

**GUAM WATERWORKS AUTHORITY  
(A COMPONENT UNIT OF THE  
GOVERNMENT OF GUAM)**

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**FINANCIAL STATEMENTS,  
ADDITIONAL INFORMATION AND  
INDEPENDENT AUDITORS' REPORT**

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**YEARS ENDED SEPTEMBER 30, 2018 AND 2017**

**(AS RESTATED)**

## **INDEPENDENT AUDITORS' REPORT**

Commissioners  
Consolidated Commission on Utilities:

### **Report on the Financial Statements**

We have audited the accompanying financial statements of Guam Waterworks Authority (GWA), a component unit of the Government of Guam, which comprise the statements of net position as of September 30, 2018 and 2017, and the related statements of revenues, expenses, and changes in net position and of cash flows for the years then ended, and the related notes to the financial statements.

### **Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

### **Auditors' Responsibility**

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

## Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Guam Waterworks Authority as of September 30, 2018 and 2017, and the results of its operations and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

## Emphasis-of-Matter

As discussed in Note 2 to the financial statements, in 2018, GWA adopted Governmental Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. As a result of adopting this standard, GWA has elected to restate its 2017 financial statements to reflect the adoption of this standard. Our opinion is not modified with respect to this matter.

## Other Matters

### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis on pages 4 through 11 as well as the Schedule of Proportionate Share of the Net Pension Liability on pages 49 through 51, the Schedule of Pension Contributions on page 52, the Schedule of Changes in the Proportionate Share of the Total OPEB Liability and Related Ratios on Page 53, the Schedule of Proportionate Share of the Total OPEB Liability on page 54, and the Schedule of OPEB Contributions on page 55 be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by GASB who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

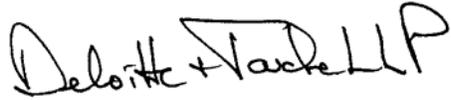
### *Other Financial Information*

Our audits were conducted for the purpose of forming an opinion on the financial statements as a whole. The Schedule of Certain Operating and Maintenance Expenses, the Schedule of Construction Work in Progress, the Schedules of Net Position, Revenue, Expenses and Changes in Net Position for the System Development Charge Fund, and the Schedule of Operating Revenues on pages 56 through 59 are presented for purposes of additional analysis and are not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. Such information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, such additional information on pages 56 through 59 is fairly stated, in all material respects, in relation to the financial statements as a whole.

The Schedule of Employee and Other Data on page 60 has not been subjected to the auditing procedures applied in the audit of the financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

## Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated March 27, 2019, on our consideration of GWA's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of GWA's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering GWA's internal control over financial reporting and compliance.

A handwritten signature in black ink that reads "Deloitte + Tuck LLP". The signature is written in a cursive, slightly stylized font.

March 27, 2019

**GUAM WATERWORKS AUTHORITY**  
**(A Component Unit of the Government of Guam)**

Management's Discussion and Analysis  
September 30, 2018 and 2017

As management of the Guam Waterworks Authority (GWA), we offer readers of GWA's financial statements this narrative overview and analysis for the fiscal year ended September 30, 2018. We encourage readers to consider the information presented here and in our basic financial statements, which begins on page 12.

**Overview of the Financial Statements**

This discussion and analysis is intended to serve as an introduction to the GWA's basic financial statements. GWA's basic financial statements are for a single proprietary fund and include the financial statements, notes to those financial statements and other supplementary and statistical information.

**Proprietary Fund Financial Statements**

GWA's operations are accounted for as a single proprietary fund using the full accrual basis of accounting. In this regard, GWA operations are accounted for in a manner similar to a private enterprise. Within this one proprietary fund, GWA segregates revenues and expenses for various purposes such as operations, debt service and capital improvements, but that segregation does not create separate proprietary funds.

**Notes to the Financial Statements**

The notes provide additional information that is essential to a full understanding of the data provided in the financial statements. The notes to the financial statements can be found beginning on page 17 of this report.

**Other Information**

In addition to the basic financial statements and accompanying notes, this report also presents supplementary and statistical information. Supplementary and statistical information can be found beginning on page 49 of this report.

**Financial Condition and Results**

The Authority's total net position increased by \$24.8 million during the fiscal year (see table below) primarily due to the \$23.2 million in operating income.

The net increase in property, plant and equipment of \$90.1 million is due primarily to on-going construction projects related to wastewater treatment plant replacement, transmission lines, reservoir replacements, booster pump upgrades, sewer line rehabilitation/replacements, deep well rehabilitations, acquisition of mechanical and electrical equipment and general plant improvements.

The Authority's net investment in capital assets represents 148.3% of total net position. The net amount invested in capital assets increased by \$25.5 million compared to prior year.

*GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, which replaces the requirements of Statements No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, as amended, and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple Employer Plans*, and provides guidance on reporting by governments that provide OPEB to their employees and for governments that finance OPEB for employees of other governments. The implementation of this statement had a material effect on the accompanying financial statements resulting in the restatement of GWA's 2017 financial statements to reflect the reporting of an OPEB liability, deferred inflows of resources and deferred outflows of resources for its OPEB program and the recognition of OPEB expense in accordance with the provisions of GASB Statement No. 75. Refer to note 2 for cumulative change and Note 9 for details of GASB No. 75.

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**Summary Statement of Net Position**

	September 30,	September 30,	<u>2018 to 2017 Comparison</u>		September 30,
	<u>2018</u>	<u>2017</u> <u>(As Restated)</u>	<u>Increase/</u> <u>(Decrease)</u>	<u>%</u> <u>Change</u>	<u>2016</u> <u>(As Restated)</u>
Current and other assets	\$ 315,973,947	\$ 374,191,577	\$ (58,217,630)	-15.56%	\$ 402,532,025
Property, plant and equipment, net	549,691,352	459,580,691	90,110,661	19.61%	387,543,998
Deferred outflows of resources	<u>26,101,676</u>	<u>16,853,950</u>	<u>9,247,726</u>	54.87%	<u>8,216,190</u>
Total assets and deferred outflows	<u>\$ 891,766,975</u>	<u>\$ 850,626,218</u>	<u>\$ 41,140,757</u>	4.84%	<u>\$ 798,292,213</u>
Current and other liabilities	\$ 178,288,295	\$ 176,761,197	\$ 1,527,098	0.86%	\$ 148,718,319
Long-term debt	538,644,643	533,892,880	4,751,763	0.89%	542,555,912
Deferred inflows of resources	<u>10,599,064</u>	<u>550,694</u>	<u>10,048,370</u>	1824.67%	<u>174,281</u>
Total liabilities and deferred inflows	<u>727,532,002</u>	<u>711,204,771</u>	<u>16,327,231</u>	2.30%	<u>691,448,512</u>
Net Position:					
Net investment in capital assets	243,581,010	218,057,386	25,523,624	11.71%	185,367,498
Restricted	17,679,328	18,481,379	(802,051)	-4.34%	18,266,223
Unrestricted	<u>(97,025,365)</u>	<u>(97,117,318)</u>	<u>91,953</u>	-0.09%	<u>(96,790,020)</u>
Total net position	<u>164,234,973</u>	<u>139,421,447</u>	<u>24,813,526</u>	17.80%	<u>106,843,701</u>
Total liabilities, deferred inflows and net position	<u>\$ 891,766,975</u>	<u>\$ 850,626,218</u>	<u>\$ 41,140,757</u>	4.84%	<u>\$ 798,292,213</u>

Operating income decreased 4.0% from the previous year, from \$24.2 million to \$23.2 million in FY2018. GWA saw operating revenues increase from \$104.4 million to \$107.6 million in FY2018, or approximately 3.1%, while on the other hand, operating expenses increased from \$80.2 million to \$84.4 million in FY2018, or a 5.2% increase from the previous year.

Total water revenues increased by \$2.7 million or 4.0% over the prior fiscal year. Residential customers accounted for most of the increase in FY2018.

Total wastewater revenues increased by \$1.3 million or 3.3% over the prior fiscal year, due primarily to an increase in revenue from the Federal customer class.

Operating expenses are generally driven by power, water purchases, salaries expenses, and depreciation. These expenses account for almost 73% of O&M expenses. The table below illustrates the changes among major cost components.

- Operating expenses increased by \$4.2 million or 5.2% over the prior fiscal year for nearly all expense categories. Notably, power expenses increased by \$2.6 million due to a combination of; (1) approximately 1.8 million additional kwh of power purchased and (2) a 15.6% increase in GPA's tariff and Navy water purchases increased by \$1.4 million due to a combination of; (1) approximately 37.7 thousand additional kgals of water purchased and (2) a 13.8% increase in the Navy's tariff. Depreciation expense shows the second most significant increase over FY2018, at \$2.5 million.
- As a result of the restatement, OPEB expense accounts for about 8-10% of O&M expenses. In FY2017, OPEB expense was \$7.8 million and decreased to approximately \$6.8 million in FY2018, a 13.1% decrease.
- Net non-operating revenues decreased slightly by \$0.9 million while interest expense decreased by \$0.7 million.

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A comparative analysis of Revenues, Expenses and Changes in Net Position, FY2016 – FY2018, is illustrated in the Table below:

**Results of Operations/Statement of Revenues, Expenses and Changes in Net Position**

	September 30, 2018	September 30, 2017 (As Restated)	2018 to 2017 Comparison		September 30, 2016 (As Restated)
			Increase/ (Decrease)	% Change	
<b>Revenues:</b>					
Water	\$ 69,261,559	\$ 66,573,958	\$ 2,687,601	4.04%	\$ 66,941,486
Wastewater	39,956,903	38,676,388	1,280,515	3.31%	38,953,665
Other	519,529	435,514	84,015	19.29%	519,898
Bad debts	<u>(2,162,950)</u>	<u>(1,316,397)</u>	<u>(846,553)</u>	64.31%	<u>(1,034,310)</u>
Total operating revenue	<u>107,575,041</u>	<u>104,369,463</u>	<u>3,205,578</u>	3.07%	<u>105,380,739</u>
<b>Expenses:</b>					
Power purchases	14,686,486	12,076,262	2,610,224	21.61%	11,225,884
Water purchases	8,684,974	7,309,125	1,375,849	18.82%	6,374,035
Sludge (waste) disposal fees	1,507,654	1,685,842	(178,188)	-10.57%	1,565,080
Salaries, wages and benefits	18,534,508	19,697,917	(1,163,409)	-5.91%	19,856,213
Depreciation	19,280,249	16,824,455	2,455,794	14.60%	15,348,101
Administrative and general	8,072,979	7,300,127	772,852	10.59%	7,008,883
Contractual	5,036,651	4,087,429	949,222	23.22%	4,117,122
Retiree healthcare costs and other benefits	<u>8,548,967</u>	<u>11,187,439</u>	<u>(2,638,472)</u>	-23.58%	<u>3,348,262</u>
Total operating expenses	<u>84,352,468</u>	<u>80,168,596</u>	<u>4,183,872</u>	5.22%	<u>68,843,580</u>
Operating income	23,222,573	24,200,867	(978,294)	-4.04%	36,537,159
Non-operating revenues (expenses), net	12,880,286	13,739,609	(859,323)	-6.25%	9,793,775
Less: Interest Expense	<u>(26,498,040)</u>	<u>(27,173,760)</u>	<u>675,720</u>	-2.49%	<u>(24,641,647)</u>
Total non-operating revenues (expenses), net	<u>(13,617,754)</u>	<u>(13,434,151)</u>	<u>(183,603)</u>	1.37%	<u>(14,847,872)</u>
Income before capital contributions	9,604,819	10,766,716	(1,161,897)	-10.79%	21,689,287
Capital contributions	<u>15,208,707</u>	<u>21,811,030</u>	<u>(6,602,323)</u>	-30.27%	<u>5,488,862</u>
Change in net position	24,813,526	32,577,746	(7,764,220)	-23.83%	27,178,149
Net position - beginning year	139,421,447	106,843,701	32,577,746	30.49%	155,375,182
Restatement of beginning net position	<u>-</u>	<u>-</u>	<u>-</u>	0.00%	<u>(75,709,630)</u>
Net position - end of year	<u>\$ 164,234,973</u>	<u>\$ 139,421,447</u>	<u>\$ 24,813,526</u>	17.80%	<u>\$ 106,843,701</u>

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The tables below illustrate the distribution of revenues among major customer classes:

**Annual Water Revenues (Excluding System Development Charges)**

<u>Class Type</u>	<u>2018 to 2017 Comparison</u>				
	<u>FY18</u>	<u>FY17</u>	<u>Increase</u> <u>(Decrease)</u>	<u>% Change</u>	<u>FY16</u>
Agricultural	\$ 460,076	\$ 395,449	\$ 64,627	16%	\$ 431,606
Golf Course	48,567	80,243	(31,676)	-39%	97,990
Commercial	13,667,485	13,962,171	(294,686)	-2%	13,736,890
Federal	31,502	39,532	(8,030)	-20%	38,497
Government	6,572,048	6,297,642	274,406	4%	6,360,728
Hotel	13,802,981	13,499,695	303,286	2%	13,116,414
Irrigation	49,457	60,821	(11,364)	-19%	59,481
Residential	34,100,450	31,807,345	2,293,105	7%	32,457,312
<b>TOTAL</b>	<b>\$ 68,732,566</b>	<b>\$ 66,142,898</b>	<b>\$ 2,589,668</b>	<b>3.92%</b>	<b>\$ 66,298,918</b>

**Annual WasteWater Revenues (Excluding System Development Charges)**

<u>Class Type</u>	<u>2018 to 2017 Comparison</u>				
	<u>FY18</u>	<u>FY17</u>	<u>Increase</u> <u>(Decrease)</u>	<u>% Change</u>	<u>FY16</u>
Commercial	\$ 8,735,533	\$ 8,588,060	\$ 147,473	2%	\$ 8,046,990
Federal	6,322,371	5,610,218	712,153	13%	6,580,018
Government	3,800,155	3,533,788	266,367	8%	3,375,762
Hotel	11,937,462	11,684,107	253,355	2%	11,698,441
Residential	8,619,390	8,819,329	(199,939)	-2%	8,466,690
<b>TOTAL</b>	<b>\$ 39,414,911</b>	<b>\$ 38,235,502</b>	<b>\$ 1,179,409</b>	<b>3.08%</b>	<b>\$ 38,167,901</b>

As reported on the Statements of Net Position, the Authority's total net position increased by \$24.8 million during the fiscal year due mainly to net investment in capital assets.

Management's Discussion and Analysis for the year ended September 30, 2017 is set forth in GWA's report on the audit of financial statements which is dated April 18, 2018. That Discussion and Analysis explains in more detail major factors impacting the 2017 financial statements. A copy of that report can be obtained by contacting the CFO.

**Capital Assets**

The Authority had \$549.7 million (net of accumulated depreciation) invested in a broad range of utility capital assets as of September 30, 2018. The investment in capital assets includes building improvements, water treatment plants, water transmission and distribution mains, sewer lines, water reservoirs, pump stations, wastewater treatment facilities, deep wells, meter replacements, fire hydrant replacements, machinery and equipment (see Table below).

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In the current fiscal year 2018, capital assets increased by \$90.1 million (net) or 19.6% over the prior fiscal year. The increase is attributable to ongoing major capital improvement projects associated with a 2011 Federal Court Order and GWA's five-year (FY16 to FY20) Capital Improvement Plan.

The Authority's revenue, long-term debt, and grant-in-aid are used to finance capital investments.

This year's major capital additions included:

WASTE WATER

Southern District Wastewater	\$ 5,146,000
Northern District Wastewater	1,847,000
Sewerline Rehabilitation and Replacement	<u>5,613,000</u>
	<u>\$ 12,606,000</u>

WATER

Tank Repair & Replacement Program	\$ 8,680,000
Deepwell Rehab and New Wells Sites	7,031,000
New Compliance Laboratory	4,458,000
Land Acquisitions	2,570,000
Line Replacement	1,806,000
General Plant Improvements	1,189,000
Mechanical/Electrical Equipment	<u>707,000</u>
	<u>\$ 26,441,000</u>

In addition, the following major projects are still under construction:

Agat – Santa Rita Wastewater Treatment Plant Replacement	\$ 32,358,000
Baza Garden WW Cross Island Pumping and Conveyance	22,281,000
Island Wide Water Reservoirs	17,681,000
Umatac – Merizo Wastewater Systems	<u>7,910,000</u>
	<u>\$ 80,230,000</u>

**Capital Assets, Net of Accumulated Depreciation**

	September 30, 2018	September 30, 2017	2018 to 2017 Comparison		September 30, 2016
			Increase (Decrease)	% Change	
Plant, buildings and equipment, net	\$ 367,566,306	\$ 346,773,806	\$ 20,792,500	6.00%	\$ 305,412,149
Land	3,681,120	1,110,998	2,570,122	231.33%	254,288
Construction in progress	<u>178,443,926</u>	<u>111,695,887</u>	<u>66,748,039</u>	59.76%	<u>81,877,561</u>
Total	<u>\$ 549,691,352</u>	<u>\$ 459,580,691</u>	<u>\$ 90,110,661</u>	19.61%	<u>\$ 387,543,998</u>

For additional information concerning capital assets, please refer to Note 5 to the financial statements.

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**Debt**

As of September 30, 2018, the Authority had total long-term debt outstanding of \$505.3 million, which is a decrease of \$9.7 million or -1.9% over the prior year. In 2018, the Authority refinanced that 2010 Bond series through a refunding bond issue that resulted in defeasance of the 2010 Bond.

The Authority is required by bond covenants to maintain principal, interest, and reserve funds for the bond issue outstanding. In addition, the Authority is required to set rates and charges to yield revenues equal to at least 125% of the current annual debt service requirements of the outstanding 2010, 2013, 2014, 2016, and 2017 revenue bond series. The Public Utilities Commission sets the requirement at 175%.

Moody's Investor Services, Fitch Rating and Standard & Poor's assigned a rating of Baa2, BBB-, and A-, respectively, to GWA's Water and Wastewater Revenue Bonds. The ratings are important benchmarks of issuer's ability to meet its financial obligation. Each rating agency incorporates a rating scale indicating credit quality of the issuer. The scales are comprised of alphabetical symbols such as "AAA", "AA", "A", "BBB", "BB", "B" etc. For example, categorical ratings in the "AAA", "AA" and "A" range denote high credit quality meaning the issuer has a high capacity to meet its financial commitments whereas categorical rating in the "BBB", "BB" and "B" range denote average credit quality. The lower the number of alpha characters assigned indicates the issuer is more susceptible to adverse effects or changes in circumstances and economic conditions than those with a higher number of alpha characters.

**Long-Term Debt**

	September 30, 2018	September 30, 2017	2018 to 2017 Comparison		September 30, 2016
			Increase (Decrease)	% Change	
2010 Bond Series	\$ 3,695,000	\$ 114,525,000	\$ (110,830,000)	-96.77%	\$ 116,180,000
2013 Bond Series	172,630,000	172,630,000	-	0.00%	172,630,000
2014 Refunding Bond Series	72,520,000	75,995,000	(3,475,000)	-4.57%	79,380,000
2016 Bond Series	143,310,000	143,310,000	-	0.00%	143,310,000
2017 Refunding Bond Series	107,660,000	-	107,660,000	100.00%	-
Bank Notes	5,529,024	8,571,487	(3,042,463)	-35.50%	11,452,191
Total	<u>\$ 505,344,024</u>	<u>\$ 515,031,487</u>	<u>\$ (9,687,463)</u>	<u>-1.88%</u>	<u>\$ 522,952,191</u>

For more information concerning debt, please refer to Note 6 to the financial statements.

**Looking Forward**

**Outlook, Challenges, and Opportunities**

GWA management looks forward to continuing improvements in water and wastewater system performance and reliability that have been achieved over the past several years, and which are still needed to achieve full regulatory compliance, improve levels of service to our ratepayers, and set the groundwork for gains in efficiency which will keep our services affordable. The following demonstrate the Authority's commitment to thoughtful planning, intelligent investment of resources, and innovative initiatives to achieve needed capital improvements, improve operational performance, better manage regulatory compliance, and provide better service to our ratepayers

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**2018 Water Resource Master Plan**

In 2018, the CCU approved the adoption of the 2018 Water Resource Master Plan update, which outlines the Authority's 20-year planning projections, enterprise considerations, updated goals and objectives, and the Capital Improvement Program (CIP) needed to upgrade, maintain and sustain the GWA Water and Wastewater Systems. The Master Plan also contains the financial plan and model necessary to support the CIP and programmatic maintenance and improvement initiatives over the 20-year planning period. The 2018 WRMP integrates the in-progress and remaining planned capital projects from the previous 2006 master plan (approximately 40% completed, and 45% in-progress/pending), and sets new capital improvement projects needed to keep GWA a well-run utility well into the future. This 20-year plan is intended to be implemented in 5-year increments, with the development of GWA's 5-year Capital Improvement Program and Rate Plan. Each 5-year CIP & Rate Plan is an opportunity for the Authority to make step-wise improvements in reliability, performance and compliance, continuing the upward trend in these areas that GWA has demonstrated in years past.

**Non-Revenue Water**

One of the Authority's most challenging issues is non-revenue water. According to the latest figures, approximately 58% of water produced annually is not consumed or contributing to GWA's revenue, due to either water losses (leaks, breaks), unauthorized or unbilled consumption. Leaks for the most part account for the largest source of non-revenue water and GWA has expanded its on-going water loss control program, adding a pressure zone re-alignment program, district metering, and advanced leak detection techniques, in addition to traditional leak detection methods to help reduce non-revenue water. A substantial amount of work and resources have been allotted to the distribution system to improve and optimize the Authority's loss prevention program. This includes such efforts as the prioritization and acceleration of leak repairs (backlog reduced by more than 90% in the last 2 years), the rehabilitation and upgrades of main lines; the installation of monitoring and measuring devices (i.e. master flow meters, production meters) to accurately measure water production and demand in water service areas, and pressure management, which aims to monitor and correctly align water pressure within each service area of the system to avoid over-pressurization that can lead to main breaks, increased line leakage, and more frequent pipe repairs/replacement. Most recently, GWA is currently pilot-testing satellite-based leak detection which uses advanced satellite imaging to detect potable water leaks within the GWA service area. The Authority will continue to make improvements in operations and proactively manage water loss, enhance leak detection efforts, and improve its leak repair performance.

**Capital Project Risk**

The improvement of GWA's performance relies in large part on the success of Capital Projects, the priority of which is apparent based on the on-going significant investments required by a 2011 Federal Court Order (CO), regulatory mandates and policy statements defined by the CCU, such as the adoption of the 2018 Water Resource Master Plan. There continues to be tremendous pressure to deliver and meet targets for system improvements, especially in relation to court order requirements and deadlines tied to grant funded projects. GWA has successfully worked with the Department of Defense to avail its projects and contractors of allowable H-2B visa allotments associated with military build-up projects under the National Defense Authorization Act. However, GWA continues to see the effects of the H-2B visa issue decreasing availability of foreign workers. The 2016 USCIS decision to no longer accept H-2B visa applications or renewals, and the more recent decision affecting regional sources of foreign-labor poses challenges for the local construction industry and has led to construction delays, increased construction costs and fewer bidders for GWA projects due to the size and complex nature of GWA's projects. GWA continues to work with engineers and contractors in utilizing alternative construction methods to increase the use of pre-fabricated components, but it has yet to replace or eliminate the need for skilled labor. GWA and contractors are working with each other to find ways to address the shrinking H-2B labor pool and prevent schedule delays and disruption.

**GUAM WATERWORKS AUTHORITY**  
**(A Component Unit of the Government of Guam)**

Management's Discussion and Analysis  
September 30, 2018 and 2017

**Metering Challenges**

GWA has seen short-term effects of a defective meter issue for a limited number of GWA's residential meter inventory. The Authority has stepped up meter testing and replacement efforts, and is phasing out the problematic meter model from its distribution system. The effect of the meter issue has been a reduction in projected revenues, requiring corresponding adjustments to expenditures. A related effect has been to negatively offset gains made in water loss control, by showing an artificial decrease in consumption figures in GWA's annual water audit calculations. The challenge moving forward will be to quickly replace the remaining defective meter model in our inventory, to which GWA has assigned additional personnel and resources.

**Court Order Compliance**

The CCU and Authority remain focused on meeting the requirements of the 2011 Federal Court Order and have made considerable progress in the execution of mandatory rehabilitation, repair and construction projects. GWA has also instituted an asset management and maintenance program to ensure capital investment is not squandered, and system performance does not deteriorate resulting in CWA and or SDWA violations. The 2011 Court Order establishes deadlines for completing outstanding projects that were identified in a previous Stipulated Order originally issued in 2003 and subsequently amended in 2004 and 2006. GWA continues to work collaboratively with U.S. EPA and is maintaining a strong compliance record. Of 93 Court Ordered projects/requirements, 90 (96.8%) are completed or on-schedule for completion by the relevant deadlines, with only 3 projects either remaining or behind schedule for completion. It has been over seven years since the utility has been fined by U.S. EPA for not meeting mandated deadlines.

**Secondary Treatment**

EPA issued new NPDES permits for the Northern District and Hagatna WWTPs that became effective on June 1, 2013. The new NPDES permits include secondary treatment standards, some of which the existing WWTPs are unable to meet until a secondary treatment process is implemented. The WWTPs are currently meeting the requirements of the Court Order with chemically enhanced primary treatment, but are not in compliance with the secondary treatment standards and will require significant upgrades to comply with the permit. GWA continues discussions with EPA regarding the timing of upgrades required for the Hagatna WWTP.

GWA is on schedule to complete secondary treatment upgrades at the NDWWTP by December 2021. In the fall of 2016, the Department of Defense (DOD), through the Office of Economic Adjustment (OEA), awarded the Authority grants totaling \$55.3 million to initiate projects associated with the design and construction of improvements needed to bring the Northern District WWTP to full secondary treatment capability. In late 2017, the Authority received an additional grant award totaling \$117.9 million for construction of wastewater improvements related to the build-up. The NDWWTP secondary treatment upgrades have been designed (90% complete), and a contract for preliminary site-work construction has been awarded. The complete upgrade construction package is currently under procurement and slated for award by mid-year 2019.

**Request for Information**

This financial report is to provide interested parties with a general overview of GWA's finances. If you have any questions about this report or need additional information, you may submit a request in writing to: Chief Financial Officer (CFO), Guam Waterworks Authority, 578 N. Marine Corp Drive, Tamuning, GU 96913, or telephone (671) 300-6862.

**GUAM WATERWORKS AUTHORITY**  
**(A Component Unit of the Government of Guam)**

Statements of Net Position  
September 30, 2018 and 2017

<u>ASSETS AND DEFERRED OUTFLOWS OF RESOURCES</u>	<u>2018</u>	<u>2017</u> (As Restated)
Current assets:		
Cash and cash equivalents:		
Unrestricted	\$ 3,094,379	\$ 4,873,275
Restricted	66,805,781	65,124,401
Receivables, net	21,778,609	23,884,177
Materials and supplies inventory, net of an allowance for obsolescence of \$64,131 and \$457,370 at September 30, 2018 and 2017, respectively	3,342,557	2,166,557
Prepaid expenses	<u>677,828</u>	<u>551,127</u>
Total current assets	<u>95,699,154</u>	<u>96,599,537</u>
Property, plant and equipment:		
Utility plant in service:		
Water system	348,812,303	327,484,191
Wastewater system	300,053,427	286,394,940
Non-utility property	<u>21,720,023</u>	<u>18,938,255</u>
	670,585,753	632,817,386
Less accumulated depreciation	<u>(303,019,447)</u>	<u>(286,043,580)</u>
	367,566,306	346,773,806
Land	3,681,120	1,110,998
Construction work in progress	<u>178,443,926</u>	<u>111,695,887</u>
Property, plant and equipment, net	<u>549,691,352</u>	<u>459,580,691</u>
Other noncurrent assets:		
Restricted cash and cash equivalents	<u>220,274,793</u>	<u>277,592,040</u>
Total assets	<u>865,665,299</u>	<u>833,772,268</u>
Deferred outflows of resources:		
Debt defeasance loss on refunding	12,810,787	1,695,980
Deferred outflows from pension	4,220,075	4,929,958
Deferred outflows from OPEB	<u>9,070,814</u>	<u>10,228,012</u>
Total deferred outflows of resources	<u>26,101,676</u>	<u>16,853,950</u>
Total assets and deferred outflows of resources	<u>\$ 891,766,975</u>	<u>\$ 850,626,218</u>

See accompanying notes to financial statements.

**GUAM WATERWORKS AUTHORITY**  
**(A Component Unit of the Government of Guam)**

Statements of Net Position, Continued  
September 30, 2018 and 2017

<u>LIABILITIES, DEFERRED INFLOWS OF RESOURCES</u> <u>AND NET POSITION</u>	<u>2018</u>	<u>2017</u> <u>(As Restated)</u>
Current liabilities:		
Current maturities of long-term debt:		
Revenue bonds payable	\$ 5,715,000	\$ 5,200,000
Note payable	3,203,870	3,037,569
Accounts payable:		
Guam Power Authority	1,353,897	1,129,494
Trade	2,887,026	2,966,960
Accrued interest	6,427,669	6,656,499
Accrued payroll and employee benefits	1,606,121	2,604,343
Current portion of employee annual leave	607,382	567,057
Payable to contractors	25,680,792	13,950,287
Customer deposits	2,238,239	2,087,207
Other liabilities	1,203,174	1,293,931
Total current liabilities	<u>50,923,170</u>	<u>39,493,347</u>
Long-term debt, less current maturities:		
Revenue bonds payable	527,400,619	520,121,393
Note payable	2,325,154	5,533,918
Employee annual leave, less current portion	822,821	783,992
DCRS sick leave liability	1,059,161	1,729,291
Net pension liability	45,451,352	49,243,800
OPEB liability	88,950,661	93,748,336
Total liabilities	<u>716,932,938</u>	<u>710,654,077</u>
Deferred inflows of resources:		
Deferred inflows from pension	1,857,164	550,694
Deferred inflows from OPEB	8,741,900	-
Total deferred inflows of resources	<u>10,599,064</u>	<u>550,694</u>
Commitments and contingencies		
Net position:		
Net investment in capital assets	243,581,010	218,057,386
Restricted	17,679,328	18,481,379
Unrestricted	<u>(97,025,365)</u>	<u>(97,117,318)</u>
Total net position	<u>164,234,973</u>	<u>139,421,447</u>
Total liabilities, deferred inflows of resources and net position	<u>\$ 891,766,975</u>	<u>\$ 850,626,218</u>

See accompanying notes to financial statements.

**GUAM WATERWORKS AUTHORITY**  
**(A Component Unit of the Government of Guam)**

Statements of Revenues, Expenses and Changes in Net Position  
Years Ended September 30, 2018 and 2017

	2018	2017 (As Restated)
Operating revenues:		
Water:		
Private	\$ 60,049,063	\$ 57,875,384
Government	6,326,501	6,101,458
Legislative surcharge	2,357,002	2,166,056
System development charge	528,993	431,060
	69,261,559	66,573,958
Wastewater:		
Private	28,536,974	28,386,690
Government	9,764,431	8,807,642
Legislative surcharge	1,113,506	1,041,170
System development charge	541,992	440,886
	39,956,903	38,676,388
Other	519,529	435,514
Bad debts expense	(2,162,950)	(1,316,397)
Total operating revenues	107,575,041	104,369,463
Operating and maintenance expenses:		
Power purchases	14,686,486	12,076,262
Water purchases	8,684,974	7,309,125
Waste disposal fees	1,507,654	1,685,842
	24,879,114	21,071,229
Salaries, wages and benefits	18,534,508	19,697,917
Depreciation	19,280,249	16,824,455
Retiree healthcare costs and other benefits	8,548,967	11,187,439
Administrative and general	8,072,979	7,300,127
Contractual	5,036,651	4,087,429
	84,352,468	80,168,596
Total operating and maintenance expenses	84,352,468	80,168,596
Operating income	23,222,573	24,200,867
Nonoperating revenues (expenses):		
Allowance for funds used during construction	12,501,196	14,066,891
Interest income	3,778,449	917,351
Interest expense	(26,498,040)	(27,173,760)
Loss on property, plant and equipment disposals	(1,945,630)	(755,256)
Loss on inventory write-down	-	(217,999)
Federal expenditures	(746,644)	(510,017)
Others, net	(707,085)	238,639
	(13,617,754)	(13,434,151)
Total nonoperating expenses, net	(13,617,754)	(13,434,151)
Income before capital contributions	9,604,819	10,766,716
Capital contributions:		
Grants from the U.S. Government	15,208,707	21,811,030
	24,813,526	32,577,746
Change in net position	24,813,526	32,577,746
Net position at beginning of year	139,421,447	106,843,701
Net position at end of year	\$ 164,234,973	\$ 139,421,447

See accompanying notes to financial statements.

**GUAM WATERWORKS AUTHORITY**  
**(A Component Unit of the Government of Guam)**

Statements of Cash Flows  
Years Ended September 30, 2018 and 2017

	2018	2017 (As Restated)
Cash flows from operating activities:		
Cash received from customers	\$ 106,626,761	\$ 103,127,811
Cash payments to suppliers for goods and services	(39,079,046)	(32,033,579)
Cash payments to employees for services	(21,508,696)	(18,629,026)
Cash payments for retiree healthcare costs	(3,447,544)	(3,376,745)
Net cash provided by operating activities	42,591,475	49,088,461
Cash flows from capital and related financing activities:		
Federal grants received	17,666,884	15,226,686
Acquisition of property, plant and equipment	(87,104,839)	(65,036,135)
Release of fund for 2010 bond series refunding	(2,532,527)	-
Principal paid on revenue bond maturities	(5,200,000)	(5,040,000)
Interest paid on revenue bonds	(23,194,207)	(27,008,870)
Principal repayment of bank loan	(3,042,463)	(2,880,704)
Interest paid on bank loan	(377,535)	(578,096)
Net cash used for capital and related financing activities	(103,784,687)	(85,317,119)
Cash flows from investing activities:		
Interest income received	3,778,449	917,351
Net change in cash and cash equivalents	(57,414,763)	(35,311,307)
Cash and cash equivalents at beginning of year	347,589,716	382,901,023
Cash and cash equivalents at end of year	\$ 290,174,953	\$ 347,589,716
Reconciliation of cash and cash equivalents to the statements of net position:		
Current assets:		
Cash and cash equivalents	\$ 3,094,379	\$ 4,873,275
Restricted cash and cash equivalents	66,805,781	65,124,401
Noncurrent assets:		
Restricted cash and cash equivalents	220,274,793	277,592,040
	\$ 290,174,953	\$ 347,589,716
Supplemental information on noncash activities:		
Noncash increase in property, plant and equipment	\$ 12,501,196	\$ 14,066,891
Capitalized interest	(12,501,196)	(14,066,891)
	\$ -	\$ -
Noncash federal expenditures	\$ 746,644	\$ 510,017
Noncash grants from U.S. Government	(746,644)	(510,017)
	\$ -	\$ -

See accompanying notes to financial statements.

**GUAM WATERWORKS AUTHORITY**  
**(A Component Unit of the Government of Guam)**

Statements of Cash Flows, Continued  
Years Ended September 30, 2018 and 2017

	2018	2017 (As Restated)
Reconciliation of operating income to net cash provided by operating activities:		
Operating income	\$ 23,222,573	\$ 24,200,867
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation	19,280,249	16,824,455
Bad debts expense	2,162,950	1,316,397
Loss on obsolescence	(393,239)	-
Non-cash pension costs	(1,384,990)	154,256
Non-cash OPEB costs	5,101,422	7,810,694
(Increase) decrease in assets:		
Accounts receivable	(3,262,199)	(2,417,020)
Materials and supplies inventory	(782,762)	(114,781)
Prepaid expenses	(126,701)	100,873
Increase (decrease) in liabilities:		
Accounts payable	303,098	707,542
Accrued payroll and employee benefits	(998,222)	911,721
Employee annual leave	79,154	(84,880)
Customer deposits	151,032	(141,028)
Other liabilities	(90,760)	(268,429)
DCRS sick leave liability	(670,130)	87,794
Net cash provided by operating activities	\$ 42,591,475	\$ 49,088,461

See accompanying notes to financial statements.

**GUAM WATERWORKS AUTHORITY**  
**(A Component Unit of the Government of Guam)**

Notes to Financial Statements  
September 30, 2018 and 2017

(1) Reporting Entity

The Guam Waterworks Authority (GWA) is a component unit of the Government of Guam (GovGuam). GWA is subject to the regulations of the Public Utility Commission of Guam (PUC). GWA became an autonomous agency in 1996 under Public Law 23-119 and derives its revenues mainly from its water and wastewater system. The water system is engaged in the production, treatment, and distribution of water to villages and communities of Guam. The wastewater system is engaged in the collection and treatment of wastewater from residences and industries in the villages of Guam. GWA is governed by a five-member elected Consolidated Commission on Utilities (CCU). PUC determines such matters as rates and charges for services.

(2) Summary of Significant Accounting Policies

Basis of Accounting

GWA utilizes the flow of economic resources measurement focus. The financial statements are prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) as applied to governmental units using the accrual basis of accounting. Revenues are recognized when earned and expenses are recognized when incurred. The Governmental Accounting Standards Board (GASB) is the accepted standard-setting body for establishing governmental accounting and financial reporting principles.

Net Position

Net position represents the residual interest in GWA's assets after liabilities are deducted and consists of the following categories:

Net investment in capital assets - include capital assets, restricted and unrestricted, net of accumulated depreciation, reduced by outstanding debt, net of debt service reserve.

Restricted nonexpendable - net position subject to externally imposed stipulations that require GWA to maintain them permanently.

Restricted expendable - net position whose use is subject to externally imposed stipulations that can be fulfilled by actions of GWA pursuant to those stipulations or that expire with the passage of time.

Unrestricted - net position that is not subject to externally imposed stipulations. Unrestricted net position may be designated for specific purposes by action by management or the CCU or may otherwise be limited by contractual agreements with outside parties.

At September 30, 2018 and 2017, restricted net position consists of the following:

	<u>2018</u>	<u>2017</u>
System Development Fund	\$ 10,184,847	\$ 9,986,016
Revenue Trust and Revenue Fund	7,123,854	8,147,509
Legislative Surcharge Fund	305,127	284,264
Sewer Hook-up Revolving Fund	<u>65,500</u>	<u>63,590</u>
	<u>\$ 17,679,328</u>	<u>\$ 18,481,379</u>

All of GWA's restricted net position is expendable.

**GUAM WATERWORKS AUTHORITY**  
**(A Component Unit of the Government of Guam)**

Notes to Financial Statements  
September 30, 2018 and 2017

(2) Summary of Significant Accounting Policies, Continued

Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and deferred outflows of resources, liabilities and deferred inflows of resources, and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Risk Management

GWA is exposed to various risks of loss; theft of, damage to, and destruction of assets; operation liability; errors and omissions; employee injuries and illnesses; natural disasters and employee health, dental and accident benefits. There is commercial insurance coverage obtained to provide for claims arising from most of these matters. No material losses have been sustained as a result of GWA's risk management practices during the past three years.

Allowance for Doubtful Accounts

The allowance for doubtful accounts is stated at an amount which management believes will be adequate to absorb possible losses on accounts receivable that may become uncollectible based on evaluations of the collectability of these accounts and prior collection experience. The allowance is established through a provision for bad debts charged to expense. Bad debts are written-off against the allowance based on the specific identification method.

Materials and Supplies Inventory

Materials and supplies inventory is stated at the lower of cost or market with cost determined by the first-in, first-out method.

Property, Plant and Equipment

Plant in service of \$324,988,118 is stated at estimated historical cost as determined by an independent engineering consultant at September 30, 1998. Plant in service acquired subsequent to that date is stated at cost. Non-utility property and equipment are stated at cost. Depreciation is computed using the straight-line method over the estimated useful lives of the respective assets. Current policy is to capitalize items over \$5,000.

Noncurrent Restricted Cash and Cash Equivalents

The purpose of noncurrent restricted cash and cash equivalents is for long-term capital improvements and bond related activities.

Deferred Outflows of Resources

In addition to assets, the statements of net position will sometimes report a separate section for deferred outflows of resources. This separate financial statement element represents a consumption of net position that applies to a future period and so will not be recognized as an outflow of resources (deduction of net position) until then. GWA has determined the loss on defeasance of the 2005 and 2010 series bonds, the difference between expected and actual experience with regard to economic or demographic factors in the measurement of the total pension liability, changes of assumptions, pension and OPEB contributions made subsequent to the measurement date, and changes in proportion and difference between GWA pension and OPEB contributions and proportionate share of contributions qualify for reporting in this category.

**GUAM WATERWORKS AUTHORITY**  
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Notes to Financial Statements  
September 30, 2018 and 2017

(2) Summary of Significant Accounting Policies, Continued

Deferred Inflows of Resources

In addition to liabilities, the statements of net position will sometimes report a separate section for deferred inflows of resources. This separate financial statement element represents an acquisition of net position that applies to a future period and so will not be recognized as an inflow of resources (additions to net position) until then. GWA has determined the difference between expected and actual expenses with regard to economic or demographic factors in the measurement of the total pension liability, the net difference between projected and actual earnings on pension plan investments, changes of assumptions, and changes in proportion and differences between GWA pension and OPEB contributions and proportionate share of contributions qualify for reporting in this category.

Compensated Absences

Vesting annual leave is accrued and reported as an expense and a liability in the period earned. No liability is accrued for non-vesting sick leave benefits. Annual leave expected to be paid out within the next fiscal year is accrued and is included in current liabilities. The maximum accumulation of annual leave convertible to pay upon termination of employment is limited to 320 hours. Pursuant to Public Law 27-106, employees who have accumulated annual leave in excess of three hundred twenty (320) hours as of February 28, 2003, may carry over their excess and shall use the excess amount of leave prior to retirement or termination from service. Any unused leave over 320 hours shall be lost upon retirement.

Public Law 26-86 allows members of the Defined Contribution Retirement System (DCRS) to receive a lump sum payment of one-half of their accumulated sick leave upon retirement. A liability is accrued for estimated sick leave to be paid out to DCRS members upon retirement.

Pensions

Pensions are required to be recognized and disclosed using the accrual basis of accounting. GWA recognizes a net pension liability for the defined benefit pension plan in which it participates, which represents GWA's proportionate share of excess total pension liability over the pension plan assets – actuarially calculated – of a single employer defined benefit plan, measured one year prior to fiscal year-end and rolled forward. The total pension liability also includes GWA's proportionate share of the liability for ad hoc cost-of-living adjustments (COLA) and supplemental annuity payments that are anticipated to be made to defined benefit plan members and for anticipated future COLA payments to DCRS members. Changes in the net pension liability during the period are recorded as pension expense, or as deferred inflows of resources or deferred outflows of resources depending on the nature of the change, in the period incurred. Those changes in net pension liability that are recorded as deferred inflows of resources or deferred outflows of resources that arise from changes in actuarial assumptions or other inputs and differences between expected or actual experience are amortized over the weighted average remaining service life of all participants in the qualified pension plan and recorded as a component of pension expense beginning with the period in which they are incurred. Projected earnings on qualified pension plan investments are recognized as a component of pension expense. Differences between projected and actual investment earnings are reported as deferred inflows of resources or deferred outflows of resources and are amortized as a component of pension expense on a closed basis over a five-year period beginning with the period in which the difference occurred.

**GUAM WATERWORKS AUTHORITY**  
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Notes to Financial Statements  
September 30, 2018 and 2017

(2) Summary of Significant Accounting Policies, Continued

Other Postemployment Benefits (OPEB)

OPEB is required to be recognized and disclosed using the accrual basis of accounting. GWA recognizes an OPEB liability for the defined benefit OPEB plan in which it participates, which represents GWA's proportionate share of total OPEB liability - actuarially calculated - of an agent multiple employer defined benefit plan, measured one year prior to fiscal year-end and rolled forward. An OPEB trust has not been established, thus the OPEB plan does not presently report OPEB plan fiduciary net position. Instead, the OPEB plan is financed on a substantially "pay-as-you-go" basis.

Changes in the total OPEB liability during the period are recorded as OPEB expense, or as deferred inflows of resources or deferred outflows of resources depending on the nature of the change, in the period incurred. Those changes in total OPEB liability that are recorded as deferred inflows of resources or deferred outflows of resources that arise from changes in actuarial assumptions or other inputs and differences between expected or actual experience are amortized over the weighted average remaining service life of all participants in the qualified OPEB plan and recorded as a component of OPEB expense beginning with the period in which they are incurred.

Bond Premiums and Discounts

Bond premiums and discounts are amortized using the straight-line method, which approximates the effective yield method, over the life of the related bond issue.

Revenue Recognition

Customer water meters are read on a cyclical basis throughout a monthly period based on the route schedules of GWA. Revenue is recognized in the period that meters are read. Wastewater treatment is billed at a flat rate of \$27.54 per month for residential accounts and 80% of current water consumption for commercial and government accounts. At the end of each month, unbilled revenues are accrued for each cycle based on the most recent cycle billing. Unbilled receivables at September 30, 2018 and 2017 are \$2,989,322 and \$2,597,374, respectively, and are included as receivables in the accompanying financial statements.

Cash and Cash Equivalents

For purposes of the statements of net position and of cash flows, cash and cash equivalents is defined as cash deposits in banks, time certificates of deposit, and short-term investments in U.S. Treasury obligations with initial maturities of three months or less.

Capitalization of Interest

GWA capitalizes interest on construction in progress based on the weighted average interest rate. During the years ended September 30, 2018 and 2017, interest of \$12,501,196 and \$14,066,891, respectively, was capitalized.

**GUAM WATERWORKS AUTHORITY**  
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Notes to Financial Statements  
September 30, 2018 and 2017

(2) Summary of Significant Accounting Policies, Continued

Capitalized Labor Costs

GWA capitalizes related labor costs incurred on construction in progress. During the years ended September 30, 2018 and 2017, labor costs of \$3,553,764 and \$3,150,189, respectively, were capitalized.

Operating and Non-Operating Revenue and Expenses

Operating revenues and expenses generally result directly from the operation and maintenance of GWA. Non-operating revenues and expenses result from capital and financing activities, costs and related recoveries from natural disasters, and certain other non-recurring income and expenses.

Grants and Contributions

Grants and contributions consist of government mandated and voluntary nonexchange transactions. Approved capital grants that have not been received approximate \$57,962,029 and \$39,036,541 at September 30, 2018 and 2017, respectively.

Income Taxes

As an instrumentality of GovGuam, GWA and all property acquired by or for GWA, and all revenues and income therefrom are exempt from taxation by GovGuam or by any political subdivision or public corporation thereof and from all taxes imposed under the authority of the Guam Legislature, or with respect to which the Guam Legislature is authorized to grant exemption.

Reclassifications

Certain balances in the 2017 presentation have been reclassified to conform to the 2018 presentation.

New Accounting Standards

During the year ended September 30, 2018, GWA implemented the following pronouncements:

- GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, which replaces the requirements of Statements No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, as amended, and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*, and provides guidance on reporting by governments that provide OPEB to their employees and for governments that finance OPEB for employees of other governments. The implementation of this statement had a material effect on the accompanying financial statements resulting in the restatement of GWA's 2017 financial statements to reflect the reporting of an OPEB liability, deferred inflows of resources, and deferred outflows of resources for its OPEB program and the recognition of OPEB expense in accordance with the provisions of GASB Statement No. 75. The implementation of GASB Statement No. 75 results in GWA reporting deferred outflows of resources of \$4,002,137 and an OPEB liability of \$79,711,767 as of October 1, 2016. GWA's net position as of October 1, 2016 and GWA's statement of revenues, expenses, and changes in net position for the year ended September 30, 2017 have been restated to reflect the required adjustments as follows:

**GUAM WATERWORKS AUTHORITY**  
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Notes to Financial Statements  
September 30, 2018 and 2017

(2) Summary of Significant Accounting Policies, Continued

	<u>As Previously Reported</u>	<u>Adjustment</u>	<u>As Restated</u>
As of October 1, 2016:			
Net position	\$ <u>182,553,331</u>	\$ <u>(75,709,630)</u>	\$ <u>106,843,701</u>
For the year ended September 30, 2017:			
Change in net position	\$ <u>40,338,440</u>	\$ <u>(7,810,694)</u>	\$ <u>32,527,746</u>
As of September 30, 2017:			
Deferred outflows of resources related to OPEB	\$ <u>          -</u>	\$ <u>10,739,819</u>	\$ <u>10,739,819</u>
OPEB liability	\$ <u>          -</u>	\$ <u>93,748,336</u>	\$ <u>93,748,336</u>
Deferred inflows of resources related to OPEB	\$ <u>          -</u>	\$ <u>511,807</u>	\$ <u>511,807</u>
Net position	\$ <u>222,941,771</u>	\$ <u>(83,520,324)</u>	\$ <u>139,421,447</u>

- GASB Statement No. 81, *Irrevocable Split-Interest Agreements*, which improves accounting and financial reporting for irrevocable split-interest agreements by providing recognition and measurement guidance for situations in which a government is a beneficiary of the agreement.
- GASB Statement No. 85, *Omnibus 2017*, which addresses practice issues that have been identified during implementation and application of certain GASB Statements including issues related to blending component units, goodwill, fair value measurement and application, and postemployment benefits (pensions and other postemployment benefits).
- GASB Statement No. 86, *Certain Debt Extinguishment Issues*, which improves consistency in accounting and financial reporting for in-substance defeasance of debt.

Except for GASB Statement No. 75, the implementation of these statements did not have a material effect on GWA's financial statements.

In November 2016, GASB issued Statement No. 83, *Certain Asset Retirement Obligations*, which addresses accounting and financial reporting for certain asset retirement obligations (AROs) associated with the retirement of a tangible capital asset. The provisions in Statement No. 83 are effective for fiscal years beginning after June 15, 2018. Management does not believe that the implementation of this statement will have a material effect on the financial statements.

In January 2017, GASB issued Statement No. 84, *Fiduciary Activities*, which establishes criteria for identifying fiduciary activities of all state and local governments. The provisions in Statement No. 84 are effective for fiscal years beginning after December 15, 2018. Management does not believe that the implementation of this statement will have a material effect on the financial statements.

In June 2017, GASB issued Statement No. 87, *Leases*, which establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. The provisions in Statement No. 87 are effective for fiscal years beginning after December 15, 2019. Management has yet to determine whether the implementation of this statement will have a material effect on the financial statements.

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(2) Summary of Significant Accounting Policies, Continued

New Accounting Standards, Continued

In April 2018, GASB issued Statement No. 88, *Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placements*, which improves the information that is disclosed in notes to government financial statements related to debt, including direct borrowings and direct placements. The provisions in Statement No. 88 are effective for fiscal years beginning after June 15, 2018. Management does not believe that the implementation of this statement will have a material effect on the financial statements.

In June 2018, GASB issued Statement No. 89, *Accounting for Interest Cost Incurred before the End of a Construction Period*, which requires that interest cost incurred before the end of a construction period be recognized as an expense in the period in which the cost is incurred for financial statements prepared using the economic resources measurement focus. The provisions in Statement No. 89 are effective for fiscal years beginning after December 15, 2019. Management does not believe that the implementation of this statement will have a material effect on the financial statements.

In August 2018, GASB issued Statement No. 90, *Majority Equity Interests – an Amendment of GASB Statements No. 14 and No. 61*, which improves the consistency and comparability of reporting a government's majority equity interest in a legally separate organization and the relevance of financial statement information for certain component units. The provisions in Statement No. 90 are effective for fiscal years beginning after December 15, 2018. Management does not believe that the implementation of this statement will have a material effect on the financial statements.

(3) Cash and Cash Equivalents

The bond indenture agreements for the 2010, 2013, 2014, 2016 and 2017 series revenue bonds require the establishment of special funds to be held and administered by trustees and by GWA. In addition, proceeds from borrowings to fund capital improvements are maintained by GWA in construction accounts. Funds in these accounts are required by loan agreement or public law to be used to fund capital improvements.

The deposits and investment policies of GWA are governed by 15 GCA 21, *Investments and Deposits*, in conjunction with applicable bond indentures. Authorized investments include obligations issued or guaranteed by the U.S. government or agencies of the U.S. government; bonds, notes or other indebtedness rated in the highest rating by Moody's Investors Service (Moody's) or Standard & Poor's Corporation (S&P); obligations issued by the Federal National Mortgage Association or the Federal Home Loan Mortgage Corporation with remaining maturities of not more than three years; any bonds or other obligations of any state of the U.S. or any agency, instrumentality or local government unit of such state which are rated in the highest rating category of either Moody's or S&P; demand and time deposits in or certificates of deposit or bankers acceptances with U.S. domestic banks which have a rating of their short term certificates of deposit of A-1 or better by S&P and P-1 by Moody's and mature no more than 360 days after purchase; commercial paper which is rating in the highest classification by S&P and Moody's; and money market funds rated AAA or better by S&P.

Custodial credit risk is the risk that in the event of a bank failure, GWA's deposits may not be returned to it. Such deposits are not covered by depository insurance and are either uncollateralized, collateralized with securities held by the pledging financial institution, or held by the pledging financial institution but not in the depositor-government's name. GWA does not have a deposit policy for custodial credit risk.

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(3) Cash and Cash Equivalents, Continued

As of September 30, 2018 and 2017, the carrying amount of GWA's total cash and cash equivalents was \$290,174,953 and \$347,589,716, respectively, and the corresponding bank balances were \$290,747,962 and \$347,776,215, respectively. Of the bank balance amount, \$10,047,143 and \$19,955,124, respectively, is maintained in financial institutions subject to Federal Deposit Insurance Corporation (FDIC) insurance. The remaining amount of \$280,700,819 and \$329,557,107, respectively, represents short-term investments held and administered by GWA's trustees in GWA's name in accordance with various trust agreements and bond indentures. As of September 30, 2018 and 2017, bank deposits in the amount of \$635,502 and \$578,147, respectively, were FDIC insured. GWA does not require collateralization of its cash deposits; therefore, deposit levels in excess of FDIC insurance coverage are uncollateralized. At September 30, 2018 and 2017, \$9,411,641 and \$18,876,977, respectively, of cash and cash equivalents are subject to custodial credit risk.

Restricted cash and cash equivalents consist of cash received for specific capital projects and for bond indenture related accounts. The working capital funds are internally imposed restrictions and are not subject to externally imposed stipulations. The composition of restricted cash and cash equivalents is as follows:

	<u>2018</u>	<u>2017</u>
Current restricted:		
Sewer Hook-up Revolving Fund	\$ 65,499	\$ 63,590
Legislative Surcharge Fund	305,127	284,264
Bid Escrow Fund	660,254	666,140
Customer Deposit Fund	1,860,120	1,831,426
Revenue Trust and Revenue Fund	7,123,854	8,147,509
System Development Fund	10,184,847	9,986,016
Working Cap – Reserved for DS	12,201,200	12,076,966
Working Cap – Reserved for CAPEX	17,655,289	15,468,468
Working Cap – Reserved for O&M	<u>16,749,591</u>	<u>16,600,022</u>
	<u>66,805,781</u>	<u>65,124,401</u>
Noncurrent restricted:		
2010 Bond Indenture Funds:		
Construction Fund	6,753,709	9,299,311
Bond Reserve Fund	7,566,460	7,566,460
Reserved for Debt Service	503,751	2,020,121
2013 Bond Indenture Funds:		
Construction Fund	36,222,062	74,461,765
Bond Reserve Fund	12,031,688	12,031,688
Reserved for Debt Service	2,360,451	2,336,754
2014 Bond Indenture Funds:		
Operations, Maintenance, Renewal and Replacement Reserve Fund	17,423,213	17,423,213
Construction Fund	741,896	771,281
Bond Reserve Fund	7,972,243	7,707,602
Reserved for Debt Service	1,833,235	1,796,559
2016 Bond Indenture Funds:		
Construction Fund	116,036,000	132,811,449
Capitalized Interest Fund	-	1,782,982
Bond Reserve Fund	2,603	7,582,725
Reserved for Debt Service	9,397,555	130
2017 Bond Indenture Funds:		
Reserved for Debt Service	<u>1,429,927</u>	<u>-</u>
	<u>220,274,793</u>	<u>277,592,040</u>
Total restricted cash and cash equivalents	\$ <u>287,080,574</u>	\$ <u>342,716,441</u>

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(4) Receivables

Receivables at September 30, 2018 and 2017 are as follows:

	<u>2018</u>	<u>2017</u>
Customers:		
Private	\$ 17,503,153	\$ 24,203,927
Government	<u>4,748,822</u>	<u>3,744,648</u>
	22,251,975	27,948,575
Federal grants receivable	3,837,148	7,041,969
Guam Power Authority	616,350	334,140
Other	<u>589,213</u>	<u>1,178,527</u>
	<u>27,294,686</u>	<u>36,503,211</u>
Less allowance for doubtful accounts:		
Private	(4,446,958)	(11,871,734)
Government	<u>(1,069,119)</u>	<u>(747,300)</u>
	<u>(5,516,077)</u>	<u>(12,619,034)</u>
	<u>\$ 21,778,609</u>	<u>\$ 23,884,177</u>

During the year ended September 30, 2018, GWA wrote-off \$9,265,969 of long outstanding customer receivables.

Substantially all customer receivables are from individuals, businesses and government agencies located on Guam.

(5) Property, Plant and Equipment

Capital asset activities for the year ended September 30, 2018 are as follows:

	Estimated Useful Lives in Years	Beginning Balance October 1, 2017	Transfers and Additions	Transfers and Deletions	Ending Balance September 30, 2018
<u>Depreciable:</u>					
Utility Plant in Service					
- Water	10-50	\$ 327,484,191	\$ 25,481,834	\$ (4,153,722)	\$ 348,817,303
Utility Plant in Service					
- Wastewater	25-50	286,394,940	13,754,777	(96,290)	300,053,427
General Fixed Assets	5-10	<u>18,938,255</u>	<u>2,781,768</u>	-	<u>21,720,023</u>
		632,817,386	42,018,379	(4,250,012)	670,585,753
Accumulated Depreciation		<u>(286,043,580)</u>	<u>(19,280,249)</u>	<u>2,304,382</u>	<u>(303,019,447)</u>
		346,773,806	22,738,130	(1,945,630)	367,566,306
<u>Non-depreciable:</u>					
Land		1,110,998	2,570,122	-	3,681,120
Construction Work in Progress		<u>111,695,887</u>	<u>109,129,184</u>	<u>(42,381,145)</u>	<u>178,443,926</u>
		<u>\$ 459,580,691</u>	<u>\$ 134,437,436</u>	<u>\$ (44,326,775)</u>	<u>\$ 549,691,352</u>

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(5) Property, Plant and Equipment, Continued

Capital asset activities for the year ended September 30, 2017 are as follows:

	Estimated Useful Lives in Years	Beginning Balance October 1, 2016	Transfers and Additions	Transfers and Deletions	Ending Balance September 30, 2017
<u>Depreciable:</u>					
Utility Plant in Service					
– Water	10-50	\$ 306,262,568	\$ 29,208,760	(7,987,137)	\$ 327,484,191
Utility Plant in Service					
– Wastewater	25-50	259,512,407	27,060,338	(177,805)	286,394,940
General Fixed Assets	5-10	<u>22,474,787</u>	<u>2,672,271</u>	<u>(6,208,803)</u>	<u>18,938,255</u>
		588,249,762	58,941,369	(14,373,745)	632,817,386
Accumulated Depreciation		<u>(282,837,613)</u>	<u>(16,824,455)</u>	<u>13,618,488</u>	<u>(286,043,580)</u>
		305,412,149	42,116,914	(755,257)	346,773,806
<u>Non-depreciable:</u>					
Land		254,288	856,710	-	1,110,998
Construction Work in Progress		<u>81,877,561</u>	<u>88,812,420</u>	<u>(58,994,094)</u>	<u>111,695,887</u>
		\$ <u>387,543,998</u>	\$ <u>131,786,044</u>	\$ <u>(59,749,351)</u>	\$ <u>459,580,691</u>

(6) Long-Term Debt

Long-term debt at September 30, 2018 and 2017 is as follows:

	<u>2018</u>	<u>2017</u>
<u>Revenue Bonds:</u>		
2010 Series revenue bonds, initial face value of \$118,825,000, interest at varying rates from 4% to 5.5% per annum, payable semiannually in January and July, principal and mandatory sinking fund payments in varying annual installments commencing with a payment of \$1,055,000 in July 2015, increasing to \$14,460,000 in July 2040. On December 13, 2017, these bonds were partially refunded through the issuance of \$107,660,000 2017 refunding bonds.	\$ 3,695,000	\$ 114,525,000
2013 Series revenue bonds, initial face value of \$172,630,000, interest at varying rates from 5% to 5.5% per annum, payable semiannually in January and July, principal and mandatory sinking fund payments in varying annual installments commencing with a payment of \$2,695,000 in July 2020, increasing to \$25,880,000 in July 2043.	172,630,000	172,630,000
2014 Series refunding bonds, initial face value of \$85,600,000, interest at varying rates from 5% to 6% per annum, payable semiannually in January and July, principal and mandatory sinking fund payments in varying annual installments commencing with a payment of \$2,900,000 in July 2015, maturity date in July 2035.	72,520,000	75,995,000

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(6) Long-Term Debt, Continued

Revenue Bonds, Continued:

2016 Series revenue bonds, initial face value of \$143,310,000, interest at 5% per annum, payable semiannually in January and July, principal and mandatory sinking fund payments in varying annual installments commencing with a payment of \$420,000 in July 2020, maturity date in January 2046.	143,310,000	143,310,000
2017 Series refunding bonds, initial face value of \$107,660,000, interest at 5% per annum, payable semiannually in January and July, principal and mandatory sinking fund payments in varying annual installments commencing with a payment of \$290,000 in July 2019, maturity date in July 2040.	<u>107,660,000</u>	<u>                    -</u>
Total revenue bonds payable	499,815,000	506,460,000
Less current maturities	<u>(5,715,000)</u>	<u>(5,200,000)</u>
	494,100,000	501,260,000
Bond premium – 2017 series bonds	13,394,710	-
Bond premium – 2016 series bonds	16,655,480	17,262,975
Bond premium – 2014 series bonds, net	4,538,080	4,804,694
Bond discount – 2013 series bonds	(1,287,651)	(1,338,751)
Bond discount – 2010 series bonds	<u>                    -</u>	<u>(1,867,525)</u>
	<u>\$ 527,400,619</u>	<u>\$ 520,121,393</u>

Annual debt service requirements to maturity for principal and interest are as follows:

<u>Year ending September 30,</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2019	\$ 5,715,000	\$ 25,653,415	\$ 31,368,415
2020	8,770,000	25,405,188	34,175,188
2021	9,270,000	24,959,950	34,229,950
2022	9,745,000	24,489,350	34,234,350
2023	10,235,000	23,994,625	34,229,625
2024 through 2028	59,505,000	111,657,025	171,162,025
2029 through 2033	76,095,000	95,068,388	171,163,388
2034 through 2038	97,635,000	73,532,450	171,167,450
2039 through 2043	127,845,000	45,282,100	173,127,100
2044 through 2046	<u>95,000,000</u>	<u>8,823,875</u>	<u>103,823,875</u>
	<u>\$ 499,815,000</u>	<u>\$ 458,866,366</u>	<u>\$ 958,681,366</u>

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(6) Long-Term Debt, Continued

Note Payable:

	<u>2018</u>	<u>2017</u>
Note payable to a bank in the original amount of \$25,000,000, interest at 7.75% per annum, due in monthly installments of principal and interest of \$300,027 through June 2015; refinanced principal balance of \$14,856,080, interest at 5.25% per annum, due in monthly installments of principal and interest of \$285,000 through June 2020.	\$ 5,529,024	\$ 8,571,487
Less current maturities	<u>(3,203,870)</u>	<u>(3,037,569)</u>
	<u>\$ 2,325,154</u>	<u>\$ 5,533,918</u>

Annual debt service requirements to maturity for principal and interest are as follows:

<u>Year ending September 30,</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2019	\$ 3,203,870	\$ 216,130	\$ 3,420,000
2020	<u>2,325,154</u>	<u>47,826</u>	<u>2,372,980</u>
	<u>\$ 5,529,024</u>	<u>\$ 263,956</u>	<u>\$ 5,792,980</u>

2010 Series Revenue Bonds

On November 1, 2010, GWA entered into a supplemental indenture agreement for the issuance of \$118,825,000 Water and Wastewater System Revenue Bonds, Series 2010, to finance various water and wastewater capital improvement projects. The 2010 bonds are limited obligations of GWA payable solely from and secured by a pledge of revenues as defined in the indenture. The bonds are subject to mandatory, optional and special redemption prior to maturity. Total bond proceeds were \$116,404,591, net of a bond discount of \$2,420,409 and GWA incurred closing costs of \$2,805,108. The bond discount has been deferred and amortized on a straight line basis over the average remaining life of the 2010 bonds. Proceeds of the 2010 series bonds are to be used for the purpose of funding capital improvements of water and wastewater systems, meeting certain requirements of the U.S. Environmental Protection Agency, to paying capitalized interest, to fund a deposit to the Bond Reserve Fund, and paying related issuance costs. All gross revenues, except System Development Charge (SDC) revenues, of GWA have been pledged to repay the 2010 series bonds principal and interest. The debt service for the 2010 series bonds was \$4,895,131 and \$8,065,600, respectively, for the years ended September 30, 2018 and 2017 or approximately 5% and 8%, respectively, of pledged gross revenues.

2013 Series Revenue Bonds

On December 12, 2013, GWA issued \$172,630,000 of Water and Wastewater System Revenue Bonds, Series 2013, to fund capital improvement projects in connection with the financing of its 5-year Capital Improvement Plan. A portion of the bond proceeds was used to fund certain bond reserves, pay for capitalized interest and costs in connection with the issue but, for the most part, the proceeds will be used to pay for capital projects. Total bond proceeds are \$171,097,017, net of a bond discount of \$1,532,983 and GWA incurred closing costs of

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(6) Long-Term Debt, Continued

2013 Series Revenue Bonds, Continued

\$2,961,409. The bond discount has been deferred and amortized on a straight line basis over the average remaining life of the 2013 bonds. The 2013 Bonds are limited obligations of GWA and are payable solely from, and secured solely by a lien on and pledge of, revenues to secure the payment of principal and interest on the Bonds. Revenues consist primarily of all gross income and revenue received by GWA from the ownership or operation of the System, subject to the provisions of the Indenture and exclusive of certain surcharges. The debt service for the 2013 series bonds was \$9,331,688 for both years ended September 30, 2018 and 2017 or approximately 9%, respectively, of pledged gross revenues.

2014 Series Refunding Bonds

On August 7, 2014, GWA issued \$85,600,000 of Water and Wastewater System Revenue Bonds, Series 2014, to refund all of GWA's outstanding Guam Waterworks Authority Water and Wastewater Revenue Bonds, Series 2005, and to pay costs of issuing the 2014 Bonds. The proceeds for the refunding were transferred to an escrow agent who used the proceeds to purchase U.S. Treasury Securities which are to be held by the escrow agent in an irrevocable trust to pay the redemption price of the 2005 bonds and interest thereon to become due on or prior to July 1, 2015 (redemption date). The advance refunding met the requirements of an in-substance defeasance and the 2005 bonds were removed from the accompanying financial statements. The advance refunding resulted in a loss on defeasance of \$2,468,670 representing the difference between the reacquisition price and the carrying amount of the 2005 bonds. Although the advance refunding resulted in the recognition of an accounting loss, GWA in effect reduced its aggregate debt service payments by almost \$13,873,732 over the next twenty years and obtained an economic gain (difference between the present values of the old debt and the new debt service payments) of \$8,352,503. The unamortized balance of the deferred loss on refunding of the 2005 Series bonds as of September 30, 2018 and 2017 totals \$1,546,658 and \$1,695,980, respectively.

The Bonds are limited obligations of GWA and are payable solely from, and secured solely by a lien on and pledge of, revenues to secure the payment of principal and interest on the Bonds. Revenues consist primarily of all gross income and revenue received by GWA from the ownership or operation of the System, subject to the provisions of the Indenture and exclusive of certain surcharges. Total bond proceeds were \$92,533,037, including net bond premium of \$5,648,970 and funds from deposit in 2005 Bond Fund and Bond Reserve Fund of \$1,284,068. GWA incurred closing costs of \$1,536,177. The net bond premium has been deferred and is being amortized on a straight line basis over the average remaining life of the 2014 bonds. The debt service for the 2014 series bonds was \$7,169,847 and \$7,165,014 for the years ended September 30, 2018 and 2017 or approximately 7%, respectively, of pledged gross revenues.

2016 Series Revenue Bonds

On February 9, 2016, GWA issued \$143,310,000 of Water and Wastewater System Revenue Bonds, Series 2016, to fund capital improvement projects in connection with the financing of its 5-year Capital Improvement Plan. A portion of the bond proceeds was used to fund certain bond reserves, pay for capitalized interest and costs in connection with the issue but, for the most part, the proceeds will be used to pay for capital projects. Total bond proceeds were \$161,534,842, including net bond premium of \$18,224,842. GWA incurred closing costs of \$2,467,854. The bond premium has been deferred and amortized on a straight line basis

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(6) Long-Term Debt, Continued

2016 Series Revenue Bonds, Continued

over the average remaining life of the 2016 bonds. The 2016 Bonds are limited obligations of GWA and are payable solely from, and secured solely by a lien on and pledge of, revenues to secure the payment of principal and interest on the Bonds. Revenues consist primarily of all gross income and revenue received by GWA from the ownership or operation of the System, subject to the provisions of the Indenture and exclusive of certain surcharges. The debt service for the 2016 series bonds was \$7,165,500 for both years ended September 30, 2018 and 2017 or approximately 7%, respectively, of pledged gross revenues.

2017 Series Revenue Bonds

On December 13, 2017, GWA issued \$107,660,000 Series 2017 bonds to refund a portion of the outstanding Series 2010 bonds. The proceeds for the refunding were transferred to an escrow agent who used the proceeds to purchase U.S. Treasury Securities which are to be held by the escrow agent in an irrevocable trust to pay the redemption price of the 2010 bonds and interest thereon to become due on or prior to July 1, 2019 (redemption date). The advance refunding met the requirements of an in-substance defeasance and the 2010 bonds were removed from the accompanying financial statements. The advance refunding resulted in a loss on defeasance of \$11,791,115 representing the difference between the reacquisition price and the carrying amount of the 2010 bonds. Although the advance refunding resulted in the recognition of an accounting loss, GWA in effect reduced its aggregate debt service payments by almost \$14,870,141 over the next twenty-three years and obtained an economic gain (difference between the present values of the old debt and the new debt service payments) of \$10,438,103. The unamortized balance of the deferred loss on refunding of the 2010 Series bonds as of September 30, 2018 totals \$11,264,129.

The Bonds are limited obligations of GWA and are payable solely from, and secured solely by a lien on and pledge of, revenues to secure the payment of principal and interest on the Bonds. Revenues consist primarily of all gross income and revenue received by GWA from the ownership or operation of the System, subject to the provisions of the Indenture and exclusive of certain surcharges. Total bond proceeds were \$122,155,917, including net bond premium of \$13,854,833 and funds from deposit in 2010 Bond Fund and Bond Reserve Fund of \$2,532,528. GWA incurred closing costs of \$1,775,257. The net bond premium has been deferred and is being amortized on a straight line basis over the average remaining life of the 2017 bonds. The debt service for the 2017 series bonds was \$2,855,981 for the year ended September 30, 2018 or approximately 3% of pledged gross revenues.

Bank Loan

On June 15, 2010, GWA entered into a \$25 million bank loan for the purpose of funding a portion of the cost of a moratorium project. Pursuant to the loan, GWA pledged all revenues but subject first, to a consent decree, and second, to the prior pledge and lien and other provisions of the bond indenture agreements for the 2005 series revenue bonds refunded through 2014 series revenue bonds in 2014.

Prior-Year Defeasance of Debt

In prior years, GWA defeased certain revenue bonds by placing the proceeds of new bonds in an irrevocable trust to provide for all future debt service payouts on the old bonds. Accordingly, the trust account assets and the liabilities for the defeased bonds are not included in GWA's financial statements. At September 30, 2018 and 2017, bonds outstanding of \$185,205,000 and \$78,665,000, respectively, are considered defeased.

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(7) Change in Long-Term Liabilities

The following summarizes changes in GWA's long-term liabilities for the years ended September 30, 2018 and 2017:

	Outstanding October 1, 2017	Increases	Decreases	Outstanding September 30, 2018	Current
Long-term debt:					
2010 series A bonds	\$ 114,525,000	\$ -	\$ (110,830,000)	\$ 3,695,000	\$ 1,800,000
2013 series A bonds	172,630,000	-	-	172,630,000	-
2014 series A and B bonds	75,995,000	-	(3,475,000)	72,520,000	3,620,000
2016 series A bonds	143,310,000	-	-	143,310,000	-
2017 series A bonds	-	107,660,000	-	107,660,000	295,000
Note payable	8,571,487	-	(3,042,463)	5,529,024	3,203,870
Deferred amount:					
Unamortized discount on 2010 bonds issued	(1,867,525)	-	1,867,525	-	-
Unamortized discount on 2013 bonds issued	(1,338,751)	-	51,100	(1,287,651)	-
Unamortized premium on 2014 bonds issued	4,810,433	-	(269,744)	4,540,689	-
Unamortized discount on 2014 bonds issued	(5,739)	-	3,130	(2,609)	-
Unamortized premium on 2016 bonds issued	17,262,975	-	(607,495)	16,655,480	-
Unamortized premium on 2017 bonds issued	-	13,394,710	-	13,394,710	-
	<u>533,892,880</u>	<u>121,054,710</u>	<u>(116,302,947)</u>	<u>538,644,643</u>	<u>8,918,870</u>
Other:					
Employee annual leave	1,351,049	1,134,888	(1,055,734)	1,430,203	607,382
DCRS sick leave liability	1,729,291	-	(670,130)	1,059,161	-
Net pension liability	49,243,800	-	(3,792,448)	45,451,352	-
OPEB liability	<u>93,748,336</u>	<u>-</u>	<u>(4,797,675)</u>	<u>88,950,661</u>	<u>-</u>
	<u>\$ 679,965,356</u>	<u>\$ 122,189,598</u>	<u>\$ (126,618,934)</u>	<u>\$ 675,536,020</u>	<u>\$ 9,526,252</u>
	Outstanding October 1, 2016	Increases	Decreases	Outstanding September 30, 2017	Current
Long-term debt:					
2010 series A bonds	\$ 116,180,000	\$ -	\$ (1,655,000)	\$ 114,525,000	\$ 1,725,000
2013 series A bonds	172,630,000	-	-	172,630,000	-
2014 series A and B bonds	79,380,000	-	(3,385,000)	75,995,000	3,475,000
2016 series A bonds	143,310,000	-	-	143,310,000	-
Note payable	11,452,191	-	(2,880,704)	8,571,487	3,037,569
Deferred amount:					
Unamortized discount on 2010 bonds issued	(1,948,205)	-	80,680	(1,867,525)	-
Unamortized discount on 2013 bonds issued	(1,389,851)	-	51,100	(1,338,751)	-
Unamortized premium on 2014 bonds issued	5,080,177	-	(269,744)	4,810,433	-
Unamortized discount on 2014 bonds issued	(8,870)	-	3,131	(5,739)	-
Unamortized premium on 2016 bonds issued	<u>17,870,470</u>	<u>-</u>	<u>(607,495)</u>	<u>17,262,975</u>	<u>-</u>
	<u>542,555,912</u>	<u>-</u>	<u>(8,663,032)</u>	<u>533,892,880</u>	<u>8,237,569</u>
Other:					
Employee annual leave	1,435,929	-	(84,880)	1,351,049	567,057
DCRS sick leave liability	1,641,497	87,794	-	1,729,291	-
Net pension liability	50,873,587	-	(1,629,787)	49,243,800	-
OPEB liability	<u>79,711,767</u>	<u>14,036,569</u>	<u>-</u>	<u>93,748,336</u>	<u>-</u>
	<u>\$ 676,218,692</u>	<u>\$ 14,124,363</u>	<u>\$ (10,377,699)</u>	<u>\$ 679,965,356</u>	<u>\$ 8,804,626</u>

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(8) Pensions

GWA is statutorily responsible for providing pension benefits for GWA employees through the GovGuam Retirement Fund (GGRF).

A. General Information About the Pension Plans:

*Plan Description:* GGRF administers the GovGuam Defined Benefit (DB) Plan, a single-employer defined benefit pension plan, and the Defined Contribution Retirement System (DCRS). The DB Plan provides retirement, disability, and survivor benefits to plan members who enrolled in the plan prior to October 1, 1995. Article 1 of 4 GCA 8, Section 8105, requires that all employees of GovGuam, regardless of age or length of service, become members of the DB Plan prior to the operative date. Employees of a public corporation of GovGuam, which includes GWA, have the option of becoming members of the DB Plan prior to the operative date. All employees of GovGuam, including employees of GovGuam public corporations, whose employment commences on or after October 1, 1995, are required to participate in the Defined Contribution Retirement System (DCRS) Plan. Hence, the DB Plan became a closed group.

Members of the DB Plan who retired prior to October 1, 1995, or their survivors, are eligible to receive annual supplemental annuity payments. In addition, members of the DB Plan and the DCRS Plan who retired prior to September 30, 2017 are eligible to receive an annual ad hoc cost of living allowance (COLA).

A single actuarial valuation is performed annually covering all plan members and the same contribution rate applies to each employer. GGRF issues a publicly available financial report that includes financial statements and required supplementary information for the DB Plan. That report may be obtained by writing to the Government of Guam Retirement Fund, 424 A Route 8, Maite, Guam 96910, or by visiting GGRF's website – [www.ggrf.com](http://www.ggrf.com).

*Plan Membership:* As of September 30, 2017 (the measurement date), plan membership consisted of the following:

DB members:	
Inactive employees or beneficiaries currently receiving benefits	7,279
Inactive employees entitled to but not yet receiving benefits	4,289
Active employees	<u>2,058</u>
	13,626
DCRS members:	
Active employees	<u>9,027</u>
	<u>22,653</u>

*Benefits Provided:* The DB Plan provides pension benefits to retired employees generally based on age and/or years of credited service and an average of the three highest annual salaries received by a member during years of credited service, or \$6,000, whichever is greater. Members who joined the DB Plan prior to October 1, 1981 may retire with 10 years of service at age 60 (age 55 for uniformed personnel); or with 20 to 24 years of service regardless of age with a reduced benefit if the member is under age 60; or upon completion of 25 years of service at any age. Members who joined the DB Plan on or after October 1, 1981 and prior to August 22, 1984 may retire with 15 years of service at age 60 (age 55 for uniformed personnel); or with 25 to 29 years of service regardless of age with a reduced benefit if the member is under age 60; or upon completion of 30 years of service at any age.

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(8) Pensions, Continued

A. General Information About the Pension Plans, Continued:

Members who joined the DB Plan after August 22, 1984 and prior to October 1, 1995 may retire with 15 years of service at age 65 (age 60 for uniformed personnel); or with 25 to 29 years of service regardless of age with a reduced benefit if the member is under age 65; or upon completion of 30 years of service at any age. Upon termination of employment before attaining at least 25 years of total service, a member is entitled to receive a refund of total contributions including interest. A member who terminates after completing at least 5 years of service has the option of leaving contributions in the GGRF and receiving a service retirement benefit upon attainment of the age of 60 years. In the event of disability during employment, members under the age of 65 with six or more years of credited service who are not entitled to receive disability payments from the United States Government are eligible to receive sixty six and two-thirds of the average of their three highest annual salaries received during years of credited service. The DB Plan also provides death benefits.

Supplemental annuity benefit payments are provided to DB retiree members in the amount of \$4,238 per year, but not to exceed \$40,000 per year when combined with their regular annual retirement annuity. Annual COLA payments are provided to DB retiree and DCRS members in a lump sum amount of \$2,000. Both supplemental annuity benefit payments and COLA payments are made at the discretion of the Guam Legislature, but are funded on a "pay-as-you-go" basis so there is no plan trust. It is anticipated that ad hoc COLA and supplemental annuity payments will continue to be made for future years at the same level currently being paid.

On September 20, 2016, the Guam Legislature enacted Public Law 33-186, which created two new government retirement plans; the DB 1.75 Plan and the Guam Retirement Security Plan (GRSP). Commencing April 1, 2017 through September 30, 2018, eligible employees may elect, during the "election window", to participate in the DB 1.75 Plan or the GRSP with an effective date of January 1, 2018. Beginning January 1, 2018, all new employees shall be automatically enrolled in the GRSP. New employees have sixty (60) days from the date of hire to elect to participate in the DCRS.

The DB 1.75 Plan is open for participation by certain existing employees, new employees, and reemployed employees who would otherwise participate in the DC Plan or the new GRSP and who make election on a voluntary basis to participate in the DB 1.75 Plan by December 31, 2017. Employee contributions are made by mandatory pre-tax payroll deduction at the rate of 9.5% of the employee's base salary while employer contributions are actuarially determined. Members of the DB 1.75 Plan automatically participate in the GovGuam deferred compensation plan, pursuant to which employees are required to contribute 1% of base salary as a pre-tax mandatory contribution.

*Contributions and Funding Policy:* Contribution requirements of participating employers and active members to the DB Plan are determined in accordance with Guam law. Employer contributions are actuarially determined under the One-Year Lag Methodology. Under this methodology, the actuarial valuation date is used for calculating the employer contributions for the second following fiscal year. For example the September 30, 2016 actuarial valuation was used for determining the year ended September 30, 2018 statutory contributions. Member contributions are required at 9.55% of base pay.

As a result of actuarial valuations performed as of September 30, 2016, 2015 and 2014, contribution rates required to fully fund the Retirement Fund liability, as required by Guam law, for the years ended September 30, 2018, 2017 and 2016, respectively, have been determined as follows:

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(8) Pensions, Continued

A. General Information About the Pension Plans, Continued:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Normal costs (% of DB Plan payroll)	15.97%	16.27%	15.86%
Employee contributions (DB Plan employees)	<u>9.55%</u>	<u>9.55%</u>	<u>9.54%</u>
Employer portion of normal costs (% of DB Plan payroll)	<u>6.42%</u>	<u>6.72%</u>	<u>6.32%</u>
Employer portion of normal costs (% of total payroll)	1.60%	1.87%	1.94%
Unfunded liability cost (% of total payroll)	<u>22.12%</u>	<u>21.60%</u>	<u>22.42%</u>
Government contribution as a % of total payroll	<u>23.72%</u>	<u>23.47%</u>	<u>24.36%</u>
Statutory contribution rates as a % of DB Plan payroll:			
Employer	<u>27.83%</u>	<u>27.41%</u>	<u>28.16%</u>
Employee	<u>9.55%</u>	<u>9.55%</u>	<u>9.54%</u>

GWA's contributions to the DB Plan for the years ended September 30, 2018, 2017 and 2016 were \$628,179, \$736,380 and \$846,186, respectively, which were equal to the statutorily required contributions for the respective years then ended.

GWA's contributions for supplemental annuity benefit and COLA payments for the years ended September 30, 2018, 2017 and 2016 were \$966,706, \$919,780 and \$929,892, respectively, which were equal to the statutorily required contributions for the respective years then ended.

Members of the DCRS plan, who have completed five years of government service, have a vested balance of 100% of both member and employer contributions plus any earnings thereon.

Contributions into the DCRS plan by members are based on an automatic deduction of 5% of the member's regular base pay. The contribution is periodically deposited into an individual annuity account within the DCRS. Employees are afforded the opportunity to select from different annuity accounts available under the DCRS.

Statutory employer contributions for the DCRS plan for the years ended September 30, 2018 and 2017 are determined using the same rates as the DB Plan. Of the amount contributed by the employer, only 5% of the member's regular pay is deposited into the DCRS. The remaining amount is contributed towards the unfunded liability of the defined benefit plan.

GWA's contributions to the DCRS Plan for the years ended September 30, 2018, 2017 and 2016 were \$2,795,312, \$3,376,521 and \$3,271,914, respectively, which were equal to the required contributions for the respective years then ended. Of these amounts, \$2,214,238, \$2,763,791 and \$2,698,925 were contributed toward the unfunded liability of the DB Plan for the years ended September 30, 2018, 2017 and 2016, respectively.

B. Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions:

*Pension Liability:* At September 30, 2018 and 2017, GWA reported a net pension liability for its proportionate share of the net pension liabilities measured as of September 30, 2017 and 2016, respectively, which is comprised of the following:

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(8) Pensions, Continued

B. Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions, Continued:

	<u>2018</u>	<u>2017</u>
Defined Benefit Plan	\$ 33,100,479	\$ 38,799,923
Ad Hoc COLA/supplemental annuity Plan for DB retirees	10,909,240	8,881,604
Ad Hoc COLA Plan for DCRS retirees	<u>1,441,633</u>	<u>1,562,273</u>
	<u>\$ 45,451,352</u>	<u>\$ 49,243,800</u>

GWA's proportion of the GovGuam net pension liabilities was based on GWA's expected plan contributions relative to the total expected contributions received by the respective pension plans for GovGuam and GovGuam's component units. At September 30, 2018 and 2017, GWA's proportionate shares of the GovGuam net pension liabilities were as follows:

	<u>2018</u>	<u>2017</u>
Defined Benefit Plan	2.90%	2.83%
Ad Hoc COLA/supplemental annuity Plan for DB retirees	3.79%	3.87%
Ad Hoc COLA Plan for DCRS retirees	2.31%	2.53%

*Pension Expense (Benefit):* For the years ended September 30, 2018 and 2017, GWA recognized pension expense (benefit) for its proportionate share of plan pension expense from the above pension plans as follows:

	<u>2018</u>	<u>2017</u>
Defined Benefit Plan	\$ (729,782)	\$ 4,003,497
Ad Hoc COLA/supplemental annuity Plan for DB retirees	2,889,975	459,553
Ad Hoc COLA Plan for DCRS retirees	<u>111,678</u>	<u>128,931</u>
	<u>\$ 2,271,871</u>	<u>\$ 4,591,981</u>

*Deferred Outflows and Inflows of Resources:* At September 30, 2018 and 2017, GWA reported total deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	2018					
	Defined Benefit Plan		Ad Hoc COLA/ Supplemental Annuity Plan for DB Retirees		Ad Hoc COLA Plan for DCRS Retirees	
	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ -	\$ -	\$ -	\$ -	\$ 65,501	\$ 11,199
Net difference between projected and actual earnings on pension plan investments	-	1,608,640	-	-	-	-
Changes of assumptions	-	-	-	-	145,600	95,879
Contributions subsequent to the measurement date	2,842,417	-	926,706	-	40,000	-
Changes in proportion and difference between GWA contributions and proportionate share of contributions	<u>199,851</u>	<u>-</u>	<u>-</u>	<u>44,545</u>	<u>-</u>	<u>96,901</u>
	<u>\$ 3,042,268</u>	<u>\$ 1,608,640</u>	<u>\$ 926,706</u>	<u>\$ 44,545</u>	<u>\$ 251,101</u>	<u>\$ 203,979</u>

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(8) Pensions, Continued

B. Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions, Continued:

	2017					
	Defined Benefit Plan		Ad Hoc COLA/ Supplemental Annuity Plan for DB Retirees		Ad Hoc COLA Plan for DCRS Retirees	
	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ -	\$ 127,820	\$ 695	\$ -	\$ 30,156	\$ 13,150
Net difference between projected and actual earnings on pension plan investments	-	202,942	-	-	-	-
Changes of assumptions	110,474	-	9,162	-	170,615	-
Contributions subsequent to the measurement date	3,500,170	-	919,780	-	38,000	-
Changes in proportion and difference between GWA contributions and proportionate share of contributions	150,906	-	-	89,596	-	117,186
	<u>\$ 3,761,550</u>	<u>\$ 330,762</u>	<u>\$ 929,637</u>	<u>\$ 89,596</u>	<u>\$ 238,771</u>	<u>\$ 130,336</u>

Deferred outflows resulting from contributions subsequent to measurement date will be recognized as reduction of the net pension liability in the following year. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions at September 30, 2018 will be recognized in pension expense as follows:

Year Ending September 30	Defined Benefit Plan	Ad Hoc COLA/ Supplemental Annuity Plan for DB Retirees	Ad Hoc COLA Plan for DCRS Retirees
2019	\$ (159,875)	\$ (45,545)	\$ (5,919)
2020	(95,780)	-	(5,919)
2021	(688,085)	-	(5,919)
2022	(465,049)	-	(5,919)
2023	-	-	(5,919)
Thereafter	-	-	36,717
	<u>\$ (1,408,789)</u>	<u>\$ (45,545)</u>	<u>\$ 7,122</u>

*Actuarial Assumptions:* Actuarially determined contribution rates for the DB Plan are calculated as of September 30, two years prior to the end of the fiscal year in which contributions are reported. The methods and assumptions used to determine contribution rates are as follows:

Valuation Date:	September 30, 2016
Actuarial Cost Method:	Entry age normal
Amortization Method:	Level percentage of payroll, closed
Remaining Amortization Period:	May 1, 2031 (14.58 years remaining as of September 30, 2016)

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(8) Pensions, Continued

B. Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions, Continued:

Asset Valuation Method:	3-year smoothed market value (effective September 30, 2009)
Inflation:	2.75% per year
Total payroll growth:	2.75% per year
Salary Increases:	4% to 7.50%
Retirement age:	50% are assumed to retire upon first eligibility for unreduced retirement. Thereafter, the probabilities of retirement are 20% until age 75, and 100% at age 75.
Mortality:	RP-2000 healthy mortality table set forward by 3 years for males and 2 year for females. Mortality for disabled lives is the RP 2000 disability mortality table set forward by 6 years for males and 4 year for females.
Other information:	Actuarial assumptions are based upon periodic experience studies. The last experience study reviewed experience from 2007-2011, and was first reflected in the actuarial valuation as of September 30, 2012.

The actuarial assumptions used in the September 30, 2016 valuation were based on the results of an actuarial experience study for the period October 1, 2011 to September 30, 2015.

The investment rate assumption as of September 30, 2016 was 7%. The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and the assumed rate of inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target allocation and best estimates of the expected nominal return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Nominal Return
U.S. Equities (large cap)	29%	8.78%
U.S. Equities (small cap)	7%	9.45%
Non-U.S. Equities	13%	9.15%
Non-U.S. Equities (small cap)	4%	9.15%
Non-U.S. Equities (emerging markets)	1%	10.75%
U.S. Fixed Income (aggregate)	25%	4.85%
Risk parity	8%	8.36%
High yield bonds	8%	7.35%
Global Real Estate (REITs)	5%	8.71%

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(8) Pensions, Continued

- B. Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions, Continued:

*Changes in Actuarial Assumptions:* The following changes in actuarial assumptions occurred from the September 30, 2015 valuation to the September 30, 2016 valuation:

**Mortality:** The mortality table used as of September 30, 2016, is the RP-2000 combined mortality table, set forward by 3 years for males and 2 years for females. The mortality table used for disabled lives is the RP-2000 disability mortality table, set forward by 6 years for males and 4 years for females. Mortality improvement is assumed to be 30% of Scale BB, projected generationally from 2016. For the prior valuation, the mortality table used was the RP-2000 combined mortality table, set forward by 4 years for males and 1 year for females. The mortality table used for disabled lives was the RP-2000 disability mortality table for males and females. No provision was made for future mortality improvement in the prior valuation.

**Salary Increases:** Salaries are assumed to increase 7.5% per year for employees in their first 5 years of service, 6.0% for service between 6 and 10 years, 5.0% for service between 11 and 15 years, and 4.0% for service after 15 years. For the prior valuation, salaries were assumed to increase 7.5% per year for employees in their first 5 years of service, 6.0% for service between 6 and 10 years, 5.0% for service between 11 and 15 years, and 4.5% for service after 15 years.

**Total Payroll Growth:** Total payroll for defined benefit and defined contribution members is assumed to increase 2.75% per year. For the prior valuation, total payroll for defined benefit and defined contribution members was assumed to increase 3.0% per year.

**Retirement Age:** 50% of employees are assumed to retire when first eligible for unreduced retirement. Thereafter, 20% of employees will retire at each year until age 75, at which time all remaining employees are assumed to retire. For the prior valuation, 40% of employees are assumed to retire when first eligible for unreduced retirement. Thereafter, 15% of employees would retire at each year until age 65, and 20% of employees would retire from age 65 until age 70, at which time all remaining employees were assumed to retire.

**Rates of Disability:** The assumed rates of disability are based on the 1974-78 Society of Actuaries Long Term Disability Non-Jumbo table, with rates reduced by 50% for males and 75% for females. For the prior valuation, these rates were based on the 1974-78 Society of Actuaries Long Term Disability Non-Jumbo, with rates reduced by 50% for both males and females.

**Leave Adjustments:** Unused leave is assumed to increase a member's service by 1.5 years and increases average earnings by 5% at retirement. For the prior valuation, unused leave is assumed to increase service by 1.5 years and increased average earnings by 10% at retirement.

**Survivor Benefit - Minor Children:** An average of 0.2 eligible child survivors is assumed at the time of a retiree's death, with payments to the child survivor continuing for 6 years. For the prior valuation, this survivor benefit was assumed to increase the value of retirement benefits by 0.67% and survivor benefits by 20% for active members.

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(8) Pensions, Continued

B. Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions, Continued:

*Discount Rate:* The discount rate used to measure the total pension liability for the DB Plan as of September 30, 2017 was 7.0% (6.7% as of September 30, 2016), which is equal to the expected investment rate of return. The expected investment rate of return applies to benefit payments that are funded by plan assets (including future contributions), which includes all plan benefits except supplemental annuity payments to DB retirees and ad hoc COLA to both DB and DCRS retirees. The discount rate used to measure the total pension liability for the supplemental annuity and ad hoc COLA payments as of September 30, 2017 was 3.64% (3.058% as of September 30, 2016), which is equal to the rate of return of a high quality bond index.

*Discount Rate Sensitivity Analysis:* The following presents the sensitivity of the net pension liability to changes in the discount rate. The sensitivity analysis shows the impact to GWA's proportionate share of the net pension liability if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current discount rate:

Defined Benefit Plan:

	1% Decrease in Discount Rate <u>6.0%</u>	Current Discount Rate <u>7.0%</u>	1% Increase in Discount Rate <u>8.0%</u>
Net Pension Liability	\$ <u>41,081,554</u>	\$ <u>33,100,479</u>	\$ <u>26,226,460</u>

Ad Hoc COLA/Supplemental Annuity Plan for DB Retirees:

	1% Decrease in Discount Rate <u>2.64%</u>	Current Discount Rate <u>3.64%</u>	1% Increase in Discount Rate <u>4.64%</u>
Net Pension Liability	\$ <u>11,903,037</u>	\$ <u>10,909,240</u>	\$ <u>10,045,048</u>

Ad Hoc COLA Plan for DCRS Retirees:

	1% Decrease in Discount Rate <u>2.64%</u>	Current Discount Rate <u>3.64%</u>	1% Increase in Discount Rate <u>4.64%</u>
Net Pension Liability	\$ <u>1,639,289</u>	\$ <u>1,441,633</u>	\$ <u>1,273,232</u>

C. Payables to the Pension Plans:

As of September 30, 2018 and 2017, GWA recorded payables to GGRF of \$289,747 and \$247,835, respectively, representing statutorially required contributions unremitted as of the respective year-ends.

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(9) Other Post Employment Benefits (OPEB)

GWA participates in the retiree health care benefits program. GovGuam's Department of Administration is responsible for administering the GovGuam Group Health Insurance Program, which provides medical, dental, and life insurance benefits to retirees, spouses, children and survivors. Active employees and retirees who waive medical and dental coverage are considered eligible for the life insurance benefit only. The program covers retirees and is considered an other postemployment benefits plan.

A. General Information About the OPEB Plan:

*Plan Description:* The other postemployment benefits plan is an agent multiple-employer defined benefit plan that provides healthcare benefits to eligible employees and retirees who are members of the GovGuam Retirement Fund. No assets are accumulated in a trust that meets the criteria in paragraph 4 of GASB Statement No. 75. The Governor's recommended budget and the annual General Appropriations Act enacted by the Guam Legislature provide for a premium level necessary for funding the program each year on a "pay-as-you-go" basis. Because the OPEB Plan consists solely of GovGuam's firm commitment to provide OPEB through the payment of premiums to insurance companies on behalf of its eligible retirees, no stand-alone financial report is either available or generated.

*Plan Membership:* As of September 30, 2016, the date of the most recent valuation (the actuarial valuation date), plan membership consisted of the following:

Inactive plan members or beneficiaries currently receiving benefits	7,342
Active plan members	<u>10,282</u>
	<u>17,624</u>

*Benefits Provided:* The OPEB Plan provides post employment medical, dental and life insurance benefits to GWA retirees, spouses, children and survivors, which are the same benefits as provided to active employees. Active employees and retirees who waive medical and dental coverage are considered eligible for the life insurance benefit only. GWA contributes a portion of the medical and dental premiums, based on a schedule of semi-monthly rates, and reimburses certain Medicare premiums to eligible retirees. Retirees are also required to pay a portion of the medical and dental insurance premiums. Three types of health plans are offered to eligible participants:

- Standard islandwide Preferred Provider Organization (PPO) Plan
- High Deductible (Health Savings Account - HSA) PPO Plan
- Retiree Supplement Plan (RSP)

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Notes to Financial Statements  
September 30, 2018 and 2017

(9) Other Post Employment Benefits (OPEB), Continued

A. General Information About the OPEB Plan, Continued:

The PPO and HSA Plans apply to both active employees and retirees and work with set deductible amounts whereas the RSP Plan is an added option for retirees only.

*Contributions:* No employer contributions are assumed to be made since an OPEB trust has not been established. Instead, the OPEB Plan is financed on a substantially "pay-as-you-go" basis whereby contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.

B. Total OPEB Liability:

As of September 30, 2018 and 2017, GWA reported a total OPEB liability of \$88,950,661 and \$93,748,336, respectively, for its proportionate share of the GovGuam total OPEB liability measured as of September 30, 2017 and 2016. The following presents GWA's proportion change in proportion since the prior measurement date:

Proportion at prior measurement date, September 30, 2016	<u>3.70%</u>
Proportion at measurement date, September 30, 2017	<u>3.66%</u>
Increase/(decrease) in proportion	<u>-0.04%</u>

The total OPEB liability for the OPEB Plan was determined by an actuarial valuation as of September 30, 2016 rolled forward to September 30, 2017 (the measurement date) using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation:	3%.
Amortization method:	Level dollar amount over 30 years on an open amortization period for pay-as-you-go funding.
Salary increases:	7.5% per year for the first 5 years of service, 6% for 5-10 years, 5% for 11-15 years and 4.5% for service over 15 years.
Healthcare cost trend rates:	8% for 2016, decreasing 0.25% per year to an ultimate rate of 4.5% for 2030 and later years. Health care trend assumptions begin at current levels and grade down over a period of years to a lower level equal to some real rate plus inflation. The principal components of health trend are medical inflation, deductible erosion, cost shifting, utilization, technology and catastrophic claims. The overall effect of these components are expected to decline year by year.
Dental trend rates:	4% per year.
Participation rates:	Medical - 100% of eligible retired employees will elect to participate. Dental - 100% of eligible retirees will elect to participate. Life - 100% of eligible retirees will elect to participate.

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Notes to Financial Statements  
September 30, 2018 and 2017

(9) Other Post Employment Benefits (OPEB), Continued

B. Total OPEB Liability, Continued:

Medicare enrollment:	15% of current and future retirees are assumed to enroll in Medicare and will enroll in a Retiree Supplemental Plan upon attainment of age 65. All employees retired prior to September 30, 2008 are assumed ineligible for Medicare upon attainment of age 65 and therefore will not enroll in a Medicare Supplemental Plan.
Dependent status:	Male spouses are assumed to be three years older and female spouses are assumed to be three years younger than the retired employee. 60% of employees are assumed to retire with a covered spouse. For current retired employees, the actual census information is used.
Actuarial cost method:	Entry Age Normal. The costs of each employee's post-employment benefits are allocated as a level basis over the earnings of the employee between the employee's date of hire and the assumed exit ages.
Healthy Retiree mortality rates:	RP-2000 Combined Healthy Mortality Table, set forward 4 years and 1 year for males and females, respectively.
Disabled Retiree mortality rates:	RP-2000 Disabled Mortality Table for males and females.
Withdrawal rates:	15% for less than 1 year of service, decreasing 1% for each additional year of service up to 10 years, further decreasing 0.5% for each additional year of service up to 15 years, and 2% for service over 15 years.
Disability rates:	0.05% for beneficiaries aged 20-39 years, 0.1% - 0.53% for beneficiaries aged 40-59 years, and 0.76% for beneficiaries aged 60-64 years.

*OPEB plan fiduciary net position:* As of September 30, 2018 and 2017, an OPEB trust has not been established thus the OPEB Plan does not presently report OPEB plan fiduciary net position.

*Discount rate:* The discount rate used to measure the total OPEB liability was 3.63% as of September 30, 2017 (3.058% as of September 30, 2016). The projection of cash flows used to determine the discount rate assumed that contributions from GWA will be made in accordance with the plan's funding policy. Based on those assumptions, the OPEB plan's fiduciary net position was projected to be insufficient to make all projected benefit payments of current plan members. Therefore, the 3.63% municipal bond rate as of September 30, 2017 (3.058% as of September 30, 2016) was applied to all periods of projected benefit payments to determine the total OPEB liability.

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Notes to Financial Statements  
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(9) Other Post Employment Benefits (OPEB), Continued

C. Changes in the Total OPEB Liability:

Changes in GWA's proportionate share of the total OPEB liability for the years ended September 30, 2018 and 2017 are as follows:

	<u>2018</u>	<u>2017</u>
Balance at beginning of the year	\$ <u>93,748,336</u>	\$ <u>79,711,767</u>
Changes for the year:		
Service cost	3,131,482	2,493,619
Interest	2,937,853	3,019,815
Change of assumptions	(9,249,495)	10,140,650
Benefit payments	<u>(1,617,515)</u>	<u>(1,617,515)</u>
Net change	<u>(4,797,675)</u>	<u>14,036,569</u>
Balance at end of the year	\$ <u>88,950,661</u>	\$ <u>93,748,336</u>

*Sensitivity of the total OPEB liability to changes in the discount rate:* The following presents the sensitivity of the total OPEB liability to changes in the discount rate. The sensitivity analysis shows the impact to GWA's proportionate share of the total OPEB liability if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current discount rate:

	1% Decrease in Discount Rate <u>2.63%</u>	Current Discount Rate <u>3.63%</u>	1% Increase in Discount Rate <u>4.63%</u>
Total OPEB Liability	\$ <u>105,738,846</u>	\$ <u>88,950,661</u>	\$ <u>75,485,026</u>

*Sensitivity of the total OPEB liability to changes in the healthcare cost trend rates:* The following presents the sensitivity of the total OPEB liability to changes in the healthcare cost trend rate. The sensitivity analysis shows the impact to GWA's proportionate share of the total OPEB liability if it were calculated using a healthcare cost trend rate that is 1-percentage-point lower or 1-percentage-point higher than the current healthcare cost trend rate:

	1% Decrease 7% Year 1 Decreasing to <u>3.5%</u>	Healthcare Cost Trend Rates 8% Year 1 Decreasing to <u>4.5%</u>	1% Increase 9% Year 1 Decreasing to <u>5.5%</u>
Total OPEB Liability	\$ <u>73,028,476</u>	\$ <u>88,950,661</u>	\$ <u>109,733,626</u>

D. OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB:

For the years ended September 30, 2018 and 2017, GWA reported total OPEB expense of \$6,791,135 and \$7,810,694, respectively, for its proportionate share of the GovGuam total OPEB expense measured for the years ended September 30, 2017 and 2016. At September 30, 2018 and 2017, GWA reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

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Notes to Financial Statements  
September 30, 2018 and 2017

(9) Other Post Employment Benefits (OPEB), Continued

D. OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB, Continued:

	2018		2017	
	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources
Changes of assumptions	\$ 6,613,994	\$ 7,622,374	\$ -	\$ -
Contributions subsequent to the measurement date	2,456,820	-	2,384,622	-
Changes in proportion and difference between employer contributions and proportionate share of contributions	-	1,119,526	7,843,390	-
	\$ <u>9,070,814</u>	\$ <u>8,741,900</u>	\$ <u>10,228,012</u>	\$ <u>-</u>

Deferred outflows resulting from contributions subsequent to measurement date will be recognized as reduction of the total OPEB liability in the following year. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB at September 30, 2018 will be recognized in OPEB expense as follows:

Year Ending  
September 30

2019	\$ (116,452)
2020	(116,452)
2021	(116,452)
2022	(116,452)
2023	(1,628,902)
Thereafter	(33,196)
	\$ <u>(2,127,906)</u>

(10) Real Estate Property Transferred by Government of Guam

The Government of Guam, pursuant to Public Law 23-119, assigned to GWA various real estate property under GWA's administration. As of September 30, 2018 and 2017, the property has not been recognized in the financial statements pending completion of formal transfer proceedings.

(11) Agreements with the United States Navy

Pursuant to a Memorandum of Agreement, the U.S. Navy supplies water through its water system to GWA for distribution and resale to non-military customers. Total purchases from the U.S. Navy for the years ended September 30, 2018 and 2017 are \$8,684,974 and \$7,309,125, respectively.

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Notes to Financial Statements  
September 30, 2018 and 2017

(12) Commitments and Contingencies

Merit System

In 1991, Public Law 21-59 was enacted to establish a bonus system for employees of GovGuam, autonomous and semi-autonomous agencies, public corporations and other public instrumentalities of GovGuam who earn a superior performances grade. The bonus is calculated at 3.5% of the employee's base salary beginning 1991. GWA did not calculate or pay any bonuses pursuant to the law from 1991 through 2012. As of September 30, 2018, GWA has not assessed the impact of the requirements of the law for fiscal years 1991 to 2017. Therefore, no liability which may ultimately arise from this matter has been recorded in the accompanying financial statements.

Claims

Due to the nature of its operations, GWA is subject to various claims by private and governmental customers and vendors for various alleged losses. Because an estimate of the amount or range of potential loss cannot be determined at this time, no provision for any liability that may result from such claims has been made in the accompanying financial statements.

Contract Commitments

Contract commitments in connection with projects currently in construction approximate \$148,460,842 at September 30, 2018, of which \$57,962,029 will be funded by federal contracts from the U.S. Government.

Program Management Office Services

On February 6, 2012, GWA entered into a contract for Program Management Office (PMO) services to provide a wide variety of as needed program management services and general staff assistance for the development of required utility infrastructure improvements. The PMO provides GWA with additional resources to address the deadlines defined in the November 10, 2011 court order and supports GWA staff in executing 2010 and 2013 Series Bond funded projects, military buildup, and other related tasks. The PMO contract is for a five-year period with an option to extend for two two-year periods. Contract commitments for the PMO services approximate \$15,726,236 as of September 30, 2018.

Operating Lease

In February 2015, GWA moved to a building owned by Guam Power Authority (GPA). GWA does not currently have a signed lease agreement with GPA but pays for its share of building maintenance costs.

On October 27, 2016, CCU, GWA, and GPA agreed that GWA's cost share for the building is \$269,170 annually.

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Notes to Financial Statements  
September 30, 2018 and 2017

(12) Commitments and Contingencies, Continued

Medicare

The Government of Guam and its component units, including GWA, began withholding and remitting funds to the U.S. Social Security System for the health insurance component of its salaries and wages effective October 1998. Prior to that date, the Government of Guam did not withhold or remit Medicare payments to the U.S. Social Security System. If the Government is found to be liable for Medicare payments on salaries and wages prior to October 1998, an indeterminate liability could result. It has been the practice of GWA and all other component units of the Government of Guam that payment of this health insurance component is optional prior to October 1998. Therefore, no liability for any amount which may ultimately arise from this matter has been recorded in the accompanying financial statements.

Court Order

In 2002, the U.S. Government filed a complaint against GWA and the Government of Guam for alleged violations under the Federal Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA). Because of GWA's non-compliance with the National Primary Drinking Water Regulations, the U.S. Government is seeking both civil penalties and injunctive relief to address such non-compliance. Both GWA and the U.S. Department of Justice, Environmental and Natural Resources Division, mutually agreed in the form of a Court Order to resolve the violation issues.

In 2003, a Court Order for Preliminary Relief was filed before the District Court of Guam. The Stipulation requires implementation of short-term projects and initial planning measures by GWA. GWA is required to submit a final financial plan in the Master Plan that generates sufficient revenue to cover the cost of all compliance activities and deliverables required by the Court Order for Preliminary Relief, as well as any other anticipated expenses, including any measures necessary to ensure compliance with the CWA and the SDWA and costs related to the infrastructure improvements identified in the Master Plan.

In 2006, the Court Order was amended which required GWA to perform approximately \$220 million of capital improvement projects and perform other actions to bring GWA's system into compliance. However, GWA was unable to meet all deadlines set out in the amended Court Order. The District Court ordered the parties to stipulate as to scope of remaining projects and project completion dates; however, the parties were unable to reach an agreement on all items. As a result, on November 10, 2011, the District Court issued an order setting new deadlines for the unfinished projects and establishing new projects that were not part of the amended Court Order. As of September 30, 2018, the financial impact of the order has not been fully known and has been estimated to cost approximately \$450 million to \$500 million, including financing costs.

Primary Treatment Permits

In 2011, the United States Environmental Protection Agency (USEPA) informed GWA that its primary treatment permits for the Hagatna and Northern District Wastewater Treatment Plants had been denied and that GWA would be required to upgrade the plants to secondary treatment. The upgrades have been estimated to cost approximately \$300 million. GWA intends to negotiate with the USEPA as to timelines for upgrading the plants, which will determine implementation schedule for secondary treatment.

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Notes to Financial Statements  
September 30, 2018 and 2017

(13) Contributions Received

Contributions received by GWA during the years ended September 30, 2018 and 2017, are as follows:

	<u>2018</u>	<u>2017</u>
Grants from the U.S. Government:		
Received from the U.S. EPA - Direct	\$ 7,044,026	\$ 20,004,462
Received from the U.S. EPA - Non-cash	746,644	510,017
Received from the U.S. DOD	7,145,870	1,276,579
Passed through from the Government of Guam	272,167	19,972
	\$ 15,208,707	\$ 21,811,030

(14) Supplemental Annuities/COLA

As required by enabling legislation, GWA must pay to the Government of Guam Retirement Fund certain supplemental benefits for retirees. During the years ended September 30, 2018 and 2017, GWA levied surcharges of 3.75% and 3.7%, respectively, amounting to \$3,470,508 and \$3,207,226, respectively, in accordance with this legislation. The supplemental benefits are derived from an annual appropriation by the Guam Legislature and do not relate to covered Plan benefits.

(15) System Development Charge (SDC)

In 2010, PUC approved the implementation of a water and sewer SDC, which authorized GWA to charge water and wastewater SDC to applicable customers on and after March 2, 2010. SDC revenues generated and collected are to be expended for costs associated with the construction, expansion, upgrade, and repair of water and wastewater facilities for users who are for the first time connecting property into the Guam water or wastewater system or for builders if the density of the existing connection is increased. SDC revenues may also be used to pay the principal sum and interest and other finance costs on bonds, notes or other obligations issued by or on behalf of GWA to finance such capital improvements or facilities expansion or renovations. During the years ended September 30, 2018 and 2017, SDC revenues were \$1,070,985 and \$871,946, respectively.

(16) Related Party Transactions

GWA receives electrical and administrative services from GPA, a component unit of the Government of Guam also governed by the CCU. Electricity purchases from GPA for the years ended September 30, 2018 and 2017 were \$14,686,486 and \$12,076,262, respectively, and GWA was also charged \$907,383 and \$680,238, respectively, for administrative services provided by GPA. Outstanding payables for power purchases, administrative expenses and cost reimbursements owed by GWA to GPA were \$1,353,897 and \$1,129,494 as of September 30, 2018 and 2017, respectively.

For the years ended September 30, 2018 and 2017, GWA billed GPA a total of \$2,437,185 and \$982,681, respectively, for water and sewer charges on the facilities transferred by the Navy to GPA. The amount due from GPA as of September 30, 2018 and 2017 was \$616,350 and \$334,140, respectively, which is included in receivables in the accompanying statements of net position.

GWA receives waste disposal services from Guam Solid Waste Authority (GSWA). Waste disposal fees for the years ended September 30, 2018 and 2017 were \$1,507,654 and \$1,685,842, respectively. Outstanding payables for waste disposal fees owed by GWA to GSWA were \$241,302 and \$124,824 as of September 2018 and 2017, respectively, and were included in trade accounts payable in the accompanying statements of net position.

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Notes to Financial Statements  
September 30, 2018 and 2017

(16) Related Party Transactions, Continued

During the year ended September 30, 2018, GWA completed its land purchase transaction from Guam Ancestral Lands Commission (GALC) covering 70,000 sq. meters located in Dededo with intended use for Northern District Wastewater Treatment Plant Secondary Treatment Upgrades project. Total acquisition cost amounted \$2,510,323.

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Schedules of Required Supplemental Information (Unaudited)  
Schedule of Proportionate Share of the Net Pension Liability  
Last 10 Fiscal Years\*

Defined Benefit Plan

	2018	2017	2016	2015	2014
Total net pension liability	\$ 1,142,249,393	\$ 1,368,645,126	\$ 1,436,814,230	\$ 1,246,306,754	\$ 1,303,304,636
GWA's proportionate share of the net pension liability	\$ 33,100,479	\$ 38,799,923	\$ 40,053,650	\$ 34,047,740	\$ 38,536,384
GWA's proportion of the net pension liability	2.90%	2.83%	2.79%	2.73%	2.96%
GWA's covered-employee payroll**	\$ 14,672,374	\$ 14,353,805	\$ 14,388,631	\$ 13,930,486	\$ 13,733,821
GWA's proportionate share of the net pension liability as percentage of its covered-employee payroll	225.60%	270.31%	278.37%	244.41%	280.59%
Plan fiduciary net position as a percentage of the total pension liability	60.63%	54.62%	52.32%	56.60%	53.45%

\* This data is presented for those years for which information is available.

\*\* Covered-employee payroll data from the actuarial valuation date with one-year lag.

See Accompanying Independent Auditors' Report.

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Schedules of Required Supplemental Information (Unaudited)  
Schedule of Proportionate Share of the Net Pension Liability  
Last 10 Fiscal Years\*

Ad Hoc COLA/Supplemental Annuity Plan for DB Retirees

	2018	2017	2016
Total net pension liability	\$ 288,147,121	\$ 229,486,687	\$ 235,799,709
GWA's proportionate share of the net pension liability	\$ 10,909,240	\$ 8,881,604	\$ 9,515,304
GWA's proportion of the net pension liability	3.79%	3.87%	4.04%
GWA's covered-employee payroll**	\$ 19,169,344	\$ 19,595,708	\$ 20,635,339
GWA's proportionate share of the net pension liability as percentage of its covered employee payroll	56.91%	45.32%	46.11%

\* This data is presented for those years for which information is available.

\*\* Covered-employee payroll data from the actuarial valuation date with one-year lag.

\*\*\* No assets accumulated in a trust to pay the benefits.

See Accompanying Independent Auditors' Report.

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Schedules of Required Supplemental Information (Unaudited)  
Schedule of Proportionate Share of the Net Pension Liability  
Last 10 Fiscal Years\*

Ad Hoc COLA Plan for DCRS Retirees

	2018	2017	2016
Total net pension liability	\$ 62,445,490	\$ 61,688,067	\$ 52,115,736
GWA's proportionate share of the net pension liability	\$ 1,441,633	\$ 1,562,273	\$ 1,304,633
GWA's proportion of the net pension liability	2.31%	2.53%	2.50%
GWA's covered-employee payroll**	\$ 8,428,092	\$ 9,245,521	\$ 8,909,268
GWA's proportionate share of the net pension liability as percentage of its covered employee payroll	17.11%	16.90%	14.64%

\* This data is presented for those years for which information is available.

\*\* Covered-employee payroll data from the actuarial valuation date with one-year lag.

\*\*\* No assets accumulated in a trust to pay the benefits.

See Accompanying Independent Auditors' Report.

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Schedules of Required Supplemental Information (Unaudited)  
Schedule of Pension Contributions  
Last 10 Fiscal Years\*

	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Actuarially determined contribution	\$ 3,491,479	\$ 3,524,561	\$ 3,759,121	\$ 3,684,774	\$ 3,658,076
Contributions in relation to the actuarially determined contribution	<u>3,630,252</u>	<u>3,527,186</u>	<u>3,749,595</u>	<u>3,663,653</u>	<u>3,649,267</u>
Contribution deficiency (excess)	<u>\$ (138,773)</u>	<u>\$ (2,625)</u>	<u>\$ 9,526</u>	<u>\$ 21,121</u>	<u>\$ 8,809</u>
GWA's covered-employee payroll **	<u>\$ 14,672,374</u>	<u>\$ 14,353,805</u>	<u>\$ 14,388,631</u>	<u>\$ 13,930,486</u>	<u>\$ 13,733,821</u>
Contributions as a percentage of covered employee payroll	24.74%	24.57%	26.06%	26.30%	26.57%

\* This data is presented for those years for which information is available.

\*\* Covered-employee payroll data from the actuarial valuation date with one-year lag.

See Accompanying Independent Auditors' Report.

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Schedules of Required Supplemental Information

Schedule of Changes in the Proportionate Share of the Total OPEB Liability and Related Ratios  
Last 10 Fiscal Years\*

	2018	2017	2016
Total OPEB liability:			
Service cost	\$ 3,131,482	\$ 2,493,619	
Interest	2,937,853	3,019,815	
Changes of benefit terms	-	-	
Differences between expected and actual experience	-	-	
Changes of assumptions	(9,249,495)	10,140,650	
Benefit payments	(1,617,515)	(1,617,515)	
Net change in total OPEB liability	(4,797,675)	14,036,569	
Total OPEB liability - beginning	93,748,336	79,711,767	
Total OPEB liability - ending	\$ 88,950,661	\$ 93,748,336	\$ 79,711,767
Covered-employee payroll	\$ 14,150,906	\$ 14,150,906	
GWA's total OPEB liability as a percentage of covered employee payroll	629%	662%	

Notes to schedule

<i>Discount rate</i>	3.63%	3.058%	3.71%
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*Changes of benefit terms:*  
None.

*Changes of assumptions:*  
Discount rate has changed from respective measurement dates.

\* Information for 2009 - 2015 is not available  
\*\* No assets accumulated in a trust to pay the benefits.

See Accompanying Independent Auditors' Report.

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Schedules of Required Supplemental Information (Unaudited)  
Schedule of Proportionate Share of the Total OPEB Liability  
Last 10 Fiscal Years\*

	2018	2017
Total OPEB liability **	\$ 2,431,048,672	\$ 2,532,753,040
GWA's proportionate share of the total OPEB liability	\$ 88,950,661	93,748,336
GWA's proportionate of the total OPEB liability	3.66%	3.70%
GWA's covered-employee payroll	\$ 14,150,906	\$ 14,150,906
GWA's proportionate share of the total OPEB liability as percentage of its covered-employee payroll	628.59%	662.49%

\* This data is presented for those years for which information is available.

\*\* No assets accumulated in a trust to pay the benefits.

See Accompanying Independent Auditors' Report.

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Schedules of Required Supplemental Information  
Schedule of OPEB Contributions  
Last 10 Fiscal Years\*

	2018	2017
Actuarially determined contribution	\$ 8,045,954	\$ 7,035,490
Contributions in relation to the actuarially determined contribution	1,617,515	1,617,515
Contribution deficiency	\$ 6,428,439	\$ 5,417,975
GWA's covered-employee payroll	\$ 14,150,906	\$ 14,150,906
Contributions as a percentage of covered-employee payroll	11.43%	11.43%

Notes to Schedule

Valuation date:

Actuarially determined contributions rates are calculated as of September 30, 2016.

Method and assumptions used to determine contributions rates:

Actuarial cost method:	Entry age normal.
Amortization method:	Level dollar amount on an open amortization period for pay-as-you-go funding.
Amortization period:	30 years
Inflation:	3%
Healthcare cost trend rates:	8% initial, decreasing 0.25% per year to an ultimate rate of 4.5%
Salary increase:	4.5% to 7.5%
Mortality (Healthy Retiree):	RP-2000 Combined Healthy Mortality Table, set forward 4 years and 1 year for males and females, respectively.
Mortality (Disabled Retiree):	RP-2000 Disabled Mortality Table for males and females.

\* Information for 2009 - 2016 is not available

See Accompanying Independent Auditors' Report.

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Schedule of Certain Operating and Maintenance Expenses  
Years Ended September 30, 2018 and 2017

	<u>2018</u>	<u>2017</u>
Salaries, wages and benefits:		
Regular, differential and hazardous pay	\$ 13,008,745	\$ 13,461,180
Pension costs and other benefits	3,695,093	5,157,837
Overtime pay	<u>1,830,670</u>	<u>1,078,900</u>
Total salaries, wages and benefits	<u>\$ 18,534,508</u>	<u>\$ 19,697,917</u>
Administrative and general:		
Chemicals	\$ 2,191,505	\$ 2,088,013
Materials and supplies	2,171,938	1,545,542
Miscellaneous	1,014,770	863,869
Insurance	912,061	1,087,233
Transportation	768,010	644,933
Training	271,825	276,654
Public Utility Commission	265,454	289,613
Liability claims	129,641	265,812
Communications	177,066	130,605
Advertising	<u>170,709</u>	<u>107,853</u>
Total administrative and general	<u>\$ 8,072,979</u>	<u>\$ 7,300,127</u>
Contractual:		
Labor, materials and others	\$ 2,406,807	\$ 1,880,965
Equipment rental	1,070,482	712,487
Accounting	706,830	922,812
Property rental	439,236	438,678
Testing	413,296	127,518
Legal	<u>-</u>	<u>4,969</u>
Total contractual	<u>\$ 5,036,651</u>	<u>\$ 4,087,429</u>
Other expense:		
Interest expense	\$ 26,498,040	\$ 27,173,760
Retiree healthcare costs and other benefits	<u>8,548,967</u>	<u>11,187,439</u>
	<u>\$ 35,047,007</u>	<u>\$ 38,361,199</u>

See Accompanying Independent Auditors' Report.

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Schedule of Construction Work in Progress  
Year Ended September 30, 2018

Project Title	Type	Beginning Balance FY2017	Additions and Transfers	Closed out during FY2018	Ending Balance FY2018
Aqat-Santa Rita Wastewater Treatment Plant Replacement	Wastewater	\$ 29,827,147	\$ 32,357,827	\$ (5,145,975)	\$ 57,038,999
Asan Springs Rehabilitation	Water	341,049	266,964	-	608,013
Backflow Prevention and Cross-Connection Control Program	Wastewater	58,147	73,596	-	131,743
Baza Garden WW Cross Island Pumping and Conveyance	Wastewater	13,240,746	22,280,987	-	35,521,733
Baza Gardens WW Upgrade	Wastewater	-	-	-	-
Centrifuge Emergency Repair	Wastewater	-	-	-	-
Critical WWPS Repairs - High Water Alarms	Wastewater	-	-	-	-
Deepwell Chlorine Analyzer	Water	101,131	-	(101,131)	-
Deepwell New Wells Site Development and Rehabilitation	Water	9,192,489	1,260,660	(7,030,987)	3,422,162
Emergency Standby Generation System	Wastewater	-	242,673	(242,673)	-
Energy Efficiency Retrofit	Wastewater	-	-	-	-
Equipment Purchases	Water/Wastewater	-	1,189,147	(1,189,147)	-
Facilities Improvement	Water/Wastewater	81,789	53,447	(101,720)	33,516
Facility Plans for Haqatna and Northern District WWTP	Wastewater	990,305	241,947	-	1,232,252
GWA Interceptor Sewer Refurbishment Project Northern District	Wastewater	-	1,074,609	-	1,074,609
Hydraulic Model for Sewer I&I SSES for Central/Northern/Southern Sewer Systems	Wastewater	-	21,683	-	21,683
Information Technology	Wastewater	3,405,330	213,190	(360,350)	3,258,170
Island Wide Real Property Survey & Mapping	Water/Wastewater	900,160	891,324	(987,780)	803,704
Island Wide Water Reservoirs	Water	1,198,244	493,367	-	1,691,611
Land Acquisitions	Water/Wastewater	18,713,451	17,680,648	(8,680,314)	27,713,785
Line Replacement - Phase IV	Water	10,750	2,559,373	(2,570,123)	-
Macheche Sewer Line Replacement	Wastewater	4,877,984	3,912,685	(1,805,680)	6,984,989
Meter Replacement Program	Water	1,716,030	868,664	(2,584,694)	-
New Compliance Laboratory	Water	939,290	-	(103,659)	835,631
Northern District WWTP Service Area PS Improvements	Water/Wastewater	4,082,056	392,173	(4,458,009)	16,220
Ordot-Chalan Paqo Sewer	Wastewater	1,254,770	593,291	(1,847,023)	1,038
Piqua Generator Building	Water	637,118	-	-	637,118
Program Management Office	Water	62,664	-	-	62,664
Pump, Motors, Cables, Pipes, Mixers Replacements	Water/Wastewater	3,367,151	1,876,746	(502,968)	4,740,929
Route 1 Sanitary Sewer Rehabilitation and Replacement (Asan-Adelup-Haqatna)	Water/Wastewater	2,965	707,010	(707,284)	2,691
Route 2 Aqat War in the Pacific National Park Sewerline Rehab & Replacement	Wastewater	2,876,205	1,883,989	(3,028,680)	1,731,514
Route 3 16" Pressure Regulating Valve and Isolation Valves	Water	526,889	1,842,825	-	2,369,714
Route 4 Relief Sewer Line Rehabilitation Replacement	Water	141,082	-	-	141,082
SCADA System for Water and Wastewater	Wastewater	593,692	19,099	-	612,791
Sewer Pump Station Improvements	Water/Wastewater	2,020,879	853,410	-	2,874,289
System Wide District Meters	Wastewater	606,069	77,815	(99,355)	584,529
Tamuning Hot Spots Sewer Line Rehabilitation and Replacement	Water	273,359	-	-	273,359
Tiyan Water Audit	Wastewater	517,904	34,445	-	552,349
Tumon Hot Spots Sewer Line Rehabilitation	Water	48,058	-	-	48,058
Ugum WTP Improvements	Wastewater	420,650	11,857	-	432,507
Umatac-Merizo Wastewater Systems	Water	5,680	664,724	(193,284)	477,120
Upgrade to Secondary Treatment at NDWWTP	Wastewater	2,897,896	7,910,320	-	10,808,216
USWTP Equipment Purchase to Provide Redundancy	Wastewater	-	3,706,259	-	3,706,259
Vacuum Regulators	Water	32,471	-	(32,471)	-
Water and Wastewater Infrastructure Improvements	Water	-	-	-	-
Water BPS Improvements	Water/Wastewater	1,171,871	2,054,416	-	3,226,287
Water Chlorination System	Water	80,502	173,373	-	253,875
Water Distribution Systems	Water	374,473	118,364	(492,883)	(46)
Water Hydraulic Modeling Data Collection	Water	167,005	245,616	-	412,621
Water Hydraulic Modeling Data Collection Barrigada Service Area	Water	486,031	74,224	-	560,255
Water Resources Master Plan	Water	2,489,141	147,572	-	2,636,713
Water System Hydraulic	Water	682,304	501	-	682,805
Water System Hydro Analysis	Water	-	-	-	-
Wet Barrel Fire Hydrants Replacement Project	Water	282,960	58,409	(115,000)	226,369
		\$ 111,695,887	\$ 109,129,229	\$ (42,381,190)	\$ 178,443,926

See Accompanying Independent Auditors' Report.

**GUAM WATERWORKS AUTHORITY**  
**(A Component Unit of the Government of Guam)**

System Development Charge Fund  
Schedules of Net Position, Revenue, Expenses and Changes in Net Position  
September 30, 2018 and 2017

ASSETS

	2018	2017
Current assets:		
Restricted cash	\$ 10,184,847	\$ 9,986,016
Receivables	163,319	127,286
Due from GWA	1,114,769	-
	\$ 11,462,935	\$ 10,113,302

LIABILITIES AND NET POSITION

Current liabilities:		
Due to GWA	\$ -	\$ 39,092
Net position:		
Restricted	11,462,935	10,074,210
	\$ 11,462,935	\$ 10,113,302

REVENUES, EXPENSES AND CHANGES IN NET POSITION

Revenues:		
System development charge	\$ 1,070,985	\$ 871,946
Other revenues	317,740	12,717
	1,388,725	884,663
Expenses:		
Miscellaneous	-	-
Change in net position	1,388,725	884,663
Net position at beginning of year	10,074,210	9,189,547
Net position at end of year	\$ 11,462,935	\$ 10,074,210

See Accompanying Independent Auditors' Report.

**GUAM WATERWORKS AUTHORITY**  
**(A Component Unit of the Government of Guam)**

Schedule of Operating Revenues  
Years Ended September 30, 2018 and 2017

	2018	2017
Water	\$ 66,375,564	\$ 63,976,842
Wastewater	38,301,405	37,194,332
Surcharges:		
Legislative	3,470,508	3,207,226
System development charge	1,070,985	871,946
Other	519,529	435,514
Bad debts expense	(2,162,950)	(1,316,397)
Total operating revenues	\$ 107,575,041	\$ 104,369,463

See Accompanying Independent Auditors' Report.

**GUAM WATERWORKS AUTHORITY**  
**(A Component Unit of the Government of Guam)**

Schedule of Employee and Other Data  
Years Ended September 30, 2018 and 2017

2018					
Department	Full-Time Employees	Personnel Services	Contractual Services	Materials and Supplies	Total
Administration	56	\$ 3,072,848	\$ 1,497,992	\$ 122,906	\$ 4,693,746
Accounting	28	1,851,209	655,085	39,399	2,545,693
Engineering	31	868,686	1,102	15,912	885,700
Collection and Distribution	70	3,810,314	879,954	818,938	5,509,206
Utility Services	72	2,473,922	1,844	57,243	2,533,009
Production and Treatment	111	6,457,529	2,000,674	1,117,540	9,575,743
<b>Total</b>	<b>368</b>	<b>\$ 18,534,508</b>	<b>\$ 5,036,651</b>	<b>\$ 2,171,938</b>	<b>\$ 25,743,097</b>

2017					
Department	Full-Time Employees	Personnel Services	Contractual Services	Materials and Supplies	Total
Administration	50	\$ 4,336,973	\$ 1,248,243	\$ 84,364	\$ 5,669,580
Accounting	27	1,810,878	725,189	25,347	2,561,414
Engineering	30	1,115,812	4,290	-	1,120,102
Collection and Distribution	62	3,347,242	771,017	708,638	4,826,897
Utility Services	55	2,498,284	6,456	44,250	2,548,990
Production and Treatment	106	6,588,728	1,332,234	682,947	8,603,909
<b>Total</b>	<b>330</b>	<b>\$ 19,697,917</b>	<b>\$ 4,087,429</b>	<b>\$ 1,545,546</b>	<b>\$ 25,330,892</b>

See Accompanying Independent Auditors' Report.