

# 2022 COST OF SERVICE / RATE DESIGN STUDY

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CITY OF PERU  
WATER AND WASTEWATER UTILITIES

FINAL REPORT

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## EXECUTIVE SUMMARY

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This study was prepared by JK Energy Consulting, LLC (JKEC) for the City of Peru and its water and wastewater utilities (Utility). The purpose of the study was to review the Utility's revenues and expenses and ensure water and wastewater rates are adequate to pay for projected expenses.

Based on the analysis completed, it appears the existing water rates do not collect sufficient revenue to cover projected revenue requirements, including debt service payments, in fiscal year (FY) 2022 through FY 2025. Projected retail revenues for FY 2022 were approximately \$120,000 (Table 5, Line 8), while projected test year expenses were approximately \$172,000 (Table 5, Line 8). This indicates the cost of service is 42.9% (Table 5, Line 8) greater than existing revenues. By FY 2025, the cost of service is 53.1% (Table 1, Line 32) greater than projected revenue. The major factor driving the proposed rate increases was the transition of water supply arrangements from using the existing water supply infrastructure to purchasing water from the Auburn Board of Public Works (Auburn BPW), as well as funding for debt service associated with the City's share of the water main used to deliver water from Auburn BPW.

The proposed rate plan for the water utility would implement a series of rate increases beginning October 1, 2022. The proposed rate ordinance would implement rate increases on October 1, 2022 and October 1, 2023. It is anticipated an additional rate increase would be needed on October 1, 2024. Without implementing the proposed rate increases, the Utility does not collect sufficient revenue to pay projected operating expenses, purchased water costs, and debt service expenses.

Based on information provided by JEO Consulting Group, it appears the City has higher-than-normal losses of water, either through leaks or deliveries to customers that are not metered and billed. With the new purchased water arrangement, the City's cost for leaks and unbilled water becomes much greater than under the previous arrangement. The City should consider completing a study to determine the causes of losses and ensure that all usage by customers is properly metered and billed.

Existing wastewater rates are adequate to cover projected costs, including a transfer of \$30,000 in costs from the water system (Table 2, Line 27). It appears that a portion of personnel and other costs associated with operating the wastewater system has historically been paid through the water fund. Based on the operating results, it is not recommended to make any changes to wastewater rates at this time.

The cost of service analysis was completed for the water system to assess the amount that each rate class should be paying, compared to the revenue that is being collected from existing rates. The cost of service indicated the majority of rate classes were paying less than the allocated cost of service. The indicated rate changes varied between 15.8% and 52.2%, depending on the rate class and usage profile (Table 5).

The purpose of rate design is to develop rates that reflect the cost of service and accomplish other goals established by the Utility. The proposed rates would increase the average monthly residential water bill from \$32.71 in FY 2022 to \$47.11 in FY 2023, or approximately \$14.40 (Table 6). The Utility's water rate tends to be on the higher end of its peer group (Table 8). Much of the rate discrepancy can be attributed to geography and the need for additional treatment costs as a result of the location of the Utility's sources of supply. The Utility has and continues to be proactive about implementing capital improvements before emergency repairs or replacements are necessary. The Utility is also proactive about seeking loan forgiveness and grant funding.

In implementing the rate increase, an inclining block rate structure was developed and is proposed for implementation. This structure would have a higher rate for usage in excess of 3,000 gallons per month. The proposed rate results in larger users having a greater increase than smaller users. This approach sends a rate signal that higher water usage results in higher costs per unit, and also mitigates the rate impact on small users.

## **Conclusions**

The following conclusions were reached, based on the information provided and analyses completed:

1. For the water system, the projected test year budget for FY 2022 was approximately \$172,000.
2. Projected water revenues from existing rates are approximately \$120,000 for FY 2022.
3. Existing water rates would need to increase by approximately \$51,600, or 42.9%, to provide sufficient revenue to pay projected FY 2022 test year expenses, including projected debt service.
4. Existing water rates would need to increase by approximately 53.1% by FY 2025 to pay projected operating expenses, capital improvements, and debt service expenses.
5. Projected operating results for the wastewater system indicate that existing rates are adequate to cover projected operating expenses.

## **Recommendations**

The following recommendations were developed based on the analyses completed and conclusions reached:

1. Water rates should be increased 44% on October 1, 2022 (for FY 2023) and 7% on October 1, 2023 (for FY 2024). This equates to an average monthly residential bill increase of \$14.40 in October 2022. The rate ordinance included in Appendix A would implement these rate increases.
2. The City should consider another water rate increase of 4% on October 1, 2024 (for FY 2025).

3. Wastewater rates should remain unchanged.
4. The Utility should evaluate its rates if an unexpected expense or change in usage occurs between now and FY 2025.

## **PURPOSE AND APPROACH**

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The purpose of this study was to review the water rates charged by the Utility. The goal of future water rates was to collect sufficient revenue to cover projected expenses, including debt service for water system improvements.

The approach to the study involved completing several tasks. Retail water sales, operating expenses, non-retail revenues, and other financial information was collected. Test year expenses for FY 2022 were projected, and future expenses were projected through FY 2025. A rate plan was developed to meet the financial goals established by the Utility. The allocated cost of service for each rate class was calculated and compared to revenue from existing rates. New rates were developed, and a rate ordinance was prepared. A written report was prepared and presented to the City Council on June 21, 2022. The City Council approved on first reading the water rate ordinance implementing the 44% rate increase, effective October 1, 2022, and the 7% rate increase, effective October 1, 2023, at their meeting in July 2022. At the time this report was finalized, the City Council has held two of three readings. The final reading is scheduled for September 2022.

## **BACKGROUND**

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### ***City of Peru – Water and Wastewater Utility***

The City of Peru operates the water and wastewater utility, which serves customers located within Peru and a number of customers in adjacent rural areas. The Utility serves approximately 227 customers, approximately 220 of which are residential.

The existing water supply system has been seriously damaged over the last 10 years by flooding along the Missouri River. Much of the City's water and wastewater infrastructure is located in the flood plain. The City has been working with the Federal Emergency Management Agency (FEMA) to receive grant funding to relocate key infrastructure from the flood plain to help avoid future damage.

The most significant project to mitigate the potential of future damage is to replace the existing water treatment plant with a water line from the City of Auburn. The City would purchase bulk water from the Auburn BPW to serve its retail customers going forward. This change in water supply arrangements results in a shift in the City's cost structure, with a much greater portion of future costs being based on usage than in the past.

## PROJECTED FINANCIAL RESULTS

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The purpose of preparing projected financial results is to compare projected revenues with expenses and determine the need for future rate increases. Projections were prepared for the period FY 2022 through FY 2025 based on information provided by the Utility.

### **Parameters**

The following parameters were used to develop the test year budget and the projected financial results.

1. Historical and projected results were prepared based on the Utility's fiscal year (October 1 through September 30).
2. FY 2021 actual expenses were used as the basis for the FY 2022 test year budget, with normal escalation and adjustments for other known changes. The most significant change was implementing the purchased water agreement with the Auburn BPW.
3. Operating and maintenance expenses, administrative costs, and other internal expenses were projected to increase at a rate of 3% annually.
4. Water sales were projected to remain stable (no increase or decrease).
5. Water purchases from the Auburn BPW were calculated using a loss percentage (including unaccounted for and unbilled water) of 30%. This percentage was consistent with data provided by JEO Consulting Group.
6. A reduction in operating costs from historical amounts was included based on data from JEO Consulting Group.
7. Because wastewater expenses appeared artificially low, there may be some labor costs currently allocated to water that should be allocated to the wastewater function. A transfer of \$30,000 in operating expenses to the wastewater fund was included in the test year budget.
8. Projected financial results were presented on an "accrual basis" and "cash basis." Accrual basis accounting is consistent with Generally Accepted Accounting Principles (GAAP) and cash basis results were intended to reflect actual cash flow. Each approach is important for ratemaking purposes since the Utility's rates should ensure positive net income and cash flow.
9. The cost of service was prepared on a cash basis, including capital improvements and debt service payments, while excluding depreciation.
10. Depreciation expense of \$40,000 in FY 2022 through FY 2025 was included in the accrual based financial results.
11. Existing debt service was included based on the repayment schedule provided by staff.
12. Capital expenditures were included in the cash based financial results.

### ***Projected Financial Results - Water***

Table 1 (see page 7) shows the projected financial results for FY 2022 through 2025, along with historical financial results for FY 2020 and FY 2021. The projected financial results do not include rate increases or use of available funds for rate stabilization.

Without a rate change, the Utility does not collect sufficient revenue in FY 2022 through FY 2025 to cover projected expenses on a cash and accrual basis. On a cash basis, the projected deficit on a cash basis would be approximately \$64,000 by FY 2025. The cash-flow deficit is almost entirely caused by the cost of purchased water from the Auburn BPW.

One area of concern was the water loss percentage reported by JEO Consulting Group. While some losses and unaccounted for water is to be expected, the reported figure of 30% is extremely high. With the transition to a purchased water contract, the variable cost associated with these losses is much higher than with the existing supply arrangements. Water losses are estimated to cost the City approximately \$23,000 per year. The City should consider completing a water loss study to determine the causes of losses and assess if there is unmetered usage occurring on the system that should be accounted for.

### ***Projected Financial Results - Wastewater***

Table 2 (see page 8) shows the projected financial results for the wastewater system. Even with the \$30,000 transfer of costs from the wastewater utility to the water utility, the wastewater utility is projected to have adequate revenues. There does not appear to be a need to increase wastewater rates at this time.

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**Table 1**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Projected Financial Results**  
**Existing Rates**

Line	Description	Actual (1)			Test Year		Projected	
		2020	2021	2022	2023	2024	2025	
<b>1</b>	<b>Operating Revenues</b>							
2	Charges for Services	\$ 165,138	\$ 115,124	\$ 120,204	\$ 120,204	\$ 120,204	\$ 120,204	
3	Rate Changes	-	-	-	-	-	-	
4	Sales Tax Received	7,013	10,859	10,859	10,859	10,859	10,859	
5	Other Operating Revenue	1,534	3,078	3,000	3,090	3,183	3,278	
<b>6</b>	<b>Total Operating Revenue</b>	<b>\$ 173,685</b>	<b>\$ 129,061</b>	<b>\$ 134,063</b>	<b>\$ 134,153</b>	<b>\$ 134,246</b>	<b>\$ 134,341</b>	
<b>7</b>	<b>Operating Expenses</b>							
8	Purchased Water	-	-	76,870	78,442	80,014	81,586	
9	Personnel Services	17,057	20,704	30,000	30,900	31,827	32,782	
10	Contracted Services	64,876	37,163	25,000	25,750	26,523	27,318	
11	Supplies & Expenses	4,836	4,655	10,000	10,300	10,609	10,927	
12	Repairs & Maintenance	9,281	40,553	20,000	20,600	21,218	21,855	
13	Utilities & Telephone	16,653	16,206	10,000	10,300	10,609	10,927	
14	Miscellaneous	187	2,315	5,000	5,150	5,305	5,464	
15	Sales Tax Paid	7,013	10,859	10,859	11,185	11,520	11,866	
16	Wastewater Expense Credit	-	-	(30,000)	(30,900)	(31,827)	(32,782)	
17	Depreciation	16,577	24,702	40,000	40,000	40,000	40,000	
<b>18</b>	<b>Total Operating Expenses</b>	<b>\$ 136,480</b>	<b>\$ 157,157</b>	<b>\$ 197,729</b>	<b>\$ 201,727</b>	<b>\$ 205,797</b>	<b>\$ 209,943</b>	
<b>19</b>	<b>Operating Income - GAAP Basis</b>	<b>\$ 37,205</b>	<b>\$ (28,096)</b>	<b>\$ (63,666)</b>	<b>\$ (67,574)</b>	<b>\$ (71,552)</b>	<b>\$ (75,602)</b>	
<b>20</b>	<b>Non-Operating Expense/(Revenue)</b>							
21	Interest Income	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
22	Interest Expense	-	-	-	-	-	-	
23	Miscellaneous Expense/(Revenue)	-	-	(2,000)	(2,060)	(2,122)	(2,185)	
<b>24</b>	<b>Total Non-Operating Expense/(Revenue)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ (2,000)</b>	<b>\$ (2,060)</b>	<b>\$ (2,122)</b>	<b>\$ (2,185)</b>	
<b>25</b>	<b>Net Income - GAAP Basis</b>	<b>\$ 37,205</b>	<b>\$ (28,096)</b>	<b>\$ (61,666)</b>	<b>\$ (65,514)</b>	<b>\$ (69,430)</b>	<b>\$ (73,416)</b>	
<b>26</b>	<b>Cash Basis</b>							
27	Net Income	\$ 37,205	\$ (28,096)	\$ (61,666)	\$ (65,514)	\$ (69,430)	\$ (73,416)	
28	Plus Depreciation	16,577	24,702	40,000	40,000	40,000	40,000	
29	Less Debt Service Principal	-	-	(24,942)	(24,942)	(24,942)	(24,942)	
30	Less Capital Expenditures	-	-	(5,000)	(5,150)	(5,305)	(5,464)	
<b>31</b>	<b>Net Income - Cash Basis</b>	<b>\$ 53,782</b>	<b>\$ (3,394)</b>	<b>\$ (51,608)</b>	<b>\$ (55,606)</b>	<b>\$ (59,676)</b>	<b>\$ (63,822)</b>	
<b>32</b>	<b>Rate Change for Breakeven Cash Flow</b>	<b>-32.6%</b>	<b>2.9%</b>	<b>42.9%</b>	<b>46.3%</b>	<b>49.6%</b>	<b>53.1%</b>	

Notes:  
(1) Based on audited financial statements.



**Table 2**  
**City of Peru**  
**2022 Wastewater Cost of Service Study**  
**Projected Financial Results**  
**Existing Rates**

Line	Description	Actual (1)			Test Year			Projected				
		2020	2021	2022	2023	2024	2025	2026				
1	<b>Operating Revenues</b>											
2	Charges for Services	\$ 70,741	\$ 67,520	\$ 67,520	\$ 67,520	\$ 67,520	\$ 67,520	\$ 67,520	\$ 67,520	\$ 67,520	\$ 67,520	\$ 67,520
3	Rate Changes	-	-	-	-	-	-	-	-	-	-	-
4	Other Operating Revenue	-	-	-	-	-	-	-	-	-	-	-
5	<b>Total Operating Revenue</b>	<b>\$ 70,741</b>	<b>\$ 67,520</b>	<b>\$ 67,520</b>	<b>\$ 67,520</b>	<b>\$ 67,520</b>	<b>\$ 67,520</b>	<b>\$ 67,520</b>	<b>\$ 67,520</b>	<b>\$ 67,520</b>	<b>\$ 67,520</b>	<b>\$ 67,520</b>
6	<b>Operating Expenses</b>											
7	Personnel Services	\$ 285	\$ 427	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8	Repairs & Maintenance	159	341	-	-	-	-	-	-	-	-	-
9	Contracted Services	-	459	-	-	-	-	-	-	-	-	-
10	Administrative & General	-	-	-	-	-	-	-	-	-	-	-
11	Transfer from Water	-	-	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
12	Depreciation	369	999	999	999	999	999	999	999	999	999	999
13	<b>Total Operating Expenses</b>	<b>\$ 813</b>	<b>\$ 2,226</b>	<b>\$ 30,999</b>	<b>\$ 30,999</b>	<b>\$ 30,999</b>	<b>\$ 30,999</b>	<b>\$ 30,999</b>	<b>\$ 30,999</b>	<b>\$ 30,999</b>	<b>\$ 30,999</b>	<b>\$ 30,999</b>
14	<b>Operating Income - GAAP Basis</b>	<b>\$ 69,928</b>	<b>\$ 65,294</b>	<b>\$ 36,521</b>	<b>\$ 36,521</b>	<b>\$ 36,521</b>	<b>\$ 36,521</b>	<b>\$ 36,521</b>	<b>\$ 36,521</b>	<b>\$ 36,521</b>	<b>\$ 36,521</b>	<b>\$ 36,521</b>
15	<b>Non-Operating Expense/(Revenue)</b>											
16	Interest Income	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17	Interest Expense	-	-	-	-	-	-	-	-	-	-	-
18	Miscellaneous	-	-	-	-	-	-	-	-	-	-	-
19	Grant	-	-	-	-	-	-	-	-	-	-	-
20	<b>Total Non-Operating Expense/(Revenue)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
21	<b>Net Income - GAAP Basis</b>	<b>\$ 69,928</b>	<b>\$ 65,294</b>	<b>\$ 36,521</b>	<b>\$ 36,521</b>	<b>\$ 36,521</b>	<b>\$ 36,521</b>	<b>\$ 36,521</b>	<b>\$ 36,521</b>	<b>\$ 36,521</b>	<b>\$ 36,521</b>	<b>\$ 36,521</b>
22	<b>Cash Basis</b>											
23	Net Income	\$ 69,928	\$ 65,294	\$ 36,521	\$ 36,521	\$ 36,521	\$ 36,521	\$ 36,521	\$ 36,521	\$ 36,521	\$ 36,521	\$ 36,521
24	Plus Depreciation	369	999	999	999	999	999	999	999	999	999	999
25	Less Principal	-	-	-	-	-	-	-	-	-	-	-
26	Less Capital Expenditures	-	-	-	-	-	-	-	-	-	-	-
27	<b>Net Income - Cash Basis</b>	<b>\$ 70,297</b>	<b>\$ 66,293</b>	<b>\$ 37,520</b>	<b>\$ 37,520</b>	<b>\$ 37,520</b>	<b>\$ 37,520</b>	<b>\$ 37,520</b>	<b>\$ 37,520</b>	<b>\$ 37,520</b>	<b>\$ 37,520</b>	<b>\$ 37,520</b>
28	<b>Rate Change Needed (2)</b>	<b>-99.4%</b>	<b>-98.2%</b>	<b>-55.6%</b>	<b>-55.6%</b>	<b>-55.6%</b>	<b>-55.6%</b>	<b>-55.6%</b>	<b>-55.6%</b>	<b>-55.6%</b>	<b>-55.6%</b>	<b>-55.6%</b>

Notes:  
(1) Based on audited financial statements.

## Future Rate Changes

Table 3 shows the projected operating results with rate increases in FY 2022 through FY 2025 (see Line 26). The series of rate increases in FY 2022 through FY 2025 would result in sufficient revenue to cover projected operating expenses, debt service costs, and planned capital improvements. Implementing a series of rate increases would provide stable financial results for future periods.

**Table 3**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Projected Financial Results**  
**Proposed Rates - Cash Basis**

Line	Description	Projected			
		Test Year 2022	2023	2024	2025
1	<b>Operating Revenues</b>				
2	Retail Sales - Existing Rates	\$ 120,204	\$ 120,204	\$ 120,204	\$ 120,204
3	Rate Changes	52,363	64,426	71,811	79,492
4	Sales Tax Received	10,859	10,859	10,859	10,859
5	Other Operating Revenue	3,000	3,090	3,183	3,278
6	<b>Total Operating Revenue</b>	<b>\$ 186,426</b>	<b>\$ 198,579</b>	<b>\$ 206,057</b>	<b>\$ 213,833</b>
7	<b>Operating Expenses</b>				
8	Purchased Water	\$ 76,870	\$ 78,442	\$ 80,014	\$ 81,586
9	Personnel Services	30,000	30,900	31,827	32,782
10	Contracted Services	25,000	25,750	26,523	27,318
11	Supplies & Expenses	10,000	10,300	10,609	10,927
12	Repairs & Maintenance	20,000	20,600	21,218	21,855
13	Utilities & Telephone	10,000	10,300	10,609	10,927
14	Miscellaneous	5,000	5,150	5,305	5,464
15	Sales Tax Paid	10,859	11,185	11,520	11,866
16	Wastewater Expense Credit	(30,000)	(30,900)	(31,827)	(32,782)
17	Depreciation	40,000	40,000	40,000	40,000
18	<b>Total Operating Expenses</b>	<b>\$ 197,729</b>	<b>\$ 201,727</b>	<b>\$ 205,797</b>	<b>\$ 209,943</b>
19	<b>Operating Income - GAAP Basis</b>	<b>\$ (11,303)</b>	<b>\$ (3,148)</b>	<b>\$ 260</b>	<b>\$ 3,890</b>
20	<b>Non-Operating Expense/(Revenue)</b>				
21	Interest Income	\$ -	\$ -	\$ -	\$ -
22	Interest Expense	-	-	-	-
23	Miscellaneous Expense/(Revenue)	(2,000)	(2,060)	(2,122)	(2,185)
24	<b>Total Non-Operating Expense/(Revenue)</b>	<b>\$ (2,000)</b>	<b>\$ (2,060)</b>	<b>\$ (2,122)</b>	<b>\$ (2,185)</b>
25	<b>Net Income - GAAP Basis</b>	<b>\$ (9,303)</b>	<b>\$ (1,088)</b>	<b>\$ 2,382</b>	<b>\$ 6,076</b>
26	<b>Rate Change</b>	43.56%	6.99%	4.00%	4.00%
27	<b>Cash Basis</b>				
28	Net Income	\$ (9,303)	\$ (1,088)	\$ 2,382	\$ 6,076
29	Plus Depreciation	40,000	40,000	40,000	40,000
30	Less Debt Service Principal	(24,942)	(24,942)	(24,942)	(24,942)
31	Less Capital Expenditures	(5,000)	(5,150)	(5,305)	(5,464)
32	<b>Net Income - Cash Basis</b>	<b>\$ 755</b>	<b>\$ 8,820</b>	<b>\$ 12,135</b>	<b>\$ 15,670</b>
33	<b>Rate Change for Breakeven Cash Flow</b>	-0.6%	-7.3%	-10.1%	-13.0%

## **COST OF SERVICE**

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The purpose of the cost of service analysis is to identify the costs related to serving each class of customers. Several steps were completed to prepare the cost of service analysis. A test year budget was prepared based on the FY 2022 operating budget, with adjustments for known changes. Each expense item was identified and assigned to a utility function, and further classified as a base, extra capacity (peak day or peak hour), and customer related expense. This process is called “functionalization” and “classification.”

The costs related to each function were allocated to each customer class based on generally accepted cost allocation principles for municipal water utilities. The allocated costs were compared to revenues based on existing rates. The comparison of the cost of service to revenue from existing rates was used as a factor in designing rates.

### ***Test Year Budget***

The purpose of preparing a test year budget is to create a scenario that is as close to “normal” operating conditions as possible, reflecting known changes for the Utility. The test year budget for FY 2022 included the following adjustments to the FY 2022 operating budget:

1. Normalized water sales based on typical historical water sales.
2. Inclusion of purchased water costs from the Auburn BPW.
3. Debt service based on existing loan repayment schedule.

The test year budget for FY 2022 was approximately \$172,000 and is summarized in Table 4 (see page 11). The test year budget represents the amount that needs to be collected from retail rates. It includes all operating expenses, debt service payments, capital improvements funded from rates, and is reduced for revenue from interest income and other non-retail revenue.

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**Table 4**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Test Year Budget by Function**  
**Annual**

Line	Rate Class	Production / Distribution	Customer / Metering	Other	Total
1	Residential	\$ 93,117	\$ 38,386	\$ -	\$ 131,504
2	Commercial - 3/4"	-	-	-	-
3	Commercial - 1"	571	583	-	1,153
4	Commercial - 1-1/2"	-	-	-	-
5	Commercial - 2"	1,190	1,859	-	3,050
6	Commercial - 4"	3,410	2,908	-	6,318
7	Commercial - 6"	18,161	11,627	-	29,787
8	<b>Total</b>	<b>\$ 116,449</b>	<b>\$ 55,362</b>	<b>\$ -</b>	<b>\$ 171,812</b>
9	<b>Percentage</b>	<b>68%</b>	<b>32%</b>	<b>0%</b>	<b>100%</b>

### **Functionalization and Classification**

Functionalization and classification involves assigning the expense items to function, and classifying those expenses on the basis of a reasonable allocation method. The following functions were used for the Utility:

1. Water Production
2. Water Distribution (including storage)
3. Customer service
4. Metering
5. Other (interest income, other charges)

Production and distribution costs were split between base costs, which vary in proportion to water usage, and extra capacity costs. Extra capacity costs were divided between extra peak day capacity and extra peak hour capacity. These costs vary in proportion to the amount the peak usage exceeds the average usage. Customer and metering costs include those costs associated with serving a particular customer, regardless of the customer's water usage. This would include expenses like customer billing, meter reading, customer accounting expense, and maintenance costs related to these functions.

Table 4 summarizes the classification of test year expenses, including the allocation to the various retail rate classes. Approximately \$116,000 is production and distribution-related and \$55,000 is customer-related. Based on this classification, 68% of the Utility's test year budget is production and distribution-related and 32% is customer-related.

**Cost Allocation**

The functionalized costs were allocated to the various rate classes using generally accepted methods for preparing embedded cost of service studies. There is no standard cost of service methodology that the Utility is required to follow by a regulatory agency. There are a number of guidelines that municipal utilities follow, including publications and guidelines from the American Water Works Association.

The City currently differentiates its rates based only on meter size; all consumption is billed at the same rate while customer charges vary based on the size of the meter. For cost allocation purposes, each meter size was treated as its own rate class.

One limitation of the methodology used for cost allocation was the inability to allocate costs separately to inside and outside city customers. It is common for municipal utilities to differentiate between rates inside and outside the city, since outside city customers generally require higher customer service costs, distribution costs and pumping costs because of the distance from City facilities and decreased customer density.

**Comparison of Revenues to Cost of Service**

Revenues collected from existing rates were compared to the allocated cost of service. The purpose of this comparison was to provide guidance on the adequacy of the existing rates for each rate class. This comparison can be used to assess the general magnitude of rate changes needed for each rate class and is one factor in determining the need for rate adjustments for individual rate classes.

Table 5 (see page 13) compares the revenue from existing rates to the calculated cost of service. Overall, the cost of service was 42.9% more than revenues from existing rates. The cost of service for all rate classes were less than existing revenues. This indicates that rates should increase across all rate classes.

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**Table 5**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Comparison of Cost of Service**  
**to Revenue from Existing Rates**  
**Annual**

Line	Rate Class	Revenue		Difference	
		Existing Rates	Cost of Service	\$	%
1	Residential	\$ 86,384	\$ 131,504	\$ 45,119	52.2%
2	Commercial - 3/4"	-	-	-	0.0%
3	Commercial - 1"	811	1,153	343	42.3%
4	Commercial - 1-1/2"	-	-	-	0.0%
5	Commercial - 2"	2,633	3,050	417	15.8%
6	Commercial - 4"	5,430	6,318	888	16.4%
7	Commercial - 6"	24,947	29,787	4,841	19.4%
8	<b>Total</b>	<b>\$ 120,204</b>	<b>\$ 171,812</b>	<b>\$ 51,608</b>	<b>42.9%</b>

## RATE DESIGN

The proposed rate plan would increase rates by a cumulative total of 53.1% through FY 2025. Because of the large scale of the proposed rate increase, rates are increasing for each rate class at a percentage fairly consistent with the overall needed rate change. To mitigate the impact on small users, an inclining block rate was developed that results in higher rates for usage in excess of 3,000 gallons per month.

The proposed rate change increases the average monthly residential water bill by \$14.40 per month in October 2022 and \$3.13 in October 2023. Table 6 (see page 14) shows the revenue from existing rates and the proposed FY 2023 rates by rate class, effective October 2022. Table 7 (see page 14) shows the proposed revenue increases by rate class for FY 2024, effective October 2023.

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**Table 6**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Proposed Rate Change by Rate Class - October 2022**  
**Annual**

Line	Rate Class	Revenue		Difference		
		Existing Rates	Proposed Rates	\$	Bill (1)	%
1	Residential	\$ 86,384	\$ 124,422	\$ 38,038	\$ 14.40	44.0%
2	Commercial - 3/4"	-	-	-	-	0.0%
3	Commercial - 1"	811	1,183	373	15.52	46.0%
4	Commercial - 1-1/2"	-	-	-	-	0.0%
5	Commercial - 2"	2,633	3,740	1,107	46.14	42.1%
6	Commercial - 4"	5,430	7,572	2,142	178.54	39.5%
7	Commercial - 6"	24,947	35,649	10,703	445.94	42.9%
8	<b>Total</b>	<b>\$ 120,204</b>	<b>\$ 172,567</b>	<b>\$ 52,363</b>	<b>\$ 18.97</b>	<b>43.6%</b>

Note:

1. Change in average monthly bill for customers within rate class.

**Table 7**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Proposed Rate Change by Rate Class - October 2023**  
**Annual**

Line	Rate Class	Revenue		Difference		
		Existing Rates	Proposed Rates	\$	Bill (1)	%
1	Residential	\$ 124,422	\$ 132,692	\$ 8,269	\$ 3.13	6.6%
2	Commercial - 3/4"	-	-	-	-	0.0%
3	Commercial - 1"	1,183	1,281	98	4.07	8.3%
4	Commercial - 1-1/2"	-	-	-	-	0.0%
5	Commercial - 2"	3,740	3,980	240	10.00	6.4%
6	Commercial - 4"	7,572	8,028	456	38.00	6.0%
7	Commercial - 6"	35,649	38,649	3,000	125.00	8.4%
8	<b>Total</b>	<b>\$ 172,567</b>	<b>\$ 184,630</b>	<b>\$ 12,063</b>	<b>\$ 4.43</b>	<b>7.0%</b>

Note:

1. Change in average monthly bill for customers within rate class.

With the proposed rate increases, the Utility’s residential water rates in FY 2022 would be higher than existing water rates for similarly-sized municipal utilities in eastern Nebraska. Table 8 provides a comparison of existing rates for the cities of Auburn, Falls City, Nebraska City, Seward, and Wahoo to the proposed FY 2023 rates for Falls City.

The rate comparison indicates the projected water rates toward the higher end of the selected peer group. One of the most significant factors in the competitiveness of water rates is geography. The cost of water supply varies significantly based on proximity to surface water sources, groundwater contaminants, how prone an area is to flooding and other natural disasters, and quantity and quality of supply in close proximity to the utility’s customers. Most of the reasons for the water rates being higher than neighbors are beyond the control of the City. The City has been proactive in seeking out water supplies that are reliable and not prone to damage, and in doing so has identified a reasonable plan going forward that appears to be the most cost-effective solution.

**Table 8**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Typical Bill Comparison**  
**Rate Comparisons - October 2022 Rates**  
**Residential 1" or Less Meter**

<b>Rate Comparisons</b>			
<b>Utility</b>	<b>3,740 gal</b>	<b>5,236 gal</b>	<b>7,480 gal</b>
Auburn (1)	41.87	48.67	58.88
Falls City (2)	34.05	43.43	57.50
Nebraska City (3)	22.15	25.27	29.97
<b>Peru (4)</b>	<b>49.49</b>	<b>61.08</b>	<b>78.47</b>
Seward (5)	32.81	40.39	51.76
Wahoo (6)	25.48	27.51	30.56

Notes:

1. Effective January 1, 2022
2. Effective October 1, 2021
3. Rates effective March 2019
4. Proposed rates subject to City Council approval.
5. Rates effective January 2019
6. Rates effective April 1, 2022



## CONCLUSIONS

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The following conclusions were reached, based on the information provided and analyses completed:

1. For the water system, the projected test year budget for FY 2022 was approximately \$172,000.
2. Projected water revenues from existing rates are approximately \$120,000 for FY 2022.
3. Existing water rates would need to increase by approximately \$51,600, or 42.9%, to provide sufficient revenue to pay projected FY 2022 test year expenses, including projected debt service.
4. Existing water rates would need to increase by approximately 53.1% by FY 2025 to pay projected operating expenses, capital improvements, and debt service expenses.
5. Projected operating results for the wastewater system indicate that existing rates are adequate to cover projected operating expenses.

## RECOMMENDATIONS

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The following recommendations were developed based on the analyses completed and conclusions reached:

1. Water rates should be increased 44% on October 1, 2022 (for FY 2023) and 7% on October 1, 2023 (for FY 2024). This equates to an average monthly residential bill increase of \$14.40 in October 2022. The rate ordinance included in Appendix A would implement these rate increases.
2. The City should consider another water rate increase of 4% on October 1, 2024 (for FY 2025).
3. Wastewater rates should remain unchanged.
4. The Utility should evaluate its rates if an unexpected expense or change in usage occurs between now and FY 2025.

**APPENDIX A – RATE ORDINANCE**

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ORDINANCE NO. 2022-\_\_\_\_\_

AN ORDINANCE TO AMEND ORDINANCE NO. 2011-02 TO SET WATER RATES, FEES, CHARGES, AND COLLECTIONS FOR WATER SERVICES FROM AND IN THE CITY OF PERU, NEBRASKA; REPEALING ANY PRIOR ORDINANCES IN CONFLICT THEREWITH, AND ORDERING THE PUBLICATION OF THE ORDINANCE IN PAMPHLET FORM TO PROVIDE FOR EFFECTIVE DATE.

BE IT ORDAINED BY THE MAYOR AND COUNCIL OF THE CITY OF PERU, NEBRASKA:

SECTION I

That the rates, fees, charges, and collections for the use of water be and hereby are those figures and terms set out in the schedule incorporated as Section II of this Ordinance, which schedule and terms shall be on file in the office of the City Clerk for public inspection at any reasonable time.

SECTION II

**A. Rates**

<b>Effective Date:</b>	<b><u>October 1, 2022</u></b>	<b><u>October 1, 2023</u></b>
<b>Customer Charge per Month</b>		
Residential	\$25.00	\$27.50
Commercial – 3/4”	\$25.00	\$27.50
Commercial – 1”	\$35.16	\$38.67
Commercial – 1-1/2”	\$73.15	\$80.47
Commercial – 2”	\$125.00	\$135.00
Commercial – 4”	\$475.00	\$513.00
Commercial – 6”	\$950.00	\$1,075.00
<b>Usage</b>		
	<b><u>\$/1,000 gal.</u></b>	<b><u>\$/1,000 gal.</u></b>
First 3,000 gallons	6.25	6.25
All gallons over 3,000	7.75	7.75

SECTION III

That the original Ordinance No. 2011-02 and any other ordinances or sections passed and approved prior to passage, approval and publication or posting of this ordinance in conflict with the provisions herewith are hereby repealed.

SECTION IV

This Ordinance shall take effect and be in full force from and after its passage, approval, and publication or posting as required by law.

Passed and approved this \_\_\_\_\_ day of \_\_\_\_\_, 2022.

\_\_\_\_\_  
Mayor

ATTEST:

\_\_\_\_\_  
City Clerk

**APPENDIX B – COST OF SERVICE WORKSHEETS**

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**Appendix Table B-1**  
**City of Peru**  
**2022 Wastewater Cost of Service Study**  
**Summary of Parameters for Financial Projections**

Line	Category	Year					
		2020	2021	2022	2023	2024	2025
1	<b>Revenue Escalation</b>						
2	Sales Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3	Retail Rate Increases	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
4	Non-Retail Revenue Increase	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5	<b>Expense Escalation Rates</b>						
6	Operation and Maintenance	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
7	Capital Improvements	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
8	Non-Operating Revenue	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
9	Interest Income	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
10	General and Administrative	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
11	Transfers	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
12	<b>Total Debt Service</b>						
13	Principal	\$ 395,000	\$ 395,000	\$ 400,000	\$ 410,000	\$ 425,000	\$ 435,000
14	Interest	59,525	52,810	45,503	37,303	28,282	18,295
15	<b>Total Debt Service</b>	<b>\$454,525</b>	<b>\$447,810</b>	<b>\$445,503</b>	<b>\$447,303</b>	<b>\$453,282</b>	<b>\$453,295</b>

**Appendix Table B-2**  
**City of Peru**  
**2022 Wastewater Cost of Service Study**  
**Classification / Functionalization Factors**

Line	Functionalization Factor	Extra					Total
		Base	Capacity - Max Day	Customer Billing	Facility Capacity	Other	
1	Allocation - Capital Projects	50%	15%	0%	35%	0%	100.00%
2	Collection Allocation	50%	15%	0%	35%	0%	100.00%
3	Cost of Service	0%	0%	0%	0%	0%	0.00%
4	Direct - Base	100%	0%	0%	0%	0%	100.00%
5	Direct - Customer Costs	0%	0%	100%	0%	0%	100.00%
6	Direct - Other	50%	20%	15%	15%	0%	100.00%
7	Treatment Allocation	40%	20%	0%	40%	0%	100.00%





**Appendix Table B-4**  
**City of Peru**  
**2022 Wastewater Cost of Service Study**  
**Development of Allocation Factors**  
**Extra Capacity Factors**

Rate Class	Demand Factors		Max Usage		Extra Usage		Allocation Factors	
	Pk. Day	Pk. Hr.	Day	Hour	Day	Hour	Day	Hour
Sewer	1.80	2.50	84	5	37	3	100.00%	100.00%
<b>Total</b>			84	5	37	3	100.00%	100.00%

**Appendix Table B-6**  
**City of Peru**  
**2022 Wastewater Cost of Service Study**  
**Development of Allocation Factors**  
**Weighted Number of Customers and Customer Allocation Factors**

<b>Rate Class</b>	<b>Number of Customers</b>	<b>Meter Charge Weighting Factor</b>	<b>Rural Weighting Factor</b>	<b>Weighted Meters</b>	<b>Allocated Customers</b>
Sewer	203.67	1.00	1.00	203.67	100.00%
<b>Total Number of Weighted Customers</b>	203.67			203.67	100.00%

**Appendix Table B-7**  
**City of Peru**  
**2022 Wastewater Cost of Service Study**  
**Revenue - Existing Rates**

<b>Rate Class</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Annual Total</b>
Sewer	5,640	5,608	5,587	5,566	5,587	5,556	5,598	5,608	5,682	5,629	5,692	5,629	67,381
<b>Total Revenue</b>	5,640	5,608	5,587	5,566	5,587	5,556	5,598	5,608	5,682	5,629	5,692	5,629	67,381

**Appendix Table B-8**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Summary of Parameters for Financial Projections**

<b>Line</b>	<b>Category</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>
1	<b>Revenue Escalation</b>					
2	Sales Growth	0.00%	0.00%	0.00%	0.00%	0.00%
3	Retail Rate Increases	43.56%	6.99%	4.00%	4.00%	4.00%
4	Non-Retail Revenue Increase	3.00%	3.00%	3.00%	3.00%	3.00%
5	<b>Expense Escalation Rates</b>					
6	Operation and Maintenance	3.00%	3.00%	3.00%	3.00%	3.00%
7	Capital Improvements	3.00%	3.00%	3.00%	3.00%	3.00%
8	Non-Operating Revenue	3.00%	3.00%	3.00%	3.00%	3.00%
9	Interest Income	0.00%	0.00%	0.00%	0.00%	0.00%
10	General and Administrative	3.00%	3.00%	3.00%	3.00%	3.00%
11	Transfers	3.00%	3.00%	3.00%	3.00%	3.00%

**Appendix Table B-9**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Total Budgeted Cost and Adjustments**  
**Test Year FY 2022**

Line	Budget Item	Functionalization Factor	Category for Operating Results	Test Year Adjustment	FY 2022 Test Year Budget
1	<b><u>Production - Purchased Water</u></b>				
2	Purchased Water	Treatment Allocation	Purchased Water	76,870	76,870
3	<b><u>Other Operating Expense</u></b>				
4	Personnel Services	Distribution Allocation	Personnel Services	30,000	30,000
5	Contracted Services	Distribution Allocation	Contracted Services	25,000	25,000
6	Supplies and Expenses	Distribution Allocation	Supplies and Expenses	10,000	10,000
7	Repairs and Maintenance	Distribution Allocation	Repairs and Maintenance	20,000	20,000
8	Utilities and Telephone	Distribution Allocation	Utilities and Telephone	10,000	10,000
9	Miscellaneous	Distribution Allocation	Miscellaneous	5,000	5,000
10	<b><u>Other</u></b>			-	
11	Other Operating Revenue	Distribution Allocation	Other Operating	(3,000)	(3,000)
12	Miscellaneous Revenue	Distribution Allocation	Revenue Miscellaneous	(2,000)	(2,000)
13	Wastewater Expense Credit	Distribution Allocation	Wastewater Credit	(30,000)	(30,000)
14	Capital Improvements	Distribution Allocation	Capital Improvements	5,000	5,000
15	Debt Service Interest	Treatment Allocation	Other Revenue	-	-
16	Debt Service Principal	Treatment Allocation	Other Revenue	24,942	24,942
17	<b>Total Test Year Expenses</b>			<b>\$ 171,812</b>	<b>\$ 171,812</b>

**Appendix Table B-10**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Classification / Functionalization Factors**

Line	Functionalization Factor	Extra Capacity -		Base Exc Wholesale	Customer	Meters & Services	Hydrants - Fire Prot	Other	Total
		Base	Max Day						
1	Allocation - Capital Projects	20%	40%	40%	0%	0%	0%	0%	100.00%
2	Cost of Service	0%	0%	0%	0%	0%	0%	0%	0.00%
3	Direct - Base	100%	0%	0%	0%	0%	0%	0%	100.00%
4	Direct - Customer Costs	0%	0%	0%	0%	100%	0%	0%	100.00%
5	Direct - Other	0%	0%	0%	0%	0%	0%	100%	100.00%
6	Distribution Allocation	20%	15%	15%	0%	50%	0%	0%	100.00%
7	Treatment Allocation	60%	10%	10%	0%	20%	0%	0%	100.00%

**Appendix Table B-11**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Allocated Cost of Service**

Line		Base	Extra Capacity - Max Day	Extra Capacity - Max Hour	Extra Capacity - Max Hour	Customer Billing	Total
		Base	Extra Capacity Max Day	Extra Capacity Max Hour	Extra Capacity Max Hour	Customer	
	<b>Cost of Service</b>	\$ 75,087	\$ 20,681	\$ 20,681	\$ -	\$ 55,362	\$ 171,812
1	Residential	\$ 63,838	\$ 14,747	\$ 14,532	\$ -	\$ 38,386	131,504
2	Commercial - 3/4"	-	-	-	-	-	-
3	Commercial - 1"	391	90	89	-	583	1,153
4	Commercial - 1-1/2"	-	-	-	-	-	-
5	Commercial - 2"	766	221	203	-	1,859	3,050
6	Commercial - 4"	1,779	822	810	-	2,908	6,318
7	Commercial - 6"	8,313	4,801	5,047	-	11,627	29,787
8	<b>Total Cost of Service</b>	\$ 75,087	\$ 20,681	\$ 20,681	\$ -	\$ 55,362	\$ 171,812

**Appendix Table B-12**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Total Budgeted Cost Allocation by Category**

Line	Budget Item	Total	Production Cost				Customer	Total
			Base	Extra Capacity - Max Day	Extra Capacity - Max Hour	Base Exc Wholesale		
1	<b>Production - Purchased Water</b>							
2	Purchased Water	76,870	46,122	7,687	7,687	-	15,374	76,870
3	Other Operating Expense							
4	Personnel Services	30,000	6,000	4,500	4,500	-	15,000	30,000
5	Contracted Services	25,000	5,000	3,750	3,750	-	12,500	25,000
6	Supplies and Expenses	10,000	2,000	1,500	1,500	-	5,000	10,000
7	Repairs and Maintenance	20,000	4,000	3,000	3,000	-	10,000	20,000
8	Utilities and Telephone	10,000	2,000	1,500	1,500	-	5,000	10,000
9	Miscellaneous	5,000	1,000	750	750	-	2,500	5,000
10	Other	-	-	-	-	-	-	-
11	Other Operating Revenue	(3,000)	(600)	(450)	(450)	-	(1,500)	(3,000)
12	Miscellaneous Revenue	(2,000)	(400)	(300)	(300)	-	(1,000)	(2,000)
13	Wastewater Expense Credit	(30,000)	(6,000)	(4,500)	(4,500)	-	(15,000)	(30,000)
14	Capital Improvements	5,000	1,000	750	750	-	2,500	5,000
15	Debt Service Interest	-	-	-	-	-	-	-
16	Debt Service Principal	24,942	14,965	2,494	2,494	-	4,988	24,942
17	<b>Total Test Year Expenses</b>	<b>\$ 171,812</b>	<b>\$ 75,087</b>	<b>\$ 20,681</b>	<b>\$ 20,681</b>	<b>\$ -</b>	<b>\$ 55,362</b>	<b>\$ 171,812</b>



**Appendix Table B-13**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Development of Allocation Factors**  
**Annual Water Sales (cf)**

<b>Rate Class</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Total Usage (cf)</b>	<b>Allocation Factor (%)</b>
Residential	748,634	786,929	796,851	606,804	702,545	814,882	797,688	591,523	800,864	524,553	872,258	782,135	8,825,666	85.02%
Commercial - 3/4"	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00%
Commercial - 1"	3,600	5,100	6,800	5,800	5,900	3,700	3,000	2,900	5,200	3,400	3,800	4,900	54,100	0.52%
Commercial - 1-1/2"	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00%
Commercial - 2"	16,680	14,700	3,200	2,400	12,167	333	10,000	3,900	6,200	1,700	17,000	17,600	105,880	1.02%
Commercial - 4"	58,900	1,500	-	-	-	-	4,300	6,800	79,800	52,300	28,800	13,500	245,900	2.37%
Commercial - 6"	104,570	122,050	113,060	48,900	76,000	81,660	79,180	80,840	89,240	70,610	108,480	174,710	1,149,300	11.07%
<b>Total Water Sales</b>	<b>932,384</b>	<b>930,279</b>	<b>919,911</b>	<b>663,904</b>	<b>796,612</b>	<b>900,575</b>	<b>894,168</b>	<b>685,963</b>	<b>981,304</b>	<b>652,563</b>	<b>1,030,338</b>	<b>992,845</b>	<b>10,380,846</b>	<b>100.00%</b>

**Appendix Table B-14**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Development of Allocation Factors**  
**Extra Capacity Factors**

Rate Class	Demand Factors		Max Usage		Extra Usage		Allocation Factors	
	Pk. Day	Pk. Hr.	Day	Hour	Day	Hour	Day	Hour
Residential	2.00	3.00	48,360	3,022	24,180	2,015	71.31%	70.27%
Commercial - 3/4"	2.00	3.00	-	-	-	-	0.00%	0.00%
Commercial - 1"	2.00	3.00	296	19	148	12	0.44%	0.43%
Commercial - 1-1/2"	2.00	3.00	-	-	-	-	0.00%	0.00%
Commercial - 2"	2.50	3.50	725	42	435	24	1.07%	0.98%
Commercial - 4"	4.00	6.00	2,695	168	2,021	84	3.97%	3.92%
Commercial - 6"	5.00	8.00	15,744	1,050	12,595	525	23.21%	24.40%
<b>Total</b>			67,820	4,301	39,379	2,661	100.00%	100.00%

**Appendix Table B-15**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Development of Allocation Factors**  
**Number of Customers**

<b>Rate Class</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Annual Average</b>
Residential	223	219	217	215	217	214	219	219	227	223	227	221	220
Commercial - 3/4"	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial - 1"	2	2	2	2	2	2	2	2	2	2	2	2	2
Commercial - 1-1/2"	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial - 2"	2	2	2	2	2	2	2	2	2	2	2	2	2
Commercial - 4"	1	1	1	1	1	1	1	1	1	1	1	1	1
Commercial - 6"	2	2	2	2	2	2	2	2	2	2	2	2	2
<b>Total Number of Customers</b>	<b>230</b>	<b>226</b>	<b>224</b>	<b>222</b>	<b>224</b>	<b>221</b>	<b>226</b>	<b>226</b>	<b>234</b>	<b>230</b>	<b>234</b>	<b>228</b>	<b>227</b>

**Appendix Table B-16**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Development of Allocation Factors**  
**Weighted Number of Customers and Customer Allocation Factors**

<b>Rate Class</b>	<b>Number of Customers</b>	<b>Meter Charge Weighting Factor</b>	<b>Weighted Meters</b>	<b>Allocated Customers</b>	<b>Allocated Customers Excluding Fire</b>
Residential	220.08	1.00	220.08	69.34%	69.34%
Commercial - 3/4"	-	1.00	-	0.00%	0.00%
Commercial - 1"	2.00	1.67	3.34	1.05%	1.05%
Commercial - 1-1/2"	-	3.33	-	0.00%	0.00%
Commercial - 2"	2.00	5.33	10.66	3.36%	3.36%
Commercial - 4"	1.00	16.67	16.67	5.25%	5.25%
Commercial - 6"	2.00	33.33	66.66	21.00%	21.00%
<b>Total Number of Weighted Customers</b>	227.08		317.41	100.00%	1.00

**Appendix Table B-17**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Revenue - Existing Rates**

<b>Rate Class</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Annual Total</b>
Residential	7,311	7,439	7,456	6,474	6,985	7,498	7,492	6,462	7,636	6,191	7,993	7,447	86,384
Commercial - 3/4"	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial - 1"	63	71	79	74	75	64	60	60	71	62	64	70	811
Commercial - 1-1/2"	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial - 2"	259	249	191	187	236	177	225	195	206	184	260	263	2,633
Commercial - 4"	645	358	350	350	350	350	372	384	749	612	494	418	5,430
Commercial - 6"	2,123	2,210	2,165	1,845	1,980	2,008	1,996	2,004	2,046	1,953	2,142	2,474	24,947
<b>Total Revenue</b>	<b>10,400</b>	<b>10,326</b>	<b>10,242</b>	<b>8,930</b>	<b>9,625</b>	<b>10,097</b>	<b>10,145</b>	<b>9,104</b>	<b>10,709</b>	<b>9,001</b>	<b>10,954</b>	<b>10,671</b>	<b>120,204</b>

**Appendix Table B-18**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Revenue - Proposed Rates**

<b>Rate Class</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Annual Average</b>
Residential	10,524	10,736	10,771	9,255	10,040	10,847	10,819	9,222	11,013	8,888	11,567	10,741	124,422
Commercial - 3/4"	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial - 1"	93	102	114	107	107	93	89	88	103	92	94	101	1,183
Commercial - 1-1/2"	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial - 2"	370	355	270	265	335	252	319	274	289	261	373	377	3,740
Commercial - 4"	927	484	475	475	475	475	504	523	1,089	876	694	575	7,572
Commercial - 6"	3,039	3,174	3,105	2,607	2,818	2,861	2,842	2,855	2,920	2,776	3,069	3,583	35,649
<b>Total Revenue</b>	<b>14,953</b>	<b>14,852</b>	<b>14,734</b>	<b>12,709</b>	<b>13,775</b>	<b>14,529</b>	<b>14,573</b>	<b>12,963</b>	<b>15,414</b>	<b>12,891</b>	<b>15,796</b>	<b>15,377</b>	<b>172,567</b>

## APPENDIX C – REVENUE CALCULATION WORKSHEETS

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**Appendix Table C-1**  
**City of Peru**  
**2022 Wastewater Cost of Service Study**  
**Calculation of Revenue from Existing Rates**  
**Sewer**

Rate	
Minimum Bill	\$ -
Customer Charge	\$ 10.50
Usage Rate	\$/1000 gal
First gal	-
Excess	2.4500

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	206	203	201	199	201	198	202	203	210	205	211	205	<b>204</b>
<b>Water Usage (gal)</b>													
First 0 gal	0	0	0	0	0	0	0	0	0	0	0	0	-
Excess	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	<b>17,028</b>
<b>Total Water Usage</b>	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	<b>17,028</b>
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	2,163	2,132	2,111	2,090	2,111	2,079	2,121	2,132	2,205	2,153	2,216	2,153	<b>25,662</b>
Usage Charges													
First 0 gal	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	<b>41,719</b>
Total Usage Charges	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	<b>41,719</b>
Total Revenues	5,640	5,608	5,587	5,566	5,587	5,556	5,598	5,608	5,682	5,629	5,692	5,629	<b>67,381</b>
<b>Total Revenues (including discounts)</b>	5,640	5,608	5,587	5,566	5,587	5,556	5,598	5,608	5,682	5,629	5,692	5,629	<b>67,381</b>



**Appendix Table C-2**  
**City of Peru**  
**2022 Wastewater Cost of Service Study**  
**Calculation of Revenue from Proposed Rates**  
**Sewer**

Rate	
Minimum Bill	\$ -
Customer Charge	\$ 10.50
Load Management Credit	\$ -
Usage	\$/1000 gal
First gal	-
Excess	2.4500

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	206	203	201	199	201	198	202	203	210	205	211	205	<b>204</b>
<b>Water Usage</b>													
First 0 gal													-
Excess	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	<b>17,028</b>
<b>Total Water Usage (gal)</b>	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	1,419	<b>17,028</b>
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	2,163	2,132	2,111	2,090	2,111	2,079	2,121	2,132	2,205	2,153	2,216	2,153	<b>25,662</b>
Usage Charges													
First 0 gal													-
Excess	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	<b>41,719</b>
Total Usage Charges	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	3,477	<b>41,719</b>
Total Revenues	5,640	5,608	5,587	5,566	5,587	5,556	5,598	5,608	5,682	5,629	5,692	5,629	<b>67,381</b>
<b>Total Revenues (including discounts)</b>	5,640	5,608	5,587	5,566	5,587	5,556	5,598	5,608	5,682	5,629	5,692	5,629	<b>67,381</b>

Rate Increase / (Decrease) **0.00%**

**Appendix Table C-3**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Existing Rates**  
**Residential**

Rates	
Minimum Bill	\$ -
Customer Charge	\$ 16.00
Usage Rate	\$/1000 gal
First            3000 gal	5.000
Excess	5.000

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	223	219	217	215	217	214	219	219	227	223	227	221	<b>220</b>
<b>Water Usage (cf)</b>													
First 3000 gal	568,650	558,450	553,350	548,250	553,350	545,700	558,450	558,450	578,850	501,750	578,850	563,550	<b>6,667,650</b>
Excess	179,984	228,479	243,501	58,554	149,195	269,182	239,238	33,073	222,014	22,803	293,408	218,585	<b>2,158,016</b>
<b>Total Water Usage</b>	<b>748,634</b>	<b>786,929</b>	<b>796,851</b>	<b>606,804</b>	<b>702,545</b>	<b>814,882</b>	<b>797,688</b>	<b>591,523</b>	<b>800,864</b>	<b>524,553</b>	<b>872,258</b>	<b>782,135</b>	<b>8,825,666</b>
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	3,568	3,504	3,472	3,440	3,472	3,424	3,504	3,504	3,632	3,568	3,632	3,536	<b>42,256</b>
Usage Charges													
First 3000 gal	2,843	2,792	2,767	2,741	2,767	2,729	2,792	2,792	2,894	2,509	2,894	2,818	<b>33,338</b>
Excess	900	1,142	1,218	293	746	1,346	1,196	165	1,110	114	1,467	1,093	<b>10,790</b>
Total Usage Charges	3,743	3,935	3,984	3,034	3,513	4,074	3,988	2,958	4,004	2,623	4,361	3,911	<b>44,128</b>
Total Revenues	7,311	7,439	7,456	6,474	6,985	7,498	7,492	6,462	7,636	6,191	7,993	7,447	<b>86,384</b>
<b>Total Revenues (including discounts)</b>	<b>7,311</b>	<b>7,439</b>	<b>7,456</b>	<b>6,474</b>	<b>6,985</b>	<b>7,498</b>	<b>7,492</b>	<b>6,462</b>	<b>7,636</b>	<b>6,191</b>	<b>7,993</b>	<b>7,447</b>	<b>86,384</b>

**Appendix Table C-4**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Proposed Rates**  
**Residential**

Rates	
Minimum Bill	\$ -
Customer Charge	\$ 25.00
Usage	\$/100 cf
First	cf 6.250
Excess	7.750

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	223	219	217	215	217	214	219	219	227	223	227	221	<b>220</b>
<b>Usage by Block</b>													
First 0 cf	568,650	558,450	553,350	548,250	553,350	545,700	558,450	558,450	578,850	501,750	578,850	563,550	<b>6,667,650</b>
Excess	179,984	228,479	243,501	58,554	149,195	269,182	239,238	33,073	222,014	22,803	293,408	218,585	<b>2,158,016</b>
<b>Total Usage cf</b>	<b>748,634</b>	<b>786,929</b>	<b>796,851</b>	<b>606,804</b>	<b>702,545</b>	<b>814,882</b>	<b>797,688</b>	<b>591,523</b>	<b>800,864</b>	<b>524,553</b>	<b>872,258</b>	<b>782,135</b>	<b>8,825,666</b>
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	5,575	5,475	5,425	5,375	5,425	5,350	5,475	5,475	5,675	5,575	5,675	5,525	<b>66,025</b>
Load Management Credit	-	-	-	-	-	-	-	-	-	-	-	-	-
Usage Charges													
First 0 cf	3,554	3,490	3,458	3,427	3,458	3,411	3,490	3,490	3,618	3,136	3,618	3,522	<b>41,673</b>
Excess	1,395	1,771	1,887	454	1,156	2,086	1,854	256	1,721	177	2,274	1,694	<b>16,725</b>
Total Usage Charges	4,949	5,261	5,346	3,880	4,615	5,497	5,344	3,747	5,338	3,313	5,892	5,216	<b>58,397</b>
Total Revenues	10,524	10,736	10,771	9,255	10,040	10,847	10,819	9,222	11,013	8,888	11,567	10,741	<b>124,422</b>
<b>Total Revenues (including discounts)</b>	<b>10,524</b>	<b>10,736</b>	<b>10,771</b>	<b>9,255</b>	<b>10,040</b>	<b>10,847</b>	<b>10,819</b>	<b>9,222</b>	<b>11,013</b>	<b>8,888</b>	<b>11,567</b>	<b>10,741</b>	<b>124,422</b>
													Rate Increase / (Decrease)
													<b>44.03%</b>

**Appendix Table C-5**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Proposed Rates**  
**Residential**

Rates	
Minimum Bill	\$ -
Customer Charge	\$ 27.50
Usage	\$/100 cf
First           0 cf	6.500
Excess	7.750

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	223	219	217	215	217	214	219	219	227	223	227	221	<b>220</b>
<b>Usage by Block</b>													
First 0 cf	568,650	558,450	553,350	548,250	553,350	545,700	558,450	558,450	578,850	501,750	578,850	563,550	<b>6,667,650</b>
Excess	179,984	228,479	243,501	58,554	149,195	269,182	239,238	33,073	222,014	22,803	293,408	218,585	<b>2,158,016</b>
<b>Total Usage cf</b>	<b>748,634</b>	<b>786,929</b>	<b>796,851</b>	<b>606,804</b>	<b>702,545</b>	<b>814,882</b>	<b>797,688</b>	<b>591,523</b>	<b>800,864</b>	<b>524,553</b>	<b>872,258</b>	<b>782,135</b>	<b>8,825,666</b>
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	6,133	6,023	5,968	5,913	5,968	5,885	6,023	6,023	6,243	6,133	6,243	6,078	<b>72,628</b>
Usage Charges													
First 0 cf	3,696	3,630	3,597	3,564	3,597	3,547	3,630	3,630	3,763	3,261	3,763	3,663	<b>43,340</b>
Excess	1,395	1,771	1,887	454	1,156	2,086	1,854	256	1,721	177	2,274	1,694	<b>16,725</b>
Total Usage Charges	5,091	5,401	5,484	4,017	4,753	5,633	5,484	3,886	5,483	3,438	6,036	5,357	<b>60,064</b>
Total Revenues	11,224	11,423	11,451	9,930	10,721	11,518	11,507	9,909	11,726	9,571	12,279	11,435	<b>132,692</b>
<b>Total Revenues (including discounts)</b>	<b>11,224</b>	<b>11,423</b>	<b>11,451</b>	<b>9,930</b>	<b>10,721</b>	<b>11,518</b>	<b>11,507</b>	<b>9,909</b>	<b>11,726</b>	<b>9,571</b>	<b>12,279</b>	<b>11,435</b>	<b>132,692</b>

Rate Increase / (Decrease)

**6.65%**



**Appendix Table C-7**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Proposed Rates**  
**Commercial - 3/4"**

Rates	
Minimum Bill	\$ -
Customer Charge	\$ 25.00
Usage	\$/1000 gal
First            0 cf	6.250
Excess	7.750

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Usage by Block</b>													
First 0 cf	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Usage cf</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	-	-	-	-	-	-	-	-	-	-	-	-	-
Usage Charges													
First 0 cf	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Usage Charges	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Revenues (including discounts)</b>	-	-	-	-	-	-	-	-	-	-	-	-	-

Rate Increase / (Decrease)

#DIV/0!

**Appendix Table C-8**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Proposed Rates**  
**Commercial - 3/4"**

Rates	
Minimum Bill	\$ -
Customer Charge	\$ 27.50
Usage	\$/1000 gal
First            cf	6.250
Excess	5.750

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Number of Load Management Customers</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Usage by Block</b>													
First 0 cf	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Usage cf</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	-	-	-	-	-	-	-	-	-	-	-	-	-
Usage Charges													
First 0 cf	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Usage Charges	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Revenues (including discounts)</b>	-	-	-	-	-	-	-	-	-	-	-	-	-

Rate Increase / (Decrease)

#DIV/0!

**Appendix Table C-9**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Existing Rates**  
**Commercial - 1"**

Rates	
Minimum Bill	
Customer Charge	\$ 22.50
Usage Rate	\$/1000 gal
First	0 cf
Excess	5.000

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	2	2	2	2	2	2	2	2	2	2	2	2	2
<b>Water Usage (cf)</b>													
First 0 cf	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess	3,600	5,100	6,800	5,800	5,900	3,700	3,000	2,900	5,200	3,400	3,800	4,900	<b>54,100</b>
<b>Total Water Usage</b>	3,600	5,100	6,800	5,800	5,900	3,700	3,000	2,900	5,200	3,400	3,800	4,900	<b>54,100</b>
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	45	45	45	45	45	45	45	45	45	45	45	45	<b>540</b>
Usage Charges													
First 0 cf	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess	18	26	34	29	30	19	15	15	26	17	19	25	<b>271</b>
Total Usage Charges	18	26	34	29	30	19	15	15	26	17	19	25	<b>271</b>
Total Revenues	63	71	79	74	75	64	60	60	71	62	64	70	<b>811</b>
<b>Total Revenues (including discounts)</b>	63	71	79	74	75	64	60	60	71	62	64	70	<b>811</b>



**Appendix Table C-10**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Proposed Rates**  
**Commercial - 1"**

Rates	
Minimum Bill	\$ -
Customer Charge	\$ 35.16
Usage	\$/1000 gal
First           0 cf	6.250
Excess	7.750

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	2	2	2	2	2	2	2	2	2	2	2	2	2
<b>Number of Load Management Customers</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Usage by Block</b>													
First 0 cf	3,600	5,100	6,000	5,800	5,900	3,700	3,000	2,900	5,200	3,400	3,800	4,900	<b>53,300</b>
Excess	-	-	800	-	-	-	-	-	-	-	-	-	<b>800</b>
<b>Total Usage cf</b>	3,600	5,100	6,800	5,800	5,900	3,700	3,000	2,900	5,200	3,400	3,800	4,900	<b>54,100</b>
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	70	70	70	70	70	70	70	70	70	70	70	70	<b>844</b>
Usage Charges													
First 0 cf	23	32	38	36	37	23	19	18	33	21	24	31	<b>333</b>
Excess	-	-	6	-	-	-	-	-	-	-	-	-	<b>6</b>
Total Usage Charges	23	32	44	36	37	23	19	18	33	21	24	31	<b>339</b>
Total Revenues	93	102	114	107	107	93	89	88	103	92	94	101	<b>1,183</b>
Discount	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Revenues (including discounts)</b>	93	102	114	107	107	93	89	88	103	92	94	101	<b>1,183</b>
													<b>45.97%</b>

Rate Increase / (Decrease)

**45.97%**

**Appendix Table C-11**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Proposed Rates**  
**Commercial - 1"**

Rates	
Minimum Bill	\$ -
Customer Charge	\$ 38.67
Load Management Credit	
Usage	\$/1000 gal
First 0 cf	6.500
Excess	7.750

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	2	2	2	2	2	2	2	2	2	2	2	2	2
<b>Number of LM Customers</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Usage by Block</b>													
First 0 cf	3,600	5,100	6,000	5,800	5,900	3,700	3,000	2,900	5,200	3,400	3,800	4,900	53,300
Excess	-	-	800	-	-	-	-	-	-	-	-	-	800
<b>Total Usage cf</b>	3,600	5,100	6,800	5,800	5,900	3,700	3,000	2,900	5,200	3,400	3,800	4,900	54,100
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	77	77	77	77	77	77	77	77	77	77	77	77	928
Usage Charges													
First 0 cf	23	33	39	38	38	24	20	19	34	22	25	32	346
Excess	-	-	6	-	-	-	-	-	-	-	-	-	6
Total Usage Charges	23	33	45	38	38	24	20	19	34	22	25	32	353
Total Revenues	101	110	123	115	116	101	97	96	111	99	102	109	1,281
Discount	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Revenues (including discounts)</b>	101	110	123	115	116	101	97	96	111	99	102	109	1,281
													Rate Increase / (Decrease)
													<b>8.26%</b>



**Appendix Table C-13**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Proposed Rates**  
**Commercial - 1-1/2"**

Rates	
Minimum Bill	\$ -
Customer Charge	\$ 73.15
Usage	\$/1000 gal
First                   cf	6.250
Excess	7.750

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Usage by Block</b>													
First 0 cf	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Usage cf</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	-	-	-	-	-	-	-	-	-	-	-	-	-
Usage Charges													
First 0 cf	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Usage Charges	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-
Discount	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Revenues (including discounts)</b>	-	-	-	-	-	-	-	-	-	-	-	-	-

Rate Increase / (Decrease)

#DIV/0!

**Appendix Table C-14**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Proposed Rates**  
**Commercial - 1-1/2"**

Rates	
Minimum Bill	\$ -
Customer Charge	\$ 80.47
Usage	\$/1000 gal
First            cf	6.250
Excess	7.750

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Number of Load Management Customers</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Usage by Block</b>													
First 0 cf	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Usage cf</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	-	-	-	-	-	-	-	-	-	-	-	-	-
Usage Charges													
First 0 cf	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Usage Charges	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-
Discount	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Revenues (including discounts)</b>	-	-	-	-	-	-	-	-	-	-	-	-	-

Rate Increase / (Decrease)

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**Appendix Table C-15**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Existing Rates**  
**Commercial - 2"**

Rates		
Minimum Bill		
Customer Charge	\$	87.65
Usage Rate	\$/1000 gal	
First	cf	-
Excess		5.000

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	2	2	2	2	2	2	2	2	2	2	2	2	2
<b>Water Usage (cf)</b>													
First 0 cf	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess	16,680	14,700	3,200	2,400	12,167	333	10,000	3,900	6,200	1,700	17,000	17,600	105,880
<b>Total Water Usage</b>	16,680	14,700	3,200	2,400	12,167	333	10,000	3,900	6,200	1,700	17,000	17,600	105,880
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	175	175	175	175	175	175	175	175	175	175	175	175	2,104
Usage Charges													
First 0 cf	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess	83	74	16	12	61	2	50	20	31	9	85	88	529
Total Usage Charges	83	74	16	12	61	2	50	20	31	9	85	88	529
Total Revenues	259	249	191	187	236	177	225	195	206	184	260	263	2,633
<b>Total Revenues (including discounts)</b>	259	249	191	187	236	177	225	195	206	184	260	263	2,633

**Appendix Table C-16**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Proposed Rates**  
**Commercial - 2"**

Rates	
Minimum Bill	\$ -
Customer Charge	\$ 125.00
Usage	\$/1000 gal
First 0 cf	6.250
Excess	7.750

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	2	2	2	2	2	2	2	2	2	2	2	2	2
<b>Usage by Block</b>													
First 0 cf	6,000	6,000	3,200	2,400	6,000	333	6,000	3,900	6,000	1,700	6,000	6,000	53,533
Excess	10,680	8,700	-	-	6,167	-	4,000	-	200	-	11,000	11,600	52,347
<b>Total Usage cf</b>	16,680	14,700	3,200	2,400	12,167	333	10,000	3,900	6,200	1,700	17,000	17,600	105,880
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	250	250	250	250	250	250	250	250	250	250	250	250	3,000
Usage Charges													
First 0 cf	38	38	20	15	38	2	38	24	38	11	38	38	335
Excess	83	67	-	-	48	-	31	-	2	-	85	90	406
Total Usage Charges	120	105	20	15	85	2	69	24	39	11	123	127	740
Total Revenues	370	355	270	265	335	252	319	274	289	261	373	377	3,740
Discount	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Revenues (including discounts)</b>	370	355	270	265	335	252	319	274	289	261	373	377	3,740
													Rate Increase / (Decrease)
													42.05%

**Appendix Table C-17**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Proposed Rates**  
**Commercial - 2"**

Rates	
Minimum Bill	\$ -
Customer Charge	\$ 135.00
Usage	\$/1000 gal
First           0 cf	6.250
Excess	7.750

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	2	2	2	2	2	2	2	2	2	2	2	2	2
<b>Usage by Block</b>													
First 0 cf	6,000	6,000	3,200	2,400	6,000	333	6,000	3,900	6,000	1,700	6,000	6,000	<b>53,533</b>
Excess	10,680	8,700	-	-	6,167	-	4,000	-	200	-	11,000	11,600	<b>52,347</b>
<b>Total Usage cf</b>	<b>16,680</b>	<b>14,700</b>	<b>3,200</b>	<b>2,400</b>	<b>12,167</b>	<b>333</b>	<b>10,000</b>	<b>3,900</b>	<b>6,200</b>	<b>1,700</b>	<b>17,000</b>	<b>17,600</b>	<b>105,880</b>
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	270	270	270	270	270	270	270	270	270	270	270	270	<b>3,240</b>
Usage Charges													
First 0 cf	38	38	20	15	38	2	38	24	38	11	38	38	<b>335</b>
Excess	83	67	-	-	48	-	31	-	2	-	85	90	<b>406</b>
Total Usage Charges	120	105	20	15	85	2	69	24	39	11	123	127	<b>740</b>
Total Revenues	390	375	290	285	355	272	339	294	309	281	393	397	<b>3,980</b>
<b>Total Revenues (including discounts)</b>	<b>390</b>	<b>375</b>	<b>290</b>	<b>285</b>	<b>355</b>	<b>272</b>	<b>339</b>	<b>294</b>	<b>309</b>	<b>281</b>	<b>393</b>	<b>397</b>	<b>3,980</b>
													Rate Increase / (Decrease)
													<b>6.42%</b>



**Appendix Table C-18**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Existing Rates**  
**Commercial - 4"**

Rates	
Minimum Bill	
Customer Charge	\$ 350.00
Usage Rate	\$/1000 gal
First	cf
Excess	5.000

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>Water Usage (cf)</b>													
First 0 cf	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess	58,900	1,500	-	-	-	-	4,300	6,800	79,800	52,300	28,800	13,500	245,900
<b>Total Water Usage</b>	58,900	1,500	-	-	-	-	4,300	6,800	79,800	52,300	28,800	13,500	245,900
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	350	350	350	350	350	350	350	350	350	350	350	350	4,200
Usage Charges													
First 0 cf	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess	295	8	-	-	-	-	22	34	399	262	144	68	1,230
Total Usage Charges	295	8	-	-	-	-	22	34	399	262	144	68	1,230
Total Revenues	645	358	350	350	350	350	372	384	749	612	494	418	5,430
<b>Total Revenues (including discounts)</b>	645	358	350	350	350	350	372	384	749	612	494	418	5,430

**Appendix Table C-19**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Proposed Rates**  
**Commercial - 4"**

Rates	
Minimum Bill	\$ -
Customer Charge	\$ 475.00
Usage	\$/1000 gal
First            0 cf	6.250
Excess	7.750

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>Usage by Block</b>													
First 0 cf	3,000	1,500	-	-	-	-	3,000	3,000	3,000	3,000	3,000	3,000	22,500
Excess	55,900	-	-	-	-	-	1,300	3,800	76,800	49,300	25,800	10,500	223,400
<b>Total Usage cf</b>	58,900	1,500	-	-	-	-	4,300	6,800	79,800	52,300	28,800	13,500	245,900
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	475	475	475	475	475	475	475	475	475	475	475	475	5,700
Usage Charges													
First 0 cf	19	9	-	-	-	-	19	19	19	19	19	19	141
Excess	433	-	-	-	-	-	10	29	595	382	200	81	1,731
Total Usage Charges	452	9	-	-	-	-	29	48	614	401	219	100	1,872
Total Revenues	927	484	475	475	475	475	504	523	1,089	876	694	575	7,572
<b>Total Revenues (including discounts)</b>	927	484	475	475	475	475	504	523	1,089	876	694	575	7,572
													Rate Increase / (Decrease)
													<b>39.46%</b>

**Appendix Table C-20**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Proposed Rates**  
**Commercial - 4"**

Rates	
Minimum Bill	\$ -
Customer Charge	\$ 513.00
Usage	\$/1000 gal
First            0 cf	6.250
Excess	7.750

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>Usage by Block</b>													
First 0 cf	3,000	1,500	-	-	-	-	3,000	3,000	3,000	3,000	3,000	3,000	22,500
Excess	55,900	-	-	-	-	-	1,300	3,800	76,800	49,300	25,800	10,500	223,400
<b>Total Usage cf</b>	58,900	1,500	-	-	-	-	4,300	6,800	79,800	52,300	28,800	13,500	245,900
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	513	513	513	513	513	513	513	513	513	513	513	513	6,156
Usage Charges													
First 0 cf	19	9	-	-	-	-	19	19	19	19	19	19	141
Excess	433	-	-	-	-	-	10	29	595	382	200	81	1,731
Total Usage Charges	452	9	-	-	-	-	29	48	614	401	219	100	1,872
Total Revenues	965	522	513	513	513	513	542	561	1,127	914	732	613	8,028
<b>Total Revenues (including discounts)</b>	965	522	513	513	513	513	542	561	1,127	914	732	613	8,028
													Rate Increase / (Decrease)
													<b>6.02%</b>

**Appendix Table C-21**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Existing Rates**  
**Commercial - 6"**

Rates	
Minimum Bill	
Customer Charge	\$ 800.00
Usage Rate	\$/1000 gal
First	cf
Excess	5.000

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	2	2	2	2	2	2	2	2	2	2	2	2	2
<b>Water Usage (cf)</b>													
First 0 cf	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess	104,570	122,050	113,060	48,900	76,000	81,660	79,180	80,840	89,240	70,610	108,480	174,710	1,149,300
<b>Total Water Usage</b>	104,570	122,050	113,060	48,900	76,000	81,660	79,180	80,840	89,240	70,610	108,480	174,710	1,149,300
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	19,200
Usage Charges													
First 0 cf	-	-	-	-	-	-	-	-	-	-	-	-	-
Excess	523	610	565	245	380	408	396	404	446	353	542	874	5,747
Total Usage Charges	523	610	565	245	380	408	396	404	446	353	542	874	5,747
Total Revenues	2,123	2,210	2,165	1,845	1,980	2,008	1,996	2,004	2,046	1,953	2,142	2,474	24,947
<b>Total Revenues (including discounts)</b>	2,123	2,210	2,165	1,845	1,980	2,008	1,996	2,004	2,046	1,953	2,142	2,474	24,947

**Appendix Table C-22**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Proposed Rates**  
**Commercial - 6"**

Rates	
Minimum Bill	\$ -
Customer Charge	\$ 950.00
Usage	\$/1000 gal
First            0 cf	6.250
Excess	7.750

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	2	2	2	2	2	2	2	2	2	2	2	2	2
<b>Usage by Block</b>													
First 0 cf	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	72,000
Excess	98,570	116,050	107,060	42,900	70,000	75,660	73,180	74,840	83,240	64,610	102,480	168,710	1,077,300
<b>Total Usage cf</b>	104,570	122,050	113,060	48,900	76,000	81,660	79,180	80,840	89,240	70,610	108,480	174,710	1,149,300
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	22,800
Usage Charges													
First 0 cf	375	375	375	375	375	375	375	375	375	375	375	375	4,500
Excess	764	899	830	332	543	586	567	580	645	501	794	1,308	8,349
Total Usage Charges	1,139	1,274	1,205	707	918	961	942	955	1,020	876	1,169	1,683	12,849
Total Revenues	3,039	3,174	3,105	2,607	2,818	2,861	2,842	2,855	2,920	2,776	3,069	3,583	35,649
<b>Total Revenues (including discounts)</b>	3,039	3,174	3,105	2,607	2,818	2,861	2,842	2,855	2,920	2,776	3,069	3,583	35,649
										Rate Increase / (Decrease)			42.90%

**Appendix Table C-23**  
**City of Peru**  
**2022 Water Cost of Service Study**  
**Calculation of Revenue from Proposed Rates**  
**Commercial - 6"**

Rates	
Minimum Bill	\$ -
Customer Charge	\$ 1,075.00
Usage	\$/1000 gal
First           0 cf	6.250
Excess	7.750

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
<b>Number of Customers</b>	2	2	2	2	2	2	2	2	2	2	2	2	2
<b>Usage by Block</b>													
First 0 cf	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	72,000
Excess	98,570	116,050	107,060	42,900	70,000	75,660	73,180	74,840	83,240	64,610	102,480	168,710	1,077,300
<b>Total Usage cf</b>	104,570	122,050	113,060	48,900	76,000	81,660	79,180	80,840	89,240	70,610	108,480	174,710	1,149,300
<b>Revenue</b>													
Minimum Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Charges	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	25,800
Usage Charges													
First 0 cf	375	375	375	375	375	375	375	375	375	375	375	375	4,500
Excess	764	899	830	332	543	586	567	580	645	501	794	1,308	8,349
Total Usage Charges	1,139	1,274	1,205	707	918	961	942	955	1,020	876	1,169	1,683	12,849
Total Revenues	3,289	3,424	3,355	2,857	3,068	3,111	3,092	3,105	3,170	3,026	3,319	3,833	38,649
<b>Total Revenues (including discounts)</b>	3,289	3,424	3,355	2,857	3,068	3,111	3,092	3,105	3,170	3,026	3,319	3,833	38,649
													Rate Increase / (Decrease)
													8.42%