

2022

# Annual REPORT BUTUAN CITY WATER DISTRICT

REPLICATING NATURE'S WAY



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# BRIEF HISTORY

The Butuan City Water District (BCWD) was created on April 1, 1974 by the Municipal Board of Butuan City under the leadership of then Mayor Figurado O. Plaza. Its birth was covered by Resolution No. 256 and in accordance with the provisions of Presidential Decree No. 198, as amended, otherwise known as the "Provincial Water Utilities Act of 1973."

Officially appointed to constitute the first set of policy makers representing five sectors of the community were: Dr. Arturo Ramirez (*Professional Sector*), Miguel Agot (*Business Sector*), Engr. Federico Lamigo (*Socio-Civic Sector*), Rev. Cesario Alegado (*Education Sector*), and Aida Ochoa-Veloso (*Women's Sector*).

At the start, BCWD had only 700 service connections and some outdated facilities handed down by the city government-owned waterworks that assumed the water system from the defunct NAWASA, a national government operated water system.

Today, it prides itself with 55,689 active service connections generated as of December 31, 2022 from the total 59 barangays that make up the existing network. Distribution lines covering more barangays are scheduled for activation any time after the planned expansion projects shall be completed.



BCWD

**BUTUAN CITY WATER DISTRICT**

*Replicating Natures Way*



## VISION

A leader in the water and sanitation industry advancing integrated water resource management.

## MISSION

Butuan City Water District a service oriented entity endeavors to preserve the environment, deliver quality service and satisfy its customers.

## CORE VALUES

- C** - Commitment
- L** - Leadership
- I** - Integrity
- E** - Excellence
- N** - Novelty (*Innovation*)
- T** - Teamwork
- S** - Safety

OFFICE OF THE  
**BOARD OF** **Directors**



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Professional Sector  
Committee on Legal Bids and Awards



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**Treasurer**  
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**ENGR. RONALDO C. MONTERO**  
**Member**  
Education Sector  
Committee on Personnel &  
Property Technology



# PREFACE

The data and information used in this annual journal are actually the performance of each unit/department covering a calendar year of operation. Basically, Butuan City Water District is a water utility covering its franchise service area. Just like any typical water utility its operation involves but not limited to water sourcing, transmission and distribution and most importantly the water treatment and inherently the water quality monitoring to ensure water fits for human consumption. In order to continue providing services, BCWD maintains its water facilities, appurtenances and services as part of the whole water supply operation.

The whole operation would somehow be unsuccessful without the stint of each support unit/department to the requirements needed in the operation and so this report would account their contributory performance. This would also account for the major on-going developmental projects status of BCWD and the expected impact to the whole system. On top of everything, performance indicators would tell tales about how BCWD fared in 2022 in terms of performance.

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# ABOUT US

## UTILITY PROFILE

### BUTUAN CITY WATER DISTRICT

<b>Address</b>	Jose Rosales Avenue, Butuan City 8600
<b>Classification</b>	Category "A"- Very Large
<b>Water Sources</b>	Surface and Ground Water
<b>Water Treatment Method</b>	Chlorination
<b>Pumping Stations</b>	4
<b>Tanks &amp; Reservoir</b>	6
<b>Total Service Connections:</b>	55,689
Residential	51,800
Commercial	3,301
Government	481
Bulk	107
<b>Service Area:</b>	86 Barangays
Served Barangays	59 Barangays
Unserve Barangays	27 Barangays
<b>Population Serve</b>	278,950
<b>Personnel</b>	216
Permanent	143
Job Order	73
<b>Service Connection per Employee</b>	389



## TARIFF AND FEES

CLASSIFICATION	SIZE	SERVICE MIN. CHARGE 0-10 cu.m.	COMMODITY CHARGE				
			11-20 cu.m.	21-30 cu.m.	31-40 cu.m.	41-50 cu.m.	Over 50 cu.m.
Residential	1/2"	208.65	38.35	41.75	49.00	57.55	67.55
Government	3/4"	333.80	38.35	41.75	49.00	57.55	67.55
	1"	667.65	38.35	41.75	49.00	57.55	67.55
	1-1/2"	1,669.20	38.35	41.75	49.00	57.55	67.55
	2"	4,173.00	38.35	41.75	49.00	57.55	
Commercial 1	1/2"	365.10	67.10	73.05	85.75		
	3/4"	584.15	67.10	73.05	85.75		
	1"	1,168.35	67.10	73.05	85.75		
	1-1/2"	2,921.10	67.10	73.05	85.75		
	2"	7,302.75	67.10	73.05	85.75		
Commercial 2	1/2"	417.30	76.70	83.45	98.00	115.10	135.10
Industrial	3/4"	667.60	76.70	83.45	98.00	115.10	135.10
	1"	1,335.30	76.70	83.45	98.00	115.10	135.10
	1-1/2"	3,338.40	76.70	83.45	98.00	115.10	135.10
	2"	8,346.00	76.70	83.45	98.00	115.10	135.10
Bulk/ Wholesale	1/2"	625.95	115.05	125.20	147.00	172.65	202.65
	3/4"	1,001.40	115.05	125.20	147.00	172.65	202.65
	1"	2,002.95	115.05	125.20	147.00	172.65	202.65
	1-1/2"	5,007.60	115.05	125.20	147.00	172.65	202.65
	2"	12,519.00	115.05	125.20	147.00	172.65	202.65

# WATER SOURCES



**SURFACE  
WATER**  
(Taguibo River)  
via PPP bulk Water



# GROUND WATER



Pump Station **No.01**



Pump Station **No.17**



Pump Station **No.03**



# STORAGE FACILITIES

Tanks and Reservoirs



**RESETTLEMENT** Elevated Reservoir



**BLISS** Elevated Reservoir



**KM 6, LIBERTAD** Ground Reservoir and Booster Station



**EMILY** Ground Reservoir and Booster Station



# BILLED CONNECTION PER BARANGAY BY CLASSIFICATION

As of December 31, 2022

<b>BILLED CONNECTION (URBAN)</b>							
<b>No.</b>	<b>Barangay</b>	<b>Residential</b>	<b>Government</b>	<b>Commercial I</b>	<b>Commercial II</b>	<b>Bulksale</b>	<b>TOTAL</b>
1	AGAO	115	1	9	5	0	<b>130</b>
2	BAAN RIVERSIDE	975	4	3	2	0	<b>984</b>
3	BADING	1,053	3	4	3	0	<b>1,063</b>
4	BAYANIHAN	1,246	14	43	126	0	<b>1,429</b>
5	BUHANGIN	737	3	0	4	0	<b>744</b>
6	DAGOHOY	402	22	49	96	2	<b>571</b>
7	DATU SILONGAN	142	1	58	33	0	<b>234</b>
8	DIEGO SILANG	232	29	41	47	1	<b>350</b>
9	GOLDEN RIBBON	799	1	13	29	1	<b>843</b>
10	HOLY REDEEMER	1,230	5	56	66	7	<b>1,364</b>
11	HUMABON	45	4	45	45	0	<b>139</b>
12	IMADEJAS	473	70	36	137	3	<b>719</b>
13	J.P. RIZAL	1,093	6	38	41	6	<b>1,184</b>
14	LAPU-LAPU	237	1	37	38	0	<b>313</b>
15	LEON KILAT	47	6	72	55	0	<b>180</b>
16	LIMAHA	1,525	11	149	152	7	<b>1,844</b>
17	MAHOGANY	1,083	5	2	4	2	<b>1,096</b>
18	MAON	914	5	0	3	0	<b>922</b>
19	NEW SOCIETY VILLAGE	199	4	30	24	0	<b>257</b>
20	OBRERO	1,151	9	21	18	1	<b>1,200</b>
21	ONG YIU	720	3	17	28	0	<b>768</b>
22	PORT POYOHON	739	4	46	78	4	<b>871</b>
23	RAJAH SOLIMAN	100	1	12	10	1	<b>124</b>
24	SAN IGNACIO	351	2	63	36	2	<b>454</b>
25	SIKATUNA	4	3	65	41	0	<b>113</b>
26	TANDANG SORA	789	8	99	114	0	<b>1,010</b>
27	URDUJA	20	2	48	52	0	<b>122</b>
<b>SUBTOTAL</b>		<b>16,421</b>	<b>227</b>	<b>1,056</b>	<b>1,287</b>	<b>37</b>	<b>19,028</b>

# ACTIVE CONNECTIONS

## BILLED CONNECTION PER BARANGAY BY CLASSIFICATION

As of December 31, 2022

BILLED CONNECTION (URBAN)							
No.	Barangay	Residential	Government	Commercial I	Commercial II	Bulksale	TOTAL
1	AGAO	115	1	9	5	0	130
2	BAAN RIVERSIDE	975	4	3	2	0	984
3	BADING	1,053	3	4	3	0	1,063
4	BAYANIHAN	1,246	14	43	126	0	1,429
5	BUHANGIN	737	3	0	4	0	744
6	DAGOHOY	402	22	49	96	2	571
7	DATU SILONGAN	142	1	58	33	0	234
8	DIEGO SILANG	232	29	41	47	1	350
9	GOLDEN RIBBON	799	1	13	29	1	843
10	HOLY REDEEMER	1,230	5	56	66	7	1,364
11	HUMABON	45	4	45	45	0	139
12	IMADEJAS	473	70	36	137	3	719
13	J.P. RIZAL	1,093	6	38	41	6	1,184
14	LAPU-LAPU	237	1	37	38	0	313
15	LEON KILAT	47	6	72	55	0	180
16	LIMAHA	1,525	11	149	152	7	1,844
17	MAHOGANY	1,083	5	2	4	2	1,096
18	MAON	914	5	0	3	0	922
19	NEW SOCIETY VILLAGE	199	4	30	24	0	257
20	OBRERO	1,151	9	21	18	1	1,200
21	ONG YIU	720	3	17	28	0	768
22	PORT POYOHON	739	4	46	78	4	871
23	RAJAH SOLIMAN	100	1	12	10	1	124
24	SAN IGNACIO	351	2	63	36	2	454
25	SIKATUNA	4	3	65	41	0	113
26	TANDANG SORA	789	8	99	114	0	1,010
27	URDUJA	20	2	48	52	0	122
<b>SUBTOTAL</b>		<b>16,421</b>	<b>227</b>	<b>1,056</b>	<b>1,287</b>	<b>37</b>	<b>19,028</b>

## BILLED CONNECTION (RURAL)

No.	Barangay	Residential	Government	Commercial I	Commercial II	Bulksale	TOTAL
1	AGUSAN PEQUEÑO	924	6	0	1	0	<b>931</b>
2	AMBAGO	3,308	21	17	39	4	<b>3,389</b>
3	AMPAYON	2,309	31	69	85	5	<b>2,499</b>
4	ANTICALA	27	3	0	0	1	<b>31</b>
5	ANTONGALON	254	5	0	3	1	<b>263</b>
6	BAAN KM.3	3,026	16	47	64	8	<b>3,161</b>
7	BABAG	250	2	0	0	1	<b>253</b>
8	BANCASI	269	9	1	4	1	<b>284</b>
9	BANZA	558	4	1	1	0	<b>564</b>
10	BASAG	236	2	0	0	0	<b>238</b>
11	BIT-OS	158	0	1	0	0	<b>159</b>
12	BOBON	30	0	0	0	0	<b>30</b>
13	BONBON	366	2	0	2	2	<b>372</b>
14	CABCABON	273	3	0	0	1	<b>277</b>
15	DOONGAN	3,208	24	33	42	0	<b>3,307</b>
16	DUMALAGAN	20	2	0	0	0	<b>22</b>
17	LEMON	242	6	0	0	0	<b>248</b>
18	LIBERTAD	5,798	48	114	177	21	<b>6,158</b>
19	LUMBOCAN	679	7	0	0	0	<b>686</b>
20	MAHAY	547	3	2	1	1	<b>554</b>
21	MASAO	266	2	1	1	0	<b>270</b>
22	MAUG	329	1	0	1	0	<b>331</b>
23	PAGATPATAN	904	8	2	0	0	<b>914</b>
24	PANGABUGAN	452	1	0	2	0	<b>455</b>
25	PIANING	206	0	0	0	1	<b>207</b>
26	PIGDAULAN	234	4	0	3	1	<b>242</b>
27	PINAMANCULAN	15	0	0	0	0	<b>15</b>
28	SAN VICENTE	3,476	11	35	34	9	<b>3,565</b>
29	TAGUIBO	1,651	10	0	13	0	<b>1,674</b>
30	TALIGAMAN	317	3	0	1	1	<b>322</b>
31	TINIWISAN	668	10	1	6	2	<b>687</b>
32	VILLA KANANGA	4,380	10	35	117	11	<b>4,553</b>
<b>SUBTOTAL</b>		<b>35,380</b>	<b>254</b>	<b>359</b>	<b>597</b>	<b>71</b>	<b>36,661</b>
<b>59</b>	<b>GRAND TOTAL</b>	<b>51,801</b>	<b>481</b>	<b>1,415</b>	<b>1,884</b>	<b>108</b>	<b>55,689</b>

# POPULATION SERVE

With a total estimated population of **378,000** in the 2022 based on 1.89% growth rate of Macrotrends. Butuan has an average density of 460 persons per km<sup>2</sup>, higher than the regional average density of 130 persons per km<sup>2</sup>. It has 86 urban and rural barangays of which 59 barangays are connected to the water district pipelines about 55,689 households with water service connections or 278,445 based on the average size of Filipino family with 5 members – roughly 75% of the total population.





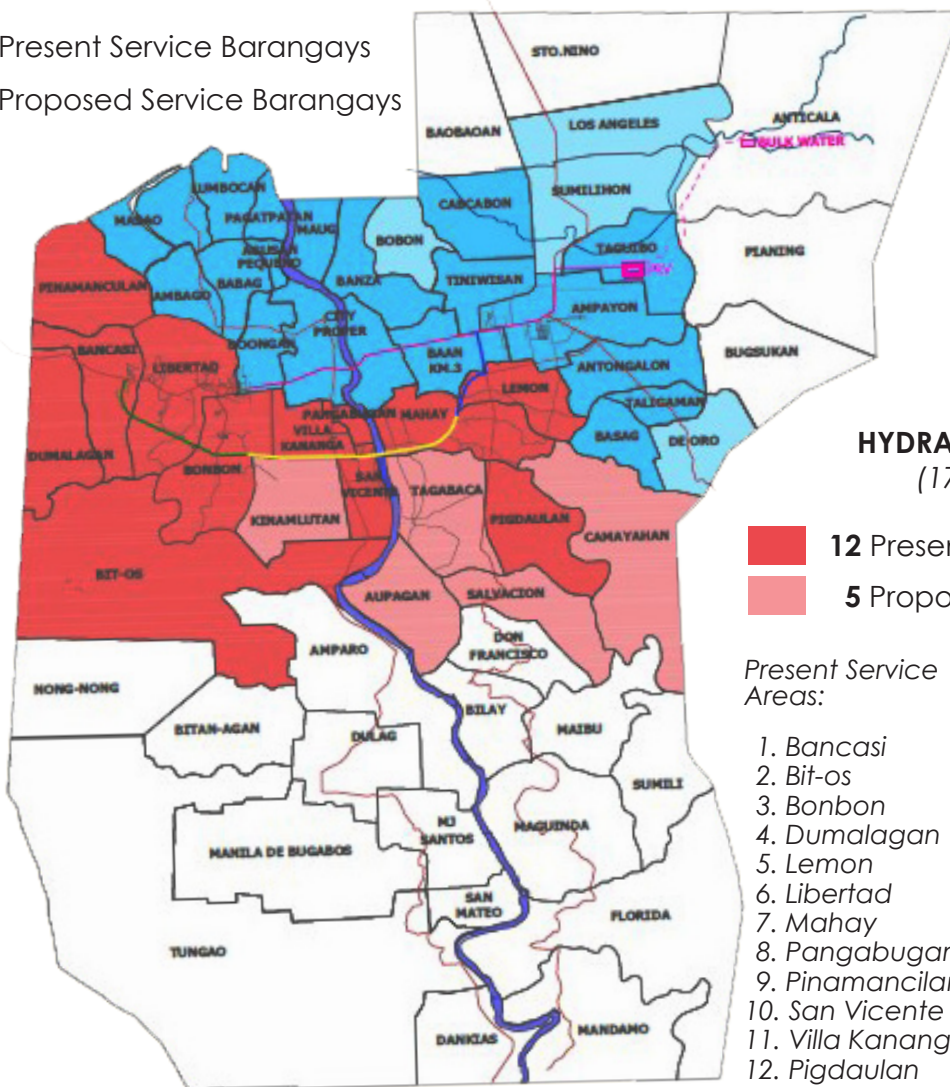
# SERVICE AREA

## PRESENTLY SERVED & PROPOSED SERVICE BARANGAYS

Proposed Tapping Point: Baan Km.3

### HYDRAULIC AREA NO. 1 (48 Barangays)

- 44 Present Service Barangays
- 4 Proposed Service Barangays



### HYDRAULIC AREA NO. 2 (17 Barangays)

- 12 Present Service Barangays
- 5 Proposed Service Barangays

Present Service Areas:

Proposed Service Areas:

1. Bancasi
2. Bit-os
3. Bonbon
4. Dumlagan
5. Lemon
6. Libertad
7. Mahay
8. Pangabugan
9. Pinamancilan
10. San Vicente
11. Villa Kananga
12. Pigdaulan

1. Kinamlutani
2. Tagabaca
3. Aupagan
4. Camayahan
5. Salvacion

### LEGEND:

- Unserved Barangays (21 Barangays)
- Section A (Baan Km. 3 - Mahay) 3.0 km.
- Section A (Mahay - Bonbon) 7.0 km.
- Section C (Bonbon - Bancasi Rotunda) 6.416 km.

# OPERATION

## WATER PRODUCTION

In 2022, volume of water produced totalled 18,241,800.32M3 with 15,932,400.32 M3 coming from bulk water provider Taguibo Aquatic Solution Corporation and 2,309,400M3 from BCWD's four (4) pump stations representing 87.34% and 12.66% of total production, respectively.

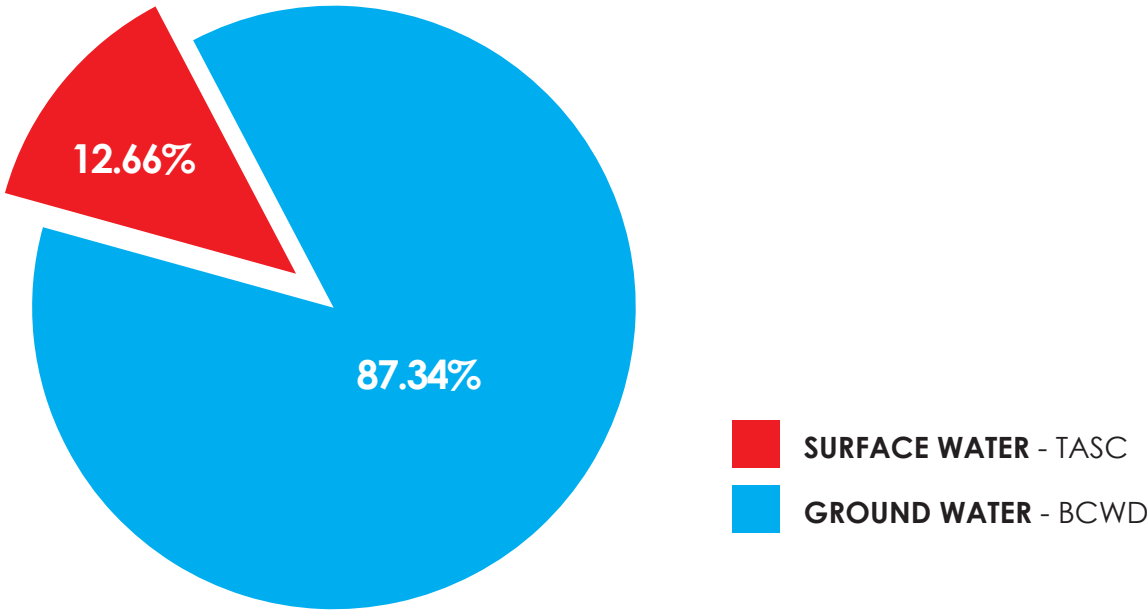
Statistical data on population served with access to potable water has been at 278,445 contrasting with the city's total population of 378,000 would give us a discrepancy of 102,555 representing 27% of the population who does not have access to potable water delivered to respective homes by Water District. Conversely, these individuals are living in remote areas where there is no water service yet.

How is the total volume of water produced in the year 2022 distributed is a matter of interest for everyone. The system performance is portrayed in a graphic presentation below:

### Water Production

By sources

### DISTRIBUTION

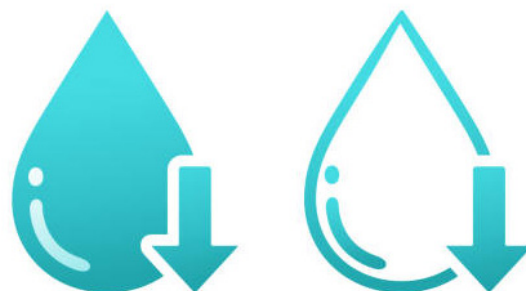


## Summary of Water Production and Losses

### January - December, 2022

Month	PRODUCTION			Billed Volume M <sup>3</sup>	MONTHLY					
	TASC M <sup>3</sup>	Ground M <sup>3</sup>	Total		Non-Revenue Water					
					M <sup>3</sup>	%	Production	Billed	NRW	%
January	787,020	299,371	1,086,391	639,622	446,769	41.1%	1,086,391	639,622	446,769	41.12%
February	892,947	236,719	1,129,666	631,644	498,022	44.1%	2,216,057	1,271,266	944,791	42.63%
March	1,165,389	238,619	1,404,008	700,144	703,864	50.1%	3,620,065	1,971,410	1,648,655	45.54%
April	1,325,694	234,174	1,559,868	844,009	715,859	45.9%	5,179,933	2,815,419	2,364,514	45.65%
May	1,488,125	41,039	1,529,164	807,290	721,874	47.2%	6,709,097	3,622,709	3,086,388	46.00%
June	1,412,183	136,888	1,549,071	792,893	756,178	48.8%	8,258,168	4,415,602	3,842,566	46.53%
July	1,462,548	226,757	1,689,305	809,931	879,374	52.1%	9,947,473	5,225,533	4,721,940	47.47%
August	1,424,072	310,716	1,734,788	843,958	890,830	51.4%	11,682,261	6,069,491	5,612,770	48.05%
September	1,425,589	132,272	1,557,861	900,227	657,634	42.2%	13,240,122	6,969,718	6,270,404	47.36%
October	1,519,410	128,104	1,647,514	862,944	784,570	47.6%	14,887,636	7,832,662	7,054,974	47.39%
November	1,458,292	137,924	1,596,216	800,846	795,370	49.8%	16,483,852	8,633,508	7,850,344	47.62%
December	1,521,132	180,180	1,701,312	847,345	853,967	50.2%	18,185,164	9,480,853	8,704,311	47.86%
<b>Total</b>	<b>15,882,401</b>	<b>2,302,763</b>	<b>18,185,164</b>	<b>9,480,853</b>	-	-	-	-	-	-

System losses is very significant at 47.86% way more than the standard 20% set by Local Water Utilities Administration (LWUA) with only 64% billed to customers and converted to water sale revenues and 46% to outright losses. Non-water Revenue (NRW) if not controlled becomes a culprit of operation inefficiency leading to expensive operation.



# NON-REVENUE WATER REDUCTION PROGRAM

BCWD has long identified Non-revenue Water losses a threat to undermine operation efficiency that in year 2016 it created a group of engineers and support staffs to form a new unit dubbed as Non-revenue Water Unit of BCWD under the direct supervision of the office of the General Manager (OGM). Its organizational mandate is to study and assess the system requirements and put in place strategies controlling non-revenue water losses to acceptable level.

One of the strategies suggested and proposed by the NRW Unit is the establishment of District Metering Areas (DMAs) which divides the whole water system into districts putting in place mother flowmeter for each district area for control and monitoring the inward flow (*supply*) and outward flow (*usage*) of water in a particular district area. This project would cost millions if implemented simultaneously. This has been taken one (1v) or two (2) at a time considering the financing capability of the Water District; since the institution of the NRW Unit, there are five (5) established District Metering Areas in the entire system which covers, by rough estimate, to five per cent (5%) of the requirement. These established DMAs are managed by the NRW Unit as pilot study subjects where they test how workable and effective their strategies to curve and control Non-revenue Water losses in these respective District Metering Areas under management. In gradual fashion, as BCWD's financial capacity would allow, other DMAs will be established and manage by NRW Unit practically applying tested methods and strategies they successfully used in pilot DMAs as study subjects. By realistic projection, BCWD would be able to bring down Non-revenue Water losses to industry standard level.

District Metering Areas managed by NRW unit showed how NRW reduction initiative can help restore system integrity that brings about water production efficiency.



## DISTRICT METERING AREAS

DMA	NO. OF SC	BASELINE NRW VALUE	YEAR MANAGED	TARGET REDUCTION PER YEAR	ACTUAL NRW REDUCTION				REMARKS
					2019	2020	2021	2022	
	as of July-December 2021	cum		cum	cum	cum	cum		
AGUSAN P. +PAGATPATAN +BABAG	1,916	19,457	2018	2,000	Defective FM	Isolation Valve Opened. DMA is opened. No NRW Computation	Erratic Reading of FM after closure of Isolation Valve. FM is recommended for replacement	0	For Calibration
BUHANGIN + MAHAY	1,070	52,160	2018	5,000	Defective FM	5,535	8208	0	For Calibration
BANZA + MAUG	792	80,067	2018	13,000	27,573	23,727	19,224	5,565	For Calibration
MAHOGANAY	820	49,075	2021	5,000			0	0	For Calibration
TINIWISAN + CAB CABON	657	118,420	2021	5,000			0	20,448	Operational DMA as of 2022
<b>TOTAL</b>	<b>5,255</b>	<b>319,179</b>	<b>10,096</b>	<b>30,000</b>	<b>27,573</b>	<b>29,262</b>	<b>27,432</b>	<b>26,013</b>	

Among the five (5) DMAs only one is operational and functioning well – the Banza + Maug area. From the baseline NRW of 80,067m<sup>3</sup> in 4-year of DMA monitoring and management total NRW reduction for the particular DMA is 76,089m<sup>3</sup> which represents 95% of water losses recovered.

The preceding DMA initiative would tell that BCWD is right on track in its campaign to contain the non-revenue water losses – from the time of establishment and management of these pilot DMAs physical water losses have been greatly reduced take for instance, DMA of Banza + Maug from the baseline NRW of 80,067m<sup>3</sup> in 4 year time total NRW reduction totalled 76,089m<sup>3</sup> which is 90% baseline NRW reduction.

Based on record, the Non-revenue Water of for the past seven (7) years is summarized below which indicate a constant increasing graduation pattern.

YEAR	NON-REVENUE WATER
2016	15.92%
2017	12.65%
2018	20.11%
2019	39.30%
2020	43.60%
2021	46.00%
2022	47.86%

# WATER QUALITY

The quality of water from different sources go through and passed the National Standard for Drinking Water set by the Department of Health and closely monitored by Local Water Utilities Administration (LWUA). Producing water with standard quality passes through a lot of processes like water treatment and constant monitoring involving physical/chemical and bacteriological aspects through laboratory test runs guided with parameters standard set by regulatory authorities. BCWD uses chlorination to sanitize and disinfect water from sources and to ensure water fits for human consumption - physical/chemical properties including the presence of bacteria and parasites are determined in the laboratory facilities.

## I. PHYSICAL AND CHEMICAL ANALYSIS

Water has physical and chemical properties and in order to fit human consumption these properties should be contained and controlled in certain level called parameters. Physical properties may include the odor, temperature, color, turbidity and total suspended solids while the chemical properties include pH (water acidity), salinity, total dissolved solids, total hardness and specific minerals. BCWD analyses and monitors the physical and chemical properties of its water supply all throughout the entire system.

Butuan City Water District (BCWD) water supply mainly comes from the Taguibo River. Being a surface-water, it is considered vulnerable to contamination from agricultural, mining, water run-off, industrial, and domestic waste water discharges.

For the four (4) deep well sources which serve as a back-up water supply source, namely pump station Nos. 1, 14, 15 and 17 and the support facilities such as the concrete and steel tanks/reservoirs, a monthly physical and chemical tests were conducted as to parameters that the BCWD Laboratory can perform. The analysis for heavy metals was done once a year thru other accredited laboratory capable to conduct the said analyses. All the tests were conducted in compliance with the PNSDW requirement.

The BCWD Water Testing Laboratory is a duly DOH Accredited Laboratory for Physical, Chemical and Bacteriological Analysis, thus it extends its laboratory services to neighboring Water Districts, LGUs, Refilling Stations, Mining companies and other private entities who voluntarily avail of the services for a fee.

## II. BACTERIOLOGICAL ANALYSIS

Water borne bacteria is the most menacing concern of any water supply system since it can cause an epidemic in just a short period of time the moment a person drink a contaminated glass of water. Hence, BCWD see to it always that its water supply is bacteria-free.

In accordance with the PNSDW 2007, Table 1: Minimum Frequency of Sampling for Drinking-Water Supply Systems for Microbiological Examination, for a level III water supply system serving more than a 100,000 population, the minimum sampling points for Bacteriological Analysis is calculated as twenty samples plus one sample per 10,000 of the population. To get the total population served by the utility, number of service connections is multiplied with the number of persons per connection.

POPULATION SERVED	MINIMUM NUMBER AND FREQUENCY OF SAMPLING FOR TOTAL COLIFORM AND THERMOTOLERANT COLIFORM/ E. COLI	MINIMUM FREQUENCY OF SAMPLING FOR HETEROTROPHIC PLATE COUNT (HPC)	POINT OF COMPLIANCE
less than 5000	1,916 2 samples monthly	2 samples monthly	consumers' tap
5,000-100,000	1 sample per 5,000 population + 2 additional samples monthly	1 sample per 5,000 population + 2 additional samples monthly	consumer's tap
more than 100,000	1 sample per 10,000 population + 12 additional samples monthly	Required at least 40% of the sampling points	consumer's tap

By the end of December 2022, there were a total of 55,689 service connections. This number multiplied with the average number of individuals per service connection which is five (5) will result to 278,445 served population. Following Table 1 of the PNSDW 2017, a total of 39 minimum samples is required for bacteriological analysis every month. Instead of the required 39 sampling points, BCWD had established up to 54 sampling points for Bacteriological Analysis.

BCWD regularly conducts monitoring activities of the water from source to distribution lines to water meter clusters to ensure that the water produced and distributed to concessionaires are compliant with the standards set by the Philippine National Standard for Drinking Water (PNSDW). Monitoring activities included chlorine residual testing and collection of samples including analysis for physical and chemical parameters including laboratory bacteriological examination.



An all-year round sampling and testing activities for Chlorine residual, Bacteriological and Physical & Chemical laboratory test parameters are shown below:

B. IN-HOUSE ACTIVITIES / BCWD	1 <sup>ST</sup> QUARTER	2 <sup>ND</sup> QUARTER	3 <sup>RD</sup> QUARTER	4 <sup>TH</sup> QUARTER	TOTAL
<b>A. CHLORINE RESIDUAL MONITORING</b>					
Sample Collected	1657	1784	1792	1583	6816
Passed	1642	1768	1778	1577	6765
Failed	15	16	14	6	51
<b>B. BACTERIOLOGICAL TEST MONITORING</b>					
Sample Collected	141	146	147	144	578
Passed	141	146	147	144	578
Failed	0	0	0	0	0
<b>C. PHYSICAL AND CHEMICAL TEST MONITORING</b>					
Sample Collected (sources)	22	23	18	24	87
<b>D. DISINFECTION</b>					
New Pipelines	2	0	1	1	4
Facilities/Reservoir	0	0	1	2	3
CSU/TASC Sample	0	0	184	184	368

## FLUSHING AND VALVE EXERCISE

BCWD follows a regular flushing schedule covering the entire water supply system to maintain water quality at par with National Standard. In time, solids, like sand and other foreign materials accumulate in the system which eventually affects water quality. During flushing activity, pipeline in a particular service area is isolated to build up strong water pressure which forces solids and other similar foreign materials out to the hydrants and blow-offs leaving a fresh, good-tasting and high quality potable water in the pipelines after each flushing.

Part of the flushing program involves testing the large main-line valves and fire hydrants to ensure that they are functioning properly. As of December 2020, BCWD maintains approximately 160 hydrants and 410 blow offs all with gate valves.



To minimize its impact to water service interruption, flushing activities are scheduled during night time (8:00 pm to 4:00 am) and is conducted by two (2) flushing personnel. Summary of flushing activities all year round is tabulated below.

MONTH CY 2022	SCHEDULE		ACTUAL	TOTAL VOLUMED FLUSHED (CU.M.)
1 <sup>st</sup> Quarter	FBO	384	0	<b>8.67 cu.m.</b>
	SFH	153	4	
	TOTAL	537	4	
2 <sup>nd</sup> Quarter	FBO	465	417	<b>3,139.89 cu.m.</b>
	SFH	242	195	
	TOTAL	707	612	
3 <sup>rd</sup> Quarter	FBO	574	544	<b>2,327.00 cu.m.</b>
	SFH	205	222	
	TOTAL	779	766	
4 <sup>th</sup> Quarter	FBO	538	446	<b>1,807.00 cu.m.</b>
	SFH	245	223	
	TOTAL	783	669	
<b>TOTAL FLUSHED VOLUME OF CY 2022</b>				<b>7,282.56 cu.m.</b>

### FREQUENCY OF SAMPLING AND RE-SAMPLING

The minimum number of samples to be collected and examined periodically must be based on the mode of source of water supply and the number of population served as required under the PNSDW 2007. However, frequency of sampling should also take into account the past record yielding unsatisfactory results. Resampling after a conduct of flushing was also made in areas where results were found unsatisfactory until confirmation that the water running through the pipes is free from non-conforming matter.



#### IV. CHLORINATION

Microorganisms can be found in raw water from rivers, lakes and groundwater. While not all microorganisms are harmful to human health, there are some that may cause diseases in humans. These are called pathogens. Pathogens present in water can be transmitted through a drinking water distribution system, causing waterborne diseases.

In order to combat waterborne diseases, different disinfection methods are used to inactivate pathogens. Along with other water treatment processes such as coagulation, sedimentation, and filtration, chlorination creates water that is safe for public consumption.

Chlorination is one of many methods that can be used to disinfect water. This method was first used over a century ago, and is still used today. It is a chemical disinfection method that uses various types of chlorine or chlorine-containing substances for the oxidation and disinfection potable water source.

BCWD has been using chlorine in water treatment, disinfection of new pipelines, tanks and reservoirs in which controlled amount of chlorine had been put in the system. BCWD's major water treatment is chlorination using Gas Chlorine injected into the water supply system through chlorinators while Liquid Chlorine is used to treat potable water stored in reservoirs and tanks; Granulated Chlorine is mostly used in disinfecting new lines before being integrated into the system, as shown in the table below:

**For the year 2022, BCWD consumed a total of 11,573 kg of chlorine gas, 62 kg of powder chlorine and 1,895 liters of hypo chlorine used for treating the water prior to distribution to ensure that the water supplied to the concessionaires is safe for drinking.**

DESCRIPTION	1 <sup>ST</sup> QUARTER	2 <sup>ND</sup> QUARTER	3 <sup>RD</sup> QUARTER	4 <sup>TH</sup> QUARTER	TOTAL	
	(kgs)	(kgs)	(kgs)	(kgs)	(kgs)	Cost
68 (kgs)	2,057.67	827.3	1,004.01	600.8	4,489.78	436,090.32
1 Tonner Liquid (kgs)	2,008.57	1,735.72	1,614.00	1,725.10	7,083.39	498,611.51
Chlorine Powder(kgs)	-	10	24	28	62	1,748.53
Chlorine Liquid ( Li )	-	220	800	875	1,895.00	304,961.70
<b>Total</b>	<b>4,066.24</b>	<b>2,793.02</b>	<b>3,442.01</b>	<b>3,228.90</b>	<b>13,530.17</b>	<b>1,241,412.06</b>



## CHLORINE RESIDUAL TEST & MONITORING

The presence of chlorine from the source up to the end points of the supply lines must be traced to ensure pathogens and other micro-organism could thrive in drinking water so much that BCWD regularly checks the trace of chlorine all throughout the water supply system. Regular monitoring of chlorine residual was conducted at various points in the water system to ensure that the water running is within the approved level of 0.3 (*minimum*) to 1.5 (*maximum*) mg/L. For samples where free chlorine fell out of the range, the bacteriological results were checked and found to be still compliant with PNSDW. Adjustments of chlorine dosing at pump station1 and at distribution lines of tanks were regularly made in order to limit the non-compliant reading of chlorine residual.

Regular monitoring of chlorine residual was conducted at various points in the water system to ensure that the water running is within the approved level of 0.3 (**minimum**) to 1.5 (*maximum*) mg/L - where the Number of samples taken and analyzed for Chlorine Residual Monitoring every month should Passed at least 70% of the total samples taken and with all these stringent control and monitoring, concessionaires and stakeholders are assured of quality water passing National Standard for Drinking Water.



# REVENUE GENERATION

The major revenue stream for Water Districts is coming from Water Sales – the life-blood of water utility operation. The year 2022 was good for BCWD with the waning effect of the intermittent directive on community quarantine due to Covid-19 Virus pandemic severely affecting business operations and ultimately crippling commerce and the economy as a whole. Sales revenues figures in 2022 reflect recovery as compared in 2021 – the time when Covid-19 virus was still circulating around – see Sales Revenues below:

## WATER SALES

### BILLINGS AND COLLECTIONS

JANUARY - DECEMBER 2022

MONTH	BILLINGS			TOTAL COLLECTIONS
	CURRENT	PENALTY	TOTAL	
January	24,699,417.15	776,794.25	25,476,211.40	31,601,311.82
February	24,992,074.25	546,859.80	25,538,934.05	25,169,089.36
March	27,438,258.63	609,659.71	28,047,918.34	27,750,063.55
April	33,363,265.97	745,981.77	34,109,247.74	29,256,755.40
May	32,012,154.18	758,857.87	32,771,012.05	37,016,325.67
June	31,445,307.95	713,478.14	32,158,786.09	32,623,239.35
July	32,161,987.20	681,992.36	32,843,979.56	32,023,066.15
August	33,593,923.87	777,129.81	34,371,053.68	33,723,853.57
September	36,400,730.86	719,915.22	37,120,646.08	34,582,377.92
October	34,573,862.63	829,150.82	35,403,013.45	34,086,965.03
November	31,356,915.66	848,617.91	32,205,533.57	35,088,982.95
December	34,258,171.50	796,008.96	35,054,180.46	32,424,940.44
<b>Total</b>	<b>376,296,069.85</b>	<b>8,804,446.62</b>	<b>385,100,516.47</b>	<b>385,346,971.21</b>

From water production come the water sales, out of the total water production, roughly 48%, on the average, is lost called NRW and conversely only 52% is billed. Water sales collections looks good however, revenues generated is short for paying TASC bulk water billing obligations.

## SURCHARGE

### COMPARATIVE SCHEDULE OF SURCHARGE

for Years 2020-2022

MONTH	2020	2021	2022	TOTAL
January'	871,214.98	662,599.99	776,794.25	2,310,609.22
February	834,175.75	942,322.40	546,859.80	2,323,357.95
March	437,335.07	767,279.06	609,659.71	1,814,273.84
April	(1,066.82)	767,017.63	745,981.77	1,511,932.58
May	(618.24)	1,008,024.21	758,857.87	1,766,263.84
June	686,812.02	770,138.74	713,478.14	2,170,428.90
July	1,175,156.95	822,431.83	681,992.36	2,679,581.14
August	1,023,284.26	836,226.50	777,129.81	2,636,640.57
September	1,127,273.99	821,547.30	719,915.22	2,668,736.51
October	981,608.97	778,057.10	829,150.82	2,588,816.89
November	790,605.03	768,134.25	848,617.91	2,407,357.19
December	947,823.99	886,465.36	796,088.96	2,630,378.31
<b>Total</b>	<b>376,296,069.85</b>	<b>8,804,446.62</b>	<b>385,100,516.47</b>	<b>385,346,971.21</b>

BCWD encourages its concessionaires to pay their water bills promptly to avoid surcharge, however, a surcharge of 6% is imposed after due date for which total surcharges account for 2.33% of the total current billings, as shown in the table above. Total figures in 2022 shows concessionaires were a bit conscious in paying their bills promptly indicating a bit lower in comparison with years 2020 and 2021.

### SENIOR CITIZENS DISCOUNT

As of December 2022, nine hundred fifty-three (953) elderly concessionaires have availed the five percent (5%) senior citizen discount (SCD) granted to service connections with users aging sixty (60) years old and above whose monthly consumption does not exceed thirty (30) cubic meters. There is a slight increase of 2.25% in the number of SCD applicants in comparison to last year's nine hundred thirty-two (932).

A total discount of two hundred four thousand four hundred fifty-two and 48/100 (P 204,452.48) was granted for the whole year with an average of seventeen thousand thirty-seven pesos and 71/100 (P 17,037.71) per month, there is a slight decrease from 2021 which recorded an average of seventeen thousand eight hundred thirty-seven pesos and 96/100 (P 17,837.96).

# COLLECTIONS

We made sure that water billings are converted into cash by implementing the tight collection strategies through service closure. Water connections are disconnected 3 days after receipt of “Red Bill” hence, were able to collect the amount of ₱ 385,346,971.21 at the rate of 100.06% of total billings.

## BILLINGS AND COLLECTIONS JANUARY - DECEMBER 2022

MONTH	BILLINGS	COLLECTIONS	% OF COLLECTION OVER BILLING
January	25,476,211.40	31,601,311.82	124.04%
February	25,538,934.05	25,169,089.36	98.55%
March	28,047,918.34	27,750,063.55	98.94%
April	34,109,247.74	29,256,755.40	85.77%
May	32,771,012.05	37,016,325.67	112.95%
June	32,158,786.09	32,623,239.35	101.44%
July	32,843,979.56	32,023,066.15	97.50%
August	34,371,053.68	33,723,853.57	98.12%
September	37,120,646.08	34,582,377.92	93.16%
October	35,403,013.45	34,086,965.03	96.28%
November	32,205,533.57	35,088,982.95	108.95%
December	35,054,180.46	32,424,940.44	92.50%
<b>Total</b>	<b>385,100,516.47</b>	<b>385,346,971.21</b>	<b>100.06%</b>

Noticeably, collections included billings in arrears which explained customers paid more than their current bill – which made cash collection literally over current billings. In 2022, we were able to collect a total amount of ₱ 385,346,971.21 from active & inactive connections which is equivalent to 100.06% of total billings for the year. It is assumed that total billings were all collected (100%) and arrears accounted for the 0.06% of the total collections.



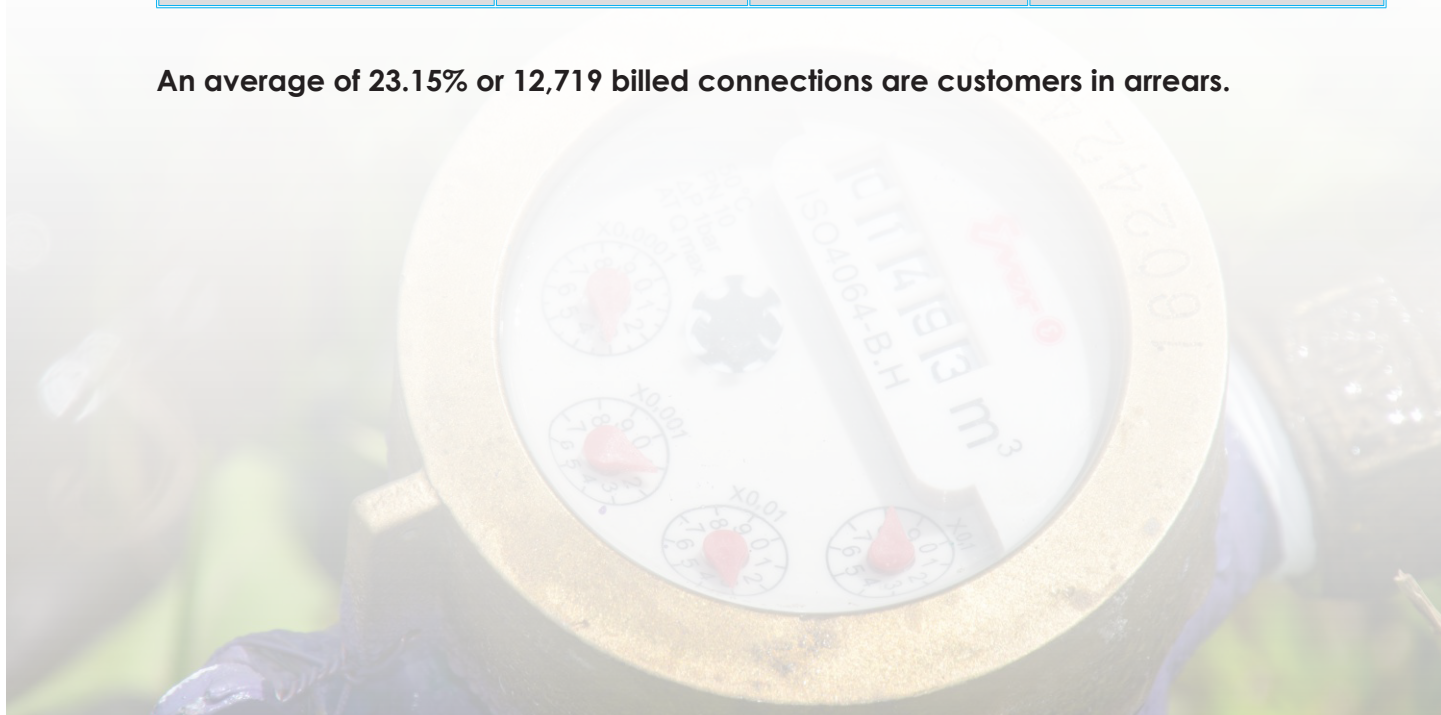
## CUSTOMERS IN ARREARS

### BILLED CONNECTIONS AND CUSTOMER-IN-ARREARS ( ACTIVE )

YEAR 2022

MONTH	BILLED CONNECTIONS	CUSTOMER IN ARREARS	% OF IN ARREARS TO BILLED CONNECTIONS
January	54,708	15,126	27.65%
February	54,631	15,953	29.20%
March	54,191	13,405	24.74%
April	54,426	13,118	24.10%
May	54,625	10,824	19.82%
June	54,805	10,909	19.91%
July	55,006	11,339	20.61%
August	55,058	11,586	21.04%
September	55,268	11,443	20.70%
October	55,421	12,440	22.45%
November	55,506	12,595	22.69%
December	55,689	13,884	24.93%
<b>MONTHLY AVERAGE</b>	<b>54,945</b>	<b>12,719</b>	<b>23.15%</b>

An average of 23.15% or 12,719 billed connections are customers in arrears.



In 2022, there were 380 inactive accounts forwarded to active accounts amounting to PHP 1,368,201.52 – out of 380 accounts, 262 are fully paid within the year amounting to PHP 519,880.12 while the remaining 118 accounts are either still paying, unpaid and closed or re-forwarded to other accounts.

MONTH	* ACCOUNTS FORWARDED		FULLY PAID WITHIN THE YEAR		VARIANCE	
	NO.	AMOUNT	NO.	AMOUNT	NO.	AMOUNT
January	58	130,863.85	48	67,285.16	10	63,578.69
February	5	5,170.30	5	5,170.30	-	-
March	2	21,491.84	1	9,739.69	1	11,752.15
April	1	3,440.38	-	-	1	3,440.38
May	107	481,731.97	93	251,087.80	14	230,644.17
June	8	11,038.59	6	5,576.85	2	5,461.74
July	65	410,757.36	43	97,152.81	22	313,604.55
August	29	63,808.89	26	57,312.95	3	6,495.94
September	2	24,627.32	1	1,940.31	1	22,687.01
October	-	-	-	-	-	-
November	3	6,541.72	2	778.23	1	5,763.49
December	100	208,729.30	37	23,836.02	63	184,893.28
<b>Total</b>	<b>380</b>	<b>1,368,201.52</b>	<b>262</b>	<b>519,880.12</b>	<b>118</b>	<b>848,321.40</b>

### BCWD ACCREDITED PAYMENT CENTERS

Customers need not go to BCWD office to pay their water bills, for ease and convenience BCWD has accredited the following collection agents to accept payments of you water bills.

#### Accredited BCWD Collecting Centers are the following:

1. Berry Happy Mart (Pizarro St., Brgy. J.P. Rizal);
2. C5 Hardware (S1 Cassion Building, near Rosewood Plains Subdivision, Villa Kananga);
3. Clarhez Ticketing Services (National Highway, Brgy. Libertad, Butuan City);
4. JPL Bayad Center (Brgy. Ampayon, Butuan City near Public Market);
5. TAM Payment and Remittance Center (Unit 1 Wing-on Corporate Building, Brgy. Holy Redeemer).
6. Veterans Bank

BCWD is considering to embarking on electronic remittance/payment platform system like Gcash, PayMaya and the likes to keep abreast with latest technology and trends.

# MAINTENANCE

## PIELINES MAINTENACE

BCWD water supply system has gone a long way more than four (4) decades of continues service. Being so, its pipe lines system caught by wear and tear, from time to time it burst out to leakages which need immediate repairs. Leakages in the transmission and distribution lines cause low water pressure and increased real water losses and ultimately the non-revenue water.

BCWD technical men are always in action to repair these leakages including those busted pipelines caused by road construction/excavation and similar infrastructure projects of the city. Leakage repair can be simple and complex depending on the size of pipe and depth of excavation. Simple leak repair requires excavation with a depth of less than 0.6 meter while complex repair necessitate an excavation of 0.6 meter and above and the size of pipes range from 2"Ø up to 12"Ø in diameter.

## GATE VALVES, BLOW-OFFS & HYDRANTS

Gate valves are used in controlling pressure and isolation of pipeline under



repair and maintenance. A blow-off is usually installed at end points of the system to make flushing and other maintenance activities easier while a (fire) hydrant is primarily use as access point to water in case of fire or it can also be used in flushing activities to flash-out solids and other materials that have entered into the pipelines. Since 2015, BCWD initiated an inventory and tagging of all existing hydrants for maintenance and monitoring. As of December 2022, PAMD had targeted 895 units for gate valves and 570 units for fire hydrants/ blow-offs maintained 46 units and 567 units, respectively.

## WATER METER MAINTENANCE

Equally critical is the maintenance of water meters; water sales begin at water meters which record and measure water consumption of customers. If water meters falter giving inaccurate under readings of water consumption proximately causing serious operation issues like undervalued water sales. In service water meters, if not well maintained, can cause apparent water losses which end up in non-revenue water.

There are many factors affecting water meter efficiency such as water quality. BCWD water meter technicians perform meter check-up, testing and calibration in the field upon the request of customers. The table below shows the number of water meters tested and calibrated all year round.

### WATER METER SHOP – CALIBRATION OF WATER METERS & REPAIR OF WATER METER INSERT

WATER METER SHOP		
A. CALIBRATION OF WATER METERS	TOTAL (2021)	TOTAL (2022)
New Water Meter Assembly	0	2,634
Withdrawn Water Meter		
Passed	3,287	3,623
Failed	2,882	2,989
New Inserts	6,179	2,858
Repaired Inserts	14	48
Passed	14	44
Failed	0	4
<b>TOTAL</b>	<b>12,362</b>	<b>12,152</b>
<b>B. FIELD TESTING CALIBRATION</b>	<b>954</b>	<b>435</b>





## **MAINTENANCE OF SERVICE CONNECTION**

Customers come to BCWD office to make request for maintenance of their water connections. The most interactive window of BCWD service is the maintenance of individual water connection whereby concessionaires react to the quality of service they received.

### **• MAINTENANCE & SERVICE REQUESTS**

Maintenance and service requests are service connection maintenance routines initiated either by BCWD or requested by the customers. The front-liners at the Commercial Department received these requests from customers and from meter readers and service investigators of BCWD. These are being processed into job orders and forwarded to Pipelines and appurtenances and Maintenance Department (PAMD) for immediate and appropriate action. The Maintenance and Service Request Orders are sub-divided into five (5) major categories, namely: Reconnection (Reopening of disconnected service connections & Reopening/Install Water Meter), Withdrawal of Water Meters (includes Request Closure Withdraw and Withdraw Water Meter Orders), Change Meters (Stolen/Damaged Meters and/or regular maintenance), Transfer Water Meters (includes rehabilitation of clusters) and Leakages or other maintenance repairs.

### **• SERVICE CLOSURE**

Service disconnection is a policy control measure put in place by BCWD requiring customer to pay their water bill when it becomes due. Generally, a customer would be disconnected from the water service line three (3) days after receipt of "red bill" – consequently, on the 4th day, his water connection is locked using a customize locking instrument called "barrel lock"; he is given another three (3) days to settle his water account after which withdrawal of water meter follows. There are also some causes for service closure like overdue promissory notes and those under special closure orders.

On the other hand, service closure by withdrawal of water meter may also be done upon the request of a customer for reasons other than non-payment of water bill. When a customer happened to be not using the service connection anymore or that he/she may not be around for a longer time in which case he/she can request for service disconnection – water meter withdrawal upon his/her request. The rationale behind this, the subject customer will not be billed because the service connection is inactive unlike the other way around if the same customer wishes to retain the water meter in the same condition, he/she would surely be billed monthly even if there is no water consumption or zero bill ... still minimum bill applies.

**SUMMARY OF DISCONNECTION SERVICE CONNECTION**  
JANUARY - DECEMBER 2022

PARTICULARS	RECEIVED	ACTED	UNACTED
Disconnection Order	35,578	23,638	11,940
Withdraw WM Order	6,006	6,006	-

The table above showed unacted disconnection orders of 11,940 which was mainly due to unavailability of supply of locks used in the service closure – in effect, allowing those concessionaires to continue using water even after their respective service connections been ordered closed.

● **RECONNECTION OF SERVICE CONNECTION**

The first question a customer would ask after paying for his/her disconnected water connection, “when will my service connection be reconnected?” It is natural for a customer to have his water line back immediately after settlement, this is why BCWD has always prioritized reconnection more than among the maintenance orders because the customers expected that their respective disconnected service lines be reconnected as soon as they got home. BCWD has already anticipated customers’ behavior and response in this setting, members of the reconnection team in the field received reconnection orders through mobile phone call/text or by radio to act on each every reconnection order fast.

**SUMMARY OF DISCONNECTION SERVICE CONNECTION**  
JANUARY - DECEMBER 2022

PARTICULARS	RECEIVED	ACTED	UNACTED
Reopen Order	19,737	19,737	-
Re-install WM Order	5,729	5,729	-

All reopen and re-install water meter orders submitted to Pipelines Appurtenances and Maintenance Department were all acted upon.

● **WATER METER MAINTENANCE**

BCWD has standing water meter maintenance program which aims to replace in service water meters with age of five (5) years since installed. For year 2022 database generated about 16,761 units water meters installed in year 2016 and 2017 due for replacement. Austerity measures made big slices cut in budget of operating and MOOE expenditures including Water Meter Maintenance Program – only 3,696 units of water meter was approved for replacement.

Concessionaires may request calibration of their water meters, repairs and maintenance of in service water meters are done in the water meter shop at Pump Station no. 01 located in Alviola Village, Butuan City. Table below shows off particular activities performed in there.

**WATER METER SHOP**  
**CALIBRATION OF WATER METERS & REPAIR OF WATER METER INSERTS**  
 January – December 2022

<b>C. CALIBRATION OF WATER METERS</b>	<b>TOTAL (2021)</b>	<b>TOTAL (2022)</b>	<b>REMARKS</b>
New Water Meter Assembly	18	2,613	<ul style="list-style-type: none"> <li>Only good or well-conditioned water meters were calibrated in the Year 2021, however in 2022 all withdrawn /retrieved and old water meters were calibrated.</li> </ul>
Old Water Meter	6,247	6,612	
New Inserts	6,307	2,858	
Repaired Inserts	14	48	
<b>TOTAL</b>	<b>12,586</b>	<b>12,083</b>	<ul style="list-style-type: none"> <li>In 2021 there was an excess of new inserts.</li> </ul>
<b>D. FIELD TESTING CALIBRATION</b>	<b>688</b>	<b>435</b>	This is based on per request for water meter calibration from customers.

# PERSONNEL & STAFFING

## STAFF PROFILE

The total work force of the District as of December 31, 2022 consisted of 198 Personnel. Out of this, 143 (72%) were employees with Permanent status and 55 (28%) with Contract of Service and Job Order status.

Out of the 229 existing positions of BCWD, 143 have been filled up and distributed to the different offices/departments : the Office of the Board of Directors, Office of the General Manager and Management Services Department – 16 positions; Administrative Services Department – 30 positions; Finance Department – 16 positions; Commercial Services Department – 25 positions; Engineering Department – 11 positions; Pipeline and Appurtenances Maintenance Department – 26 positions; and Production & Distribution Department – 19 positions.

In the distribution of personnel, which includes the Contract of Service/ Job Order, Pipeline & Appurtenances Maintenance Department has the highest personnel count – 40 (20%), followed by the Administrative Services Department – 38 (19%), Commercial Services Department – 32 (16%), Production & Distribution Department – 29 (15%), OBD/OGM/MSD - 22 (11%), Engineering Department – 19 (10%) and Finance Department – 18 (9%).

DEPARTMENT	NO. OF PERSONNEL	PERCENTAGE (%)
Pipeline & Appurtenances Maint. Dept	40	20%
Administrative Services Department	38	19%
Commercial Department	32	16%
Production & Distribution Department	29	15%
OBD/OGM/MSD	22	11%
Engineering Department	19	10%
Finance Department	18	9%
<b>Total</b>	<b>198</b>	<b>100%</b>



# PROCUREMENT SERVICES

Procurement is one of the support services critical to BCWD operation. When procurement system could not make deliveries on time it can have a “domino” effect in the operation. For instance, if deliveries of supplies, materials and equipment are delayed a particular work or project consequently cannot go on and that completion is eventually delayed. Unfortunately, a delayed project costs as much implied losses and other setbacks which are detrimental to operation, hence, it is of prime importance to have a proactive procurement system.

BCWD has no control over the circumstances surrounding each procurement activity, if a supplier defaulted, remedial and counter measure are laid to safeguard the interest of the water district, penalties are imposed and even blacklisting of suppliers when necessary.

BCWD adheres to the guidelines of procurement in the government as a Government Owned & Controlled Corporation (GOCC) outlined in R.A. 9184 implementing rules and regulation. The said procurement Act so provides that all procurement should be within the approved budget of the procuring entity and must be in the Annual Procurement Plan (APP). The guidelines imposed competitive bidding as the general method of procurement; however, there are exemptions, as indicated in Article IV-Section 10 and Article XVI of the said Act. One of the alternative methods of procurement used by the water district is “Shopping” which requires the submission of at least three (3) quotations for readily available off-the-shelf goods or ordinary/regular equipment.

## SHOPPING & SMALL VALUE PROCUREMENT

For small value procurement, twenty-six (26) working-processing days are required, from receipt of approved purchase/job request from different departments up to issuance of approved purchase/job order excluding delivery time.

### PROCUREMENT AND RECORDS SERVICES

Accomplishments for 2022

DEPARTMENT	2021	2022	VARIANCE	2022
Purchase Requests	1336	958	(378)	Negative variance due to the control measures implemented by the management as to its requisition of supplies and materials for operation and maintenance activities.
Job Requests	446	273	(173)	
Abstracts of Price Quotations	453	114	(339)	
Request for Price Quotations	514	157	(357)	
Purchase Orders	676	596	(80)	
Job Orders	302	219	(83)	
Suppliers (Local)	113	44	(69)	
Suppliers (Out of Town)	50	25	(25)	
BAC Resolutions Submitted	21	26	5	
Contracts Prepared	11	7	(4)	

## PUBLIC BIDDING

Public Bidding is the general mode of procurement mandated in all government agencies including government-owned and controlled corporations (GOCCs) where BCWD belongs to. For 2022, the following projects were procured through public bidding.

### Summary of Procurements by BAC for 2022

PARTICULARS	AWARDED TO	A B C	CONTRACT PRICE	MODE OF PROCUREMENT	ISSUANCE OF NOA	CONTRACT SIGNING	REMARKS
Package 01 -2022: Procurement for the Contract of Security Services for the Year 2022 (August - December 2022)	Commando Security Agency, Inc.	1,984,900.00	1,914,635.00	Public Bidding	12-Jul-22	13-Jul-22	Awarded
Package 02-2022: Procurement of Supply and Delivery of Roofing materials, Painting materials, construction materials and electrical materials		1,266,852.80		Public Bidding			Declared 2 <sup>nd</sup> failure of bidding on the ground that No Bids Received during the opening of bids
Package 3-2022: Procurement of Supply and Delivery of Various uPVC Materials, Steel and Fittings – Lot 1 (uPVC pipes)		1,532,095.06	1,429,907.47	Public Bidding	23-Sep-22	18-Oct-22	Awarded
Package 3-2022: Procurement of Supply and Delivery of Various uPVC Materials, Steel and Fittings – Lot 2 ( Various G.I. Pipes and Fittings and Lot 4 (Steel Pipes and flat bar) –		841,400.28		Public Bidding			Declared failure of Bidding for Lot 2 ( Various G.I. Pipes and Fittings) and Lot 4 (Steel Pipes and flat bar – No Bids Received during the opening of bids)
Package 3-2022: Procurement of Supply and Delivery of Various uPVC Materials, Steel and Fittings – Lot 3 –Plastic fittings, Lot 5 – C.I. Fittings & Lot 6 – D.I. Fittings		1,160,433.34		Public Bidding			Declared failure of Bidding for Lot 3 – Plastic fittings, Lot 5 – C.I. Fittings & Lot 6 – D.I. Fittings (Bids Received in excess of the ABC shall automatically rejected at the Bid Opening)
Package 4-2022: Procurement of Supply and Delivery of Various Fittings of New Service Connections – Lot 1 - BRASS FITTINGS	VC Garcia Industrial Sales corp.	4,341,288.00	4,268,400.00	Public Bidding	26-Sep-22	14-Oct-22	Awarded
Package 4-2022: Procurement of Supply and Delivery of Various Fittings of New Service Connections – Lot 3 - PLASTIC FITTINGS		1,419,312.00		Public Bidding			Disapproved by the board for the following reasons as stated on Board res no. 061-2022; 1. Failure of the BAC to follow the prescribed bidding procedures; 2. The award of the contract will not redound to the benefit of BCWD and grossly disadvantageous
Package 4-2022: Procurement of Supply and Delivery of Various Fittings of New Service Connections – Lot 3 - G.I. FITTINGS	Uptown Industrial Sales, Inc.	1,272,396.00	1,226,016.00	Public Bidding	26-Sep-22	13-Oct-22	Awarded
Package 4-2022: Procurement of Supply and Delivery of Various Fittings of New Service Connections – Lot 4- HDPE PIPES	HDR Plastic MFG. Corporation	446,400.00	433,872.00	Public Bidding	26-Sep-22	10-Nov-22	Awarded
Package 05-2022: Procurement for the Supply and Delivery of 2,340 pcs. ½"Ø Water Meter Assembly for New Service Connection and 3,572 pcs. ½"Ø Water Meter Inserts for Water Meter Maintenance Program		6,533,800.00					Cancel Award as refer to Section 41.c.iii of Revised IRR of R.A. 9184 - "If the source of funds for the project has been withheld or reduced through no fault of the procuring entity"
PACKAGE 06-2022: Procurement of Supply and Delivery of 4 units Data Collector	Metos Offshore, Inc.	440,000.00	439,000.00	Public Bidding	12-Oct-22	26-Oct-22	Awarded
Package 07 -2022: Procurement for the Contract of Vehicle Rental Services with Tracker (GPS) for the Year 2022 (September 1 - December 31, 2022)	Visa transport Vehicle	1,509,480.00	1,509,379.20	Public Bidding	30-Aug-22	31-Aug-22	Awarded
Package 08-2022: Procurement For The Supply & Delivery of Various Steel Ring Flanges, 10"Ø Steel Pipe, Various Galvanized Iron (G.I.) Pipe and Various G.I. Fittings, Various Ductile Iron (D.I.) Flanges and Various D.I. Gate Valve, Various Cast Iron (C.I.) Fittings and C.I. Valve Box Cover, Various Plastic Fittings, 10"Ø uPVC Pipe, Various Brass Fittings, and Various Black HDPE Pipe for the Repairs and Maintenance of Transmission and Distribution Lines and Services		3,830,885.00		Public Bidding			Cancel Award as refer to Section 41.c.iii of Revised IRR of R.A. 9184 - "If the source of funds for the project has been withheld or reduced through no fault of the procuring entity"

# FINANCIAL PERFORMANCE HIGHLIGHTS

Profit and non-profit oriented organizations used accounting tools to measure the result of their respective operations. How much they earn or loss and grow are seen in their financial performances which are communicated through the financial statements.

BCWD operates as a Government-Owned and Controlled Corporation (GOCC), however, receiving no subsidies from the national government or from any foundation and non-government organizations. It is self-liquidating and as such it depends solely from the surplus generated from its operation.

## RESULT OF OPERATION

### CONDENSED STATEMENT OF COMPREHENSIVE INCOME (ALL FUNDS)

For the Year Ended December 31, 2022

	2022	2021
<b>Income</b>		
Service and Business Income	395,252,634.14	419,979,366.63
Gains	-	-
Other Non-operating Income	10,943,247.03	10,310,663.77
<b>Total Income</b>	<b>406,195,881.17</b>	<b>430,290,030.40</b>
<b>Expenses</b>		
Personnel Services	83,560,725.26	93,143,020.60
Maintenance and Other Operating Expenses	297,133,068.67	254,694,488.41
Financial Expenses	17,915,238.83	20,876,823.27
Non-Cash Expenses	54,967,609.78	60,205,526.84
<b>Total Expenses</b>	<b>453,576,642.54</b>	<b>428,919,859.12</b>
<b>Profit/ (Loss) Before Tax</b>	<b>-47,380,761.37</b>	1,370,171.28
<b>Income Tax Expense/ (Benefit)</b>	-	-
<b>Profit/ (Loss) After Tax</b>	<b>-47,380,761.37</b>	1,370,171.28
<b>Net Assistance/Subsidy/(Financial Assistance/Subsidy/Contribution)</b>	-	-
<b>Net Income/ (Loss)</b>	<b>-47,380,761.37</b>	1,370,171.28
<b>Other Comprehensive/ (Loss) for the Period</b>	-	-
<b>Comprehensive Income/ (Loss)</b>	<b>-47,380,761.37</b>	1,370,171.28

There has been a recurring cost in the Maintenance and Other Operating Expenses (MOOE) that greatly drive the said expense group to a sharp rise. It is the Purchased Water amounted to ₱247,345,343.07 – this the sum of cost of water BCWD purchased from Taguibo Aquatic Solutions Corporation (TASC) which accounted for 60.89% of the total MOOE.

BCWD will continue to incur losses in the coming years because TASC has increased its selling price to ₱14.50 per cubic meter and compulsory volume of 60 MLD. Based on water consumption record in the past years, BCWD concessionaires in the entire service area can take only more or less about 30% of the total volume sold by TASC and 48% is wasted in the system as non-revenue water.

## CONDENSED STATEMENT OF CASH FLOWS

For the Year Ended December 31, 2022

	2022	2021
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Adjusted Cash Inflows	431,740,093.81	419,979,366.63
Adjusted Cash Outflows	390,360,296.90	376,813,021.71
<b>Total Income</b>	<b>41,470,796.91</b>	<b>69,450,913.02</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Adjusted Cash Inflows	51,632,003.70	30,886,965.21
Adjusted Cash Outflows	8,006,281.55	17,255,547.03
<b>NET CASH PROVIDED BY/(USED IN) INVESTING ACTIVITIES</b>	<b>43,625,722.15</b>	<b>13,631,418.18</b>
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Cash Outflows		
Adjusted Cash Outflows	103,185,124.43	102,354,822.72
<b>Net Cash Provided by/ (Used In) Financing Activities</b>	<b>103,185,124.43</b>	<b>102,354,822.72</b>
<b>INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS</b>	<b>(18,088,605.37)</b>	<b>(19,272,491.52)</b>
<b>Effect of Exchange Rate Changes on Cash and Cash Equivalents</b>	<b>-</b>	<b>-</b>
<b>CASH AND CASH EQUIVALENTS, December 1</b>	<b>70,348,685.33</b>	<b>89,621,176.85</b>
<b>CASH AND CASH EQUIVALENTS, December 1</b>	<b>52,260,073.96</b>	<b>70,348,685.33</b>

There has been a recurring cash shortage issue relevant to its operating activities particularly in settling with the monthly billing of Purchased Water billed by Taguibo Aquatic Solutions Corporation (TASC) which averaged to ₱23,000,000.00 (23M). BCWD has to schedule its settlement buying time to accumulate cash before it can pay in instalment because it can no longer afford to pay on time upon receipt of purchased water bill.



## CONDENSED STATEMENT OF FINANCIAL POSITION (ALL FUNDS)

As of December 31, 2022

	2022	2021
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash and Cash Equivalents	52,260,073.96	70,348,685.33
Receivables	56,226,744.31	50,459,194.27
Inventories	38,726,065.46	37,502,983.44
Other Current Assets	3,251,154.15	3,160,315.36
<b>Total Current Assets</b>	<b>150,464,043.88</b>	<b>161,471,178.40</b>
<b>Noncurrent Assets</b>		
Investments	5,264,483.71	48,076,275.63
Receivables	18,628,367.96	15,536,985.35
Property, Plant and Equipment	780,107,797.97	837,115,938.23
Intangible Assets	-	513.96
Other Noncurrent Assets	20,606,901.97	18,187,792.80
<b>Total Current Assets</b>	<b>824,607,551.61</b>	<b>918,917,505.97</b>
<b>Total Assets</b>	<b>975,071,595.49</b>	<b>1,080,388,684.37</b>
<b>LIABILITIES</b>		
<b>Current Liabilities</b>		
Financial Liabilities	148,422,899.85	112,638,964.11
Inter-agency Payables	36,517,298.26	47,542,456.90
Trust Liabilities	33,015,209.28	32,373,565.67
Deferred Credits/ Unearned Income	952,009.58	916,532.19
Provisions	7,482,634.28	7,007,836.03
Other Payables	2,874,545.44	2,114,829.10
<b>Total Current Liabilities</b>	<b>229,264,596.69</b>	<b>202,594,184.00</b>
<b>Noncurrent Liabilities</b>		
Financial Liabilities	266,750,163.75	355,116,876.51
Trust Liabilities	572,624.73	601,123.93
Deferred Credits/ Unearned Income	6,105,867.28	3,158,051.30
<b>Noncurrent Liabilities</b>	<b>273,428,655.76</b>	<b>358,876,051.74</b>
<b>Total Liabilities</b>	<b>502,693,252.45</b>	<b>561,470,235.74</b>
<b>Equity</b>		
Government Equity	17,914,209.59	17,914,209.59
Retained Earnings/ Deficit)	454,464,133.45	501,004,239.04
<b>Total Equity</b>	<b>472,378,343.04</b>	<b>518,918,448.63</b>
<b>Total Equity</b>	<b>472,378,343.04</b>	<b>518,918,448.63</b>
<b>Total Liabilities</b>	<b>975,071,595.49</b>	<b>1,080,388,684.37</b>

The financial statements for year 2022 showed that BCWD is in bad financial health condition defecting unfavorable fundamental financial ratios particularly on Liquidity. Its Current Liabilities is 66% more than its Current Assets which mean that BCWD is unable to pay its current obligations as they become due. This condition will continue in the next years to come as Taguibo Aquatic Solutions Corporation (TASC) has implemented an in increased the selling price of bulk water and simultaneously with the contract volume which BCWD can no longer resell to its concessionaires because of excess water supply.



# Adopt-a-Forest

## Project of Butuan City Water District in Taguibo River Forest Reserve

is a 3-year tree planting and “parenting” project undertaken by BCWD which will serve as a model project for those individuals, institutions and organizations that would like to conduct tree planting activity and/or just donate or provide funds for one hectare or more hectares to be reforested in TRWFR.

### Who can Adopt?

Adopters- can be any **Individual, Organization, Corporation, or Group** who wishes to help.

### How much Does it Cost?

It will take **₱ 75,000.00** to reforest one hectare of the TRWFR.

**Donors can opt to donate ₱30,000.00** per hectare and **BCWD will provide the additional fund** to complete the **₱75,000.00** requirement



Your donation will ensure that the seedlings provided will be planted, well-maintained and monitored regularly. In this manner we can assure high survival rate of the planted seedlings, which eventually, will enhance the forest cover of TWFR.



For more information, customers are advised to call the BCWD Call Center at contact Numbers **09189304234 / 09171888726 / (085) 3423145/46; 3416373/74.**

