

RWDonline.net P.O. Box 8, Springfield, OR 97477 1550 N. 42nd Street, Springfield, OR 97477 Phone: 541-746-1676 Fax: 541-747-0845

AGENDA RAINBOW WATER DISTRICT BOARD OF COMMISSIONERS RAINBOW BOARD ROOM, 1550 N. 42ND STREET September 13, 2023

EXECUTIVE SESSION 5:30 pm

Non-public executive session pursuant to ORS 40.225, ORS 192.660(2)(e), ORS 192.660(2)(f) and ORS 192.660(2)(h): attorney-client privilege; to conduct deliberations with persons designated to negotiate real property transactions; to consider information or records that are exempt by law from public inspection, including written advice from attorneys, and to consult with counsel concerning the legal rights and duties of a public body with regard to pending or potential litigation

REGULAR SESSION Call to Order approximately 6:15 pm

- 1. Roll Call __1-President Keeler, __2-Commissioner Kephart, __3-Vice President Casley, __4-Secretary-Treasurer Allocco, __5-Commissioner McLaughlin (LCOG Liaison)
- 2. Review & Approve Items
 - a. Agenda Check
 - b. Minutes for the August 9, 2023 Regular Session Meeting.
 - c. Financial report and authorize paying the bills for August 2023
 - d. Monthly review of missing checks, audit trail report, and new vendors
- 3. Business from the Audience (limited to 3 minutes each)
- 4. Business from the Board
 - a. LCOG Liaison Report
- 5. Business from the Superintendent
 - a. Project Updates, Correspondence and Staff Reports
 - b. Monthly Program Review Service Line Audits and systemwide Leak Detection
 - c. Request employer support for nomination as Treasurer of PNWS AWWA
- 6. Board Actions
 - a. Tentative: Consider Kelly Butte Mural Proposal
 - b. Provide Celebration Ideas for 75th Anniversary Year
- 7. Schedule next meetings
 - a. October 11, 2023 Regular Session Suggested Topics: TBD
- 8. Adjourn



BOARD OF COMMISSIONERS MEETING INFORMATION

Rainbow offers hybrid meetings at our 1550 42nd Street office. Our meeting space is small but in person attendance is possible and virtual meeting options are provided.

The following meeting formats may be followed during a given meeting:

WORK SESSION – These meetings are open to the public but the Board does not receive public comment during work sessions. The intent of this meeting format is to allow the Board to receive special presentations and allow more unstructured discussion as the Board seeks to understand specific topics.

EXECUTIVE SESSION – These meetings are not open to the public, and are held for specific reasons under exceptions granted to the Oregon Public Meetings Law.

REGULAR SESSION – These are the normal meetings where the business of the water district is conducted by the elected Board of Commissioners as Rainbow's governing body. Meeting agendas are posted at least 48 hours in advance of a meeting, and a virtual meeting link is provided to facilitate remote attendance. Questions and comments may be submitted to the Board one of three typical ways:

- 1. During the Business from the Audience portion of a regular session (3-minute limit),
- 2. During a hearing or board action item where public testimony is received, and
- 3. Through the District's website, <u>https://www.rwdonline.net/email-rainbow-board</u>

VIRTUAL MEETING Information for Wednesday, September 13, 2023 at 6:30 pm

Please join the meeting from your computer, tablet or smartphone. https://us02web.zoom.us/j/85615370889

You can also dial in using your phone.

United States: 1-253-215-8782 or 1-669-900-6833 Access Code: 856-1537-0889

DIVIDER PAGE

MINUTES AND FINANCIALS

RAINBOW WATER DISTRICT BOARD MEETING

Date: July 12, 2023 Time: 5:30 PM Place: Rainbow Water District Office/Virtual

BOARD MEMBERS PRESENT IN PERSON:

BUDGET COMMITTEE IN PERSON: STAFF PRESENT:

Marla Casley, Doug Keeler, Mindy Kephart, and Lou Allocco James Burrington and Devin Thompson Jamie Porter, Jodi Sanders, and Eric Carlson

Doug Keeler opened the Board Meeting at 6:34 pm.

AGENDA REVIEW

None

REVIEW ITEMS

- The minutes from the July 12, 2023, Rainbow Board Meeting were presented for approval. Lou noted that Mary Beth was listed as a board member and should have listed Mindy. Lou Allocco moved to approve the minutes as amended. Jim McLaughlin seconded the motion. Motion passed 5-0.
- 2. The financial reports for July 2023 were presented for approval. Marla Casley moved to accept the financial reports and pay the bills. Lou Allocco seconded the motion. Motion passed 5-0.
- 3. July 2023 Financial Report Review: Doug Keeler reviewed 3 transactions and approved the July 2023 audit trail report. The missing checks report for July 2023 was reviewed and approved, check numbers are 16945-17005 and there were no breaks in sequence. There are two new vendors noted, Equipment Share and Streamline.

BUSINESS FROM THE AUDIENCE

1. Devin Thompson commented that he appreciated the Board letter regarding the rate increase.

BUSINESS FROM THE BOARD

- 1. Jim McLaughlin has no LCOG updates to report.
- 2. Doug Keeler presented Jamie with his annual performance review letter.

BUSINESS FROM THE SUPERINTENDENT

- 1. The 42nd Street overlay project is scheduled to begin in 2024.
- 2. Ian and Alyssa Kimball sent in a request to the Board to consider a credit on an unusually high July and August billing. There was no leak indicated but the customer did not know

Date: July 12, 2023

Time: 5:30 PM

Place: Rainbow Water District Office/Virtual

why they used so much water. Discussion followed and by consensus of the board, they agreed to charge the first-tier rate for the water usage on the July and August 2023 billing.

- 3. Sunday evening, we had a trespasser steal some yard art at the office and tried to get into the yard to fill up a water bottle. Jamie filed a police report and when the Springfield police office watched the security footage, the officer said he is well known to the police department, and charges will be filed.
- 4. International Paper will not be discharging enough water into the slough that runs next to the office and the slough will eventually dry up. Per the existing permit, the Granulated Activated Carbon plant at the 42nd street location depends on water in the slough to be able to discharge the backwash tank after backwashing the system. Jamie and Eric are working on solutions and have contacted DEQ and ODOT about the possibility of discharging the water through sprinklers into the field in front of the office.
- 5. Jamie ordered 95 of the 3-gallon emergency water bottles to use as giveaways for the Rainbow 75th Anniversary Year. We are also starting to work on a 2024 calendar.
- 6. The LIHWA program funding did not get renewed, and contributions will end December 2023.
- 7. Rainbow contributed to the Urban Water Plan Graphic and will be able to use it.
- 8. The reservoir cleaning and painting projects have been completed.
- 9. The system leak detection project has begun on the South side of the district.
- 10. Jamie presented Resolution No. 2023-21, A Resolution Adopting a Methodology for Calculating System Development Charges, and an Initial Fee Schedule. Lou Allocco moved to approve the resolution. Marla Casley seconded the motion. Motion passed 5-0.
- 11. Jamie Presented Resolution No. 2023-22, A Resolution Adopting a Policy and Fee Schedule for Water Meter and Local Water Main Installation and Inspection Fees. Lou Allocco moved to approve the resolution. Doug Keeler seconded the motion. Motion passed 5-0.
- 12. Jamie presented Resolution No. 2023-23. A Resolution Adopting Inflationary Adjustments to Systems Development Charges for Water. Lou noted a spelling error. Lou Allocco moved to approve the resolution as amended for the spelling error. Jim Mclaughlin seconded the motion. Motion passed 5-0.

The next Board Meeting will be held September 13, 2023.

Doug Keeler adjourned the meeting at 7:27 pm.

	RAINBOW WATER DISTRICT		
	August 31, 2023		
	Water & Fire		
VENDOR	PURPOSE	Fund	PAID/ACH
Amazon Business	Office supplies	50.40	
AnSer	Answering service	105.00	
AT&T	Hot spots for on call serviceman	43.23	*
Batteries Plus	12v battery tender	42.50	
Bell Real Estate	Refund final bill	6.82	*
Blue Fin	Card Processing fees - July 2023	1.680.00	*
Bridgette Bedortha	Refund final bill	62.18	*
Cameron Henderson	Refund final bill	95.35	*
Century Link	Fax line	76.98	*
Coburg Road Quarry	Rock for Pheasant main break	137.32	
Comcast Business	Cable. Internet and phone service	476.38	*
Dennis Murphy	Refund final hill	18 55	*
Edge Analytical	Water testing	274 40	
EWEB	15 Pump power	15 236 28	
Ferguson	Angle Stops	1 608 00	
FM Shoot Motal	Angle Stops	85.00	
		05.00	
	Neys	11.30	*
Internal Revenue Service		15,477.86	
Jamie Porter		130.42	
JCI Jones		3,256.24	
Jerry's	Supplies for maint and Shenandoan	279.27	-
Jessica Mansperger	Refund final bill	849.67	*
Kaitlynn Journey	Refund final bill	78.52	*
Kelley Connect	Copier contract costs	65.91	
Lane County Public Works	New wiring harness for trailer	1,232.61	
Mario Carlos	Refund final bill	65.54	*
MW Coffee	Coffee for office	21.50	
NAPA Auto Parts	Supplies for district and truck maintenance	105.44	
Nash Janitorial	Office cleaning	320.00	
NorthStar Chemical	Sodium Hydroxide for WWTP	2,416.77	
Oregon Department of Rev	Payroll withholding and taxes - August 2023	3,950.15	*
PacificSource Administrators	FSA Contributions - August 2023	805.00	*
PacificSource Administrators	HRA Claim Activity - July 2023	2,043.35	*
Paramount Supply	Service supplies for stock	952.81	
Pave Northwest	Refund Hydrant permit	103.00	*
PERS	Employee voluntary contributions - July 2023	823.16	*
PERS	Employee withholding and expense - August 2023	18.901.05	
Pine Ridge Golf Club	2023 annual appreciation dinner	2,260.62	
RH2 Engineering	PEAS Treatment Feasibility Study	1.543.14	
Roberts Supply	Boot grease for service dept	16.99	
Saninac	Garbage service	111 48	
SUIS	Employee Insurance - September 2023	10 874 79	*
Springbrook	Civic Pay Transaction foos	1 270 75	
Springbrook Ttoch Sottle	ACH Services for August 2022	1,270.73	
Springbrook - Treen Serie	RCH Services for August 2023	402.10	
		9,005.77	
		260.00	
		172.39	
Valvoline	Oil change and service for #9	301.63	
Verizon	Cell service for on call paging service	30.08	<u>^</u>
VOYA - ING	Deferred compensation program - August 2023	4,685.32	*
		103,423.30	
Approved by		9/13/2023	

		RAIN	BOW WATER DISTRICT				
		к	EY BANK CHARGES				
BILLING CYCLE:			8/31/2023				
Employee	Date	Vendor	Purpose		Amount	GL No.	Receipt
Jamie Porter							
	8/2/2023 Micr	rosoft	Office Software		62.50	5300	х
	8/3/2023 Moi	Poki Grill	SUB- City lunch		19.20	5300	х
	8/7/2023 Cras	h Plan	Office Software		9.99	5300	Х
	8/8/2023 Ado	be	Office Software		29.99	5300	х
	8/14/2023 Zooi	m	Office Software		15.99	5300	Х
	8/25/2023 Micr	rosoft	Office Software		69.99	5300	х
	8/25/2023 New	/spapers.com	Temporary Register Guard Subscription	า	74.90	5300	х
	8/10/2023 OHA	N	MWD Refund		(248.00)	9150	Х
				Sub Total	34.56		
Fric Carlson							
Life Carison	8/7/2023 Sizzl	er	LUCC Lunch EC. BS. CP and WS		74.72	5300	x
	8/10/2023 Grai	nger	Supplies for DCWA and SDOAH		106.13	9250/9450	x
	8/29/2023 ABP	A	Annual seminar for EC and BS		280.00	5360	x
	0,20,2020 / 121			Sub Total	460.85		~
Brian Scott							
	8/8/2023 McD	Donalds	Crane training meals/Per Diem		8.05	5360	х
	8/8/2023 Fred	Meyer	Crane training meals/Per Diem		40.66	5360	х
	8/8/2023 Fred	Meyer	Crane training meals/Per Diem		105.78	5360	Х
	8/9/2023 Fred	Meyer	Crane training meals/Per Diem		15.83	5360	х
	8/9/2023 Taqı	ueria La Fuente	Crane training meals/Per Diem		23.00	5360	Х
				Sub Total	193.32		
Mit watth Caralas							1
wyatt Sayles	8/0/2022 Shor	win Williams	Besenvoir maintenance		-	5285	v
	6/5/2025 Sher	will williams	Reservoir maintenance	Sub Total	58.04	5205	~
Charles Petersen							
	No C	Charges					
				Sub Total	-		
Jodi Sanders	8/4/2022 MOI	D Dizzo	C2C Subsection Lunch		11 /0	E200	v
	8/4/2023 10101	Elower market	Appreciation Dinner flowers		11.40	5300	Ň
	8/11/2022 Albo	artsons	Board and safety meeting snacks		475.00 61.02	5300	Ŷ
	8/11/2023 ADE	ov Mikos	Board meeting meet		50 77	5300	v
	8/16/2023 JEIS	Δ W/oct	Fric Carlson chanter dues		85 00	5360	Ŷ
	8/24/2023 ABP		Stamp Rolls		305.00	5200	Ŷ
	0/2 7 /2023 03P			—	1 088 27	5250	Â
				Grand Total	1 825 04		<u> </u>
					1,055.04		

9:14 AM

09/07/23

Accrual Basis

Rainbow Water District Profit & Loss Budget vs Actual-YTD August 2023

	Aug 23	Budget	% of Budget	Jul - Aug 23	YTD Budget	% of Budget	Annual Budget
Ordinary Income/Expense							
Income 4010 · Water Sales - District 4015 · Water Sales-SUB 4020 · Service Connection Charges	159,869 118,180 0	149,500 115,000 0	107% 103% 0%	264,337 232,883 0	247,250 225,000 0	107% 104% 0%	1,169,964 792,770 800
4030 · DRC's	0	0	0%	0	0	0%	2,400
4040 · Interest Income-Water	178	300	59% 152%	404	600	67% 76%	3,600
4060 · Account Processing Fees	255	250	102%	475	500	95%	3,050
4065 · Late Fees	350	0	100%	820	0	100%	0
4070 · Reconnection Charges 4080 · Gain/Loss on Sale of Assets	125	0	100%	325	0	100%	4.000
4085 · Water Fund - Transfers In	0	0	0%	0	148,216	0%	448,216
4090 · Miscellaneous Income	966	0	100%	1,011	0	100%	19,500
4000 · Bad Debts Recovered	0	0	0%	558	0	100%	4,700
4120 Marcola Contract Income	3,486	2,000	174%	4,964	4,000	124%	18,000
4140 · Shangri La Contract Income 4160 · DCWA Contract Income	572 1.139	500 1.000	114% 114%	848 2.108	1,000	85% 105%	6,000
4180 · Shenandoah Income	2,212	500	442%	2,842	1,000	284%	6,000
4190 · Blue River Contract Income	617	500	123%	1,252	1,000	125%	7,000
Total Income	288,709	270,050	107%	513,586	631,566	81%	2,500,000
Gross Profit	288,709	270,050	107%	513,586	631,566	81%	2,500,000
5000 · Personal Services							
5001 · Stall Wages 5002 · Salary - Operations	3,520			13,403			0
5004 Salary - Admin	25,054			45,497			0
5006 · Hourly - Operations 5008 · Hourly - Admin	17,393 2,659			35,462 6,972			0
5001 · Staff Wages - Other	0	57,632	0%	0	115,265	0%	695,465
Total 5001 · Staff Wages	48,627	57,632	84%	101,333	115,265	88%	695,465
5010 · Deferred Comp Company Expense	1,504	1,450	104%	3,291	2,900	113%	17,400
5016 · Extra Value Bonus	0 1 771	18,000	0% 71%	20,420	18,000	113%	18,000
5055 · Vacation Pay Expense	7,458	2,500	100%	11,617	0,000	100%	0
5056 · Sick Pay Expense	2,309	0	100%	2,511	0	100%	0
5057 · Sick Leave Buy Back 5060 · Social Security Expense	0 3 701	3 900	0% 95%	0 8 629	0 7 800	0% 111%	17,500 46 800
5065 · Medicare Expense	866	1,125	77%	2,018	2,000	101%	10,750
5070 · Workers Compensation Expense	0	12 000	0%	0 18 353	5,000	0%	7,500
5080 Employee Life Insurance Expense	433	12,000	100%	865	47,411	100%	0
5082 · FSA Fees	380	0	100%	460	0	100%	0
5083 · OR-WBF Assessment Expense 5100 · PERS Expense	12 16 486	0 14 750	100% 112%	24 35 988	0 29.500	100% 122%	0 177 000
5110 · Unemployment Expense	0	0	0%	00,000	20,000	0%	0
5120 · Payroll Advance	0	0	0%	0	0	0%	0
Total 5000 · Personal Services	92,723	111,357	83%	209,478	232,876	90%	1,187,826
5200 · Materials & Services 5210 · Purification Expense	3 083	10 000	31%	3 083	20.000	15%	120 000
5215 · Purification Exp-Source	0	0	0%	0,000	20,000	0%	5,500
5220 · Telephone & Telemetry	2,586	2,000	129%	3,256	4,000	81%	24,500
5230 · Pump Power & Electric	24,994 2,464	3,000	82%	24,994 2,464	6,000	41%	36,000
5245 Maintenance - CWTP	5,724	1,000	572%	5,724	2,000	286%	12,000
5247 · Maintenance - WCCP 5250 · Maintenance-Pumps/Wells	5,697 19	1,000	570% 4%	5,697 19	2,000	285%	12,000
5260 · Maintenance-Mains	1,186	500	237%	1,186	1,000	119%	6,000
5270 · Maintenance-Meters & Services	328	500	66%	328	1,000	33%	6,000
5275 · Maintenance - Land 5280 · Maintenance - Other	1.292	500	258%	3.193	3,000	319%	9,000 6,000
5285 · Maintenance-Reservoirs	6,510	0	100%	6,510	0	100%	3,000
5290 · Customer Postage	2,412	1,250	193%	2,209	2,500	88%	15,000
5300 · General Office Expense	4,426	2,000	221%	4,473	3,500	128%	25,500
5305 Transaction Fee Processing	2,698	2,500	108%	2,540	5,000	51%	30,000
5310 · Special District Expense 5320 · Bad Debt Expense	0 309	2,000	0% 247%	0 309	2,000	0% 124%	2,000
5325 · Contract Workers	0	0	0%	0	0	0%	10,000
5330 · Budget & Election Expense	0	0	0% 160%	0	0	0%	2,000
5360 · Dues, School & Convention Exp	984	0	100%	984	500	197%	20,000
5365 Emergency Preparedness	950	0	100%	950	0	100%	0
5380 · Street Light Expense 5200 · Materials & Services - Other	504 0	600 0	84% 0%	504 0	1,200 0	42% 0%	7,200 0
Total 5200 · Materials & Services	66,213	47,600	139%	68,318	96,200	71%	600,700
5350 · CWTP - Loan / Interest Exp	0	0	0%	0	0	0%	148,216

	Aug 23	Budget	% of Budget	Jul - Aug 23	YTD Budget	% of Budget	Annual Budget
5400 · Contractual							
5410 · Insurance Expense	0	0	0%	0	0	0%	52,000
5420 · Legal Expense	675	1,500	45%	675	3,000	23%	18,000
5425 IT - Subscriptions	0	750	0%	0	1,000	0%	9 000
5430 · Audit & Accounting Expense	Ő	0	0%	0	0	0%	15,660
5440 · Engineering Studies - PFAS	0	3,000	0%	0	6,000	0%	54,500
5470 · Financial Advisor	0	3,000	0%	0	6,000	0%	6,000
5480 · Engineering Studies		6,000	0%	0	13,000	0%	23,000
Total 5400 · Contractual	675	14,750	5%	675	30,500	2%	188,160
5500 · Capital Outlay	0	20.000	0%	0	20.000	0%	00.000
5520 · Service Lines	0	2 000	0%	0	2 000	0%	5,000
5530 · Meters	0	2,000	0%	õ	2,000	0%	5.000
5540 · Hydrants	0	5,000	0%	0	5,000	0%	20,000
5550 · Tools, Vehicles & Equipment	0	1,000	0%	0	2,000	0%	16,200
5560 · Office Furniture & Equipment	0	0	0%	0	0	0%	0
5570 · Well Rehabs	0	0	0%	0	0	0%	0
5585 · Telemetry & Control System	0	0	0%	0	0	0%	5 000
5590 · Purification Equipment	0	0	0%	0	0	0%	5,000
5595 · Streetlight Replacement	0	0	0%	õ	Ő	0%	õ
5600 · Reservoirs	0	15,000	0%	0	25,000	0%	25,000
5610 · Chase Wellfield Development	0	35,000	0%	0	35,000	0%	225,000
5620 · Building & Additions	0	0	0%	0	0	0%	15,000
5640 · Weyerhaeuser Corrosion Control		0	0%	0	0	0%	0
Total 5500 · Capital Outlay	0	90,000	0%	0	101,000	0%	406,200
7035 · Capital Res Capital - Vehicles	0			0			0
Total Expense	159,612	263,707	61%	278,471	460,576	60%	2,531,102
Net Ordinary Income	129,097	6,343	2,035%	235,116	170,990	138%	-31,102
Other Income/Expense							
70000 · CAPITAL RESERVE FUND							
7010 · Capital Reserve - Interest	2,067	1,000	207%	3,983	2,000	199%	15,000
7020 · Capital Reserve - Transfers In	0	0	0%	0	0	0%	500,000
Total 70000 · CAPITAL RESERVE FUND	2,067	1,000	207%	3,983	2,000	199%	515,000
70500 · RESILIENCE FUND							
7100 · Resilience Fund - Transfers In	0			0			200.000
7110 · Resilience Fund - Interest	1,764	500	353%	3,398	1,000	340%	7,000
Total 70500 · RESILIENCE FUND	1,764	500	353%	3,398	1,000	340%	207,000
8000 · Fire Protection-Income							
8010 · Fire Protection - Tax Income	3,816	6,000	64%	4,748	7,000	68%	1,715,000
8030 · Fire Protection - Interest	1,692	250	677%	3,251	500	650%	15,000
Total 8000 · Fire Protection-Income	5,508	6,250	88%	7,999	7,500	107%	1,730,000
Total Other Income	9,338	7,750	120%	15,379	10,500	146%	2,452,000
Other Expanse							
6550 · Water Fund - Transfers Out	0			0			200.000
7030 · Capital Reserve - Transfers Out	0	300,000	0%	0	300,000	0%	300,000
8500 Fire Protection-Expense							
8510 Fire Protection-Contract Exp	0	0	0%	0	0	0%	1,238,831
8545 · Fire Fund - Transfers Out		0	0%	0	148,216	0%	648,216
Total 8500 · Fire Protection-Expense	0	0	0%	0	148,216	0%	1,887,047
Total Other Expense	0	300,000	0%	0	448,216	0%	2,387,047
Net Other Income	9,338	-292,250	-3%	15,379	-437,716	-4%	64,953
Net Income	138,436	-285,907	-48%	250,495	-266,726	-94%	33,851

Rainbow Water District Profit & Loss Prev Year Comparison August 2023

	Aug 23	Aug 22	\$ Change	% Change
Ordinary Income/Expense				
Income				
4010 · Water Sales - District	159,869	138,810	21,059	15%
4015 · Water Sales-SOB 4040 · Interest Income-Water	178	104,273	13,907	266%
4050 · Reimbursed Labor	760	416	344	83%
4060 · Account Processing Fees	255	315	-60	-19%
4065 · Late Fees	350	520	-170	-33%
4070 · Reconnection Charges	125	50	75	150%
4090 · Miscellaneous Income	966	2,454	-1,488	-61%
4100 · Bad Debts Recovered	3 /86	04 3 116	-04 370	-100%
4140 · Shangri La Contract Income	572	1 249	-676	-54%
4160 · DCWA Contract Income	1,139	1,559	-420	-27%
4180 · Shenandoah Income	2,212	602	1,610	268%
4190 · Blue River Contract Income	617	972	-355	-37%
Total Income	288,709	254,448	34,262	14%
Gross Profit	288,709	254,448	34,262	14%
Expense 5000 · Personal Services				
5001 · Staff Wages				
5002 · Salary - Operations	3,520	0	3,520	100%
5004 · Salary - Admin	25,054	0	25,054	100%
5006 · Hourly - Operations	17,393	0	17,393	100%
5001 · Staff Wages - Other	0	53,361	-53,361	-100%
Total 5001 · Staff Wages	48,627	53,361	-4,735	-9%
5010 · Deferred Comp Company Expense	1,504	1,811	-307	-17%
5016 · Extra Value Bonus	0	19,140	-19,140	-100%
5050 · Part Time & Emergency Pay	1,//1	2,092	-321	-15%
5056 · Sick Pay Expense	2 309	1 800	509	28%
5057 · Sick Leave Buy Back	_,000	0	0	0%
5060 · Social Security Expense	3,701	4,729	-1,028	-22%
5065 · Medicare Expense	866	1,106	-240	-22%
5080 · Employee Insurance Expense	9,177	10,604	-1,428	-14%
5081 · Employee Life Insurance Expense	433	475	-43 281	-9% 283%
5083 · OR-WBE Assessment Expense	12	14	-2	-14%
5100 · PERS Expense	16,486	18.651	-2,165	-12%
5110 Unemployment Expense	0	0	0	0%
5120 · Payroll Advance	0	0	0	0%
Total 5000 · Personal Services	92,723	114,311	-21,587	-19%
5200 · Materials & Services				
5210 · Purification Expense	3,083	2,240	844	38%
5220 · Telephone & Telemetry	2,586	1,172	1,414	121%
5250 · Pump Power & Electric	24,994	21,120	2 256	1 087%
5245 · Maintenance - CWTP	5,724	4,070	1,654	41%
5247 · Maintenance - WCCP	5,697	2,100	3,597	171%
5250 · Maintenance-Pumps/Wells	19	0	19	100%
5260 · Maintenance-Mains	1,186	0	1,186	100%
5270 · Maintenance-Meters & Services	328	0	328	100%
5200 · Maintenance - Other 5285 · Maintenance-Pesonucire	1,292 6 510	ა4ბ ი	940 6 510	∠/ 1% 1∩∩%
5200 · Customer Postage	2 412	175	2 237	1 276%
5295 · Utility Billing Program Expense	-153	0	-153	-100%
5300 · General Office Expense	4,426	630	3,796	602%
5305 Transaction Fee Processing	2,698	238	2,460	1,034%
5320 Bad Debt Expense	309	183	125	68%
5340 · Community Outreach	200	0	200	100%
5360 · Dues, School & Convention Exp	984	U	984	100%

	Aug 23	Aug 22	\$ Change	% Change
5365 · Emergency Preparedness 5380 · Street Light Expense	950 504	0 490	950 14	100% 3%
Total 5200 · Materials & Services	66,213	32,980	33,233	101%
5400 · Contractual 5420 · Legal Expense	675	0	675	100%
Total 5400 · Contractual	675	0	675	100%
5500 · Capital Outlay 5510 · Mains 5580 · Wells and Wellfield	0 0	25,397 1,800	-25,397 -1,800	-100% -100%
Total 5500 · Capital Outlay	0	27,197	-27,197	-100%
Total Expense	159,612	174,488	-14,876	-9%
Net Ordinary Income	129,097	79,960	49,138	62%
Other Income/Expense Other Income 70000 · CAPITAL RESERVE FUND 7010 · Capital Reserve - Interest	2,067	636	1,431	225%
Total 70000 · CAPITAL RESERVE FUND	2,067	636	1,431	225%
70500 · RESILIENCE FUND 7110 · Resilience Fund - Interest	1,764	453	1,311	289%
Total 70500 · RESILIENCE FUND	1,764	453	1,311	289%
8000 · Fire Protection-Income 8010 · Fire Protection - Tax Income 8030 · Fire Protection - Interest	3,816 	6,532 561	-2,716 1,131	-42% 202%
Total 8000 · Fire Protection-Income	5,508	7,093	-1,586	-22%
Total Other Income	9,338	8,183	1,156	14%
Net Other Income	9,338	8,183	1,156	14%
Net Income	138,436	88,142	50,294	57%

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09/07/23

Total Other Income

8,183

7,819

8,591 1,075,227 793,493

Rainbow Water District Profit & Loss ust 2022 through August 2023

Accrual Basis				Augu	st 2022 throu	igh August 20	23							
	Aug 22	Sep 22	Oct 22	Nov 22	Dec 22	Jan 23	Feb 23	Mar 23	Apr 23	May 23	Jun 23	Jul 23	Aug 23	TOTAL
Ordinary Income/Expense														
Income														
4010 · Water Sales - District	138,810	129,011	89,821	72,436	67,739	64,756	66,546	66,013	68,625	72,258	191,718	104,468	159,869	1,292,070
4015 · Water Sales-SUB	104,273	93,900	66,503	52,136	50,455	54,866	52,136	57,740	58,520	70,844	85,907	114,703	118,180	980,162
4020 · Service Connection Charges	0	1,827	688	0	0	0	0	0	0	0	2,515	0	0	5,031
4030 · DRC's	0	2,931	0	0	0	0	0	0	0	0	0	0	0	2,931
4040 · Interest Income-Water	49	179	548	665	645	657	348	302	387	652	507	226	178	5,342
4050 · Reimbursed Labor	416	49	281	1,591	258	310	0	0	597	0	2,771	0	760	7,032
4060 · Account Processing Fees	315	150	270	225	265	150	190	145	115	285	230	220	255	2,815
4065 · Late Fees	520	420	410	330	520	430	420	410	450	420	430	470	350	5,580
4070 · Reconnection Charges	50	200	100	0	525	25	50	95	200	150	150	200	125	1,870
4085 · Water Fund - Transfers In	0	148,216	0	0	0	0	0	0	0	128,740	0	0	0	276,956
4090 · Miscellaneous Income	2,454	68	175	-175	-1,458	245	-74	0	0	68	136	45	966	2,449
4095 · Fire Hydrant Maintenance	0	0	0	0	0	0	0	0	0	5,113	0	0	0	5,113
4100 · Bad Debts Recovered	64	73	0	0	0	0	0	0	115	0	0	558	0	808
4120 · Marcola Contract Income	3,116	775	1,194	822	1,755	1,756	1,008	1,879	3,212	2,783	7,303	1,479	3,486	30,567
4140 · Shangri La Contract Income	1,249	48	681	1,550	770	249	402	314	596	459	321	276	572	7,486
4160 · DCWA Contract Income	1,559	663	1,217	1,425	2,160	2,859	915	4,653	1,201	1,446	917	969	1,139	21,121
4180 · Shenandoah Income	602	1,226	709	421	337	432	408	499	1,012	482	447	630	2,212	9,415
4190 · Blue River Contract Income	972	239	705	487	628	770	1,317	543	706	3,559	901	635	617	12,077
Total Income	254,448	379,973	163,302	131,912	124,598	127,504	123,665	132,591	135,735	287,258	294,253	224,877	288,709	2,668,826
Gross Profit	254,448	379,973	163,302	131,912	124,598	127,504	123,665	132,591	135,735	287,258	294,253	224,877	288,709	2,668,826
Evenee														
Expense	111 211	07 474	96 051	07 224	97 626	96 469	01 507	96 602	02 620	97 000	107 207	116 754	00 700	1 205 647
5000 · Fersonal Services	114,311	07,474	60,951	07,234	07,020	00,400	01,007	80,003	03,029	07,000	107,207	110,754	92,125	1,205,047
5200 · Materials & Services	32,980	62,698	50,818	51,864	42,586	46,216	45,982	45,368	48,422	40,757	106,744	2,105	66,213	642,752
5350 · CWTP - Loan / Interest Exp	0	0	0	148 216	0	0	0	0	0	0	-106 958	0	0	41 258
5400 · Contractual	0	ů 0	0	0	10,608	58,878	141	9,424	3,498	10,921	21,749	0	675	115,896
5500 · Capital Outlay	27,197	39,530	41,648	9,055	14,776	12,405	6,945	0	0	25,249	57,461	0	0	234,265
7035 · Capital Res Capital - Vehicles	0	0	0	0	0	0	0	0	0	0	116,798	0	0	116,798
Total Expense	174,488	189.702	179.417	296.368	155,596	203.967	134.655	141.396	135,549	163.927	303.080	118.859	159.612	2.356.616
Net Ordinary Income	79,960	190,271	-16,114	-164,456	-30,998	-76,463	-10,989	-8,805	186	123,331	-8,827	106,018	129,097	312,210
Other Income/Expense														
70000 · CAPITAL RESERVE FUND	636	718	821	1,049	301,742	2,230	2,236	2,495	2,423	2,324	2,047	1,915	2,067	322,704
70500 · RESILIENCE FUND	453	511	584	747	849	975	977	1.092	1.060	1,100	122,190	1.634	1.764	133.937
8000 · Eiro Protection Income	7 002	6 590	7 196	1 073 424	400 001	23 049	16 / 30	38 020	0.821	7 804	36 840	2 404	5 509	1 727 030
OUUU · FIRE Protection-Income	7,093	6,589	7,186	1,073,431	490,901	23,948	10,430	38,980	9,8∠1	7,804	30,849	2,491	5,508	1,727,030

27,153

19,644

42,567

13,303

11,228

161,085

6,041

9,338 2,183,671

	Aug 22	Sep 22	Oct 22	Nov 22	Dec 22	Jan 23	Feb 23	Mar 23	Apr 23	May 23	Jun 23	Jul 23	Aug 23	TOTAL
Other Expense														
5700 · Capital Outlay Offset	0	0	0	0	0	0	0	0	0	0	-349,139	0	0	-349,139
6540 · Depreciation Expense	0	0	0	0	0	0	0	0	0	0	240,118	0	0	240,118
6550 · Water Fund - Transfers Out	0	0	0	0	0	0	0	0	0	0	121,000	0	0	121,000
7030 · Capital Reserve - Transfers Out	0	0	0	0	0	0	0	0	0	128,740	0	0	0	128,740
8500 · Fire Protection-Expense	0	148,216	0	0	300,000	619,416	0	309,708	0	0	309,708	0	0	1,687,047
Total Other Expense	0	148,216	0	0	300,000	619,416	0	309,708	0	128,740	321,686	0	0	1,827,766
Net Other Income	8,183	-140,397	8,591	1,075,227	493,493	-592,263	19,644	-267,141	13,303	-117,512	-160,601	6,041	9,338	355,905
Net Income	88,142	49,874	-7,523	910,771	462,495	-668,726	8,654	-275,945	13,488	5,819	-169,428	112,059	138,436	668,116

	Aug 31, 23
ASSETS	
Current Assets	
Checking/Savings	450
1010 · Pelly Cash 1030 · Key Bank Civic Pay	150 64 740
1040 · Key Bank Money Market	13 010
1052 · Key Bank General Checking	144,858
1055 · LGIP - Capital Reserve Fund	552,712
1060 LGIP-Water Fund	17,115
1065 · LGIP-Fire Fund	454,059
1068 · LGIP - Resilience Fund	471,581
Total Checking/Savings	1,718,224
Accounts Receivable	
1310 · Accounts Receivable-Water	122,184
1312 · Accounts Receivable - Fees	190
1313 · Accounts Receivable - Late Fees	10
1310 · Accounts Receivable-CONTRACT	130,047
1320 · Accounts Receivable - DCWA	1 411
1324 · Accounts Receivable - BRWD	1 257
1330 · Return Checks - RWD	39
1335 · Allowance for Doubtful Accounts	-1,200
1410 · Fire Fund Taxes Receivable	63,495
Total Accounts Receivable	317,529
Other Current Assets	
12001 · Civic Pay 98 Recon Account	1,575
1500 · Material & Supply Inventory	55,056
1510 · Pension Asset GASB68	-803,851
1520 · NET OPEB Asset (LIAD) 1600 · Prepaid Insurance	-10,181 24 571
Total Other Current Assets	-732 831
	1 302 022
	1,502,922
Fixed Assets	174 000
1010 · Lanu 1820 · Wells	1 102 778
1830 · Pumping Equipment	299 454
1835 · Telemetry & Control System	186.443
1840 · Purification Equipment	87,081
1850 · Reservoirs	1,958,342
1860 · Transmission Mains	389,778
1870 · Distribution Mains	1,468,360
1880 · Service Lines	165,953
1890 · Meters	460,567
1900 · Hydrants	64,779
1910 · Duildings & Dhuges 1920 · Tools Vehicles and Equipment	378 865
1930 · Office Eurniture & Equipment	68,369
1940 · Weyco Corrosion Control	69.505
1950 · Chase Wellfield Development	1,071,067
1960 · Emergency Center - Moe Security	13,665
1970 · Chase Water Treatment Plant	2,930,572
1980 · Streetlight Replacement	11,018
1990 · Accumulated Depreciation	-4,313,810
I otal Fixed Assets	6,857,916
TOTAL ASSETS	8,160,839

	Aug 31, 23
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Other Current Liabilities	
2210 · Customer Deposits	17,140
2212 · Customer Donations	120
2220 · Deferred Taxes-Fire Fund	-11,558
2350 · PERS Payable	18,901
2353 · PERS Employee Voluntary Cont.	480
2365 · Health Reimbursement Account	20,589
2370 · Deferred Budget Billing	-22,393
2420 · Accrued Vacation Pay	33,627
2500 · Deferred Outflows GASB68	-494,335
2510 · Deferred Inflows GASB68	612,048
2550 · Deferred Inflows GASB 75	1,861
2560 · Deferred Outflows GASB 75	-2,639
9150 · MWD - Invoices	297
9250 · DCWA - Invoices	272
9550 · BRWD - Invoices	239
Total Other Current Liabilities	174,648
Total Current Liabilities	174,648
Long Term Liabilities	
2445 · Long Term Debt - CWTP	2,049,758
2447 · LTD CWTP - Interest Accrual	23,564
Total Long Term Liabilities	2,073,323
Total Liabilities	2,247,971
Equity	
32000 · Retained Earnings	2,277,485
3210 · Cont. in Aid of Construction	2,869,723
3230 · Retained Earnings - Fire	515,165
Net Income	250,495
Total Equity	5,912,868
TOTAL LIABILITIES & EQUITY	8,160,839

DIVIDER PAGE

RESOLUTIONS AND POLICY or PROGRAM REVIEW ITEMS

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FACT SHEET FOR DEVELOPING AND MAINTAINING A SERVICE LINE INVENTORY

There is no safe level of lead exposure. EPA will continue to strengthen actions to protect communities from lead in drinking water. This guidance alongside regulatory improvements, infrastructure investments like the \$15 billion provided by the Bipartisan Infrastructure Law for identifying and replacing lead service lines (LSLs), and other actions, are significant steps towards replacing 100% of LSLs across the country.

Service line inventories are the foundation from which water systems can take action to address LSLs. Establishing an inventory of service line materials and identifying the location of LSLs are key steps in getting them replaced. A comprehensive and accurate inventory allows you to publicly track progress on LSL identification and replacement, engaging the community and enhancing transparency. In addition, a comprehensive and accurate inventory can help all systems by supporting asset management programs and customer communications.

WHO CAN BENEFIT FROM THIS FACT SHEET

All community water systems (CWSs) and non-transient non-community water systems (NTNCWSs) must submit an initial inventory to their state or primacy agency by **October 16, 2024**. If you are a CWS or NTNCWS, this fact sheet can help you understand your requirements and prepare your inventory.

WHAT INFORMATION DOES IT CONTAIN?

This fact sheet provides an overview of EPA's requirements for developing an initial inventory. It also contains a summary of EPA recommendations. For more details, refer to the full guidance for developing and maintaining a service line inventory, available online here: <u>https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule</u>

HOW IS THIS FACT SHEET ORGANIZED?





SECTION 1

REQUIRED INVENTORY ELEMENTS AND DEFINITIONS

Your inventory **must** include all service lines, regardless of the actual or intended use. You must classify the system- and customer-owned portions separately where ownership is split (see example pictured).



You must classify service lines using one of the four definitions below.

Lead: A portion of the pipe that is made of lead, which connects the water main to the building inlet.

Galvanized Requiring Replacement (GRR): A galvanized service line that is or ever was downstream of an LSL or is currently downstream of an unknown service line.

Non-Lead: The service line is determined not to be lead or GRR through an evidence-based record, method, or technique.

Unknown: The service line material is not known to be a lead, GRR, or non-lead, such as where there is no documented evidence supporting material classification.

EPA recommends you track additional information in your inventory, such as pipe diameter and installation date, source of material information, actual material of non-lead lines, and other lead sources (*e.g.*, lead goosenecks and solder).











SECTION 2

INVENTORY PLANNING

EPA recommends you begin your inventory development process with the following steps:

- Identify staff and resources.
- Select an inventory format.
- Develop procedures for collecting service line information.
- Develop partnerships.

EPA developed a spreadsheet template that you can use and/or customize for your inventory, available online here https://www.epa.gov/ground-water-and-drinking-water/ revised-lead-and-copper-rule. You should choose an inventory format that is easily updated and conforms with any state or primacy agency requirements.

EPA recommends considering the inventory a **living data set** that is continuously improved over time as materials are investigated and LSLs are replaced. See the figure below for a schematic of the inventory lifecycle. As shown, EPA recommends systems to begin lead service line replacement (LSLR) as soon as possible, regardless of the state of inventory development.

















SECTION 3

RECORDS REVIEW

You **must** review the following to prepare your initial inventory:

- Previous materials evaluation. Specifically, you must review the materials evaluation you performed to identify lead and galvanized iron or steel under the original Lead and Copper Rule.
- All construction and plumbing codes, permits, and existing records or other documentation that indicates the service line materials used to connect structures to the distribution system.
- All water system records, including distribution system maps and drawings, historical records on each service connection, meter installation records, historical capital improvement or master plans, and standard operating procedures.
- All inspections and records of the distribution system that indicate the material composition of the service connections that connect a structure to the distribution system.
- Any resource, information, or investigation method provided by or required by the state or primacy agency to develop your initial inventory.

Records reviewed previously need not be reviewed again.





73481 / 1645 E. Males 1	SERVICE RECORD	LSLs identified
107 TO 230 1	Kino OF Account	
6178 5017-15-41 508 60	*	
Sire of 3/4	3844	Size of Ferrule / Ferrule /
size or 3/4 11 " n or & wo Male	1018	pase ave bold
uner 22 ft Lead		of - 11 of Grannik dy
ne invest		of DE of Outward Of
Norther OF STREE FORTH FURTHER	12 m N	of S LL of / the ave.
lee 26919-21 2, 8 9/12, 44 Nom 11-3-12 Reck David Str 11-3-22	Remarks	
	Main Size 6" S	stop Sze 3/4_ Pire Length 26 Kind Leak
	Date Renewed 9/14	1/14 Reresued
		· · · · · · · · · · · · · · · · · · ·

Excerpt from Exhibit 4-4 of the full inventory guidance



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SECTION 4

SERVICE LINE INVESTIGATIONS

You can use investigative methods to classify service line materials as long as the methods are approved by the state or primacy agency. These methods could also be used to verify water system records. Investigative methods described in the full guidance include visual inspection by the customer and/ or system personnel, water quality sampling, excavation, and predictive modeling.



EPA developed the Protect Your Tap online step-by-step guide to help customers identify LSLs in their home, available online.

https://www.epa.gov/ground-water-and-drinking-water/protect-your-tap-guick-check-lead-0

The full guidance provides information

on each method and possible approaches for prioritizing investigations, such as:

- Consider vulnerable or environmental justice populations. •
- Target areas with the most unknowns. .
- Target service lines that are most likely lead, especially in tandem with LSLR.
- Target areas where LSLR is occurring.



Excerpt from page 5-13 of the full inventory guidance







SECTION 5

SHARING INVENTORY INFORMATION WITH THE PUBLIC

At a minimum, you **must** make publicly available a location identifier (*e.g.*, street address, intersection, or landmark) for each LSL and GRR service line. EPA recommends that you:

- Provide a location identifier for every service line.
- Consider using a street address as the location identifier.
- Include information on steps that consumers served by LSLs can take to reduce exposure to lead.

If you serve more than 50,000 people, you must provide your inventory online. Many water systems have developed simple or web-based maps to present their service line inventory, share information with the public, and inform their LSLR program.



If you have lead, GRR, or unknown services lines, you must provide notification to persons served by these lines within 30 days after completing the initial inventory. If you are a CWS, you must also include instructions on how to access the inventory in your Consumer Confidence Report.



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SECTION 6

INFORMATION FOR SYSTEMS WITH ONLY NON-LEAD SERVICE LINES

This section is for systems that can demonstrate through evidence-based records, methods, or techniques that all service lines are non-lead, including both the systemand customer-owned portions.









Examples of Non-Lead Materials



*Only if the galvanized pipe was determined to have never been downstream of an LSL

DO I STILL NEED TO SUBMIT MY INITIAL INVENTORY IF ALL SERVICE LINES ARE NON-LEAD?

Yes, all CWSs and NTNCWSs must submit submit an initial inventory to their state or primacy agency by **October 16, 2024.**

WHAT ARE MY REQUIREMENTS FOR DEVELOPING THE INITIAL INVENTORY?

The requirements for developing an initial inventory are the same for systems with all non-lead service lines as they are for those with LSLs, GRRs, and/or unknowns. Under the LCRR, you must review previous materials evaluation, construction and plumbing codes/records, water system records, distribution system inspections and records, and state or primacy agency specified information.



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SECTION 6

INFORMATION FOR SYSTEMS WITH ONLY NON-LEAD SERVICE LINES (CONTD.)

DO I NEED TO MAKE MY INVENTORY PUBLICLY AVAILABLE?

You have the option of (1) making the inventory publicly available, or (2) providing a written statement that your system has no LSLs, GRRs, or lead status unknown service lines, and a general description of methods used to make the determination.

WHAT IF I DISCOVER AN LSL OR GRR AFTER I SUBMIT MY INITIAL INVENTORY?

Even when all service lines have been classified as non-lead, EPA recognizes that a lead or GRR service line may subsequently be found. If this happens, you must:

- Notify your state within 30 days, and
- Prepare an updated inventory on a schedule established by your state.

Although not required, EPA recommends that you replace the lead or GRR service line as soon as possible and investigate when it was installed and who installed it. You should consider whether or not the discovery was an isolated event or a potential indicator of additional lead or GRR service lines in your system. If the latter, EPA recommends that you work with your state or primacy agency to determine which service lines should be reclassified as unknown and develop a plan for field investigations.

ADDITIONAL RESOURCES

For a copy of the full guidance, spreadsheet template, other fact sheets, and a link to EPA's inventory webinar, visit <u>https://www.epa.gov/ground-water-and-drinking-water/</u>revised-lead-and-copper-rule

Looking for ways to fund the development of your inventory? See EPA's LSLR funding page at <u>https://www.epa.gov/ground-water-and-drinking-water/funding-lead-ser-vice-line-replacement</u>



Even that a







A NATIONAL DRINKING WATER CLEARINGHOUSE FACT SHEET

Leak Detection and Water Loss Control

by Zacharia M. Lahlou, Ph.D. Civil and Environmental Engineer, Wiley and Wilson, Lynchburg, VA

Summary

Utilities can no longer tolerate inefficiencies in water distribution systems and the resulting loss of revenue associated with underground water system leakage. Increases in pumping, treatment and operational costs make these losses prohibitive. To combat water loss, many utilities are developing methods to detect, locate, and correct leaks.

Old and poorly con-

structed pipelines, inadequate corrosion protection, poorly maintained valves and mechanical damage are some of the factors contributing to leakage. One effect of water leakage, besides the loss of water resources, is reduced pressure in the supply system. Raising pressures to make up for such losses increases energy consumption. This rise in pressure makes leaking worse and has adverse environmental impacts.



Shawn Menear, a graduate student in Technology Education at West Virginia University, uses geophones to listen for water main leaks. Similar to a doctor or nurse's stethoscope, geophones are an inexpensive leak detection device used by water utilities.

However advances in technologies and expertise should make it possible to reduce losses and unaccounted-for-water to less than 10 percent. While percentages are great for guidelines, a more meaningful measure is volume of lost water. Once the volume is known, revenue losses can be determined and cost effectiveness of implementing corrective action can then be determined.

Of the many options available for conserving

water, leak detection is a logical first step. If a utility does what it can to conserve water, customers will tend to be more cooperative in other water conservation programs, many of which hinge on individual efforts. A leak detection program can be highly visible, encouraging people to think about water conservation before they are asked to take action to reduce their own water use. Leak detection is an opportunity to improve services to existing customers and to extend services to the population not served.

In general, a 10 to 20 percent allowance for unaccounted-for-water is normal. But a loss of more than 20 percent requires priority attention and corrective actions.

Benefits of Leak DetectionandRepair

The economic benefits of leak detection and repair can be easily estimated. For an individual leak, the amount lost in a given period of time, multiplied by the retail value of that water will provide a dollar amount. Remember to factor in the costs of developing new water supplies and other "hidden" costs.

Some other potential benefits of leak detection and repair that are difficult to quantify include:

 increased knowledge about the distribution system, which can be used, for example, to respond more quickly to emergencies and to set priorities for replacement or rehabilitation programs;

- more efficient use of existing supplies and delayed capacity expansion;
- improved relations with both the public and utility employees;
- improved environmental quality;
- increased firefighting capability;
- reduced property damage, reduced legal liability, and reduced insurance because of the fewer main breaks; and
- reduced risk of contamination.

Causes of Leaks

Water produced and delivered to the distribution system is intended to be sold to the customer, not lost or siphoned from the distribution system without authorization. Not long ago, water companies sold water at a flat rate without metering. As water has become more valuable and metering technology has improved, more and more water systems in the U.S. meter their customers. Although all customers may be metered in a given utility, a fairly sizable portion of the water most utilities produce does not pass through customer meters. Unmetered water includes unauthorized uses, including losses from accounting errors, malfunctioning distribution system controls, thefts, inaccurate meters, or leaks. Some unauthorized uses may be identifiable. When they are not, these unauthorized uses constitute unaccounted-for water. Some unmetered water is taken for authorized purposes, such as fire fighting and flushing and blowoffs for water-quality reasons. These quantities are usually fairly small. The primary cause of excessive unaccounted-for water is often leaks.

There are different types of leaks, including service line leaks, and valve leaks, but in most cases, the largest portion of unaccounted-for water is lost through leaks in the mains. There are many possible causes of leaks, and often a combination of factors leads to their occurrence. The material, composition, age, and joining methods of the distribution system components can influence leak occurrence. Another related factor is the quality of the initial installation of distribution system components. Water conditions are also a factor, including temperasuch as stray electric current; contact with other structures; and stress from traffic vibrations, frost loads, and freezing soil around a pipe can also contribute to leaks. All water plants will benefit from a water accounting system that helps track water throughout the distribution system and identifies areas that may need attention, particularly large volumes of unaccounted-for water.

Leak Detection and Repair Strategy

There are various methods for detecting water distribution system leaks. These methods usually involve using sonic leak-detection equipment, which identifies the sound of water escaping a pipe. These devices can include pinpoint listening devices that make contact with valves and hydrants, and geophones that listen directly on the ground. In addition, correlator devices can listen at two points simultaneously to pinpoint the exact location of a leak. (See the drawing on page 3.)

Large leaks do not necessarily contribute to a greater volume of lost water, particularly if water reaches the surface; they are usually found quickly, isolated, and repaired. Undetected leaks, even small ones, can lead to large quantities of lost water since these leaks might exist for long periods of time. Ironically, small leaks are easier to detect because they are noisier and easier to hear using hydrophones. The most difficult leaks to detect and repair are usually those under stream crossings.

Leak detection efforts should focus on the portion of the distribution system with the greatest expected problems, including:

- areas with a history of excessive leak and break rates;
- areas where leaks and breaks can result in the heaviest property damage;
- · areas where system pressure is high;
- areas exposed to stray electric current and traffic vibration;
- · areas near stream crossings; and
- areas where loads on pipe exceed design loads.

Of course, detecting leaks is only the first step in eliminating leakage. Leak repair is the more costly step in the process. Repair clamps, or collars, are the preferred method for repairing small leaks, whereas larger leaks may require replacing one or more sections of pipe.

On average, the savings in water no longer lost to

Calculating Unaccounted-for Water

Unaccounted-for water is the difference between water produced (metered at the treatment facility) and metered use (i.e., sales plus non-revenue producing metered water). Unaccounted-for water can be expressed in millions of gallons per day (mgd) but is usually discussed as a percentage of water production:

Unaccounted-for water (%) = (Production - metered use) x 100% (Production)



An important goal of leak detection is to find exactly where a leak is located. Typically, the louder the noise, the closer you are to the leak. Small leaks under high pressure usualy make more noise than larger leaks under low pressure. In fact, many large leaks make almost no sound whatsoever.

leakage outweigh the cost of leak detection and repair. In most systems, assuming detection is followed by repair, it is economical to completely survey the system every one to three years.

Instead of repairing leaking mains, some argue it is preferable to replace more leak-prone (generally older) pipes. Selecting a strategy depends upon the frequency of leaks in a given pipe and the relative costs to replace and repair them. Deciding whether to emphasize detection and repair over replacement depends upon site-specific leakage rates and costs. In general, detection and repair result in an immediate reduction in lost water, whereas replacement will have a longer-lasting impact to the extent that it eliminates the root cause of leaks.

The most important factor in a leak detection and repair program is the need for accurate, detailed records that are consistent over time and easy to analyze. Records concerning water production and sales, and leak and break costs and benefits, will become increasingly important as water costs and leak and break damage costs increase and as leak detection and rehabilitation programs become more important. In order to optimize these programs by allocating funds in such a way that results in the greatest net benefits, adequate information is needed on which to base decisions and determine needs. Three sets of records should be kept: (1) monthly reports on unaccounted-for water comparing cumulative sales and production (for the last 12 months, to adjust discrepancies caused by the billing cycle); (2) leak-repair report forms; and (3) updated maps of the distribution system showing the location, type, and class of each leak.

CoordinatingLeakDetectionandRepairwithOther Activities

In addition to assisting with decisions about rehabilitation and replacement, the leak detection and repair program can further other water utility activities, including:

- inspecting hydrants and valves in a distribution system;
- updating distribution system maps;
- using remote sensor and telemetry technologies for ongoing monitoring and analysis of source, transmission, and distribution facilities. Remote sensors and monitoring software can alert operators to leaks, fluctuations in pressure, problems with equipment integrity, and other concerns; and
- inspecting pipes, cleaning, lining, and other maintenance efforts to improve the distribution system and prevent leaks and ruptures from occurring. Utilities might also consider methods for minimizing water used in routine water system maintenance.

Beyond Leak Detection and Repair

Detecting and repairing leaks is only one water conservation alternative; others include: meter testing and repair/replacement, rehabilitation and replacement programs, installing flow-reducing devices, corrosion control, water pricing policies that encourage conservation, public education programs, pressure reduction, requests for voluntary cutbacks or bans on certain water uses, and water recycling.

Where can I find more information?

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For further information, comments about this fact sheet, or to suggest topics, contact Lahlou via e-mail at lahloum@hotmail.com.

DIVIDER PAGE

INFORMATION ONLY

Gatorade's newest drink: Water

By Jordan Valinsky, CNN Business Published 10:03 AM EDT, Thu September 7, 2023





Gatorade

Gatorade is getting into the water business.

New York CNN — Gatorade's newest beverage doesn't look or taste like its other neon-bright drinks. In fact, it's just water.

The PepsiCo-owned brand, best known for its fruit-flavored sports drinks like Fierce Grape or Frost Glacier Cherry, is adding Gatorade Water. It's a major bet that the brand can tap into the growing "functional water" category (i.e. water that is perceived to have additional health benefits) that's projected to reach \$18 billion in sales in the next two years.

Hitting shelves early next year, Gatorade Water is an electrolyte-infused, unflavored water that's filtered with a 7-step filtration process, according to the company, and contains alkaline as well an enhanced pH levels. Water is the latest addition to Gatorade's growing portfolio that extends beyond its flagship recovery drink and into energy beverages, protein powders and capsules. Although the brand is the category leader, Gatorade sales haven't grown as quickly compared to BodyArmor.

ADVERTISING

The company's research shows "about 30 million consumers today are not reaching for enhanced water at all," according to Michael Del Pozzo, president of Gatorade. "Most cases, it's because it's not a brand that they know and trust."

With the Gatorade branding and its signature orange bolt on the water's packaging, Del Pozzo believes that 58-year-old brand can bring "credibility" and disrupt the functional water category that has seen rapid growth in recent years because consumers think enhanced water provides specific benefits.

Del Pozzo said that their research discovered that athletes are "seeking premium unflavored water" to drink throughout the day, as well as a water that contains ingredients that are important to them and comes with "perceived health benefits," including quicker recovery and improving gut health.

Alleged health benefits

Brands like Essentia and SmartWater have benefited from popularity in recent years for boasting alkaline and electrolyte in water. The trend has grown because celebrities and influencers claim it helps with weight loss, clear skin and even fighting cancer.

Specifically, alkaline water is a water that has a higher pH level than tap water. Seven is a neutral pH. The higher the pH level the more alkaline, or basic, it is. The lower the pH level, the more acidic it is. Gatorade Water has pH levels of 7 and higher.

"Tap water has a pH of roughly around 7, and alkaline water is closer to about 8 or 9," said Malina Malkani, a registered dietician, nutritionist and spokeswoman for the Academy of Nutrition and Dietetics. "Alkaline compounds are salts and metals that, when added to water, make it more basic."

However, she previously told CNN that "there's really not a lot of evidence either supporting of the health claims that are made about alkaline water or refuting the claims."

"It's one of those fads that people are making all kinds of claims about, you know, 'It's a miracle cure, and it's a curative for so many different things, and it can boost your metabolism and prevent cancer,' and there's just a lot we don't know," she said.

Dr. Leana Wen, a George Washington University public health professor and CNN medical analyst, said that "there are many claims about the supposed health benefits of electrolyte-infused and alkaline water, but very little scientific evidence."

"For the vast majority of people who live in areas with drinkable water, normal tap water is the best form of hydration," she told CNN.

Growth

Still, despite the unproven and perhaps dubious health benefits, the functional water category has grown because consumers are "simply interested in prioritizing hydration as part of their everyday health routine," Howard Telford, head of soft drinks at Euromonitor, told CNN.

Once the "exclusive domain of sports drinks" like Gatorade or Powerade, the category has seen an "explosion of new formats and styles across powder concentrates, tablets and sports nutrition supplements," Telford said. Expanding into water helps Gatorade "widen the base" of its consumers and expand the brand's appeal.

Gatorade's Del Pozzo said that functional water experienced a "big surge" during the height of the pandemic, and it has "maintained that momentum for quite some time."

Gatorade Water is joining a crowded category. It's currently dominated by Coca-Cola's Smartwater, capturing nearly 27% of the US market share, according to Euromonitor data. Other popular brands include Nestleowned Essentia and two other PepsiCo-owned brands including LIFEWTR and Propel, a flavored water, that the company sees Gatorade Water being "complementary" to.

Part of the marketing challenge ahead of its launch is building and marketing the brand with "credibility so people understand 'Why would i potentially pay more than i would for a base water?' and 'What does it bring in water that I couldn't get today?,'" he said.

"When we think about water, this is really an opportunity for us to build out this whole other component of our portfolio that our competitors can't do," Del Pozzo said.