HIWKCL536 Desktop-HIWKCL536 Desktop-HIWKCL536 Desktop-HIWKCL536 HIWKL539 Desktop-HIWKCL536 HIWKL539 Desktop-HIWKCL536 HIWKL539 Desktop-HIWKCL536 HIWKL539 Desktop-HIWKC1539 Desktop-HIWKC15	70 - Katalari 70 - Katalari 72 - Walakola Water 722 - Walkolas Swer 723 - Walkolas Resort Mater 724 - Walkola Resort Higation 726 - Kona Water 727 - Kona Sever	(2)Replacement Op Computer Stations before interestrations 1996 Eagle Fonkth 207 Container Shelving-Baseyard 207 Container Shelving-Baseyard Storage Conter Nissan Tian Shelving Food F-150 Food F-1
		Proceedings of the second seco	700 - Kaanap 701 - Pukalan 722 - Waikolo 723 - Waikolo 723 - Waikolo 723 - Waikolo 724 - Waikolo 725 - Kona W 727 - Kona S	(2)Replacement Op Com (2)Replacement Op C
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Utility Account WASTEWAT	II Ser	In Service Date Fr 19.10% \$ 14.43% \$	Federal Tax Cost				V on o V	me Jonine State											7	2/28/2019
Utility Account	L L L L L L L L L L L L L L L L L L L	0.000	ederal Tax Cost				. 8100	Vater Service Company, inc. vvasewater O Hawaii Capital Goods Excise Tax Credit Test Year Ending December 31, 2019	pany, Inc. / loods Exci. Ig Decemt	Kona Water Service Company. Inc. Wastewater Operations Hawaii Capital Goods Excise Tax Credit Test Year Ending December 31, 2019	Operations it									
Utility Account	I S S S S	0.000	ederal Tax Cost										1	Accumulated Amortization	Amortization		2	Unamortized HCGETC	ICGETC	
wastewat		19.10% S 14.48% S		State Tax Cost		HCGETC	Amortization Period	Annual Amortization	3	2017	2018	2019	2017	2018		2019	2017	2018		2019
WASTEWAT		19,10% S 14,48% S 10,75% S			ĺ															
WASTEWAT		14.48% S	114 060		ACA 766 S	20.594		s 3,79	o S	2,118 S	2,213 \$		\$ 11,	ŝ		14,617		ŝ		5,977
WASTEWAT		10.75%	100,410		374 874 S	15.618		\$ 2,87	4 S		1.679 \$		s, 8	ფ		11.085		ŝ		4,53
WASTEWAT			1000	• v	498.162 S	20.757		\$ 3,820	s		2,231 \$		s 11	s		14,732	s 2,168	\$	4,139 \$	6,02
WASTEWAT		00 100 C	50C 002	• v		76.436		\$ 4.65	s 1	2,935 \$	2,734 \$	2,799	\$ 15,	ŝ	16.287 S	18,053	\$ 2,87	\$		7,35
WASTEWAT		23.32% 8	102,000			1 068		197	5	118 S	115 \$	118	ŝ	s	684 S	758	\$ 115	ŝ	213 S	è
U WASTEWAT		4 %56.0	394 706	0 V1	378.918 S	15,788		\$ 2,905	22 S	1,663 S	1,697 \$	1,737	S 8.	s	10,109 \$	11,206	\$ 1,630	s	3,148 S	4 5
7 WASTEWATER ADMINISTRATION 8 IP=d 3-WW Mgr. 9 WASTEWATER ADMINISTRATION ALL		11	214,143	\$	205,577 \$	8,566		s 1,576	76 \$	901 S	921 \$	943	\$	4,731 S	5,485 S	6.080	5 884	A	* 80/'L	2,480
7 WASTEWATER ADMINISTRATION 8 IPad 3 - WW Mgr. 9 WASTEWATER ADMINISTRATION ALL																				
		9/1/2013 \$	810	ŝ	778 S	32	5	s	\$ 9	8 9	9 \$	9	ŝ	26 \$	32 \$	32	s	8 0	ю ,	•
	Total	 ∽	810	s	778 \$	32		s	ۍ و	6 \$	6 5	· 6	s	26 S	32 \$	32	\$	\$ 9	\$	'
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322 722 - Waikoloa Sewer		\$ %00.07				. tī		5	0 0	3 \$	з С	3		12 \$	13 \$	13	s	3 \$	۲	•
		12 2000	108	L	103 \$	4		s	-	1 5	-	1	s	3 \$	4	4	s	1 S	ۍ ۱	ľ
24 727 - Kona Sewer		0 04/00/01																		
		~	9 617 064	•	9 232 382 \$	384,683		S 17,375	ю	14,595 \$	15,619	\$ 16,069	ы	179,702 S 19	195.058 \$ 210.755	210,755	\$ 162,53	162,537 \$ 176,	176,034 \$ 175,607	175,6(
325 IUIALS		•		,																

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	

Docket No. 2018-0388 Exhibit KWSC Sewer 8 Witness: Stout 2/28/2019

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

Linc			Test Teal	L IN	aing Decemi	001	01, 2010						Test Year	٦	Fest Year
Line No.															
1													esent Rates		posed Rates
2			2014		2015		2016		2017		2018		n 1, 2018 to		n 1, 2018 to
												De	ec. 31, 2019	De	c. 31, 2019
3	Revenues														
4	Residential														
5 6	Single-family	\$	110,948	\$	336,226	\$	959,539	\$	1,040,973	\$	1,084,012	\$	1,163,694	\$	1,306,998
-	Fixed revenues	\$		\$	536,602	•	323,496	\$	333,565	\$	339,684	\$	289,456		325,101
7 8	Metered revenues Power Cost Charge revenues	\$	001,022	\$	35,709	\$	93,311	ŝ	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	•		•		\$	687	\$	849	\$	972	\$	_	\$	-
17	Miscellaneous Service	\$	390	\$	268	ծ \$	430	э \$	049	φ \$	512	Ψ \$		\$	-
18	Other	\$	-	\$	20,001		(15,006)		7.078	φ \$	(13,073)	•		\$	_
19	Unbilled Revenue Adjustment	\$	12,186	\$	20,001	Ф	(15,000)	φ	7,070	φ	(13,073)	Ψ	-	Ψ	
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									•		•	405.040	¢	405 010
22	Labor Expenses	\$	159,571	\$	245,012		411,674		399,972		360,050	\$	485,810	ֆ Տ	485,810 134,489
23	Fuel & Power	\$	162,139	\$	126,893	\$	128,448	\$	134,409	\$	136,492	\$ \$	134,489 3,694		3,694
24	Chemicals	\$	2,439	\$	11,824	\$	10,189	\$	90	\$		Դ Տ	3,694 8,966	ф \$	3,094 8,966
25	Materials & Supplies	\$	11,951	\$	12,161	\$	14,113		6,699	\$	4,485 3,747	ъ \$	3,506	\$	3,506
26	Waste/Sludge Disposal	\$	1,788	\$	1,398	\$	2,541		3,730 59,241	\$ \$	65,415	Ф \$	55,684		55,684
27	Affiliated Charges	\$		\$	66,750	\$ \$	65,281 5,092		7,224	ф \$	5,413	\$	6,219	\$	6,219
28	Professional and Outside Services	\$	(20,549)	ծ Տ	29,261 231,829	ֆ \$	40,943		65,082	\$	32,371	\$	108,633	\$	108,633
29	Repairs & Maintenace	\$	• . • , • • •	Ф \$	3,308	Ψ \$	4,360	\$	5,025	\$	3.617	\$	13,312		13,312
30	Rental Expenses	\$ \$	4,909 1,854	Գ \$	2,203	\$	2,372		876	\$	997	ŝ	5,713		5,713
31	Insurance Expenses	э \$	1,004	Ψ \$	27,098	\$	23,238	\$	18,547	\$		\$	52,500		52,500
32	Regulatory Expenses	ֆ \$	23,219	э \$	24,878	\$	27,698	ŝ	23,379	\$		\$	25,024		25,024
33	General & Administrative Expenses	\$	2,064	\$	3,820	\$	10,446	\$	7,074	\$	9,780	\$	9,588	\$	9,588
34	Miscellaneous & Other Expenses	\$	62,320	Ψ \$	75,782	\$	109,766	\$				\$	116,177		129,436
35	Taxes Other than Income Taxes	у \$	209,224	\$	214,370	\$	213,624	•	207,028		207,028	\$	553,793		553,793
36	Depreciation Amortization	Ψ \$		\$		\$		\$	-	\$	-	\$	· -	\$	-
37 38	Income Taxes	Ψ \$	-	\$	-	\$	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
		_ <u>_</u>													

Docket No. 2018-0388 Exhibit KWSC Sewer 8.1 Witness: Stout 2/28/2019

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

Line

		2014		2015		2016		2017		2018	Pr Ja	resent Rates in 1, 2018 to	Pro Ja	Fest Year posed Rates n 1, 2018 to ec. 31, 2019
Sewer														
. .	\$	110.948	\$	336.226	\$	959,539	\$	1,040,973	\$	1,084,012	\$	1,163,694	\$	1,306,998
	\$		\$	536,602	\$	323,496	\$	333,565	\$	339,684	\$	289,456	\$	325,101
	•	-	\$		\$	93,311	\$	102,908	\$	105,144	\$	89,257	\$	89,257
1 Swel Obst Charge	•		•											
subtotal	\$	792,269	\$	908,537	\$	1,376,346	\$	1,477,445	\$	1,528,840	\$	1,542,407	\$	1,721,356
Non-Residential														
	•	10 540	¢	94 000	¢	(22 699)	¢	40 485	¢	40 485	\$	90 384	\$	101,514
		,						,				•		160,304
		78,012					-			,	-		-	44,012
Power Cost Charge	\$	-	Ф	11,000	Φ	43,991	φ	42,251	φ	59,690	Ψ	44,012	Ψ	11,012
subtotal	\$	126,522	\$	188,201	\$	172,550	\$	221,134	\$	209,583	\$	277,124	\$	305,830
Other Revenue														
	\$	390	\$	268	\$	687	\$	849	\$	972	\$	-	\$	-
	\$	-	\$	-	\$	430	\$	-	\$	-	\$	-		-
Unbilled Revenue Adjustment	\$	12,186	\$	20,001	\$	(15,006)	\$	7,078	\$	(13,073)	\$	-	\$	-
TOTAL	\$	931,367	\$	1,117,007	\$	1,535,007	\$	1,706,506	\$	1,726,322	\$	1,819,530	\$	2,027,186
	Non-Residential Business Fixed revenue Metered Revenue Power Cost Charge subtotal Other Revenue Miscellaneous Service Other	Residential Single-family Fixed revenue \$ Metered Revenue \$ Power Cost Charge \$ subtotal \$ Non-Residential \$ Business Fixed revenue Fixed revenue \$ Metered Revenue \$ Power Cost Charge \$ subtotal \$ Other Revenue \$ Miscellaneous Service \$ Other \$ Unbilled Revenue Adjustment \$	Sewer Residential Single-family Fixed revenue \$ 110,948 Metered Revenue \$ 681,322 Power Cost Charge \$ - subtotal \$ 792,269 Non-Residential Business Fixed revenue \$ 48,510 Metered Revenue \$ 78,012 Power Cost Charge \$ - subtotal \$ 126,522 Other Revenue Miscellaneous Service \$ 390 Other \$ - Unbilled Revenue Adjustment \$ 12,186	Sewer Residential Single-family Fixed revenue \$ 110,948 \$ Metered Revenue \$ 681,322 \$ Power Cost Charge \$ - \$ subtotal \$ 792,269 \$ Non-Residential Business Fixed revenue \$ 48,510 \$ Metered Revenue \$ 78,012 \$ Power Cost Charge \$ - \$ subtotal \$ 126,522 \$ Other Revenue Miscellaneous Service \$ 390 \$ Other \$ - \$ Unbilled Revenue Adjustment \$ 12,186 \$	Sewer Residential Single-family \$ 110,948 \$ 336,226 Metered Revenue \$ 681,322 \$ 536,602 Power Cost Charge \$ - \$ 35,709 subtotal \$ 792,269 \$ 908,537 Non-Residential \$ 91,738 Power Cost Charge \$ 11,553 subtotal \$ 126,522 \$ 188,201 Other Revenue \$ 390 \$ 268 Other \$ - \$ - Unbilled Revenue Adjustment \$ 12,186 \$ 20,001	Sewer Residential Single-family \$ 110,948 \$ 336,226 \$ Fixed revenue \$ 681,322 \$ 536,602 \$ Power Cost Charge \$ - \$ 35,709 \$ subtotal \$ 792,269 \$ 908,537 \$ Non-Residential Business Fixed revenue \$ 48,510 \$ 84,909 \$ Metered Revenue \$ 78,012 \$ 91,738 \$ Power Cost Charge \$ - \$ 11,553 \$ Subtotal \$ 126,522 \$ 188,201 \$ Other Revenue \$ 390 \$ 268 \$ Miscellaneous Service \$ 390 \$ 20,001 \$ Unbilled Revenue Adjustment \$ 12,186 \$ 20,001 \$	Sewer Residential Single-family \$ 110,948 \$ 336,226 \$ 959,539 Fixed revenue \$ 681,322 \$ 536,602 \$ 323,496 Power Cost Charge \$ - \$ 35,709 \$ 93,311 subtotal \$ 792,269 \$ 908,537 \$ 1,376,346 Non-Residential Business Fixed revenue \$ 48,510 \$ 84,909 \$ (23,688) Metered Revenue \$ 78,012 \$ 91,738 \$ 152,247 Power Cost Charge \$ - \$ 11,553 \$ 43,991 Subtotal \$ 126,522 \$ 188,201 \$ 172,550 Other Revenue \$ 126,522 \$ 188,201 \$ 172,550 Other Revenue \$ - \$ - \$ 430 Unbilled Revenue Adjustment \$ 12,186 \$ 20,001 \$ (15,006)	Sewer Residential Single-family \$ 110,948 \$ 336,226 \$ 959,539 \$ Metered Revenue \$ 681,322 \$ 536,602 \$ 323,496 \$ Power Cost Charge \$ - \$ 35,709 \$ 93,311 \$ subtotal \$ 792,269 \$ 908,537 \$ 1,376,346 \$ Non-Residential Business Fixed revenue \$ 48,510 \$ 84,909 \$ (23,688) \$ Metered Revenue \$ 78,012 \$ 91,738 \$ 152,247 \$ Power Cost Charge \$ - \$ 11,553 \$ 43,991 \$ Subtotal \$ 126,522 \$ 188,201 \$ 172,550 \$ Other Revenue \$ 390 \$ 268 \$ 687 \$ Miscellaneous Service \$ 390 \$ 268 \$ 687 \$ Other \$ 12,186 \$ 20,001 \$ (15,006) \$	Sewer Residential Single-family \$ 110,948 \$ 336,226 \$ 959,539 \$ 1,040,973 Metered Revenue \$ 681,322 \$ 536,602 \$ 323,496 \$ 333,565 Power Cost Charge \$ - \$ 35,709 \$ 93,311 \$ 102,908 subtotal \$ 792,269 \$ 908,537 \$ 1,376,346 \$ 1,477,445 Non-Residential Business Fixed revenue \$ 48,510 \$ 84,909 \$ (23,688) \$ 40,485 Metered Revenue \$ 78,012 \$ 91,738 \$ 152,247 \$ 138,353 Power Cost Charge \$ - \$ 11,553 \$ 43,991 \$ 42,297 subtotal \$ 126,522 \$ 188,201 \$ 172,550 \$ 221,134 Other Revenue \$ - \$ - \$ 430 \$ - Miscellaneous Service \$ 390 \$ 268 \$ 687 \$ 849 Other \$ - \$ - \$ 430 \$ - Unbilled Revenue Adjustment \$ 12,186 \$ 20,001 \$ (15,006) \$ 7,078	Sewer Residential Single-family \$ 110,948 \$ 336,226 \$ 959,539 \$ 1,040,973 \$ Metered Revenue \$ 681,322 \$ 536,602 \$ 323,496 \$ 333,565 \$ Power Cost Charge \$ - \$ 35,709 \$ 93,311 \$ 102,908 \$ subtotal \$ 792,269 \$ 908,537 \$ 1,376,346 \$ 1,477,445 \$ Non-Residential Business Fixed revenue \$ 48,510 \$ 84,909 \$ (23,688) \$ 40,485 \$ Metered Revenue \$ 78,012 \$ 91,738 \$ 152,247 \$ 138,353 \$ Power Cost Charge \$ - \$ 11,553 \$ 43,991 \$ 42,297 \$ subtotal \$ 126,522 \$ 188,201 \$ 172,550 \$ 221,134 \$ Other Revenue \$ - \$ - \$ 430 \$ - \$ Miscellaneous Service \$ 390 \$ 268 \$ 687 \$ 849 \$ Other \$ 12,186 \$ 20,001 \$ (15,006) \$ 7,078 \$	Sewer Residential Single-family \$ 110,948 \$ 336,226 \$ 959,539 \$ 1,040,973 \$ 1,084,012 Metered Revenue \$ 681,322 \$ 536,602 \$ 323,496 \$ 333,565 \$ 339,684 Power Cost Charge \$ - \$ 35,709 \$ 93,311 \$ 102,908 \$ 105,144 subtotal \$ 792,269 \$ 908,537 \$ 1,376,346 \$ 1,477,445 \$ 1,528,840 Non-Residential Business Fixed revenue \$ 48,510 \$ 84,909 \$ (23,688) \$ 40,485 \$ 40,485 \$ 129,208 Metered Revenue \$ 78,012 \$ 91,738 \$ 152,247 \$ 138,353 \$ 129,208 Power Cost Charge \$ - \$ 11,553 \$ 43,991 \$ 42,297 \$ 39,890 subtotal \$ 126,522 \$ 188,201 \$ 172,550 \$ 221,134 \$ 209,583 Other Revenue \$ 390 \$ 268 \$ 687 \$ 849 \$ 972 Miscellaneous Service \$ 390 \$ 268 \$ 687 \$ 849 \$ 972 Other \$ 12,186 \$ 20,001 \$ (15,006) \$ 7,078 \$ (13,073)	Sewer Residential Single-family Fixed revenue Fixed revenue \$ 110,948 \$ 336,226 \$ 959,539 \$ 1,040,973 \$ 1,084,012 \$ Metered Revenue \$ 681,322 \$ 536,602 \$ 323,496 \$ 333,565 \$ 339,684 \$ Power Cost Charge \$ - \$ 35,709 \$ 93,311 \$ 102,908 \$ 105,144 \$ subtotal \$ 792,269 \$ 908,537 \$ 1,376,346 \$ 1,477,445 \$ 1,528,840 \$ Non-Residential \$ 792,269 \$ 908,537 \$ 1,376,346 \$ 1,477,445 \$ 1,528,840 \$ Business \$ 78,012 \$ 91,738 \$ 152,247 \$ 138,353 \$ 129,208 \$ Power Cost Charge \$ 78,012 \$ 91,738 \$ 152,247 \$ 138,353 \$ 129,208 \$ Subtotal \$ 126,522 \$ 188,201 \$ 172,550 \$ 221,134 \$ 209,583 \$ Other Revenue \$ 390 \$ 268 \$ 687 \$ 849 \$ 972 \$ Miscellaneous Service \$ 390 \$ 268 \$ 687 \$ 849 \$ 972 \$ Unbilled Revenue Adjustment \$ 12,186 \$ 20,001 \$ (15,006) \$ 7,078 \$ (13,073) \$	Sewer Dec. 31, 2019 Residential Single-family Fixed revenue \$ 110,948 \$ 336,226 \$ 959,539 \$ 1,040,973 \$ 1,084,012 \$ 1,163,694 Fixed revenue \$ 681,322 \$ 536,602 \$ 323,496 \$ 333,565 \$ 339,684 \$ 289,456 Power Cost Charge \$ - \$ 35,709 \$ 93,311 \$ 102,908 \$ 105,144 \$ 89,257 subtotal \$ 792,269 \$ 908,537 \$ 1,376,346 \$ 1,477,445 \$ 1,528,840 \$ 1,542,407 Non-Residential Business Fixed revenue \$ 48,510 \$ 84,909 \$ (23,688) \$ 40,485 \$ 40,485 \$ 90,384 Metered Revenue \$ 78,012 \$ 91,738 \$ 152,247 \$ 138,353 \$ 129,208 \$ 142,728 Power Cost Charge \$ - \$ 11,553 \$ 43,991 \$ 42,297 \$ 39,890 \$ 44,012 subtotal \$ 126,522 \$ 188,201 \$ 172,550 \$ 221,134 \$ 209,583 \$ 277,124 Other Revenue \$ 390 \$ 268 \$ 687 \$ 849 \$ 972 \$ - Miscellaneous Service \$ 390 \$ 268 \$ 687 \$ 849 \$ 972 \$ - Subtotal \$ 12,186 \$ 20,001 \$ (15,006) \$ 7,078 \$ (13,073) \$ -	2014 2015 2016 2017 2018 Present Rates Jan 1, 2018 to Jan 1, 2018 to Jan 1, 2019 Pro- Jan 1, 2018 to Jan 1, 2019 Pro- Jan 1, 2019 Jan Dec. 31, 2019 Jan 1, 2018 (S Jan 2, 34 Jan 2, 34, 65 Jan 2, 34,

Docket No. 2018-0388 Exhibit KWSC Sewer 8.2 Witness: Stout 2/28/2019

Line No.								
1	Customer Count / Volumetric measure	ments					Test	Year
1	Oustomer Obunt? Volumetrie medeure	2014	2015	2016	2017	2018	Present	Proposed
2							Rates	Rates
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
	Subtotui							
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
Ŭ	Subiotal	2////						
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 Billed Sewer Flows and Customer Counts Test Year Ending December 31, 2019

Docket No. 2018-0388 Exhibit KWSC Sewer 8.3 Witness: Carrasco 2/28/2019

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%	
		(based on Department of Business,
		Economic Development and Tourism
2017->2018	2.27%	Forecast)
		(based on Department of Business,
		Economic Development and Tourism
2018->2019	2.84%	Forecast)

References:

2014 - 2017 data source:

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/

Docket No. 2018-0388 Exhibit KWSC Sewer 8.4 Witness: Carrasco 2/28/2019

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

No.						0040
1	Allocations from Big Island (Dept 720)	2012 - 2015	2016	2017	2018	2019
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)				o. (. 070)	04.070/
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%
10		100.00%	100.00%	100.00%	100.00%	100.00%
19	Allocations from Wastewater Administration (796)					00.00%
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%
20		100.00%	100.00%	100.00%	100.00%	100.00%

Docket No. 2018-0388 Exhibit KWSC Sewer 8.5 Witness: Carrasco 2/28/2019

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

Line No. 1 2		2014	2015	2016	2017	2018	Jar	rest Year 1, 2018 to c. 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

Docket No. 2018-0388 Exhibit KWSC Sewer 8.6 Witness: Carrasco 2/28/2019

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

Line No. Test Year 1 Jan 1, 2018 to 2017 2018 2014 2015 2016 2 Dec. 31, 2019 3 Expenses [\$] 4 104,796 \$ 113,273 99,680 \$ 104,403 \$ 99,429 \$ 130.954 \$ 5 Kukio WWTP \$ 2,150 1,625 2,028 \$ \$ 1,196 2,316 \$ \$ 2.399 \$ Pump Station #1 \$ 6 868 \$ 933 \$ 180 1,006 \$ 831 \$ \$ 1,231 \$ Pump Station #2 7 \$ 7,021 \$ 5,241 6,544 \$ 7,923 \$ 5,594 \$ 5,423 \$ Pump Station #3 8 9,250 \$ 9,836 \$ 7,843 \$ 10,360 Pump Station #4 \$ 11,918 \$ 10,069 \$ 9 3,398 \$ 3,659 \$ 2,537 \$ 2,525 \$ 3,393 3,167 \$ Pump Station #5 \$ 10 \$ 1,229 1,953 \$ \$ 2,011 \$ 2,101 \$ 1,796 1,892 Pump Station #6 \$ 11 \$ 5,470 \$ 5,906 \$ 5,996 \$ 1,769 3,236 \$ 3,289 Pump Station #7 \$ 12 133,269 \$ 136,492 \$ \$ 134,409 \$ 162,139 \$ 126,893 \$ 128,448 13 subtotal 1,220 2,490 \$ \$ 23 \$ 1,148 \$ \$ \$ Fuel for Power Production _ 14 134,489 \$ 134,409 \$ 136,492 \$ 126,893 \$ 128,448 162,139 \$ \$ 15 **Total Expense** Units of consumption [kWh] 16 17 364,400 376,600 367,400 349,200 334,500 353,300 Kukio WWTP 18 3,848 4,030 4,149 3,366 4,734 Pump Station #1 4,153 19 554 672 580 514 975 1,373 Pump Station #2 20 15,090 17,523 17,965 16,859 14,091 Pump Station #3 17,191 21 25.675 24,028 25,232 24,426 25,994 Pump Station #4 26,669 22 7,934 8,123 8,428 8,162 7,863 Pump Station #5 4,555 23 3,973 3,999 3,952 3,885 Pump Station #6 3,093 3,264 24 5,703 5,690 5,318 6,049 4,514 Pump Station #7 6,024 25 428,724 438,701 433,327 414,144 394,367 416,358 26 subtotal 0.3108 0.3102 \$ 0.3296 \$ 0.2928 \$ \$ 0.3218 \$ Unit Cost [\$ / kWh] \$ 0.3894 27

Docket No. 2018-0388 Exhibit KWSC Sewer 8.7 Witness: Carrasco 2/28/2019

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

Line	
No.	

Power Cost [\$]
 Power Cost [\$]
 Billed Sewer Flows [TG]
 Power Cost Charge [\$ / TG]
 Adopted Revenue Tax Factor
 Power Cost Charge Revenue

\$ 133,269 20,356 \$ 6.1540 6.385% \$ 133,269

Docket No. 2018-0388 Exhibit KWSC Sewer 8.8 Witness: Carrasco 2/28/2019

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

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Line No.								
1	Description	 2014	 2015	2016	2017	 2018	Jan	est Year 1, 2018 to . 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

Docket No. 2018-0388 Exhibit KWSC Sewer 8.9 Witness: Carrasco 2/28/2019

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

$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Test Year Jan 1, 2018 to Dec. 31, 2019	Ja	2018		2017		2016		2015		2014		Description	No. 1
1 Water Treatment and Water Quality \$ $-$		•				-							Direct Charge to KWSC Sewer	2
4 $44 \pm 1,153 \pm - 5 = -5 = 5$ $-5 \pm -5 = 5$ 6 Collection $5 \pm 2,355 \pm 1,435 \pm 6,33 \pm 8,08 \pm 2,619 \pm 5$ 7 Pumping $5 \pm 2,355 \pm 1,435 \pm 6,33 \pm 8,08 \pm 2,619 \pm 5$ 8 subtotal $5 \pm 1,435 \pm 6,633 \pm 8,08 \pm 2,619 \pm 5$ 9 Allocated From Hawaii Water to KWSC Sewer 10 Transmission & Distribution 11 $95 \pm 5 \pm 1,435 \pm 6,53 \pm 14 \pm 5 \pm 5 \pm -5 \pm 5$ 12 Transmission & Distribution 13 $56 \pm 14 \pm 5 \pm -5 \pm -5 \pm -5 \pm 5 \pm 5$ 14 Vater Treatment and Water Quality 15 subtotal 16 Collection 17 Transmission & Distribution 16 $5 \pm 10 \pm 3 \pm -5 \pm 5 \pm -5 \pm -5 \pm -5 \pm -5 \pm -5 \pm$			1,866		5,891	•	13,479				9,553	•	•	
5The lattice of the bold of			-		-	•	-				-	-	•	
0 Collection \$\$ 2,355 \$\$ 1,435 \$\$ 633 \$\$ 808 \$\$ 2,619 \$\$ 9 Allocated From Hawaii Water to KWSC Sewer 10 Treatment and Disposal \$\$ 11,951 \$\$ 12,161 \$\$ 14,113 \$\$ 6,699 \$\$ 4,485 \$\$ 9 Allocated From Hawaii Water to KWSC Sewer 10 Treatment and Disposal \$\$ 13 \$\$ 56 \$\$ 14 \$\$ - \$\$ - \$\$ - \$\$ - \$\$ 11 Water Treatment and Water Quality \$\$ - \$\$ - \$\$ - \$\$ - \$\$ - \$\$ 12 Transmission & Distribution \$\$ - \$\$ - \$\$ - \$\$ - \$\$ 13 \$\$ 56 \$\$ 14 \$\$ - \$\$ - \$\$ - \$\$ 14 Water Treatment and Water Quality \$\$ - \$\$ - \$\$ - \$\$ - \$\$ 15 subtotal \$\$ 10 \$\$ 3 \$\$ - \$\$ - \$\$ - \$\$ 16 Direct and Allocated Professional & \$\$ 9,566 \$\$ 9,628 \$\$ 13,493 \$\$ 5,891 \$\$ 1,866 \$\$ 16 Direct and Allocated Professional & \$\$ - \$\$ - \$\$ - \$\$ - \$\$ - \$\$ 17 Treatment and Water Quality \$\$ - \$\$ - \$\$ - \$\$ - \$\$ 18 Water Treatment and Water Quality \$\$ - \$\$ - \$\$ - \$\$ - \$\$ 19 Transmission & Distribution \$\$ 44 \$\$ 1,153 \$\$ - \$\$ - \$\$ - \$\$ 20 Collection \$\$ 2,365 \$\$ 1,438 \$\$ 633 \$\$ 81			-	ф Ф	-	•	-				44			-
7Pullphing subtotal 3 $10 + 11 + 13 + 12 + 14 + 13 + 14 + 14$			- - 2610	¢	-		-	•				-		-
9 Allocated From Hawaii Water to KWSC Sewer 10 Treatment and Disposal 11 Water Treatment and Water Quality 12 Transmission & Distribution 13 \$ - \$ - \$ - \$ 11 Water Treatment and Water Quality \$ -	****									· · ·				
10Treatment and Disposal\$13\$56\$14\$-\$-\$11Water Treatment and Water Quality\$-\$-\$-\$-\$-\$\$12Transmission & Distribution\$-\$-\$-\$-\$-\$\$13Collection\$-\$-\$-\$-\$-\$\$\$14Pumping\$10\$3\$-\$-\$-\$\$\$14Pumping\$10\$3\$-\$-\$-\$\$\$15subtotal\$10\$3\$-\$5\$-\$\$16Outside Services\$10\$3\$-\$-\$\$\$18Water Treatment and Water Quality\$-\$-\$-\$-\$\$\$19Transmission & Distribution\$44\$1,153\$-\$-\$					-,	•		+		Ŧ	11,001	Ψ	subtotal	0
10Treatment and Disposal $\$$ $ \$$ $*$ <td>\$ 5</td> <td>đ</td> <td></td> <td>÷</td> <td></td> <td>~</td> <td></td> <td>•</td> <td>50</td> <td>•</td> <td>10</td> <td></td> <td></td> <td></td>	\$ 5	đ		÷		~		•	50	•	10			
11Watch from the function of the formation of th	T		~		-		14		56		13	•	•	
12Transmission & Distribution $\$$ $\$$ \cdot $\$$ $ \$$ $*$			-		-		-		-		-	•	•	
13Collection14Pumping15subtotal15subtotal16Direct and Allocated Professional & Outside Services17Treatment and Disposal18Water Treatment and Water Quality19Transmission & Distribution19Transmission & Distribution10 $\$$ 11 $\$$ 12subtotal13 $\$$ 14 $\$$ 15 $\$$ 16Direct and Allocated Professional & Outside Services17Treatment and Disposal18Water Treatment and Water Quality19Transmission & Distribution10Collection11Pumping12subtotal12subtotal1311,9751411,1531411,1531411,1531511,9751411,1261511,97512,21914,1261514,4851010,62610,62610,58714,1266,70414,4851511,97512,21914,1261414,1261514,9191511,9191611,9191712,2191714,1261814,1261914,1261914,1261914,1261011,9191011,9191112,1268 <td>φ -</td> <td>Ψ</td> <td>-</td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td>-</td> <td>-</td> <td></td> <td></td>	φ -	Ψ	-		-				-		-	-		
14Pumping15subtotal15subtotal16Direct and Allocated Professional & Outside Services17Treatment and Disposal18Water Treatment and Water Quality19Transmission & Distribution19Transmission & Distribution10Collection11Pumping12subtotal1310,6261411,9751511,9751511,9751611,9751712,2191814,1261914,1261014,1261114,1261114,1261214,1261214,1261314,1261414,1261514,1261619,191714,1261619,191714,1261814,4851914,1261914,1261014,4851114,1261114,1261214,1261314,4851414,4851511,9191611,9191711,2681811,2681911,2681911,2681911,2681011,2681011,2681112,2771214,2771314,2671414,2671514,277 <t< td=""><td>\$2</td><td>¢</td><td>-</td><td></td><td>- 5</td><td></td><td>-</td><td></td><td>- 2</td><td>-</td><td>- 10</td><td>-</td><td></td><td></td></t<>	\$2	¢	-		- 5		-		- 2	-	- 10	-		
15Sublicial1111116Direct and Allocated Professional & Outside Services 0 utside Services17Treatment and Disposal\$ 9,566 \$ 9,628 \$ 13,493 \$ 5,891 \$ 1,866 \$ S - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -							- 14		_					
16Outside Services17Treatment and Disposal\$ 9,566 \$ 9,628 \$ 13,493 \$ 5,891 \$ 1,866 \$18Water Treatment and Water Quality\$ $-$ \$ $-$	• -	Ŧ		Ŷ	Ū	Ψ	14	Ψ	50	Ψ	25	φ		15
17Treatment and Disposal\$ $9,566$ \$ $9,628$ \$ $13,493$ \$ $5,891$ \$ $1,866$ \$18Water Treatment and Water Quality\$-\$-\$-\$-\$19Transmission & Distribution\$44\$ $1,153$ \$-\$-\$\$\$20Collection\$-\$-\$-\$-\$-\$\$\$20Collection\$-\$-\$-\$-\$-\$\$\$21Pumping\$2,365\$ $1,438$ \$633\$ 814 \$ $2,619$ \$22subtotal\$\$11,975\$12,219\$14,126\$ $6,704$ \$ $4,485$ \$23In 2019 Dollars\$\$10,626\$10,587\$14,552\$ $6,196$ \$ $1,919$ \$24Treatment and Disposal\$\$10,626\$10,587\$14,552\$ $6,196$ \$ $1,919$ \$25Water Treatment and Water Quality\$-\$-\$-\$-\$\$26Transmission & Distribution\$ 49 \$ $1,268$ \$-\$-\$\$\$26Pumping\$ $2,627$ \$ $15,81$ \$ 683 </td <td></td> <td>16</td>														16
18Water Treatment and Water Quality $\$$ $ \$$ $*$	\$ 7,083	\$	1,866	\$	5,891	\$	13,493	\$	9,628	\$	9,566	\$		17
19Transmission & Distribution $\$$ 44 $\$$ $1,153$ $ \$$ $*$ <			-		-	\$	-	\$	-	\$	-	\$		
20Collection $\$$ $ \$$ $*$ $ \$$ $*$ <td>•</td> <td>•</td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td> <td>\$</td> <td>1,153</td> <td>\$</td> <td>44</td> <td>\$</td> <td></td> <td></td>	•	•	-		-		-	\$	1,153	\$	44	\$		
21Pumping $$ 2,365 $ 1,438 $ 633 $ 814 $ 2,619 $22subtotal$ 11,975 $ 12,219 $ 14,126 $ 6,704 $ 4,485 $23In 2019 Dollars24Treatment and Disposal25Water Treatment and Water Quality26Transmission & Distribution27Collection28Pumping29Pumping20$ 2,627 $ 12,219 $ 14,126 $ 6,704 $ 4,485 $$	•			•				\$	-	\$	-	\$		
22 subtotal \$ 11,975 \$ 12,219 \$ 14,126 \$ 6,704 \$ 4,485 \$ 23 In 2019 Dollars 24 Treatment and Disposal 25 Water Treatment and Water Quality 26 Transmission & Distribution 27 Collection 28 Pumping						-								
24 Treatment and Disposal \$ 10,626 \$ 10,587 \$ 14,552 \$ 6,196 \$ 1,919 \$ 25 Water Treatment and Water Quality \$ - \$ - \$ - \$ - \$ - \$ 26 Transmission & Distribution \$ 49 \$ 1,268 \$ - \$ - \$ - \$ - \$ 27 Collection \$ - \$ - \$ - \$ - \$ - \$ 28 Pumping \$ 2,627 \$ 1,581 \$ 683 \$ 856 \$ 2,693 \$	\$ 8,438	\$	4,485	\$	6,704	\$	14,126	\$	12,219	\$	11,975	\$		
24 Heatment and Disposal 25 Water Treatment and Water Quality 26 Transmission & Distribution 27 Collection 28 Pumping 29 Pumping	• = = = = = = =	•											in 2019 Dollars	23
25 Water Treatment and Water Quality 3 49 1,268 - \$ <td>• •</td> <td></td> <td></td> <td>-</td> <td>6,196</td> <td></td> <td>14,552</td> <td>-</td> <td>10,587</td> <td></td> <td>10,626</td> <td></td> <td>Treatment and Disposal</td> <td>24</td>	• •			-	6,196		14,552	-	10,587		10,626		Treatment and Disposal	24
26 Harismission & Distribution 27 Collection 28 Pumping 29 Pumping	•				-		-		-					25
27 Collection 28 Pumping \$\$ 2,627 \$ 1,581 \$\$ 2,627 \$ 1,581 \$\$ 2,627 \$ 1,581 \$\$ 2,627 \$ 1,581 \$\$ 2,627 \$ 1,581 \$\$ 683 \$ 856 \$\$ 2,693 \$ 1,581	*	*		-	-			•			49		Transmission & Distribution	26
28 Pumping 0 1,027 0 1,037 0 15 035 0 7,051 0 4,612 0	•	•		-				-		-		\$	Collection	27
© 10,000 € 12,727 € 16,726 € 7,061 € 4,617 €						· · ·		T					Pumping	28
29 Total \$ 13,302 \$ 13,437 \$ 13,235 \$ 7,051 \$ 4,012 \$	<u>\$ 0,900</u>		4,612	\$	7,051	\$	15,235	\$	13,437	\$	13,302		Total	29

Docket No. 2018-0388 Exhibit KWSC Sewer 8.10 Witness: Carrasco 2/28/2019

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

1	Description	2	2014		2015		2016		2017		2018	Jan	est Year 1, 2018 to 5. 31, 2019
2 3	Sludge Removal subtotal	\$ \$	1,788 1,788	\$ \$	1,398 1,398	\$ \$	2,541 2,541	\$ \$	3,730 3,730	\$ \$	3,747 3,747	\$ \$	3,339 3,339
4 5 6	In 2019 Dollars Sludge Removal Total	\$	1,987 1,987	\$ \$	1,538 1,538	\$ \$	2,741 2,741	\$ \$	3,923 3,923	\$ \$	3,853 3,853	\$ \$	3,506 3,506

Docket No. 2018-0388 Exhibit KWSC Sewer 8.11 Witness: Carrasco 2/28/2019

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

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

Docket No. 2018-0388 Exhibit KWSC Sewer 8.12 Witness: Carrasco 2/28/2019

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

Line

No.	Description		2014	 2015		2016		2017		2018	Jan	est Year 1, 2018 to . 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								•	040	•	4 000
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										•	4 000
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				_						•	4 457
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	\$	-	<u>\$</u>		\$	-	\$	
24	Total	\$	(22,827)	\$ 32,177	\$	5,492	\$	7,598	\$	5,567	\$	6,219

Docket No. 2018-0388 Exhibit KWSC Sewer 8.13 Witness: Carrasco 2/28/2019

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

No.							Test Year
1	Description	2014	2015	2016	2017	2018	Jan 1, 2018 to Dec. 31, 2019
2	Direct Charge to KWSC Sewer						
3	Source of Supply	\$ - \$			\$ - \$		\$ -
4	Pumping	\$ 19,783 \$	19,460 \$	• • • • • • • • • • • • • • • • • • • •	\$ 29,184 \$,	\$ 12,966
5	Treatment and Disposal	\$ 287,212 \$,		\$ 17,497 \$		\$ 19,407
6	Transmission & Distribution	\$ 1,842 \$	3,071		1		\$ 667
7	A&G	\$ 865 \$,		\$ 261 \$		\$ 463
8	Mileage	\$ 13,637 \$	21,304				\$ 17,567
8	less chemicals	\$ (2,439) \$	(11,824)	\$ (10,189)			\$ (3,426)
9	less materials & supplies	\$ (11,951) \$	(12,161)				
10	less waste disposal	\$ (1,788) \$	(1,398)				
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 \$		•	\$ 11 \$		\$ 4
14	Pumping	\$ 439 \$	273	•	\$ 307 \$		\$ 164
15	Treatment and Disposal	\$ 1,402 \$	746	\$ 113	\$ 240 \$	452	\$ 268
16	Transmission & Distribution	\$ 1,962 \$	1,955	\$ 2,768	\$ 1,774 \$		\$ 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 \$			\$ 11 \$		\$4
23	Pumping	\$ 20,222 \$	19,733		\$ 29,490 \$		
24	Treatment and Disposal	\$ 288,614 \$			\$ 17,737 \$		
25	Transmission & Distribution	\$ 3,803 \$	5,025	\$ 3,244			\$ 3,322
26	A&G	\$ 2,835 \$	5,886	\$ 3,031	\$ 1,884 \$		\$ 2,371
27	Mileage	\$ 13,809 \$	21,558	\$ 24,787	\$ 23,349 \$	20,363	
28	less chemicals	\$ (2,439) \$	(11,824)	\$ (10,189)			\$ (3,426)
29	less materials & supplies	\$ (11,975) \$	(12,219)	\$ (14,126)	\$ (6,704) \$	6 (4,485)	
30	less waste disposal	\$ (1,788) \$	(1,398)	\$ (2,541)			
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 \$		
34	Pumping	\$ 22,464 \$	21,701	\$ 5,901	\$ 31,017 \$	6 4,556	\$ 13,825
35	Treatment and Disposal	\$ 320,602 \$	225,479	\$ 33,721	\$ 18,656 \$	5 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 \$	3 2,261	\$ 2,504
38	Mileage	\$ 15,340 \$	23,707	\$ 26,732	\$ 24,558 \$	3 20,941	\$ 24,077
39	less chemicals	\$ (2,710) \$	(13,003)	\$ (10,989)	\$ (94) \$	- 6	\$ (3,694)
40	less materials & supplies	\$ (13,302) \$,			6 (4,612)	\$ (8,966)
	less waste disposal	\$ (1,987) \$				(3,853)	\$ (3,506)
41 42	Effluent disposal feasbility study	\$ - \$		\$ -	\$ - \$		\$ 60,000
42	Total	\$ 348,030 \$			\$ 68,453	33,290	\$ 108,633
40	TULAI	 			· · · · · · · · · · · · · · · · · · ·		

Docket No. 2018-0388 Exhibit KWSC Sewer 8.14 Witness: Carrasco 2/28/2019

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

Line No.								
			0015	0040	0047	0040		est Year 1, 2018 to
1	Description	 2014	2015	 2016	 2017	2018	De	c. 31, 2019
2	Waikoloa Office and Baseyard	\$ 4,909	\$ 3,308	\$ 4,360	\$ 5,025	\$ 3,617	\$	13,312
3	Total	 \$4,909	\$ 3,308	\$ 4,360	\$ 5,025	\$ 3,617	\$	13,312
4 5 6	Waikoloa General Office Rent Expense (2019) Waikoloa Baseyard Rent Expense (2019) 4-Factor Allocation to KWSC Sewer	\$ 60,980 19,229 16.60%						
7	Total ((4 + 5) x 6)	\$ 13,312						

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

Line

No. 1	Description			2014		2015		2016	 2017		2018	Jan '	st Year 1, 2018 to 31, 2019
2 3 4	Direct Charge to KWSC Sewer Liability Insurance - General, Auto, Umbrella, and etc subtotal	see (1) below	<u>\$</u> \$	<u>192</u> 192		382 382		288 288	<u>204</u> 204	· ·	-	\$	<u></u>
5 6 7	Allocated From Hawaii Water to KWSC Sewer Liability Insurance - General, Auto, Umbrella, and etc subtotal		\$ \$	1,662 1,662	<u> </u>	1,821 1,821	\$ \$	2,084 2,084	 <u>672</u> 672		997 997	\$	-
8 9 10	Direct and Allocated Insurance Liability Insurance - General, Auto, Umbrella, and etc Total		\$	1,854 1,854		2,203 2,203		2,372 2,372	876 876		997 997	\$ \$	5,713 5,713

11 (1) Test year expense based on Marsh Insurance quotation and allocated to KWSC Sewer using a four-factor allocation methodology

	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

Docket No. 2018-0388 Exhibit KWSC Sewer 8.16 Witness: Carrasco 2/28/2019

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

1Test Year2DescriptionYear3PREPARATION AND FILINGYear4Rate case consulting\$5Accounting\$6Engineering\$7Other\$8Legal\$9Travel\$10Other non-labor\$11subotal\$12DISCOVERY AND SETTLEMENT13Rate case consulting14Accounting\$15Engineering16Other17Legal18Travel19Other non-labor10Travel10Other non-labor15Engineering16Other17Legal18Travel19Other non-labor20subotal21HEARINGS AND BRIEFING22Rate case consulting23Accounting24Engineering25Other26Legal27Travel28Other non-labor29subotal30STUDIES31Cost of Service32Accounting33subotal34Total34Total35Amortization Period36Test Year expense (Ln30/Ln31)3552.500	Line No.			
DREPARATION AND FILING 4 Rate case consulting 5 Accounting 6 Engineering 7 Other 8 Legal 9 Travel 10 Other non-labor 11 subotal 12 DISCOVERY AND SETTLEMENT 13 Rate case consulting 14 Accounting 15 Engineering 16 Other 17 Legal 18 Accounting 19 Other non-labor 10 Other non-labor 11 Subotal 12 DISCOVERY AND BRIEFING 13 Travel 14 Accounting 15 Engineering 16 Other 17 Legal 18 Travel 20 subotal 21 HEARINGS AND BRIEFING 22 Rate case consulting 23 Accounting				
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 Engi			Y	'ear
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	3	PREPARATION AND FILING		
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 \$ - 29 subotal	4			
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 \$ 18,500 31 Cost of Service \$ 18,500 32 Depreciation \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4	5		\$	-
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 \$ 18,500 31 Cost of Service \$ 18,500 32 Depreciation \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4	6		\$	-
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 \$ 18,500 31 Cost of Service \$ 18,500 32 Depreciation \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4	7	Other	\$	-
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 \$ 18,500 31 Cost of Service \$ 18,500 32 Depreciation \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4			\$	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 \$ 18,500 31 Cost of Service \$ 18,500 32 Depreciation \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4		Travel	\$	-
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 \$ 18,500 31 Cost of Service \$ 18,500 32 Depreciation \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4	10	Other non-labor	\$	-
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 \$ 20,000 27 Travel \$ 5,000 28 Other non-labor \$ - 29 subotal \$ 25,000 30 STUDIES \$ 18,500 31 Cost of Service \$ 18,500 32 Depreciation \$ 31,000 34 Total \$ 210,000 35	11	subotal	\$	16,500
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 \$ 20,000 27 Travel \$ 5,000 28 Other non-labor \$ - 29 subotal \$ 25,000 30 STUDIES \$ 18,500 31 Cost of Service \$ 18,500 32 Depreciation \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4	12	DISCOVERY AND SETTLEMENT		
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 \$ 20,000 27 Travel \$ 20,000 27 Travel \$ 5,000 28 Other non-labor \$ - 29 subotal \$ 25,000 30 STUDIES \$ 12,500 31 Cost of Service \$ 18,500 32 Depreciation \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4	13	Rate case consulting		
20Subtrain21HEARINGS AND BRIEFING22Rate case consulting23Accounting24Engineering25Other26Legal27Travel28Other non-labor29subotal30STUDIES31Cost of Service32Depreciation33subotal34Total35Amortization Period	14	Accounting	\$	-
20Subtrain21HEARINGS AND BRIEFING22Rate case consulting23Accounting24Engineering25Other26Legal27Travel28Other non-labor29subotal30STUDIES31Cost of Service32Depreciation33subotal34Total35Amortization Period	15	Engineering	\$	-
20Subtrain21HEARINGS AND BRIEFING22Rate case consulting23Accounting24Engineering25Other26Legal27Travel28Other non-labor29subotal30STUDIES31Cost of Service32Depreciation33subotal34Total35Amortization Period	16	Other	\$	-
20Subtrain21HEARINGS AND BRIEFING22Rate case consulting23Accounting24Engineering25Other26Legal27Travel28Other non-labor29subotal30STUDIES31Cost of Service32Depreciation33subotal34Total35Amortization Period	17	Legal	\$	
20Subtrain21HEARINGS AND BRIEFING22Rate case consulting23Accounting24Engineering25Other26Legal27Travel28Other non-labor29subotal30STUDIES31Cost of Service32Depreciation33subotal34Total35Amortization Period	18	Travel	\$	7,500
20Subtrain21HEARINGS AND BRIEFING22Rate case consulting23Accounting24Engineering25Other26Legal27Travel28Other non-labor29subotal30STUDIES31Cost of Service32Depreciation33subotal34Total35Amortization Period	19	Other non-labor	\$	
22 Rate case consulting \$ - 23 Accounting \$ - 24 Engineering \$ - 25 Other \$ - 26 Legal \$ 20,000 27 Travel \$ 20,000 28 Other non-labor \$ - 29 subotal \$ 25,000 30 STUDIES \$ 18,500 31 Cost of Service \$ 12,500 32 Depreciation \$ 31,000 33 subotal \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4	20	subotal	\$	137,500
23 Accounting \$ - 24 Engineering \$ - 25 Other \$ - 26 Legal \$ 20,000 27 Travel \$ 5,000 28 Other non-labor \$ - 29 subotal \$ 25,000 30 STUDIES \$ 18,500 31 Cost of Service \$ 18,500 32 Depreciation \$ 12,500 33 subotal \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4	21	HEARINGS AND BRIEFING		
23 Accounting \$ - 24 Engineering \$ - 25 Other \$ - 26 Legal \$ 20,000 27 Travel \$ 5,000 28 Other non-labor \$ - 29 subotal \$ 25,000 30 STUDIES \$ 18,500 31 Cost of Service \$ 18,500 32 Depreciation \$ 12,500 33 subotal \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4	22	Rate case consulting		
30 STUDIES 31 Cost of Service \$ 18,500 32 Depreciation \$ 12,500 33 subotal \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4	23			-
30 STUDIES 31 Cost of Service \$ 18,500 32 Depreciation \$ 12,500 33 subotal \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4	24	Engineering	\$	-
30 STUDIES 31 Cost of Service \$ 18,500 32 Depreciation \$ 12,500 33 subotal \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4	25	-	\$	-
30 STUDIES 31 Cost of Service \$ 18,500 32 Depreciation \$ 12,500 33 subotal \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4	26	Legal	\$,
30 STUDIES 31 Cost of Service \$ 18,500 32 Depreciation \$ 12,500 33 subotal \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4			\$	5,000
30 STUDIES 31 Cost of Service \$ 18,500 32 Depreciation \$ 12,500 33 subotal \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4		Other non-labor	\$	_
31 Cost of Service \$ 18,500 32 Depreciation \$ 12,500 33 subotal \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4	29	subotal	\$	25,000
31 Cost of Service \$ 18,500 32 Depreciation \$ 12,500 33 subotal \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4	30	STUDIES		
32 Depreciation \$ 12,500 33 subotal \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4	31	Cost of Service		
33 subotal \$ 31,000 34 Total \$ 210,000 35 Amortization Period 4			\$	
35Amortization Period4			\$	31,000
35 Amonization Ferror	34	Total	\$	210,000
36 Test Year expense (Ln30/Ln31) <u>\$ 52,500</u>	35	Amortization Period		4
	36	Test Year expense (Ln30/Ln31)	\$	52,500

Docket No. 2018-0388 Exhibit KWSC Sewer 8.17 Witness: Carrasco 2/28/2019

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

Line

No. 1	Description	 2014	 2015	2016	2017	 2018	Ja	Test Year n 1, 2018 to ec. 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

Docket No. 2018-0388 Exhibit KWSC Sewer 8.18 Witness: Carrasco 2/28/2019

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

1	Description		2014		2015		2016	 2017		2018	Ja	Test Year n 1, 2018 to ec. 31, 2019
2	Direct Charge to KWSC Sewer	\$	8,077	\$	8,986	\$	12,520	\$ 8,894	¢	6,216	\$	9,210
3	Office Supplies	ф Ф	182	э \$	0,900	φ \$	48	\$ 220	\$	0,210	\$	89
4 5	Misc G&A 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 & Adminsitrative											
11	Office Supplies	\$	16,999	\$	19,985	\$		\$ 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

Docket No. 2018-0388 Exhibit KWSC Sewer 8.19 Witness: Carrasco 2/28/2019

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

Line

No.

1	Description	2	2014		2015		2016		2017		2018	Ja	Test Year in 1, 2018 to ec. 31, 2019
2 3 4	Direct Charge to KWSC Sewer Customer Accounts subtotal	_\$		\$	(2,214) (2,214)		-	\$ \$	(389) (389)		<u>1,333</u> 1,333		<u>315</u> 315
5 6 7	Allocated From Hawaii Water to KWSC Sewer Customer Accounts subtotal	<u>\$</u> \$	2,080 2,080	\$	6,034 6,034	\$	10,446 10,446	\$ \$	7,463 7,463	\$	<u>8,447</u> 8,447		<u>8,785</u> 8,785
8 9 10	Direct and Allocated Customer Accounts Customer Accounts Total Customer Accounts	\$\$	2,064 2,064	\$	3,820 3,820	\$ \$	<u>10,446</u> 10,446	\$	7,074 7,074	\$	9,780 9,780		<u>9,100</u> 9,100
11 12 13	In 2019 Dollars Customer Accounts Total	\$ \$	2,293 2,293	\$ \$	4,201 4,201	\$ \$	11,265 11,265	\$ \$	7,441 7,441	\$ \$	10,058 10,058		9,588 9,588

Docket No. 2018-0388 Exhibit KWSC Sewer 8.20 Witness: Stout 2/28/2019

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

•

Line No. 1 2 3	Revenue Taxes	Rev Pres Rate		 enues at bosed es	Tax Rates	 es at sent es	 es at oosed es
4 5 6	Public Company Service Tax (Pursuant to HRS § 239)	\$	1,819,531	\$ 2,027,187	5.885%	\$ 107,079	\$ 119,300
7 8	Public Utility Fee (Purusant to HRS § 269-30)	\$	1,819,531	\$ 2,027,187	0.500%	\$ 9,098	\$ 10,136
9	Total Revenue Taxes					\$ 116,177	\$ 129,436
10	Total Taxes Other Than Income Taxes					\$ 116,177	\$ 129,436

Docket No. 2018-0388 Exhibit KWSC Sewer 8.21 Witness: Stout 2/28/2019

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

Line

No.				At Present Rates	I	At Proposed Rates
1	Total Revenues		\$	1,819,531	\$	2,027,187
2 3 4 5 6	Total Operations & Maintenance Expenses Depreciation Amortization Taxes Other than Income Taxes Total Operating Expenses		\$ \$ \$ \$ \$	913,137 553,793 - 116,177 1,583,107	\$ \$ \$ \$ \$	913,137 553,793 - 129,436 1,596,366
7	Operating Income before Income Taxes		\$	236,424	\$	430,821
8	Interest Expenses		\$	55,295	\$	55,295
9	State taxable Income	Less:	\$	181,129	\$	375,526
10 11 12 13 14	State income Tax less than \$25K Over \$25K, but less than \$100K Over \$100K Less Hawaii Capital Goods Excise Tax Credit	Tax Rates 4.4000% 5.4000% 6.4000%	\$ \$ \$ \$	1,100 4,050 5,192 (15,619)	\$ \$ \$	1,100 4,050 17,634 (15,619)
15	Federal taxable income		\$	186,406	\$	368,362
16 17	Federal income tax Over \$1	21.0%	\$	39,145	\$	77,356
18	Total Federal and State income taxes		\$	33,868	\$	84,521
19 20 21	Effective Tax Rate State Federal			18.699% -2.913% 21.0000%		22.507% 1.908% 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							
Line No.			(1)		(2)		(3)
1			Pro Forma for	Year		nber	· ·
2			Present		roposed		Proposed
3			Rates		ncrease		tes (7.48%)
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
	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 & Maintenace	\$	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	\$	<u>.</u>	\$	652,579
		¢	121,852	¢		\$	121,852
22	Taxes Other than Income Taxes	\$ \$	207,028	\$ \$	-	у \$	207,028
23	Depreciation		207,020	э \$	-	φ \$	207,020
24	Amortization	\$ \$	- 131,517	գ \$	85,825	\$	217,342
25	Income Taxes	φ	131,317	φ \$	05,025	\$	217,072
26	Diff. due to changing factors	\$	1,112,976	\$	85,825	\$	1,198,801
27	Total Operating Expenses	Φ	1,112,970	φ	05,025	Ψ	1,100,001
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%

Docket No. 2018-0388 Exhibit KWSC Sewer 10 Witness: Stout 2/28/2019

HAWAII WATER SERVICE COMPANY PROJECTED RATE OF RETURN

AL EFF. RATE	RATE OF RETURN
EFF. RATE	RETURN
5.50%	2.56%
9.20%	4.91%
	7.48%
-	

Line

Docket No. 2018-0388 Exhibit KWSC Sewer 11 Witness: Stout 2/28/2019

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

Line No. 1	Revenue Requirement	Prese	ent Rates	 Incremental	Prop	osed Rates	% Increase
2	No Phase-in	\$	1,819,531	\$ 207,656	\$	2,027,187	11.4%

Docket No. 2018-0388	Exhibit KWSC Sewer 12	Witness: Stout	2/28/2019
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Kona Water Service Company, Inc. Wastewater Operations Rate Design Test Year Ending December 31, 2019

Line No.

					Pronosed Revenue	Proposed		
~	Revenue Requirement	Split	Present Revenue	Incremental	Split	Revenue	+/- Rev. Req.	% increase
~	Fixed	74.4% \$	1.254.078	\$ 154,434	74.4% \$	1,408,512	، ج	12.3%
100	Metered	25.6% \$	432,184	\$ 53,222	25.6% \$	485,406	י א	12.3%
4	Power Cost Charge	. С Э	133,269	۱ د	\$	133,269		%0.0
· ۲	Total	100.0% \$	1,819,531	\$ 207,656	\$	2,027,187 \$	۰ ب	11.4%
)					\$	I		
¢		Descent Detec	Dronocod Datas	Present Customer	Present Customer Proposed Customer	Present Revenue	Proposed	% increase

4	i	ſ	C			Present Customer	 Proposed Customer 		Dresent Pevanile	Proposed	% increase
Q	Fixed Revenue	Pres	resent Kates	Propose	Proposed Kates	Count	Count			Revenue	10 11101 0000
2	Number of Services										
¢	Residential	ф	470.75	ь	528.72	206		206 \$	1,163,694	1,306,998	12.3%
o (Business	Ф	470.75	<i>ч</i>	528.72	16	16	9 8	90,384 \$	101,514	12.3%
, 6	۱ŀ					222		222 \$	1,254,078 \$	1,408,512	
2											

11 Metered Revenue

12	Metered Revenue	P	resent Rates	Propos	Proposed Rates	Present [TG]	Proposed [TG]	Present Revenue	Sevenue	Proposed Revenue	% increase
13	Residential	60	21.2315	Ś	23.8461	13,633	13,633	\$	289,456 \$	325,101	12.3%
4	Business	Ф	21.2315	÷	23.8461	6,722	6,722 \$	\$	142,728 \$	160,304	12.3%
15						. 20,356	20,356	\$	432,184 \$	485,406	
2											

16	bower Cost Charge	ā	Present Rates	Propos	roposed Rates	Present [TG]	Proposed [TG]	Present Revenue	venue	Proposed Revenue	% increase
17	/ Electricity Cost [\$]	φ	133,269 \$	Ś	133,269	20.356	20 356				
~ ~	 18 billed Sewer Flows 19 Power Cost Charge [\$ / TG] 	ю	6.1540 \$	Ś	6.1540	2000	000	÷	133,268 \$	133,268	%0.0
20) Total							\$	133,268 \$	133,268	

Exhibit KWSC-T-100 Direct Testimony of Robert Stout



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

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Power Cost Charge	
Cost of Service Studies and Rate Designs	
KWSC Water	
KWSC Sewer	

1		WEST HAWAII UTILITY COMPANY GENERAL RATE CASE
2		DIRECT TESTIMONY OF ROBERT STOUT
3		
4	Intro	oduction
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	Com	pany, Inc. ("Hawaii Water"). My business mailing address is P. O. Box 384809, Waikoloa,
8	Haw	aii, 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 spe	nt 25 years in the hospitality industry, the final seven as Controller of a Hawaii Island
13	Reso	rt. I have ten years with Hawaii Water and have served as the Accounting Manager since
14	Janua	ary 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	requi	rements 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	estim	nates of certain expenses, calculation of rate base, rate of return, proposed tariff revisions,
21	the c	ost 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	Dece	mber 31, 2017 as reported to the Hawaii Public Utilities Commission (the "Commission")
26	in KV	WSC's annual reports. Exhibit KWSC-2 Schedule E shows KWSC's balance sheet and
27	incor	ne statement as of June 30, 2018. The other financial exhibits supporting the Application
28	are li	sted in Section V of the Application.

1

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

KWSC requests that the Commission waive the requirement to provide audited financial 2 A. 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 Utilities").¹ In the most recent rate case filing for KWSC, the same request was made and the 6 waiver was granted.² The estimated cost to hire a third party to perform an audit is at least 7 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 CWSG's website.³ Also included in this application are the consolidated revenue requirement 13 and rate base for KWSC.⁴ 14

15

16 **<u>Revenue Requirement</u>**

17 Q. Please describe the summary of earnings.

The summary of earnings exhibit for each division shows the revenue requirement and 18 A. 19 rate of return summary at present and proposed rates for the test year ending December 31, 2019.⁵ These exhibits show all of the expense categories estimated in the work papers, the 20 average rate base for the test year, and the rate of return at present and proposed rates. Most of 21 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 <u>http://ir.calwatergroup.com/Investor-Relations/Financial-Reports/SEC-Filings</u>

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

at proposed rates and the requested percentage increases for KWSC's water and sewer operations
in the test year beginning January 1, 2019 and ending December 31, 2019:

D	ivision		Revenue a resent Rat	11	ncremental		venue at osed Rates	% Increase	Exhibit Reference
KWSC	C Water	\$	3,528,	828 \$	452,560	\$	3,981,387	12.8%	Exhibit KWSC Water 6
KWSC	C Sewer	\$	1,819,	531 \$	207,656	\$	2,027,187	11.4%	Exhibit KWSC Sewer 6
5				Table 1	01. Test Yea	r Revei	ue Require	ements.	
6									
7 D	etails of	frevenue	e require	ments fo	or each divis	ion car	be found i	in the corres	ponding Exhibits
8 li	sted in t	he table	above.						
9									
10 <u>T</u>	est Yea	r Reven	ues						
11 Q). Pl	ease des	scribe ho	ow reve	nues were e	estimat	ed at prese	ent and pro	posed rates.
12 A	. R	evenue f	or KWS	C consis	sts of three c	ompon	ents: fixed	revenue, m	etered revenue, and
13 p	ower co	st charge	e ("PCC"	') revent	ue. Fixed re	venue	at present r	ates is calcu	lated using the
14 ci	urrently	approve	d fixed r	ate for e	each meter si	ize, mu	ltiplied by	the estimate	ed customer count in
15 th	e respec	ctive cus	tomer cla	ass for t	he test year.	Meter	ed revenue	at present 1	ates is calculated
16 u	sing the	currently	y approv	ed quan	tity rate for	each us	age block,	multiplied	by the estimated
	_			-	-		-	-	r the test year. ⁶ PCC
		-		-		-			plied by the
			-				0		ar. The following
			•		ent rates by c			5	č
Divisio	on	Fixed Re	venue	Metere	d Revenue	PCC	Revenue	Total	Exhibit Reference
WSC Wa		\$	83,784	\$	2,276,845		168,199	\$ 3,528,828	Exhibit KWSC Water 8.1
WSC Sev	wer	\$ 1,2	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.

Details of revenue at present and proposed rates for each division can be found in the corresponding Exhibits listed in the table above. Fixed revenue at proposed rates is calculated using proposed rates, multiplied by the estimated customer count for the test year. Metered revenue at proposed rates is calculated using proposed rates, multiplied by the estimated water consumption in the test year. Finally, PCC revenue is calculated using the division's corresponding PCC formula multiplied by the estimated water consumption for the test year. Sales, Services, and Production Please discuss the Exhibits in which recorded and forecasted customer counts are **Q**. shown. Exhibits KWSC Water 8.3 and KWSC Sewer 8.2 show the recorded customer counts by A. customer class. The Exhibits also show the forecasted customer counts by customer class in the test year. **Q**. How were customer counts estimated for the test year? A. Generally, customer counts for the test year were estimated by using the actual 2018 customer count as of June 30, 2018. KWSC has observed relatively steady customer counts in most customer classes and believes the recorded 2018 customer counts are a reasonable forecast for customer counts in the test year. The 2018 customer count will be updated when the 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:

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20

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

23 24

 Table 103. Customer Count.

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

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

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

Details of water sales and billed sewer flows for each division can be found in the corresponding
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, and19 income taxes.

20

21 Four-factor Allocation

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

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,

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

expenses include payroll, rent, insurance, and employee benefits. The details of these expenses
 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 are13 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.

6

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

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

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

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

	Division KWSC Water	Hawaii Water GO (790) 10.63%	Big Island (720) 14.64%	Wastewater Admin. (796) 0.00%	Exhibit Reference Exhibit KWSC Water 8.5
	KWSC Sewer	5.86%	7.94%	13.30%	Exhibit KWSC Sewer 8.4
2			Table 105. Fo	ur-factor Allocatio	ons.
3					
4	The information c	ontained in the E	xhibits above	is identical for ea	ch of the divisions.
5					
6	Q. Is the four	r-factor methodo	ology widely a	accepted in the w	vater industry?
7	-			-	t method is unavailable or
8		•			ccepted technique used to
9	•				nits. This is the method used
	* *	C	1		
10			·	1	d by the Hawaii Public
11	Utilities Commiss	sion in the recent	rate cases file	d for Hawaii Wat	er's Waikoloa Resort,
12	Waikoloa Village	Water, Waikoloa	Village Sewe	er, Kona, Ka'anap	bali Water, and Pukalani
13	Wastewater opera	ting units. ⁸			
14					
15	Depreciation Exp	ense			
16	Q. How were	the depreciable	lives determ	ined?	
17	A. KWSC is	proposing to use	group deprecia	ation for its plant,	, property, and equipment. For
18	this application, A	US was retained	to perform a c	detailed deprecation	on 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.				

1

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 Advocate to use group depreciation.⁹ 13

14

15

Q. How was depreciation expense estimated?

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

Division	Division Depr		Depreciation Expense	Depreciation Group
		Expense	Exhibit Reference	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
,	Tabla 107	Incomo Tox	Fynansa

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?
- 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?

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

7

8 Q. How was plant in service estimated?

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

19Plant 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

Table 109. Plant Additions

21

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?

A. The net salvage adjustment represents a reduction to rate base due to the collection of net
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

by the Commission in its decisions for the Ka'anapali, Pukalani, and Waikoloa rate cases.¹² The
 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

10

Table 111. Contributions in Aid of Construction.

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.

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.

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.

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, working cash was calculated using the 1/12th method, which is generally accepted by state 4 regulatory commissions for determining working cash for smaller utilities. This method uses 5 1/12th of the annual operating expenses as a proxy for determining the amount of cash that is 6 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	Wo	rking Cash	Exhibit Reference
KWSC Water	\$	210,919	Exhibit KWSC Water 7.15
KWSC Sewer	\$	76,095	Exhibit KWSC Sewer 7.15

Table 113. Working Cash.

- 10
- 11

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

14

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

17 Prior to the purchase of Kukio Utility Company, Inc.'s ("KUC") assets by KWSC, A. 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 "committed capacity".¹⁴ The committed capacity was comprised of the following: 24 25 Makalei 627,200 gpd 26 Others 54,000 gpd

¹⁴ <u>See</u> 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.

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

3	Stroud	15,000 gpd
4	Robarts	18,000 gpd

5 Veteran's Cemetery/State 9,000 gpd

In Docket No. 2007-0198, KUC made adjustments to rate base to remove the capacity related to the obligation to provide water service to these properties from the rate setting process.¹⁵ KUC made committed capacity adjustments of 25.37% for Makalei and 2.18% for "Others", for a total committed capacity adjustment of 27.55%.¹⁶ Once this percentage was determined, it was applied to the total production capacity rate base of \$4,243,703, which resulted in rate base associated with capacity committed to Makalei and Others of \$1,076,627 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
- should have been \$571,068, as compared with \$1,076,827.¹⁹ The Parties subsequently agreed to
- 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 <u>See</u> Stipulation of the Parties for Partial Settlement filed on May 4, 2015 in Docket No. 2013-0375 (the "Partial Stipulation") at 46-47.

Docket No. 2018-0388 Exhibit KWSC-T-100 Witness: Stout

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 rate case? 10

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 KWSC's service territory and no potable water was being provided.²¹ The Consumer Advocate 17 18 agreed that there should not be a committed capacity adjustment for the West Hawaii Veteran's Cemetery, but argued that there should be an adjustment for the Stroud and Robarts properties.²² 19 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 service to that property.²³ 24

 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 an adjustment of \$60,000 for the Robarts property but did not agree that there should any adjustment for the Stroud property. See Partial Stipulation at 48.

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

1 **O**: 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 plant that was used to calculate excess capacity of that plant.²⁴ The Consumer Advocate stated 25 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?

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

12

13 Rate of Return

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

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

Equity is calculated as 53.4% of the proposed average test year rate base. The propo
structure is shown in Exhibit 10.²⁷

19

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

A. Applicant is requesting a 7.48% rate of return ("ROR") based on a 46.6% debt to 53.4%

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% cost of debt is the actual interest rate under the long term note payable by KWSC to CWSG.²⁸ 2 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 for the period 2017-2020.²⁹ Applicants believe it is reasonable to request the same ROE as their 9 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.
- 21 application22

23 Phase-in of Rate Increases

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

A. No. The revenue increases requested by KWSC in this case are 12.8% and 11.4% for
water and sewer operations, respectively. In other proceedings, the Consumer Advocate's
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?

A. Yes. KWSC is proposing to revise the pump efficiency factor for its water operation, as
described in greater detail below. As I will discuss in greater detail below, KWSC is not
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?

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

Electricity cost per Thousand Gallons

$$= previous month's unit cost of electricity \left(\frac{\$}{kWh}\right)$$

× pump efficiency factor
$$\left(\frac{kWh}{TG}\right)$$
 × revenue tax factor

16

where the pump efficiency factor is 18.71 kWh / TG. The revenue tax factor is 1.06385, which
consists of the Public Service Company tax and Public Utility Commission fee. The current
pump efficiency factor of 18.71 kWh / TG is a function of the amount of energy consumed and
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:
- 3

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

4

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

Electricity Cost per Thousand Gallons

=
$$\frac{Previous Month's Electrical Cost ($)}{Previous Month's Total Metered TG of Water} imes revenue tax factor$$

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

18

Table 114. PCC Revenue.

Docket No. 2018-0388 Exhibit KWSC-T-100 Witness: Stout

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

7

6 Cost of Service Studies and Rate Designs

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

8 In KWSC's most recent rate case, the Commission ordered it to complete and file a Cost A. of Service Study (the "COSS") with its next rate case application.³³ In order to comply with the 9 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 <u>See</u> KWSC D&O at 124.

maintain its existing rate designs. However, KWSC is proposing a different methodology to
 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 for6 KWSC.

7

8 <u>KWSC Water</u>

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

15

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

16

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 individual meter size.³⁴ The resulting revenues to be collected through fixed charges and 25 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".

1

$2,579,039 \times 4.2\% = 108,255$ and 2,579,039 - 108,255 = 2,470,784

2

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 Next, the ready to serve charge is calculated. To determine the amount of revenue 9 collected through the ready to serve charge, the ratio of ready to serve charge revenue to total 10 metered revenues at present rates is multiplied by the projected metered revenues at proposed 11 rates. The amount of revenue to be collected through the ready to serve charge is \$1,105,740. 12 This amount is further allocated by residential, cottage, and business customers by multiplying 13 the ratio of ready to serve revenue at present rates in those classifications to the total ready to 14 serve revenue at present rates. Once the revenue at proposed rates to be collected is known, the 15 monthly ready to serve charge is calculated by dividing revenue at proposed rates by the 16 customer count in a customer class and by 12.

17 Finally, quantity rates are calculated. To determine the amount of revenue collected 18 through metered rates, the ratio of metered rate revenues to total metered revenues is multiplied 19 by the projected metered revenues at proposed rates. The amount of revenue to be collected 20 through metered rates is \$1,365,043. This amount is further allocated by usage block by 21 multiplying the ratio of usage block revenue at present rates to the total metered rate revenue at 22 present rates. Once the revenue at proposed rates by usage block to be collected is known, the 23 proposed block rates can be calculated by dividing revenue at proposed rates by the total sales in 24 each usage block. Detailed calculations are shown in Exhibit KWSC Water 12.

25

26 <u>KWSC Sewer</u>

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

24

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						
	$1,893,918 \times 74.4\% = 1,4,08,512$					
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						
	$\frac{\$485,406}{20,356TG} = \$23.8461 / TG$					
22						
23	KWSC is proposing to maintain the 7,000 gallons cap of metered water usage for non-residential					

KWSC is proposing to maintain the 7,000 gallons cap of metered water usage for non-residential
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.

Docket No. 2018-0388 Exhibit KWSC-T-101 Audit Quote Witness: Stout

Deloitte & Touche LLP 555 Mission Street Suite 1400 San Francisco, CA 94105 USA

Tel:+1 415 783 4000 www.deloitte.com

Deloitte

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,

Delatte + Jouch LLP

Partner – Audit Services Deloitte & Touche LLP

Docket No. 2018-0388 Exhibit KWSC-T-102 Water Depreciation Study Witness: Stout



KONA WATER SERVICE COMPANY

Kona Water (KW)

Depreciation Study

as of December 31, 2017

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

AUS CONSULTANTS 792 Highway 333, Suite 200 Tijeras, NM 87059 <u>www.ausinc.com</u>



June, 2018



Docket No. 2018-0388 Exhibit KWSC-T-102 Water Depreciation Study Witness: Stout

EARL M. ROBINSON, CDP Principal 792 Old Highway 66, Suite 200 Tijeras, NM 87059 717.763.9890 * Tel 717.877.6895 * Cell erobinson@ausconsultants.com

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,

Earl Robinso

EARL M. ROBINSON, CDP &

DDC. SML

DAVID A. SHEFFER

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Docket No. 2018-0388 Exhibit KWSC-T-102 Water Depreciation Study Witness: Stout

SECTION 1

Kona Water Service Company

Kona Water (KW) Executive Summary

<u>Table 1's</u> 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.

<u>Table 1a</u> 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.

<u>Table 2 - Plant Only</u> 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.

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

<u>Table 3</u> 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.

<u>Table 4</u> 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.

<u>Table 5</u> 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.

<u>Table 6</u> 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 <u>Composite Depreciation Rate</u> 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%

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SECTION 2

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| | | | | | | |

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Iter De | bit KWSC-T
preciation S
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|--|---|--|--|---|---|--
--
--
--|---
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--
--|--|--|---|--|--|--
---|---|---|--|---|---
---|--|
| | : | Net
Change
<u>Depr. Exp.</u> | (u) | | (339.23) | (339.23) | 1.57

 | (42.35) | (380.01)

 | (6.67) | (6.67)
 | 73,512.37
7,371.15 | 80,876.85 | 28,619.34 | 28,619.34 | (1,176.17) | (1,176.17) | 27,443.17
 | | 16,746.77
16,746.77 | (11,638.14)
(18,710.06)
(30,348.20) | 0.00
(56.58) | (13,658.01) |
| | | <u>sed Rates</u>
Annual Accrual
<u>Amount</u> | (L | | 810.73 | 810.73 | 21.61

 | 323.05 | 1,155.39

 | 46.97 | 46.97
 | 103,930.79
7,676.43 | 111,654.19 | 81,277.14 | 81,277.14 | 7,089.79 | 7,089.79 | 88,366.93
 | | 68,002.37
68,002.37 | 59,992.97
125,738.14
185,731.11 | 0.00
688.26 | 254,421.74 |
| | | Total Propo | () | | 2.35% | 2.35% | 2.69%

 | 2.21% | 2.31%

 | 2.92% | 2.92%
 | 4.66%
0.82% | 3.52% | 3.07% | 3.07% | 2.11% | 2.11% | 2.96%
 | | 2.64%
2.64% | 1.64%
1.68%
1.67% | 5.00% (1)
2.31% | 1.85% |
| | | ss COR Rates
nual Accrual
<u>Amount</u> | (k) | | 75.90 | 75.90 | 5.62

 | 29.23 | 110.75

 | 8.04 | 8.04
 | 10,705.32
0.00 | 10,713.36 | 6,618.66 | 6,618.66 | 436.81 | 436.81 | 7,055.47
 | | 12,879.24
12,879.24 | 21,582.84
37,422.07
59,004.91 | 0.00
199.63 | 72,083.78 |
| | RATES | roposed Gro
Ar
Rate % | 0 | | 0.22% | 0.22% | 0.70%

 | 0.20% | 0.22%

 | 0.50% | 0.50%
 | 0.48%
0.00% | 0.34% | 0.25% | 0.25% | 0.13% | 0.13% | 0.24%
 | | 0.50%
0.50% | 0.59%
0.50%
0.53% | 0.00%
0.67% | 0.52% |
| euse | | | Θ | | 0.00 | 00.0 | 0.00

 | 00.0 | 00.00

 | 00.0 | 00.00
 | 0.00 | 00.00 | 0.00 | 0.00 | 0.00 | 00.00 | 0.00
 | | 0.00 | 00.0
00.0 | 0.00 | 0.00 |
| in Service
Depreciation Exp
es | | Proposed Gross S
A | (H) | | 0.00% | %00.0 | %00.0

 | 0.00% | 0,00%

 | 0.00% | %00.0
 | 0.00%
0.00% | 0.00% | 0.00% | %00.0 | 0.00% | 0.00% | 0.00%
 | | 0.00%
0.00% | 0.00%
0.00% | 0.00%
0.00% | 0.00% |
| ost of Utility Plant
teed Annual Book
and Proposed Rat | | 75 | (6) | | 734.83 | 734.83 | 15.99

 | 293.81 | 1044,63

 | 38.93 | 38.93
 | 93225.47
7676.43 | 100940.83 | 74658.48 | 74658.48 | 6652.98 | 6652.98 | 81311.46
 | | 55123.13
55123.13 | 38410.14
88316.07
126726.21 | 0.00
488.64 | 182,337.98 |
| of Original Co
1017 and Rela
Ider Present a | | Proposed Plar
A
Rate % | (J) | | 2.13% | 2.13% | 1.99%

 | 2.01% |

 | 2.42% |
 | 4.18%
0.82% | 3.19% | 2.82% | 2.82% | 1.98% | 1.98% | 2.73%
 | | 2.14%
2.14% | 1.05%
1.18%
1.14% | 5.00%
1.64% | 1.33% |
| Summary
of December 31, 2
Ur | 1 | | (e) | | 1,149.96 | 1,149.96 | 20.04

 | 365.40 | 1,535.40

 | 53.64 | 53.64
 | 30,418.42
305.28 | 30,777.34 | 52,657.80 | 52,657.80 | 8,265.96 | 8,265.96 | 60,923.76
 | | 51,255.60
51,255.60 | 71,631.11
144,448.20
216,079.31 | 0.00
744.84 | 268,079.75 |
| aso | | <u>Under Pres</u>
Ar
Rate % | (q) | | 3.33% | 0.00% | 2.49%

 | 2.50% |

 | 3.33% |
 | 1.36%
0.03% | 0.97% | 1.99% | 1.99% | 2.46% | 2.46% | 2.04%
 | | 1.99%
1.99% | 1.96%
1.93%
1.94% | 0.00%
2.50% | 1.95% |
| | | Original
Cost
12-31-17 | (c) | | 34,499.12 | 34,499,12 | 803.28

 | 14,617.49 | 49,919.89

 | 1,608.73 | 1,608.73
 | 2,230,274.41
936,149.79 | 3,168,032.93 | 2,647,464.00 | 2,647,464.00 | 336,009.08 | 336,009.08 | 2,983,473.08
 | | 2,575,847.29
2,575,847.29 | 3,658,108.19
7,484,413.00
11,142,521.19 | 0.00
29,794.95 | 13,748,163.43 |
| | | Description | (q) | DEPRECIABLE PLANT | urce of Supply
uctures & Improvements | Total Account 311 | sh

 | pply Mains | TAL Source of Supply

 | <u>mping Plant</u>
mping Structures & Improvements | Total Account 321
 | mping Equipment
stem Ctrl Computer Equip | TAL Pumping Plant | ter Treatment Plant
ter Treatment Structures & Improvements | Total Account 331 | iter Treatment Equipment | Total Account 332 | TAL Water Treatment Plant
 | insmission & Distribution Plant | servoirs & Tanks
otal Reservoirs & Tanks | Transmission & Distribution Mains
ins-All Other
ins-Ductile Iron
Total Account 343 | ters
drants | TOTAL Trans. & Distr. Plant |
| | | Acct.
No | (a) | | 311.00 Str | | 315.00 We

 | 316.40 Suj | TO

 | 321.00 Pur |
 | 324.00 Pur
324.10 Sys | TO | 331.00 Wa | | 332.00 Wa | · | TO
 | 피 | 342.00 Re.
T | 343.40 Ma
343.50 Ma | 346.00 Me
348.00 Hyo | 10 |
| | Summary of Original Cost of Utility Plant in Service
as of December 31, 2017 and Related Amual Book Depreciation Expense
Under Present and Proposed Rates | 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
PROPOSED RATES | Summary of Original Cost of Utility Plant in Service Summary of Original Cost of Under Present and Proposed Rates Service Original Under Present and Proposed Rates PROPOSED RATES Original Under Present Rates Proposed Flant Only Rates PROPOSED RATES Cost Annual Accrual Annual Accrual Annual Accrual Annual Accrual Description 12.31-17 Rate % Amount Rate % Amount | Summary of Original Cost of Utility Plant in Service Summary of Original Cost of Utility Plant in Service Summary of Original Cost of Utility Plant in Service Summary of Original Cost of Utility Plant in Service Original Under Present and Proposed Rates Original Under Present Rates Proposed Rates Original Under Present Rates Proposed Gross Salvate Rates Total Proposed Rates Cost Annual Accrual Annual Accrual Annual Accrual Annual Accrual Description (c) (d) (g) (h) (h) (h) (h) (h) (h) | Summary of Original Cost of Utility Plant in Service
as of December 31, 2017 and Related Amual Book Depreciation Expense
Under Present and Proposed Rates
Description Summary of Original Cost of Under Present and Proposed Rates Description Under Present Rates Proposed Plant Only Rates Proposed Gross Salvage Rates Total Proposed Rates (b) (c) (d) (e) (f) (g) (h) (h) (h) (h) (h) (b) (c) (d) (e) (f) (g) (h) (h) (h) (h) (h) (h) | Summary of Original Cost of Under Present and Proposed Rated Annual Book Depreciation Expense Summary of Original Cost of December 31, 2017 and Related Annual Book Depreciation Expense Description Original Cost Under Present and Proposed Rates ProPOSED RATEs (b) (c) (d) (e) (f) (g) (h) (f) (f) (b) (c) (d) (e) (f) (g) (h) (h) (h) (h) Description 12.31-17 Rate & Amnual Accrual Amnual Accrual Rate & Amnual Accrual Amnua | Summary of Original Cost of Utility Plant in Service a of December 31, 2017 and Related Annual Book Depreciation Expense Under Present and Proposed Rates Original Under Present and Proposed Rates ProPOSED RATES Total Proposed Rates Domut Rate % Amound Accrual Col Col <thc< td=""><td>Summary of Original Cost of Utility Plant in Service Summary of Original Cost of Utility Plant in Service Contraine Related Annual Book Depreciation Expense Under Present and Proposed Rates Description Original Original Under Present and Proposed Rates Description Original Original Under Present and Proposed Rates Original Under Present and Proposed Rates Original Under Present Rates Total Proposed Rates Original Original Original Original Under Present Rates Total Accuual Original Original Original Original Original Original Original Original Original Original Original Original Original Original Original Original</td><td>Summary of Onginal Cost of Unity Plant in Service Summary of Onginal Cost of Unity Plant in Service Summary of Onginal Cost of Unity Plant in Service Description Onginal Under Present and Proposed Rates Onginal Cost Under Present and Proposed Rates PROPOSED RATES Onginal Cost Under Present and Proposed Rates Proposed Rates Onginal Under Present and Proposed Rates Onginal Cost Under Present Rates Proposed Rates Proposed Rates One Open One Open <th< td=""><td>$\begin{tabular}{ c c c c c c c } \label{eq:conditional} \end{tabular} as of Oreginal Cost of Unity Part in Service$</td><td>Summary of Cignand Cast of Unity Plant in Service Summary of Cignand Cast of Unity Plant in Service Summary of Cignand Cast of Mund Service Conginal Under Present and Proposed Rated Annual Service Original Under Present and Proposed Rated Proposed Rated Original Under Present and Proposed Rated Proposed Grass Shutch Proposed Grass Shutch Colspan="6">Original Original Under Present and Proposed Rated Annual Accrual Rate Xi, Annual Accrual Annual Accrual Operation (b) (c) (d) (d)</td><td>$\ \ \ \ \ \ \ \ \ \ \ \ \$</td><td>Image: constraint of /td><td>Summary of Comparing Control Ministruation Summary of Comparing Control Ministruation Summary of Comparing Control Ministruation Summary of Comparing Construction Expenses Comparing Ministruation Summary of Comparing Construction Expenses Description Comparing Ministruation Comparing Ministruation PERPOSES MITES PERPOSES MITES Construction Construction Reservice Construction Expenses Construction Construction Construction Construction Construction Construction Construction Construction Expenses Construction Construction</td><td>Image: constraint of /td><td>Summary of Cignital Card UNINP Flant In Sinvie
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Docket No. 2018-0388 Exhibit KWSC-T-102 Study Stout

			o se	Summary f December 31, 2 Ui	r of Original C 2017 and Rela der Present	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	in Service Depreciation Exp es	euse					
								PROPOSED RATES	RATES				
Acct.		Original <u>1</u> Cost	Under Present Rates Annual Accr		Proposed Pla	Proposed Plant Only Rates Annual Accrual	Proposed Gross Salvage Rates Annual Accrual		roposed Gr	Proposed Gross COR Rates Annual Accrual	Total Pro	Total Proposed Rates Annual Accruat	Net Change
No Description	ption	12-31-17	Rate %	Amount	Rate %	Amount	Rate %		Rate %	Amount	Rate %	Amount	Depr. Exp.
(a) (b)	((c)	(q)	(e)	Û	(6)	(4)	0	9	(k)	€	(m)	(u)
<u>General Plant</u>													
372.10 Office-Elec. Equip/Computers Total Account 372	ers	6,545.51 6,545.51	0.00% 0.00%	0.0	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 374.00 Stores Equipment 375.00 Laboratory Equipment 378.00 Tools, Shop & Garage Equipment 	ipment	154,214,14 28,232,38 2.577,48 18,387,15	10.65% 2.50% 5.00% 1.88%	16,431.00 705,84 128.76 346.14	4.40% 4.20% 7.41% 4.63%	6785.42 1185.76 190.99 851.33	-1.25% 0.00% 0.00%	(1,927.68) 0.00 0.00 0.00	0.00% 0.00% 0.00% 0.00%	00.0 00.0 00.0	3.15% 4.20% 7.41% 4.63%	4,857.75 1,185.76 190.99 851.33	(11,573.25) 479.92 62.23 505.19
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	3.37%	7,085.83	(10,525.91)
TOTAL DEPRECIABLE PLANT	ANT	20, 159, 545, 99	1.88%	378,927.99	1.86%	374,648.40	-0.01%	(1,927.68)	0.45%	89,963.36	2.30%	462,684.08	83,756.09
NON-DEPRECIABLE PLANT	ABLE PLANT												

(1) The company anticipates adding plant to utility account 34500 – 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.

0.00 20,159,545.99

TOTAL NON-DEPRECIABLE PLANT TOTAL UTILITY PLANT IN SERVICE

Table 1 - KW

Kona Water Service Company Kona Water (KW)

Plant Only Depr Reserve 12-31-17 ()		3,853.56	3,853.56	15.09	352.73	4,221.38	256.43	256.43	1,079,238.82 925,565.33	2,005,060.58	554,283.39	554,283.39	129,078.66
Gross Salvage In <u>Book Res.</u> (i)		0.00	00.00	00.00	00.0	00.0	0.0	00.0	0.00	00.00	0.00	00.00	00.0
Cost of Removal In <u>Book Res.</u> (h)		255.47	255.47	8.29	43.12	306.88	43.15	43.15	91,859.44 0.00	91,902.59	79,019.23	79,019.23	3,017.50
Total Book Depr Reserve <u>12-31-17</u> (9)		4,109.03	4,109.03	23.38	395.85	4,528.26	299.58	299.58	1,171,098.26 925,565.33	2,096,963.17	633,302.62	633,302.62	132,096.16
Theoretical Deprecation <u>Reserve</u> (f)		2,810.20	2,810.20	31.99	474.36	3,316.55	258.87	258.87	1,010,453.83 806,913.15	1,817,625.85	869,211.49	869,211.49	63,367.39
A.S.L./ Curve (e)		45-R4		50-R3	50-R3		40-R3		21-L3 10-R3		40-R3		38-R2.5
Salvage <u>%</u> (d)		-10%		-35%	-10%		-20%		-10% 0%		-10%		-5%
Original Cost 12-31-17 (c)		34,499.12	34,499.12	803.28	14,617.49	49,919.89	1,608.73	1,608.73	2,230,274.41 936,149.79	3,168,032.93	2,647,464.00	2,647,464.00	336,009.08
Description (b)	DEPRECIABLE PLANT	<u>Source of Supply</u> Structures & Improvements	Total Account 311	Wells	Supply Mains	TOTAL Source of Supply	<u>Pumping Plant</u> Pumping Structures & Improvements	Total Account 321	Pumping Equipment System Ctrl Computer Equip	TOTAL Pumping Plant	<u>Water Treatment Plant</u> Water Treatment Structures & Improvements	Total Account 331	Water Treatment Equipment
Acct. No. (a)		311.00		315.00	316.40		321.00		324.00 324.10		331.00		332.00
	OriginalTheoreticalTotal BookCost ofGrossCostSalvageA.S.L./DeprecationDepr ReserveRemovalSalvageDescription12-31-17 $\frac{96}{10}$ CurveReserve12-31-17In Book Res.In Book Res.(b)(c)(d)(e)(f)(g)(h)(i)	Original Theoretical Total Book Cost of Gross Description Cost Salvage A.S.L./ Deprecation Depr Reserve Removal Salvage (b) (c) (d) (e) (f) (g) (h) (i) (i)	Original Theoretical Total Book Cost of Gross of Machine Gross of Machine Machine Gross of Machine Machine<	Description Original Theoretical Total Book Cost of Gross of Plan (b) Cost Salvage A.S.L/ Depr Reserve Removal Salvage Depr (b) (c) (d) (e) (f) (g) (h) (h) (j) (b) (c) (a) (e) (f) (g) (h) (j) (h) (j) DEPRECIABLE PLANT 34,499.12 -10% 45-R4 2,810.20 4,109.03 255.47 0.00 Total Account 311 34,499.12 -10% 45-R4 2,810.20 4,109.03 255.47 0.00	$\begin{tabular}{ c c c c c c c } \hline \begin{tabular}{ c c c c c c c } \hline \begin{tabular}{ c c c c c c c } \hline \begin{tabular}{ c c c c c c c } \hline \begin{tabular}{ c c c c c c c c c c c c c c c c c c c$		Description Original Cost Salvage Salvage A.S.L/ A.S.L/ (b) Theretical (b) Total Book Cost of Reserve Gross of Removal Bopr Reserve Removal Gross of Salvage Pan Flag (b) (c) (d) (d)	Description (b) Original Cost (b) Original Cost (c) Theoretical Salvage (c) Theoretical (c) Total Book (c) Cost (c) (c) Good (c) (c) </td <td></td> <td></td> <td></td> <td></td> <td></td>					

Table 1a - KW

Kona Water Service Company Kona Water (KW)

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

Plant Only Depr Reserve	12-31-17	6	129,078.66	683,362.05
Gross Salvage	In Book Res.	Ξ	0.00	0.00
Cost of Removal	In Book Res.	Ē	3,017.50	82,036.73
Total Book Depr Reserve	12-31-17	(6)	132,096.16	765,398.78
Theoretical Deprecation	Reserve	(ŧ)	63,367.39	932,578.88
A.S.L./	Curve	(e)		
Salvage	%	(q)		
Original Cost	12-31-17	(c)	336,009.08	2,983,473.08
	Description	(q)	Total Account 332	TOTAL Water Treatment Plant
Acct.	No.	(a)		

																	N		epreciation Witness:
ONLY - KW			Annual Depreciation <u>Rate</u>		2.13%	%00.0	1.99%	2.01%	0.62%	2.42%	2.42%	4.18% 0.82%	3.19%	2.82% 0.00% 2.82%	1.98% 0.00% 1.98%	2.72%		2.14% 2.14%	
Table 2 - PLANT ONLY - KW			Annual Depreciation		735.00		16.00	294.00	310.00	39.00	39.00	93,201.00 7,670.00	100,910.00	74,597.00 0.00 74,597.00	6,637.00 0.00 6,637.00	81,234.00		55,001.00 55,001.00	
Tal			Average Remaining [41.67		48.52	48.52		34.64		12.35 1.38		28.06	31.18 -			37.09	
			A.S.L./ Survivor Curve		45-R4	0	50-R3	50-R3		40-R3		21-L3 10-R3		40-R3	38-R2.5 0			50-R3	
		l, 2017	Unrecovered Original Cost		30,645.56	30,645.56	788.19	14,264.76	45,698.51	1,352.30	1,352.30	1,151,035.59 10,584.46	1,162,972.35	2,093,180.61 0.00 2,093,180.61	206,930.42 0.00 206,930.42	2,300,111.03		2,039,984.79 2,039,984.79	
		Calculation of sed Upon Utility s of December 31	Book Depreciation <u>Reserve</u>		3,853.56	3,853.56	15.09	352.73	4,221.38	256.43	256.43	1,079,238.82 925,565.33	2,005,060.58	554,283.39 0.00 554,283.39	129,078.66 0.00 129,078.66	683,362.05		535,862.50 535,862.50	
	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 ok Depreciation Reserve and Average Remaining Lives as of December 3	Original Cost Less Est. Future Net Salvage		34,499.12	34,499.12	803.28	14,617.49	49,919.89	1,608.73	1,608.73	2,230,274.41 936,149.79	3,168,032.93	2,647,464.00 0.00 2,647,464.00	336,009.08 0.00 336,009.08	2,983,473.08		2,575,847.29 2,575,847.29	
	ater Service C o Kona Water (KW)	Utility Plai d Deprecia werage Re	d Future alvage Amount		٥	0	0	0	0.00	0	0	00	0	000	000	0		00	
	Kona Wat Ko)riginal Cost of ation Rates an Reserve and <i>⊦</i>	Estimated Future Net Salvage <u>% Rate</u> Amoun ¹		%0		%0	%0		%0		%0 %0		%0 %0	%0			%0	
		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	Original Cost 12-31-17		34,499.12	34,499.12	803.28	14,617.49	49,919.89	1,608.73	1,608.73	2,230,274.41 936,149.79	3,168,032.93	2,647,464.00 - 2,647,464.00	336,009.08 - 336,009.08	2,983,473.08		2,575,847.29 2,575,847.29	
			Description	DEPRECIABLE PLANT	<u>Source of Supply</u> Structures & Improvements	Total Account 311	Wells	Supply Mains	TOTAL Source of Supply	<u>Pumping Plant</u> Pumping Structures & Improvements	Total Account 321	Pumping Equipment System Ctrl Computer Equip	TOTAL Pumping Plant	<u>Water Treatment Plant</u> Water Treatment Structures & Improvements Water Treatment Struct. & Improv Pavement Total Account 331	Water Treatment Equipment Water Treatment Plant - Filters Total Account 332	TOTAL Water Treatment Plant	<u>Transmission & Distribution Plant</u>	Reservoirs & Tanks Total Reservoirs & Tanks	
			Account No.		311.00		315.00	316.40		321.00		324.00 324.10		331.00 331.10	332.00 332.20			342.00	

Docket No. 2018-0388 Exhibit KWSC-T-102 on Study ss: Stout

		Annual Depreciation <u>Rate</u>	1.05% 1.18% 1.14%	5.00% (1) 1.64%	1.32%		%00.0 %00.0	4.40% 4.20% 7.41% 4.63%	4.29%	1.85%			
		Annual Depreciation De <u>Accrual</u>	38,509.00 88,020.00 126,529.00	0.00 489.00	182,019.00		0.00	6,785.00 1,186.00 191.00 851.00	9,013.00	373,486.00			
		Average Remaining <u>Life</u>	67.42 67.17	20.00 56.71			2.05	3.42 22.25 9.21 16.47					
		A.S.L./ Survivor Curve	80-R2.5 80-R2.5	20-R3 60-R2.5			7-L3	8-L3 25-L2 15-R2.5 20-S0					
	1, 2017	Unrecovered Original <u>Cost</u>	2,596,301.62 5,912,307.24 8,508,608.86	0.00 27,718.01	10,576,311.66		00.0	23,205.25 26,388.32 1,761.36 14,013.69	65,368.62	14,150,462.17			017, experience. dustry.
	Calculation of tsed Upon Utility s of December 3	Book Depreciation Reserve	1,061,806.57 1,572,105.76 2,633,912.33	0.00 2,076.94	3,171,851.77		6,545.51 6,545.51	131,008.89 1,844.06 816.12 4,373.46	144,588.04	6,009,083.82			: December 31, 2 mpany historical iced within the in
Kona Water Service Company Kona Water (KW)	Summary of Original Cost of Utility Plant in Service and Calculation of nunal Depreciation Rates and Depreciation Expense Based Upon Utility Depreciation Reserve and Average Remaining Lives as of December 31, 2017	Original Cost Less Est. Future Net Salvage	3,658,108.19 7,484,413.00 11,142,521.19	0.00 29,794.95	13,748,163.43		6,545.51 6,545.51	154,214.14 28,232.38 2,577.48 18,387.15	209,956.66	20,159,545.99			159,545.99 4600 – Meters & Meter Boxes in the test year. As of the December 31, 2017, it investments recorded to that utility account and no Company historical exper the average service life and net salvage being experienced within the industry.
ater Service C Kona Water (KW)	of Utility Pla Ind Deprecia Average R	d Future alvage Amount	000	00	00.0		00	0000	0.00	0.00			kes in the te hat utility ac d net salvaç
Kona Wa	riginal Cost Ition Rates a Reserve and	Estimated Future Net Salvage <u>% Rate</u> Amount	%0 %0	%0			%0	%0 %0					& Meter Bo: ecorded to 1 ervice life an
	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 3	Original Cost 12-31-17	3,658,108.19 7,484,413.00 11,142,521.19	0.00 29,794.95	13,748,163.43		6,545.51 6,545.51	154,214,14 28,232,38 2,577,48 18,387,15	209,956.66	20,159,545.99		0.00	20,159,545.99 ccount 34600 – Meters s no plant investments r ed upon the average se
		Description	<u>Transmission & Distribution Mains</u> Mains-All Other Mains-Ductile Iron Total Account 343	Meters Hydrants	TOTAL Trans. & Distr. Plant	<u>General Plant</u>	Office-Elec. Equip/Computers Total Account 372	Transportation Equipment Stores Equipment Laboratory Equipment Tools, Shop & Garage Equipment	TOTAL General Plant	TOTAL DEPRECIABLE PLANT	NON-DEPRECIABLE PLANT	TOTAL NON-DEPRECIABLE PLANT	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.
		Account No.	343.40 343.50	346.00 348.00			372.10	373.00 374.00 375.00 378.00					

Table 2 - PLANT ONLY - KW

		Enso	mary of Orio	Kona Wate Kon ainal Cost of U	Kona Water Service Company Kona Water (KW) Summary of Oridinal Cost of Utility Plant in Service and Calculation of	any se and Calculation	oţ				
		Annual De Book Depre	epreciation ciation Resi	Rates and De erve and Avei	Annual Depreciation Rates and Depreciation Expense Based Upon Utilization of Book Depreciation Reserve and Average Remaining Lives as of December 31, 2017	Based Upon Utilizes as of Decembe	cation of r 31, 2017				
Account <u>No.</u> (a)	t Description (b)	Original Cost 12-31-17 (c)	Estimated Future Gross Salvage <u>%</u> Amoun (d) (e)	l Future <u>alvage</u> Amount (e)	Original Cost Less Salvage (f)	Book Depreciation Reserve (9)	Net Original Cost Less Salvage (h)	A.S.L./ Survivor Curve ()	Average Remaining Life ()	Annual Depreciation Accrual (k)	Annual Depr Rate ()
	DEPRECIABLE PLANT										
311.00	<u>Source of Supply</u> Structures & Improvements	34,499.12	%0.0	00.0	34,499.12	0.00	0.00	45-R4	41.67	0.00	%00.0
	Total Account 311	34,499,12		0,00	34,499,12	00.0	0.00			00.0	0.00%
315.00	Wells	803.28	0.0%	00.0	803.28	00.0	0.00	50-R3	48.52	0.00	%00.0
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		00.0	49,919.89	0.00	0.00			0.00	0.00%
321.00	<u>Pumping Plant</u> Pumping Structures & Improvements	1,608.73	%0.0	00.0	1,608.73	0.00	0.00	40-R3	34.64	0.00	%00.0
	Total Account 321	1,608.73	0.0%	00.00	1,608.73	00.0	0.00			00.0	0.00%
324.00 324.10	Pumping Equipment System Ctrl Computer Equip	2,230,274.41 936,149.79	0.0% 0.0%	00.0	2,230,274.41 936,149.79	0.00	0.00	21-L3 10-R3	12.35 1.38	0.00	0.00% 0.00%
	TOTAL Pumping Plant	3,168,032.93		0.00	3,168,032.93	00'0	0.00			00.00	0.00%
331.00	<u>Water Treatment Plant</u> 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		00.0	2,647,464.00	0.00	0.00			00.0	%00.0
332.00	Water Treatment Equipment	336,009.08	0.0%	0.00	336,009.08	0.00	0.00	38-R2.5	31.18	00.0	0.00%
	Total Account 332	336,009.08		0.00	336,009.08	0.00	0.00			00.0	0.00%
	TOTAL Water Treatment Plant	2,983,473.08		0.00	2,983,473.08	0.00	0.00			00.00	0.00%
	Transmission & Distribution Plant										
342.00	Reservoirs & Tanks Total Reservoirs & Tanks	2,575,847.29 2,575,847.29	0.0%	0.00	2,575,847.29 2,575,847.29	0.00	0.00	50-R3	37.09	0.00	%00°0 %00°0

Docket No. 2018-0388 Exhibit KWSC-T-102 Water Depreciation Study Witness: Stout

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Table 2-Gross Salvage-KW

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

Annual Depr Rate	€	0.00% 0.00% 0.00%	0.00% (1) 0.00%	0.00%		0.00%	-1.25% 0.00% 0.00% 0.00%	-0.92%	-0.01%			
Åoÿ		555	50	J		5	, 300	Ŷ	Y			
Annual Depreciation Accrual	(k)	0.00 0.00 0.00	00.0 0.0	0.00		00.0 00.0	(1,927.33) 0.00 0.00 0.00	-1,927.33	-1,927.33			
Average Remaining Life	9	67.42 67.17	20.00 56.71			2.05	3.42 22.25 9.21 16.47					
A.S.L./ Survivor Curve	()	80-R2.5 80-R2.5	20-R3 60-R2.5			7-L3	8-L3 25-L2 15-R2.5 20-S0					
Net Original Cost Less Salvage	(l)	0.00 0.00 0.00	0.00	0,00		00.0 00.0	(6,591.46) 0.00 0.00 0.00	(6,591.46)	(6,591.46)			.31, 2017, orical experience. the industry.
Book Depreciation Reserve	(b)	00.0 00.0	0.00	0.00		0.00	(8,829.95) 0.00 0.00 0.00	(8,829.95)	(8,829.95)			i of the December no Company hist tperienced within f
Original Cost Less Salvage	Ð	3,658,108.19 7,484,413.00 11,142,521.19	29,794.95	13,748,163.43		6,545.51 6,545.51	138,792.73 28,232.38 2,577.48 18,387.15	194,535.25	20,144,124.58			s in the test year. As t utility account and het salvage being ex
Estimated Future <u>Gross Salvage</u> % Amount	(e)	00.0 00.0	0.00	0.00		0.0 0.0	15,421.41 0.00 0.00 0.00	15,421.41	15,421.41			k & Meter Boxes recorded to tha ervice life and r
Estimated Futuri <u>Gross Salvage</u> Mmou	(q)	%0.0 %0.0	%0.0 %0.0			0.0%	10.0% 0.0% 0.0% 0.0%					0 – Meters vestments average si
Original Cost 12-31-17	(c)	3,658,108.19 7,484,413.00 11,142,521.19	0.00 29,794.95	13,748,163.43		6,545.51 6,545.51	154,214.14 28,232.38 2,577,48 18,387.15	209,956.66	20,159,545.99		0.00	20,159,545.99 to utility account 3460 mpany has no plant in ioped based upon the
Description	(4)	<u>Transmission & Distribution Mains</u> Mains-All Other Mains-Ductile Iron Total Account 343	Meters Hydrants	TOTAL Trans. & Distr. Plant	General Plant	Office-Elec. Equip/Computers Total Account 372	Transportation Equipment Stores Equipment Laboratory Equipment Tools, Shop & Garage Equipment	TOTAL General Plant	TOTAL DEPRECIABLE PLANT	NON-DEPRECIABLE PLANT	TOTAL NON-DEPRECIABLE PLANT	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.
Account No.	(a)	343.40 343.50	346.00 348.00			372.10	373.00 374.00 375.00 378.00					

	Annual Annual Depreciation Depr Accrual (t) (t)		76.66 0.22%	76.66 0.22%	5.62 0.70%	29.24 0.20%	111.52 0.22%	8.04 0.50%	8.04 0.50%	10,620.89 0.48% 0.00 0.00%	10,628.93 0.34%	6,618.93 0.25%	6,618.93 0.25%	442.04 0.13%	442.04 0.13%	7,060.97 0.24%		12,880.29 0.50% 12,880.29 0.50%
	Average Remaining Life ()		41.67		48.52	48.52		34.64		12.35 1.38		28.06		31.18				37.09
	A.S.L./ Survivor Curve (j)		45-R4		50-R3	50-R3		40-R3		21-L3 10-R3		40-R3		38-R2.5				50-R3
of ation of 31, 2017	Net Original Cost Less Salvage (h)		3,194.44	3,194.44	272.86	1,418.63	4,885.93	278.60	278.60	131,168.00 0.00	131,446.60	185,727.17	185,727.17	13,782.95	13,782.95	199,510.12		477,729.83 477,729.83
e and Calculation Based Upon Utiliz: s as of December	Book Depreciation Reserve (9)		255.47	255.47	8.29	43.12	306,88	43.15	43.15	91,859.44 0.00	91,902.59	79,019.23	79,019.23	3,017.50	3,017.50	82,036.73		166,231.99 166,231.99
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	Original Cost Less Salvage (f)		37,949.03	37,949.03	1,084.43	16,079.24	55,112.70	1,930.48	1,930.48	2,453,301.85 936,149.79	3,391,382.12	2,912,210.40	2,912,210.40	352,809.53	352,809.53	3,265,019.93		3,219,809.11 3,219,809.11
Original Cost of U ion Rates and Dep Reserve and Aver	Estimated Future Cost of Removal <u>%</u> Amount d) (e)		(3,449.91)	(3,449.91)	(281.15)	(1,461.75)	(5,192.81)	(321.75)	(321.75)	(223,027,44) 0.00	(223,349.19)	(264,746.40)	(264,746.40)	(16,800.45)	(16,800.45)	(281,546.85)		(643,961.82) (643,961.82)
Summary of al Depreciati epreciation I	Estima <u>Cost of</u> (d)		-10.0%		-35.0%	-10.0%		-20.0%		-10.0% 0.0%		-10.0%		-5.0%				-25.0%
Annus Book De	Original Cost 12-31-17 (c)		34,499.12	34,499.12	803.28	14,617.49	49,919.89	1,608.73	1,608.73	2,230,274.41 936,149.79	3,168,032.93	2,647,464.00	2,647,464,00	336,009.08	336,009.08	2,983,473.08		2,575,847.29 2,575,847.29
	Description (b)	DEPRECIABLE PLANT	<u>Source of Supply</u> Structures & Improvements	Total Account 311	Wells	Supply Mains	TOTAL Source of Supply	<u>Pumping Plant</u> Pumping Structures & Improvements	Total Account 321	Pumping Equipment System Ctrl Computer Equip	TOTAL Pumping Plant	<u>Water Treatment Plant</u> Water Treatment Structures & Improve	Total Account 331	Water Treatment Equipment	Total Account 332	TOTAL Water Treatment Plant	Transmission & Distribution Plant	Reservoirs & Tanks Total Reservoirs & Tanks
	Account No. (a)		311.00		315.00	316.40		321.00		324.00 324.10		331.00		332.00				342.00

Table 2-Gross COR-KW

Docket No. 2018-0388 Exhibit KWSC-T-102 Water Depreciation Study Witness: Stout

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	Annual Depr Rate (I)	0.59% 0.50% 0.53%	0.00% (1) 0.67%	0.53%		%00.0 %00.0	0.00% 0.00% 0.00%	%00.0	0.45%	
	Annual Depreciation Accrual (k)	21,703.40 37,424.76 59,128.16	0.00 198.63	72,207.07		00.0	00.0 00.0 00.0	0.00	90,008.50	
	Average Remaining [Life (j)	67.42 67.17	20.00 56.71			2.05	3.42 22.25 9.21 16.47			
	A.S.L/ Survivor Curve (i)	80-R2.5 80-R2.5	20-R3 60-R2.5			7-L3	8-L3 25-L2 15-R2.5 20-S0			
of ation of 31, 2017	Net Original Cost Less Salvage (h)	1,463,243.28 2,513,821.07 3,977,064.35	0.00 11,264.04	4,466,058.22		0.00	0.0 0.0 0.0	0.00	4,801,900.87	
e and Calculation e Based Upon Utilize s as of December	Book Depreciation Reserve (g)	0.00 479,944.13 479,944.13	0.00 653.94	646,830.06		00.0	00.0 00.0 00.0	0.00	821,076.26	
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	Original Cost Less Salvage (f)	5,121,351.47 10,478,178.20 15,599,529.67	0.00 41,712.93	18,861,051.71		6,545.51 6,545.51	154,214.14 28,232.38 2,577.48 18,387.15	209,956.66	25,782,523.12	
f Original Cost of U tion Rates and Dep Reserve and Aver	Estimated Future Cost of Removal <u>%</u> Amount d) (e)	(1,463,243.28) (2,993,765.20) (4,457,008.48)	0.00 (11,917.98)	(5,112,888.28)		00.0	00.0 00.0 00.0	0.00	(5,622,977.13)	
summary of I Deprecial epreciation	Estime Cost of (d)	-40.0% -40.0%	0.0% -40.0%			%0.0	%0.0 %0.0 %0.0			
Annua Book De	Original Cost (c)	3,658,108,19 7,484,413.00 11,142,521.19	0.00 29,794.95	13,748,163.43		6,545.51 6,545.51	154,214.14 28,232.38 2,577.48 18,387.15	209,956.66	20,159,545.99	
	Description (b)	<u>Transmission & Distribution Mains</u> Mains-All Other Mains-Ductile Iron Total Account 343	Meters Hydrants	TOTAL Trans, & Distr. Plant	<u>General Plant</u>	Office-Elec. Equip/Computers Total Account 372	Transportation Equipment Stores Equipment Laboratory Equipment Tools, Shop & Garage Equipment	TOTAL General Plant	TOTAL DEPRECIABLE PLANT	NON-DEPRECIABLE PLANT
	Account No. (a)	343.40 343.50	346.00 348.00			372.10	373.00 374.00 375.00 378.00			

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)

Kona Water Service Company Kona Water (KW)

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

Account <u>No.</u> (a)	Description(b)	Original Cost Per Book <u>12-31-17</u> (c)	Company Pending <u>Adjustment</u> (^{d)}	Original Cost Per Depreciation Study Data <u>12-31-17</u> (e)
	DEPRECIABLE PLANT			
311.00	Source of Supply 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
321.00	Pumping Plant Pumping Structures & Improvements	1,608.73		1,608.73
	Total Account 321	1,608.73	0.00	1,608.73
324.00 324.10	Pumping Equipment System Ctrl Computer Equip	2,230,274.41 936,149.79		2,230,274.41 936,149.79
	TOTAL Pumping Plant	3,168,032.93	0.00	3,168,032.93
331.00	Water Treatment Plant 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
	Transmission & Distribution Plant			
342.00	Reservoirs & Tanks Total Reservoirs & Tanks	2,575,847.29 2,575,847.29	0.00	2,575,847.29 2,575,847.29

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Kona Water Service Company Kona Water (KW)

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

Account <u>No.</u> (a)	Description (b)	Original Cost Per Book <u>12-31-17</u> (c)	Company Pending <u>Adjustment</u> (d)	Original Cost Per Depreciation Study Data _ <u>12-31-17</u> (e)
343.40 343.50	<u>Transmission & Distribution Mains</u> Mains-All Other Mains-Ductile Iron Total Account 343	3,658,108.19 7,484,413.00 11,142,521.19	0.00	3,658,108.19 7,484,413.00 11,142,521.19
346.00 348.00	Meters Hydrants	0.00 29,794.95		0.00 29,794.95
	TOTAL Trans. & Distr. Plant	13,748,163.43	0.00	13,748,163.43
	General Plant			
372.10	Office-Elec. Equip/Computers Total Account 372	6,545.51 6,545.51	0.00	6,545.51 6,545.51
373.00 374.00 375.00 378.00	Transportation Equipment Stores Equipment Laboratory Equipment Tools, Shop & Garage Equipment	154,214.14 28,232.38 2,577.48 18,387.15		154,214.14 28,232.38 2,577.48 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
	NON-DEPRECIABLE PLANT			
	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, Theorectial/Calculated Depreciation Reserve, And Book Depreciation Reserve As of December 31, 2017

Acct. <u>No.</u> (a)	Description(b)	Original Cost <u>12-31-17</u> (c)	Net Salvage <u>Rate</u> (d)	A.S.L./ Survivor <u>Curve</u> (e)	Calculated Reserve <u>12-31-17</u> (f)	Book Reserve <u>12-31-17</u> (g)
	DEPRECIABLE PLANT					
	Source of Supply					
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
	Pumping Plant					
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
324.00 324.10	Pumping Equipment System Ctrl Computer Equip	2,230,274.41 936,149.79	-10% 0%	21-L3 10-R3	1,010,453.83 806,913.15	1,171,098.26 925,565.33
021.10	TOTAL Pumping Plant	3,168,032.93	070	10110	1,817,625.85	2,096,963.17
		3,100,032.83			1,017,023.03	2,090,905.17
331.00	Water Treatment Plant 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
	Transmission & Distribution Plant					
342.00	Reservoirs & Tanks Total Reservoirs & Tanks	2,575,847.29 2,575,847.29	-25%	50-R3	831,159.97 831,159.97	702,094.49 702,094.49

Kona Water Service Company Kona Water (KW)

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

Acct. <u>No.</u> (a)	Description (b)	Original Cost <u>12-31-17</u> (c)	Net Salvage <u>Rate</u> (d)	A.S.L./ Survivor Curve (e)	Calculated Reserve <u>12-31-17</u> (f)	Book Reserve <u>12-31-17</u> (g)
343.40 343.50	<u>Transmission & Distribution Mains</u> Mains-All Other Mains-Ductile Iron Total Account 343	3,658,108.19 7,484,413.00 11,142,521.19	-40% -40%	80-R2.5 80-R2.5	805,617.69 1,679,804.46 2,485,422.15	1,061,806.57 2,052,049.89 3,113,856.46
346.00 348.00	Meters Hydrants	0.00 29,794.95	0% -40%	20-R3 60-R2.5	0.00 2,288.80	0.00 2,730.88
	TOTAL Trans. & Distr. Plant	13,748,163.43			3,318,870.92	3,818,681.83
	General Plant					
372.10	Office-Elec. Equip/Computers Total Account 372	6,545.51 6,545.51	0%	7-L3	4,626.64 4,626.64	6,545.51 6,545.51
373.00 374.00 375.00 378.00	Transportation Equipment Stores Equipment Laboratory Equipment Tools, Shop & Garage Equipment	154,214.14 28,232.38 2,577.48 18,387.15	10% 0% 0% 0%	8-L3 25-L2 15-R2.5 20-S0	79,469.49 3,106.92 994.52 3,247.09	122,178.94 1,844.06 816.12 4,373.46
	TOTAL General Plant	209,956.66			91,444.66	135,758.09 142,791.73
	TOTAL DEPRECIABLE PLANT NON-DEPRECIABLE PLANT	20,159,545.99			6,163,836.86	6,821,330.13
	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

Kona Water Service Company Kona Water (KW)	Cost of Utility Plant in Service as of December 31, 2017 and
Kona Water Sei Kona Wa	Cost of Utility Plant

															Wa	ter D	eprec Wi	iation Stu iness: St
Average	Remain. Life (m)		41.67		48.52	48.52		34.64		12.35 1.38		28.06		31.18				37.09
A.S.L./	Survivor Curve ()		45-R4		50-R3	50-R3		40-R3		21-L3 10-R3		40-R3		38-R2.5				50-R3
ilvage A.	iross COR % (k)		-10%		-35%	-10%		-20%		-10% 0%		-10%		-5%				-25%
Net Salvage	Gross Salv Gross COR <u>%</u> () (k)		%0		%0	%0		%0		%0		%0		%0				%0
	W/ COR ()		-10%		-35%	-10%		-20%		-10% 0%		-10%		-5%				-25%
	Depr (h)		3.33%		2.49%	2.50%		3.33%		1.36% 0.03%		1.99%		2.46%				1.99%
	Implicit ASL (Yrs) (g)		30.0		40.1	40.0		30.0		73.3 3,066.5		50.3		40.6				50.3
lvage	Gross COR %		%0		, 0%	%0		%0		%0 %0		%0		%0				%0
Net Salvage	Gross Salv (e)		%0		%0	%0		%0		%0		%0		%0				%0
	W/ COR 0 %		%0		%0	%0		%0		%0		%0		%0				%0
Original	Cost 12-31-17 (c)		34,499.12	34,499.12	803.28	14,617.49	49,919.89	1,608.73	1,608.73	2,230,274.41 936,149.79	3,168,032.93	2,647,464.00	2,647,464.00	336,009.08	336,009.08	2,983,473.08		2,575,847.29 2,575,847.29
	t <u>Description</u> (b)	DEPRECIABLE PLANT	Source of Supply Structures & Improvements	Total Account 311	Wells	Supply Mains	TOTAL Source of Supply	Pumping Plant Pumping Structures & Improvements	Total Account 321	Pumping Equipment System Ctrl Computer Equip	TOTAL Pumping Plant	<u>Water Treatment Plant</u> Water Treatment Structures & Improvements	Total Account 331	Water Treatment Equipment	Total Account 332	TOTAL Water Treatment Plant	Transmission & Distribution Plant	Reservoirs & Tanks Total Reservoirs & Tanks
	Account <u>No.</u> (a)		311.00		315.00	316.40		321.00		324.00 324.10		331.00		332.00				342.00

Table 5- KW

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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

	Average	Kemain. Life (m)	67.42 67.17	20.00 56.71			2.05	3.42 22.25 9.21 16.47					
	Ave	д Ч		(1)									
ers	A.S.L./		80-R2.5 80-R2.5	20-R3 60-R2.5			7-L3	8-L3 25-L2 15-R2.5 20-S0					
Proposed Parameters		Gross Salv Gross CUR () (k) (k)	-40% -40%	0% -40%			%0	%0 %0					
Prop	Net Salvage	Gross Salv (j)	%0	%0			%0	10% 0% 0%					
		() () () () ()	-40% -40%	0% (1) -40%			%0	10% 0% 0% 0%					
		Uepr (h)	1.96% 1.93%	0.00% 2.50%			0.00%	10.65% 2.50% 5.00% 1.88%					
	فتحتاهم	Implicit <u>ASL (Yrs)</u> (g)	51.1 51.8	N/A 40.0			0.0	9.4 40.0 53.1					
Present Parameters		Gross CUR	%0 0	%0 %0			%0	%0 %0					
Pres	Net Salvage	Gross Salv % (e)	%0 %0	%0			%0	%0 %0					
		(g)	%0 0	%0 %0			%0	%0000					
		Cost 12-31-17 (c)	3,658,108.19 7,484,413.00 11,142,521.19	0.00 29,794.95	13,748,163.43		6,545.51 6,545.51	154,214,14 28,232.38 2,577.48 18,387.15	209,956.66	20,159,545.99		0.00	20 159 545 99
		Description (b)	<u>Transmission & Distribution Mains</u> Mains-All Other Mains-Ductile Iron Total Account 343	Meters Hydrants	TOTAL Trans. & Distr. Plant	General Plant	Office-Elec. Equip/Computers Total Account 372	Transportation Equipment Stores Equipment Laboratory Equipment Tools, Shop & Garage Equipment	TOTAL General Plant	TOTAL DEPRECIABLE PLANT	NON-DEPRECIABLE PLANT	TOTAL NON-DEPRECIABLE PLANT	TOTAL LITILITY PLANT IN SERVICE
		Account <u>No.</u> (a)	343.40 343.50	346.00 348.00			372.10	373.00 374.00 375.00 378.00					

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(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 Industy Depreciation Studies

	usiy uchi	LIGHT HIMMARK DEPRECIATION STUDIES															
			Original	Current								Summary of ASL's	of ASL's				
Account <u>No.</u> (a)	Account <u>No.</u>	<u>Description</u> (b)	Cost 12-31-17	Implicit <u>ASL</u> (d)		Proposed Cal Water <u>ASL</u> <u>Average</u> (e)	Avg of S <u>ASL's</u> (†)	Sum of <u>ASL's</u> (g)	Arizona American (h)	California 1 Citizens (i)	California New Mexico Ca Water Citizens American Dominguez (i) (j) (k)	Ca Water Metro ()	Ca Water Valley (m)	lowa American / (n)	Illinois T American (o)	idewater Pennichuck Utilities East Utilities (p) (q)	iichuck Utilities (q)
		DEPRECIABLE PLANT															
307.00	315,00		803.28	40	50-R3	56	45	449	50	45	33	60	69	30	65	30	29
	316.00	Supply Mains Total Source of Supply Plant	14,617.49	40	50-R3	52	52	157			38	54	65				
304.20	321.00 321.10	Pumping Structures & Improvements Pumping Structures & Improvements Pumping Struct. & Improv Pavement	1,608.73 0	30	40-R3	29 15	37 15	374 45	38	36	40 25 15	31 15	32 15	50	50	35	37
311.20	324.00 324.10	Electric Pumping Eq. Pumping Equip-Telemetering Total Pumping Plant	2,230,274,41 936,149.79	73 3067	21-L3 10-R3	31	26	264 0	20	52	15 23	98	35	33	30	30	20
304.30 320.20	331.00 332.00	Water Treaterment Plant WT Structures & Improvements Treatment Equipment Total Water Treatment Plant	2,647,464.00 336,009.08	50	40-R3 38-R2.5	40 39	40 26	316 233	34	33 15	32 33	37 44	50	50 27	45 25	35	12
330.40	342.00	Transmission & Distribution Plant Distr. Reservoirs & Standpipes	2,575,847.29	50	50-R3	44	53	527	39	45	51 37	44	50	100	60	45	57
331.00	343.00	Mains	11,142,521.19	51	80-R2.5	68	76	757	74	11	78 67	72	64	06	96	75	68
335.00	346.00 348.00	Meters Hydrants Total Trans & Distr Plant	0.00 29,794,95	N/A 40	20-R3 60-R2.5	74	20 64	201 642	17	23 55	15 20 65 70	29 70	23 83	14 60	16 63	25 50	19 75
		General Plant															
340.50	372.10	Computer & Preph	6,545,51	0	2-L3	α	7	65	9	ß	7 6	83	5	7	2		ω
343.00	373.00 378.00	Transportation (347.50) Tools, Shop & Garage Equipment	154,214.14 18,387.15	6 23 B	8-L3 20-S0	8 17	9 21	53 191	20	20	9 30 16	8 17	8 6	6 28	7 27	15	15

From Industy Depreciation Studies
rom Industy De

Table 6- KW (2 of 2)

From Ind	usty Depr	From Industy Depreciation Studies															
											Sun	mary of N	Summary of Net Salvage				
Account <u>No.</u> (a)	Account <u>No.</u>	t <u>Description</u> (b)	Current <u>NS %</u>	Proposed <u>NS %</u> (e)	Cal Water <u>Average</u>	- Avg Net <u>Salv %</u> ^(f)	Sum of <u>NS %'s</u> (g)	Arizona American (h)	California Citizens (i)	California New Mexico Ca Water Citizens American Dominguez (i) (j) (k)		Ca Water (Metro (I)	Ca Water Valley / (m)	lowa American (n)	Illinois American (o)	Tidewater Pennichuck Utilities East Utilities (p) (q)	Pennichuck East Utilities (q)
		DEPRECIABLE PLANT															
307.00	315.00 316.00	Source of Supply Wells & Springs Supply Mains Total Source of Supply Plant	%0	-35%	-127% -9%	-54% -9%	-535% -28%	-5%	-50%	-10%	-125% -3%	-125% -15%	-130% -10%	-40%	-30%	-10%	-10%
304.20	321.00 321.10	Pumping Plant Pumping Structures & Improvements Pumping Struct. & Improv - Pavement	%0 %0	-20%	-29%	-19% 0%	-188% 0%	-10%	-15%	-10%	-3% 0%	-25% 0%	%0 0%	-25%	-25%	-10%	-5%
311.20	324.00 324.10	 Electric Pumping Eq. Pumping Equip-Telemetering Total Pumping Plant 	%0 0	-10% 0%	-10%	-14%	-115% 0%	-10%	-5%			-5%	-15%	-25%	-35%	-5%	-15%
304.30 320.20	331.00 332.00	Water Treatement Plant WT Structures & Improvements Treatment Equipment Total Water Treatment Plant	%0 8	-10% -5%	-10% -6%	-10% -9%	-80% -82%	%0 0	-5% 0%	%0	-5% 0%	-5%	-20%	-25%	-20% -10%	%0	-15%
330.40	342.00	Transmission & Distribution Plant Distr. Reservoirs & Standpipes	%0	-25%	-52%	-27%	-265%	-10%	-10%	-30%	-45%	-50%	-60%	-20%	-20%	-10%	-10%
331.00	343.00	Mains	%0	-40%	-45%	-38%	-375%	-40%	-35%	-35%	-25%	-50%	%09-	-50%	-50%	-10%	-20%
335.00	346.00 348.00) Meiters 1 Hydrants 7 Total Trans & Distr Plant	%0 %0	0% -40%	-40%	1% -45%	11% -450%	-10% -20%	-10% -20%	5% -20%	5% -20%	10% -25%	5% -75%	8% -150%	-5% -100%	8% -10%	-5% -10%
		General Plant															
340.50	372.10	I Computer & Preph	%0	%0	%0	%0	%0	%0	%0		%0	%0	%0	%0	%0		%0
343.00	373.00 378.00	 Transportation (347.50) Tools, Shop & Garage Equipment 	%0 %0	10% 0%	%0 %2	8% 1%	49% 8%	5%	%0	%0	%0 %0	10% 0%	10% 0%	0% 3%	20% 0%	%0	%6

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SECTION 3

Kona Water Service Company Kona Water (KW)

<u>General</u>

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

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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:

Annual Accrual Rate, Percent = <u>100% - Salvage</u> X 100 Average Service Life

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.

1

		ARL AND ACCRU 10-R3 CURVE US				OCEDURE			Table 7	
						OCLOURE	FQUAL LI	FE GROUP PRO	CEDURE	
AGE AT	LIFE TABLE	RETIREMENT		AGE OF	AMOUNT FOR	AMOUNT FOR	AVERAGE	AVERAGE	ELG/ARL	ACCRUE
BEGIN OF	BEGIN OF	DURING	AVERAGE	AMOUNT	EACH LIFE	REMAINING LIFE	SERVICE	REMAINING	DEPR	RES
NTERVAL	INTERVAL	INTERVAL		RETIRED	GROUP	GROUPS	LIFE	LIFE	RATE	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	0.000000
0.5	0.9990802	0.0033314	0.9974145	1.0	0.0033314	0.1131019	8.82	8.32	11.34	0.056697
1.5	0.9957488	0.0065393	0.9924792	2.0	0.0032697	0.1098013	9.04	7.54	11.06	0.165950
2.5	0.9892095	0.0117037	0.9833577	3.0	0.0039012	0.1062159	9.26	6.76	10.80	0.270033
3.5	0.9775058	0.0193690	0.9678213	4.0	0.0048422	0.1018442	9.50	6.00	10.52	0.368306
4.5	0.9581368	0.0300339	0.9431199	5.0	0.0060068	0.0964196	9.78	5.28	10.22	0.460056
5.5	0.9281029	0.0442969	0.9059545	6.0	0.0073828	0.0897248	10.10	4.60	9.90	0.544714
6.5	0.8838060	0.0631367	0.8522377	7.0	0.0090195	0.0815237	10.45	3.95	9.57	0.621779
7.5	0.8206693	0.0876232	0.7768577	8.0	0.0109529	0.0715375	10.86	3.36	9.21	0.690642
8.5	0.7330461	0.1166879	0.6747022	9.0	0.0129653	0.0595783	11.32	2.82	8.83	0.750577
9.5	0.6163582	0.1431836	0.5447664	10.0	0.0143184	0.0459365	11.86	2.36	8.43	0.801071
10.5	0.4731746	0.1533568	0.3964962	11.0	0.0139415	0.0318066	12.47	1.97	8.02	0.842300
11.5	0.3198178	0.1363216	0.2516570	12.0	0.0113601	0.0191557	13.14	1.64	7.61	0.875361
12.5	0.1834962	0.0975199	0.1347363	13.0	0.0075015	0.0097249	13.85	1.35	7.22	0.902215
13.5	0.0859763	0.0559043	0.0580242	14.0	0.0039932	0.0039775	14.59	1.09	6.85	0.925423
14.5	0.0300720	0.0244398	0.0178521	15.0	0.0016293	0.0011663	15.31	0.81	6.53	0.947307
15.5	0.0056322	0.0055324	0.0028660	16.0	0.0003458	0.0001788	16.03	0.53	6.24	0.966765
16.5	0.0000998	0.0000998	0.0000499	17.0	0.0000059	0.0000029	17.00	0.50	5.88	0.970588
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:

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:

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:

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

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.

<u>Salvage</u>

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 The study methodology utilized has been of each property group's useful life. 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>	Salvage Amount
Car # 1	\$20,000	2	75%	\$15,000
<u>Car # 2</u>	20,000	<u>10</u>	_5%	1,000
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".

<u>Period Retirements Method</u> - 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.

<u>Life Span Method</u> - 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 (lowa 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.

<u>Judgment Method</u> - 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.

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SECTION 4

Kona Water Service Company

Docket No. 2018-0388 Exhibit KWSC-T-102 Water Depreciation Study Witness: Stout

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 = $0 \text{ or } 0\%$ 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%

	New Rate @New Parameters	Old Rate @ Old Parameters
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%

New Rate @New Parameters

Old Rate @ Old Parameters

Rate Av. Remaining Life 2.69% 48.52 years 2.49% 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^{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: 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

Proposed Depreciation Parameters

ASL/Curve: 50-R3

Future Net Salvage: -10%

	New Rate @New Parameters	Old Rate @ Old Parameters
Rate	2.21%	2.50%
Av. Remaining Life	48.52 years	N/A

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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 = $0 \text{ or } 0\%$ 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

Proposed Depreciation Parameters

ASL/Curve: 40-R3

Future Net Salvage: -20%

	New Rate @New Parameters	Old Rate @ Old Parameters
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%

	New Rate @New Parameters	Old Rate @ Old Parameters
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 = $0 \text{ or } 0\%$ 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

Proposed Depreciation Parameters

ASL/Curve: 10-R3

Future Net Salvage: 0%

New Rate @New Parameters

Old Rate @ Old Parameters

Rate Av. Remaining Life 0.82% 1.38 years 0.03% 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%

New Rate @New Parameters

Old Rate @ Old Parameters

Rate Av. Remaining Life 3.07% 28.06 years 1.99% 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%

Rate Av. Remaining Life 2.11% 31.18 years

New Rate @New Parameters

Old Rate @ Old Parameters

2.46% N/A Docket No. 2018-0388 Exhibit KWSC-T-102 Water Depreciation Study Witness: Stout

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

Proposed Depreciation Parameters

ASL/Curve: 50-R3

Future Net Salvage: -25%

New Rate @New Parameters

Old Rate @ Old Parameters

Rate Av. Remaining Life 2.64% 37.09 years 1.99% 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 = $0 \text{ or } 0\%$ 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%

New Rate @New Parameters

Old Rate @ Old Parameters

Rate Av. Remaining Life 1.64% 67.42 years 1.96% 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^{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: 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%

	New Rate @New Parameters	Old Rate @ Old Parameters
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° 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

Proposed Depreciation Parameters

ASL/Curve: 60-R2.5

Future Net Salvage: -40%

	New Rate @New Parameters	Old Rate @ Old Parameters
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^{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: 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

Proposed Depreciation Parameters

ASL/Curve: 7-L3

Future Net Salvage: 0%

New Rate @New Parameters

Old Rate @ Old Parameters

Rate Av. Remaining Life 0.00% 2.05 years 0.00% 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 = $0 \text{ or } 0\%$ 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%

New Rate @New Parameters

Old Rate @ Old Parameters

Rate Av. Remaining Life 3.15% 3.42 years 10.65% 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 = $0 \text{ or } 0\%$ 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

Proposed Depreciation Parameters

ASL/Curve: 25-L2

Future Net Salvage: 0%

New Rate @New Parameters

Old Rate @ Old Parameters

Rate Av. Remaining Life 4.20% 22.25 years 2.50% 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 = $0 \text{ or } 0\%$ 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

Proposed Depreciation Parameters

ASL/Curve: 15-R2.5

Future Net Salvage: 0%

New Rate @New Parameters

Old Rate @ Old Parameters

Rate Av. Remaining Life 7.41% 9.21 years 5.00% 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

Proposed Depreciation Parameters

ASL/Curve: 20-S0

Future Net Salvage: 0%

New Rate @New Parameters

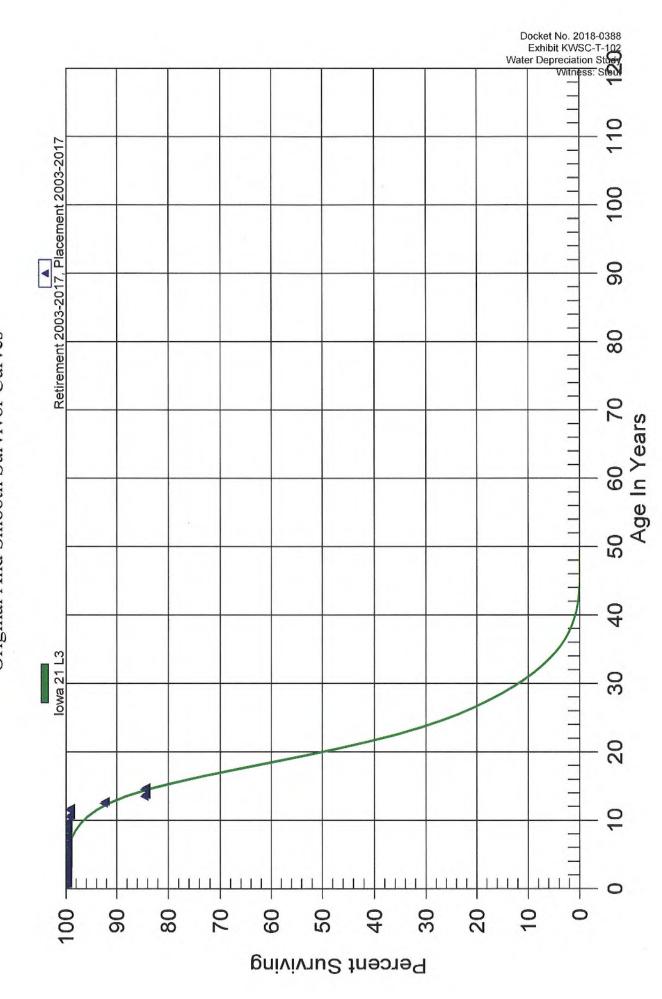
Old Rate @ Old Parameters

Rate Av. Remaining Life 4.63% 16.47 years 1.88% N/A

Docket No. 2018-0388 Exhibit KWSC-T-102 Water Depreciation Study Witness: Stout

SECTION 5

Kona Water Service Company (727) Kona Water (KW) 324.00 PUMPING EQUIPMENT Original And Smooth Survivor Curves



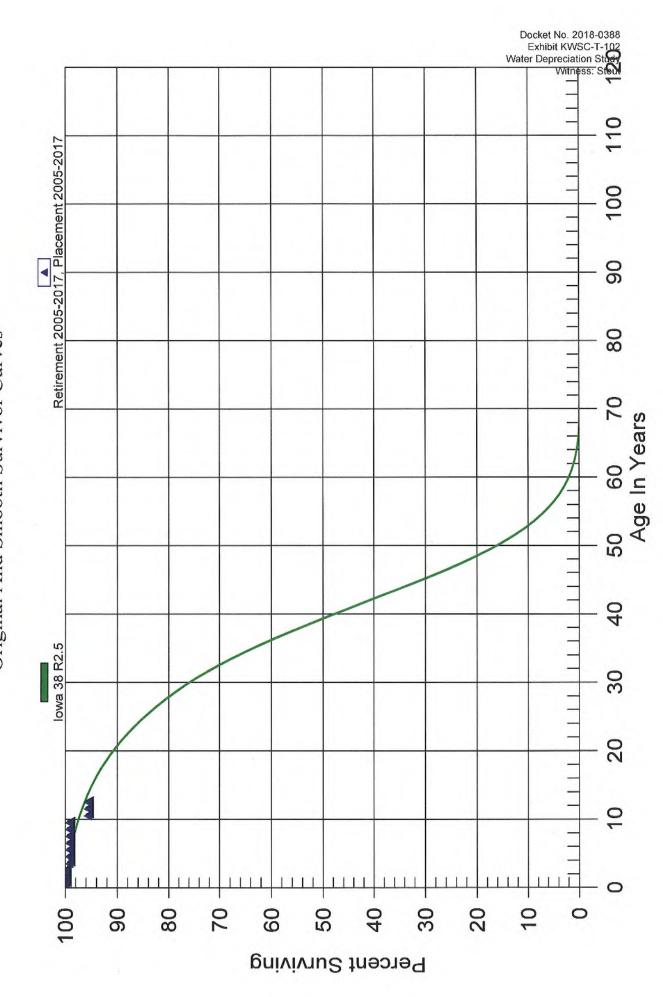
Kona Water Service Company (727) Kona Water (KW) 324.00 PUMPING EQUIPMENT

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



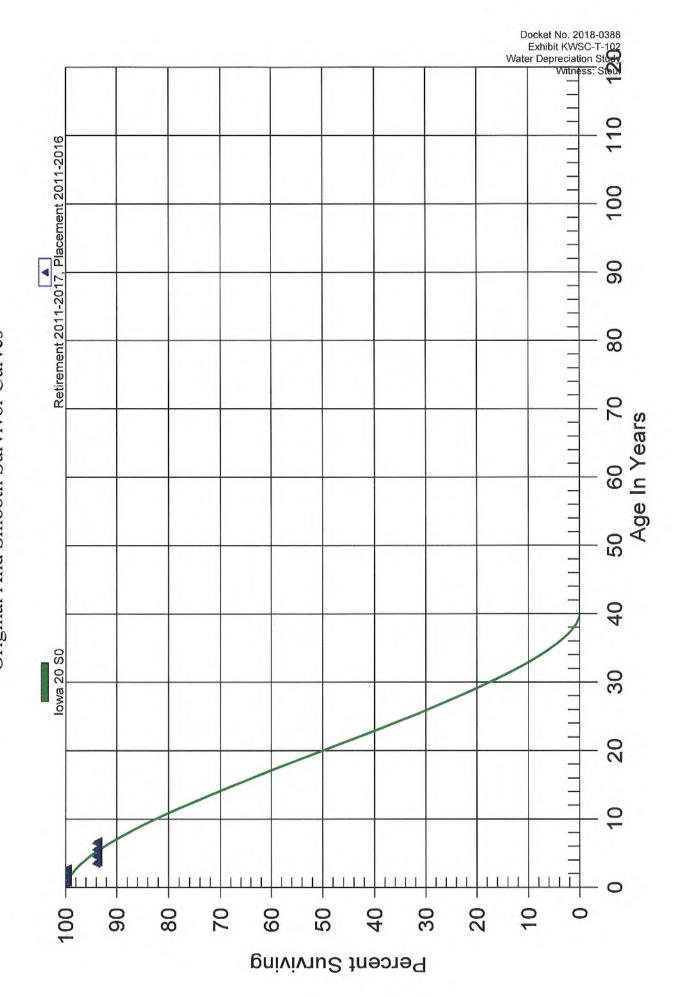
Kona Water Service Company (727) Kona Water (KW) 332.00 WATER TREATMENT EQUIPMENT

Observed Life Table

Retirement Expr. 2005 TO 2017 Placement Years 2005 TO 2017

Age Interval	<i>\$ Surviving At Beginning of Age Interval</i>	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
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

Docket No. 2018-0388 Exhibit KWSC-T-102 Water Depreciation Study Witness: Stout

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 Se	ervice Life: 45	Surv	ivor Curve: R4	
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
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		Surv		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
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		Surv	Survivor Curve: R3		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals	
(1)	(2)	(3)	(4)	(5)	(6)	
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		Surv		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
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		Surv	Survivor Curve: L3		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals	
(1)	(2)	(3)	(4)	(5)	(6)	
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	
otal	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		
Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
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
otal	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		Surv		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
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			
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals	
(1)	(2)	(3)	(4) (5)		(6)	
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	
otal	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		Surv		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(2) (3)		(4) (5)	
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
otal	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 Se	ervice Life: 80	Surv		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
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
Total	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 Se	rvice Life: 80	Surv		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
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

nual Is
60.09
60.09

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 So	ervice Life: 7	Survivor Curve: L3			
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals	
(1)	(2)	(3)	(4)	(5)	(6)	
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 Se	ervice Life: 8	Survivor Curve: L3		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
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
otal	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 Se	ervice Life: 25	Survivor Curve: L2		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
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 Se	ervice Life: 15	Survivor Curve: R2.5		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
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 Se	ervice Life: 20	Survivor Curve: S0		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
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
otal	18,387.15	20.00	919.34	16.47	15,140.06

Composite Average Remaining Life ... 16.47 Years

Bocket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout



KONA WASTEWATER SERVICE COMPANY

KONA WASTEWATER (KS)

Depreciation Study

as of December 31, 2017

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

AUS CONSULTANTS 792 Highway 333, Suite 200 Tijeras, NM 87059 <u>www.ausinc.com</u>



Sept., 2018



Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

EARL M. ROBINSON, CDP Principal 792 Old Highway 66. Suite 200 Tijeras, NM 87059 717.763.9890 • Tel 717.877.6895 • Cell 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

EARL M. ROBINSON, CDP &

7200. SW

DAVID A. SHEFFER



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SECTION 1

Kona Water Service Company Kona Wastewater (KS)

Executive Summary

<u>Table 1</u> 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.

<u>Table 1a</u> 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.

<u>Table 2 - Plant Only</u> 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.

<u>Table 2 - Cost of Removal</u> on page 2-5 summarizes the depreciation recovery rates for the cost of removal segment of the total plant cost.

<u>Table 3</u> 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.

<u>Table 4</u> 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.

<u>Table 5</u> 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.

<u>Table 6</u> 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 <u>Composite Depreciation Rate</u> 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

	\$15,150,051
Annual Depreciation Expense	\$970,791
Composite Annual Depreciation Rate	6.16%

<u>Company Management Requested Mitigated Depreciation Expense and Rates</u> (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 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.

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%

' Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

SECTION 2

Table 1 - KS

Summary of Original Cost of Utility Plant in Service December 31. 2017 and Related Annual Book Depreciation Expe

		Net	Change Depr. Exp.	(u)			387,522.41 (6.065.28)	(856.05)	1,755.46	26.52	136,148.73	71,305.83	589,937.62	172.45	172.45		39,026.44	510.17	14.03	04.70	(1 554 03)	241.77	38,209.96	628,320.03		
		Total Proposed Rates	Annual Accrual Amount	(E)			501,370.05 10.461.48	1,684,11	86,179.42	289.80	175,826.01	153,849.51	929,660.38	1,353.85	1,353.85		39,026.44	310.17	000.30	24.01	-1 554 03	1,206,14	39,777,09	970,791.32		
	-	Total Proj	Rate %	θ			9.39%	2.21%	1.90%	3.67%	9.80%	4.68%	5.98%	3.82%	3.82%		40.65%	×0.11%	4,03%	70000	3.68%	4,17%	21.29%	6.16%		
		Proposed Gross COR Rates	Annual Accrual Amount	(k)			24,UZ7.32 0.00	304.82	8,617.94	26.06	16,685,53	27,614.02	77,275.69	177.21	177.21	:	0.00	0.00 0.00	0.00	000		0.00	0.00	77,452.90		
	NTES	Proposed Gr	A Rate %	9			0.00%	0.40%	0.19%	0.33%	0.93%	0.84%	0.50%	0.50%	0.50%		0.00%	%nn.n	0.00%	0.00.0	0.00%	0.00%	0.00%	0.49%		
lse	PROPOSED RATES	Salvage Rates	Annual Accrual Amount	Θ			0.00	00.0	00.0	0.00	0.00	0.00	0.00	0.00	0.00	:	0.00	0.00	0.00	0.0	0.00 (527.86)	0.00	-527.86	-527.86		
epreciation Exper		Proposed Gross Salvage Rates	Rate %	(µ)			2000 0 0000	%00.0	0.00%	%00.0	0.00%	%nn.o	0.00%	%00'0	0.00%		%00.0 0	0.00%	0.00%	0.00%	-1 25%	0.00%	-0.28%	0.00%		
, 2017 and Related Annual Book De Under Present and Proposed Rates		i	Annual Accrual <u>Amount</u>	(6)			477342.73 10461 48	1379.29	77561.48	263.75	159140.48	126235.00	852,384.71	1176.64	1176.64		39026.44	315.17	003.30	24.011	-1026 17	1206.14	40,304.95	893,866.30		
117 and Relate der Present an		Proposed Plant Only Rates	A Rate %	()			8.94%	1.81%	1.71%	3.34%	8.87%	3.84%	5.49%	3.32%	3.32%		40.65%	%LL'NZ	4.00%	0/00°' /	-2 43%	4.17%	21.57%	5.67%		
as of December 31, 2017 and Related Annual Book Depreciation Expense Under Present and Proposed Rates	1	ent Rates	Annual Accrual Amount	(a)			113,747.54 16.526.76	2,540,16	84,423.96	263.28	39,677.28	82,543,68	339,722.76	1,181.40	1,181.40	:	0.00	0.00	248.12	20.04	00.0	964.37	1,567.13	342,471.29		
as of		Under Present Rates	A Rate %	(q)			2.13% 3.33%	3.33%	1.86%	3.33%	2.21%	%16.2	2.19%	3.33%	3.33%		0.00%	0.0U%	0.00% 0.00%	0/00.0	%100 0	3.33%	0.84%	2.17%		
		Original	Cost 12-31-17	(c)			5,339,404.11 495 804 71	76,204.11	4,535,759.00	7,896.57	1,794,143.00	6/,382,382,6	15,536,594.25	35,441.08	35,441.08		96,006.00	07.7/G'L	10,4/3.23	000	42 229 15	28,924.27	186,815.91	15,758,851.24		00.0
			Description	(q)	DEPRECIABLE PLANT	Collection Plant	Structure & Improvements Power Generation Equipment	Collection Sewers Force	Collection Sewers Gravity	Special Collecting Structure	Receiving Wells/Waste Treatment Plant	Humping Equipment	TOTAL Collection Plant	<mark>Treatment & Disposal Plant</mark> Treatment & Disposal Equip	TOTAL Treatment & Disposal Plant	<u>General Plant</u>	System Control Computer Equipment		CINEL MISCERANEOUS EQUIPTIER:	rous, and a garage Equipritant Down Operated Earlin	Transportation Equipment	Miscellaneous Equipment	TOTAL General Plant	TOTAL DEPRECIABLE PLANT	NON-DEPRECIABLE PLANT	TOTAL NON-DEPRECIABLE PLANT
			Acct. No	(a)			355.00 P				370.00 R		F	1 380.10	Т		324.10 S						μ	F		

15,758,851.24

TOTAL UTILITY PLANT IN SERVICE

Plant Only Depr Reserve	<u>(j)</u>		1 306 713 83	61,975.35	4,947.76	415,982.16	631.17	449,350.76	1,036,493.12	3,276,094.15		1,887.13	1,887.13		0.00	139.84	2,150.83	164.82	0.00	45,018.47	5,538.44	53,012.40	3,330,993.68			
Gross Salvage	In Book Kes. (i)		00.0	00.0	00.00	00.0	00.00	00.0		00.0		0.00	0.00		0,00	00.00	00.0	00.0	00.0	-2,789.32	0.00	-2,789.32	-2,789.32			
	In Book Res. (h)		330.076.24	00.0	3,434.45	671,349.68	65.18	217,436.11		1,222,361.66		261.04	261.04		00.0	00.00	00.00	00.00	00.00	00'0	0.00	00.0	1,222,622.70			
Total Book Depr Reserve	(g)		1 636 790 07	61,975.35	8,382.21	1,087,331.84	696.35	666,786.87	1,036,493.12	4,498,455.81		2,148.17	2,148.17		00.00	139.84	2,150.83	164.82	00.0	42,229.15	5,538.44	50,223.08	4,550,827.06			
Theoretical Deprecation	Reserve (f)		3 630 841 21	38,510.10	7,049.32	1,509,619.83	716.95	1,304,619.17	1,533,644.11	8,025,000.69		2,001.32	2,001.32		80,281.07	555.56	2,248.78	300.00	0.00	25,103.85	6,517.03	115,006.29	8,142,008.30			
Salvage	(a)		*45-R4	45-R4	55-R4	65-R4	30-R4	*45-R4	30-R3			30-R3			15-R4	7-R4	25-R3	15-R3	12-R3	8-R3	25-R4					
Existing A.S.L./	(d)		-10%	%0	-25%	-25%	-10%	-20%	-15%			-15%			%0	%0	%0	%0	5%	10%	%0					
Original Cost	12-31-1/ (c)		5 339 404 11	495,804.71	76,204.11	4,535,759.00	7,896.57	1,794,143.00	3,287,382.75	15,536,594.25		35,441.08	35,441.08		96,006.00	1,572.20	16,475.29	1,609.00	0.00	42,229.15	28,924.27	186,815.91	15,758,851.24		00.0	15,758,851.24
	(b)	DEPRECIABLE PLANT	<u>Collection Plant</u> Structure & Improvements	Power Generation Equipment	Collection Sewers Force	Collection Sewers Gravity	Special Collecting Structure	Receiving Wells/Waste Treatment Plant	Pumping Equipment	TOTAL Collection Plant	<u>Treatment & Disposal Plant</u>	Treatment & Disposal Equip	TOTAL Treatment & Disposal Plant	General Plant	System Control Computer Equipment	Office Equipment/Computers	Other Miscellaneous Equipment	Tools, Shop & Garage Equipment	Power Operated Equip	Transportation Equipment	Miscellaneous Equipment	TOTAL General Plant	TOTAL DEPRECIABLE PLANT	NON-DEPRECIABLE PLANT	TOTAL NON-DEPRECIABLE PLANT	TOTAL UTILITY PLANT IN SERVICE
Acct.	(a)		354.00	355.00	360.00	361.00	362.00	370,00	370.10			380.10			324,10	372.10	389.00	393.00	395.00	396.50	397.00					

Hawaii Water Service Company Kona Wastewater (KS)

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

Table 1a - KS

																						S
T ONLY - KS			Annual Depreciation <u>Rate</u>		8.94%	2.11% 1.81%	1.71% 3.34%	8.87% 3.84%	5.49%	3.32%	3.32%	40.65%	20.11%	4.03% 7.36%	0,00%	-2.43% 4.17%	21.58%	5.67%				
Table 2 - PLANT ONLY - KS			Annual Depreciation <u>Accrual</u>		477,241.45	10,453.72	77,746.31 264.00	159,147.01 126,241.71	852,473.27	1,176.09	1,176.09	39 076.83	316.19	663.48 118.38	0.00	-1,025.49 1,207.32	40,306.71	893,956.07				
2			Average Remaining [<u>Life</u>		8.45	41.5U 51.67	52.99 27.52	8.45 17.83		28.53		2.46	4.53	21.59 12 20	N/A	2.72 19.37						
			A.S.L./ Survivor Curve		*45-R4	45-K4 55-R4	65-R4 30-R4	*45-R4 30-R3		30-R3		15-R4	7-R4	25-R3 15-R3	12-R3	8-R3 25-R4						
		ber 31, 2011	Unrecovered Original Cost		4,032,690.28	433,829.36 71,256.35	4,119,776.84 7.265.40	1,344,792.24 2,250,889.63	12,260,500.10	33,553.95	33,553.95	96.006.00	1,432.36	14,324.46 1 444 18	00.0	-2,789.32 23,385.83	133,803.51	12,427,857.56				
		Calculation of sed Upon Utility es as of Decemb	Book Depreciation Reserve		1,306,713.83	61,97,35 4,947,76	415,982.16 631.17	449,350.76 1,036,493.12	3,276,094.15	1,887.13	1,887.13	0.0	139.84	2,150.83 164.82	0.00	45,018.47 5,538.44	53,012.40	3,330,993.68				
	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	Original Cost Less Est. Future Net Salvage		5,339,404.11	495,804.71 76,204.11	4,535,759.00 7,896.57	1,794,143.00 3,287,382.75	15,536,594,25	35,441.08	35,441.08	96.006.00	1,572.20	16,475.29 1 609 00	00.0	42,229.15 28,924.27	186,815.91	15,758,851.24				
	Water Service Col Kona Wastewater (KS)	of Utility Pla and Deprecia and Average	d Future aivage Amount		00	20	00	00	00.0	o	o	C	0	00	00	00	00.0	00.00				
	Hawaii M Ko	Original Cost iation Rates a ation Reserve	Estimated Future Net Salvage <u>% Rate</u> Amount		%0	%n	%0	%0 0		%0		%0	%0	%0	%0	%0						
		Summary of Annual Deprec Book Depreci	Original Cost 12-31-11		5,339,404.11	435,804.71 76,204.11	4,535,759.00 7,896.57	1,794,143.00 3,287,382.75	15,536,594.25	35,441.08	35,441.08	96.006.00	1,572.20	16,475.29 1 609 00	0.00	42,229.15 28,924.27	186,815.91	15,758,851.24		0.00	15,758,851.24	
			Description	DEPRECIABLE PLANT	Collection Plant Structure & Improvements	rower generation Equipment Collection Severs Force	Collection Sewers Gravity Special Collecting Structure	Receiving Wells/Waste Treatment Plant Pumping Equipment	TOTAL Collection Plant	<u>Treatment & Disposal Plant</u> Treatment & Disposal Equip	TOTAL Treatment & Disposal Plant	<u>General Plant</u> Svstem Control Computer Equipment	Office Equipment/Computers	Other Miscellaneous Equipment Tools Shop & Garade Equipment	Power Operated Equip	Transportation Equipment Miscellaneous Equipment	TOTAL General Plant	TOTAL DEPRECIABLE PLANT	NON-DEPRECIABLE PLANT	TOTAL NON-DEPRECIABLE PLANT	TOTAL UTILITY PLANT IN SERVICE	
			Account No.		354.00	360.00	361.00 362.00	370.00 370.10		380.10		324.10	372.10	389.00 393.00	395.00	396.50 397.00						

		Annual Depr Rate (I)		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% -1,25% 0,00%	-0.28%	0.00%			
		Annual Depreciation Accrual (k)		0000 0000 0000 0000 0000 0000 0000	00.0	0.0	00.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00	-527.06	-527.06			
		Average Remaining Life ()		8.45 61.67 51.67 51.67 52.99 27.52 8.45 8.45		28.53		2.46 4.53 21.59 12.20 NVA 2.72 19.37					
		A.S.L./ Survivor Curve ()		*45-R4 45-R4 55-R4 65-R4 65-R4 30-R4 30-R3		30-R3		15-R4 7-R4 15-R3 15-R3 15-R3 12-R3 8-R3 8-R3 25-R4					
	ו ס 2017	Net Original Cost Less Salvage (h)		00000000000000000000000000000000000000	00.0	0.0	0.00	0.00 0.00 0.00 0.00 0.00 (1,433.60)	(1,433.60)	(1,433.60)			
>	nd Calculation of ed Upon Utilizatio s of December 31,	Book Depreciation Reserve (9)		0000 0000 0000 0000 0000 0000	00'0	0.00	00.0	0.00 0.00 0.00 0.00 0.00 (2,789.32) 0.00	(2,789.32)	(2,789.32)			
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 ook Depreciation Reserve and Average Remaining Lives as of December 31, 2017	Original Cost Less Salvage (1)		5,339,404,11 495,804.71 76,204.11 4,535,759.00 7,866.57 1,794,143.00 3,287,382.75	15,536,594.25	35,441.08	35,441.08	96,006.00 1,572.20 16,475.29 16,475.29 1,609.00 38,006.23 28,924.27 28,924.27	182,592.99	15,754,628.32			
Hawaii Water Kona W	ginal Cost of Uti Rates and Depri erve and Averag	Estimated Future <u>Gross Salvage</u> <u>(</u> Amount (e)		00.0 00.0 00.0 00.0 00.0 00.0 00.0	00.0	0.00	00.00	0.00 0.00 0.00 0.00 0.00 4,222.92 0.00	4,222.92	4,222.92			
	mmary of Or bepreciation eciation Res	Estimate Gross : (d)		%0 ^{.0} %0 ^{.0} %0 ^{.0} %0 ^{.0} %0 ^{.0}		0.0%	0.0%	0.0% 0.0% 0.0% 5.0% 0.0%					
	Sur Annual D Book Depr	Original Cost 12-31-17 (c)		5,339,404,11 495,804.71 76,204,11 4,535,759.00 1,794,143.00 3,287,382.75 3,287,382.75	15,536,594.25	35,441.08	35,441.08	96,006.00 1,572.20 16,475.29 1,6,900 1,609.00 42,229.15 28,924.27	186,815.91	15,758,851.24		0.0	15,758,851.24
		Account No. Description (a) (b)	DEPRECIABLE PLANT	Collection Plant 354.00 Structure & Improvements 355.00 Power Generation Equipment 360.00 Collection Sewers Force 361.00 Collection Sewers Gravity 370.00 Receiving Wells/Maste Treatment Plant 370.10 Pumping Equipment	TOTAL Collection Plant	<u>Treatment & Disposal Plant</u> 380.10 Treatment & Disposal Equip	TOTAL Treatment & Disposal Plant	General Plant 324.10 System Control Computer Equipment 372.10 Office Equipment/Computers 383.00 Other Miscellaneous Equipment 393.00 Tools, Shop & Garage Equipment 395.00 Power Operated Equipment 395.00 Power Operated Equipment 395.50 Pransportation Equipment	TOTAL General Plant	TOTAL DEPRECIABLE PLANT	NON-DEPRECIABLE PLANT	TOTAL NON-DEPRECIABLE PLANT	TOTAL UTILITY PLANT IN SERVICE
		Ac		3338888		36		3 3 3 3 3 3 3 5 3 3 5 5 5 5 5 5 5 5 5 5					

Table 2-Gross Salvage-KS

Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

Hawaii Water Service Company	Kona Wastewater (KS)

Table 2-COR-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

ige Annual Ar ning Depreciation D <u>e Accrual R</u>	() (k) (l)	8.45 24,125.94 0.45%	0.00	51.67 302.24 0.40% 52.99 8.729.76 0.19%	26.33	8.45 16,732.84 0.93%	27,656.05	77,573.15 0.50%	28.53 177.19 0.50%	177.19 0.50%		0.00	0.00	00.0	2.72 0.00 0.00% 19.37 0.00 0.00%		0.00	77,750.34 0.49%			Sewe
- <u>5</u> ø	e	*45-R4	45-R4	55-R4 65-R4	30-R4	*45-R4	30-R3		30-R3		15-R4				8-R3 25-R4						
Net Original Cost Less Salvage	(h)	203,864.17	0.00	15,616.58 462 590 07	724.48	141,392.49	493,107.41	1,317,295.20	5,055.12	5,055.12	0.00	0.00	0.00	0.00	0.00	5 9 9	00.0	1,322,350.32			
Book Depreciation Reserve	(6)	330,076.24	0.0	3,434.45 671 349 68	65.18	217,436.11	0.00	1,222,361.66	261.04	261.04	0.00	00.0	0.00	00.0	0.00		0.00	1,222,622.70			
Original Cost Less Salvage	Û	5,873,344.52	495,804.71	95,255.14 5 669 698 75	8,686.23	2,152,971.60	3,780,490.16	18,076,251.11	40,757.24	40,757.24	96,006.00	1,572.20 16.475.29	1,609.00	0.00	42,229.15 28.924.27		186,815.91	18,303,824.26			
Estimated Future Cost of Removal	(e)	(533,940.41)	0.00	(19,051.03) /1 133 939 75)	(789.66)	(358,828.60)	(493,107.41)	(2,539,656.86)	(5,316.16)	(5,316.16)	0.00	0.00	0.00	0.00	00.0	2	0.00	(2,544,973.02)			
Estimat Cost of %	(q)	-10.0%	0.0%	-25.0% -25.0%	-10.0%	-20.0%	-15.0%		-15.0%		0.0%	0.0% 0.0%	%0.0	0.0%	0.0% 0.0%						
Original Cost 12-31-17	(c)	5,339,404.11	495,804.71	76,204.11 4 535 759 DD	7,896.57	1,794,143.00	3,287,382.75	15,536,594.25	35,441.08	35,441.08	96,006.00	1,572.20 16 475 29	1,609.00	00.0	42,229.15 28.924.27	10,01	186,815.91	15,758,851.24		0.00	15,758,851.24
Description	(b) Лерреставі є рі Ант	<u>Collection Plant</u> Structure & Improvements	Power Generation Equipment	Collection Sewers Force Collection Sewers Gravity	Special Collecting Structure	Receiving Wells/Waste Treatment Plant	Pumping Equipment	TOTAL Collection Plant	Treatment & Disposal Plant Treatment & Disposal Equip	TOTAL Treatment & Disposal Plant	General Plant System Control Computer Equipment	Office Equipment/Computers Other Miscellaneous Equipment	Tools. Shop & Garage Equipment	Power Operated Equip	Transportation Equipment Miscellaneous Equipment		TOTAL General Plant	TOTAL DEPRECIABLE PLANT	NON-DEPRECIABLE PLANT	TOTAL NON-DEPRECIABLE PLANT	TOTAL UTILITY PLANT IN SERVICE
Account No.	(a)	354.00	355.00	360.00 361.00	362.00	370.00	370.10		380.10		324.10	372.10 389 DD	393.00	395.00	396.50	00.000					

Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

Hawaii Water Service Company Kona Wastewater (KS)

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

Account <u>No.</u>	Description	Original Cost Per Book 12-31-11	Company Pending Adjustment	Original Cost Per Depreciation Study Data 12-31-11
(a)	(b)	(c)	(d)	(e)
	DEPRECIABLE PLANT			
	Collection Plant			
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
	Treatment & Disposal Plant			
380.10	Treatment & Disposal Equip	35,441.08		35,441.08
	TOTAL Treatment & Disposal Plant	35,441.08	0.00	35,441.08
	General Plant			
324.10	System Control Computer Equipment	96,006.00		96,006.00
372.10	Office Equipment/Computers	0.00	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
	NON-DEPRECIABLE PLANT			
	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. <u>No.</u> (a)	Description (b)	Original Cost <u>12-31-17</u> (c)	Net Salvage <u>Rate</u> (d)	A.S.L./ Survivor <u>Curve</u> (e)	Calculated Reserve <u>12-31-17</u> (f)	Book Reserve <u>12-31-17</u> (g)
	DEPRECIABLE PLANT					
	Collection Plant					
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
	Treatment & Disposal Plant					
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
	NON-DEPRECIABLE PLANT					
	TOTAL NON-DEPRECIABLE PLANT	0.00				0.00
	TOTAL UTILITY PLANT IN SERVICE	15,758,851.24				4,550,827.06

lable 5- KS		Averade	Remain. Life (m)		8.45 61.67 52.99 8.45 8.45 8.45 8.45		28.53		2.46 4.53 21.59 12.20 N/A 2.72 19.37		:	I	Exhibi r Depi	t KWSC-T-103 reciation Study Witness: Stout
Tabl		- ito	ا ا س		2026 2026									
Hawaii Water Service Company Kona Wastewater (KS) Summary of Original Cost of Hillity Plant in Service as of December 31, 2017 and		neters A S I /	Survivor Curve ()		*45-R4 45-R4 555-R4 655-R4 30-R4 30-R4 30-R3		30-R3		15-R4 7-R4 25-R3 15-R3 15-R3 8-R3 8-R3 25-R4					
		posed Parar	Gross COR % (k)		-10% -25% -25% -10% -20%		-15%		%0 %0 000 000 000					
		Pro Met Salvade	sross Salv ()		% % % % % % % % % % % % % % % % % % %		%0		0% 0% 0% 0% 0%					
	17 and	~	W COR 0		-10% 0% -25% -10% -15%		-15%		0% 0% 10% 0%					
	er 31, 20		Depr (h)		2.13% 3.33% 1.86% 3.33% 2.21% 2.51%		3.33%		0.00% 3.33% 3.33% 3.33% 3.34% 3.33%					
	iginal Cost of Utility Plant in Service as of Decembel Present and Proposed Parameters		Implicit <u>ASL (Yrs)</u> (g)		46.9 30.0 30.0 33.7 39.8 39.8		30.0		N/A N/A 30.0 30.0 N/A 30.0 30.0					
		Present Parameters	Vet carvage Gross Salv Gross COR (e) (f)		%0 %0 %0 %0		%0		900 200 200 200 200 200 200 200 200 200					
		Prese	sross Salv %		% % % % % % % % % % % % % % % % % % %		%0		% % % % % % % 0 0 0 0 0 0 0					
			W/COR		00000000 888888		%0		%000000 ,					
	Summary of O	Crioinal	•		5,339,404.11 495,804.71 76,204.11 4,535,759.00 7,896.57 1,794,143.00 3,287,382.75	15,536,594.25	35,441.08	35,441.08	96,006.00 1,572.20 16,475.29 1,609.00 42,229,15 28,924.27	186,815.91	15,758,851.24		0.00	15,758,851.24 . Vary.
			Description (b)	DEPRECIABLE PLANT	Collection Plant Structure & Improvements Power Generation Equipment Collection Sewers Force Collection Sewers Gravity Special Collecting Structure Receiving Wells/Maste Treatment Plant Pumping Equipment	TOTAL Collection Plant	<u>Treatment & Disposal Plant</u> Treatment & Disposal Equip	TOTAL Treatment & Disposal Plant	General Plant System Control Computer Equipment Office Equipment/Computers Other Miscellaneous Equipment Tools, Shop & Garage Equipment Power Operated Equip Transportation Equipment Miscellaneous Equipment	TOTAL General Plant	TOTAL DEPRECIABLE PLANT	NON-DEPRECIABLE PLANT	TOTAL NON-DEPRECIABLE PLANT	TOTAL UTILITY PLANT IN SERVICE 15, *Life Span Method Utilized. Service Lives Vary.
			Account <u>No.</u> (a)		354,00 5 355,00 7 360,00 0 361,00 0 370,00 5 370,00 7 370,00 7 36 370,00 7 36 36 36 36 36 36 36 36 36 36 36 36 36	F	380.10 T	F	324.10 372.10 389.00 393.00 395.00 395.00 395.00 395.00 395.00 395.00	F	F		F	F *

Table 5- KS

Docket No. 2018-0388 Exhibit KWSC-T-103 idy out

Hawaii Water Service Co-Wastewater Summary of ASL's and Net Salvage Percent From Industy Depreciation Studies

													:	Ex Sewer	chibit K Deprec
	New Jersey Amer-Sewer				0c	60	65		17						. Wi
ASL's	Illinois-Am Sewer				40	64	99		25	20					
Summary of ASL's	Arizona -Am. Illinois-Am Sewer Sewer				40	50	73		15	21					
	Sum of <i>I</i> <u>ASL's</u>				110	174	204		57	41					
	Avg of <u>ASL's</u>				37	58	68		19	20					
	Proposed <u>ASL</u>		15-R4		*45-R4	55-R4	65-R4	30-R4	30-R3	30-R3			25-R3		
Current	Implicit <u>ASL (Yrs)</u>		N/A		47	30	54	30	45	30			30		
Original			96,006.00	96,006.00	5,339,404.11	76,204.11	4,535,759.00	7,896.57	3,287,382.75	35,441.08	13,282,087.62		16,475.29	16,475.29	13,394,568.91
	Description (c)	DEPRECIABLE PLANT	Collection Plant System Control Computer Equip	TOTAL Collection Plant	Treatment & Disposal Equip Structure & Improvements	Collection Sewers Force	Collection Sewers Gravity	Special Collection Structure	Pumping Equipment	Treatment & Disposal Equip	TOTAL Treat. & Disposal Plant	General Plant	Other Miscellaneous Equipment	TOTAL General Plant	SUBTOTAL Depreciable Plant
	Account <u>No.</u> (b)		324.10		354.00	360.00	361.00	362.00	370.10	380.10			389.00		

Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

Hawaii M Summary From Indu	Hawaii Water Service Co-Wastewater Summary of ASL's and Net Salvage Percent From Industy Depreciation Studies						-	(2 of 2)
		Original			Sumr	Summary of Net Salv %'s	Salv %'s	
Account <u>No.</u> (b)	<u>Description</u> (c)	Cost 12/31/017 (c)	Proposed <u>NS %</u>	Avg Net <u>Salv %</u>	Sum of <i>1</i> <u>NS %'s</u>	Arizona -Am. Illinois-Am Sewer Sewer	Illinois-Am Sewer	New Jersey Amer-Sewer
	DEPRECIABLE PLANT							
324.10	Collection Plant System Control Computer Equip	96,006.00	%0					
	TOTAL Collection Plant	96,006.00						
354.00 360.00 361.00	Treatment & Disposal Equip Structure & Improvements Collection Sewers Force Collection Sewers Gravity	5,339,404.11 76,204.11 4,535,759.00	-10% -25% -25%	-12% -30% -22%	-35% -90% -65%	-10% -40% 0%	-10% -40%	-15% -10% -25%
362.00	Special Collection Structure	7,896.57	-10%					
370.10	Pumping Equipment	3,287,382.75	-15%	-15%	-45%	%0	-30%	-15%
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						

Table 6- KS (2 of 2)

Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

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SECTION 3

Kona Water Service Company Kona Wastewater (KS)

<u>General</u>

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:

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.

		ARL AND ACCRU							Table 7	
SASED UPC	ON AN IOWA	10-R3 CURVE US	ING THE EQUA	AL LIFE GRU	OUP (ELG) PH	OCEDURE				
							EQUAL LI	FE GROUP PRO	CEDURE	
AGE AT	LIFE TABLE	RETIREMENT		AGE OF	AMOUNT FOR	AMOUNT FOR	AVERAGE	AVERAGE	ELG/ARL	ACCRUE
BEGIN OF	BEGIN OF	DURING	AVERAGE	AMOUNT	EACH	REMAINING	SERVICE	REMAINING	DEPR	RES
NTERVAL	INTERVAL	INTERVAL	SURVIVING	RETIRED	LIFE GROUP	LIFE GROUPS	LIFE	LIFE	RATE	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	0.000000
0.5	0.9990802	0.0033314	0.9974145	1.0	0.0033314	0.1131019	8.82	8.32	11.34	0.056697
1.5	0.9957488	0.0065393	0.9924792	2.0	0.0032697	0.1098013	9.04	7.54	11.06	0.165950
2.5	0.9892095	0.0117037	0.9833577	3.0	0.0039012	0.1062159	9.26	6.76	10.80	0.270033
3.5	0.9775058	0.0193690	0.9678213	4.0	0.0048422	0.1018442	9.50	6.00	10.52	0.368306
4.5	0.9581368	0.0300339	0.9431199	5.0	0.0060068	0.0964196	9.78	5.28	10.22	0.460056
5.5	0.9281029	0.0442969	0.9059545	6.0	0.0073828	0.0897248	10.10	4.60	9.90	0.544714
6.5	0.8838060	0.0631367	0.8522377	7.0	0.0090195	0.0815237	10.45	3.95	9.57	0.621779
7.5	0.8206693	0.0876232	0.7768577	8.0	0.0109529	0.0715375	10.86	3.36	9.21	0.690642
8.5	0.7330461	0.1166879	0.6747022	9.0	0.0129653	0.0595783	11.32	2.82	8.83	0.750577
9.5	0.6163582	0.1431836	0.5447664	10.0	0.0143184	0.0459365	11.86	2.36	8.43	0.801071
10.5	0.4731746	0.1533568	0.3964962	11.0	0.0139415	0.0318066	12.47	1.97	8.02	0.842300
11.5	0.3198178	0.1363216	0.2516570	12.0	0.0113601	0.0191557	13.14	1.64	7.61	0.875361
12.5	0.1834962	0.0975199	0.1347363	13.0	0.0075015	0.0097249	13.85	1.35	7.22	0.902215
13.5	0.0859763	0.0559043	0.0580242	14.0	0.0039932	0.0039775	14.59	1.09	6.85	0.925423
14.5	0.0300720	0.0244398	0.0178521	15.0	0.0016293	0.0011663	15.31	0.81	6.53	0.947307
15.5	0.0056322	0.0055324	0.0028660	16.0	0.0003458	0.0001788	16.03	0.53	6.24	0.966765
16.5	0.0000998	0.0000998	0.0000499	17.0	0.0000059	0.0000029	17.00	0.50	5.88	0.970588
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 midvear 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:

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:

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

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.

<u>Salvage</u>

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>	Salvage Amount
Car # 1	\$20,000	2	75%	\$15,000
<u>Car # 2</u>	20,000	<u>10</u>	<u> 5%</u>	1,000
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".

<u>Period Retirements Method</u> - 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.

<u>Life Span Method</u> - 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 (lowa 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.

<u>Judgment Method</u> - 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.

Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

SECTION 4

Kona Water Service Company

Kona Wastewater (KS)

Study Analysis Results & Recommendations

ACCOUNT – 354.00 Structures & Improvements

Historical Experience

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 septer and study 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%

	New Rate @New Parameters	Old Rate @ Old Parameters
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

Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

Proposed Depreciation Parameters

ASL/Curve: 45-R4

Future Net Salvage: 0%

	New Rate @New Parameters	Old Rate @ Old Parameters
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%

	New Rate @New Parameters	Old Rate @ Old Parameters
Rate	2.21%	3.33%
Av. Remaining Life	51.67 years	N/A

ACCOUNT - 361.00 Collection Sewers-Gravity

Historical Experience

Plant StatisticsPlant Balance = \$4,535,759Average Age of Survivors = 12.05 yearsOriginal Gross Additions = \$4,535,759Oldest Surviving Vintage = 2005Retirements = \$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%

New Rate @New Parameters

Rate Av. Remaining Life 1.90% 52.99 years Old Rate @ Old Parameters

1.86% N/A

ACCOUNT – 362.00 Special Collection Structures

Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

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 = $0 \text{ or } 0.0\%$ 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%

New Rate @New Parameters

Rate Av. Remaining Life 3.67% 27.52 years Old Rate @ Old Parameters 3.33% 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%

Rate Av. Remaining Life New Rate @New Parameters

9.80%

8.45 years

Old Rate @ Old Parameters

2.21% 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

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ASL/Curve: 30-R3

Future Net Salvage: -15%

	New Rate @New Parameters	Old Rate @ Old Parameters
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 = $0 \text{ or } 0\%$ 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

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ASL/Curve: 30-R3

Future Net Salvage:-15%

	New Rate @New Parameters	Old Rate @ Old Parameters
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

Proposed Depreciation Parameters

ASL/Curve: 15-R4

Future Net Salvage: 0%

New Rate @New Parameters

Old Rate @ Old Parameters

Rate Av. Remaining Life 40.65% 2.46 years 0% 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 = $0 \text{ or } 0.0\%$ 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

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Proposed Depreciation Parameters

ASL/Curve: 7-R4

Future Net Salvage: 0%

New Rate @New Parameters

Rate Av. Remaining Life 20.11% 4.53 years 0.0% N/A

Old Rate @ Old Parameters

- -

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 replace 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

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Proposed Depreciation Parameters

ASL/Curve: 25-R3

Future Net Salvage: 0%

	New Rate @New Parameters	Old Rate @ Old Parameters
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 = $0 \text{ or } 0\%$ 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

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Proposed Depreciation Parameters

ASL/Curve: 15-R3

Future Net Salvage: 0%

New Rate @New Parameters

Old Rate @ Old Parameters

Rate Av. Remaining Life 7.36% 12.20 years

3.33% 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

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ASL/Curve: 12-R3

Future Net Salvage: 5%

	New Rate @New Parameters	Old Rate @ Old Parameters
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%

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New Rate @New Parameters

Old Rate @ Old Parameters

Rate Av. Remaining Life -3.68% 2.72 years 0% N/A

ACCOUNT - 397.00 Miscellaneous Equipment

Historical Experience

Plant StatisticsPlant Balance =\$28,924Average Age of Survivors = 5.66 yearsOriginal Gross Additions = \$28,924Oldest Surviving Vintage = 2011Retirements = \$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

Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

Proposed Depreciation Parameters

ASL/Curve: 25-R4

Future Net Salvage: 0%

	New Rate @New Parameters	<u>Old Rate</u>	
Rate	4.17%	3.33%	
Av. Remaining Life	19.37 years	N/A	

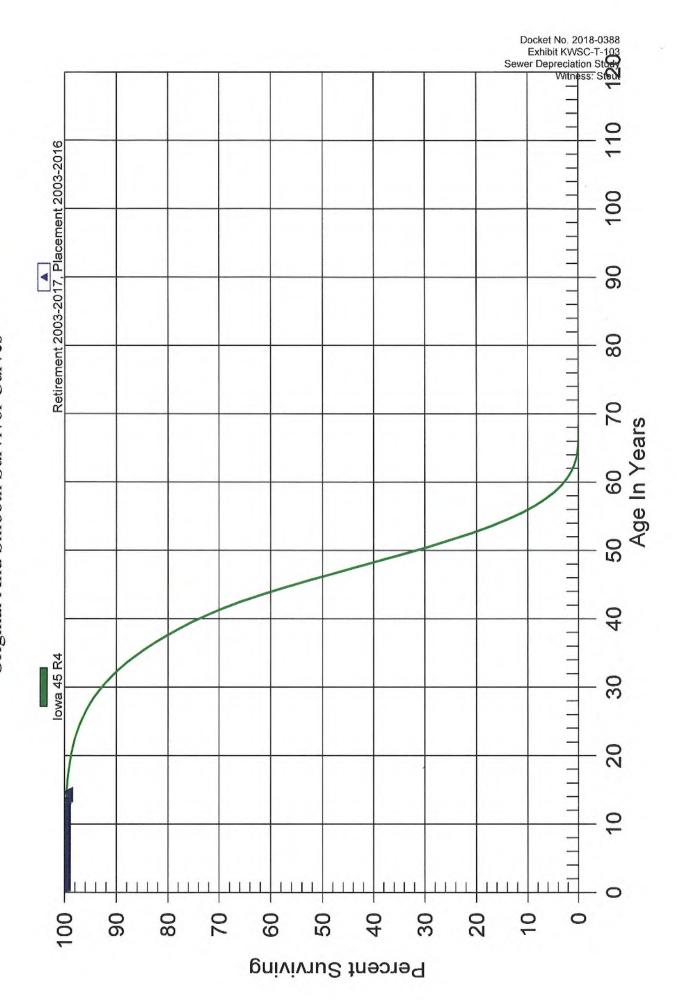
Old Rate @ Old Parameters

3.33%

Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

SECTION 5

Kona Water Service Company (727) Kona Wastewater (KS) 354.00 STRUCTURE & IMPROVEMENTS Original And Smooth Survivor Curves



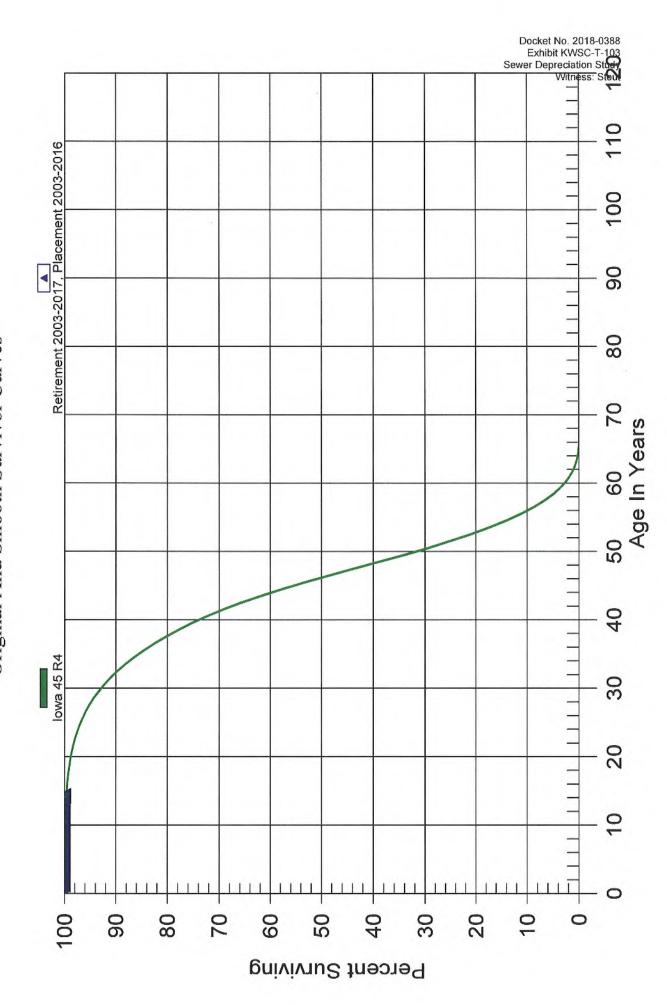
Kona Water Service Company (727) Kona Wastewater (KS) 354.00 STRUCTURE & IMPROVEMENTS

Observed Life Table

Retirement Expr. 2003 TO 2017 Placement Years 2003 TO 2016

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	\$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



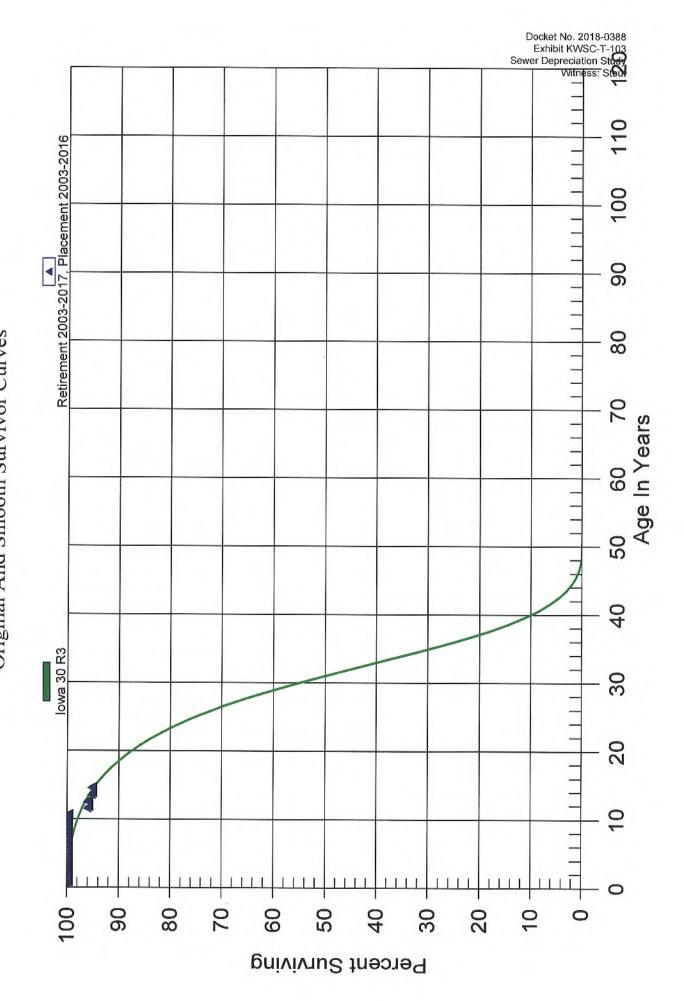
Kona Water Service Company (727) Kona Wastewater (KS) 370.00 WASTE TREATMENT PLANT

Observed Life Table

Retirement Expr. 2003 TO 2017 Placement Years 2003 TO 2007

Age Interval	<i>\$ Surviving At Beginning of Age Interval</i>	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
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

Age Interval	<i>\$ Surviving At Beginning of Age Interval</i>	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
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

Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

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		Survi	Survivor Curve: R4		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals	
(1)	(2)	(3)	(4)	(5)	(6)	
2003	96,006.00	15.00	6,400.36	2.46	15,724.93	
Total	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

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
		KONA	WASTE TREATMENT	PLANT	
Interim S	urvivor Curve:	Iowa 45 R4			
Probable	Retirement Yea	ar: 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		Surv		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(2) (3)	(4)	(5)	(6)
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		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
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
Fotal	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		Survi		
Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
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
otal	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		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
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
otal	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

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
		KONA	WASTE TREATMENT	PLANT	
Interim S	urvivor Curve:	Iowa 45 R4			
Probable	Retirement Yea	ar: 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
Account					
		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 Se	ervice Life: 30	Surve	Survivor Curve: R3		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals	
(1)	(2)	(3)	(4)	(5)	(6)	
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	
otal	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		Surv		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
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		Surv	Survivor Curve: R3		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals	
(1)	(2)	(3)	(4)	(5)	(6)	
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		Surv	Survivor Curve: R3		
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals	
(1)	(2)	(3)	(4)	(5)	(6)	
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 Se	ervice Life: 15	Surve	ivor Curve: R3	
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
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 Se	ervice Life: 8	Surv	ivor Curve: R3	
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
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 Se	ervice Life: 25	Surve	ivor Curve: R4	
Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
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
otal	28,924.27	25.00	1,156.97	19.37	22,407.24

Composite Average Remaining Life ... 19.37 Years

Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

APPENDIX

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Table

Hawaii Water Service Company Kona Wastewater (KS)

Summary of Original Cost of Utility Plant in Service as of December 31, 2017 and Related Amuel Book Depreciation Expense

		Net Change	Depr. Exp.	(L)			168,706.84	(6,065.28) (856.05)	(830.03) 1 755 46	26.52	59,538.83	71,305.83	294,412.15	172 45	1	172.45		39,026.44	316.17	114.83	64./8	0.00	(SU.4CC,1)	241.77	38,209.96	332,794.56		
		Total Proposed Rates Annual Accrual	Amount	(m)			282,454.48	10,461.48 1 684 11	1,004.11 86 179 42	289.80	99,216.11	153,849.51	634,134.91	1 353 85	0000	1,353.85		39,026.44	316.17	663.95	118.42		50.400'L-	1,206,14	39,777.09	675,265.85		
		Total Prop	Rate %	0			5.29% (1)	2.11%	1 90%	3.67%	5.53% (1)	4.68%	4.08%	3 87%	2.202	3.82%		40.65%	20.11%	4.03%	1.36%	0.00%	-3.08%	4.17%	21.29%	4.28%		
		Proposed Gross COR Rates Annual Accrual	Amount	(K)			13,348.51	0.00	8 617 94	26.06	9,508.96	27,614.02	59,420.31	177 21		177.21		0.00	0.00	00.0	0.00	0.00	0.00	0.00	0.00	59,597.52		
	RATES	Proposed Gro Al	Rate %	9			0.25%	0.00%	0.40%	0.33%	0.53%	0.84%	0.38%	0 50%	2000	0.50%		%00.0	0.00%	0.00%	0.00%	0.00%	%nn.n	0.00%	0.00%	0.38%		
	PROPOSED RATES		Amount	0			0.00	0.00		0.00	00.0	00'0	0.00		5	0.00		0.00	0.00	0,00	0.00	0.00	(98.126)	0.00	-527.86	-527.86		
		Proposed Gross Salvage Rates Annual Accrual	Rate %	(4)			0.00%	00.00%	0 00%	0.00%	0.00%	0.00%	0.00%	76000	200	0.00%		0.00%	0.00%	0,00%	0.00%	0.00%	% GZ 1-	0.00%	-0.28%	0.00%		
Under Present and Proposed Rates			Amount	(6)			269105.97	10461.48 1270 20	77561 48	263.75	89707.15	126235.50	574,714.62	1176 GA		1176.64		39026.44	316.17	663,95	118.42	0.00	-10201-	1206.14	40,304.95	616,196.21		
nder Present a		Proposed Plant Only Rates Annual Accru	Rate %	(J)			5.04%	2.11%	1 71%	3.34%	5.00%	3.84%	3.70%	3 3.7%	20.0	3.32%		40.65%	20.11%	4.03%	7.36%	0.00%	-2.43%	4.17%	21.57%	3.91%		
		1 1 1	Amount	(e)			113,747.64	16,526.76 2 540 16	2,340.10 84,423.96	263.28	39,677.28	82,543.68	339,722.76	1 181 40		1,181.40		0.00	0.00	549.12	53.64	00.0	0.00	964.37	1,567.13	342,471.29		
		<u>Under Present Rates</u> Annual Acci	Rate %	(d)			2.13%	3.33%	1 86%	3.33%	2.21%	2.51%	2.19%	7055 5	2000	3.33%		%00.0	0.00%	3.33%	3.33%	3.34%	0.UU%	3.33%	0.84%	2.17%		
		Original Cost	12-31-17	(c)			5,339,404.11	495,804.71 76 204 11	4 535 759 DD	7,896.57	1,794,143.00	3,287,382.75	15,536,594.25	35 441 08	00.111.000	35,441.08		96,006.00	1,572.20	16,475.29	1,609.00	0.00	42,229.15	28,924.27	186,815.91	15,758,851.24		00.0
			Description	(q)	DEPRECIABLE PLANT	Collection Plant	Structure & Improvements	Power Generation Equipment	Collection Sewers Force	Special Collecting Structure	Receiving Wells/Waste Treatment Plant	Pumping Equipment	TOTAL Collection Plant	Treatment & Disposal Plant Treatment & Disposal Equip		TOTAL Treatment & Disposal Plant	General Plant	System Control Computer Equipment	Office Equipment/Computers	Other Miscellaneous Equipment	roois, Shop & Garage Equipment	Power Operated Equip	I ransportation Equipment	Miscellaneous Equipment	TOTAL General Plant	TOTAL DEPRECIABLE PLANT	NON-DEPRECIABLE PLANT	TOTAL NON-DEPRECIABLE PLANT
		Acct.	No	(a)		Col		355.00 Pov				370.10 Pun	TO	380.10 Tre	2.000	10				<u> </u>				397.00 Mis	.01	.01		10

TOTAL UTILITY PLANT IN SERVICE 15.758,851.24 (1) ARL Extended to 15 Years to Mitigate Proposed Depreciation Rates—at Management Request Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

Table 1a - KS–Appendix

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Hawaii Water Service Company Kona Wastewater (KS)

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

Plant Only Depr Reserve <u>12-31-17</u> ()	1,306,713.83 61,975.35 4,947.76 415,982.16 531.17 449,350.76 1,036,493.12	3,276,094.15 1,887.13 1,887.13	0.00 139.84 150.83 164.82 0.00 45,018.47 5,538.44	53,012.40 3,330,993.68
Gross Salvage E In <u>Book Res.</u> (i)	00.0 00.0 00.0 00.0 00.0 00.0	0.00	0.00 0.00 0.00 0.00 0.00 -2,789.32 -2,789.32	-2,789.32 -2,789.32
Cost of Removal <u>In Book Res.</u> (h)	330.076.24 0.00 3,434.45 671,349.68 65.18 217,436.11	1,222,361.66 261.04 261.04	00.0 00.0 00.0 00.0 00.0 00.0	0.00 1,222.622.70
Total Book Depr Reserve <u>12-31-17</u> (9)	1,636,790.07 61,975.35 8,382.21 1,087,331.84 696,786.87 666,786.87	4,498,455.81 2,148.17 2,148.17	0.00 139.84 2,150.83 164.82 164.82 164.82 0.00 5,538,44	50,223.08 4,550,827.06
Theoretical Deprecation <u>Reserve</u> (1)	3,630,841.21 38,510.10 7,049.32 1,509,619.83 716.95 1,304,619.17 1,533,644.11	8,025,000.69 2,001.32 2,001.32	80,281.07 555.56 2,248.78 2,248.78 300.00 0.00 25,103.85 6,517.03	115,006.29 8,142,008.30
Salvage <u>%</u> (e)	-45-R4 45-R4 55-R4 65-R4 30-R4 30-R3 30-R3	30-R3	15-R4 7-R4 25-R3 15-R3 12-R3 8-R3 25-R4	
Existing A.S.L/ Curve (d)	-10% 0% -25% -25% -10% -15%	-15%	0 % 0 % 0 % 0 %	
Original Cost 12-31-17 (c)	5,339,404.11 495,804.71 76,204.11 4,535,759.00 7,896.57 1,794,143.00 3,287,382.75	15,536,594.25 35,441.08 35,441.08	96,006.00 1,572.20 16,475.29 1,609.00 42,229.15 28,924.27	186,815.91 15,758,851.24 0.00
Deprectable PLANT	Collection Plant Structure & Improvements Power Generation Equipment Collection Sewers Force Collection Severs Gravity Special Collecting Structure Receiving Wells/Waste Treatment Plant Pumping Equipment	TOTAL Collection Plant <u>Treatment & Disposal Plant</u> Treatment & Disposal Equip TOTAL Treatment & Disposal Plant	General Plant System Control Computer Equipment Office EquipmentVComputers Ofther Miscellaneous Equipment Tools, Shop & Garage Equipment Power Operated Equip Transportation Equipment Miscellaneous Equipment	TOTAL General Plant TOTAL DEPRECIABLE PLANT NON-DEPRECIABLE PLANT TOTAL NON-DEPRECIABLE PLANT TOTAL UTILITY PLANT IN SERVICE
Acct. No. (a)	354.00 355.00 360.00 361.00 362.00 370.00	380.10	324.10 372.10 389.00 393.00 395.00 396.50 397.00	

			Hawaii W , Kon	i Water Service Co Kona Wastewater (KS)	Hawaii Water Service Company Kona Wastewater (KS)	~						
		Summary Annual Dep Book Depr	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	of Utility PI nd Deprec	ant in Service al iation Expense I ige Remaining L	nd Calculation of Based Upon Utili ives as of Decer	: ity nber 31, 2011					
Account No.	Description	Original Cost 12-31-11	Estimated Future Net Salvage <u>% Rate</u> Amount	d Future alvage Amount	Original Cost Less Est. Future <u>Net Salvage</u>	Book Depreciation Reserve	Unrecovered Original <u>Cost</u>	A.S.L./ Survivor Curve	Average Remaining <u>Life</u>	Annual Depreciation [<u>Accrual</u>	Annual Depreciation 	
	DEPRECIABLE PLANT											
354.00 355.00 360.00 361.00 362.00 370.00 370.10	Collection Plant Structure & Improvements Power Generation Equipment Collection Sewers Force Collection Sewers Gravity Special Collecting Structure Receiving Wells/Waste Treatment Plant Pumping Equipment	5,339,404,11 495,804,71 76,204,11 4,535,759,00 7,896,57 1,794,143,00 3,287,382,75	% % 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0000000	5,339,404.11 495,804.71 76,204.11 4,535,759.00 7,896.57 1,794,143.00 3,287,382.75	1,306,713.83 61,975.35 4,947.76 415,982.16 631.17 449,350.76 1,036,493.12	4,032,690.28 4,032,829.36 71,256.35 4,119,776,84 7,265,40 1,344,792.24 2,250,889.63	*45-R4 45-R4 55-R4 65-R4 65-R4 30-R4 30-R4 30-R4	15.00 (1) 41.50 (1) 51.67 52.99 27.52 15.00 (1)	268,846.02 10,453.72 1,379.07 77,746.31 264.00 89,652.82 126,241.71	5.04% 2.11% 1.81% 3.34% 5.00%	
	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%	
380.10	<u>Treatment & Disposal Plant</u> Treatment & Disposal Equip	35,441.08	%0	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%	
324.10 372.10 389.00 393.00 395.00 397.00	General Plant System Control Computer Equipment Office Equipment/Computers Other Miscellaneous Equipment Tools, Shop & Garage Equipment Power Operated Equip Transportation Equipment Miscellaneous Equipment	96,006.00 1,572.20 16,475,29 1,609.00 42,229.15 28,924.27	% % 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0000000	96,006.00 1,572.20 16,475.29 1,609.00 42,229.15 28,924.27	0.00 139.84 2,150.83 164.82 0.00 45,018.47 5,538.44	96,006.00 1,432.36 14,324.46 1,444.18 0.00 -2,789.32	15-R4 7-R4 25-R3 15-R3 15-R3 8-R3 8-R3 25-R4	2.46 4.53 21.59 12.20 N/A 2.72 19.37	39,026.83 316.19 663.48 118.38 0.00 1,025.49 1,207.32	40.65% 20.11% 4.03% 7.36% 0.00% 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 Depreciaiton Ratesat Management Request	15,758,851.24 Depreciaiton Rates	at Management R	Request								Se

Table 2 - PLANT ONLY - KS--Appendix

Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

	Annual Depr Rate (I)		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%	u.uu% -1.25% 0.00%	-0.28%	0.00%		
	Annual Depreciation Accrual (k)		0.00	00.0	0.00	0.00	0.00	00.0	0.0	00.0	0.00 (527.06) 0.00	-527.06	-527.06		
	Average Remaining Life ()		15.00 (1) 41.50	51.67 52.99	27.52 15.00 (1)	17.83	28.53		2.46 4.53	12.20	N/A 2.72 19.37				
	A.S.L./ Survivor Curve (i)		*45-R4 45-R4	55-R4 65-R4	30-R4 *45-R4	30-R3	30-R3		15-R4 7-R4	15-R3	12-R3 8-R3 25-R4				
: ion of 1, 2017	Net Original Cost Less Salvage (h)		0.00	0.0	00.0	0.00	0.00	00.0	0.00	0.00	u.uu (1,433.60) 0.00	(1,433.60)	(1,433.60)		
and Calculation of ased Upon Utilizati as of December 3	Book Depreciation <u>Reserve</u> (9)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00 (2,789.32) 0.00	(2,789.32)	(2,789.32)		
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	Original Cost Less Salvage (f)		5,339,404.11 495,804.71	76,204.11 4,535,759.00	7,896.57 1,794,143.00	3,287,382.75 15,536,594.25	35,441.08	35,441.08	96,006.00 1,572.20	1,609.00	0.00 38,006.23 28,924.27	182,592.99	15,754,628.32		
Original Cost of U on Rates and Dep teserve and Avera	Estimated Future <u>Gross Salvage</u> () (e)		0.00	0.0	0.0	0.00	0.00	0.00	0.0	0.0	0.00 4,222.92 0.00	4,222.92	4,222.92		
ummary of Depreciatic preciation F	Estimate <u>Gross</u> (d)		0.0% 0.0%	%0.0 %0.0	%0.0 %0.0	%0.0	0.0%	0.0%	0.0% 0.0%	%0.0 %0.0	5.0% 10.0% 0.0%				
Sı Annual Book Del	Original Cost 12-31-17 (c)		5,339,404.11 495,804.71	/6,204.11 4,535,759.00	7,896.57 1,794,143.00	3,287,382.75 15,536,594.25	35,441.08	35,441.08	96,006.00 1,572.20	1,609.00	u.uu 42,229.15 28,924.27	186,815.91	15,758,851.24		0.00
	unt	DEPRECIABLE PLANT		00 Collection Sewers Force 00 Collection Sewers Gravity		10 Pumping Equipment TOTAL Collection Plant	Treatment & Disposal Plant 10 Treatment & Disposal Equip	TOTAL Treatment & Disposal Plant			ud Prower Uperated Equip 50 Transportation Equipment 00 Miscellaneous Equipment	TOTAL General Plant	TOTAL DEPRECIABLE PLANT	NON-DEPRECIABLE PLANT	TOTAL NON-DEPRECIABLE PLANT
	Account No. (a)		354.00 355.00	360.00 361.00	362.00 370.00	3/0.10	380.10		324.10 372.10	393.00 393.00	396.50 397.00				

Table 2-Gross Salvage-KS--Appendix

Hawaii Water Service Company Kona Wastewater (KS) 3%

TOTAL UTILITY PLANT IN SERVICE 15,758,851.24 (1) ARL Extended to 15 Years to Mitigate Proposed Depreciation Rates—at Management Request

Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

	Annual Depr Rate ()		0.25% 0.00% 0.40% 0.19% 0.33% 0.53% 0.53%	0.38%	0.50%	0.50%	0.00% 0.00% 0.00% 0.00% 0.00% 0.00%	0.00%	0.38%	
	Annual Depreciation Accrual (k)		13,590.94 0.00 302.24 8,729.76 2,75 9,426.17 27,656.05	59,731.49	177.19	177.19	00.0 00.0 00.0 00.0 00.0 00.0 00.0 00.	0.00	59,908.67	
	Average Remaining Life ()		15.00 (1) 41.50 51.67 52.99 27.52 27.52 17.83		28.53		2.46 4.53 21.59 12.20 N.A 2.72 19.37			
	A.S.L./ Survivor Curve (i)		*45-R4 45-R4 55-R4 65-R4 30-R4 *45-R4 30-R3		30-R3		15-R4 7-R4 25-R3 15-R3 15-R3 12-R3 8-R3 25-R4			
on of 1, 2017	Net Original Cost Less Salvage (h)		203,864.17 0.00 15,616.58 462,590.07 724.48 141,392.49 493,107.41	1,317,295.20	5,055.12	5,055.12		0.00	1,322,350.32	
and Calculation of ased Upon Utilizati as of December 3	Book Depreciation Reserve (9)		330,076.24 0.00 3,434.45 671,349,68 671,349,68 65.18 65.18 217,436.11 0.00	1,222,361.66	261.04	261.04	00000000000000000000000000000000000000	00.0	1,222,622.70	
lity Plant in Service eciation Expense B ge Remaining Lives	Original Cost Less Salvage (f)		5,873,344,52 495,804,71 95,255,14 5,669,698,75 8,668,23 2,152,971,60 3,780,490,16	18,076,251.11	40,757.24	40,757.24	96,006.00 1,572.20 16,475.29 1,609.00 42,229.15 28,924.27	186,815.91	18,303,824.26	
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	Estimated Future <u>Cost of Removal</u> (e)		(533,940.41) (19,051.03) (1,133,939.75) (7,133,939.75) (758,828,66) (358,828,60) (493,107,41)	(2,539,656.86)	(5,316.16)	(5,316.16)	00000000000000000000000000000000000000	0.00	(2,544,973.02)	
Summary of al Depreciati epreciation I	Estima <u>Cost of</u> (d)		-10.0% 0.0% -25.0% -10.0% -15.0%		-15.0%		0.0 %0.0 %0.0 %0.0 %0.0 %0.0 %0.0			
Annus Book D	Original Cost 12-31-17 (c)		5,339,404,11 495,804,71 76,204,11 4,535,759,00 7,896,57 1,794,143,00 3,287,382,75	15,536,594.25	35,441.08	35,441.08	96,006.00 1,572.20 16,475.29 16,475.29 16,475.29 16,475.29 16,475.29 16,475.29 16,475.29 16,475.29 28,924.27	186,815.91	15,758,851.24	00.00
	Description (b)	DEPRECIABLE PLANT	Collection Plant Structure & Improvements Power Generation Equipment Collection Sewers Force Collection Sewers Gravity Special Collecting Structure Receiving Wells/Waste Treatment Plant Pumping Equipment	TOTAL Collection Plant	<mark>Treatment & Disposal Plant</mark> Treatment & Disposal Equip	TOTAL Treatment & Disposal Plant	General Plant System Control Computer Equipment Office Equipment/Computers Other Miscellaneous Equipment Tools, Shop & Garage Equipment Power Operated Equip Transportation Equipment Miscellaneous Equipment	TOTAL General Plant	TOTAL DEPRECIABLE PLANT	NON-DEPRECIABLE PLANT TOTAL NON-DEPRECIABLE PLANT
	Account No. (a)		354.00 355.00 360.00 361.00 361.00 370.00 370.10		380.10	·	324.10 372.10 389.00 393.00 395.00 396.50 396.50 397.00	·	·	

TOTAL UTILITY PLANT IN SERVICE 15,758,851.24 (1) ARL Extended to 15 Years to Mitigate Proposed Depreciation Rates—at Management Request

Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

Table 2-Gross COR-KS--Appendix

Hawaii Water Service Company Kona Wastewater (KS)

Hawaii Water Service Company Kona Wastewater (KS)

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

Account <u>No.</u> (a)	Description (b)	Original Cost Per Book <u>12-31-11</u> (c)	Company Pending <u>Adjustment</u> (^{d)}	Original Cost Per Depreciation Study Data <u>12-31-11</u> (e)
	DEPRECIABLE PLANT			
	Collection Plant			
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
	Treatment & Disposal Plant			
380.10	Treatment & Disposal Equip	35,441.08		35,441.08
	TOTAL Treatment & Disposal Plant	35,441.08	0.00	35,441.08
	General Plant			
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
	NON-DEPRECIABLE PLANT			
	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.		Original Cost	Net Salvage	A.S.L./ Survivor	Book Reserve
<u>No.</u>	Description	12-31-17	Rate	Curve	<u> 12-31-17 </u>
(a)	(b)	(c)	(d)	(e)	(g)
	DEPRECIABLE PLANT				
	Collection Plant				
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
	Treatment & Disposal Plant				
380.10	Treatment & Disposal Equip	35,441.08	-15%	30-R3	2,148.17
	TOTAL Treatment & Disposal Plant	35,441.08			2,148.17
	General Plant				
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
	NON-DEPRECIABLE PLANT				
	TOTAL NON-DEPRECIABLE PLANT	0.00			0.00
	TOTAL UTILITY PLANT IN SERVICE	15,758,851.24			4,550,827.06

	Adj'd Adj'd ARL ARL			15.00 (1)					15.00 (1)										
Average	Remain. Life	Ē		8.45	41.50	51.67	52.99	27.52	8.45	17.83		28.53		2.46	4.53	21.59	12.20	N/A	64 6
Life	Span To Yr			2026					2026										
A.S.L/	Survivor Curve	e		*45-R4	45-R4	55-R4	65-R4	30-R4	*45-R4	30-R3		30-R3		15-R4	7-R4	25-R3	15-R3	12-R3	8-83
Proposed Parameters	Gross COR	(K)		-10%	%0	-25%	-25%	-10%	-20%	-15%		-15%		0%0	%0	0%0	%0	%0	70U
Net Salvage	Gross Salv Gross COR	9		%0	%0	%0	%0	%0	%0	%0		%0		%0	%0	%0	%0	5%	1001
	WI COR	e		-10%	%0	-25%	-25%	-10%	-20%	-15%		-15%		%0	%0	%0	%0	5%	1001
	5 01	£		2.13%	3.33%	3.33%	1.86%	3.33%	2.21%	2.51%		30.0 3.33%		%00 U	0.00%	3.33%	3.33%	3.34%	0000
	ASL (Vrs)	(6)		46.9	30.0	30.0	53.7	30.0	45.2	39.8		30.0			NIA	30.0	30.0 3	30.0	NUA
Present Parameters alvage		Û		%0	%0	%0	%0	%0	%0	%0		%0		%0	%0	%0	%0	%0	700
Present Net Salvage	Gross Salv Gross COR	(e)		%0	%0	%0	%0	%0	%0	%0		%0		%0	%0	%0	%0	%0	100
	R	(D)			%0							%0				%0			
Original	Cost 12-31-17	(c)		5,339,404.11	495,804.71	76,204.11	4,535,759.00	7,896.57	1,794,143.00	3,287,382.75	15,536,594.25	35,441.08	35,441.08	96 006 00	1.572.20	16,475.29	1,609.00	0.00	31 000 01
	Description		UEPRECIABLE PLANI Collection Plant	Structure & Improvements	Power Generation Equipment	Collection Sewers Force	Collection Sewers Gravity	Special Collecting Structure	Receiving Wells/Waste Treat. Plant	Pumping Equipment	TOTAL Collection Plant	<u>Treatment & Disposal Plant</u> Treatment & Disposal Equip	TOTAL Treatment & Disposal Plant	<u>General Plant</u> Svstem Control Computer Fourinmen	Office Equipment/Computers	Other Miscellaneous Equipment	Tools, Shop & Garage Equipment	Power Operated Equip	Transnation Equipment
	Account No.	(a)		354.00	355.00	360.00	361.00	362.00	370.00	370.10		380.10		324 10	372.10	389.00	393.00	395.00	206 50

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 Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

> TOTAL UTILITY PLANT IN SERVICI 15,758,851.24 *Life Span Method Utilized. Service Lives Vary. (1) ARL Extended to 15 Years to Mitigate Proposed Depreciaiton Rates--at Management Request

0.00

TOTAL DEPRECIABLE PLANT NON-DEPRECIABLE PLANT TOTAL NON-DEPRECIABLE PLANT

186,815.91 15,758,851.24

TOTAL General Plant

Table 5- KS--Appendix

Hawaii Water Service Co-Wastewater Summary of ASL's and Net Salvage Percent From Industy Depreciation Studies

											:	E	chibit KV Deprecia
	New Jersey Amer-Sewer				30 65 65		17						Witi
ASL's	Illinois-Am Sewer				40 66		25	20					
Summary of ASL's	Arizona -Am. Sewer				40 50 73		15	21					
	Sum of <u>ASL's</u>				110 174 204		57	41					
	Avg of <u>ASL's</u>				37 58 68		19	20					
	Proposed <u>ASL</u>		15-R4		*45-R4 55-R4 65-R4	30-R4	30-R3	30-R3			25-R3		
Current	Implicit <u>ASL (Yrs)</u>		N/A		47 30 54	30	45	30			30		
Original	Cost 12/31/017 (c)		96,006.00	96,006.00	5,339,404.11 76,204.11 4,535,759.00	7,896.57	3,287,382.75	35,441.08	13,282,087.62		16,475.29	16,475.29	13,394,568.91
	Description (c)	DEPRECIABLE PLANT	Collection Plant System Control Computer Equip	TOTAL Collection Plant	Treatment & Disposal Equip Structure & Improvements Collection Sewers Force Collection Sewers Gravity	Special Collection Structure	Pumping Equipment	Treatment & Disposal Equip	TOTAL Treat. & Disposal Plant	General Plant	Other Miscellaneous Equipment	TOTAL General Plant	SUBTOTAL Depreciable Plant
	Account <u>No.</u> (^{b)}		324.10		354.00 360.00 361.00	362.00	370.10	380.10			389.00		

Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

er	ent		
Hawaii Water Service Co-Wastewater	Summary of ASL's and Net Salvage Percent	From Industy Depreciation Studies	

Table 6- KS--Appendix (2 of 2)

		Original			Sumr	Summary of Net Salv %'s	Salv %'s	
Account <u>No.</u> (^{b)}	Description (c)	Cost 12/31/017 (c)	Proposed <u>NS %</u>	Avg Net <u>Salv %</u>	Sum of / NS %'s	Arizona -Am. Illinois-Am Sewer Sewer	Illinois-Am Sewer	New Jersey Amer-Sewer
	DEPRECIABLE PLANT							
324.10	Collection Plant System Control Computer Equip	96,006.00	%0					
	TOTAL Collection Plant	96,006.00						
354.00 360.00	Treatment & Disposal Equip Structure & Improvements Collection Sewers Force	5,339,404.11 76,204.11	-10% -25%	-12% -30%	-35% -90%	-10% -40%	-10% -40%	-15% -10%
361.00	Collection Sewers Gravity	4,535,759.00	-25%	-22%	-65%	%0	-40%	
362.00	Special Collection Structure	7,896.57	-10%					
370.10	Pumping Equipment	3,287,382.75	-15%	-15%	-45%	%0	-30%	-15%
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						

Docket No. 2018-0388 Exhibit KWSC-T-103 Sewer Depreciation Study Witness: Stout

13,394,568.91

SUBTOTAL Depreciable Plant

Makalei Committed Capacity

description	E C	Jtility Plant In Service 12/31/2018	Pe Ac	Accumulated Depreciation 12/31/2018		Accumulated Depreciation 12/31/2019	de	Average accumulated depreciation	۲	Average Net Plant
HR-5 PUMP	ŝ	506,136	ዓ	506,136	ዓ	506,136	÷	506,136	69	١
HR-1 TO 4 PUMP	\$	507,019	ф	507,019	6 9	507,019	÷	507,019	69	ı
SCADA HR WELLS 1-4	θ	129,504	69	129,504	69	129,504	ю	129,504	69	•
SCADA HR WELL 5	69	647,485	69	647,485 \$	69	647,485	69	647,485	69	'
HR 1 TO 4 TRANSMISSION(16" WATERLINE)	ŝ	770,629	ŝ	235,341 \$	69	248,057	69	241,699	69	528,930
HR-5 TO TRANSMISSION TO 620' AND PR TANKS	ŝ	1,298,362 \$	67	381,262 \$	69	387,451 \$	ŝ	384,356 \$	¢	914,006
	φ	3,859,135	ь	2,406,747	69	2,425,652	ю	3,859,135 \$ 2,406,747 \$ 2,425,652 \$ 2,416,200 \$ 1,442,936	ŝ	1,442,936

35.15%	\$ 3,859,135	\$ (2,416,200)	\$ (8,704)	\$ 3,877	\$ 1,438,109
Makalei %	Utility Plant	Accumulated Depreciation	ADIT Fed	ADIT State	Subtotal

25.37% 364,848

Capacity Commitment to Makalei Makalei Committed Capacity

ŝ

5%

Docket No. 2018-0388 Exhibit KWSC-T-104 Committed Capacity Witness: Stout

Makalei Committed Capacity

description	1 GE	Utility Plant In Service 12/31/2018	Acc Dep Fed 1	Accumulated Depreciation Fed 12/31/2018	Act Del 12	Accumulated Book Depreciation 12/31/2018	ADIT Fed 12/31/2018		Accumulated Depreciation Fed 12/31/2019	ed Fed	Accur Bc Depre 12/31	Accumulated Book Depreciation 12/31/2019	ADI 12/31	ADIT Fed 12/31/2019	Averaç Fe	Average ADIT Fed
HR-5 PUMP	ф	506,136	ю	323,927	ы	506,136	¢	35,641	\$ 344	344,172	сл	506,136	÷	31,651	\$	33,646
HR-1 TO 4 PUMP	₩	507,019	69	324,492	មា	507,019	69	35,703	\$ 344	344,773	\$	507,019	ዓ	31,706	ማ	33,704
SCADA HR WELLS 1-4	69	129,504	ŝ	67,342	ы	129,504	69	12,182 \$	\$ 72	72,522	69	129,504	69	11,161	¢	11,672
SCADA HR WELL 5	ь	647,485	÷	336,692	ю	647,485	69	60,908	\$ 362	362,592	\$	647,485	69	55,804	¢	58,356
HR 1 TO 4 TRANSMISSION(16" WATERLINE)	69	770,629	÷	493,203	ю	235,341		(50,950)	\$ 524	524,028	÷	248,057	69	(54,527)	€9	(52,738)
HR-5 TO TRANSMISSION TO 620' AND PR TANKS	ŝ	1,298,362	\$	830,931	\$	381,262	s ((88,834)	\$ 882	882,864	\$	387,451	\$	(97,853)	\$	(93,343)
	\$	3,859,135	\$	2,376,587	ю	2,406,747	Ф	4,651 8	\$ 2,530,952		69	2,425,652	\$	(22,058) \$	\$	(8,704)
Makalei %		35.15%														
Utility Plant Accumulated Depreciation	ዓ ዓ	3,859,135 (2,416,200)														

25.37% 364,848

ф

Capacity Commitment to Makalei Makalei Committed Capacity

(8,704) 3,877 1,438,109

•••••

ADIT Fed ADIT State

Subtotal

Makalei Committed Capacity

description	T C	tility Plant In Service 12/31/2018	Acc Der State	Accumulated Depreciation State 12/31/2018	Acc Der 12	Accumulated Book Depreciation 12/31/2018	ADIT State 12/31/2018	Ac Depre	Accumulated Depreciation State 13/31/2019	Acci I Depi 12/:	Accumulated Book Depreciation 12/31/2019	ADIT State 12/31/2019	itate 019	Average ADIT State	age State
								-	-						
HR-5 PUMP	ŝ	506,136	ы	310,970	ψ	506,136	\$ 12,491	\$	330,406	ф	506,136	с	11,247 \$		11,869
HR-1 TO 4 PUMP	Ś	507,019	ю	311,513	ь	507,019	\$ 12,512	63	330,982	69	507,019	۰- م	11,266	-	11,889
SCADA HR WELLS 1-4	ŝ	129,504	ю	64,648	ф	129,504	\$ 4,151	69	69,621	69	129,504	\$	3,832		3,992
SCADA HR WELL 5	ŝ	647,485	ы	323,225	ŝ	647,485	\$ 20,753	69	348,088	69	647,485	\$	19,161	÷	19,957
HR 1 TO 4 TRANSMISSION(16" WATERLINE)	ŝ	770,629	ю	473,474	ŝ	235,341	\$ (15,241)	\$	503,067	ŝ	248,057	\$	(16,321) \$		(15,781)
HR-5 TO TRANSMISSION TO 620' AND PR TANKS	ŝ	1,298,362 \$	ଡ	797,694 \$	¢	381,262 \$	\$ (26,652) \$	\$ (;	847,550	ş	387,451 \$	-	(29,446) \$		(28,049)
	ŝ	3,859,135 \$	63	2,281,524 \$	ю	2,406,747 \$	\$ 8,014 \$	↔	2,429,713 \$	\$	2,425,652	\$	(260) \$		3,877

Makalei %		35.15%	
Utility Plant	S	3,859,135	
Accumulated Depreciation	\$	(2,416,200)	
ADIT Fed	\$	(8,704)	
ADIT State	\$	3,877	
Subtotal	ŝ	1,438,109	
Capacity Commitment to Makalei		25.37%	
Makalei Committed Capacity	Ş	364,848	

Other Committed Capacity

	2	Utility Plant in Service 12/31/2018	5 -	Jtility Plant in Service 12/31/2019	Ave	Average plant in service	4 (1)	Accumulated Depreciation 12/31/2018	Acc Der 12	Accumulated Depreciation 12/31/2019	0 0	Average accumulated depreciation	Av	Average Net Plant
Structures and Improvements	ю	2,723,337	s.	2,789,337	ь	2,756,337	\$	720,844	6	805,528 \$	es l	763,186 \$ 1,993,151	₩	1,993,151
Pumping Equipment	÷	3,587,911	ь	4,175,831	ŝ	3,881,871	Ь	2,237,961	¢Đ	2,404,725	Ф	2,321,343 \$ 1,560,528	ф	1,560,528
Treatment Equipment	€	503,140	ŝ	515,838	ŝ	509,489	ь	142,712	6A	153,597	ŝ	148,155 \$	69	361,334
Transmission & Distribution Plant	÷	11,203,059	ŝ	11,220,507	ŝ	11,211,783	Ф	3,305,769	æ	3,490,426	Ь	3,398,098 \$	ŝ	7,813,686
Reservoirs	69	2,575,847	ь	2,886,847	ю	2,731,347	ю	770,097	Б	846,310	÷	808,203 \$	ы	1,923,144
Wells	69	803	ь	803	ŝ	803	Ф	45	ŵ	67	ю	56	Ś	747
Less distribution	\$	(5,544,080) \$	Ь	(5,544,080) \$	\$	(5,544,080)	ь	(1,503,685) \$	\$	(1,593,967) \$	\$	(1,548,826) \$ (3,995,254)	s S	3,995,254)
~	ŝ	15,050,018	ю	16,045,083 \$	ŝ	15,547,551	Ś	5,673,743 \$	Б	6,106,686 \$	ŝ	5,890,214 \$ 9,657,336	s.	9,657,336

\$ 15,547,551	\$ (9,657,336)	\$ 129,253	\$ 56,357	\$ 6,075,824	0.61%	\$ 36,868	0.73%	\$ 44,241
Utility Plant	Accumulated Depreciation	ADIT Fed	ADIT State	Subtotal	Stroud	Stroud Committed Capacity	Robarts	Robarts Committed Capacity

Other Committed Capacity

	5 .	Jtility Plant in Service 12/31/2018	De	Accumulated Depreciation Fed 12/31/2018	A Book	Accumulated Book Depreciation 12/31/2018	12 12	ADIT Fed 12/31/2018	Ac Depr 1:	Accumulated Depreciation Fed 12/31/2019	Ă Ă	Accumulated Book Depreciation 12/31/2019	4 12	ADIT Fed 12/31/2019	₹ ₽	Average ADIT Fed
Structures and Improvements	ы	2,723,337	ŝ	1,492,450 \$	ь.	720,844	\$	720,844 \$ (152,469) \$	s	1,604,024 \$	s,	805,528	ь	805,528 \$ (157,815) \$ (155,142)	ن چ	155,142)
Pumping Equipment	в	3,587,911	\$	1,490,642	ŝ	2,237,961 \$	÷	146,092	ы	1,657,675	ŝ	2,404,725	ŝ	2,404,725 \$ 145,949 \$ 146,020	69	146,020
Treatment Equipment	\$	503,140	ŝ	126,566	ŝ	142,712	ω	3,106	ь	147,199	ŝ	153,597	ŝ	1,178	ь	2,142
Transmission & Distribution Plant	÷	11,203,059	\$	3,578,220	ŝ	3,305,769	ŝ	(55,477)	ь	3,805,277	ю	3,490,426	ŝ	3,490,426 \$ (63,933) \$ (59,705)	ю	(59,705)
Reservoirs	\$	2,575,847	ŝ	1,539,419	ŝ	770,097	Ь	(152,046)	ы	1,654,893	θ	846,310	ŝ	846,310 \$ (159,825) \$ (155,935)	່ ທ	155,935
Wells	ы	803	ŝ	96	÷	45 \$	÷	(10) \$	ŝ	129	θ	67	÷	\$ (12) \$ (11)	ся	(11
Less distribution	S	(5,544,080) \$	\$	(3,219,045) \$	\$	(1,503,685) \$	ŝ	338,902 \$	s	(3,440,808)	÷	(3,440,808) \$ (1,593,967) \$ 364,865 \$ 351,883	\$	364,865	\$	351,883
	69	15,050,018	ŝ	5,008,349 \$	\$	5,673,743 \$ 128,097 \$	ь	128,097	\$	5,428,389	ь	5,428,389 \$ 6,106,686 \$ 130,408 \$ 129,253	Ś	130,408	ഗ	129,253

Utility Plant 5 Accumulated Depreciation 5 ADIT Fed 5 ADIT State 5 Subtotal 5 Stroud Committed Capacity 5 Robarts	15,547,551 (9,657,336) 129,253 56,357 6,075,824 0.61% 36,868 0.73%
Robarts Committed Capacity	44,241

Other Committed Capacity

	2)tility Plant in Service 12/31/2018	Ac Depr	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	A (1	ADIT State 12/31/2019	-	Average ADIT State
Structures and Improvements	<i>в</i>	2,723,337	ь	1,432,752 \$		44	720,844 \$ (45,562) \$	\$ 1,539,863 \$	33 \$		ŝ	805,528 \$ (46,997) \$ (46,280)	φ	(46,280)
oumping Equipment	↔	3,587,911	ŝ	1,431,017	\$ 2,237,9	61 \$	2,237,961 \$ 51,644	\$ 1,591,368	88 58	2,404,725 \$	ŝ	52,055 \$	Ь	51,850
Freatment Equipment	\$	503,140	\$	121,503	\$ 142,7	142,712 \$	1,357	\$ 141,311	1 \$	153,597	ь	786	ф	1,072
Fransmission & Distribution Plant	\$	11,203,059	ŝ	3,435,091	\$ 3,305,769	69 \$	(8,277)	\$ 3,653,066	36 \$	3,490,426 \$	ŝ	(10,409) \$	ф	(6,343)
Reservoirs	\$	2,575,847	ŝ	1,477,842	\$ 770,0	770,097 \$	(45,296)	\$ 1,588,697	97 \$	846,310	69	(47,513) \$	θ	(46,404)
Wells	69	803	\$	93	S	45 \$	(3) \$		123 \$	67	↔	(4) \$	ф	(2)
Less distribution	ε	(5,544,080)	\$	(3,090,283) \$		85)\$	(1,503,685) \$ 101,542 \$	\$ (3,303,176) \$	76) \$	(1,593,967) \$ 109,389 \$ 105,466	\$ (109,389	S	105,466
	ь	15,050,018	φ	4,808,015 \$		43 \$	5,673,743 \$ 55,407 \$	\$ 5,211,253 \$	53 \$	6,106,686 \$ 57,308 \$	69	57,308	ŝ	56.357

\$ 15,547,551	\$ (9,657,336)	\$ 129,253	\$ 56,357	\$ 6,075,824	0.61% \$ 36,868 0.73%	\$ 44,241
Utility Plant	Accumulated Depreciation	ADIT Fed	ADIT State	Subtotal	Stroud Stroud Committed Capacity Robarts	Robarts Committed Capacity

Docket No. 2018-0388 Exhibit KWSC-T-104 Committed Capacity Witness: Stout

True-up Adjustment Amortization

2019	954,473	656,082
2018	\$ 978,947 \$	\$ 690,612 \$
2017	1,003,421	725,143
	ŝ	ŝ
2016	1,027,894	759,673
	ŝ	ŝ
2015	1,052,368	794,204
	ŝ	ŝ
vnnual Amortization	24,474	34,531
Useful life Annu	43 \$	23 \$
unt	1,052,368	794,204
Amount	ş	Ŷ
Operation /	Water	Sewer

Docket No. 2018-0388 Exhibit KWSC-T-105 True-up Amortization Witness: Stout

2028	\$ 734,210	\$ 345,306	
2027	\$ 758,684 \$ 734,210	\$ 379,837	
2026	5 783,158	\$ 414,367	
2025	\$ 807,631	\$ 448,898	
2024	\$ 856,579 \$ 832,105 \$ 807,631 \$ 783,158 \$	\$ 517,959 \$ 483,429 \$ 448,898 \$	
2023	\$ 856,579	\$ 517,959	
2022	881,052	552,490	
2021	\$ 905,526	\$ 587,020	
2020	24,474 \$ 930,000 \$ 905,526 \$	\$ 621,551	
unual Amortization	24,474	34,531	
Annu	\$ \$	23 \$	
Useful life	4	2	
Amount	\$ 1,052,368	\$ 794,204	
Operation	Water	Sewer	

Docket No. 2018-0388 Exhibit KWSC-T-105 True-up Amortization Witness: Stout

True-up Adjustment Amortization

2037	513,947	
2036	538,421 \$	
2035	562,895 \$	103,592
2034	\$ 587,368 \$	\$ 138,122 \$
2033	\$ 611,842	\$ 172,653
2032	660,789 \$ 636,316	\$ 207,184
2031	\$ 660,789	\$ 241,714
2030	\$ 685,263	\$ 276,245
2029	\$ 709,737	\$ 310,775
nnual Amortization	24,474	34,531
∢	43 \$	23 \$
Useful life		
Amount	\$ 1,052,368	\$ 794,204
ion /		
Operatio	Water	Sewer

Docket No. 2018-0388 Exhibit KWSC-T-105 True-up Amortization Witness: Stout

True-up Adjustment Amortization

 Amount
 Useful life
 Annual Amortization
 2038
 2039
 2040
 2041
 2042
 2043
 2044
 2045

 \$ 1,052,368
 43
 \$ 489,473
 \$ 465,000
 \$ 440,526
 \$ 416,052
 \$ 391,579
 \$ 367,105
 \$ 342,631
 \$ 318,158

 \$ 794,204
 23
 \$ 34,531
 \$ 318,158
 \$ 344,052
 \$ 391,579
 \$ 367,105
 \$ 342,631
 \$ 318,158
 Operation Water Sewer Docket No. 2018-0388 Exhibit KWSC-T-105 True-up Amortization Witness: Stout

Docket No. 2018-0388 Exhibit KWSC-T-106 Cost of Service Study, Water Witness: Stout

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.

<u>General</u>

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	139,645

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:

	Water Use
<u>Customer Group</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^{Wtness: Stout} 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^{Stout} 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 %	6 0.00	%	100.00	%
•	22	Base/Ex C - Max Hour	33.33 %	%	0.00 %	66.67	%	0.00	6 0.00	%	100.00	%
•	24	Meters	0.00 %	%	0.00 %	0.00	%	100.00	6 0.00	%	100.00	%
•	25	Services	0.00 %	%	0.00 %	0.00	%	0.00 9	6 100.00	%	100.00	%
۲	27	Depreciated Plant	94.27 %	%	5.38 %	0.00	%	0.00	6 0.35	%	100.00	%
,	29	Total Plant in Service	94.72 %	%	5.01 %	0.00	%	0.00	6 0.27	%	100.00	%
•	33	Total Rate Base	90.72 %	%	8.53 %	0.16	%	0.00	6 0.60	%	100.01	%
*	37	T&D Operation	32.36 %	%	19.09 %	48.55	%	0.00	6 0.00	%	100.00	%
•	38	T&D Maintenance	32.36 %	%	19.09 %	48.55	%	0.00	6 0.00	%	100.00	%
,	41	Pumping	32.36	%	19.09 %	48.55	%	0.00	6 0.00	%	100.00	%
	43	Purchased Power	85.00 %	%	10.00 %	5.00	%	0.00	6 0.00	%	100.00	%
	44	T&D Mains	32.36	%	19.09 %	48.55	%	0.00	6 0.00	%	100.00	%
	45	Distribution Storage	10.00 %	%	15.00 %	75.00	%	0.00	6 0.00	%	100.00	%
	46	Totał O&M Expense	75.51	%	16.30 %	6.00	%	0.00	6 2.19	%	100.00	%
	47	Admin. & Gen'i Expense	48.67	%	28.72 %	8.63	%	0.00	6 13.98	%	100.00	%
	48	Labor Benefits	72.61	%	23.14 %	4.25	%	0.00	6.00) %	100.00	%
		System Factors:			Base	Max Day		Max Hour				
		Max Day - Average Day	159 9	%	62.89 %		%	,ax i ioui				
		Max Hour - Average Hour	300 9	%	33.33 %			66.67	6			
		T&D Mains	309 9	%	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	Tota	al Investment	Base	e Invest.		xtra Cap Aax Day		ra Cap ix Hour		stomer eters		ustomer ervices	Co
xhibit KWSC Water 7.2	Pro Forma Utility Plant in Service													
5	Intangible	\$	51,245	\$	51,245	\$	-	\$	-	\$	-	\$	-	2
6	Land and land rights		-		-		-		-		-		-	3
7	Structures and Improvements		2,756,337		1,733,460		1,022,877		-		-		-	2
8	Pumping Equipment		3,881,871	:	3,881,871		-		-		-		-	:
9	Treatment Equipment		509,489		509,489		-		-		-		-	1
10	Transmission & Distribution Plant		11,211,783		1,211,783		-		-		•		-	1
11	Reservoirs		2,731,347	1	2,731,347		-		-		•		-	:
12	Wells		803		505		298		-		•		-	:
13	Office Furniture and Equipment		6,546		4,116		2,429		-		-		-	- 1
14	Transportation		174,919		110,007		64,913		-		-		-	
15	Tools and Laboratory Equipment		57,790		-		-		-		-		57,790	2
16	General Plant				-		-		-		-		-	
17	Asset Retirement Obligation				-		-		-		-		-	
18	Hawaii Water GO Allocation		47,417		47.417		-		-		-		-	
19	Big Island Allocation		358,607		358,607		-		-		•		-	
	Total Plant in Service	\$	21,788,154	\$ 2	0,639,847	\$	1,090,517	\$	-	\$	-	\$	57,790	
xhibit KWSC	(Percent Code 29)		100.00 %	6	94.72	%	5.01	%	0.00	%	0.00	%	0.27_%	0
xhibit KWSC Water 7.4	(Percent Code 29) Pro Forma Depreciation Reserve		100.00 %	6	94.72	%	5.01	%	0.00	/6	0.00	<u>%</u>	0.27_9)
Water 7.4 5	Pro Forma Depreciation Reserve	\$	100.00 9	<u>6</u> \$	94.72	<u>%</u> \$	<u>5.01</u>	% \$	0.00	% \$	-	<u>%</u> \$	9	
Water 7.4	Pro Forma Depreciation Reserve	\$	(7,049)		(7,049)		-		<u> </u>		-		<u>- 0.27</u> 9	
Water 7.4 5	Pro Forma Depreciation Reserve	\$	(7,049) - (763,186)	\$	(7,049) (479,968)		5.01 °		<u>- 0.00</u>		- - -		- 0.27 9	
Water 7.4 5 6	Pro Forma Depreciation Reserve Intangible Land and land rights	\$	(7,049) (763,186) (2,321,343)	\$	(7,049) (479,968) (2,321,343)		-		<u> </u>				- 0.27 9 	
Water 7.4 5 6 7	Pro Forma Depreciation Reserve Intangible Land and land rights Structures and Improvements	\$	(7,049) - (763,186) (2,321,343) (148,155)	\$ ((7,049) (479,968) (2,321,343) (148,155)		-		<u> </u>				- <u>0.27</u> 9	
Water 7.4 5 6 7 8	Pro Forma Depreciation Reserve Intangible Land and land rights Structures and Improvements Pumping Equipment	\$	(7,049) (763,186) (2,321,343) (148,155) (3,398,098)	\$ ((7,049) (479,968) (2,321,343) (148,155) (3,398,098)		-						- 0.27 9	
Water 7.4 5 6 7 8 9	Pro Forma Depreciation Reserve Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment	\$	(7,049) - (763,186) (2,321,343) (148,155) (3,398,098) (808,203)	\$ ((7,049) (479,968) (2,321,343) (148,155) (3,398,098) (808,203)		- (283,218) - - -							
Water 7.4 5 6 7 8 9 10	Pro Forma Depreciation Reserve Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant	Ş	(7,049) - (763,186) (2,321,343) (148,155) (3,398,098) (808,203) (56)	\$ ((7,049) - (479,968) (2,321,343) (148,155) (3,398,098) (808,203) (35)		- (283,218) - - - (21)		<u>-</u> - - - - - - -		- - - - - -			
Water 7.4 5 6 7 8 9 10 11	Pro Forma Depreciation Reserve Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant Reservoirs	\$	(7,049) (763,186) (2,321,343) (148,155) (3,398,098) (808,203) (56) (56) (6,546)	\$ ((7,049) - (479,968) (2,321,343) (148,155) (3,398,098) (808,203) (808,203) (35) (4,116)		- (283,218) - - (21) (2,428)				- - - - - - - - -			
Water 7.4 5 6 7 8 9 10 11 11 12	Pro Forma Depreciation Reserve Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant Reservoirs Wells	\$	(7,049) (763,186) (2,321,343) (148,155) (3,398,098) (808,203) (56) (6,546) (130,118)	\$ ((7,049) - (479,968) (2,321,343) (148,155) (3,398,098) (808,203) (35)		- (283,218) - - - (21)							
Water 7.4 5 6 7 8 9 10 11 11 12 13	Pro Forma Depreciation Reserve Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant Reservoirs Wells Office Furniture and Equipment	Ş	(7,049) (763,186) (2,321,343) (148,155) (3,398,098) (808,203) (56) (56) (6,546)	\$ ((7,049) - (479,968) (2,321,343) (148,155) (3,398,098) (808,203) (808,203) (35) (4,116)		- (283,218) - - (21) (2,428)		0.00 4					
Water 7.4 5 6 7 8 9 10 11 11 12 13 14	Pro Forma Depreciation Reserve Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant Reservoirs Wells Office Furniture and Equipment Transportation	\$	(7,049) (763,186) (2,321,343) (148,155) (3,398,098) (808,203) (56) (6,546) (130,118)	\$ ((7,049) - (479,968) (2,321,343) (148,155) (3,398,098) (808,203) (808,203) (35) (4,116)		- (283,218) - - (21) (2,428)							
Water 7.4 5 6 7 8 9 10 11 12 13 14 15	Pro Forma Depreciation Reserve Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant Reservoirs Wells Office Furniture and Equipment Transportation Tools and Laboratory Equipment	Ş	(7,049) (763,186) (2,321,343) (148,155) (3,398,098) (808,203) (56) (6,546) (130,118)	\$ ((7,049) - (479,968) (2,321,343) (148,155) (3,398,098) (808,203) (808,203) (35) (4,116)		- (283,218) - - (21) (2,428)							
Water 7.4 5 6 7 8 9 10 11 12 13 14 15 16	Pro Forma Depreciation Reserve Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant Reservoirs Wells Office Furniture and Equipment Transportation Tools and Laboratory Equipment General Plant	Ş	(7,049) (763,186) (2,321,343) (148,155) (3,398,098) (808,203) (56) (6,546) (130,118)	\$ ((7,049) - (479,968) (2,321,343) (148,155) (3,398,098) (808,203) (808,203) (35) (4,116)		- (283,218) - - (21) (2,428)		<u>- 0.00</u> 4 - - - - - - - - - - - - - - - - - - -				- - - - - - (9,110)	
Water 7.4 5 6 7 8 9 10 11 12 13 14 15 16 17	Pro Forma Depreciation Reserve Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant Reservoirs Wells Office Furniture and Equipment Transportation Tools and Laboratory Equipment General Plant Global Settlement	Ş	(7,049) (763,186) (2,321,343) (148,155) (3,398,098) (808,203) (56) (6,546) (130,118) (9,110) -	\$ ((7,049) (479,968) (2,321,343) (148,155) (3,398,098) (808,203) (355) (4,116) (81,831) - - -		- (283,218) - - (21) (2,428)						- - - - (9,110)	
5 6 7 8 9 10 11 12 13 14 15 16 17 18	Pro Forma Depreciation Reserve Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant Reservoirs Wells Office Furniture and Equipment Transportation Tools and Laboratory Equipment General Plant Global Settlement Hawaii Water GO Allocation		(7.049) (763,186) (2,321,343) (148,155) (3,398,098) (608,203) (56) (6,546) (130,118) (9,110) - - (29,255)	\$ ((7,049) - (479,968) (2,321,343) (148,155) (3,398,098) (808,203) (35) (4,116) (81,831) - - (29,255)	\$	(283,218) - - (21) (2,428) (48,287) - - -		- 0.00 4				- - - - (9,110)	
Water 7.4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Pro Forma Depreciation Reserve Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant Reservoirs Wells Office Furniture and Equipment Transportation Tools and Laboratory Equipment General Plant Global Settlement Hawaii Water GO Allocation Big Island Allocation		(7,049) (763,186) (2,321,343) (148,155) (3,398,098) (6546) (130,118) (9,110) - - (29,255) (108,711)	\$ ((((7,049) - (479,968) 2,321,343) (148,165) 3,398,049 (808,203) (35) (4,116) (81,831) - - - (29,255) (108,711)	\$	(283,218) - - - (21) (2,428) (48,287) - - - -	\$	0.00 4	\$		\$	- - - - (9,110) - - - -	

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Kona Water Service Company, Inc. Water Operations

Test Period Ending December 31, 2019 Allocation of Pro Forma Rate Base

No. Exhibit KWSC Water 7.15	Description	100	al Investment	ase Invest.	iax Day	ax Hour	eters	ervices	Co
Water 7.15					 		 		
	Rate Base Additions								
16	Working Capital Contruction Work in Progress	\$	210,919	\$ 159,265	\$ 34,380	\$ 12,655	\$	\$ 4,619	
	Total Additions	\$	210,919	\$ 159,265	\$ 34,380	\$ 12,655	\$ -	\$ 4,619	
	Rate Base Deductions								
Exhibit KWSC Water 7.8	CAC & CIAC Plant:								
5	Intangible	\$	-	\$	\$ -	\$ -	\$ -	\$ -	:
6	Land and land rights		-	-	-	-	-	-	
7	Structures and Improvements		-	-	-	-	-	-	
8	Pumping Equipment		-	-		•	-	•	
9	Treatment Equipment		-	-	-	-	-	-	
10	Transmission & Distribution Plant		(5,544,080)	(5,544,080)	-	-	-	-	
11	Reservoirs		-	-	-	-	-	-	
12	Wells		-	-	-	-	-	-	
13	Office Furniture and Equipment		-	-	-	-	-	-	
14	Transportation		-	-	-	-	-	-	
15	Tools and Laboratory Equipment		-	-	-	-	-	•	
16	General Plant		-	-	-	-	-	-	
17	Global Settlement		-	-	-	-	-	-	
18	Hawaii Water GO Allocation		-	-	-	-	-	-	
19	Big Island Allocation		-	-	-	-	-	•	
	Total CIAC	\$	(5,544,080)	\$ (5,544,080)	\$ -	\$ -	\$ -	\$ -	
Exhibit KWSC Water 7.9									
5	Intangible	\$		\$ -	\$ -	\$ -	\$ -	\$ -	
6	Land and land rights		-	-		-	-	-	
7	Structures and Improvements			-	-	-	-	-	
8	Pumping Equipment		-	-	•	-	-	-	
9	Treatment Equipment		-	-	-	-	-		
10	Transmission & Distribution Plant		1,605,758	1,605,758	•	-	-	-	
11	Reservoirs		-	-		-	-	-	
12	Wells		-	-	-	•	-	-	
13	Office Furniture and Equipment		-	-	-		-	-	
14	Transportation		-	-	•	-	-	-	
15	Tools and Laboratory Equipment		-	-	-	•	-	-	
16	General Plant		-	-	-	-	-	-	
17	Global Settlement		-	-	•	-	-	-	
18	Hawaii Water GO Allocation		-	-	-	-	-	-	
19	Big Island Allocation		-	-	-	 -	-	 -	
	Total Accum. Depreciation	\$	1,605,758	\$ 1,605,758	\$ -	\$ -	\$ 	\$ -	
	Total CAC & CIAC	\$	(3,938,322)	\$ (3,938,322)	\$	\$ -	\$ -	\$ -	

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Federal and State Income Tax

ADIT Federal and State				
	ADI	T Fed	eral an	d State

Exhibit KWSC Federal ADIT Water 7.10 7,049 7,049 \$ \$ 20 \$ \$ \$ \$ 5 Intangible 6 Land and land rights . 33 21 1,548,237 973,686 574,551 7 Structures and Improvements 1,574,159 136,883 1,574,159 136,883 20 Pumping Equipment 8 . . 20 9 Treatment Equipment 10 Transmission & Distribution Plant 3,691,748 3,691,748 1,597,156 -20 1,597,156 20 21 21 21 Reservoirs 11 12 13 14 Wells Office Furniture and Equipment 112 6,546 71 42 4,116 2,429 Transportation Tools and Laboratory Equipment 156,727 45,759 98,565 58,161 25 21 20 20 45,764 15 -16 17 General Plant Global Settlement 18 Hawaii Water GO Allocation 41.707 41.707 -268,412 20 268,412 Big Island Allocation 19 45,759 20 Total Federal ADIT 9,074,494 8,393,552 \$ 635,183 \$ \$ 27 6,124,069 21,434 Accumulated Book Depreciation 5,773,160 329,475 \$ 21 \$ \$ \$ (584,814) (553,936) (1,579) 29 ADIT Balance (29,299) 22 \$ Exhibit KWSC State ADIT Water 7.12 20 Intangible Land and land rights \$ 6,767 \$ \$ s 5 \$ 6,767 . 33 21 20 20 20 6 1,486,307 934,739 551,569 Structures and Improvements Pumping Equipment 7 1,511,192 1,511,192 8 Treatment Equipment Transmission & Distribution Plant 9 10 11 12 13 14 15 16 17 18 19 131.407 3,544,078 3,544,078 -20 21 Reservoirs Wells 108 68 40 2,332 21 21 6,284 3,952 Office Furniture and Equipment Transportation 150,458 94,623 55,835 Tools and Laboratory Equipment General Plant 43,929 25 21 43,929 -. 20 20 Global Settlement Hawaii Water GO Allocation 40,039 40.039 257,675 257,675 20 **Big Island Allocation** 43,929 8,711,514 8,057,810 609,776 20 Total State ADIT \$ \$ \$ \$ 21,434 27 6,124,069 5,773,160 329,475 \$ Accumulated Book Depreciation 21 ŝ s 29 (447) (165,596) (156,853) (8,296) ADIT Balance 22 89,688 17,786,009 16,451,362 \$ 1,244,959 \$ \$ Total Federal and State ADIT \$ (2,026) (710,789) (37,595) Total Federal and State ADIT Balances (750,410) \$ \$ \$ Exhibit KWSC Water 7.14 Unamortized Hawaii General Excise Tax Credit 29 (774) (287,055) (271,898) (14.381) Exhibit KWSC Net Salvage Adjustment (6,185) (333) 29 (123,445) (116,927) Water 7 29 (2,610) (915,668) (345,584) (48,432) (18,279) (966,710) -14 True-up Adjustment -(985) 29 Makalei Committed Capacity Other Committed Capacity (364,848) 15 16 29 (81,109) (76,826) (4.064) (219) (6,947) (6,511,900) (6,376,014) (128,936) . Total Deductions -Total Pro Forma Rate Base 7,757,346 7,036,334 662,007 12,655 46,352 0.00 % 0.60 % 100.01 % 90.72 % 8.53 % 0.16 % Rate Base %

(Percent Code 33)

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Kona Water Service Company, Inc. Water Operations

Test Period Ending December 31, 2019 Allocation of Pro Forma Operation and Maintenance Expense

Total Pumping Taxes Operations \$ 720000	No.	Description	1	otal Cost	E	Base Cost		ktra Cap Iax Day		tra Cap ax Hour		stomer eters		lomer vices	0
Vision Pumping Taxes Operations 100001 S		Historic Operations & Maintenance Expense													
Total Function \$ <ttr> <ttr> <ttr> <t< td=""><td></td><td>Pumping Taxes</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<></ttr></ttr></ttr>		Pumping Taxes													
Total Purphy Taxes Operations \$ 2020X Al	7030XX	Pumping Taxes		-		-		-		-		-		-	
Purchased Water Purchased Water Operations \$			\$	-	\$	-	\$	-	\$	-	\$	-	ş	-	
Parchased Water Purchasing Power \$. <															
Total Purchased Water Operations \$ 700	704022														
Purchasing hower Purchasing Power \$ 1.402.846 \$ 1.192.419 \$ 140.285 \$ 70.142 \$ \$ \$. 7282XX Total Purchasing Power Operations \$ 1.402.846 \$ 1.192.419 \$ 140.285 \$ 70.142 \$ \$ \$. \$. \$. \$. \$. \$. \$. \$. \$. \$. \$. \$. \$. \$. \$. \$. \$. \$.<	104077			-	•		6		\$	_			\$		
V282XX Purchased Power \$ 1.402,846 \$ 1.192,419 \$ 140,285 \$ 70.142 \$ \$ \$ Total Purchasing Power Operations \$ 1.402,846 \$ 1.192,419 \$ 140,285 \$ 70.142 \$ <td< td=""><td></td><td></td><td></td><td>-</td><td>Ŷ</td><td></td><td><u> </u></td><td></td><td>Ÿ</td><td></td><td>Ψ</td><td></td><td>Ψ</td><td></td><td></td></td<>				-	Ŷ		<u> </u>		Ÿ		Ψ		Ψ		
Total Purchasing Power Operations \$ 1,402,846 \$ 1,192,419 \$ 140,285 \$ 70,142 \$ 700000 Chincati		-													
Source of Supply Operations Expense Source of Supply Wages \$ 43,200 \$ 43,200 \$ Colspan="2"Colspan="2"Colspa	7262XX	Purchased Power			\$							•		-	
Source of Supply Wages \$ 43,200 \$ 10000Cot		Total Purchasing Power Operations	\$	1,402,846	\$	1,192,419	\$	140,285	\$	70,142	\$	-	\$	-	
Supervision & Engineering -<		Source of Supply Operations Expense													
Operation Expense -			\$	43,200	\$	43,200	\$	-	\$	-	\$	-	\$	-	
Contract Services - Engineering - <t< td=""><td></td><td></td><td></td><td>-</td><td></td><td>-</td><td></td><td>-</td><td></td><td>-</td><td></td><td>-</td><td></td><td>-</td><td></td></t<>				-		-		-		-		-		-	
Y00002 Miscelaneous - Other 271 271 - <t< td=""><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td><td>-</td><td></td><td>-</td><td></td><td>-</td><td></td><td>-</td><td></td></t<>				-				-		-		-		-	
703010 Allocation of Payroll -				-		-						-		-	
703020 Allocation of Trinsportation -				2/1						-		-		-	
Allocation of Miscellaneous Entries -				-		-						-		-	
Source of Supply Maintenance Expense Source of Supply Maintenance Wages \$ 32,231 32,231 -				-		-		-		•		-		-	
Source of Supply Maintenance Wages \$ 32,231 32,231 -		Total Source of Supply Operations	\$	43,470	\$	43,471	\$	-	\$	-	\$	-	\$	-	
708000 Supervision & Engineering - <		Source of Supply Maintenance Expense													
706000 Supervision & Engineering - <	706001	Source of Supply Maintenance Wages	\$	32,231		32,231		-		-		-		-	
707000 Structures & Improvements - <				-		-		-		-		-		-	
709000 Lake, River, Other Intake - <	707000			-		-		-		-		-		-	
711000 Wells 2,713 2,713 -	708000	Coll & Impound Reservoirs		-		-		-		-		-		-	
/11000 Weis 2,113 2,113 1 1 1 1 712000 Supply Mains -				-				-		-		-		-	
Total Source of Supply Maintenance \$ 34,944 \$ 34,944 \$ 742000 Cogan				2,713		2,713		-		•		-		-	
Value Value <th< td=""><td>712000</td><td>Supply Mains</td><td></td><td>-</td><td></td><td>-</td><td></td><td>•</td><td></td><td>-</td><td></td><td>-</td><td></td><td>-</td><td></td></th<>	712000	Supply Mains		-		-		•		-		-		-	
Valuer Treatment Wages \$ 67,447 \$ 42,417 \$ 25,029 \$ \$ \$ \$ \$ 7 741000 Supervision & Engineering -		Total Source of Supply Maintenance	\$	34,944	\$	34,944	\$	-	\$		\$	-	\$	-	-
741000 Supervision & Engineering - <		Water Treatment and Water Quality Oper. Exp.													
742000 Operation Labor & Expense 11,353 7,140 4,213 -			\$	67,447	\$	42,417	\$	25,029	\$	-	\$:	\$	-	
742001 Sampling at Wells 1,262 794 468 - <				- 11 959		- 7 140		4 212							
Table Standing of Payon Table Standing of Payon <thtable standing<="" td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>_</td><td></td><td>-</td><td></td></thtable>												_		-	
742003 Organic Laboratory Expense -												-		-	
742004 Bacterial Laboratory Expense 402 253 149 -				-		-		-		-		-		-	
Nacional Laboratory Administration Expense -				402		253		149		-				-	
742006 Outside Lab Fees 954 600 354 -<				-		-		-		-		-		-	
743000 Miscellaneous 5,350 3,365 1,985 - - - 744000 Chemical & Filter Material 113,898 71,630 42,267 -				954		600		354		-		-		-	
744000 Chemical & Filter Material 113,898 71,630 42,267 -												-		-	
745000 Water Trmt Allocation In/Out -	744000			113,898		71,630		42,267		-		-		-	
745010 Allocation of Payroll -	745000	Water Trmt Allocation In/Out		-		-		-		-		-		-	
745030 Allocation of Miscellaneous Entries	745010	Allocation of Payroll		-		-		-		-		-		-	
				-		-		-		-		-		-	
Total Water Treatment and Water Quality Oper. E \$ 200,923 \$ 126,361 \$ 74,561 \$ - \$ - \$	745030	Allocation of Miscellaneous Entries		-		-		-		-		•		•	_
		Total Water Treatment and Water Quality Oper	. E \$	200,923	\$	126,361	\$	74,561	\$	-	\$	-	\$	-	-

Docket No. 2018-0388 Exhibit KWSC-T-106 Cost of Service Study, Water Witness: Stout

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										ae	sec	01	15	
	Water Treatment and Water Quality Maint. Exp.													
746001 746000	Water Treatment Maintenance Wages Supervision & Engineering	\$	63,190 417	\$	39,740 262	\$	23,450 155	\$	-	\$	-	\$	-	21 21
747000 748000	Structures & Improvement Water Treatment Equipment		3,661		2,302		1,359		-		-		1	21 21
748003	Bacterial Laboratory Equipment		-		-		-		-		-			21
	Total Water Treatment and Water Quality Maint.	1\$	67,268	\$	42,304	\$	24,964	\$	~	\$		\$	-	
	Treatment and Disposal													
746111	Treatment & Disposal Wages	\$	7,429	\$	4,672 262	\$	2,757 155	\$	-	\$	-	\$	-	21 21
746100 746110	Supervision & Engineering Operations Expense		417		-		-		-		-			21
746200 746300	Purchased Wastewater Treatment Sludge Removal Expense				-		-		-		-		-	21 21
746400 746500	Chemicals Materials & Supplies		117 1,122		74 706		43 416		-		-		-	21 21
746600 746610	Contractual Svcs - Engineering		-		-		-		-				-	21 21
746620	Contractual Svcs - Testing Contractual Svcs - Other		-		-		-				-		-	21 21
746700 746800	Equipment Rental Transportation Expense		-		-		-		-		-		-	21
746900 746000	Miscellaneous Expense Trmt & Disp Allocation In/Out		46		29		17		-		-			21 21
	Total Treatment and Disposal	\$	9,131	s	5,743	\$	3,388	s	-	\$	-	\$		
	Water Treatment and Disposal Maint, Exp													
766101	Treatment and Disposal Maintenance Wages	\$	56	\$	35	\$	21	e	_	s	_	\$		21
766100	Maintenance Expense	Ð	-	\$	-	Þ	-	Φ	-	4	-	Ψ	-	21
766500 766610	Materials & Supplies Contractual Svc - Testing		793		499		294		-		-		-	21 21
766900	Miscellaneous Expense		-		-		-		-		-		-	21
	Total Water Treatment and Disposal Maint. Exp		849		534		315				-		-	
	Reclaimed Water Treatment													
747111	Reclaimed Water Treatment Wages	\$	357	\$	224	\$	132	\$	-	5	-	\$	-	21 21
747100 747110	Supervision & Engineering Operations Expense		-		-		-		-		-		-	21
747200 747500	Chemicals Materials & Supplies				-		-		-		-		-	21 21
747610 747620	Contractual Svcs - Testing Contractual Svcs - Other		5				-		-		-			21 21
747700 747800	Equipment Rental Transportation Expense		-		:		-		-		-		:	21 21
747800	Miscellaneous Expense		-				+		-		-		•	21
	Total Reclaimed Water Treatment	\$	357	\$	224	\$	132	\$	-	\$	-	\$	-	
	Reclaimed Water Treatment Maint.													
767101	Reclaimed Water Trmnt Maint Wages	5	-	\$		5	-	\$	-	\$	-	\$	-	21
767100 767000	Maintenance Expense Materials & Supplies		-		-		-		-		2		-	21 21
767900	Contractual Svc - Testing		-		-		-		-		-		-	21
	Total Reclaimed Water Treatment Maint.	\$	-	\$	-	\$	-	\$	-	\$	-	\$		
	Reclaimed Water Distribution													
757101	Reclaimed Water Distrb Wages	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	21 21
757100 757110	Supervision & Engineering Operations Expense		-		-		-		-		-		-	21
757500 757600	Materials & Supplies Contractual Svcs - Engineering		-		-				-		-		-	21 21
757620 757700	Contractual Svcs - Other Equipment Rental		-		-		-		1		1		-	21 21
757800	Transportation Expense		-		-		-		1		-		2	21 21
757000	Reclaimed Water Dist Allocation In/Out		-	\$		\$		\$		ş		\$		
	Total Reclaimed Water Distribution	\$		Ŷ		Ψ		¥		×				
	Reclaimed Water Distribution Maint.				475		102			\$		s		21
768101 768100	Reclaimed Water Distrb Maint Wages Maintenance Expense	\$	278	\$	175	\$	103	\$	-	φ	-	4	-	21 21
768500	Materials & Supplies		-		-		-		-		-			- 21
	Total Reclaimed Water Distribution Maint.	\$	278	\$	175	\$	103	\$		\$	~	\$		-
	Transmission and Distribution - Operation Exp													
751001 751000	Water Treatment Wages Supervision & Engineering	\$	13,252 417	\$	4,288 135	\$	2,530 80	\$	6,434 203	\$	-	\$	-	44 44
752000	Storage Facilities		11		4 (3)		2 (2)		5 (4)		-		-	44 44
753100 753200	Flushing Trans & Distrib Lines		(9) 473		153		90		229				-	44
753201 753300	Sampling In System Cross Connection Control		7 225		2 73		1 43		3 109		-		-	44
753301	Cross Connection Control Wages Turn On's and Turn Off's		77		25		15		38		-		-	44 44
754100 754200	Other Meter Expenses		170		55		32		83		-			44 44
755000 756000	Customer Installation exp Miscellaneous		13.044		4,221		2,490		6,333		-		-	44
756010 756020	Allocation of Payroll Allocation of Transportation		-		-		-		-		-		-	44 44
756030	Allocation of Miscellaneous Entries		-		-		-		-		-		-	- 44
	Total Trans. & Dist Operation Expense	\$	27,668	\$	8,953	\$	5,281	\$	13,433	\$		\$	-	-
	Trans. & Dist Maintenance Expense													
	T & D Operation Expense (Percent Code 37)		100.00	%	32.36	%	19.09	%	48.55	%	0.0	0 %	0.00	%

(Percent Code 37)

	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 \$	- 's	- 44
758000	Supervision & Engineering	-	-	-	-	•	- 44
759000	Structures & Improvements	-	-	-	-		- 44
760000	Reservoirs & Tanks	431	139	82	209	-	- 44
761000	Mains	2,891	936	552	1,404	-	- 44
763000	Services	31	10	6	15	-	- 44
764000	Meters	2,685	869	513	1,304	-	- 44
765000	Hydrants	204	66	39	99	-	- 44
	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 %

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Kona Water Service Company, Inc. Water Operations

Test Period Ending December 31, 2019 Allocation of Pro Forma Operation and Maintenance Expense

Acct. No.	Description	Tot	al Cost	Ва	se Cost		tra Cap ax Day	tra Cap ax Hour	tomer eters		lomer vices	
	Historic Operations Expense (continued)											
	Pumping											
721001	Pumping Wages	\$	11,012	's	3,563	۲\$	2,102	\$ 5,347	\$	` \$	-	
721000	Supervision & Engineering		810		262		155	393	-		-	
722000	Power Prod Exp		-		-		-	-	-		-	
723000	Fuel For Power Production		-		-			-	-		-	
724000	Pumping Expense		12,134		3,927		2,316	5,891			-	
725000	Miscellaneous		6,655		2,153		1,270	3,232			-	
725010	Allocation of Payroll				-		-	-			-	
725020	Allocation of Transportation		-		-			-				
725030	Allocation of Miscellaneous Entries		-		-			-			-	
726100	Fuel For Pumping		-		-			-	-		-	
	Total Pumping Operating Expense	\$	30,611	\$	9,905	\$	5,843	\$ 14,863	\$ -	\$	-	
729001	Pumping & Maintenance Wages	\$	12,305	\$	3,982	\$	2,349	\$ 5,974	\$ -	\$	-	
729000	Supervision & Engineering		781		253		- 149	379	-		-	
730000	Structures & Improvements								-		-	
732000	Pumping Equipment		5,514		1,784		1,053	2,677	-		-	
733000	Other Pumping Plant		-		-		-	-	•		-	
	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	\$ -	\$	-	
727100	Supervision & Engineering		-		-		-	-	-		-	
727110	Operations Expenses		-		-		•	-	-		-	
727300	Fuel For Power Production		-		-		-	-	-		-	
727310	Contractual Svcs - Testing		-		-		-	-	-		-	
727320	Equipment Rental		-		-		•	-	-		-	
727900	Miscellaneous		-		-		-	-	-		-	
728000	Pumping for Wastewater Allocation In/Out		-		-		-	-	•			
	Total Pumping for Wastewater Operations	\$	1,563	\$	506	\$	298	\$ 759	\$ -	\$	-	-
728101	Pumping for Wastewater Wages		1,943	\$	629	\$	371	\$ 943	\$ -	\$	-	
728100	Maintenance Expense				-		- 9	- 22	-		-	
728500	Materials & Supplies		45		15		9	22	•		-	
728610	Contractual Svc - Testing		- 6		- 2		- 1	- 3	-		-	
728900	Miscellaneous Expensee							 				-
	Total Pumping for Wastewater Maintenance	\$	1,994	\$	646	\$	381	\$ 968	\$ -	\$	•	-
	Collection											
704101	Collection Wages	\$	289	\$	94	\$	55	\$ 140	\$ -	\$	-	
704100	Supervision & Engineering		-		-		-	-	-		-	
704110	Operations Expense		-				-	-	-		-	
704120	Chemicals		-		-			- 18	-		-	
704900	Miscelleneous Expenses		37		12		7	 	-			-
	Total Collection	\$	326	\$	106	0	62	 158	 C	\$	-	-
	Collection Maint.											
713101	Collection Maint Wages	\$	453	\$	147	\$	86	\$ 220	\$ -	\$	-	
713100	Maintenance Expense		403		130		77	196	-		-	
713000	Materials & Supplies		-		• .		•	• .	-		-	
713900	Miscellaneous Expense		6		2		1	3	-		-	
							164	 	 C	\$	-	-

Schedule 1 Page 9 of 13

Bupenvision - - - <th< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></th<>														
2000 Meter Reading 170 - - - 170 001 Laboratory Mise -	71001		\$	17,209	\$	-	\$	-	\$	-	\$	-	\$	17,209
1000 Office Salaries -				-		-		-		-		-		-
1010 Office Stafings -				170		-		-		-		-		
2021 Collecting Expense -				-		-		-		-		-		-
2322 Collection Agency Fees - - - - - - - - - - - - - - - - - 2,444 - - - 2,444 - - - 2,444 - - - 2,444 - - - 2,444 - - - 2,444 - - - 2,444 - - - - 2,444 - - - - 2,444 -				-		-		-		-		-		-
3300 Postage 618 - - - - 2,494 3401 Cust. Records - Egup, Marit. - - - - 2,494 3402 Cust. Records - Egup, Marit. -				-		-		-		-		-		-
3400 Cust. Records - Supples & Exp. 2.494 - - - - 619 3401 Cust. Records - Exp., Marit. -				-		-		-		-		-		-
3401 Cust. Records. Equip. Maint. -						-		-		-		-		
1242 Cut. Records - Edyin, Marin. -						-		-		-				
3433 Cust. Records - Software Maint. -				619		-		-		-		-		619
4100 Other Stationery & Print - - - - - - - - - - - - - - 13 - - - - 13 4201 Telephone - Celluar 6,548 - - - - 5,648 4203 Telephone - Cased Lines 603 - - - - 6633 4204 Telephone - Cased Lines 603 - - - - 21 4400 Flat Rati Impections 21 - - - 21 - - 21 4500 Conservation Expense 83 - - - 21 - - - 21 4600 Conservation Expense 33 - - - - - - 21 -				-		-		-		-		-		-
1200 Telephone 13 - - - 13 1201 Telephone - Cellular 6,548 - - - 5,548 201 Telephone - Cellular 6,548 - - - 5,548 203 Telephone - Leased Lines 603 - - - 603 20400 Flair Rate Inspections 2.1 - - - 603 4400 Conservation Expense - - - - 613 4501 Conservation InVart (417) - <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td>						-		-		-		-		-
14201 Telephone - Central 141 - - - 141 14202 Telephone - Central 5,548 - - - 5,548 14203 Telephone - Central 3,122 - - - 3,122 141 - - - - 3,122 - - - 3,123 14204 Telephone - Lease Lines 603 - - - - 3,49 14500 Conservation Regense 83 -				-		-		-		-		-		-
1202 Telephone - Cellular 6,548 - - - 6,548 1203 Telephone - Leased Lines 603 - - - 603 1204 Telephone - Leased Lines 603 - - - 603 1204 Telephone - Leased Lines 603 - - - 603 1204 Telephone - Leased Lines 603 - - - 603 1204 Telephone - Leased Lines 21 - - - 603 1204 Conservation Expense 31/27 -						-		-		-		-		
1203 Telephone - Leased Lines 3,122 - - - 3,122 4204 Telephone - Leased Lines 603 - - - 340 4300 Other Utilities & Jantor 349 - - - 349 4400 Filte Rate Inspections 21 - - - 349 4501 Conservation Wages -	4201					-		-		-				
4204 Telephone - Leased Lines 603 - - - 603 4400 Cher Hale Inspections 21 - - 24 4400 Conservation Expense 83 - - - 24 4401 Conservation Expense 83 - - - - 24 4501 Conservation Expense - <t< td=""><td>4202</td><td>Telephone - Cellular</td><td></td><td></td><td></td><td>-</td><td></td><td>-</td><td></td><td>-</td><td></td><td>-</td><td></td><td></td></t<>	4202	Telephone - Cellular				-		-		-		-		
4200 Other Utilines & Jantor 349 - - - 349 4200 Fill Rate Inspections 21 - - - 21 4400 Fill Rate Inspections 21 - - - 21 4501 Conservation Wages - - - - - 21 4500 Conservation Wages -	4203	Telephone - Telemeter				-		-		-		-		
4400 Fial Rate inspections 21 - - - 21 4400 Conservation Expense 83 - - - 83 4501 Conservation Wages - - - - - 83 4501 Conservation Wages - <t< td=""><td>4204</td><td>Telephone - Leased Lines</td><td></td><td></td><td></td><td>-</td><td></td><td>-</td><td></td><td>-</td><td></td><td>-</td><td></td><td></td></t<>	4204	Telephone - Leased Lines				-		-		-		-		
4500 Conservation Expense 83 - - - - - 83 4501 Conservation Wages - </td <td>4300</td> <td>Other Utilities & Janitor</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td></td>	4300	Other Utilities & Janitor				-		-		-		-		
4400 Lonservation Wages -	4400	Flat Rate Inspections		21		-		-		-		-		
Hand Content Adjustment Expense - <t< td=""><td>74500</td><td>Conservation Expense</td><td></td><td>83</td><td></td><td>-</td><td></td><td>-</td><td></td><td>-</td><td></td><td>-</td><td></td><td>83</td></t<>	74500	Conservation Expense		83		-		-		-		-		83
5000 Uncollectible Accounts (417) - - - (417) 6010 Cute Acc Allocation of Payrol - </td <td>74501</td> <td>Conservation Wages</td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td>	74501	Conservation Wages		-		-		-		-		-		-
6000 Cust Act Allocation If Volt - <	74600	Leak Adjustment Expense		-		-		-		-		-		-
6000 Cust Acc Allocation (Poyre) - - -	75000	Uncollectible Accounts		(417)		-		-		-		-		(417)
6010 Allocation of Payroll - </td <td>76000</td> <td></td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td>	76000			-		-		-		-		-		-
16020 Allocation of Miscellaneous Entries 0 - <td></td> <td></td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td>-</td>				-		-		-		-		-		-
4/location of Miscellaneous Entries 0 -				-		-		-				-		-
Total Customer Account Expense \$ 31,773 \$ - \$ - \$ - \$ - \$ - \$ 3 - \$ 31,773 Subtotal, Operation & Maintenance Without Power, Chemicals, & Purchased Water \$ 227,337 \$ 110,649 \$ 65,289 \$ 19,625 \$ - \$ 31,773 Subtotal, Operation & Maintenance Without Power, Chemicals, & Purchased Water \$ 227,337 \$ 110,649 \$ 65,289 \$ 19,625 \$ - \$ 31,773 Subtotal, ObaM % (Percent Code 47) 100.00 % 48,67 % 28,72 % 8,63 % 0.00 % 13,88 % 01001 Administrative & General Wages \$ 80,278 \$ 39,071 \$ 23,056 \$ 6,928 \$ - \$ 11,223 01000 Employees Dues 429 209 123 37 - 60 02200 Postage 1,710 832 481 148 - 239 02101 Telephone - General 187 91 54 16 - 24 02200 Postage 1,710 82 44 8 2 - 4 02301 Telephone - Cellular 187 91 54 16 - 23 02302 Tel				0		-		-		-		-		-
Subtotal, Operation & Maintenance Without Power, Chemicals, & Purchased Water \$ 227,337 \$ 110,649 \$ 65,289 \$ 19,625 \$ - \$ 31,773 Subtotal O&M % (Percent Code 47) 100.00 48.67 % 28.72 8.63 0.00 % 13.98 % Office Expense 0 100.00 48.67 % 28.72 8.63 0.00 % 13.98 % 01001 Administrative & General Wages \$ 80,278 \$ 39,071 \$ 23,056 \$ 6,928 \$ - \$ 11,223 01000 Administrative & General Wages \$ 80,278 \$ 39,071 \$ 23,056 \$ 6,928 \$ - \$ 11,223 01000 Administrative & General Wages \$ 80,278 \$ 39,071 \$ 23,056 \$ 6,928 \$ - \$ 11,223 02000 Postage 1,710 832 491 148 - 239 02100 Employees Dues 4,962 2,415 1,425 428 - 664 02200 Postage 187 91 5 3 1<-											-			04 770
Without Power, Chemicals, & Purchased Water \$ 227,337 \$ 110,649 \$ 65,289 \$ 19,625 \$ - \$ 31,773 Subtolal O&M % (Percent Code 47) 100,00 48,67 % 28,72 % 8.63 % 0.00 % 13,98 % 01001 Adminis Ceneral Wages \$ 80,278 \$ 39,071 \$ 23,056 \$ 6,928 \$ - \$ 11,223 01000 Adminis Ceneral Wages \$ 80,278 \$ 39,071 \$ 23,056 \$ 6,928 \$ - \$ 11,223 01000 Adminis General Wages \$ 80,278 \$ 39,071 \$ 23,056 \$ 6,928 \$ - \$ 11,223 01000 Adminis General Wages \$ 80,278 \$ 39,071 \$ 23,056 \$ 6,928 \$ - \$ 11,223 01000 Adminis General <td< td=""><td></td><td></td><td>\$</td><td>31,773</td><td>\$</td><td></td><td>ų</td><td></td><td>Ψ</td><td></td><td>Ψ</td><td></td><td><u> </u></td><td></td></td<>			\$	31,773	\$		ų		Ψ		Ψ		<u> </u>	
& Purchased Water \$ 227,337 \$ 110,649 \$ 65,289 \$ 19,625 \$ - \$ 31,773 Subtotal O&M % (Percent Code 47) 100.00 % 48,67 % 28,72 % 8,63 % 0.00 % 13,88 % Office Expense 0 48,67 % 28,72 % 8,63 % 0.00 % 13,88 % 0100 Administrative & General Wages \$ 80,278 \$ 39,071 \$ 23,056 \$ 6,928 \$ - \$ 11,223 0100 Administrative & General Wages \$ 80,278 \$ 39,071 \$ 23,056 \$ 6,928 \$ - \$ 11,223 0100 Administrative & General 134 65 38 12 - 19 02100 Postage 1,710 832 491 146 - 239 02300 Telephone - General 187 91 54 16 - 26 02301 Tel														
Subtotal O&M % (Percent Code 47) 100.00 % 48.67 % 28.72 % 8.63 % 0.00 % 13.98 % 0ffice Expense 0ffice Expense 0ffice Expense 11,223 11,23 11,23 11,23 11,23 11,23 11,23				007 007	•	440.040		or 000		10 605				24 772
Citerion Code 47) Office Expense 91001 Administrative & General Wages \$ 80,278 \$ 39,071 \$ 23,056 \$ 6,928 \$ - \$ 11,223 91000 Admin & General Wages \$ 80,278 \$ 39,071 \$ 23,056 \$ 6,928 \$ - \$ 11,223 91000 Admin & General Wages \$ 429 209 123 37 - 60 92200 Postage 1,710 832 491 148 - 239 92300 Telephone 4,962 2,415 1,425 428 - 6644 92301 Telephone - General 187 91 54 16 - 26 92303 Telephone - General 187 91 54 16 - 26 92304 Telephone - Leasing Lines 10 5 3 1 - 1 92400 Stationery and Printing 165 80 47 14 - 23 92500 Office Supplies & Expense 2,183 1,065 628 189 - 306 92505 Bank Fees 4,233 2,063		& Purchased Water	5	227,337	\$	110,649	Э	00,209	\$	19,025	\$	-	ą	31,773
Citerion Code 47) Office Expense 91001 Administrative & General Wages \$ 80,278 \$ 39,071 \$ 23,056 \$ 6,928 \$ - \$ 11,223 91000 Admin & General Wages \$ 80,278 \$ 39,071 \$ 23,056 \$ 6,928 \$ - \$ 11,223 91000 Admin & General Wages \$ 429 209 123 37 - 60 92200 Postage 1,710 832 491 148 - 239 92300 Telephone 4,962 2,415 1,425 428 - 6644 92301 Telephone - General 187 91 54 16 - 26 92303 Telephone - General 187 91 54 16 - 26 92304 Telephone - Leasing Lines 10 5 3 1 - 1 92400 Stationery and Printing 165 80 47 14 - 23 92500 Office Supplies & Expense 2,183 1,065 628 189 - 306 92505 Bank Fees 4,233 2,063		Subtotal O&M %		100.00				28.72	2	0.00		0.00	0/	13.98 %
Administrative & General Wages \$ 80,278 \$ 39,071 \$ 23,056 \$ 6,928 \$ \$ 11,223 21000 Admin & Gen Salary 134 65 38 12 19 2200 Postage 429 209 123 37 60 2200 Postage 1,710 832 491 148 239 2300 Telephone 4,962 2,415 1,425 428 664 2301 Telephone - General 187 91 54 16 26 2303 Telephone - Answering Service 161 78 47 15 23 2303 Telephone - Leasing Lines 10 5 3 1 1 22040 Stationery and Printing 165 80 47 14 23 22500 Office Supplies & Expense 2,188 1,065 628 189 306 22501 Office Supplies & Expense 4,238 2,063 <td></td> <td></td> <td></td> <td></td> <td>%</td> <td>48.67</td> <td>%</td> <td></td> <td></td> <td>0.03</td> <td>70</td> <td>0.00</td> <td>70</td> <td></td>					%	48.67	%			0.03	70	0.00	70	
1000 Admin & Gens Salary 134 65 38 12 - 19 12100 Employees Dues 429 209 123 37 - 60 12200 Postage 1,710 832 491 148 - 239 12000 Telephone General 187 91 54 16 - 26 12001 Telephone General 187 91 54 16 - 26 12002 Telephone - General 187 91 54 16 - 26 12003 Telephone - Answering Service 161 78 47 15 - 23 12030 Telephone - Answering Service 161 78 47 15 - 23 122500 Office Supplies & Expense 2,188 1,065 628 189 - 306 22501 Office Supplies & Expense 2,284 1,165 656 497 - 806 22602 Temporary Labor - - - -		(Percent Code 47)		100.00	%	48.67	%		/0	8.03	/0	0.00	70	
1000 Addinia Gen Staty 100 </td <td></td> <td>, , , , , , , , , , , , , , , , , , ,</td> <td></td> <td>100,00</td> <td>%</td> <td>48.67</td> <td>%</td> <td></td> <td>70</td> <td>8.63</td> <td>70</td> <td>0.00</td> <td>76</td> <td></td>		, , , , , , , , , , , , , , , , , , ,		100,00	%	48.67	%		70	8.63	70	0.00	76	
2100 Linguyees bues 120 120 Postage 1710 832 491 148 239 2200 Telephone 4,962 2,415 1,425 428 664 2301 Telephone - General 187 91 54 16 26 2301 Telephone - Cellular 28 14 8 2 4 2303 Telephone - Leasing Lines 10 5 3 1 - 1 2304 Telephone - leasing Lines 10 5 3 1 - 1 2400 Stationery and Printing 165 80 47 14 - 23 2501 Office Supplies 517 252 149 45 - 72 2502 Temporary Labor - <td>1001</td> <td>Office Expense</td> <td>\$</td> <td>80,278</td> <td></td> <td>39,071</td> <td></td> <td>23,056</td> <td></td> <td>6,928</td> <td></td> <td>-</td> <td></td> <td></td>	1001	Office Expense	\$	80,278		39,071		23,056		6,928		-		
22300 Telephone 4,862 2,415 1,425 428 - 694 22300 Telephone General 187 91 54 16 - 26 22301 Telephone - General 187 91 54 16 - 26 22302 Telephone - Answering Service 161 78 47 15 - 23 22303 Telephone - Answering Service 161 78 47 15 - 23 22304 Telephone - Reserving Service 161 78 47 14 - 23 22500 Office Supplies & Expense 2,188 1,065 628 189 - 306 22501 Office Supplies & Expense 2,188 1,065 628 189 - 306 22502 Temporary Labor - </td <td>91001 91000</td> <td>Office Expense Administrative & General Wages</td> <td>\$</td> <td>80,278 134</td> <td></td> <td>39,071 65</td> <td></td> <td>23,056 38</td> <td></td> <td>6,928 12</td> <td></td> <td></td> <td></td> <td>19</td>	91001 91000	Office Expense Administrative & General Wages	\$	80,278 134		39,071 65		23,056 38		6,928 12				19
22000 Telephone - General 187 91 54 16 26 22011 Telephone - Cellular 28 14 8 2 4 22032 Telephone - Cellular 28 14 8 2 4 22033 Telephone - Leasing Lines 10 5 3 1 - 1 2204 Telephone - leasing Lines 10 5 3 1 - 1 2204 Telephone - leasing Lines 10 5 3 1 - 1 22000 Stationery and Printing 165 80 47 14 - 23 22500 Office Supplies & Expense 2,188 1,065 628 189 - 306 22501 Office Supplies 517 252 149 45 - 72 22502 Temporary Labor - - - - - - - 72 22602 Travel & Incidental Exp 5,764 2,805 1,656 497 806 3261 3266 <td< td=""><td>91000</td><td>Office Expense Administrative & General Wages Admin & Gen Salary</td><td>\$</td><td>80,278 134</td><td></td><td>39,071 65 209</td><td></td><td>23,056 38 123</td><td></td><td>6,928 12 37</td><td></td><td>- - -</td><td></td><td>19 60</td></td<>	91000	Office Expense Administrative & General Wages Admin & Gen Salary	\$	80,278 134		39,071 65 209		23,056 38 123		6,928 12 37		- - -		19 60
22301 Telephone - General 187 91 54 16 - 26 22302 Telephone - Cellular 28 14 8 2 - 4 22303 Telephone - Answering Service 161 78 47 15 - 23 22304 Telephone - Answering Service 161 78 47 15 - 23 22304 Telephone - Resing Lines 10 5 3 1 - 1 22400 Stationery and Printing 165 80 47 14 - 23 22500 Office Supplies & Expense 2,188 1,065 628 189 - 306 22501 Office Supplies 517 252 149 45 - 72 22602 Temporary Labor -	91000 92100	Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues	\$	80,278 134 429 1,710		39,071 65 209 832		23,056 38 123 491		6,928 12 37 148		- - - -		19 60 239
2202 Telephone - Answering Service 161 78 47 15 - 23 22030 Telephone - Answering Service 161 78 47 15 - 23 22030 Telephone - Answering Service 10 5 3 1 - 1 22040 Stationery and Printing 165 80 47 14 - 23 22500 Office Supplies & Expense 2,188 1,065 628 189 - 306 22501 Office Supplies & Expense 2,188 1,065 628 189 - 306 22502 Temporary Labor -	91000 92100 92200	Office Expense Administrative & General Wages Admin & Cen Salary Employees Dues Postage	\$	80,278 134 429 1,710		39,071 65 209 832 2,415		23,056 38 123 491 1,425		6,928 12 37 148 428		- - - -		19 60 239 694
22030 Telephone - leasing Lines 10 5 3 1 1 2204 Telephone - leasing Lines 10 5 3 1 - 1 22040 Stationery and Printing 165 80 47 14 - 23 22500 Office Supplies & Expense 2,188 1,065 628 189 - 306 22501 Office Supplies & Expense 2,188 1,065 628 189 - 72 22502 Temporary Labor -		Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone	\$	80,278 134 429 1,710 4,962		39,071 65 209 832 2,415		23,056 38 123 491 1,425 54		6,928 12 37 148 428 16		- - - -		19 60 239 694 26
10 5 3 1 - 1 2204 Telephone - leasing Lines 10 5 3 1 - 1 22400 Stationery and Printing 165 80 47 14 - 23 22500 Office Supplies & Expense 2,188 1,065 628 189 - 306 22501 Office Supplies 517 252 149 45 - 72 22502 Temporary Labor -	91000 92100 92200 92300	Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone Telephone - General	\$	80,278 134 429 1,710 4,962 187		39,071 65 209 832 2,415 91 14		23,056 38 123 491 1,425 54 8		6,928 12 37 148 428 16 2				19 60 239 694 26 4
32400 Stationery and Priniting 165 80 47 14 - 23 32500 Office Supplies & Expanse 2,188 1,065 628 189 - 306 32501 Office Supplies & Expanse 5,17 252 149 45 - 72 32505 Bank Fees 4,238 2,063 1,217 366 - 5822 32600 Travel & Incidental Exp 5,764 2,805 1,656 497 - 806 32601 Travel - Meals 2,294 1,116 659 198 - 321 32602 Meals at CWS 99 48 28 9 - 14 32603 Training & Seminars 1,822 887 523 157 - 255 32604 Conferences 130 63 37 11 - 19 32605 Interal Projects - - - - - - - -	91000 92100 92200 92300 92301 92302	Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone Telephone - General Telephone - Cellular	\$	80,278 134 429 1,710 4,962 187 28		39,071 65 209 832 2,415 91 14		23,056 38 123 491 1,425 54 8		6,928 12 37 148 428 16 2				19 60 239 694 26 4 23
32500 Office Supplies & Expense 2,188 1,065 628 189 - 306 32501 Office Supplies 517 252 149 45 - 72 32502 Temporary Labor - 321 306 321 321 321 321 321 321 321 3220 - - <	91000 92100 92200 92300 92301 92302 92302 92303	Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone Telephone - General Telephone - Cellular Telephone - Answering Service	\$	80,278 134 429 1,710 4,962 187 28 161		39,071 65 209 832 2,415 91 14 78		23,056 38 123 491 1,425 54 8 47		6,928 12 37 148 428 16 2 15		- - - - - - - - -		19 60 239 694 26 4 23 1
92501 Office Supplies 517 252 149 45 72 92502 Temporary Labor - </td <td>91000 92100 92200 92300 92301 92302 92303 92303 92304</td> <td>Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone Telephone - General Telephone - Cellular Telephone - Answering Service Telephone - Leasing Lines</td> <td>\$</td> <td>80,278 134 429 1,710 4,962 187 28 161 10</td> <td></td> <td>39,071 65 209 832 2,415 91 14 78 5</td> <td></td> <td>23,056 38 123 491 1,425 54 8 47 3</td> <td></td> <td>6,928 12 37 148 428 16 2 15 1</td> <td></td> <td></td> <td></td> <td>19 60 239 694 26 4 23 1 23</td>	91000 92100 92200 92300 92301 92302 92303 92303 92304	Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone Telephone - General Telephone - Cellular Telephone - Answering Service Telephone - Leasing Lines	\$	80,278 134 429 1,710 4,962 187 28 161 10		39,071 65 209 832 2,415 91 14 78 5		23,056 38 123 491 1,425 54 8 47 3		6,928 12 37 148 428 16 2 15 1				19 60 239 694 26 4 23 1 23
22502 Temporary Labor 1 1 1 1 22502 Temporary Labor 2,294 1,116 659 198 - 592 20200 Travel & Incidental Exp 5,764 2,805 1,656 497 - 806 20201 Travel & Incidental Exp 5,764 2,805 1,656 497 - 806 20201 Travel - Meals 2,294 1,116 659 198 - 321 20202 Meals at CWS 99 48 28 9 - 14 20203 Training & Seminars 1,822 887 523 157 - 255 20204 Conferences 130 63 37 11 - 19 20205 Interal Projects - - - - - - 1 20206 Community Service 7 3 2 1 - 1 20206 Co.D. Building Expense 2,285 1,112 656 197 320	01000 02100 02200 02300 02301 02302 02303 02304 02400	Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone - General Telephone - Cellular Telephone - Cellular Telephone - Leasing Lines Stationery and Printing	\$	80,278 134 429 1,710 4,962 187 28 161 10 165		39,071 65 209 832 2,415 91 14 78 5 80		23,056 38 123 491 1,425 54 8 47 3 47		6,928 12 37 148 428 16 2 15 1 14 14 189				19 60 239 694 26 4 23 1 23 306
Bank Fees 4,238 2,063 1,217 366 - 592 22600 Travel & Incidental Exp 5,764 2,805 1,656 497 - 806 22601 Travel & Incidental Exp 5,764 2,805 1,656 497 - 806 22601 Travel & Incidental Exp 2,294 1,116 659 198 - 321 32602 Meals at CWS 99 48 28 9 - 14 32603 Training & Seminars 1,822 887 523 157 - 255 32604 Conferences 130 63 37 11 - 19 32605 Interal Projects - - - - - - - - - - - - 1 19 3206 Community Service 7 3 2 1 - 1 320 320 320 320 320 320 320	91000 92100 92200 92300 92301 92302 92303 92304 92304 92400 92500	Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone Telephone - General Telephone - General Telephone - Answering Service Telephone - Leasing Lines Stationery and Printing Office Supplies & Expense	\$	80,278 134 429 1,710 4,962 187 28 161 10 165 2,188		39,071 65 209 832 2,415 91 14 78 5 80 1,065		23,056 38 123 491 1,425 54 8 47 3 47 628		6,928 12 37 148 428 16 2 15 1 14 14 189				19 60 239 694 26 4 23 1 23 306
2000 Travel & Incidental Exp 5,764 2,805 1,656 497 - 806 22601 Travel & Meals 2,294 1,116 659 198 - 321 22602 Meals at CWS 99 48 28 9 - 14 22603 Training & Seminars 1,822 887 523 157 - 255 22604 Conferences 130 63 37 11 - 19 22605 Interal Projects - <	11000 12100 12200 12300 12301 12302 12303 12304 12304 12304 12304 12304 12304 12304 12304 12304 12304 12500 12500	Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone - General Telephone - Cellular Telephone - Answering Service Telephone - Leasing Lines Stationery and Printing Office Supplies & Expense Office Supplies	\$	80,278 134 429 1,710 4,962 187 28 161 10 165 2,188 517		39,071 65 209 832 2,415 91 14 78 5 80 1,065		23,056 38 123 491 1,425 54 8 47 3 47 628		6,928 12 37 148 428 16 2 15 1 14 14 189				19 60 239 694 26 4 23 1 23 306 72
12000 Travel Media 2,294 1,116 659 198 321 12601 Travel Media 2,294 1,116 659 198 321 12602 Meals at CWS 99 48 28 9 14 12603 Training & Seminars 1,822 887 523 157 255 12604 Conferences 130 63 37 11 19 12605 Interal Projects - - - - - 12606 Community Service 7 3 2 1 - 1 12700 G.O. Building Expense 2,285 1,112 656 197 - 320	91000 92100 92200 92300 92301 92302 92303 92304 92303 92304 92400 92500 92501 92502	Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone - General Telephone - Cellular Telephone - Cellular Telephone - Cellular Telephone - Leasing Lines Stationery and Printing Office Supplies & Expense Office Supplies Temporary Labor	\$	80,278 134 429 1,710 4,962 187 28 161 10 165 2,188 517 -		39,071 65 209 832 2,415 91 14 78 80 1,065 252 -		23,056 38 123 491 1,425 54 8 47 3 47 628 149 -		6,928 12 37 148 428 16 2 15 1 1 4 14 189 45 5 -		- - - - - - - - - - - - -		19 60 239 694 26 4 23 1 23 306 72
Value Training & Seminars 99 48 28 9 14 V2602 Meals at CVNS 99 48 28 9 14 V2603 Training & Seminars 1,822 887 523 157 2255 V2604 Conferences 130 63 37 11 19 V2605 Interal Projects - - - - - V2606 Community Service 7 3 2 1 - 1 V2606 Community Service 7 3 2 1 - 1 V2606 Construction 2,285 1,112 656 197 - 320	1000 2100 2200 2300 2301 2302 2303 22304 22303 22304 22400 22500 22501 22502 22505	Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone - General Telephone - General Telephone - Answering Service Telephone - Answering Service Telephone - Leasing Lines Stationery and Printing Office Supplies & Expense Office Supplies Temporary Labor Bank Fees	Ş	80,278 134 429 1,710 4,962 187 28 161 10 165 2,188 517 - - 4,238		39,071 655 209 832 2,415 91 14 78 5 80 1,065 252 2,063		23,056 38 123 491 1,425 54 8 47 3 47 628 149 - 1,217		6,928 12 37 148 428 16 2 15 1 1 4 189 45 - 366		- - - - - - - - - - - - - - - - - - -		19 60 239 694 26 4 23 1 23 306 72 - 592
V2002 Initial at CVD 0 <th0< th=""> <th0< th=""> <th0< th=""></th0<></th0<></th0<>	1000 2100 2200 2301 2301 2302 2302 2303 22304 22400 22500 22500 22500 22502 22505 22605	Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone - General Telephone - Cellular Telephone - Cellular Telephone - Answering Service Telephone - Leasing Lines Stationery and Printing Office Supplies & Expense Office Supplies Temporary Labor Bank Fees Travel & Incidental Exp	Ş	80,278 134 429 1,710 4,962 187 28 161 10 165 2,188 5,17 - 4,238 5,764		39,071 65 209 832 2,415 91 14 78 80 1,065 252 - 2,063 2,805		23,056 38 123 491 1,425 54 8 47 3 47 628 149 - 1,217 1,656		6,928 12 37 148 428 16 2 15 1 14 189 45 - 366 497				19 60 239 694 26 4 23 1 23 306 72 - 592 806
22604 Conferences 130 63 37 11 - 19 22604 Conferences 130 63 37 11 - 19 22605 Interal Projects - - - - - - - - - 19 22606 Community Service 7 3 2 1 - 1 22606 Community Service 7 3 2 1 - 1 22700 G.O. Building Expense 2,285 1,112 656 197 - 320	11000 12100 12200 12300 12301 12302 12302 12303 12304 12200 1200 1000 120	Office Expense Administrative & General Wages Admini & Gen Salary Employees Dues Postage Telephone - General Telephone - Cellular Telephone - Cellular Telephone - Leasing Lines Stationer, and Printing Office Supplies & Expense Office Supplies & Expense Office Supplies Temporary Labor Bank Fees Travel & Incidental Exp Travel - Meals	Ş	80.278 134 429 1.710 4.962 187 28 161 10 165 2.188 517 - 4.238 5.764 2.294		39,071 65 209 832 2,415 91 1,4 8 80 1,065 2,663 2,805 1,116		23,056 38 123 491 1,425 54 8 47 3 47 628 149 - 1,217 1,656 659		6,928 12 37 148 428 16 2 15 1 14 189 45 - 366 497 198		- - - - - - - - - - - - - - - - - - -		19 60 239 694 26 4 23 1 23 306 72 - 592 806 321
Z2004 Commentations Commentations <td>11000 12100 12200 12300 12301 12302 12301 12302 12304 122500 12500 12502 12502 12500 12600 1</td> <td>Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone - General Telephone - General Telephone - Answering Service Telephone - Answering Service Telephone - Leasing Lines Stationery and Printing Office Supplies & Expense Office Supplies & Expense Office Supplies Temporary Labor Bank Fees Travel & Incidental Exp Travel - Meals Meals at CWS</td> <td>\$</td> <td>80,278 134 429 1,710 4,962 187 28 161 10 165 2,188 517 - - - 4,238 5,764 2,294 99</td> <td></td> <td>39,071 65 209 832 2,415 91 14 78 80 1,065 252 - - 2,063 2,805 1,116 48</td> <td></td> <td>23,056 38 123 491 1,425 54 8 47 628 149 - - 217 1,656 659 28</td> <td></td> <td>6,928 12 37 148 428 16 2 15 1 14 189 45 - 366 497 198 9</td> <td></td> <td></td> <td></td> <td>19 60 239 694 26 4 23 1 23 306 72 - 592 806 321 14</td>	11000 12100 12200 12300 12301 12302 12301 12302 12304 122500 12500 12502 12502 12500 12600 1	Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone - General Telephone - General Telephone - Answering Service Telephone - Answering Service Telephone - Leasing Lines Stationery and Printing Office Supplies & Expense Office Supplies & Expense Office Supplies Temporary Labor Bank Fees Travel & Incidental Exp Travel - Meals Meals at CWS	\$	80,278 134 429 1,710 4,962 187 28 161 10 165 2,188 517 - - - 4,238 5,764 2,294 99		39,071 65 209 832 2,415 91 14 78 80 1,065 252 - - 2,063 2,805 1,116 48		23,056 38 123 491 1,425 54 8 47 628 149 - - 217 1,656 659 28		6,928 12 37 148 428 16 2 15 1 14 189 45 - 366 497 198 9				19 60 239 694 26 4 23 1 23 306 72 - 592 806 321 14
22005 Interai Projects 7 3 2 1 - 1 02606 Community Service 7 3 2 1 - 1 02606 Community Service 7 3 2 1 - 1 02700 G.O. Building Expense 2,285 1,112 656 197 - 320	91000 92200 92200 92200 92300 92301 92302 92303 92304 92400 92501 92502 92502 92502 92505 92600 92601 92602 92602	Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone - General Telephone - Cellular Telephone - Cellular Telephone - Cellular Stationery and Printing Office Supplies & Expense Office Supplies & Expense Office Supplies Temporary Labor Bank Fees Travel & Incidental Exp Travel & Incidental Exp Travel & Incidental Exp Travel & Meals Meals at CWS Training & Seminars	Ş	80,278 134 429 1,710 4,962 187 28 161 10 165 2,188 5,764 2,294 99 1,822		39,071 65 209 832 2,415 91 14 78 5 80 1,065 252 - - 2,063 2,805 1,116 48 887		23,056 38 123 491 1,425 54 8 47 3 3 47 628 149 - 1,217 1,656 659 28 523		6,928 12 37 148 428 16 2 15 1 14 189 45 - - 366 497 198 9 9 157				19 60 239 694 26 4 23 1 23 306 72 - 592 806 321 14 255
2200 Community Service 2,285 1,112 656 197 - 320	1000 22100 22200 22300 22301 22302 22303 22304 22304 22304 22500 22500 22500 22505 22505 22505 22505 22505 22505 22505 22600 22601 22603 22603 22604	Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone Telephone - General Telephone - Callular Telephone - Answering Service Telephone - Answering Service Telephone - Answering Service Telephone - Leasing Lines Stationery and Printing Office Supplies & Expense Office Supplies & Expense Office Supplies Temporary Labor Bank Fees Travel & Incidental Exp Travel - Meals Meals at CWS Training & Seminars Conferences	Ş	80,278 134 429 1,710 4,962 187 28 161 10 165 2,188 5,17 - - 4,238 5,764 2,294 99 1,822 130		39,071 65 209 832 2,415 91 14 78 5 80 1,065 252 - - 2,063 2,805 1,116 48 887		23,056 38 123 491 1,425 54 8 47 3 47 628 47 628 149 - 1,217 1,656 659 28 523 37		6,928 12 37 148 428 16 2 15 1 14 189 45 - - 366 497 198 9 9 157				19 60 239 694 26 4 23 306 72 - 592 806 321 14 255 519
	H1000 H2100 J2200 J2200 J2201 J2200 J2301 J2302 J2303 J2204 J2205 J2200 J2201 J2202 J2203 J2204 J2205 J2502 J2501 J2502 J2501 J2502 J2605 J2601 J2602 J2603 J2604 J2605	Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone - General Telephone - Cellular Telephone - Answering Service Telephone - Leasing Lines Stationery and Printing Office Supplies & Expense Office Supplies & Expense Office Supplies Temporary Labor Bank Fees Travel & Incidental Exp Travel & Incidental Exp Travel & Meals Meals at CWS Training & Seminars Conferences Interal Projects	S	80,278 134 429 1,710 4,962 187 28 161 10 165 2,188 5,17 - - 4,238 5,764 2,294 99 1,822 130		39,071 65 209 832 2,415 91 14 78 80 1,065 252 - - - - - - - - - - - - - - - - -		23,056 38 123 491 1,425 54 8 47 3 47 628 149 - 1,656 659 28 523 37 -		6,928 12 37 148 428 16 2 15 1 14 189 45 - 66 497 198 9 157 11				19 60 239 694 26 4 23 1 23 306 72 - 592 806 321 14 255 19 -
Total Office Expense \$ 107,410 \$ 52,274 \$ 30,847 \$ 9,271 \$ - \$ 15,018	H1000 H2100 H22000 H2200 H200	Office Expense Administrative & General Wages Admin & Gen Salary Employees Dues Postage Telephone - General Telephone - Cellular Telephone - Cellular Telephone - Cellular Telephone - Cellular Stationery and Printing Office Supplies & Expense Office Supplies & Expense Office Supplies Temporary Labor Bank Fees Travel & Incidental Exp Travel & Meals Meals at CWS Training & Seminars Conferences Interal Projects Community Service	Ş	80,278 134 429 1,710 4,962 187 28 161 10 165 2,188 5,764 2,294 99 1,822 130 - 7		39,071 65 209 832 2,415 91 14 78 5 800 1,065 252 - - 2,063 2,805 1,116 48 87 63 - 3		23,056 38 123 491 1,425 54 8 47 628 47 628 - 1,217 1,656 659 28 523 37 - 2		6,928 12 37 148 428 16 2 15 1 14 189 45 - - 366 497 198 9 157 11 - 1 1 -				19 60 239 664 26 4 23 306 72 592 806 321 14 255 252 19 -

Schedule 1 Page 10 of 13

	Injuries and Damages													
793000	Property Insurance	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	48
794100 794200	Compensation Insurance Occupational Sick Leave		11,118		8,072		2,573		473		-		-	48 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	\$		\$	-	s	-	s	-	\$		\$	-	48
795102	Retirement Fund Expense	Ψ	116,746	•	84,760	•	27,025	<i>,</i> *	4,961	Ŷ	-	Ŷ		48
795103	Other Benefits		-		-		-		-		-		-	48
795104 795200	Trasop Expenses Group Insuance						-		-		-			48 48
795201	Retiree Group Heat & Life Ins		-				-		-		-		-	48
795260	PBOP Amortization Employees Welfare Admin		-		-				-		-			48 48
795300 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 795502	Off-Duty Time - Sick Leave Disability Benefits - Recd						-		-		-		-	48 48
795504	Disability Benefits - Employer		195		142		45		8		-		-	48
795099	Off Duty Time - Allocations In/Out		-		-		-		-		-		-	48
795600 907100	Off Duty Time - All Other Vacation		65,402		47,488		15,134		2,780		-		-	48 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 48
798100 798200	Legal Expense Other Outside Services		2,744 9,025		1,992 6,553		635 2,088		117 384		-			40
798201	Training Consultants		-		-		-		-		-		-	48
798202	Auditors & Accountants		-		-		-		-		-		-	48 48
798203	Engineering Consultants		-		-		-							40
	Total Outside Services	\$	64,519	\$	46,847	\$	14,929	\$	2,743	\$		\$		
	Misc General Expenses													
796000	Franchise Requirements	\$	-	\$	-	\$	-	\$		\$	-	\$	-	47
797001	PUC Reimbursement Fees		- 1,469		- 715		- 422		- 127		-		- 205	47 47
799100 799200	Company Dues Institutional Advertising		1,409		48		28		8		-		14	47
799300	Fee Of Fiscal Agents		-		-		-		-		-		•	47
799400	General Corporate Expense		76		37 5,888		22 3,474		7 1,044		-		10 1,691	47 47
799500 799501	Miscellaneous General Exp Moving Cost-Employee		12,098 3,388		1,649		973		292		-		474	47
799502	Merger Related Expenses		-		-		-		-		-		-	47
799503	Charitable contributions		-		-		-		-		-		-	47 47
799600 799700	Accrued Payroll Distrib G&A Allocation In/Out		-		-				-		-		-	47
799710	Allocation of Payroll		-		-		-		-		-		-	47
799720	Allocation of Transportation		-		-		-		-		-		-	47 47
799730	Allocation of Miscellaneous Entries		-		-		-		-					
	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 <i>′</i>		295		-		477	47
805300	Accrued Payroll Distribution		-		-		-							47 47
805410 805420	Allocation of Payroll 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	
												\$	18,283	
	Total Admin. and General	\$	519,788	\$	346,098	\$	127,585	\$	27,822	\$	-			
	Total Pro Forma O&M Expense	\$	2,429,337	\$	1,834,170	\$	396,049	\$	145,800	\$	-	\$	53,318	
	Total Pro Forma O&M Expense %		100.00	%	75.51	%	16.30	%	6.00	%	0.00	%	2.19 %	6
	(Percent Code 46)				400 000		FROM		0.005	•		\$		
	Total Labor Expense	\$	225,830	\$	163,983	\$	52,252	\$	9,595	\$,
	Total Labor Expense %		100.00	%	72.61	%	23.14	%	4.25	%	0.00	70	0.00 %	0

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Kona Water Service Company, Inc. Water Operations

Test Period Ending December 31, 2019 Allocation of Pro Forma Depreclation Expense

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Acct. No.	Description	Tot	al Cost	Ba	se Cost	ra Cap ax Day	ra Cap ix Hour	tomer eters	stomer rvices	Coc
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	-	-	-	2'
103164	Supply Mains		548		345	203	-	-	-	21
103460	Meters & Meter Boxes		974			-	-	974		24
103480	Hydrants		688		433	255	-	-	-	2
103420	Reservoirs & Tanks		76,213		47,930	28,283		-		21
			70,210		47,500	20,200	_			2
103421	Tank Painting		-		- 14	- 8				2
103150	Wells		22			0	-	-		2
103720	Office Furn & Equip		-		-	•	-	-	•	
103721	Electronic Equipment/Computers		-		-	-	-	-	-	2
103730	Transportation Equipment		6,162		3,875	2,287	-	-	-	2
103740	Store Equipment		1,309		823	486	-	-	-	2
103750	Laboratory Equipment		191		120	71	-	-	-	2
103770	Power Operated Equipment		-		-	-	-	-	-	2
103780	Tools, Shop, Garage Equipment		1,113		700	413	-	-	-	2
103790	General Plant				-	-	-	-	-	2
103925	Asset Retirement Obligation		-		-	-	-		-	4
xhibit KWSC	Asset Retriction Obligation									
Water 7.4	Global Settlement		_		_		-			2
	Giobal Settlement									
xhibit KWSC			1,780		866	511	154		249	4
Water 7.4	Hawaii Water GO Allocation		1,700		000	511	104		2.10	
xhibit KWSC					40.000	7 077	2,187		3,542	4
Water 7.4	Big Island Allocation		25,338		12,332	7,277		 	 	
111110000	Subtotal Depreciation Expense	\$	565,518	\$	472,790	\$ 85,622	\$ 2,341	\$ 974	\$ 3,791	
xhibit KWSC Water 7.9										
5	Intangible		-	s	-	\$ -	\$ -	\$ -	\$ -	2
6	Land and land rights		-		-	-	-	-	-	3
7	Structures and Improvements		-		-	-	-	-	-	2
8	Pumping Equipment		-		-	-	-	-	-	2
9	Treatment Equipment		-		-	-	-	-	-	2
10	Transmission & Distribution Plant		(89,260)		(89,260)	-	-		-	2
10	Reservoirs		(00,200)		(-		-	2
					_		-		-	2
12	Wells		-		-	_				2
13	Office Furniture and Equipment		-		-	-				2
14	Transportation		-		-	-	-	-	-	2
15	Tools and Laboratory Equipment		-		-	-	-	-	-	2
16	General Plant		-		-	-	-	-	-	2
17	Global Settlement		-		-	-	-	-	-	
18	Hawaii Water GO Allocation								-	2
19	Big Island Allocation		-						-	2
	Subtotal CIAC Depreciation Expense	\$	(89,260)	\$	(89,260)	\$ 	\$ -	\$ -	\$ -	
	Pro Forma Depr. Exp.	S	476,258	\$	383,530	\$ 85,622	\$ 2,341	\$ 974	\$ 3,791	
										%

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Kona Water Service Company, Inc. Water Operations

Test Period Ending December 31, 2019

		,	Test Period E Allocation of Pr											
	Description		Total Cost		Base Cost		xtra Cap Aax Day		xtra Cap 1ax Hour		stomer eters		ustomer ervices	Code
	Pro Forma Revenue Requirement													
	Operation & Maintenance Expenses	\$	2,429,337	\$	1,834,170	\$	396,049	\$	145,800	\$	-	\$	53,318	
	Depeciation & Amortization Expenses		476,258		383,530		85,622		2,341		974		3,791	
Exhibit KWSC Water 8.21	Taxes Other Than Income Taxes		254,212		230,621		21,684		407		-		1,525	33
799998	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 Exhibit KWSC	Federal Income Taxes		129,615		117,587		11,056		207		-		778	33
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 %	6
	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		istomer ervices
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	%	C	%	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-Re	esidential	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	1	Non	-Residentia	al	I	rrigation	ŀ	Allocation Code
Base Cost	\$ 3,193,646		9	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		S	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

	Annual	Consum	ption		Maximum Day		Maxim	um Hour		Custome	r Costs	Meters		Services			
	(1) Thousand	(2)	(3)	(4) % of	(5) Amount	(6) Excess	(7)	(8) % of	(9) Amount	(10) Excess	(11)	(12)	(13)	(14) Equiv	(15)	(16) Equiv	(17)
Customer Class		MGD	%	AvDay		(5)-(2)	%	AvDay		(9)-(5)	%	Bills	%	Units	%	Units	%
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

Meter	Number I	Eq. Meter	Equiv.	Eq. Svc	Equiv.	Number
<u>Size</u>	of Meters	<u>Ratio</u>	<u>Meters</u>	Ratio	<u>Services</u>	<u>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

Meter <u>Size</u>	Number <u>of Meters</u>	Eq. Meter <u>Ratio</u>	Equiv. <u>Meters</u>	Eq. Svc <u>Ratio</u>	Equiv. <u>Services</u>	Number <u>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

<u>Irrigation</u>

Meter <u>Size</u>	Number <u>of Meters</u>	Eq. Meter <u>Ratio</u>	Equiv. <u>Meters</u>	Eq. Svc <u>Ratio</u>	Equiv. <u>Services</u>	Number <u>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

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	3,528,828	100.00%	3,981,387	100.00%	3,981,387	100.00%

Docket No. 2018-0388 Exhibit KWSC-T-107 Cost of Service Study, Sewer Witness: Stout

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.

<u>GENERAL</u>

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 ^{Wit} 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 ^{Wither} 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 ^{Witness: Stout} 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^{Witness: Stout} 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:

On anotin a and Mainton anos	¢057 450
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:

Functional Plant Account	<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	
Functional Plant Account	Depreciation <u>Reserve</u>	
	-	
Intangible	Reserve	
	<u>Reserve</u> \$2,334	
Intangible Land and land rights	<u>Reserve</u> \$2,334 0	
Intangible Land and land rights Structures and Improvements	<u>Reserve</u> \$2,334 0 2,062,218	
Intangible Land and land rights Structures and Improvements Pumping Equipment	<u>Reserve</u> \$2,334 0 2,062,218 1,370,633	
Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment	Reserve \$2,334 0 2,062,218 1,370,633 38,238 1,227,933 815,611	
Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant	Reserve \$2,334 0 2,062,218 1,370,633 38,238 1,227,933	
Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant Source of Supply	Reserve \$2,334 0 2,062,218 1,370,633 38,238 1,227,933 815,611 614 77,668	
Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant Source of Supply Office Furniture and Equipment	Reserve \$2,334 0 2,062,218 1,370,633 38,238 1,227,933 815,611 614 77,668 39,062	
Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant Source of Supply Office Furniture and Equipment Power Generation Equipment	Reserve \$2,334 0 2,062,218 1,370,633 38,238 1,227,933 815,611 614 77,668 39,062 2,763	
Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant Source of Supply Office Furniture and Equipment Power Generation Equipment Transportation	Reserve \$2,334 0 2,062,218 1,370,633 38,238 1,227,933 815,611 614 77,668 39,062 2,763 6,024.50	
Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant Source of Supply Office Furniture and Equipment Power Generation Equipment Transportation Tools and Laboratory Equipment	Reserve \$2,334 0 2,062,218 1,370,633 38,238 1,227,933 815,611 614 77,668 39,062 2,763 6,024.50 16,080	
Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant Source of Supply Office Furniture and Equipment Power Generation Equipment Transportation Tools and Laboratory Equipment General Plant	Reserve \$2,334 0 2,062,218 1,370,633 38,238 1,227,933 815,611 614 77,668 39,062 2,763 6,024.50 16,080 58,627	
Intangible Land and land rights Structures and Improvements Pumping Equipment Treatment Equipment Transmission & Distribution Plant Source of Supply Office Furniture and Equipment Power Generation Equipment Transportation Tools and Laboratory Equipment General Plant Hawaii Water GO Allocation	Reserve \$2,334 0 2,062,218 1,370,633 38,238 1,227,933 815,611 614 77,668 39,062 2,763 6,024.50 16,080	

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

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	(673,347)
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 function^{Witness: Stout} 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:

Cost Function	<u>Amount</u>
Flow Costs Demand Costs	\$734,721 989,269 22,525
Total Customer Costs – Commercial Total Customer Costs - Service	22,535 280,662
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 ^{Witne} 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>	Non-Residential
Flow	\$492,116	\$242,605
Demand Commercial	880,747 20,910	108,522 1,625
Services	238,085	<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^{ess: Stout} 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

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Kona Water Service Company, Inc. Wastewater Operations

Summary of Functional Cost Allocation Factors

				Customer	Related	
Allocation Code	Description	Flow Cost	Demand Cost	Commercial Cost	Services Cost	Check Total
C008	Description	TIOW COSt	0030	0031	0031	10(2)
A	Flow Costs	100.00	0.00	0.00	0.00	100.00 %
В	Demand Costs	0.00	100.00	0.00	0.00	100.00 %
С	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 %
н	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 %
L	Other Insurance and G&A Miscellaneous Expense	48.82	20.19	1.62	29.37	100.00 %
к	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 %

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Kona Water Service Company, Inc. Wastewater Operations

Test Year Ending December 31, 2019 Allocation of Pro Forma Rate Base

					Customer	Related	
Account				Demand	Commercial	Services	Allocation
Number	Account Title	Total Cost	Flow Cost	Cost	Cost	Cost	Code
r (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Utility Plant in Servi	ce:						
Exhibit KWSC							
Sewer7.2							
5	Intangible	23,333	0	23,333	0	0	в
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	7 0	0	В
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	В
11	Source of Supply	1,794,143	0	1,794,143	0	0	В
12	Office Furniture and Equipment	1,572	770	314	5	483	н
13	Power Generation Equipment	495,805	495,805	0	0	0	А
14	Transportation	57,379	25,046	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	26,070	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	46	26	0	34	G
	Total Utility Plant In Service	16,833,511	3,052,528	13,677,131	5	103,847	

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Kona Water Service Company, Inc. Wastewater Operations

Test Year Ending December 31, 2019 Allocation of Pro Forma Rate Base

Account				Demand	Commercial	Services	Allocation
Number	Account Title	Total Cost	Flow Cost	Cost	Cost	Cost	Code
* (1)	r (2)	r (3)	(4)	(5)	(6)	(7)	(8)
Accumulated Depre	ciation Reserve:						
Exhibit KWSC							
Sewer7.4							
5	Intangible	2,334	0	2,334	0	0	в
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	в
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	в
11	Source of Supply	815,611	0	815,611	0	0	В
12	Office Furniture and Equipment	614	301	123	2	189	н
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	58,627	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	

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Kona Water Service Company, Inc. Wastewater Operations

Test Year Ending December 31, 2019 Allocation of Pro Forma Rate Base

					Customer Re	lated	
Account				Demand	Commercial	Services	Allocation
Number	Account Title	Total Cost	Flow Cost	Cost	Cost	Cost	Code
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Other Rate Base Iter	ns:						
Exhibit KWSC							
Sewer7.8							
Exhibit KWSC							
Sewer7,9							
	Net Contributions in Aid of Construction						
5	Intangible	0	0	0	0	0	8
6	Land and land rights	ō	Ő	Ó	0	0	E
7	Structures and Improvements	0	0	0	0	0	E
8	Pumping Equipment	ō	, 0	7 0	0	0	в
9	Treatment Equipment	0	Ó	0	0	0	E
10	Transmission & Distribution Plant	(5,222,029)	0	(5,222,029)	0	0	8
11	Source of Supply	(0,222,020)	0	0	0	0	в
12	Office Furniture and Equipment	ō	0	ō	0	0	н
12	Power Generation Equipment	ů	0	Ō	0	0	А
13	Transportation	ő	ō	Ō	Ó	0	G
15	Tools and Laboratory Equipment	õ	0	Ō	0	0	G
16	Global Settlement	ő	0	0	0	0	А
17	Hawail Water GO Allocation	ō	0	0	0	0	G
18	Big Island Allocation	Ő	ō	0	0	0	G
19	Wastewater Administration	Ő	0	ō	0	0	G
13	Vestewater Administration	-	-				
	Total Net Contributions in Aid of Construction	(5,222,029)	0	(5,222,029)	0	0	
8	Customer Advances	0	0	0	0	0	L.
9	Customer Deposits	0	0	0	0	0	1
Exhibit KWSC							
Sewer7.10	Accumulated Deferred Taxes: Federal	(298,198)	(69,242)	(226,481)	0	(2,475)	1
Concili. 10							
Exhibit KWSC							
Sewer7.12	Accumulated Deferred Taxes: State	(83,207)	(19,321)	(63,196)	0	(691)	1
DOWOIT. IL		,					
Exhibit KWSC							
Sewer7.14	Unamortized Hawaii Capital Goods Excise Tax Credit	(175,821)	(40,826)	(133,536)	0	(1,459)	1
0000000000							
Exhibit KWSC							
Sewer7.6	Net Salvage Adjustment	(109,425)	(25,408)	(83,108)	0	(909)	I
Exhibit KWSC							
Sewer7	True-up Adjustment	(673,347)	(156,351)	(511,407)	0	(5,589)	1
Exhibit KWSC							
Sewer7.15	Working Capital	76,095	17,669	57,794	0	632	1
0011011.10	······································						
	Total Other Rate Base Items	(6,485,932)	(293,479)	(6,181,963)	0	(10,491)	
	Total Pro Forma Rate Base	4,629,687	1,787,362	2,788,531	3	53,787	

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Kona Water Service Company, Inc. Wastewater Operations

Test Year Ending December 31, 2019 Allocation of Pro Forma Operating & Maintenance Expenses

					Customer F	Related	
Account				Demand	Commercial	Services	Allocation
Number	Account Title	Total Cost	Flow Cost	Cost	Cost	Cost	Code
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	umping Expenses	62,531	62,531	0	0	0	А
O&M Exp. Worksheet	Salaries & Wages	62,531	02,531	0	0	o	Â
O&M Exp. Worksheet	Purchased Power	14,086	14,086	0	0	0	Â
O&M Exp. Worksheet	Miscellaneous Expense	14,000	14,060	Ū	U	Ū	0
	Total Pumping Expenses	76,617	76,617	0	0	0	
Т	reatment & Disposal Expenses						
O&M Exp. Worksheet	Salaries & Wages - Operating (Collection 25%)	52,826	0	0	0	52,826	D
O&M Exp. Worksheet	Salaries & Wages - Operating (Treatment 75%)	46,419	18,568	27,851	r 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	А
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
	Contractual Services - Testing	345	0	0	Ō	345	D
O&M Exp. Worksheet		30,755	0	Ő	ō	30,755	D
O&M Exp. Worksheet	Misc. Expense - Operating (Collection 25%)	59,220	23.688	35,532	ő	00,700	Ē
O&M Exp. Worksheet	Misc. Expense - Operating (Treatment 75%)	59,220	23,008	0	ő	806	D
O&M Exp. Worksheet	Misc. Expense - Maint. (Collection 25%)		365	547	0	000	E
O&M Exp. Worksheet	Misc. Expense - Maint. (Treatment 75%)	912	305	547	U	v	L.
	Total Treatment & Disposal Expenses	349,952	104,665	151,503	0	93,784	
с	ustomer Accounts Expenses						
O&M Exp. Worksheet	Salaries & Wages	235	0	0	235	0	С
O&M Exp. Worksheet	Bad Debt Expense	0	0	0	0	0	С
Q&M Exp. Worksheet	Miscellaneous Expenses	9,585	0	0	9,585	0	С
		0.800	0	0	9.820	0	
	Total Customer Accounts Expenses	9,820	U	U	8,020	Ŭ	
G	eneral & Administrative Expenses						
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	н
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
	Regulatory Commission Expense	52,500	25.631	10,600	851	15,418	J
O&M Exp. Worksheet	Miscellaneous Expense	31,753	15,502	6,411	514	9,326	J
O&M Exp. Worksheet		01,100					
	Total General & Administrative Expenses	421,063	205,549	85,028	6,815	123,671	
т	otal Operation & Maintenance Expense	857,452	386,831	236,531	16,635	217,455	

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Kona Water Service Company, Inc. Wastewater Operations

Pro Forma Test Year Ending December 31, 2019 Allocation of Depreciation Expense

				Customer Related			
Account				Demand	Commercial	Services	Allocation
Number	Account Title	Total Cost	Flow Cost	Cost	Cost	Cost	Code
* (1)	(2)	(3)	· (4)	(5)	(6)	(7)	(8)
103.030	Intangible Plant	4,667	1,867	2,800	0	0	Е
103,540	Structures & Improvement	285,946	114,378	171,568	0	0	E
103,701	Pumping Equipment	161,181	. 0	161,181	. 0	r 0	в
103,801	Treatment & Disposal Equipment	27,218	10,887	16,331	0	0	E
103,600	Collection Sewers Force	(1,049)	(458)	(254)	0	(337)	G
103,610	Collection Sewers Gravity	(47,688)	(20,816)	(11,560)	0	(15,313)	G
103,620	Special Collecting Structure	(166)	(72)	(40)	0	(53)	G
103,640	Flow Measuring Devices	O O	Ó	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	Α
103,700	Receiving Wells	99,216	0	99,216	0	0	в
103,955	Office Furn & Equip	316	155	63	1	97	н
103,965	Transportation Equipment	(2,112)	(922)	(512)	0	(678)	G
103,930	Tools, Shop, Garage Equipment	517	517	0	0	0	А
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)	

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Kona Water Service Company, Inc. Wastewater Operations

Pro Forma Test Year Ending December 31, 2019 Allocation of Total Revenue Requirement

Account Number	Account Title	Total Cost	Flow Cost	Demand Cost	Customer Re Commercial Cost	Services Cost	Allocation Code
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Revenue Requirement						
	Operation and Maintenance Expense	857,452	386,831	236,531	16,635	217,455	
Exhibit KWSC	Depreciation Expense	553,793	122,671	442,498	1	(11,377)	
Sewer8.11 2	PubCo Allocation	55,684	20,180	27,174	618	7,712	L
Exhibit KWSC							
Sewer8.20	Taxes Other Than Income Taxes	119,300	43.234	58,218	1,324	16,524	L
5 7	Public Company Service Tax Public Utility Fee	10,136	43,234 3,673	4,946	113	1,404	L
'	Fuble Only 7 66	10,100	0,070				
	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	
Exhibit KWSC							
Sewer8.21	Income Taxes						
11,12,13,14	State	7,165 77,356	2,766 29,867	4,315 46,592	0	84 897	ĸ
17	Federal	11,550	29,007	40,582	v	001	
22 Exhibit KWSC	Total Income Taxes	84,521	32,633	50,907	0	981	
Sewer6 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 %	

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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	Ratio	Allocation %
(1)	(2)	(3)
Base	1.00	40.00
Extra Capacity	1.50	<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 <u>Function</u> (1)	A C Ma E	Allocation % (3)	
Base Extra Capacity Customer - Commercial Customer - Services	\$	85,856 34,987 235 <u>53,896</u>	49.07 20.00 0.13 <u>30.80</u>
	\$	174,974	100.00

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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:

		Ilocated	
		and	
Cost	Ma	intenance	Allocation
Function	E	xpenses	%
(1)	*	(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	c	ulocated ustomer/ and &A Labor	Allocation %
(1)		(2)	(3)
Base Extra Capacity Customer - Commercial Customer - Services	\$	59,277 24,160 392 <u>37,207</u>	48.98 19.96 0.32 <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		Allocated Rate Base	Allocation
(1)		(3)	
Base	\$	4,024,215	23.22
Extra Capacity		13,161,739	75.95
Customer - Commercial		7	0.00
Customer - Services		143,416	0.83
	\$	17,329,377	100.00

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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 (1)	Depreciated Original Cost (2)				
Base Extra Capacity Customer - Commercial Customer - Services	\$ 164,416 68,017 5,450 <u>98,927</u>	48.82 20.19 1.62 <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	 Rate	Allocation
<u>Function</u>	Base	<u>%</u>
(1)	(2)	(3)
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	Cost of Service	Allocation
(1)	(2)	(3)
Base	\$ 542,135	36.24
Extra Capacity	729,936	48.80
Customer - Commercial	16,636	1.11
Customer - Services	207,059	<u>13.85</u>
	\$ 1,495,766	100.00

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Kona Water Service Company, Inc. Wastewater Operations

Elements for Development Factor F

					Customer Related		
Account				Demand	Commercial	Services	
Number	Account Title	Total Costs	Flow Costs	Costs	Costs	Costs	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Exp. Worksh	e Salaries & Wages	62,531	62,531	0	0	0	
Exp. Worksher Salaries & Wages - Operating (Collection 25%)		52,826	0	0	0	52,826	
Exp. Worksher Salaries & Wages - Operating (Treatment 75%)		46,419	18,568	27,851	0	0	
Exp. Worksh	erSalaries & Wages - Maint. (Collection 25%)	1,070	0	0	0	1,070	
Exp. Worksh	ecSalaries & Wages - Maint. (Treatment 75%)	11,893	4,757	7,136	0	0	
	eeSalaries & Wages	235	0	0	235	0	
	Total Above Expenses	174,974	85,856	34,987	235	53,896	
		100.00 %	49.07 %	20.00 %	5 0.13 %	30.80 %	

Elements for Development Factor G

					Custome	Related
Account Number	Account Title	Total Costs	Flow Costs	Demand Costs	Commercial Costs	Services Costs
(1)	(2)	(3)	. (4)	(5)	(6)	(7)
Pumping Exp	enses					
Exp. Worksher Salaries		62,531	62,531	0	0	0
Exp. WorksheeMiscellar		14,086	14,086	0	0	0
Treatment &	Disposal Expenses					
	& Wages - Operating (Collection 25%)	52,826	0	0	0	52,826
	& Wages - Operating (Treatment 75%)	46,419	18,568	27,851	0	0
	& Wages - Maint. (Collection 25%)	1,070	0	0	0	1,070
	& Wages - Maint. (Treatment 75%)	11,893	4,757	7,136	0	0
Exp. WorksherChemica		3,663	3,663	0	0	0
	& Supplies (Collection 25%)	7,982	0	0	0	7,982
	& Supplies (Treatment 75%)	(427)	(171)	(256)	0	0
Exp. WorksherContract		345	Ó	Ò	0	345
	pense - Operating (Collection 25%)	30,755	0	0	0	30,755
	pense - Operating (Treatment 75%)	59,220	23,688	35,532	0	0
	pense - Maint. (Collection 25%)	806	0	0	0	806
	pense - Maint. (Treatment 75%)	912	365	547	0	0
⊺otal Ab	ove 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

					Customer Related		
Account Number (1)	Account Title (2)			Demand Costs (5)	Commercial Costs (6)	Services Costs (7)	
<u>Customer.</u> Exp. WorkshetSalarie	Accounts Expenses es & Wages	235	0	0	235	0	
<u>General &</u> Exp. Workshe∈Salarie	Administrative Expenses es & 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	Total Costs (3)	Flow Costs (4)	Demand Costs (5)	Customer Commercial Costs (6)	Related 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 %	6 0.00 %	0.83 %

Elements for Development Factor J

					Customer Related		
Account Number (1)	Account Title (2)	Total Costs (3)	Flow Costs (4)	Demand Costs (5)	Commercial Costs (6)	Services Costs (7)	
Exp. WorksheeSalari	2020// 8 20	120.801	59,277	24,160	157	37,207	
	oyee Pensions & Benefits	179,125	87,897	35,825	233	55,170	
Exp. Workshet Materials & Supplies		2,504	1.093	607	804	0	
	actual Services - Legal	1,157	505	280	372	0	
	actual Services - Other	6,219	2,715	1,507	1,997	0	
Exp. Workshee Buildir		13,312	6,520	2,657	43	4,092	
	nce - General Liability	5,713	2,494	1,385	1,834	0	
Exp. Worksheelnsurance - 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

					Customer	Related
Account Number (1)	Account Title (2)	Total Costs (3)	Flow Costs (4)	Demand Costs (5)	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)					Customer Related		
	Account Title (2)	Total Costs (3)	Flow Costs (4)	Demand Costs (5)	Commercial Costs (6)	Services Costs (7)	
	Total Operation & Maintenance Expense	857,452	386,831	236,531	16,635	217,455	
	Depreciation Expense Income Taxes State Federal	553,793	122,671	442,498	1	(11,377)	
		7,165 77,356	2,766 29,867	4,315 46,592	0 0	84 897	
	Total Above Items	1,495,766	542,135	729,936	16,636	207,059	
		100.00 %	36.25 %	48.80 %	1.11 %	13.84	

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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)
Exhibit HWSC Sewer 7.6 Exhibit HWSC Sewer				
7.9				
Non Dep Plant 103030	< Intangible Plant	4,667	0	4,667
	Total Non Depreciable Plant	4,667	0	4,667
Structure & Improv. 103540	x Structures & Improvement	285,946	0	285,946
	Total Structures and Imrpovements	285,946	0	285,946
Pumping Equip 103701	x Pumping Equipment	161,181	0	161,181
	Total Pumping Equipment	161,181	0	161,181
Treatment Equipment 103801	x Treatment & Disposal Equipment	27,218	0	27,218
	Total Treatment	27,218	0	27,218
T&D Plant				
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) 0
103640	x Flow Measuring Devices x Outfall Sewer Lines	0	0	0
103820 103850	 A Dutfall Sewer Lines Reuse Transmission & Distribution 		ő	õ
103890	x Other Equipment	(379)	0	(379)
	Total Transmission & Distribution P	Plant (49,282)	. 0	(49,282)
Power Gen. Equip 103550	x Power Generation Equipment	10,461	0	10,461
	Total Power Generation Equipmen	t 10,461	0	10,461
Source of Supply 103700	x Receiving Wells	99,216	0	99,216
	Total Source of Supply	99,216	0	99,216
Office Furniture & Equip				
<u>103955</u>	x Office Furn & Equip	316	0	316
	Total Office Furn & Equip	316	0	316
Transportation 103965	x Transportation Equipment	(2,112)	0	(2,112)
103903	Total Transportation Equipment	(2,112)	0	(2,112)
Tools and Lab Equip.	Total transportation Equipment	(2,112)		
103930	x Tools, Shop, Garage Equipment	517	0	517
103950	x Power Operated Equipment	0	0	0
103960 103975	x Communication Equipment x Stores Equipment	623	0	623
	Total Tools and Laboratory Equipr	ment 1,140	0	1,140
General Plant				
103980	x General Plant	916	0	916
Exhibit HWSC Sewer 7.5	Total General Plant	916	0	916
Other				
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
Ormetice & Maintenance Executor				
Operation & Maintenance Expense: Flow Cost	386,831	259,099	127,732	60
	236,531	210,584	25,947	61
Demand Cost	16.635	15,436	1,199	62
Customer Cost - Commercial	217,455	184,467	32,988	63
Customer Cost - Services	217,400	104,407	02,000	00
Total Operation & Maintenance Expense	857,452	669,586	187,866	
	100.00%	78.09%	21.91%	
Depreciation Expense:				
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%	
Amortization Expense:	00 400	13,517	6,663	60
Flow Cost	20,180	•	2,981	61
Demand Cost	27,174	24,193 573	45	62
Customer Cost - Commercial	618		45	63
Customer Cost - Services	7,712	6,542	1,170	03
Total Amortization Expense	55,684	44,825	10,859	
	100.00%	80.50%	19.50%	
Taxes Other Than Income Taxes:				
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 - Commercial	17,928	15,208	2.720	63
Customer Cost - Services	17,520	10,200	2.,120	
Total Taxes Other Than Income Taxes	129,436	104,194	25,242	
	100.00%	80.50%	19.50%	
Miscellaneous Non-Utility Expenses:				
Flow Cost	0	0	0	60
Demand Cost	ō	0	0	61
Customer Cost - Commercial	õ	õ	0	62
Customer Cost - Commercial	0	õ	0	63
	Ŭ	•	-	
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
Income Taxes:		04.050	40 775	00
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%	
Net Income:				
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 - Commercial	47,963	40,687	7,276	63
Customer Cost - Services	47,505	40,007	7,210	00
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	
Total Customer Cost - Commercial	100.00%	92.79%	7.21%	
	100.00 /8	52.1570	F 1 Am 1 / U	
Total Customer Cost - Services	280,662	238,085	42,577	
	100.00%	84.83%	15.17%	

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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

	<u> </u>	Annual Flows			Maximu	<u>m Day</u>	
		1000 Gal.		% of			
Customer Group	1000 Gal.	Per Day	%	Average	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	483	68.22
Non-Residential - Mor	16	7.21	66	15.17	7.207207	225	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

			In	dicated Cost o	f Service			
	Present	Rates		Deduct:			Propose	d Rates
Customer Group	Total	Percent	Total	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

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.

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 Sewage Domestic		
	For Office Use Only	
Installation Charge:	Meter Serial. Number:	
Meter Number:	Meter Size:	
Reading When Installed:	Install-Date: Date Service	
Installed By:		
Comments:		

METER INSTALLATION REQUEST

Issued: January 7, 2009 By: Thomas Smegal, III, Vice President - Regulatory Effective: December 1, 2008

Exhibit KWSC-T-200 Direct Testimony of Anthony Carrasco



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

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Docket No. 2018-0388 KWSC-T-200 Witness: Carrasco

1		KONA WATER SERVICE COMPANY GENERAL RATE CASE
2		DIRECT TESTIMONY OF ANTHONY CARRASCO
3		
4	<u>Intro</u>	oduction
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	e Unit N3, Waikoloa, Hawaii, 96738. I am the General Manager of Hawaii Water Service
8	Com	pany, 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	mana	gement at the University of California, Sacramento and through the Hawaii Water Rural
13	Asso	ciation. My Operators Certifications include: Hawaii Department of Health Water
14	Distr	ibution Operator IV and Treatment Operator IV certifications. I also have California State
15	Wate	r Resource Control Board Distribution Operator V and Treatment Operator IV
16	certif	ications.
17		I am a veteran who served in the United States Navy Seabees from January 1983 to 1986,
18	receiv	ving an Honorable Discharge with an R-1 reenlistment rating. From 1986 to 1989, I worked
19	as a C	Construction Foreman for an underground utility construction company. I worked for
20	Calife	ornia Water Service Company ("Cal Water") as an Operator from 1989 to 2000, a
21	Super	intendent from 2000 to 2004, a District Manager from 2004 to 2016, and Director of Field
22	Opera	ations 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 e	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 recorded expenses.¹ Since federal CPI data is not available for neighbor islands, the best 29

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

Island and Maui operations. Details of inflation factors are shown on Exhibits KWSC Water 8.4
and KWSC Sewer 8.3.³

The methodology of adjusting certain recorded expenses by CPI is reasonable for rate making because it better represents forecasted costs during the test year. The inclusion of a CPI inflation factor acknowledges the fact that the purchasing power of a dollar diminishes over time. If a CPI factor was not used to adjust recorded expenses, obsolete costs would be used to determine test year expenses, and a reasonable opportunity to recover forecasted expenses during the test year would not exist.

Estimated operating and maintenance expenses for the test year are described anddiscussed below.

12

13 <u>Labor</u>

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.

401k employer matching expenses should be excluded.⁴ Although KWSC believes that it is
appropriate for 401k employer matching expenses to be recovered in rates as a part of total
compensation costs for its employees, consistent with Hawaii Water's acceptance of the
Consumer Advocate's position in the recent rate cases for Hawaii Water and its subsidiaries,
KWSC is including pension costs and excluding 401k employer matching expenses in this rate
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

Table 201. Labor Expense.

9 Details of labor expense for each division can be found in the corresponding Exhibits listed in10 the table above.

Benefits expense is based on a study conducted by the Milliman Group regarding estimates for Pension and Retiree Healthcare, and is exclusive of 401k employer matching expenses. Active employee healthcare is based on actual healthcare premiums for Hawaii Water's employees. The portion allocated to KWSC is estimated using a four-factor allocation method. The test year calculation is based on the 2018 figures for pension and benefits because 2019 figures were not available at the time it prepared its application. The calculation will be updated with 2019 figures once they are available.

18

7

8

19 Fuel and Power

Purchased power expense varies with the amount of water pumped from wells or the amount of wastewater pumped from lift stations and treated at the wastewater treatment plant ("WWTP"). This expense was estimated by calculating a unit cost [\$ / kWh] of power for the test year and multiplying it by the expected kWh usage in the test year. A unit cost for purchased power was calculated by taking the ratio of recorded power cost and recorded power use for each year. The unit cost for the test year was estimated by taking a three-year average from 2016 to

⁴ <u>See, e.g., In re Kona Water Service Company, Inc.</u>, Docket No. 2013-0375, <u>In re West Hawaii Water Service</u> <u>Company, Inc.</u>, Docket No. 2017-0450, <u>In re West Hawaii Sewer Service Company, Inc.</u>, 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 production expense was estimated by taking a three-year average of recorded fuel for production. 4 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 – 2018 of CPI-adjusted recorded expenses. The following table summarizes chemical expense for 21 KWSC:

		Division	Chemicals	Exhibit Reference
		KWSC Water	\$114,012	KWSC Water 8.9
		KWSC Sewer	\$3,694	KWSC Sewer 8.8
2		Tal	ble 203. Chen	nical Expense.
3				
4	Details of chemicals	expense for each d	ivision can be	found in the corresponding Exhibits listed
5	in the table above.			
6				
7	Materials and Supp	lies		
8	Materials and	supplies expense i	s grouped usin	ng the following categories: treatment and
9	disposal, water treatm	nent and water qua	lity, transmiss	ion and distribution, collection, and
10	pumping. The test ye	ear materials and su	upplies expens	e for KWSC is calculated by taking a
11	three-year average fro	om 2016 – 2018 of	CPI-adjusted	recorded expenses. The following table
12	summarizes materials	and supplies expe	ense for KWS	2.
		Division	Materials and	Exhibit Reference
		Division 1	Materials and Supplies	Exhibit Reference
		Division I VSC Water		Exhibit Reference KWSC Water 8.10
	KV		Supplies	
13	KV	WSC Water VSC Sewer	Supplies \$1,961 \$8,966	KWSC Water 8.10 KWSC Sewer 8.9
13 14	KV	WSC Water VSC Sewer	Supplies \$1,961 \$8,966	KWSC Water 8.10
	KV	VSC Water VSC Sewer Table 204 .	Supplies \$1,961 \$8,966 Materials an	KWSC Water 8.10 KWSC Sewer 8.9 ad Supplies Expense.
14	KV	WSC Water WSC Sewer Table 204. nd supplies expens	Supplies \$1,961 \$8,966 Materials an	KWSC Water 8.10 KWSC Sewer 8.9
14 15	KV KV Details of materials an	WSC Water WSC Sewer Table 204. nd supplies expens	Supplies \$1,961 \$8,966 Materials an	KWSC Water 8.10 KWSC Sewer 8.9 ad Supplies Expense.
14 15 16	KV KV Details of materials an	WSC Water WSC Sewer Table 204. nd supplies expens	Supplies \$1,961 \$8,966 Materials an	KWSC Water 8.10 KWSC Sewer 8.9 ad Supplies Expense.
14 15 16 17	KV KV Details of materials an Exhibits listed in the t	WSC Water WSC Sewer Table 204. and supplies expens table above.	Supplies \$1,961 \$8,966 Materials an e for each div	KWSC Water 8.10 KWSC Sewer 8.9 ad Supplies Expense.
14 15 16 17 18	KW KW Details of materials an Exhibits listed in the t Waste Disposal Waste disposa	VSC Water VSC Sewer Table 204. and supplies expens table above.	Supplies \$1,961 \$8,966 Materials and e for each diven of fees for the	KWSC Water 8.10 KWSC Sewer 8.9 ad Supplies Expense.
14 15 16 17 18 19	KV KV Details of materials at Exhibits listed in the t Waste Disposal Waste disposa from the WWTP. The	VSC Water VSC Sewer Table 204. and supplies expens table above. I expense consists e test year waste di	Supplies \$1,961 \$8,966 Materials and e for each diven of fees for the sposal expense	KWSC Water 8.10 KWSC Sewer 8.9 ad Supplies Expense.

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 Water Service Company ("NMWSC"). CWSG's expenses are allocated to its subsidiaries based 11 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.

The direct charge method is used whenever CSS employees are assigned to specific business unit capital or operating projects. Using the direct charge method, CSS department employees' direct labor, benefits, business travel, and/or any other costs incurred are charged directly to business unit capital and expense projects each month. However, when it is not possible to use the direct charge method, the pooled cost method is used. The direct charge method cannot be used for services provided by CSS department employees that benefit two or more business units. These indirect CSS department costs are allocated to business units using 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 allocations from each of the shared functions departments previously mentioned. Beginning in 8 9 2013, a department called Public Company ("PubCo") was created to accumulate the respective expenses of the different CSS departments which are then allocated as a line item to the 10 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.

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.

The test year affiliated charges expense is based on a three-year average from 2016 –

2018 of the adjusted allocation. The following table summarizes affiliated charges expense forKWSC:

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.

	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	
7	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\$9,025KWSC 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	
18	Repairs and Maintenance
	<u>Repairs and Maintenance</u>
19	Repairs and maintenance expense is organized using the following categories: source of
19	Repairs and maintenance expense is organized using the following categories: source of
19 20	Repairs and maintenance expense is organized using the following categories: source of supply, pumping, water treatment, transmission and distribution, other production and

- 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	Exhibit Reference	
Maintenance			
KWSC Water	\$92,007	KWSC Water 8.14	
KWSC Sewer	\$108,633	KWSC Sewer 8.13	

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 <u>Rents</u>

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 Shopping Center in Waikoloa and the Waikoloa Base yard were allocated to KWSC. The 12 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.

Details of rental expense for each division can be found in the corresponding Exhibits listed in
 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

Table 210. Insurance Expense.

11

12

Details of insurance expense for each division can be found in the corresponding Exhibits listedin the table above.

15

16 **<u>Regulatory</u>**

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 expenses, which is based on a four-year rate cycle.⁶ The following table summarizes regulatory 23 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		Tal	ble 211. Regu	latory Expense.
2				
3	Details of regulator	y expense for each	division can b	e found in the corresponding Exhibits listed
4	in the table above.			
5				
6	General and Admi	<u>inistrative</u>		
7	General and	administrative exp	ense is organi	zed using the following categories: office
8	expense and miscel	laneous general and	l administrativ	e expense. Office supplies expense consists
9	of expenses related	to postage, telephor	ne expenses, s	tationary and printing, bank fees, travel and
10	incidental expense,	meals during travel	l, training and	seminars, conferences, and internal projects.
11	Test year general ar	nd administrative ex	cpense was est	imated by taking a three-year average from
12	2016 – 2018 of CPI	-adjusted recorded	expenses. Th	e following table summarizes general and
13	administrative expe	ense for KWSC:		
			General and	
]	Division	Administrativ	Exhibit Reference
	KV	VSC Water	\$33,343	KWSC Water 8.19
	KV	VSC 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**

Customer accounts expenses includes customer records, other stationary and print, 20

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

Table 213. Customer Accounts Expense.
Details of customer accounts expense for each division can be found in the corresponding
Exhibits listed in the table above.
Q. Does this conclude your testimony?

9 A. Yes, it does.

	k Capital Expresse	0% 0% 7% 0% 0% 0% 5 408,292 \$ 7,261	0% 0% 0% 0% 0% 0% 0% 0% 0% 5% 5% 0% 5% 10% 18% 0% 15% 15% 15% 15% 10% 15% 0% 0% 0% 15% 15% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	
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	DC (Direct Charge)/GA (General Allocation)			
	Descr	Utility Operator III Utility Operator I Utility Operator I Superintendent Utility Operator II Utility Operator II Foreman	Chemist GA WQ Laboratory Technician GA Uuliity Plant Operator III DC Cross Control Specialist DC Utility Worker PT (No benefits) DC Utility Worker PT (No benefits) DC Utility Worker Rep PT No Befefits GA Customer Service Ranager GA Customer Service Manager GA Customer Service Manager GA Customer Service Rep GA Customer Service Rep GA Costountant GA Costountant GA Customer Service Rep GA Engineering Manager GA Engineering Manage	
HWSC Payroll 2019 (estimate)	Name			
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Docket No. 2018-0388 Exhibit KWSC-T-201 Payroll Allocations Witness: Carrasco

Direct Charges	8	Allocation	etion	đ	act Charges	
Maul (710)) [Maul (710)	(710)	819	Big Island (720)	
	Indian	Kaanapali Pukalani Kaanapali	Putation	Walkaloe Watkar, Sewer and Resort	Kona Water Kona Sewe	Cona Sewa
100%	100%	74.31%	25.69%	100%	50%	50%

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	Coait	Kona Kona Kona Kona Kona Kona Kona Big Island Big Island Big Island Big Island Big Island Gen. Admin. Gen. Admin.	Wastewater Admin.
	DC (Direct Charge)/GA (General Allocation)		
	Descr	Utility Operator III DC Utility Operator I DC Utility Operator I DC Utility Operator I DC Utility Operator II DC Utility Operator II DC Utility Operator II DC Chemist GA WQ Laboratory Technician GA WQ Laboratory Technician DC Cross Control Specialist DC Utility Worker PT (No benefits) DC Utility Worker PT (No benefits) DC Utility Worker PT No Befefits GA Operations Clerk Canager GA Accountant GA Accountant GA Customer Service Ranager GA Accountant GA Elect. Mech. Technician GA Elect. Mech. Technician GA Elect. Mech. Technician GA	Mgr of Waste Water Systems
HWSC Payroll 2019 (estimate)	Name		
HWSC Payrol	DeptID	727 726 726 726 726 720 720 720 720 720 720 720 720 720 720	796

Docket No. 2018-0388 Exhibit KWSC-T-201 Payroll Allocations Witness: Carrasco

Allocation	rd (720)		oot Resort Kona Kona Sewer wer Inngation Water
1. March 199 (1997)	Big island (720)	Resort Resort Water Sever	
		Watter	R
		Group	
		ect GA Unit al Unit	
		DC (Direct Charge)/GA (General Allocation)	
		Desor	
HWSC Payroli 2019 (estimate)		Name	
HWSC Payroll		DeptID	

HRL	HRL		SAL	HRL	SAL	HRL	SAL	SAL	SAL	HRL	SAL	SAL	HRL	HRL	HRL	Admin. SAL	
Gen. Admin.	Gen. Admin.	Gen. Admìn.	Gen. Admin.	Gen. Admin.	Gen. Admin.	Gen. Admin.	Gen. Admin.	Gen. Admin.	Gen. Admin.	Gen. Admin.	Big Island	Gen, Admin.	Gen. Admin.	Gen. Admin.	Gen. Admin.	Wastewater Admin.	
GA	efits GA	GA	GА	GA	GA	GA	GA	GA	GA	GA	GA	ВA	GA	GA	GA	GA	
Customer Service Rep	Custmr Svrc Rep - PT No Befefits GA	Operations Clerk	Customer Service Manager	Operations Clerk	Accountant	Customer Service Rep	General Manager	Sr. Accountant	Accounting Manager	Business Analyst	Engineering Manager	Project Manager	Elect, Mech. Technician	Elect. Mech. Technician	Elect. Mech. Technician	Mgr of Waste Water Systems	
790	790	790	790	790	790	790	790	790	790	790	790	790	790	290	790	796	

Docket No. 2018-0388 Exhibit KWSC-T-201 Payroll Allocations Witness: Carrasco

HWSC Payroll 2019 (estimate)	9 (estimate)									Alocation				
									Hawall G	Hawall General Office (790)	(190)	9		
DeptID	Name	Descr	DC (Direct Charge)/GA (General Allocation)	Unit	Group	Kerna	Pukalani	Walkaloa Water	Walkaloa Sewer	Walkaloa Resort Water	Walkaloe Resort Sever	Walkaloa Resort Irrigation	Kona Watter Kona Server	la Serrer
						21.73%	1 6.87%	12.83%	10.02%	13.27%	18.18%	0.75%	10.56% 5	5.80%
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726/727		Superintendent	DC	Kona	SAL									
726		Utility Operator II	DC	Kona	HRL									
727		Utility Operator II	DC	Kona	HRL									
726/727		Foreman	DC	Kona	HRL									
			ċ		ļ									
/20		Chemist	GA	Big Island	нкг									
720		WQ Laboratory Technician	GA	Big Island	HRL									
720		Utility Plant Operator III	DC	Big Island	HRL									
720		Cross Control Specialist	DC	Big Island	HRL									
720		Utility Worker PT (No benefits)	DC	Big Island	HRL									
720		Utility Worker	DC	Big Island	HRL									
			č		Č									
06/		Customer Service Rep	CA	Gen. Admin.	HKL									
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067 790		Operations Grein Cristomer Service Manager	AD AD	Gen. Admin.	SAI									
062		Operations Clerk	GA	Gen. Admin.	HRL									
790		Accountant	GA	Gen, Admin.	SAL									
790		Customer Service Rep	GA	Gen. Admin.	HRL									
790		General Manager	GA	Gen. Admin.	SAL									
790		Sr. Accountant	GA	Gen. Admin.	SAL									
790		Accounting Manager	GA	Gen. Admin.	SAL									
790		Business Analyst	GA	Gen. Admin.	HRL									
790		Engineering Manager	GA	Big Island	SAL									
790		Project Manager	GA	Gen. Admin.	SAL									
790		Elect. Mech. Technician	GA	Gen. Admin.	HRL									
790		Elect, Mech, Technician	GA	Gen. Admin.	HRL									
06/		Elect. Mech. Jechnician	AD	Cen. Admin.	L Y L									

796

Wastewater Admin. SAL

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Mgr of Waste Water Systems

HWSC Payroli 2019 (estimate)

Group Unit DC (Direct Charge)/GA (General Allocation) Descr Name DeptID

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Utility Operator III Utility Operator I Utility Operator I Superintendent Utility Operator II Utility Operator II Foreman	Chemist WG Laboratory Technician Utility Plant Operator III Cross Control Specialist Utility Worker PT (No benefits) Utility Worker	Customer Service Rep GA Customer Service Rep PT No Befefits GA Operations Clerk GA Customer Service Manager GA Accountant Accountant Accountant Ga Accountant Ga Ga Sr. Accountant Ga Sr. Accountant Ga Business Analyst GA Elect. Mech. Technician GA Elect. Mech. Technician GA
727 726 726 726/727 726 726 727	720 720 720 720 720	062 062 062 062 062 062 062 062 062 062

Customer Service Rep	GA	Gen. Admin.	HRL
Custmr Svrc Rep - PT No Befefits GA	fits GA	Gen. Admin.	HRL
Operations Clerk	GA	Gen. Admin.	HRL
Customer Service Manager	GA	Gen. Admin.	SAL
Operations Clerk	GA	Gen. Admin.	HRL
Accountant	GA	Gen. Admin.	SAL
Customer Service Rep	GA	Gen. Admin.	HRL
General Manager	GA	Gen, Admin.	SAL
Sr. Accountant	GA	Gen. Admin.	SAL
Accounting Manager	GA	Gen. Admin.	SAL
Business Analyst	GA	Gen. Admin.	HRL
Engineering Manager	GA	Big Island	SAL
Project Manager	GA	Gen. Admin.	SAL
Elect. Mech. Technician	ВA	Gen. Admin.	HRL
Elect. Mech. Technician	GA	Gen. Admin.	HRL
Elect. Mech. Technician	Ч	Gen. Admin.	HRL

13.10% Kona 45.16% Walkaloe Resort Sewar (961) 24.52% Walkaloa Sewer Weste 17.22% Pukalani

Allocation

796

SAL

Wastewater Admin.

GA

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

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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	Intro	oduction
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	Wate	er Service Company, Inc. ("Hawaii Water"). Kona Water Service Company ("KWSC") is a
8	whol	ly-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	Adm	inistration ("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 al	lso a licensed Professional Electrical Engineer in Arizona. My Operators Certification
17	inclu	des Hawaii Department of Health Wastewater Treatment Operator IV, Water Distribution
18	Oper	ator IV, and Water Treatment Operator II. I also hold a certificate as a Certified Public
19	Mana	ager 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	work	ed as a Construction Manager for various engineering firms. I worked as a Division
22	Mana	ager for the Town of Oro Valley, AZ from 1999 to 2001. From 2001 to 2006, I worked as
23	the P	ublic Works/Utility Director for the Town of Sahuarita, AZ. I worked as the City Manager
24	for th	e City of Benson, AZ from 2006 to 2008. From 2009 to 2014, I worked as the General
25	Mana	ager for the Guam Waterworks Authority. My previous position with Hawaii Water as
26	Assis	stant General Manager was from $2014 - 2018$. I have been in my current position as Capital
27	Deliv	very 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	<u>Capit</u>	al Improvement Projects and System Descriptions
6	Q.	Please describe the capital improvements that have been made by KWSC since its
7	last ra	ate 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 Te	est Year. Exhibit KWSC-T-301 provides a description and justification for each capital
11	impro	vement project greater than \$25,000.
12		
13	Q.	Please describe KWSC's water system, water treatment plant, wastewater system,
14	and w	vastewater treatment plant.
15	A.	By way of background, the following are descriptions of KWSC's water system, water
16	treatm	nent plant, wastewater system, and wastewater treatment plant to which the capital projects
17	descri	bed 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 T	ank B. Tanks A and B both hold 500,000 gallons at an elevation of 1,600 feet with a
24	combi	ned storage of 1 million gallons. Booster B pumps to Tank #1 from Tanks A and B at an
25	elevat	ion of 1,815 feet. HR-5 pumps into the transmission system downstream of Tank #1. Tank
26	#1 gra	wity 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.	

After flowing through the RO Plant, the treated potable water is stored onsite in a
 500,000 gallon tank at an elevation of 620 feet. The water then gravity flows to two tanks,
 1,000,000 gallons and 500,000 gallons, with a combined storage of 1.5 million gallons adjacent
 to each other at an elevation of 312 feet. As noted above, water from these tanks serve the
 Kukio, Maniniowale, Stroud, and Makalei communities.

6

7 <u>Reverse Osmosis ("RO") Water Treatment Plant ("RO Plant")</u>

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.

The overall primary purpose of the RO System is to remove dissolved salts/minerals, suspended particles and organic matter from the feed water. The RO System is a single pass unit. The RO membrane elements are spiral wound, thin film composite type. The RO membrane elements are housed inside pressure vessels. One to seven RO elements are arranged 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

the RO membrane is not retired prematurely. The pre-filter is a basic filter system similar to the
 function of a coffee filter, except the pre-filter requires pressure to drive the high head-loss
 across the filter.

The purpose of the Blending System is to add back some dissolved minerals to the post
RO-treated high-purity water to improve the taste of the potable water and to augment final
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.

The Degasification System removes carbon dioxide from the process stream. Carbon dioxide can be naturally occurring in the water source or can form when acid is dosed into the feed water for pH control. The degasification system consists of two tall cylindrical towers. Each tower is packed with a bed of plastic packing material. The water is pumped to the top of each tower and allowed to cascade down the packing material while a draft of forced air is introduced by a blower from the bottom of the tower. This process removes carbon dioxide.

A train is a bank of pressure vessels that houses the RO membranes. Each train consists
 of 12 pressure vessels connected in parallel. Each pressure vessel directs pressurized water
 through seven RO membranes connected in series providing 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.

26

27 <u>Wastewater System</u>

The KWSC wastewater system consists of gravity sewer mains, numerous sewer
manholes, and nine Sewer Pump Stations ("SPS") to collect and transport domestic wastewater
to the Kukio Wastewater Treatment Facility ("Kukio WWTP"). Two of the nine stations 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 pump stations consists of two submersible wastewater pumps mounted on a rail system in a wet well. This configuration is ideal for 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 technology is a hybrid of Moving Bed Bioreactor ("MBBR") and Rotating Biological Contactor 23 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.

Q. Please describe the importance of replacing pumping equipment in KWSC's well
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.

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KWSC WATER PROJECTS (726)

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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
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Pre-Filter Pressure Vessel (WO 93477)	\$ 79,690	2016	11
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Junction Boxes for Pump Leads (WO 118150)	\$ 82,586	2019	15
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KWSC WASTEWATER PROJECTS (727)

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WWTP Drums Replacement (WO 11439)	\$424,061	2018	23
SCADA Computer & Software (WO 112032)	\$ 27,511	2019	24
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SHARED PROJECTS			
SHARED PROJECTS Project Description & Work Order Number	<u>Cost</u>	<u>Year</u>	Page
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Project Description & Work Order Number 726 & 727 – Kukio Office Expansion (WO 67610) 720 - SCADA Vulnerability Assessment 790 - SCADA Upgrade 2018	\$132,000 \$ 41,804 <u>\$ 78,082</u>	2019	26

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 value, 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	\$1	39,329.77
Capitalized Interest	\$	11,42.17
BNS Reclass	\$	2.26
Overhead	\$	5,602.09
Labor	\$	2,496.74
Other	\$	49.99
Total	\$1	48,623.02

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 or1985. 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 04/20/2017at a total cost of \$94,198. The total project cost is broken down in the table below.

HR2 Well Pump	\$ 84,604.79
Replacement	
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	\$ 68,541.23
Equipment	
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	\$202,604.38
Equipment	
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	\$49,808.02
Transformer	
Capitalized	\$1.01
Interest	
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	\$ 74,171.70
Vessel	
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	\$ 12,499.92
Platform	
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 16inch 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 tanks 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	\$ 29,350.44
Replacement	
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	\$ 17,900
Vessel Change	
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 Project114439 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	\$277,227.77
Replacement	
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	\$34,065.51
Vulnerability	
assessment	
Capitalized	\$312
Interest	
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

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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.	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.
			Public disclosure of this confidential information could disadvantage Applicant's parent company in any future negotiations for the acquisition of other utilities.
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

SS.

STATE OF California COUNTY Santa Clara

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: <u>February</u>, <u>22</u>, ,2019. PAUL TOWNSLEY

Subscribed and sworn to before me this 22 day of Februar/2019

alifornia 1-21-2021 Notary Public, State of My commission expires:



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

1 COPY VIA U.S. MAIL

THE HONORABLE HARRY KIM Mayor County of Hawaii 25 Aupuni Street Hilo, Hawaii 96720

DATED: Honolulu, Hawaii, February 28, 2019.

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