

Water and Sewer Rate Analysis Report Polson, Montana

Prepared May 29, 2014

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Initial Actions

This section of the full report can serve as stand-alone guidance on what I recommend you do first. (This section also makes a good handout for the public and media.) The remainder of the report and the analysis modeling will further explain the initial action recommendations as well as follow up actions I recommend.

Summary

System reserves are strong and the recommended rates will enable you to keep them strong. For the water system, rate structure is the only critical issue. For the sewer system, rate structure and rate adequacy are critical issues. That is due to the fact that the sewer system improvement projects that are quickly approaching will increase total operating and ownership costs (primarily debt service) by almost four-fold. These increases will be shocking to many but they are required to fund the improvement projects.

Rate adjustments for both systems will also be confusing for some because the current minimum charges are too high for some customers and too low for others. Still other rate classes in your current structure would be discontinued, using only meter size as the minimum charge criteria. More will be said about that later.

Table 1 and Table 2

Water Meter Size in Inches	Water Minimum/Month	Sewer Minimum/Month
0.625	\$18.08	\$41.73
0.750	\$18.08	\$41.73
1.000	\$25.60	\$47.99
1.500	\$41.02	\$60.83
2.000	\$62.62	\$78.81
3.000	\$124.31	\$130.17
4.000	\$210.69	\$202.07
6.000	\$457.49	\$407.51
Sprinkler - Low	\$19.74	N.A.
Sprinkler - Medim	\$26.38	N.A.
Sprinkler - High	\$39.57	N.A.

Water Meter Size in Inches	Water Snow Bird Fee/Month	Sewer Snow Bird Fee/Month
0.625	\$9.01	\$14.22
0.750	\$9.01	\$14.22
1.000	\$16.53	\$20.48
1.500	\$31.95	\$33.32
2.000	\$53.55	\$51.29
3.000	\$115.25	\$102.65
4.000	\$201.62	\$174.56
6.000	\$448.42	\$379.99
Sprinkler - Low	\$19.74	N.A.
Sprinkler - Medim	\$26.38	N.A.
Sprinkler - High	\$39.57	N.A.

Initial Action Recommendations

- 1. Analysis indicates, and it is my recommendation, that you adjust all rates as shown in Tables 1, 2 and 3 in this section. The calculations assumed you will do that early enough to enable you to collect at those rates for the July 1, 2014, billing (you would pass a revised ordinance at least one billing cycle before that). Note that the water and sewer**

rate structures would be markedly simplified with minimum charges based upon meter size. The water rates would include unit charges that escalate (conservation rates) at different levels of use for each meter size. This will be further described in the full report. Sewer unit charges would be level.

2. Rates are modeled to continue billing on a monthly cycle.

Table 3

Table 3: Polson, MT Water and Sewer Unit Charges						
Customer's Water Meter Size in Inches	Water			Sewer		
	Usage Allowance in Gallons	Unit Charge Starts at, in 000's	Unit Charge/ 1,000 Gallons	Usage Allowance in Gallons	Unit Charge Starts at, in 000's	
0.625	2,000	0	\$1.60	0	\$5.78	
		5,000	\$2.08			
		10,000	\$3.54			
0.750	2,000	0	\$1.60	0	\$5.78	
		5,000	\$2.08			
		10,000	\$3.54			
1.000	2,000	0	\$1.60	0	\$5.78	
		10,000	\$2.08			
		25,000	\$3.54			
1.500	2,000	0	\$1.60	0	\$5.78	
		30,000	\$2.08			
		60,000	\$3.54			
2.000	2,000	0	\$1.60	0	\$5.78	
		50,000	\$2.08			
		100,000	\$3.54			
3.000	2,000	0	\$1.60	0	\$5.78	
		120,000	\$2.08			
		240,000	\$3.54			
4.000	2,000	0	\$1.60	0	\$5.78	
		210,000	\$2.08			
		435,000	\$3.54			
6.000	2,000	0	\$1.60	0	\$5.78	
		485,000	\$2.08			
		975,000	\$3.54			
Sprinkler - Low	N.A.	N.A.	N.A.	N.A.	N.A.	
Sprinkler - Medim	N.A.	N.A.	N.A.	N.A.	N.A.	
Sprinkler - High	N.A.	N.A.	N.A.	N.A.	N.A.	

Note: The most useful tables for the public to review are the tables above and Table 12 from both rate analysis models.

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Names Used in This Report

Polson, Montana will later be called “the City.”

The water and sewer utilities operated by Polson, Montana will later be called “the utilities” or “you.”

Carl Brown Consulting will later be called “me” or “I.”

This narrative report and the accompanying analysis models will later be called collectively the “report.”

The analysis model named “Polson, MT, Water Rates Scenario 2014-3” will later be called “Water Scenario 3.” The model is simply the set of calculations used to determine the rates I have recommended. This is the only water rate analysis model.

The analysis model named “Polson, MT, Sewer Rates Scenario 2014-2” will later be called “Sewer Scenario 2.” Like the water scenario, this is the set of calculations used to determine the rates I have recommended and this is the only scenario for sewer rates.

Disclaimers

Please keep this in mind. This report does not *direct* the City to do anything. Actions you take or do not take are strictly up to you. The report is meant to inform and educate so you can then make well-informed decisions about actions to take.

The report and models are not legal recommendations. For legal issues consult your attorney.

Purpose of the Full Report

This report is intended to help the City Commission to better understand the utility’s situation and what should be done about it, and to help staff to prepare recommended rate and fee revisions.

The report package includes:

- A cover letter,
- An initial actions report section that summarizes the initial recommended rates,
- The full narrative report covering the analysis, findings and recommendations in detail, and
- The analysis models themselves which depict what will happen if you adjust rates and fees in the ways depicted in the models.

Unlike many reports, this one starts with action items and progresses to the reasons I recommend those actions and then to more general issues and background information. This report covers both the water rates and sewer rates, in separate sections, with water rates covered first. Almost all things that apply to the water system also apply to the sewer system; therefore, only issues unique to the sewer system will be discussed in that section.

Water System

Summary

Some may recall that several years ago I did water and sewer rate analyses for the City and helped you adjust rates at that time. Rate structures were adjusted pretty dramatically then. The recommendations in this report would have you adjust rate structures pretty dramatically again. That is because the adjustments you needed back then were so numerous and big that we did not want to try to do them all at one time. (And in the case of your sewer rates, you will soon take on substantial debt service that we did not anticipate back then.) We had planned on doing rate adjustments incrementally. That is where we are now – starting the next, and likely the last, major phase of those adjustments.

Rate revenues are currently adequate to sustain the foreseeable costs of the system, though I recommend a slight increase in rate revenues to cover costs that are not currently contemplated but may occur. Therefore, rate adjustments are not a revenue emergency. That said, even at the recommended rates, you are projected to run fairly low water utility unrestricted cash reserves in 2017-19, largely due to significant capital improvements one and three years prior.

Your current water rate structure usually includes a minimum charge that escalates slightly with water meter size. When you assess a minimum charge you include a usage allowance – a volume of water for which no unit charge is assessed. That usage allowance escalates based upon meter size.

For the $\frac{3}{4}$ and 1 inch residential customer classes your unit charge escalates as volume goes up (conservation rates). For all other customers the unit charge is the same and it is level. I recommend that all customers pay inclining unit charges as described later.

One scenario for water rates is included in this report. Water Scenario 3 calculates rates under the assumption that the City will seek to maintain its current reserve levels, adjusted for inflation over the next 10 years while paying for two substantial capital improvement projects.

Water Scenario 3 was built to match the system's actual financial statements as much as possible. However, the intent of rate modeling is to see to it that the resulting rates are adequate to pay all system expenses for the next 10 years, build and maintain responsible reserves and collect fees from customers on a fair basis. Because incomes and expenses in your financial statements were not always grouped in such a way as to enable proper rate calculation, the model does not always match your statements.

For modeling purposes, it does not matter whether funds are held in the general systems account, a debt service sinking fund, debt coverage reserve fund, etc. Therefore, the model accounts for funds in a more simplified way than you do. When it comes to segregating funds, staff knows best how to do that so the model does little in this regard and leaves the segregating up to staff.

In several tables of the model that depict rates paid by customers and volumes used by those customers, when there was no usage in a volume group, that group was hidden just so the tables will be less voluminous. In the rate tables, when a volume group is hidden, the same rates that apply to the next lower volume class apply to that group as well. By that same token, the model template I use for rate calculations is large and robust. Your rate calculation needs are simpler. Therefore, to reduce report volume, some of the tables of the model were not used for your calculations. That is why there are gaps in table numbering so be assured that all the tables that apply to your situation are included in this package.

Several line graph charts in the analysis model graphically depict some things which would be difficult to pick out of the tables. In all the charts the **blue line** represents what would happen under the **recommended** rates and the **red line** under the **current** rates. Trends for the red lines are (generally) bad. Those for the blue lines are (generally) good. Review the definitions section of the model to learn the meaning of terms used in the charts.

As you set and later reset rates I suggest you follow the guidance I give in my book, "How to Get Great Rates." I gave a copy to Tony Porrazzo early in the project. I suggest you also use the "Replacement Scheduler[®]" spreadsheet, available for free download from gettinggreatrates.com and use it for future equipment replacement scheduling. Replacement Scheduler[®] is incorporated into the analysis models as Table 17 and Table 18.

Future Water System Action Recommendations

(This is a continuation of the action items included in the Initial Actions section.)

3. **Set new water connection (tap-on or impact) fees as shown in Table 5 for customers that are within the City limits. If you make any out of service area connections I recommend you set those fees at 50 to 100 percent more than those in Table 5 or at actual cost plus the profit margin you desire.**
4. **Modify your current late payment/non-payment ordinance language as necessary so that it effectively accomplishes what is described in the following bullet points:**
 - **All utility bill payments will be applied first to the sewer bill, next to the trash collection bill (if applicable), next to the storm water and any other bills (if applicable) and last to the water bill.**
 - **If payment is insufficient to cover all amounts billed, a late payment penalty of 10 percent of the outstanding balance or \$10.00, whichever is greater, will be applied to the customer's account each month.**
 - **Service will be shut off in accordance with, and at the earliest time allowed by State law.**
 - **Reconnection after non-payment will only be done after the customer has paid all fees and penalties owed, plus a reconnection fee as called for in the current ordinance.**

5. **If all goes as modeled, on the one-year anniversary of making the rate adjustments called for above, and for several years thereafter, raise all rates and fees across the board as shown near the top of Water Scenario 3, Table 2 on the line called, "Weighted-average Rate Increases Started During This & Future Years."**
 - a) Important Note: The first percentage shown on this line is the effective system-wide weighted average rate increase of all initial rate adjustments that have been recommended. You will not increase current rates by this percentage. Instead, the actual rates to adopt for the various types of customers are shown in the tables in the Initial Actions section of this report.
6. **You should examine your shut off and reconnection, meter charges and similar fees to determine if they are high enough to recover the related costs. Revenue generation is not the goal for such programs. It is a fairness issue because if these fees do not recover their related full costs, regular customers will have to make up the difference in the form of higher user fees.**

Discussion of Significant Issues

Impact and Related Fees and Charges

In Water Scenario 3, Table 2, are listed your current impact fee revenues (tap-on fees) and my equivalent on the next line called, "Meter-size Based Tap Fees." I recommend a restructuring and a slight increase in these fees. "Water Permits," "Water Installation Charges" and "Sale Materials/Supplies" would continue to be billed on an actual cost basis.

As to restructuring, the fairest and most mathematically defensible way to assess impact or tap fees is to base them on water meter size. The calculations of tap-related costs are shown in Table 5 and a calculation of the fees is shown in Table 9. The simple explanation of why tap fees should be based upon water meter size is this.

It costs money to build the capacity needed to meet the potential water demand of customers. The larger the meter size, the larger everything must be designed and built to serve that meter. Large infrastructure costs more. Therefore, those that are responsible for the greatest capacity costs should pay the highest tap-on fees.

System capacity is closely related to the capacity of different size water meters to pass water. That capacity goes up not on the basis of diameter, but on the basis of diameter times π (pi), or approximately 3.14. Therefore, a four inch water meter has nearly 41 times greater capacity than a five eighths or three quarter inch meter so the capacity cost of a four inch should be approximately 41 times greater than the smaller meters. The exact increments are shown in Table 9. (Note that in that table, five eighths and three quarter inch meters are listed as having the same capacity. In reality, they do not. But because they are so close and because almost all residential customers are served by such meters, for the sake of simplicity they are given the same capacity.)

Some tap-on costs are approximately the same for all meter sizes. These include the cost to inspect meter and service line installation and the cost to “sign up” new customers. Therefore, the total tap-on fee for a particular meter size is the sum of its capacity related costs and its equal share of the fixed tap-on costs.

The model targeted recovering five percent of capacity costs through tap-on fees.

Capacity Surcharges

While it is better to recover capacity costs “up front” in tap-on fees, they can also be recovered over time through capacity surcharges to the minimum charge. The model targeted recovering 75 percent of capacity costs by capacity surcharges to the minimum charge. This minimum charge surcharge is the reason why recommended minimum charges escalate as meter size goes up.

The fees shown in the yellow highlighted column of Table 10 are the minimum charges that will collect revenues from existing customers in proportion to their ability to demand flow plus their equal share of the fixed costs of the system, in the table called, “Minimum Charge Base Rate.”

“Snow Bird” Billing

You may have some customers, commonly called “snow birds,” who only live in the City for part of the year or they operate a business for part of the year. It is common for such customers to discontinue water and sewer service while they are gone or their business is shut down. That eliminates their water bills during that time, which is advantageous to them. (Others may attempt to avoid bills by discontinuing service for significant parts of the year. They can be handled with “snow bird” billing, as well. However, I would not apply this billing policy to property sales and change of renters where there is a brief break between different people occupying a property simply because the “hassle factor” for you and the property owners would not be worth it.)

While it is true that snow birds are not using any volume during their time away, they still cause the utility to incur various fixed and capacity costs. Prominent among these are the costs of debt service paid to build system capacity to serve them and the cost of basic administration and maintenance required to keep the system in working order so when these customers return there will be service available for them to resume consuming.

The analogy of home mortgage payments and property taxes applies to utility capital costs. The banker and the County do not forgive debt and property taxes during the time the homeowner is not present. Neither should utilities forgive their unavoidable fixed costs.

Many systems require snow birds to continue paying the full minimum charge. In my view that is excessive because snow birds do not cause a system to incur all of its fixed costs while they are away.

Instead, I recommend the utility assess relevant fixed costs to snow birds as a capacity maintenance fee, which will be only part of the minimum charge. At the bottom of Table 20 is a dollar amount called "Marginal Fixed Cost/Customer." This amount is the base capacity maintenance fee for the utility that you should assess to each customer. To this base fee should be added the "Adjusted Capacity & Usage Allowance Costs per Meter per Billing Period" amount from Table 10 for the meter size that serves each snow bird.

The resulting total fees which I recommend you assess to snow birds and similar bill avoiders, based upon the meter size that serves them, can be found in Table 10 in the "Snow Bird" fee column. Note that, for those water customers that are also sewer customers, you should add the water and sewer "Snow Bird" fees together to get each one's total "Snow Bird" fee.

Also note that sprinkler "Snow Bird" fees are the same as the monthly minimum charge fees. That is because fire flow capacity, through sprinkler systems, is available whenever the water is turned on so it makes no difference if a business shuts down for part of the year or not. If the system is charged, it is providing protection.

Capital Improvements and Debt

The system did an improvement project recently, funding it primarily with grants and a SRF loan. A downtown water distribution project will start very soon with similar funding. And soon, the water reservoir needs to be replaced. To be conservative I assumed that project would be funding only from system reserves. Debt for these projects will soon commence and build, increasing operating costs modestly. These projects and cost changes are all shown in Table 4.

Target Reserve Levels

The system currently has strong total reserves and I have modeled rates that will maintain those reserve levels. However, as can be seen at the bottom of Table 6, cash reserves will actually dip below zero during the years 2017 through 2023. However, total reserves will drop slightly in 2017, but remain positive and recover after that.

This drop in reserves is primarily due to my assumption that you will fund the final capital improvement project from cash reserves. You may well borrow at least some of that amount which would improve your reserve levels.

Conservation Rates

Conservation rates are intended to encourage customers to monitor their use and try to conserve when it is advantageous to them. That should also help the utility avoid the extra expense of building greater source water and water production and delivery capacity, saving everyone on their water bills.

Conservation rates are achieved by having a unit charge that escalates at one or more rate blocks. A block is simply a level of use above which the unit charge is increased. I examined other rate structures to do this but in the interest of simplicity I recommend you retain the two block structure that you currently have for residential customers, with modifications, and begin assessing conservation rates to all other customers, as well.

I recommend the initial unit charge be the same for all customers and that it be increased by 30 percent at the first rate block and another 70 percent at the second and final rate block. This will result in a unit charge above the final rate block that is approximately double the cost of water volume below the first block. That much is the same for all customers. However, where the rate block occurs should be different for different customer classes (meter sizes) so that conservation rates will not unfairly penalize those customers that, based upon their design capacity, it is reasonable to expect them to use high volumes compared to the average residential customer.

I established the position of the rate blocks as follows:

- The first rate block for a three quarter inch residential customer starts at the average volume use of that class, rounded to the nearest 1,000 gallons, which is 5,000 gallons.
- The second rate block starts at double the average volume use of that class, rounded to the nearest 1,000 gallons, which is 10,000 gallons.

Why these usage levels? The first encourages slightly higher than average volume customers to look for more saving opportunities. The second is aimed at the much higher than average use customers because they probably have the greatest opportunity to cut their use.

The rate blocks for all other customers are then keyed to the usage levels of the two blocks of the three quarter inch meter residential customers because that relates their capacity to use volume with the usage levels of this, the rate class of the most common customer. Thus, the position of the rate blocks for all other customers, based upon their meter size, is the multiple factor from Table 9 called, "This Meter is This Many Times Bigger Than a Five Eighths Meter," times the rate block volumes of the three quarter inch meter residential customers. Said simply, a four inch meter has 41 times more capacity than a three quarter inch meter so the rate blocks for that meter size start at volumes that are 41 times higher than the three quarter inch residential customer.

Sprinkler Rates

Several businesses have fire suppression sprinkler systems for which they currently pay the City a minimum charge based upon the sprinkler system's capacity – low, medium or high. I have no basis for refuting the City's current sprinkler rate structure. Therefore, I simply increased the existing sprinkler rates by the same percentage by which system-wide average rates are modeled to increase.

How Rate Adjustments Will Affect Customers

Table 7 of the model shows how customers of various volumes and meter sizes will be affected by the recommended rates. Note that bills from the current and proposed rates are both in terms of your current rate classes. This was done to facilitate easy comparison of the “before and after” bills. However, the rates I am recommending are actually set up in different rate classes compared to your current rate classes. No longer will you make a distinction between residential, commercial and other types of customers. The only distinction will be meter size.

Because the recommended rate structure is very different from your current rates, some customers’ bills will go up or down markedly. If a customer’s bill will go up a lot that does not mean that they are being treated unfairly. It means their current bills are being subsidized by other customers who will see their bills go down after rate adjustment, or at least their bills will not go up as much under the new rates. And, for very high volume customers, it means that due to the conservation rate structure they will be paying for much of the volume they use at the higher conservation unit charge rate. These structure changes are needed to make each customer’s rates commensurate with the service they receive and to encourage conservation.

As you read Table 7 to try to get a sense of what will happen to different customers’ bills, it is important that you keep several things in mind:

- Consider how many customers use how much volume. If there are no customers using at a volume level (Customers in Each Volume Group), the bill increase or decrease at that volume level is not important. That is especially true when customers are grouped at the top or the bottom of a class but the table also shows bills for the other extreme of the class. When no one uses volumes anywhere close to the high or low end of the table, what will happen to bills for those volumes is immaterial.
- It is also important to concentrate on the dollar change in bills rather than the percentage change in bills. When a bill amount that is currently low is increased by \$2.00 per month, the result will be a relatively large percentage increase. But the increase will still be just \$2.00 per month.
- And finally, bill increases shown in the table assume that all customers will continue to use the same volumes in the future that they used in the past. In fact, all have the option to, and many actually will decrease their use and their future bills.

Even with all of these caveats, Table 7 will still give everyone a good idea of how rate adjustments will affect them.

Most customers receive both water and sewer service from the City. Such customers can find their usage in the appropriate rate class for water and sewer, add the bill increase (or decrease) for the two services and arrive at their overall bill increase (or decrease).

Rate Affordability

The affordability index of your current rates and my recommended rates are shown numerically in Table 6 and graphically in Chart 4 of the model. On an affordability basis, the current rates are at about 60 percent of the U.S. average, based upon the Census Bureau's estimate of median household income. The recommended rates for Water Scenario 3 will be at about 80 percent of the U.S. average; higher, but still well below the national average. Future rate increases are projected to be less than future increases in income so the affordability of future rates will gradually improve.

Affordability Index: The monthly charge for (typically) 5,000 gallons of residential service divided by the median monthly household income for the area served by the system. An index of 1.0, meaning a household pays one percent of its income to pay its bill for 5,000 gallons of service, is generally considered affordable. Affordability index is a primary factor in determining grant and loan eligibility and grant amount.

Closing

The water system currently has strong reserves. I modeled rates that will enable you to maintain them, even while covering ever increasing costs. In Water Scenario 3, the increase needed from the average three quarter inch meter residential customer amounts to about \$7 per month.

The big issue is rate structure fairness and simplicity. There are currently too many rate classes and their rates do not correspond with the cost to provide service to all of them. I recommend making the rate schedule much simpler and consistent.

I recommend you make initial rate adjustments as soon as possible and follow up annually with across the board inflationary rate and fee increases as laid out at the top of Table 2 in Water Scenario 3. In several years, after several rounds of inflationary increases, it will then be time to reanalyze and restructure rates again – restart the cycle.

You now should do those things listed in the "Initial Actions" and "Future Water System Action Recommendations" sections of the report.

Finally, as you address issues raised in this report, you will have questions. Ask them. My goal is to help you set and keep adequate, fair and appropriately simple or complex rates. That takes time and effort and it may stretch out beyond the "conclusion" of the project. I'm in it for the long haul with you. Unless you ask for something that takes substantial or very different work, you will owe me no extra fees for that help.

Sewer System

Summary

To restate what was said in the beginning, this report was written using the water system's rate analysis model as its template. Many things apply to both systems. Because they were discussed in the water rates section, those issues will not be rehashed in this section.

Like the water system, sewer reserves are strong. However, due to approaching debt that will roughly quadruple your operating costs, and operating costs for the new sewer plant that will be roughly twice what the current operating costs are, sewer rates need to go up drastically. Debt costs will affect minimum charges the most. That means low-volume customers' bills will go up the most on a percentage basis. In addition, the structure of the sewer rates needs revision.

As was recommended for water, I am recommending structuring sewer rates so the minimum charge is based on water meter size. This will simplify the rate structure significantly. The unit charge will remain level but it must go up, as well.

I recommend that, for residential customers only, you use winter-average water use as the volume basis for assessing sewer unit charges. This removes almost all consumptive use of water (lawn and garden watering in the summertime are the main such uses) from sewer use billing.

However, you should assess sewer rates to non-residential customers based upon their water use throughout the year. That is a normal practice in the sewer industry because winter average water use is often a poor indicator of business sewer use. However, if a business customer wants to install a second meter to meter their consumptive water use to enable that volume to be deducted from their sewer bill, you should allow it. That will be discussed later.

The new treatment plant will be very sensitive to grease. The City will need to start a program to eliminate as much grease from the waste stream as possible. What cannot be eliminated will need to be carefully managed. This program will add to the system's operating costs as compared to the current system but it will be far cheaper to manage grease well than to suffer the consequences at the treatment plant. I recommend instituting a system of surcharges on grease contributors to pay for this program.

I recommend out of service area customers' rates be set in the same structure as in-service area customers except they should be 50 to 100 percent higher.

Affordability issues already discussed regarding water rates apply to the sewer rates, too. The difference is, sewer rates will be less affordable than water rates.

Future Sewer System Action Recommendations

7. **Continue recovering all out of pocket costs for making new sewer connections (tap-ons), and other issues as described in the water section of this report.**
8. **With few exceptions, bill residential customers on a winter-average water use basis. Bill all others on a monthly water use basis for sewer unless a customer installs a consumptive use water meter, to be discussed later.**
9. **Institute a grease surcharges to pay for the grease management program.**
10. **If a sewer customer does not have metered water service, assess sewer user fees as if the new customer used the average volume of use for the water meter size that such a customer would normally be served by (most residential properties are served by three quarter inch meters).**

Discussion of Significant Issues

Capital Improvements and Debt

The cost of capital improvements will drive rates drastically higher and that situation cannot be avoided. The system will soon begin construction of a new waste water treatment plant that, relative to the system's current operating and ownership costs, will be remarkably expensive. The City will receive substantial grants on the project but the majority will be paid for with State Revolving Fund loans. While the interest rate for those loans is subsidized, the debt payments will still be approximately three times greater than the system's current operating costs. This project and cost changes are all shown in Table 4. Other issues affect rates, and they will be discussed, but this issue dwarfs all others.

If the grant and loan levels have not yet been "set in stone," I recommend the City approach the grant agencies about increasing their grant participation rates. As can be seen at the top of Table 6 and in Charts 3 and 4, debt service will drive residential user rates well into the range that most grant agencies consider candidates for higher grant levels. If you can receive large grant increases, they would certainly help to make rates more affordable.

Rate Structure

The current sewer rates include several flat minimum charges. I recommend you assess minimum charges that escalate as the customer's water meter size escalates, which is the structure I recommend for water rates, as well. These can be seen in Table 10. The current unit charge is too low but not by nearly as much as the minimum charges. The resulting rate structure adjustments will hit small meter, low-volume customers the hardest.

Residential customers should be billed throughout the year based upon winter average water use. That will be discussed in detail in the next section.

Those customer classes that include “Only” in their names (Only means they get sewer service from the City but not water service, so there is no metered water use upon which to base their sewer bills.) These customers pay only a minimum charge. Their adjusted bills were modeled as follows:

- Their use was assumed to be the average meter water use of the corresponding customer type that has metered water.
- That billable amount was multiplied by the recommended unit charge and then added to the minimum charge for the corresponding customer type.

The effect of rate adjustments can be seen in Table 12. The same caveats detailed in the water section of this report apply to sewer rates, as well.

Winter-average Billing for Residential Customers

The modeled and recommended rates assume you will retain winter-average billing for residential customers but only for those customers. Quite simply, you will determine the average monthly use of each residential customer during the winter months, apply the new rates to that average use and that becomes their monthly bill until you repeat this exercise.

As you know, this process takes a little work to set up but it will make your billing as simple in the future as it is right now, yet you will bill all residential customers on the basis of actual sewer use as close as you can get without actually metering their sewer usage, which is at best impractical for residential flows of sewer volume.

Consumptive Use of Water Exempted From Sewer Billing

Some commercial or similar customers may use large volumes of water that does not get returned to the sewer system. Such water use is called, “consumptive use.” Most consumptive use is for lawn irrigation but some industries consumptively use large volumes of water in their processes, too.

The utility should allow such customers that wish to do so, to segment their internal water piping systems into two parts, as approved by the utility. One part would serve consumptive use facilities. The other part would serve the company’s or other customer’s restroom and similar facilities that are plumbed for sewer service. Such customers could then install a second water meter, as approved by the utility, from which consumptive water use could be determined.

When billing these customers, the utility would assess water rates based upon the readings from the meter that meters all water use and sewer rates only on the net volume that serves the restrooms and similar facilities that are plumbed into the sewer system. If separate bills are sent for each meter, minimum charges should be assessed on each bill based upon the meter size of each. If the bills are combined, the minimum charge for water service, based upon meter size, should be assessed to the bill. In addition, the minimum for the consumptive use meter (to determine the net sewer use) should be the “snow bird” minimum for that meter size for water service because that meter represents the capacity to use additional water similar to that of an additional customer.

“Snow Bird” Billing

Snow bird billing for sewer customers is calculated and should be done the same way as recommended in the water section of this report. The resulting snow bird fees that I recommend you charge are shown in Table 10 of Sewer Scenario 1 in the “Snow Bird” fees column.

High Strength Wastewater Surcharges

High strength wastewater is more expensive to collect and treat. In the interest of fairness such customers should be surcharged for these extra costs. Your consulting engineer told me that the new treatment plant will be very sensitive to grease, in particular.

For that reason, I recommend you devise a surcharge program for significant grease contributors – primarily restaurants. While there are several ways to structure such a program, from the very simple to the very complex, to keep the program reasonable to manage I recommend a fairly simple one. It should probably be based upon grouping grease contributors into high and low concentration groups, applying a calculated surcharge rate by the water volume that each contributes.

Your engineer or I can create this program for you, as you desire.

How Rate Adjustments Will Affect Customers

On an affordability basis, the current sewer rates are slightly lower than the national average. After making the recommended rate adjustments, the affordability index for the benchmark customer (5,000 gallons per month residential) will go up to 2.42 percent and then rise slowly in future years. Table 7 shows the rate adjustment effects by volume class and meter size. Rate increases for most customers will be very large. While one could debate who should pay the highest increases, it is my understanding that there is no debate that you must build the wastewater treatment improvements.

I don’t want to sound callous, but I liken your situation to this. You are currently riding in an old Greyhound bus. Soon you will be required to ride in a jet airplane. Jet airplanes cost far more to own and operate than busses. The ticket price of each is simply not in the same realm as the other – they are not at all comparable. I know people will long to keep their current, low rates, but that just will not be possible.

You should note that in the tables that include the statistic called, “Customers in Each Volume Group,” customer distributions were not available for sewer use, only the totals for each rate class. Therefore, all customers are shown as using the average volume for the class. However, distribution of sewer use will be similar to water use, should you want to look into how many customers use different volumes of sewer service.

A Better Basis for Cost Comparison

The current sewer system is quite simply, cheap to own and operate. Therefore, those rates can be, and they in fact are, cheap. The wastewater treatment plant you are considering is expensive to own and operate. You simply cannot productively compare your current sewer rates with those needed to pay for the new treatment plant.

In my experience, when a community builds a new treatment plant these days, it has to pay most of those costs with loan proceeds, meaning new debt service. I commonly see new residential sewer bills in such situations go to \$50 to \$60 per month, often more. By that measure of comparison, your new rates will be normal.

Closing

Current sewer revenues are far too low to fully fund the system after major, expensive capital improvements are done. Rates for all customers need to go up, some by a lot, some by remarkable amounts. The recommended rates accomplish rate restructuring and an overall increase at the same time.

I recommend you make initial rate adjustments as soon as possible and follow up annually with across the board inflationary rate and fee increases as laid out. In several years, after several rounds of inflationary increases, it will then be time to reanalyze and restructure rates again – restart the cycle.

Decision Criteria

Several key criteria impact this analysis and include the following:

- The analyses used the test year of July 1, 2012 through June 30, 2013. This is the one-year period from which actual cost, revenue, usage and other data were gathered. The test year is the starting point for the analyses. Costs, revenues and all other data have been modeled to change in future years based upon inflation, growth, the recommended rates and fees and many other things. Essentially the analyses seek “best fit” rates to satisfy many issues facing the systems.
- Both the water and sewer rate structures that are modeled use the projected costs for the period July 1, 2018 through June 30, 2019. This is depicted in Table 19 of the analysis models. This year was judged to be “normal” for each of the utilities mainly because new expected debt payments will have started by then.
- I assumed that future operating costs will rise, usually by four percent, as shown in Table 3 of each model.

Basic and Policy Action Items

Use the following as a checklist of “to-do” tasks. Many if not all of these things you are already doing but they bear repeating.

1. Before you officially propose or adopt new rate language, you may mail or e-mail the rate tables, ordinances or agreements to me and, as a part of this project, I will verify that your language will effectuate the intended rate and policy adjustments.
2. Determine how long, on average, it takes to perform the various services you provide in the field, such as after-hours service, meter disconnects and reconnects, special meter readings, etc. Be sure to include all the time you actually pay staff for performing these services. Then determine how much it costs the utility per hour, on average, to have staff perform these services. This includes benefits, taxes, use of utility vehicles, tools and minor equipment, etc. It should also include a fair amount to cover the time that office staff devotes to working on these services to track them, bill for them, etc. This should be the hourly rate you will charge for these services. In addition, set a minimum that you will charge for showing up, whether the service takes an hour to perform or 10 minutes. In essence, set your fees in the same way plumbers and similar technicians do – a set fee for showing up, which buys the customer a set amount of time, and an hourly rate if the job takes longer than the show up charge will cover. While accounting for time and other investments in the various functions is important, do not make the process burdensome. For many functions you likely can just estimate your time occasionally and charge fees based upon those estimates.
3. Retain required funds in interest bearing debt service and debt reserve accounts when required by your lender(s).
4. Have me conduct a full rate analysis again when your actual financial performance and my projections diverge significantly. That may be up to five years from now or whenever a large financial upset or change is looming. The next such event will likely be when you are preparing for capital improvements.
5. Start adopting management strategies that are included in what is most commonly called, “advanced asset management.” These strategies can yield better service and reduced costs for utilities, especially those looking to build new facilities or replace existing facilities soon. Visit gettinggreatrates.com/ for more information on asset management or call me to discuss how the utility can move into asset management.
6. Continue to track your volume usage, incomes and expenses on a regular basis so the data and information you generate will support future rate adjustments.
7. As a reminder, check with your attorney for language and legality of all charges and issues discussed.

Principles

I use several guiding principles when I help systems set their utility rates, fees and policies. As you read study report and the analyses, keep in mind that my recommendations have been weighed against these principles:

1. Water, sewer and all other utilities are businesses, regardless of who owns them. Businesses must cash flow properly.
2. In addition to functioning in a business-like manner, a utility has a responsibility to its customers to nearly guarantee its long-term prosperity for their benefit. The customers expect the service to be there whenever they want to use it. Thus, a utility must err on the conservative side by maintaining strong reserves that will enable it to weather financial storms.
3. If a service costs the utility money, the utility should recover that cost from the most logical "person" if that makes good business and community administration sense. For example, generally "growth should pay for growth." Developers should fairly pay for their consumption of utility capacity by paying commensurate tap fees. Likewise, service users should pay for their use. Each user or class of users should pay their fair share of service costs.
4. If adjusting a rate, fee or policy will turn currently "good" customers into "bad" customers, consider the necessity of the change carefully before making it. For example, while it may be warranted, raising the minimum charge markedly to your residential customers may make it very difficult for fixed, low-income customers to pay their water bills. That may cause more of them to pay late or not pay at all. That may trigger the utility's processes of having the utility attorney write threatening letters to those customers and eventually require shutoff of service. Thus, in the attempt to generate more net revenue by raising rates, net revenues may actually go down.

Polson, MT, Water Rates Scenario 2014-3 Modeling Results

This document contains the calculations that were performed to arrive at new user rates and fees for the next 10 years. These calculations are complex so key issues are also described in a narrative report that accompanies this model.

This analysis was conducted so as to establish user rates that are adequate to pay all reasonably expectable costs while charging rates that are fairly structured and appropriately simple or complex.

Scenario Description: This analysis model assumes minimum charges that capture all fixed costs plus a surcharge based upon meter size to capture part of the cost of building system capacity. Unit charges will fully capture all variable costs. After initial rate adjustments shown in Table 1, inflationary rate increases will be done annually.

For most, the best way to read and understand what this model means is this. Scan the "Index of Tables, Charts and Other Results" to see how the model is laid out. Scan the "Definitions" for any terms you are not already familiar with. Read and even ponder Table 1 and the line graph charts. These will show you how the proposed rate adjustments will affect ratepayers and the system. If you need more detail than that, review the entire model. Finally, rate setting involves much more than just rates so you need to read the accompanying narrative report to understand what you need to do and why.

Several tables in this model depict volume usage and user rates for the various customer classes. The model includes a continuum of volumes but many volume categories had no users. Most of these lines have been hidden simply to make the tables less voluminous. However, all volume classes that had use or that are break points for rate blocks are shown. For volume classes that are not shown, rates will be the same as the previous rate that is shown.

May 29, 2014

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Polson, MT, Water Rates Scenario 2014-3 Modeling Results

Index of Tables, Charts and Other Results

Note: When a numbered table or chart is missing from the list below and this model package, that was not a mistake. It simply means that table or chart from our master program was not needed in this situation.

Name	What Each is or Does
Definitions	The meaning of terms used in this report and in rate setting generally
Return on Investment	A summary of financial outcomes produced by the proposed rates
Table 1 - Recommended Rates	User rates calculated and recommended in this model for each user class
Table 2 - User Base and Operating Incomes	Basic user base and user rate statistics and operating revenues, projected for next 10 years, based upon adopting modeled rates
Table 3 - Operating Costs and Net Income	Operating costs projected for next 10 years, excluding debt service
Table 4 - Capital Improvement Program	Capital improvements and how they will be paid over next 10 years, including debt service
Table 5 - Capacity Cost Recovery	Costs for making new connections, if applicable
Table 6 - Indicators	Financial results that adopting the modeled rates will cause
Table 7 - Old Rates, New Rates and Changes	Illustrates effects of modeled rates on ratepayers (increases or decreases) at various usage levels
Table 8 - Combined Water and Sewer Bills	When rate classes for water and sewer are structured the same, this table compares customers' combined bills
Chart 1 - Operating Ratio	Graph of operating ratio for next 10 years if modeled rates are adopted
Chart 2 - Coverage Ratio	Graph of coverage ratio for next 10 years if modeled rates are adopted
Chart 3 - 5,000 Gallon Residential User's Bill	Graph of bill for a 5,000 gallon per month residential user for next 10 years at modeled rates (used in grant and loan eligibility determinations)
Chart 4 - Affordability Index	Graph of affordability index of residential user's bill for next 10 years at modeled rates (used in grant and loan eligibility determinations)
Chart 5 - Working Capital vs Goal	Graph of working capital for next 10 years at modeled rates
Chart 6 - Value of Cash Assets Before Inflation	Graph of working capital and CIP (capital improvement program) reserves adjusted for inflation for next 10 years at modeled rates
Chart 7 - Value of Cash Assets After Inflation	Graph of current position for next 10 years at modeled rates
Chart 8 - Residential Use and Revenues	Graph of usage vs. revenues for next 10 years for single family residential users at modeled rates
Chart 9 - All Other Users and Revenues	Graph of usage vs. revenues for next 10 years for all users except single family residential at modeled rates, if applicable
Table 9 - Meter-size Based Tap Fees	Calculation of average tap fee and total tap fee revenues for the year following the test year, if applicable
Table 10 - Capacity Charges Based on Meter Size	Surcharges to apply to minimum charges, based upon meter size or similar criteria, that will recoup part or all of the costs incurred to provide high-flow capacity, if applicable
Table 11 - Unit Charge Conservation or Declining Rate Blocks	Calculates the volume break points (blocks) at which conservation or declining rates should be positioned for each meter size so they will be in proportion to residential blocks.
Table 12 - Initial Rate Adjustments and Resulting Revenues	Current rates, recommended (modeled) rates and blended revenues they will produce during the year following the test year (usually this year in real time)
Table 13 - Rate Statistics	Table depicting effects of modeled rates on user classes
Table 8 - Combined Water and Sewer Bills	Illustrates how modeled combined water and sewer bills will change as compared to the current combined bills, if applicable.
Table 14 - Test Year Usage	Volume of service used by customers during the test year
Table 15 - Rates at End of Test Year	The user rate table in effect at the end of the test year
Table 16 - AMHI and Incomes	Annual Median Household Income data and system incomes for the test year
Table 17 - Equipment Replacement Details Chart	Detailed schedule of equipment replacements for next 20 years, if applicable

Index of Tables, Charts and Other Results, Continued

Name	What Each is or Does
Table 18 - Replacement Schedule	Calculation of the annual annuity (yearly savings amount) needed to pay for all equipment replacements as they come due
Table 19 - Cost Basis for "Proportional" Rate Structure Calculations	Sumation of the appropriate year's system costs and calculation of "proportional to use" cost recovery rates for fixed cost and variable cost (cost to produce)
Table 20 - Marginal Fixed and Variable Costs for Rate Structure Target Year	Incremental (marginal) costs that would be incurred if the system produced incrementally more volume of service, if applicable
Table 21 - Wholesale Customers' Share of All Costs	System operating costs attributable to wholesale, very large or very unusual customers, if applicable
Table 22 - Test Year Wholesale Customers' Share of Capital Costs	Incremental capital costs that are attributable to wholesale customers, if applicable
Table 23 - Appendix A to User Charge System for Current Year	Clean Water State Revolving Fund (SRF) loan program compliant rate calculation methodology applied to the current year, if applicable
Table 24 - Appendix A to User Charge System for Target Year	Clean Water State Revolving Fund (SRF) loan program compliant rate calculation methodology applied to the year when loan repayment will commence, or earlier if required by the agency, if applicable

Definitions

Affordability Index	The monthly charge for (typically) 5,000 gallons of residential service divided by the median monthly household income for the area served by the system. An index of 1.0, meaning a household pays one percent of its income to pay its bill for 5,000 gallons of service, is generally considered affordable. Affordability index is a primary factor in determining grant and loan eligibility and grant amount.
Capacity Charge, also commonly called an Impact Fee or Availability Charge	A charge that buys a new customer system capacity. This is a charge levied on a new customer that recovers all or part of the capital costs to build capacity to be able to serve that customer's actual or potential demand. This charge may be a few thousand dollars for a residential customer to many thousands of dollars for a large industrial customer.
Capital Improvement Plan or Program (CIP)	A schedule of anticipated capital improvements. These are the more expensive items such as water towers, treatment plants and lines that generally require bond or grant funding. They do not include equipment replacement items.
Capital Improvement Reserves	Cash reserves dedicated to funding the CIP
Comprehensive Rate Analysis	A thorough examination of a system's operating, capital improvement, equipment replacement and all other costs, revenues, current rates, number of users and their use of the system, growth rates and all other issues surrounding the system. This examination will determine how rates and fees should be set in the future to cash-flow the system properly, to build appropriate reserves and to be fair the ratepayers. It also will determine how policies should be adjusted to enable the system to operate well now, operate well in the medium-range future (about 10 years) and prepare for expected and expectable events such as capital improvements and equipment replacement.
Connection Charge	A charge that buys a new customer connection to the system. This charge is levied on a new customer to recover all or part of the costs a system incurs in the course of connecting the new customer to the system. This may include labor costs for staff or others on-site; equipment sold by the system to the new customer for making the connection; equipment, tools and supplies used by system staff for making the connection; and the like. This charge may be a few hundred dollars for a residential customer to thousands of dollars for a large industrial customer.
Conservation (Inclining) Rates	Unit charges that go up as the volume used goes up
Cost to Produce	There are several ways to define cost to produce. Each is acceptable for different purposes. Generally, cost to produce is the total of all variable costs required to get service to a utility's customers during one year divided by the total units of service delivered during that year. In a proportional to use rate structure, this will be the variable cost. See "Cost Calculations" at the bottom of Chart 18.
Cost to Serve Rates	Rates where fixed and variable costs generated by each user class are paid by that class with minimum and unit charges, respectively.
Cost Types; Fixed and Variable	The two main types of costs are fixed - those that are related to the fact that someone is a customer; and variable - those that are related to the volume of the commodity delivered to customers. Generally, fixed costs should be recovered with minimum charges and variable costs with unit charges.
Coverage Ratio (CR)	Incomes and reserves available to pay debt divided by the amount of the debt for that year. Most systems should have a CR of 1.25 or higher.

Definitions, Continued

Current Position	For a year, the sum of all incomes and undedicated reserves minus all current financial obligations for that year. Future obligations (next year's loan payments) and depreciation are not included. Current position is a good measure of overall financial health.
Declining Rates	Rates where unit charges go down as the volume used goes up
Flat Rates	Rates where all users pay exactly the same fee regardless of the volume of service they use
Equivalent Dwelling Unit (EDU) or Equivalent Residential Unit (ERU)	Based upon number of water using fixtures, average flow, potential flow or similar criteria; the consumption rate of the average single family home is rated at one EDU. All other types of customers are then compared on this measuring basis and the EDUs are calculated. Generally the purpose of this exercise is to calculate fees that each EDU must pay.
Incremental Rate Adjustments	Rate increases done, generally annually, following the initial rate adjustment. The goal of these rate increases is to keep the system's income and reserve levels on track. Rate structure fairness is a small issue, if it is an issue at all. Such increases are usually small, in the two to five percent per year range.
Initial Rate Adjustments	Rate adjustments done in follow up on the comprehensive rate analysis. Generally, the goal of such adjustments is to establish rates that put the system's income and reserve levels on track with the system's financial needs and do it with a structure that is fair to the ratepayers.
Inflow & Infiltration (I&I)	In a sewer system, water that gets into the collection system by way of illicit connections (inflow) such as gutter downspouts and leaks in manholes and sewer lines (infiltration)
Infrastructure	Hard assets, such as water towers, treatment plants and lines needed to provide service to customers connected to the system
Life-cycle Cost	The total cost to design, build, operate, maintain and eventually dispose of an asset. One asset may cost less to build but be more expensive to operate and maintain, yielding a higher life-cycle cost.
Marginal Costs	The part of fixed and/or variable costs that are unavoidable should use go up marginally for reasons like: a new customer is connected or an existing customer increased use. Generally marginal costs are less than the average fixed and variable costs but when extra use requires a system upsizing, they can be greater. These costs are especially useful when considering selling service at wholesale.
Operating Costs	Definitions vary. For rate setting purposes operating costs are costs incurred because a system is owned and operated. Such costs are generally recovered through user fees.
Operating Revenues	Revenues generated by user fees
Operating Ratio (OR)	Current incomes and undedicated reserves minus current expenses, not including debt. An OR of 1.0 is "break even." Most systems should have an OR of 1.25 or higher.
Payback Period	Time required for the investment made to get this analysis to return that investment through increased user and other fees
Potential Demand	The volume of service that a user could demand for a short period of time at full volume use. The potential demand limiting factor is usually the size of the customer's meter or service line.
Proportional to Use Rates	Rates where the minimum charge recovers all fixed costs, the unit charge recovers all variable costs, the unit charge is the same for all volume sold, and there is no usage allowance in the minimum charge.
Replacement Schedule	A timetable that describes equipment replacement and important repairs that are too infrequent and/or too expensive to cover as annual operating costs but not so expensive that they need to be covered as capital improvements.
Replacement Reserves	Cash reserves used to fund the Replacement Schedule
Return on Investment	The dollar amount or percentage of revenue gain enabled by this analysis
Tap Fee, also called a Hook up Fee or Connection Fee	A charge that gives a new customer the <u>right</u> to connect to the system. This fee may include the costs of administering the connection program, such as staff time to 'sign up' new customers, get them into the system's billing program, do an inspection of the service connection to assure that it meets the system's standards and the like. This charge is usually minimal for a residential customer and maybe a few thousand dollars for a large industrial customer. Capacity and connection fees are commonly added to tap fees and the total fee is just called a 'tap' fee.
Test Year	The one year period from which data was gathered to be the basis of the rate analysis
Usage Allowance	The volume, if any, that is "given away" with the minimum charge. Most systems give away no volume. Those that give away an unlimited volume have what are called "flat rates."

Definitions, Continued

User Fee, User Charge, User Rates	Fees assessed to customers for use of the system. Does not include tap, capacity or connection fees, late payment penalties or other types of charges.
Water Loss	Measured by volume or percent, the part of a water system's net water production that does not get to customers. This loss also includes billable volume lost due to under-registering customer meters.
Working Capital, Net Income	The amount left in the operating fund after paying all costs due during that month, year or other time period. Working capital of \$0 is "break even."
Working Capital Goal	The desired percentage in excess of "break even" for the operating fund. Small systems (a few hundred connections) generally should target 35 percent or greater. Larger systems can target less, down to a minimum of about 20 percent for systems with 5,000 or more connections but the goal for each system should be based upon the needs of that system.

Return on Investment

The rates depicted in this model will produce various returns on investment or paybacks. Usually the most important payback, at least to ratepayers, is a rate structure that is demonstrably fair. For the system, revenues (usually increased) that will be adequate to pay all expected, expectable and many unexpected costs is the key return.

The following calculations show what was invested and what the returns will be over two periods; five years and 10 years. Five years is a reasonable period for return projections. Ten years is a good basic planning horizon but you should not bank on amounts or returns projected that far out. Besides, most systems should have their analyses redone long before then.

Consider these key points about returns on investment. Because the recommended, overall higher rates will fund more improvements, better repair and replacement and such, much of the increase in revenues will be absorbed by those expenses. Thus, few systems end up with a dramatic increase in their reserves because most of the additional revenues get used up making needed improvements. Fairer and higher rates generally enable systems to qualify for grant and loan funding, too, increasing those funds but also using up those funds.

Also note that rates in this model have been modeled to be adjusted during the year following the test year or even later. That year is included in the first five-year return on investment calculation. Thus, the first year of returns calculated below include most or all of one year where rates will not have been changed yet, lowering the calculated return on investment but not the real rate of return.

Calculations

\$6,892 Fees to Carl Brown Consulting
\$500 Estimated value of system staff time and incidentals to assemble needed information
\$7,392 Total Investment for This Analysis

\$476,199 Five-year Improvement in Cash Position Due at Least Partly to This Analysis
6442% Five-year Return on Investment (increase in revenues / investment)

\$1,725,260 Ten-year Improvement in Cash Position Due at Least Partly to This Analysis
23340% Ten-year Return on Investment (increase in revenues / investment)

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Polson, MT, Water Rates Scenario 2014-3

Table 1 - Recommended Rates

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When initially adjusted, user rates should be set as follows. Rates for skipped volume classes are the same as those in the next lowest volume class.

This tables includes minimum charges that are based upon meter size, as calculated in Table 10.

	Class Bottom Use in Gallons	Class Top Use in Gallons	Minimum Charge per Billing Cycle	Usage Allowance in 1,000 Gallons	Unit Charge This Class per 1,000 Gallons
	0	999	\$18.08	2.000	\$1.60
3/4" Residential	5,000	5,999	\$18.08	2.000	\$2.08
	10,000	14,999	\$18.08	2.000	\$3.54
	130,000	99,999,999	\$18.08	2.000	\$3.54
1" Residential	0	999	\$18.08	2.000	\$1.60
	1,000	1,999	\$18.08	2.000	\$1.60
	130,000	99,999,999	\$18.08	2.000	\$3.54
3/4" Com & Res/Com	0	999	\$18.08	2.000	\$1.60
	5,000	5,999	\$18.08	2.000	\$2.08
	10,000	14,999	\$18.08	2.000	\$3.54
	130,000	99,999,999	\$18.08	2.000	\$3.54
1" Com & Res/Com	0	999	\$25.60	2.000	\$1.60
	10,000	14,999	\$25.60	2.000	\$2.08
	25,000	29,999	\$25.60	2.000	\$3.54
	130,000	99,999,999	\$25.60	2.000	\$3.54
1.5" Com & Res/Com	0	999	\$41.02	2.000	\$1.60
	30,000	34,999	\$41.02	2.000	\$2.08
	60,000	69,999	\$41.02	2.000	\$3.54
	130,000	99,999,999	\$41.02	2.000	\$3.54
2" Com & Res/Com	0	999	\$62.62	2.000	\$1.60
	50,000	59,999	\$62.62	2.000	\$2.08
	100,000	109,999	\$62.62	2.000	\$3.54
	130,000	99,999,999	\$62.62	2.000	\$3.54
3" Com & Res/Com	0	999	\$124.31	2.000	\$1.60
	120,000	239,999	\$124.31	2.000	\$2.08
	240,000	99,999,999	\$124.31	2.000	\$3.54
4" Com & Res/Com	0	999	\$210.69	2.000	\$1.60
	210,000	434,999	\$210.69	2.000	\$2.08
	435,000	99,999,999	\$210.69	2.000	\$3.54
6" Com & Res/Com	0	999	\$457.49	2.000	\$1.60
	485,000	974,999	\$457.49	2.000	\$2.08
	975,000	99,999,999	\$457.49	2.000	\$3.54
6"	0	999	\$457.49	2.000	\$1.60
	485,000	974,999	\$457.49	2.000	\$2.08
	975,000	99,999,999	\$457.49	2.000	\$3.54
Commercial	0	999	\$25.60	2.000	\$1.60
	10,000	14,999	\$25.60	2.000	\$2.08
	25,000	29,999	\$25.60	2.000	\$3.54
	975,000	99,999,999	\$25.60	2.000	\$3.54
Sprinkler Low	0	999	\$19.74	0.000	\$0.00
	1,000	1,999	\$19.74	0.000	\$0.00
	240,000	99,999,999	\$19.74	0.000	\$0.00
Sprinkler Med	0	999	\$26.38	0.000	\$0.00
	1,000	1,999	\$26.38	0.000	\$0.00
	240,000	99,999,999	\$26.38	0.000	\$0.00
Sprinkler High	0	999	\$39.57	0.000	\$0.00
	1,000	1,999	\$39.57	0.000	\$0.00
	240,000	99,999,999	\$39.57	0.000	\$0.00

Polson, MT, Water Rates Scenario 2014-3
 Table 2 - User Base and Operating Incomes

This table depicts user statistics and system incomes during the test year and for the next 10 years.

(First year balances and incomes are <u>actual</u> , subsequent years are <u>projected</u> .)	Infla./Deflation (-) Factor	Test Year	This Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year
		Year Starting	Year Starting	Year Starting	Year Starting	Year Starting	Year Starting	Year Starting	Year Starting	Year Starting	Year Starting	Year Starting
		7/1/12	7/1/13	7/1/14	7/1/15	7/1/16	7/1/17	7/1/18	7/1/19	7/1/20	7/1/21	7/1/22
User Base												
Average Users for the Year	NA	2438	2448	2458	2468	2478	2488	2498	2508	2518	2528	2538
Users Added/Lost During the Year	NA	10	10	10	10	10	10	10	10	10	10	10
User Growth/Loss Rate	NA	0.41%	0.41%	0.41%	0.41%	0.40%	0.40%	0.40%	0.40%	0.40%	0.40%	0.39%
Weighted-average Rate Increases Started During This & Future Years	NA	NA	8.4%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%

"Weighted-average Rate Increases Started During This & Future Years," and the rate revenues that result, were calculated as follows:

- In the early part of the year in the "This Year" column above revenues will be collected at the now-current rates. After that they will be collected at adjusted rates. (Thus, the revenues shown in the section below are "blended" revenues for "This Year.") The percentage increases shown above in the "This Year" column are the weighted average increases of the rates that are modeled to be enacted yet this year. (A negative percentage would mean rates would go down.)
- The ending rates for "This Year" become the beginning rates for the "2nd Year." In future years, on about the anniversary of the initial increases, inflationary increases of the percentages shown are modeled to be added. Thus, the "2nd Year's" revenues will also come from blended rates. It is also assumed that future rate revenues include extra revenues due to user growth and capacity charges, if they are included in Table 9. If capacity charges are not included in Table 9, but they will be assessed, they appear below in the Operating Incomes section of this table.
- Finally, if the commodity sales volume during the test year was unusual, the volume was normalized for future years and sales revenues adjusted as shown below in the Operating Incomes section.

Operating Incomes

Water Revenues	NA	\$867,008	\$870,755	\$947,355	\$970,233	\$993,632	\$1,017,578	\$1,042,084	\$1,067,164	\$1,092,830	\$1,119,096	\$1,145,976
Penalties	NA	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Impact Fee (Current Rate Structure)	% Above	\$4,301	\$2,150	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Meter-size Based Tap Fees (Table 5)	% Above	\$0	\$17	\$6,271	\$6,397	\$6,525	\$6,655	\$6,788	\$6,924	\$7,062	\$7,204	\$7,348
Interest, All Sub-accounts	NA	\$9,377	\$2,060	\$2,208	\$2,267	\$2,353	\$2,469	\$2,535	\$2,632	\$2,762	\$2,838	\$2,946
Water Permits	NA	\$2,100	\$2,100	\$2,100	\$2,100	\$2,100	\$2,100	\$2,100	\$2,100	\$2,100	\$2,100	\$2,100
Water Installation Charges	NA	\$1,532	\$1,532	\$1,532	\$1,532	\$1,532	\$1,532	\$1,532	\$1,532	\$1,532	\$1,532	\$1,532
Sale Materials/Supplies	NA	\$5,480	\$5,480	\$5,480	\$5,480	\$5,480	\$5,480	\$5,480	\$5,480	\$5,480	\$5,480	\$5,480
Insurance Reimbursements	NA	\$135	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Gain on Sale of Fixed Assets	NA	\$1,400	\$1,400	\$1,400	\$1,400	\$1,400	\$1,400	\$1,400	\$1,400	\$1,400	\$1,400	\$1,400
State Fee (\$2/connection)	NA	\$4,736	\$4,755	\$4,775	\$4,794	\$4,814	\$4,833	\$4,853	\$4,872	\$4,891	\$4,911	\$4,930
Revenue Loss Due to Conservation	0.0%	\$0	-\$43,538	-\$21,769	-\$21,857	-\$21,946	-\$22,034	-\$22,122	-\$22,210	-\$22,298	-\$22,387	-\$22,475
Total Regular Income		\$896,069	\$846,711	\$949,352	\$972,346	\$995,889	\$1,020,013	\$1,044,651	\$1,069,894	\$1,095,760	\$1,122,174	\$1,149,237

Polson, MT, Water Rates Scenario 2014-3
 Table 3 - Operating Costs and Net Income

This table depicts expenses during the test year, this year and for the next 10 years.

(First year costs and net incomes are actual, subsequent years are projected.)

	Infla./De- flation (-) Factor	Test Year	This Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year
		Year Starting 7/1/12	Year Starting 7/1/13	Year Starting 7/1/14	Year Starting 7/1/15	Year Starting 7/1/16	Year Starting 7/1/17	Year Starting 7/1/18	Year Starting 7/1/19	Year Starting 7/1/20	Year Starting 7/1/21	Year Starting 7/1/22
(Note: Some future costs will experience inflation. Those costs that go up as use goes up are also increased by the growth rate in users and the percentage by which that cost is variable as reported in Chart 4.)												
290 Inventory Adjustment	4.0%	-\$24,332	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
295 Misc Income purchase offset 343027	4.0%	\$126	\$131	\$136	\$141	\$147	\$153	\$159	\$165	\$172	\$179	\$186
299 Assets less than \$5000	4.0%	\$2,365	\$2,459	\$2,558	\$2,660	\$2,767	\$2,877	\$2,992	\$3,112	\$3,236	\$3,366	\$3,501
300 Purchased Services	4.0%	\$1,390	\$1,445	\$1,503	\$1,563	\$1,626	\$1,691	\$1,759	\$1,829	\$1,902	\$1,978	\$2,057
546 Water Quality Tap Fee	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
898 Reimburse Impact Fees	4.0%	\$6,256	\$6,506	\$6,767	\$7,037	\$7,319	\$7,611	\$7,916	\$8,233	\$8,562	\$8,904	\$9,260
901 Replacement and Depreciation	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pmt to 358 Gen & Billing Personal Services and Benes	4.0%	\$123,892	\$128,847	\$134,001	\$139,361	\$144,936	\$150,733	\$156,763	\$163,033	\$169,554	\$176,337	\$183,390
Ops, All Personal Services & Benes	4.0%	\$177,558	\$184,660	\$192,046	\$199,728	\$207,717	\$216,026	\$224,667	\$233,654	\$243,000	\$252,720	\$262,829
200 Supplies	4.0%	\$1,452	\$1,452	\$1,452	\$1,452	\$1,452	\$1,452	\$1,452	\$1,452	\$1,452	\$1,452	\$1,452
297 Homeland Security Projects/Safety	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
299 Assets less than \$5000	4.0%	\$1,071	\$1,114	\$1,159	\$1,205	\$1,253	\$1,303	\$1,356	\$1,410	\$1,466	\$1,525	\$1,586
300 Purchased Services	4.0%	\$10,798	\$11,229	\$11,679	\$12,146	\$12,632	\$13,137	\$13,662	\$14,209	\$14,777	\$15,368	\$15,983
303 Wellhead Protection Project-DNRC Grant	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
341 Electric	4.0%	\$42,158	\$43,844	\$45,598	\$47,422	\$49,319	\$51,292	\$53,343	\$55,477	\$57,696	\$60,004	\$62,404
354 Engineer Services	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Depreciation, All	4.0%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
900 Capital Outlay \$5,000+	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
200 Supplies	4.0%	\$8,518	\$8,859	\$9,213	\$9,582	\$9,965	\$10,363	\$10,778	\$11,209	\$11,657	\$12,124	\$12,609
300 Purchased Services	4.0%	\$225	\$234	\$243	\$253	\$263	\$273	\$284	\$296	\$308	\$320	\$333
354 Engineer Services	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
375 Education, Travel, Dues	4.0%	\$402	\$418	\$435	\$452	\$470	\$489	\$509	\$529	\$550	\$572	\$595
200 Supplies	4.0%	\$130,394	\$135,610	\$141,034	\$146,676	\$152,543	\$158,644	\$164,990	\$171,590	\$178,453	\$185,591	\$193,015
231 Gas, Oil, Diesel Fuel, Grease, etc.	4.0%	\$6,626	\$6,891	\$7,166	\$7,453	\$7,751	\$8,061	\$8,383	\$8,719	\$9,067	\$9,430	\$9,807
299 Assets less than \$5000	4.0%	\$1,803	\$1,875	\$1,950	\$2,028	\$2,109	\$2,194	\$2,281	\$2,373	\$2,468	\$2,566	\$2,669
300 Purchased Services	4.0%	\$35,799	\$25,231	\$26,240	\$27,290	\$28,382	\$29,517	\$30,698	\$31,925	\$33,202	\$34,531	\$35,912
308 Water Study/TSEP Grant PER	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
345 Telephone & Data Svcs	4.0%	\$4,442	\$4,620	\$4,805	\$4,997	\$5,197	\$5,405	\$5,621	\$5,846	\$6,079	\$6,323	\$6,576
354 Engineer Services	4.0%	\$14,250	\$14,820	\$15,412	\$16,029	\$16,670	\$17,337	\$18,030	\$18,752	\$19,502	\$20,282	\$21,093
375 Education, Travel, Dues	4.0%	\$1,004	\$1,044	\$1,086	\$1,129	\$1,174	\$1,221	\$1,270	\$1,321	\$1,374	\$1,429	\$1,486
900 Capital Outlay \$5,000+	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
912 Hillcrest Reservoir Replacement	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
919 Utility System Upgrades	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
940 Machinery & Equipment	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
950 Construction	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
200 Supplies	4.0%	\$2,524	\$2,625	\$2,730	\$2,839	\$2,953	\$3,071	\$3,194	\$3,321	\$3,454	\$3,592	\$3,736
299 Assets less than \$5000	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
300 Purchased Services	4.0%	\$7,751	\$8,061	\$8,384	\$8,719	\$9,068	\$9,430	\$9,808	\$10,200	\$10,608	\$11,032	\$11,474
375 Education, Travel, Dues	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
395 Damage Payout	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
State Fee (\$2/connection)	4.0%	\$4,736	\$4,755	\$4,775	\$4,794	\$4,814	\$4,833	\$4,853	\$4,872	\$4,891	\$4,911	\$4,930
Annual Payment to Replacement Fund	0.0%	\$27,294	\$27,294	\$27,294	\$27,294	\$27,294	\$27,294	\$27,294	\$27,294	\$27,294	\$27,294	\$27,294
User Charge Analysis Services	5.0%	\$0	\$6,892	\$0	\$0	\$7,598	\$0	\$0	\$8,377	\$0	\$0	\$9,236
Debt Service	N.A.	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4
Total Operating Costs		\$588,499	\$630,916	\$647,665	\$672,250	\$705,416	\$724,407	\$752,060	\$789,195	\$810,725	\$841,828	\$883,411
Net Income (or Loss)		\$307,570	\$215,795	\$301,688	\$300,096	\$290,473	\$295,606	\$292,591	\$280,699	\$285,035	\$280,345	\$265,827
Working Capital Goal: 35%		In Dollars, That is:	\$205,975	\$220,821	\$226,683	\$235,287	\$246,896	\$253,543	\$263,221	\$276,218	\$283,754	\$294,640

Polson, MT, Water Rates Scenario 2014-3
Table 4 - Capital Improvement Program

This table depicts capital improvements and their funding.

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	Year Starting	This Year Year Starting	Next Year Year Starting	3rd Year Year Starting	4th Year Year Starting	5th Year Year Starting	6th Year Year Starting	7th Year Year Starting	8th Year Year Starting	9th Year Year Starting	10th Year Year Starting
	7/1/12	7/1/13	7/1/14	7/1/15	7/1/16	7/1/17	7/1/18	7/1/19	7/1/20	7/1/21	7/1/22
CIP Spending Plan											
Capital Improvements to be Paid With Debt											
Downtown Water Distribution Project, SRF	\$0	\$0	\$500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WRF ARRA Project, From Prior Year, Borrowed Amount											
\$333,700	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Replace Water Reservoir, SRF	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Capital Improvements to be Paid With Debt	\$0	\$0	\$500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital Improvements to be Paid With Cash											
Downtown Water Distribution Project, RRGL	\$0	\$0	\$100,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Downtown Water Distribution Project, TSEP	\$0	\$0	\$625,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Downtown Water Distribution Project, Local Share	\$0	\$0	\$316,100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Replace Water Reservoir	\$0	\$0	\$0	\$0	\$1,237,350	\$0	\$0	\$0	\$0	\$0	\$0
Water Main Replacements and Other Unspecified Needs	\$0	\$0	\$0	\$135,200	\$140,608	\$146,232	\$152,082	\$158,165	\$164,491	\$171,071	\$177,914
Total Cap Improvements to be Paid With Cash	\$0	\$0	\$1,041,100	\$135,200	\$1,377,958	\$146,232	\$152,082	\$158,165	\$164,491	\$171,071	\$177,914
Total CIP Planned Spending	\$0	\$0	\$1,541,100	\$135,200	\$1,377,958	\$146,232	\$152,082	\$158,165	\$164,491	\$171,071	\$177,914
CIP Funding Plan											
CIP Reserves Carryover Plus Transfers in	\$294,559	\$495,508	\$797,225	\$782,644	\$890,325	-\$237,594	-\$27,186	\$25,307	\$83,944	\$129,931	\$325,165
CIP Reserves Interest Earned (or Paid)	\$0	\$5,891	\$10,028	\$9,823	\$12,229	-\$21,062	-\$12,404	-\$9,696	-\$7,742	-\$5,581	\$1,478
Grants	\$0	\$0	\$725,000	\$0	\$0	\$146,232	\$0	\$0	\$0	\$171,071	\$0
Downtown Water Distribution Project, SRF				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Replace Water Reservoir, SRF					\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total CIP Fund Sources	\$294,559	\$501,399	\$2,032,253	\$792,467	\$902,554	-\$112,424	-\$39,590	\$15,612	\$76,202	\$295,421	\$326,643
CIP Debt Payment Plan											
	Payments for future loans assume 100 percent financing for projects, term of:					20	years and	3.00%	interest		
WRF ARRA - B .75% \$333,700	\$0	\$0	\$0	\$17,942	\$17,823	\$17,702	\$17,583	\$17,462	\$17,343	\$17,223	\$17,102
Downtown Water Distribution Project, SRF				\$27,865	\$33,325	\$33,740	\$33,140	\$33,540	\$33,895	\$33,235	\$33,575
Total Debt Payments	\$0	\$0	\$0	\$45,807	\$51,148	\$51,442	\$50,723	\$51,002	\$51,238	\$50,458	\$50,677
CIP Spending Plus Debt Payments	\$0	\$0	\$1,541,100	\$181,007	\$1,429,106	\$197,674	\$202,805	\$209,167	\$215,729	\$221,529	\$228,591
CIP Reserves Balance	\$294,559	\$501,399	\$491,153	\$611,460	-\$526,553	-\$310,098	-\$242,394	-\$193,555	-\$139,528	\$73,892	\$98,052
Net CIP Spending This Year	\$0	\$0	\$316,100	\$181,007	\$1,429,106	\$51,442	\$202,805	\$209,167	\$215,729	\$50,458	\$228,591

Notes: The City is now executing a water system improvement project, for which it will incur modest debt. It will soon start a water main replacement project, with assumed similar funding sources. It needs to replace the water reservoir. It is assumed that project will be 100% SRF funded. The City completed a water project in a prior year for which it is now paying debt. No other significant water system improvements are anticipated for the next 10 years.

Polson, MT, Water Rates Scenario 2014-3

Table 5 - Capacity Cost Recovery

This table shows tap and capacity fee revenues and costs to expect. From these costs, tap fees and capacity demand charges will be developed in Table 5 and Table 8, respectively.

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(First year figures are actual, subsequent years are projected.)

Infla./De- flation (-) Factor	Year Starting 7/1/12	Year Starting 7/1/13	Year Starting 7/1/14	Year Starting 7/1/15	Year Starting 7/1/16	Year Starting 7/1/17	Year Starting 7/1/18	Year Starting 7/1/19	Year Starting 7/1/20	Year Starting 7/1/21	Year Starting 7/1/22
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Tap Fee Revenues

Customers (Taps) Added During the Year		10	10	10	10	10	10	10	10	10	10	
Weighted Average Tap Fee	2.0%	\$430	\$217	\$627	\$640	\$652	\$666	\$679	\$692	\$706	\$720	\$735
Total Tap Fee Revenues	NA	\$4,301	\$2,167	\$6,271	\$6,397	\$6,525	\$6,655	\$6,788	\$6,924	\$7,062	\$7,204	\$7,348

Operating Costs Associated With Making New Connections

Field Costs for New Connections	4.0%	\$500	\$520	\$541	\$562	\$585	\$608	\$633	\$658	\$684	\$712	\$740
Administration Costs	4.0%	\$250	\$260	\$270	\$281	\$292	\$304	\$316	\$329	\$342	\$356	\$370
Total Direct Costs for New Connections		\$750	\$780	\$811	\$844	\$877	\$912	\$949	\$987	\$1,026	\$1,067	\$1,110

Note: These costs should be recovered by fees charged for making new taps (usually called, "tap fees") regardless of the demand capacity (generally size) of each new tap made.

Net Tap Fee Revenues

Revenues Net of Operating Costs		\$3,551	\$1,387	\$5,460	\$5,553	\$5,647	\$5,743	\$5,839	\$5,937	\$6,036	\$6,136	\$6,238
Cum Rev Net of Operating Costs		\$3,551	\$4,938	\$10,398	\$15,951	\$21,598	\$27,341	\$33,180	\$39,117	\$45,153	\$51,289	\$57,527

Note: Connection charges should almost always cover at least the operating costs to make connections. Thus, cumulative revenues net of operating costs (immediately above) should be positive.

Annualized Capacity Cost (Depreciation)

	Total Fixed Assets Book Value	% of Total Attributable to Capacity	Capacity Cost	Annualized Capacity Cost (see Note)
Existing System	\$9,522,223	50.0%	\$4,761,111	\$277,469
Totals	\$9,522,223	50.0%	\$4,761,111	\$277,469

Capital Costs Attributable to Growth and Capacity Development (Debt Service, Cash-paid Capital Improvements and/or Depreciation)

Target % to Recover From Tap Fees, (Table 9):	5%
Target % to Recover From Capacity Charges, (Table 10):	75%

Note: Capacity and connection costs WILL be recovered in one way by default, or a combination of ways by design: through regular user fees, in which case existing customers pay the costs to bring on new customers; through "tap" or connection fees, in which case new customers pay "up front" for the costs they cause the system to incur; through on-going demand or capacity charges, preferably based upon meter or connection size, in which case all customers pay for the capacity costs they cause over time; or some combination of these.

Polson, MT, Water Rates Scenario 2014-3

Table 6 - Indicators

This table depicts the affordability of future rates, the financial health of the system and the ending balances in various accounts for the test year and the next 10 years.

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	Year Starting 7/1/12	Year Starting 7/1/13	Year Starting 7/1/14	Year Starting 7/1/15	Year Starting 7/1/16	Year Starting 7/1/17	Year Starting 7/1/18	Year Starting 7/1/19	Year Starting 7/1/20	Year Starting 7/1/21	Year Starting 7/1/22	
Capacity Indicators												
Equivalent Final Monthly Bill for a 5,000 gal per Month Residential User	\$13.93	\$22.87	\$23.33	\$23.80	\$24.27	\$24.76	\$25.25	\$25.76	\$26.27	\$26.80	\$27.34	
Annual Median Household Income (AMHI)	\$32,978	\$34,501	\$36,094	\$37,760	\$39,504	\$41,328	\$43,236	\$45,233	\$47,321	\$49,506	\$51,792	
Affordability Index for Proposed Rates	0.51%	0.80%	0.78%	0.76%	0.74%	0.72%	0.70%	0.68%	0.67%	0.65%	0.63%	
Affordability Index is the percent of AMHI needed by a 5,000 gallon per month residential user to pay their bill. Rates near 1.0% are common in the U.S. and are generally considered affordable. Federal grant agencies generally will not consider awarding grants if this indicator is less than 2.0%.												
Estimated Operating Ratio for Proposed Rates	1.74	2.18	1.44	2.19	1.52	0.96	1.20	1.28	1.33	1.38	1.57	
1.0 is break even for Operating Ratio. Below 1.0 indicates operating in the "red." Generally, the operating ratio should be at least 1.15 for large systems, 1.30 or more for medium systems and perhaps as high as 2.0 for small systems.												
Estimated Coverage Ratio for Proposed Rates	N.A.	N.A.	N.A.	24.76	0.25	4.59	6.17	7.36	8.53	13.09	13.80	
Coverage Ratio applies only to years with debt service. 1.0 is break even. Generally, the coverage ratio should be at least 1.25.												
Reserves	Balance Ending on 6/30/12	Balance Ending on 6/30/13	Balance Ending on 6/30/14	Balance Ending on 6/30/15	Balance Ending on 6/30/16	Balance Ending on 6/30/17	Balance Ending on 6/30/18	Balance Ending on 6/30/19	Balance Ending on 6/30/20	Balance Ending on 6/30/21	Balance Ending on 6/30/22	Balance Ending on 6/30/23
Current Position (Working Capital)	\$155,922	\$205,975	\$220,821	\$226,683	\$235,287	\$246,896	\$253,543	\$263,221	\$276,218	\$283,754	\$294,640	\$309,194
CIP Reserves	\$37,042	\$294,559	\$501,399	\$491,153	\$611,460	-\$526,553	-\$310,098	-\$242,394	-\$193,555	-\$139,528	\$73,892	\$98,052
Cash Impact Fee/Restricted	\$241,603	\$241,467	\$241,467	\$241,467	\$241,467	\$241,467	\$241,467	\$241,467	\$241,467	\$241,467	\$241,467	\$241,467
Total Cash Assets (Excluding Dedicated Reserves) Before Inflation	\$434,566	\$742,001	\$963,687	\$959,303	\$1,088,215	-\$38,189	\$184,912	\$262,294	\$324,130	\$385,693	\$610,000	\$648,713
Total Cash Assets (Excluding Dedicated Reserves) Discounted for Inflation (Future Unrestricted Purchasing Power)	\$434,566	\$742,001	\$963,687	\$920,931	\$1,002,899	-\$43,165	\$157,055	\$213,867	\$253,716	\$289,828	\$440,047	\$449,256
Replacement Fund	\$837,371	\$818,773	\$825,683	\$831,260	\$835,420	\$838,073	\$839,125	\$838,477	\$836,028	\$831,669	\$825,289	\$816,768
Debt Service Reserves	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sum of All Reserves	\$1,271,937	\$1,560,774	\$1,789,370	\$1,790,563	\$1,923,635	\$799,883	\$1,024,037	\$1,100,771	\$1,160,159	\$1,217,363	\$1,435,288	\$1,465,482

Polson, MT, Water Rates Scenario 2014-3

Table 7 - Old Rates, New Rates and Changes

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This table compares bills for various volumes at the current rates and billing frequency with what the same volumes would cost at the equivalent proposed rates for that same billing frequency. (An "apples to apples" comparison.) If surcharges were calculated for these same classes of users, these bills include those surcharges. Otherwise, surcharges are not included in this comparison, they are shown in Table 8 and they are discussed in the narrative report.

	Class Bottom Use in Gallons	Class Top Use in Gallons	Median or Actual Average use in 1,000 Gallons	Customers in Each Volume Group	Cumulative Customers in This Rate Class	Current Average Bill, Paid Monthly	Proposed Average, Same Time Period	Bill Increase or Decrease (-) After Rate Adjustment	Percent Increase or Decrease (-) After Rate Adjustment
3/4" Residential	0	999	0.000	221	221	\$13.93	\$18.08	\$4.15	30%
	1,000	1,999	1.000	194	415	\$13.93	\$18.08	\$4.15	30%
	2,000	2,999	2.000	268	683	\$13.93	\$18.08	\$4.15	30%
	3,000	3,999	3.000	275	959	\$13.93	\$19.67	\$5.74	41%
	4,000	4,999	4.000	228	1,186	\$13.93	\$21.27	\$7.34	53%
	5,000	5,999	5.000	163	1,349	\$13.93	\$22.87	\$8.94	64%
	6,000	6,999	6.000	108	1,457	\$16.72	\$24.95	\$8.23	49%
	7,000	7,999	7.000	84	1,541	\$19.50	\$27.02	\$7.52	39%
	8,000	8,999	8.000	59	1,600	\$22.29	\$29.10	\$6.81	31%
	9,000	9,999	9.000	41	1,641	\$25.08	\$31.17	\$6.09	24%
	10,000	14,999	10.000	34	1,675	\$27.87	\$33.25	\$5.38	19%
	15,000	19,999	13.268	103	1,778	\$41.81	\$50.96	\$9.15	22%
	20,000	24,999	19.787	31	1,808	\$66.45	\$74.81	\$8.36	13%
	25,000	29,999	24.806	20	1,828	\$97.25	\$93.27	-\$3.98	-4%
	30,000	34,999	29.807	13	1,842	\$127.94	\$111.67	-\$16.27	-13%
	35,000	39,999	34.504	10	1,852	\$158.62	\$130.06	-\$28.56	-18%
	40,000	44,999	39.585	7	1,859	\$191.10	\$149.53	-\$41.56	-22%
	45,000	49,999	44.844	4	1,862	\$223.09	\$168.71	-\$54.38	-24%
	50,000	59,999	49.920	2	1,864	\$253.55	\$186.97	-\$66.58	-26%
	60,000	69,999	54.571	1	1,866	\$313.12	\$222.68	-\$90.44	-29%
70,000	79,999	59.313	1	1,867	\$404.30	\$277.34	-\$126.95	-31%	
80,000	89,999	64.929	1	1,868	\$526.55	\$350.63	-\$175.92	-33%	
90,000	99,999	69.667	1	1,869	\$674.72	\$439.46	-\$235.26	-35%	
100,000	109,999	75.571	1	1,869	\$853.98	\$546.92	-\$307.06	-36%	
110,000	119,999	78.500	0	1,870	\$1,057.45	\$668.90	-\$388.55	-37%	
120,000	129,999	85.333	0	1,870	\$1,302.71	\$815.93	-\$486.79	-37%	
130,000	99,999,999	112.667	1	1,871	\$1,566.68	\$974.17	-\$592.51	-38%	
1" Residential	0	999	0.000	2	2	\$19.54	\$18.08	-\$1.46	-7%
	1,000	1,999	1.000	3	5	\$19.54	\$18.08	-\$1.46	-7%
	2,000	2,999	2.000	1	6	\$19.54	\$18.08	-\$1.46	-7%
	3,000	3,999	3.000	1	7	\$19.54	\$19.67	\$0.13	1%
	4,000	4,999	4.000	0	7	\$19.54	\$21.27	\$1.73	9%
	5,000	5,999	5.000	2	9	\$19.54	\$22.87	\$3.33	17%
	6,000	6,999	6.000	3	12	\$22.33	\$24.47	\$2.14	10%
	7,000	7,999	7.000	1	13	\$25.11	\$26.06	\$0.95	4%
	8,000	8,999	8.000	1	14	\$27.90	\$27.66	-\$0.24	-1%
	9,000	9,999	9.000	1	14	\$30.69	\$29.26	-\$1.43	-5%
	10,000	14,999	11.679	5	19	\$38.16	\$34.34	-\$3.82	-10%
	15,000	19,999	16.630	2	21	\$53.39	\$44.63	-\$8.76	-16%
	20,000	24,999	21.571	1	22	\$75.01	\$54.90	-\$20.11	-27%
	25,000	29,999	27.667	1	22	\$111.02	\$71.47	-\$39.55	-36%
	130,000	99,999,999	202.000	0	24	\$1,141.26	\$689.08	-\$452.18	-40%

	Class Bottom Use in Gallons	Class Top Use in Gallons	Median or Actual Average use in 1,000 Gallons	Customers in Each Volume Group	Cumulative Customers in This Rate Class	Current Average Bill, Paid Monthly	Proposed Average, Same Time Period	Bill Increase or Decrease (-) After Rate Adjustment	Increase or Decrease (-) After Rate Adjustment
3/4" Com & Res/Com	0	999	0.000	63	63	\$16.80	\$18.08	\$1.28	8%
	1,000	1,999	1.000	54	117	\$16.80	\$18.08	\$1.28	8%
	2,000	2,999	2.000	37	154	\$16.80	\$18.08	\$1.28	8%
	3,000	3,999	3.000	24	178	\$16.80	\$19.67	\$2.87	17%
	4,000	4,999	4.000	19	197	\$16.80	\$21.27	\$4.47	27%
	5,000	5,999	5.000	17	214	\$16.80	\$22.87	\$6.07	36%
	6,000	6,999	6.000	14	228	\$20.15	\$24.95	\$4.80	24%
	7,000	7,999	7.000	11	239	\$23.49	\$27.02	\$3.53	15%
	8,000	8,999	8.000	11	250	\$26.84	\$29.10	\$2.26	8%
	9,000	9,999	9.000	9	259	\$30.19	\$31.17	\$0.99	3%
	10,000	14,999	11.620	29	288	\$38.96	\$38.99	\$0.03	0%
	15,000	19,999	16.681	12	300	\$55.91	\$56.92	\$1.01	2%
	20,000	24,999	21.705	8	308	\$72.74	\$74.71	\$1.97	3%
	25,000	29,999	26.615	3	312	\$89.18	\$92.11	\$2.92	3%
	30,000	34,999	31.783	2	313	\$106.49	\$110.41	\$3.92	4%
	35,000	39,999	37.167	2	315	\$124.52	\$129.48	\$4.96	4%
	40,000	44,999	42.000	1	316	\$140.71	\$146.60	\$5.89	4%
45,000	49,999	46.833	1	316	\$156.90	\$163.72	\$6.82	4%	
130,000	99,999,999	1,094.750	0	318	\$3,667.39	\$3,876.40	\$209.01	6%	
1" Com & Res/Com	0	999	0.000	8	8	\$22.39	\$25.60	\$3.21	14%
	1,000	1,999	1.000	4	12	\$22.39	\$25.60	\$3.21	14%
	2,000	2,999	2.000	6	17	\$22.39	\$25.60	\$3.21	14%
	3,000	3,999	3.000	4	22	\$22.39	\$27.19	\$4.80	21%
	4,000	4,999	4.000	3	25	\$22.39	\$28.79	\$6.40	29%
	5,000	5,999	5.000	3	28	\$22.39	\$30.39	\$8.00	36%
	6,000	6,999	6.000	3	31	\$25.74	\$31.99	\$6.25	24%
	7,000	7,999	7.000	3	34	\$29.08	\$33.58	\$4.50	15%
	8,000	8,999	8.000	2	36	\$32.43	\$35.18	\$2.75	8%
	9,000	9,999	9.000	3	38	\$35.78	\$36.78	\$1.00	3%
	10,000	14,999	12.048	12	50	\$45.98	\$42.63	-\$3.35	-7%
	15,000	19,999	16.908	8	58	\$62.26	\$52.73	-\$9.53	-15%
	20,000	24,999	21.674	4	62	\$78.23	\$62.63	-\$15.59	-20%
	25,000	29,999	26.750	3	65	\$95.23	\$75.74	-\$19.48	-20%
	30,000	34,999	31.609	2	67	\$111.50	\$92.95	-\$18.55	-17%
	35,000	39,999	37.000	1	69	\$129.56	\$112.05	-\$17.51	-14%
	40,000	44,999	41.850	2	70	\$145.80	\$129.23	-\$16.57	-11%
45,000	49,999	46.563	1	72	\$161.58	\$145.92	-\$15.66	-10%	
50,000	59,999	55.900	2	73	\$192.86	\$179.00	-\$13.86	-7%	
60,000	69,999	63.333	1	74	\$217.76	\$205.33	-\$12.43	-6%	
70,000	79,999	73.667	1	74	\$252.37	\$241.94	-\$10.43	-4%	
80,000	89,999	84.625	1	75	\$289.08	\$280.76	-\$8.32	-3%	
130,000	99,999,999	191.455	1	77	\$646.94	\$659.23	\$12.29	2%	

	Class Bottom Use in Gallons	Class Top Use in Gallons	Median or Average use in 1,000 Gallons	Customers in Each Volume Group	Cumulative Customers in This Rate Class	Current Average Bill, Paid Monthly	Proposed Average, Same Time Period	Bill Increase or Decrease (-) After Rate Adjustment	Increase or Decrease (-) After Rate Adjustment
1.5" Com & Res/Com	0	999	0.000	5	5	\$52.78	\$41.02	-\$11.76	-22%
	1,000	1,999	1.000	1	6	\$52.78	\$41.02	-\$11.76	-22%
	2,000	2,999	2.000	1	7	\$52.78	\$41.02	-\$11.76	-22%
	6,000	6,999	6.000	1	8	\$52.78	\$47.41	-\$5.37	-10%
	7,000	7,999	7.000	1	10	\$52.78	\$49.01	-\$3.77	-7%
	8,000	8,999	8.000	2	12	\$52.78	\$50.60	-\$2.18	-4%
	9,000	9,999	9.000	2	14	\$52.78	\$52.20	-\$0.58	-1%
	10,000	14,999	11.300	4	18	\$52.78	\$55.88	\$3.10	6%
	15,000	19,999	16.813	3	21	\$58.85	\$64.69	\$5.84	10%
	20,000	24,999	22.091	2	23	\$76.53	\$73.12	-\$3.41	-4%
	25,000	29,999	26.750	2	25	\$92.14	\$80.57	-\$11.56	-13%
	30,000	34,999	31.813	1	26	\$109.09	\$89.53	-\$19.56	-18%
	35,000	39,999	37.000	2	28	\$126.47	\$100.31	-\$26.16	-21%
	40,000	44,999	41.824	1	29	\$142.62	\$110.33	-\$32.29	-23%
	45,000	49,999	47.250	1	30	\$160.80	\$121.61	-\$39.19	-24%
	50,000	59,999	54.080	2	32	\$183.67	\$135.80	-\$47.87	-26%
	60,000	69,999	63.615	1	33	\$215.61	\$160.91	-\$54.70	-25%
	70,000	79,999	74.368	2	35	\$251.63	\$199.01	-\$52.63	-21%
	80,000	89,999	83.667	1	36	\$282.78	\$231.95	-\$50.83	-18%
	90,000	99,999	94.600	0	36	\$319.40	\$270.68	-\$48.72	-15%
100,000	109,999	103.818	1	37	\$350.28	\$303.33	-\$46.95	-13%	
110,000	119,999	113.583	1	38	\$382.99	\$337.93	-\$45.06	-12%	
120,000	129,999	124.750	1	39	\$420.40	\$377.49	-\$42.91	-10%	
130,000	99,999,999	189.720	4	43	\$638.04	\$607.67	-\$30.37	-5%	
2" Com & Res/Com	0	999	0.000	4	4	\$62.72	\$62.62	-\$0.10	0%
	1,000	1,999	1.000	1	4	\$62.72	\$62.62	-\$0.10	0%
	2,000	2,999	2.000	0	4	\$62.72	\$62.62	-\$0.10	0%
	3,000	3,999	3.000	1	5	\$62.72	\$64.21	\$1.49	2%
	10,000	14,999	11.700	1	7	\$62.72	\$78.11	\$15.39	25%
	15,000	19,999	18.000	0	8	\$62.72	\$88.18	\$25.46	41%
	20,000	24,999	22.333	0	8	\$70.54	\$95.11	\$24.57	35%
	25,000	29,999	28.333	0	8	\$90.63	\$104.70	\$14.06	16%
	30,000	34,999	31.000	0	9	\$99.56	\$108.96	\$9.40	9%
	35,000	39,999	37.000	0	9	\$119.66	\$118.55	-\$1.11	-1%
	40,000	44,999	41.429	1	9	\$134.49	\$125.63	-\$8.87	-7%
	45,000	49,999	47.400	0	10	\$154.49	\$135.17	-\$19.32	-13%
	50,000	59,999	55.300	1	11	\$180.95	\$150.34	-\$30.61	-17%
	60,000	69,999	66.667	1	11	\$219.03	\$173.96	-\$45.07	-21%
	70,000	79,999	76.000	0	12	\$250.29	\$193.36	-\$56.94	-23%
	80,000	89,999	84.889	1	12	\$280.07	\$211.83	-\$68.24	-24%
	90,000	99,999	94.556	1	13	\$312.45	\$231.92	-\$80.53	-26%
	100,000	109,999	104.917	1	14	\$347.15	\$260.65	-\$86.50	-25%
	110,000	119,999	113.769	1	15	\$376.81	\$292.01	-\$84.80	-23%
	120,000	129,999	121.750	0	15	\$403.54	\$320.28	-\$83.26	-21%
130,000	99,999,999	269.806	3	18	\$899.52	\$844.83	-\$54.69	-6%	

	Class Bottom Use in Gallons	Class Top Use in Gallons	Median or Average use in 1,000 Gallons	Customers in Each Volume Group	Cumulative Customers in This Rate Class	Current Average Bill, Paid Monthly	Proposed Average, Same Time Period	Bill Increase or Decrease (-) After Rate Adjustment	Increase or Decrease (-) After Rate Adjustment
3" Com & Res/Com	0	999	0.000	3	3	\$125.44	\$124.31	-\$1.13	-1%
	1,000	1,999	1.500	0	3	\$125.44	\$124.31	-\$1.13	-1%
	2,000	2,999	2.000	0	3	\$125.44	\$124.31	-\$1.13	-1%
	6,000	6,999	6.500	0	3	\$125.44	\$131.50	\$6.06	5%
	10,000	10,999	10.333	0	4	\$125.44	\$137.62	\$12.18	10%
	11,000	17,999	16.167	1	5	\$125.44	\$146.95	\$21.51	17%
	18,000	22,999	22.000	0	5	\$125.44	\$156.27	\$30.83	25%
	43,000	47,999	49.000	0	6	\$125.44	\$200.23	\$74.79	60%
	48,000	52,999	52.000	0	6	\$132.14	\$206.62	\$74.48	56%
	53,000	57,999	63.833	1	6	\$171.78	\$225.54	\$53.76	31%
	58,000	62,999	74.500	1	7	\$227.05	\$251.92	\$24.86	11%
	63,000	67,999	87.500	0	7	\$309.13	\$291.09	-\$18.04	-6%
	68,000	72,999	94.750	0	8	\$398.74	\$333.85	-\$64.89	-16%
	73,000	77,999	104.500	1	8	\$504.27	\$384.21	-\$120.06	-24%
	78,000	119,999	115.111	1	9	\$628.59	\$443.54	-\$185.05	-29%
	120,000	239,999	125.667	0	9	\$663.95	\$463.13	-\$200.82	-30%
240,000	99,999,999	354.290	3	12	\$1,429.83	\$1,105.66	-\$324.17	-23%	
4" Com & Res/Com	0	999	0.500	0.0	0	\$215.07	\$210.69	-\$4.38	-2%
	10,000	14,999	12.000	0.1	0	\$215.07	\$226.67	\$11.60	5%
	15,000	19,999	17.500	0.0	0	\$215.07	\$235.46	\$20.39	9%
	20,000	24,999	22.500	0.0	0	\$215.07	\$243.45	\$28.38	13%
	25,000	29,999	27.500	0.0	0	\$215.07	\$251.44	\$36.37	17%
	30,000	34,999	31.000	0.2	0	\$215.07	\$257.03	\$41.96	20%
	35,000	39,999	37.500	0.0	0	\$215.07	\$267.42	\$52.35	24%
	40,000	44,999	42.500	0.0	0	\$215.07	\$275.42	\$60.35	28%
	45,000	49,999	47.500	0.0	0	\$215.07	\$283.41	\$68.34	32%
	50,000	59,999	51.333	0.3	1	\$215.07	\$289.53	\$74.46	35%
	60,000	69,999	65.625	0.7	1	\$215.07	\$312.38	\$97.31	45%
	70,000	79,999	74.667	0.3	1	\$215.07	\$326.83	\$111.76	52%
	80,000	89,999	82.000	0.3	2	\$215.07	\$338.56	\$123.49	57%
	90,000	99,999	90.000	0.1	2	\$215.07	\$351.34	\$136.27	63%
	100,000	109,999	105.000	0.1	2	\$215.07	\$375.32	\$160.25	75%
	110,000	209,999	151.077	1.1	3	\$302.43	\$448.98	\$146.55	48%
210,000	434,999	322.500	0.0	3	\$876.69	\$776.98	-\$99.71	-11%	
435,000	99,999,999	50,217.500	0.0	3	\$168,024.94	\$177,387.25	\$9,362.31	6%	
6" Com & Res/Com	0	999	0.000	1	1	\$215.07	\$457.49	\$242.42	113%
	1,000	1,999	1.000	1	1	\$215.07	\$457.49	\$242.42	113%
	10,000	14,999	12.500	0	2	\$215.07	\$474.26	\$259.19	121%
	45,000	49,999	47.500	0	2	\$215.07	\$530.20	\$315.13	147%
	100,000	109,999	105.000	0	2	\$215.07	\$622.11	\$407.04	189%
	110,000	484,999	298.500	0	2	\$796.30	\$931.46	\$135.16	17%
	485,000	974,999	654.000	0	2	\$1,987.22	\$1,580.83	-\$406.38	-20%
	975,000	99,999,999	985.000	0	2	\$3,096.06	\$2,283.39	-\$812.68	-26%

	Class Bottom Use in Gallons	Class Top Use in Gallons	Median or Actual Average use in 1,000 Gallons	Customers in Each Volume Group	Cumulative Customers in This Rate Class	Current Average Bill, Paid Monthly	Proposed Average, Same Time Period	Bill Increase or Decrease (-) After Rate Adjustment	Increase or Decrease (-) After Rate Adjustment
6"	0	999	0.000	0	0	\$215.07	\$457.49	\$242.42	113%
	15,000	19,999	17.600	0	0	\$215.07	\$482.41	\$267.34	124%
	50,000	59,999	52.000	0	0	\$215.07	\$537.39	\$322.32	150%
	60,000	69,999	63.000	0	0	\$215.07	\$554.98	\$339.91	158%
	70,000	79,999	75.000	0	0	\$215.07	\$574.16	\$359.09	167%
	80,000	89,999	80.000	0	0	\$215.07	\$582.15	\$367.08	171%
	90,000	99,999	95.000	0	0	\$215.07	\$606.13	\$391.06	182%
	100,000	109,999	105.000	0	0	\$215.07	\$622.11	\$407.04	189%
	110,000	484,999	115.000	0	0	\$215.07	\$638.10	\$423.03	197%
	485,000	974,999	125.000	0	0	\$1,421.07	\$1,229.61	-\$191.46	-13%
	975,000	99,999,999	50,487.500	0	0	\$170,135.44	\$178,416.00	\$8,280.56	5%
Commercial	0	999	0.500	0	0	\$16.80	\$25.60	\$8.80	52%
	4,000	4,999	4.500	0	0	\$16.80	\$29.59	\$12.79	76%
	7,000	7,999	7.500	0	0	\$16.80	\$34.38	\$17.58	105%
	10,000	14,999	12.500	0	0	\$16.80	\$43.57	\$26.77	159%
	15,000	19,999	17.500	0	0	\$16.80	\$53.96	\$37.16	221%
	20,000	24,999	22.500	0	0	\$16.80	\$64.35	\$47.55	283%
	25,000	29,999	27.500	0	0	\$16.80	\$78.40	\$61.60	367%
	30,000	34,999	32.500	0	0	\$16.80	\$96.11	\$79.31	472%
	50,000	59,999	55.000	0	0	\$16.80	\$175.81	\$159.01	946%
	100,000	109,999	105.000	0	0	\$16.80	\$352.94	\$336.14	2001%
Sprinkler Low	0	999	0.000	14	14	\$18.28	\$19.74	\$1.46	8%
	120,000	239,999	180.000	0	14	\$18.28	\$19.74	\$1.46	8%
	240,000	99,999,999	50,120.000	0	14	\$18.28	\$19.74	\$1.46	8%
Sprinkler Med	0	999	0.000	51	51	\$24.43	\$26.38	\$1.95	8%
	120,000	239,999	180.000	0	51	\$24.43	\$26.38	\$1.95	8%
	240,000	99,999,999	50,120.000	0	51	\$24.43	\$26.38	\$1.95	8%
Sprinkler High	0	999	0.000	4	4	\$36.64	\$39.57	\$2.93	8%
	120,000	239,999	180.000	0	4	\$36.64	\$39.57	\$2.93	8%
	240,000	99,999,999	50,120.000	0	4	\$36.64	\$39.57	\$2.93	8%

Chart 1 - Operating Ratio

Polson, MT

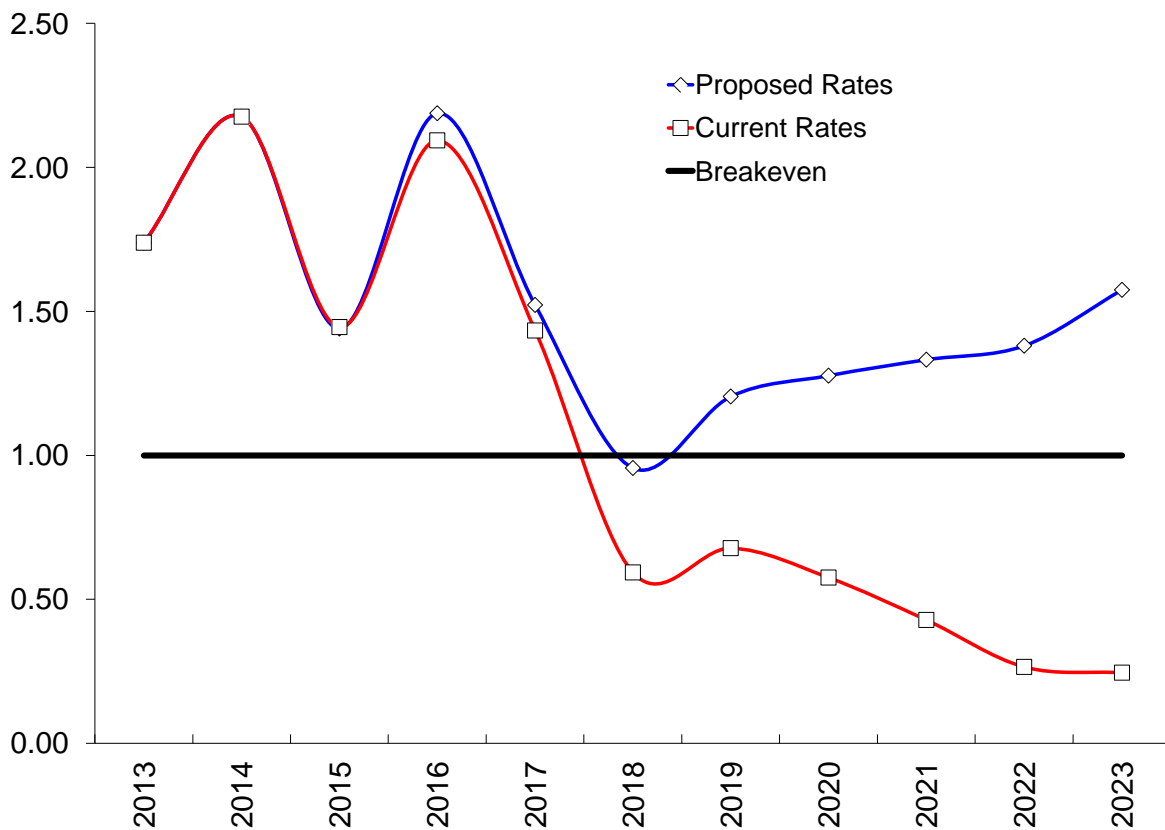


Chart 2 - Coverage Ratio

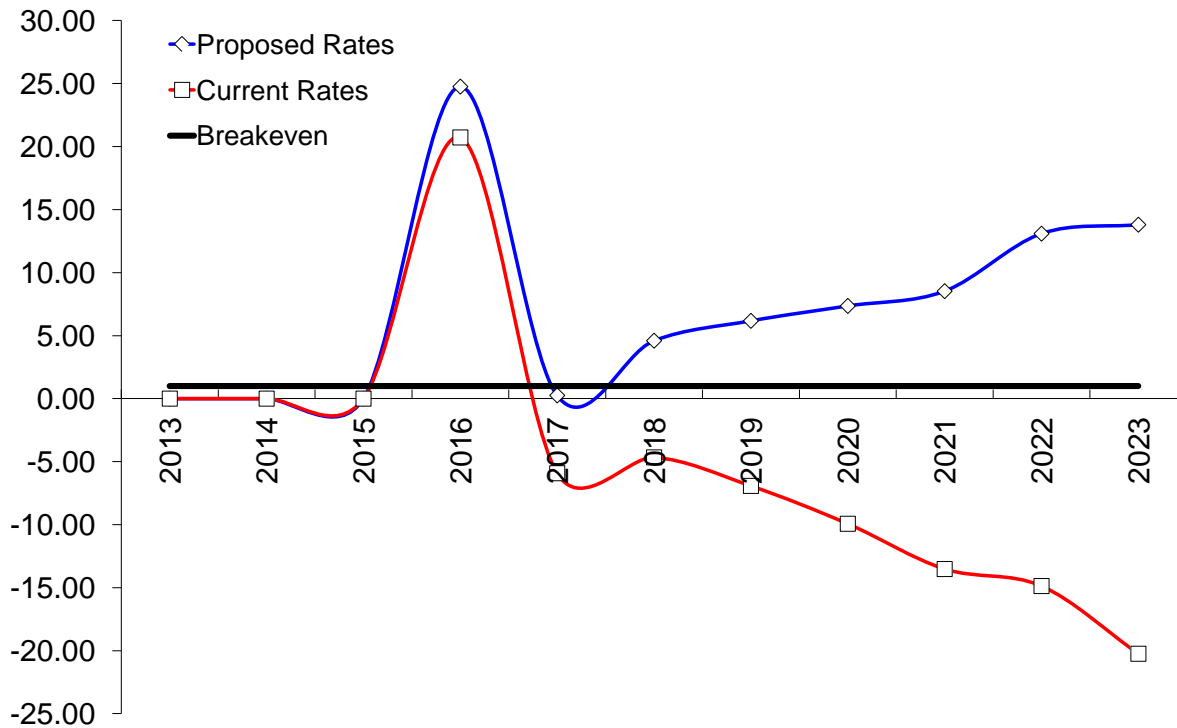


Chart 3 - 5,000 Gal Residential User's Bill

Polson, MT

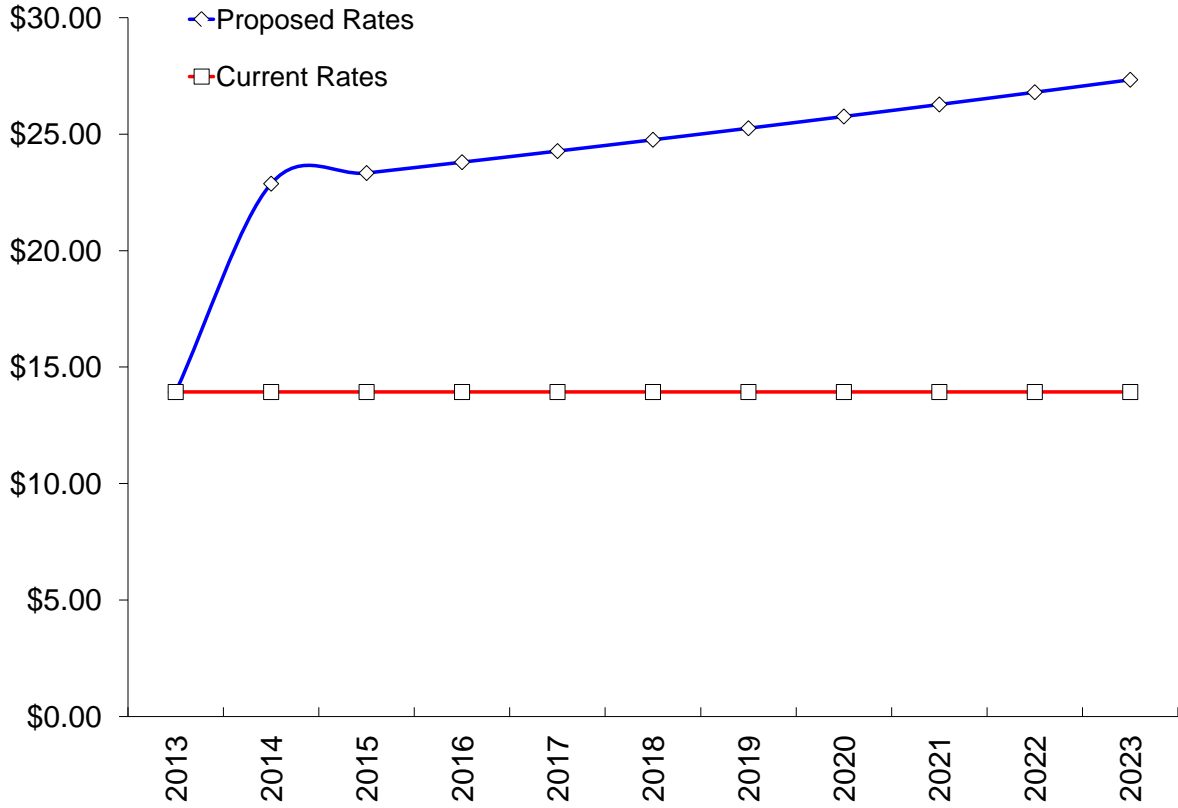


Chart 4 - Affordability Index

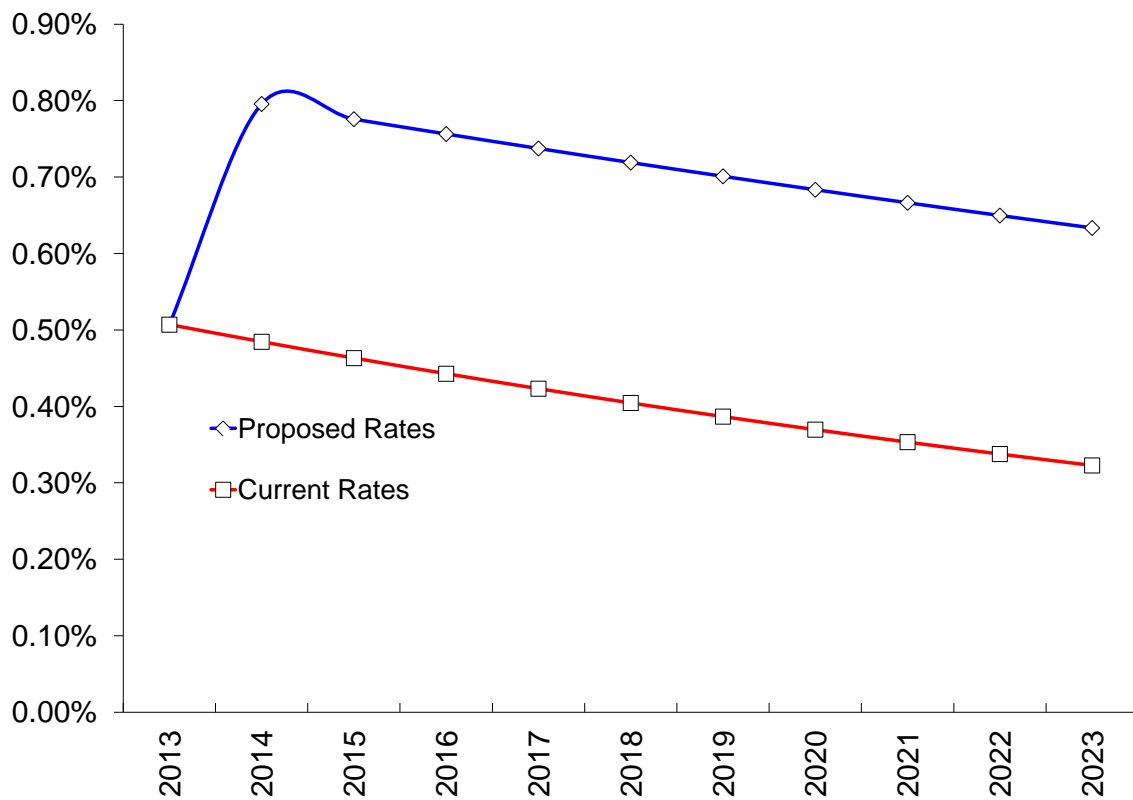


Chart 5 - Working Capital vs Goal

Polson, MT

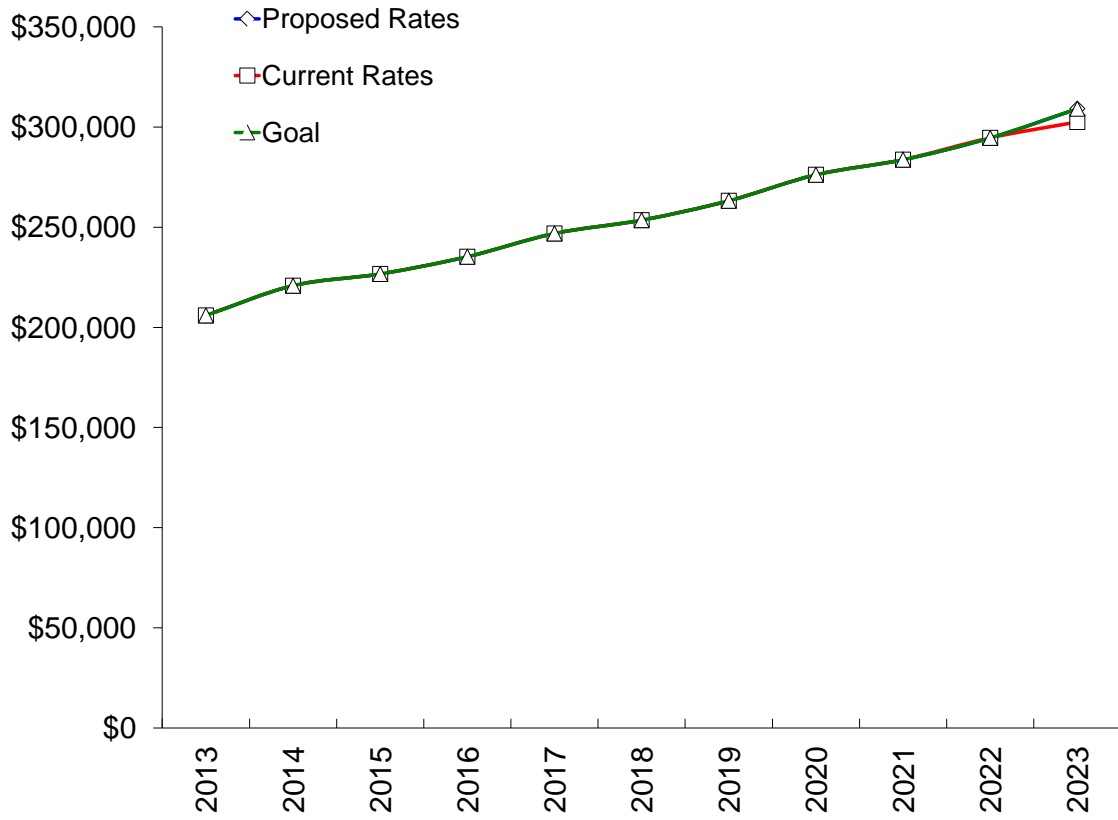


Chart 6 - Value of Cash Assets Before Inflation

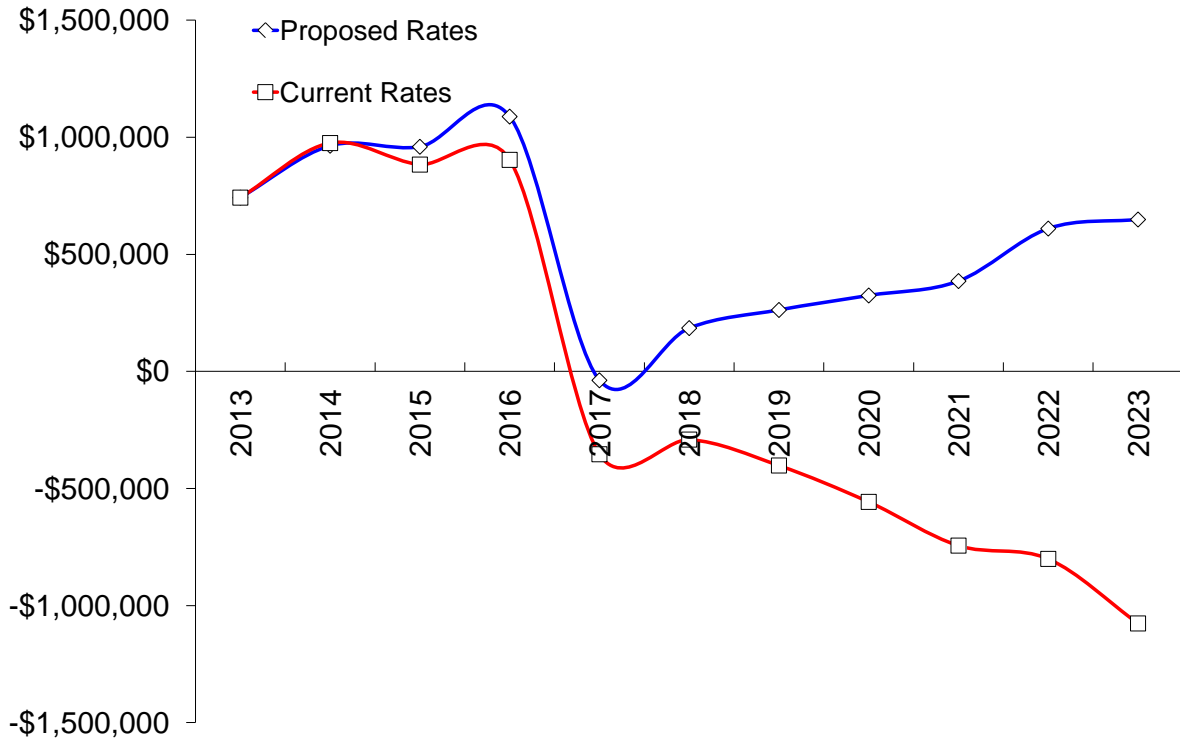
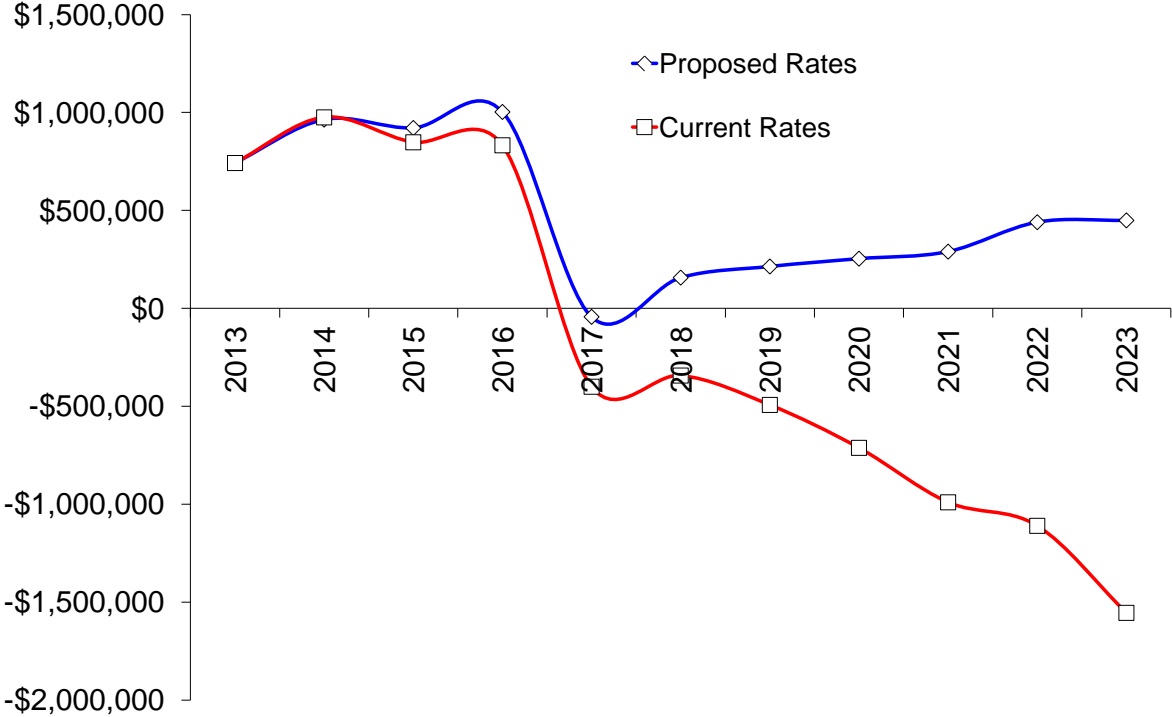


Chart 7 - Value of Cash Assets After Inflation

Polson, MT



Polson, MT, Water Rates Scenario 2014-3

Table 9 - Meter-size Based Tap Fees

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This table calculates tap fees to charge each meter size and total tap fee revenues that would be generated during one full year following initial adjustment.

Class Name	Mix of New Taps in a Typical Year	Meter Size in Square Inches	This Meter is Times Bigger Than a Five Eighths Meter	Percentage This Meter Size is of Average Meter Size	Total Square Inch Capacity of New Meters in Each Class	Capacity Cost Each Meter Size	Economy of Scale Savings Factor	Average Fixed Costs	Total Tap Fee for Each Meter Size	Full-year Tap Fee Income From Each Size Class	
Five Eighths	0.00	0.307	1.000	26%	0.000	\$311	100%	\$78	\$389	\$0	
Three Quarters	9.00	0.307	1.000	26%	2.761	\$311	100%	\$78	\$389	\$3,505	
One Inch	0.00	0.785	2.560	67%	0.000	\$797	93%	\$78	\$819	\$0	
One & a Half Inch	0.00	1.767	5.760	150%	0.000	\$1,794	86%	\$78	\$1,630	\$0	
Two Inch	1.00	3.142	10.240	266%	3.142	\$3,189	80%	\$78	\$2,643	\$2,643	
Three Inch	0.00	7.069	23.040	599%	0.000	\$7,176	75%	\$78	\$5,446	\$0	
Four Inch	0.00	12.566	40.960	1064%	0.000	\$12,757	70%	\$78	\$8,953	\$0	
Five Inch	0.00	19.635	64.000	1663%	0.000	\$19,932	65%	\$78	\$12,974	\$0	
Six Inch	0.00	28.274	92.160	2395%	0.000	\$28,703	60%	\$78	\$17,348	\$0	
Seven Inch	0.00	38.485	125.440	3260%	0.000	\$39,068	56%	\$78	\$21,940	\$0	
Eight Inch	0.00	50.266	163.840	4258%	0.000	\$51,027	52%	\$78	\$26,633	\$0	
Nine Inch	0.00	63.617	207.360	5389%	0.000	\$64,581	48%	\$78	\$31,334	\$0	
Ten Inch	0.00	78.540	256.000	6653%	0.000	\$79,730	45%	\$78	\$35,965	\$0	
Total New Meters:	10.00										
									Projected Tap Fees for One Full Year Following Initial Adjustment		\$6,148
									Prorated Tap Fees		\$17
(This is the full-year tap fee total, then adjusted to account for time of year when rates will be adjusted initially. This amount is included in Table 2 and called, "Meter-size Based Tap Fees.")											
Economy of Scale Savings Factor:	7.0%	Total Capacity Costs to Recover From Tap Fees This Year (Table 4)				\$11,984	Capacity Cost to Recover per Square Inch of Meter				\$1,015

Notes:

Because growth rates and meter sizes to be installed in future years cannot be predicted with certainty, tap fee revenues are also uncertain. However, the projections above are based upon historical growth and meter sizes so they should be reasonable projections. Generally, tap fees should only be used to pay for capital improvements so there is time to make adjustments in fee levels.

Economy of Scale Savings Factor - Generally the cost of infrastructure to serve a customer does not go up as quickly as their capacity (meter size) goes up. That is called economy of scale. This value is an estimate of the economy of scale the system enjoys as meter size goes up. Generally this factor should be no more than about 7%.

In the interest of simplicity, 3/4 inch meters, which are usually residential meters, may have been calculated at the 5/8 inch meter capacity for tap fee calculation purposes.

Polson, MT, Water Rates Scenario 2014-3

Table 10 - Capacity Charges Based on Meter Size

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This table depicts minimum charges that are commensurate with the potential of each customer, based on their connection or meter size, to place flow demands on the system. For simplicity, all five-eighths and three-quarter inch meters (generally residential) are assumed to have the same flow capacity and will pay the same capacity surcharges.

Class Name	Meter Size in Inches	Meter Size in Square Inches	Number Meters This Size	Total Square Inch Capacity Each Meter Size Group	Total Potential Demand of a Meter This Size	Capacity Charge per Meter per Billing Period	Charge Modifying Factor ¹	Adjusted Capacity & Usage Allowance Costs per Meter per Billing Period	New Minimum Charge Base Rate	Total Minimum Charge per Billing Period ²	Total Annual Capacity Surcharge Fees by Meter Size ³	"Snow Bird" Fee	Out of City Surcharge Factor		
Five Eighths	0.625	0.307	0	0	\$58	\$4.82	100%	\$8.02	\$10.06	\$18.08	\$0	\$9.01	100%		
Three Quarters	0.750	0.307	2,189	672	\$58	\$4.82	100%	\$8.02	\$10.06	\$18.08	\$210,604	\$9.01	100%		
One Inch	1.000	0.785	101	79	\$148	\$12.34	100%	\$15.54	\$10.06	\$25.60	\$18,831	\$16.53	100%		
One & a Half Inch	1.500	1.767	43	76	\$333	\$27.76	100%	\$30.96	\$10.06	\$41.02	\$15,976	\$31.95	100%		
Two Inch	2.000	3.142	18	57	\$592	\$49.36	100%	\$52.56	\$10.06	\$62.62	\$11,352	\$53.55	100%		
Three Inch	3.000	7.069	12	85	\$1,333	\$111.06	100%	\$114.25	\$10.06	\$124.31	\$16,453	\$115.25	100%		
Four Inch	4.000	12.566	3	38	\$2,369	\$197.43	100%	\$200.63	\$10.06	\$210.69	\$7,223	\$201.62	100%		
Five Inch	5.000	19.635	0	0	\$3,702	\$308.49	100%	\$311.69	\$10.06	\$321.75	\$0	\$312.68	100%		
Six Inch	6.000	28.274	2	57	\$5,331	\$444.23	100%	\$447.43	\$10.06	\$457.49	\$10,738	\$448.42	100%		
Seven Inch	7.000	38.485	0	0	\$7,256	\$604.64	100%	\$607.84	\$10.06	\$617.90	\$0	\$608.83	100%		
Eight Inch	8.000	50.266	0	0	\$9,477	\$789.74	100%	\$792.94	\$10.06	\$803.00	\$0	\$793.93	100%		
Nine Inch	9.000	63.617	0	0	\$11,994	\$999.51	100%	\$1,002.71	\$10.06	\$1,012.77	\$0	\$1,003.70	100%		
Ten Inch	10.000	78.540	0	0	\$14,808	\$1,233.97	100%	\$1,237.16	\$10.06	\$1,247.22	\$0	\$1,238.16	100%		
Total:			2,368	1,063				Full year of capacity surcharges		\$291,177					
											Prorated capacity surcharges		\$798		

The prorated capacity surcharges amount immediately above is the amount to be collected after rates are adjusted. If rates in Table 12 are meter sized-based, this amount is filtered into the calculated rate revenues of Table 12 for each rate class. Otherwise, it is included as a separate amount at the bottom of that table.

¹ Charge Modifying Factor is used to raise or lower the charges to be levied on each size class because small meter and residential users are less prone to wide variations in use, and thus, their peak usage is lower on a percentage basis.

² Total Minimum Charge per Billing Period - If minimum charge fees are to be based upon meter size, use the charges in this column instead of those in Table 1.

³ Total Annual Capacity Charge Fees by Meter Size - The sum at the bottom of this column is the dollar amount that these meter size based charges will generate in one year.

Polson, MT, Water Rates Scenario 2014-3

Table 11 - Unit Charge Conservation or Declining Rate Blocks

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This table calculates where conservation or declining rate changes should occur. Rate break points (blocks) for each meter size are based upon the multiple of the capacity of each meter size compared to the capacity of the smallest residential sized meter. This factor is multiplied by a multiple of the average use of these residential customers to arrive at the first block. The second block is a multiple of the first. The rounded block values have been incorporated into Table 9 for rate and revenue calculations.

Class Name	Meter Size in Square Inches	Capacity Multiple of This Meter Compared to Smallest Residential Meter	1st Block Starts at (1,000 Gallons)	1st Block Starts at (Rounded to Nearest 1,000)	2nd Block Starts at (1,000 Gallons)	2nd Block Starts at (Rounded to Nearest 1,000)
Five Eighths	0.307	1.000	5.311	5.000	10.622	11.000
Three Quarters	0.307	1.000	5.311	5.000	10.622	11.000
One Inch	0.785	2.560	13.596	14.000	27.193	27.000
One & a Half Inch	1.767	5.760	30.592	31.000	61.183	61.000
Two Inch	3.142	10.240	54.385	54.000	108.771	109.000
Three Inch	7.069	23.040	122.367	122.000	244.734	245.000
Four Inch	12.566	40.960	217.541	218.000	435.082	435.000
Five Inch	19.635	64.000	339.908	340.000	679.816	680.000
Six Inch	28.274	92.160	489.468	489.000	978.935	979.000
Seven Inch	38.485	125.440	666.220	666.000	1332.440	1332.000
Eight Inch	50.266	163.840	870.165	870.000	1740.329	1740.000

The first block is set at 100% of the average use of the smallest meter size residential customer.

The second block is set at 200% of the average use of the smallest meter size residential customer.

Polson, MT, Water Rates Scenario 2014-3

Table 12 - Initial Rate Adjustments and Resulting Revenues

7/1/13 Through 6/30/14

This table depicts how rates would be set and the revenues they would generate.

Out of City Multiplier: 150% Conservation Rate Block Multipliers: 130 and 170% Other Multiplier: 100%

6/30/14 Date when fees will first be collected at adjusted rates. Actual adjustment should occur one billing period earlier.

After rate adjustments are made, general customers will be billed monthly.

Sales to be Billed This Year: Subtotals for Sales at the Current (Test Year) Rates, Adjusted Rates and (Blended) Grand Total of All Sales

Class Bottom	Class Top	Sales at Test	Customers in	New	New Usage	New Unit	Sales at	Grand Total
Use in	Use in	Year Rates	Each Volume	Minimum	Allowance in	Charge This	Adjusted Rates	"Blended" Sales
Gallons	Gallons		Group	Charge Base	1,000 Gallons	Class per 1,000		This Year
				Rates ¹		Gallons		
0	999	\$36,908	221	\$18.08	2.000	\$1.60	\$132	\$37,040
1,000	1,999	\$32,528	194	\$18.08	2.000	\$1.60	\$116	\$32,644
2,000	2,999	\$44,929	268	\$18.08	2.000	\$1.60	\$160	\$45,089
3,000	3,999	\$46,072	275	\$18.08	2.000	\$1.60	\$179	\$46,251
4,000	4,999	\$38,080	228	\$18.08	2.000	\$1.60	\$160	\$38,240
5,000	5,999	\$27,256	163	\$18.08	2.000	\$2.08	\$123	\$27,379
6,000	6,999	\$21,761	108	\$18.08	2.000	\$2.08	\$89	\$21,851
7,000	7,999	\$19,667	84	\$18.08	2.000	\$2.08	\$75	\$19,742
8,000	8,999	\$15,871	59	\$18.08	2.000	\$2.08	\$57	\$15,927
9,000	9,999	\$12,230	41	\$18.08	2.000	\$2.08	\$42	\$12,272
10,000	14,999	\$11,385	34	\$18.08	2.000	\$3.54	\$37	\$11,422
15,000	19,999	\$51,625	103	\$18.08	2.000	\$3.54	\$173	\$51,798
3/4"	20,000	\$24,419	31	\$18.08	2.000	\$3.54	\$76	\$24,494
Residential	25,000	\$23,565	20	\$18.08	2.000	\$3.54	\$62	\$23,627
	30,000	\$20,626	13	\$18.08	2.000	\$3.54	\$49	\$20,675
	35,000	\$18,901	10	\$18.08	2.000	\$3.54	\$43	\$18,944
	40,000	\$15,691	7	\$18.08	2.000	\$3.54	\$34	\$15,725
	45,000	\$10,052	4	\$18.08	2.000	\$3.54	\$21	\$10,073
	50,000	\$6,347	2	\$18.08	2.000	\$3.54	\$13	\$6,360
	60,000	\$4,390	1	\$18.08	2.000	\$3.54	\$9	\$4,398
	70,000	\$6,477	1	\$18.08	2.000	\$3.54	\$12	\$6,490
	80,000	\$7,382	1	\$18.08	2.000	\$3.54	\$14	\$7,395
	90,000	\$4,054	1	\$18.08	2.000	\$3.54	\$7	\$4,061
	100,000	\$5,986	1	\$18.08	2.000	\$3.54	\$11	\$5,996
	110,000	\$4,235	0	\$18.08	2.000	\$3.54	\$7	\$4,243
	130,000	\$23,532	1	\$18.08	2.000	\$3.54	\$40	\$23,572
	0	\$489	2	\$18.08	2.000	\$1.60	\$1	\$490
	1,000	\$607	3	\$18.08	2.000	\$1.60	\$2	\$608
	2,000	\$274	1	\$18.08	2.000	\$1.60	\$1	\$275
	3,000	\$254	1	\$18.08	2.000	\$1.60	\$1	\$255
	4,000	\$98	0	\$18.08	2.000	\$1.60	\$0	\$98
	5,000	\$430	2	\$18.08	2.000	\$1.60	\$1	\$432
	6,000	\$715	3	\$18.08	2.000	\$1.60	\$2	\$718
	7,000	\$201	1	\$18.08	2.000	\$1.60	\$1	\$202
	8,000	\$335	1	\$18.08	2.000	\$1.60	\$1	\$336
	9,000	\$307	1	\$18.08	2.000	\$1.60	\$1	\$308
	10,000	\$2,140	5	\$18.08	2.000	\$2.08	\$5	\$2,145
1"	15,000	\$1,443	2	\$18.08	2.000	\$2.08	\$3	\$1,447
Residential	20,000	\$526	1	\$18.08	2.000	\$2.08	\$1	\$527
	25,000	\$667	1	\$18.08	2.000	\$3.54	\$1	\$668
	30,000	\$725	0	\$18.08	2.000	\$3.54	\$1	\$727
	35,000	\$701	0	\$18.08	2.000	\$3.54	\$1	\$702
	40,000	\$386	0	\$18.08	2.000	\$3.54	\$1	\$387
	45,000	\$220	0	\$18.08	2.000	\$3.54	\$0	\$220
	50,000	\$1,103	0	\$18.08	2.000	\$3.54	\$2	\$1,105
	60,000	\$332	0	\$18.08	2.000	\$3.54	\$1	\$333
	80,000	\$445	0	\$18.08	2.000	\$3.54	\$1	\$445
	110,000	\$622	0	\$18.08	2.000	\$3.54	\$1	\$623
	130,000	\$1,143	0	\$18.08	2.000	\$3.54	\$2	\$1,145

	Class Bottom	Class Top	Sales at Test	Customers in	New	New Usage	New Unit		Grand Total
	Use in	Use in	Year Rates	Each Volume	Minimum	Allowance in	Charge This	Sales at	"Blended" Sales
	Gallons	Gallons		Group	Charge Base	1,000 Gallons	Class per 1,000	Adjusted Rates	This Year
					Rates1		Gallons		
	0	999	\$12,802	63	\$18.08	2.000	\$1.60	\$38	\$12,840
	1,000	1,999	\$10,867	54	\$18.08	2.000	\$1.60	\$32	\$10,899
	2,000	2,999	\$7,368	37	\$18.08	2.000	\$1.60	\$22	\$7,390
	3,000	3,999	\$4,862	24	\$18.08	2.000	\$1.60	\$16	\$4,877
	4,000	4,999	\$3,903	19	\$18.08	2.000	\$1.60	\$14	\$3,916
	5,000	5,999	\$3,432	17	\$18.08	2.000	\$2.08	\$13	\$3,445
	6,000	6,999	\$3,409	14	\$18.08	2.000	\$2.08	\$12	\$3,421
	7,000	7,999	\$3,129	11	\$18.08	2.000	\$2.08	\$10	\$3,139
	8,000	8,999	\$3,574	11	\$18.08	2.000	\$2.08	\$11	\$3,585
	9,000	9,999	\$3,083	9	\$18.08	2.000	\$2.08	\$9	\$3,092
	10,000	14,999	\$13,772	29	\$18.08	2.000	\$3.54	\$38	\$13,810
	15,000	19,999	\$8,062	12	\$18.08	2.000	\$3.54	\$23	\$8,084
3/4" Com & Res/Com	20,000	24,999	\$6,919	8	\$18.08	2.000	\$3.54	\$20	\$6,939
	25,000	29,999	\$3,483	3	\$18.08	2.000	\$3.54	\$10	\$3,493
	30,000	34,999	\$2,453	2	\$18.08	2.000	\$3.54	\$7	\$2,460
	35,000	39,999	\$2,244	2	\$18.08	2.000	\$3.54	\$6	\$2,251
	40,000	44,999	\$1,691	1	\$18.08	2.000	\$3.54	\$5	\$1,696
	45,000	49,999	\$943	1	\$18.08	2.000	\$3.54	\$3	\$945
	50,000	59,999	\$882	0	\$18.08	2.000	\$3.54	\$3	\$885
	60,000	69,999	\$426	0	\$18.08	2.000	\$3.54	\$1	\$427
	70,000	79,999	\$741	0	\$18.08	2.000	\$3.54	\$2	\$743
	80,000	89,999	\$537	0	\$18.08	2.000	\$3.54	\$2	\$538
	90,000	99,999	\$309	0	\$18.08	2.000	\$3.54	\$1	\$309
	110,000	119,999	\$382	0	\$18.08	2.000	\$3.54	\$1	\$384
	120,000	129,999	\$429	0	\$18.08	2.000	\$3.54	\$1	\$431
	130,000	99,999,999	\$14,689	0	\$18.08	2.000	\$3.54	\$43	\$14,732
	0	999	\$2,197	8	\$25.60	2.000	\$1.60	\$7	\$2,204
	1,000	1,999	\$964	4	\$25.60	2.000	\$1.60	\$3	\$967
	2,000	2,999	\$1,480	6	\$25.60	2.000	\$1.60	\$5	\$1,484
	3,000	3,999	\$1,166	4	\$25.60	2.000	\$1.60	\$4	\$1,170
	4,000	4,999	\$897	3	\$25.60	2.000	\$1.60	\$3	\$900
	5,000	5,999	\$807	3	\$25.60	2.000	\$1.60	\$3	\$810
	6,000	6,999	\$850	3	\$25.60	2.000	\$1.60	\$3	\$853
	7,000	7,999	\$1,048	3	\$25.60	2.000	\$1.60	\$3	\$1,052
	8,000	8,999	\$747	2	\$25.60	2.000	\$1.60	\$2	\$749
	9,000	9,999	\$1,075	3	\$25.60	2.000	\$1.60	\$3	\$1,078
	10,000	14,999	\$6,677	12	\$25.60	2.000	\$2.08	\$17	\$6,694
	15,000	19,999	\$6,110	8	\$25.60	2.000	\$2.08	\$14	\$6,124
1" Com & Res/Com	20,000	24,999	\$3,368	4	\$25.60	2.000	\$2.08	\$7	\$3,376
	25,000	29,999	\$3,814	3	\$25.60	2.000	\$3.54	\$8	\$3,822
	30,000	34,999	\$2,568	2	\$25.60	2.000	\$3.54	\$6	\$2,574
	35,000	39,999	\$2,205	1	\$25.60	2.000	\$3.54	\$5	\$2,211
	40,000	44,999	\$2,920	2	\$25.60	2.000	\$3.54	\$7	\$2,927
	45,000	49,999	\$2,589	1	\$25.60	2.000	\$3.54	\$6	\$2,595
	50,000	59,999	\$3,862	2	\$25.60	2.000	\$3.54	\$10	\$3,872
	60,000	69,999	\$1,308	1	\$25.60	2.000	\$3.54	\$3	\$1,312
	70,000	79,999	\$1,516	1	\$25.60	2.000	\$3.54	\$4	\$1,520
	80,000	89,999	\$2,316	1	\$25.60	2.000	\$3.54	\$6	\$2,322
	90,000	99,999	\$1,598	0	\$25.60	2.000	\$3.54	\$4	\$1,602
	100,000	109,999	\$1,057	0	\$25.60	2.000	\$3.54	\$3	\$1,060
	110,000	119,999	\$1,549	0	\$25.60	2.000	\$3.54	\$4	\$1,553
	130,000	99,999,999	\$7,126	1	\$25.60	2.000	\$3.54	\$20	\$7,146

	Class Bottom	Class Top	Sales at Test	Customers in	New	New Usage	New Unit		Grand Total
	Use in	Use in	Year Rates	Each Volume	Minimum	Allowance in	Charge This	Sales at	"Blended" Sales
	Gallons	Gallons		Group	Charge Base	1,000 Gallons	Class per 1,000	Adjusted Rates	This Year
					Rates1		Gallons		
	0	999	\$3,065	5	\$41.02	2.000	\$1.60	\$7	\$3,072
	1,000	1,999	\$898	1	\$41.02	2.000	\$1.60	\$2	\$900
	2,000	2,999	\$423	1	\$41.02	2.000	\$1.60	\$1	\$424
	3,000	3,999	\$53	0	\$41.02	2.000	\$1.60	\$0	\$53
	5,000	5,999	\$264	0	\$41.02	2.000	\$1.60	\$1	\$265
	6,000	6,999	\$581	1	\$41.02	2.000	\$1.60	\$1	\$583
	7,000	7,999	\$898	1	\$41.02	2.000	\$1.60	\$2	\$901
	8,000	8,999	\$1,480	2	\$41.02	2.000	\$1.60	\$4	\$1,484
	9,000	9,999	\$1,268	2	\$41.02	2.000	\$1.60	\$3	\$1,272
	10,000	14,999	\$2,643	4	\$41.02	2.000	\$1.60	\$8	\$2,650
	15,000	19,999	\$1,886	3	\$41.02	2.000	\$1.60	\$6	\$1,891
	20,000	24,999	\$1,686	2	\$41.02	2.000	\$1.60	\$4	\$1,690
1.5" Com & Res/Com	25,000	29,999	\$2,214	2	\$41.02	2.000	\$1.60	\$5	\$2,220
	30,000	34,999	\$1,748	1	\$41.02	2.000	\$2.08	\$4	\$1,752
	35,000	39,999	\$2,913	2	\$41.02	2.000	\$2.08	\$6	\$2,919
	40,000	44,999	\$2,428	1	\$41.02	2.000	\$2.08	\$5	\$2,433
	45,000	49,999	\$1,288	1	\$41.02	2.000	\$2.08	\$3	\$1,291
	50,000	59,999	\$4,598	2	\$41.02	2.000	\$2.08	\$9	\$4,607
	60,000	69,999	\$2,807	1	\$41.02	2.000	\$3.54	\$6	\$2,813
	70,000	79,999	\$4,787	2	\$41.02	2.000	\$3.54	\$10	\$4,798
	80,000	89,999	\$3,398	1	\$41.02	2.000	\$3.54	\$8	\$3,406
	90,000	99,999	\$1,599	0	\$41.02	2.000	\$3.54	\$4	\$1,603
	100,000	109,999	\$3,858	1	\$41.02	2.000	\$3.54	\$9	\$3,867
	110,000	119,999	\$4,602	1	\$41.02	2.000	\$3.54	\$11	\$4,613
	120,000	129,999	\$3,368	1	\$41.02	2.000	\$3.54	\$8	\$3,376
	130,000	99,999,999	\$31,945	4	\$41.02	2.000	\$3.54	\$84	\$32,028
	0	999	\$2,638	4	\$62.62	2.000	\$1.60	\$7	\$2,645
	2,000	2,999	\$188	0	\$62.62	2.000	\$1.60	\$1	\$189
	4,000	4,999	\$188	0	\$62.62	2.000	\$1.60	\$1	\$189
	5,000	5,999	\$63	0	\$62.62	2.000	\$1.60	\$0	\$63
	8,000	8,999	\$126	0	\$62.62	2.000	\$1.60	\$0	\$126
	9,000	9,999	\$314	0	\$62.62	2.000	\$1.60	\$1	\$315
	10,000	14,999	\$628	1	\$62.62	2.000	\$1.60	\$2	\$630
	15,000	19,999	\$251	0	\$62.62	2.000	\$1.60	\$1	\$252
	20,000	24,999	\$212	0	\$62.62	2.000	\$1.60	\$1	\$213
	25,000	29,999	\$272	0	\$62.62	2.000	\$1.60	\$1	\$273
2" Com & Res/Com	30,000	34,999	\$299	0	\$62.62	2.000	\$1.60	\$1	\$300
	35,000	39,999	\$359	0	\$62.62	2.000	\$1.60	\$1	\$360
	45,000	49,999	\$774	0	\$62.62	2.000	\$1.60	\$2	\$775
	50,000	59,999	\$1,812	1	\$62.62	2.000	\$2.08	\$4	\$1,816
	60,000	69,999	\$1,316	1	\$62.62	2.000	\$2.08	\$3	\$1,319
	70,000	79,999	\$1,253	0	\$62.62	2.000	\$2.08	\$3	\$1,256
	80,000	89,999	\$2,524	1	\$62.62	2.000	\$2.08	\$5	\$2,529
	90,000	99,999	\$2,816	1	\$62.62	2.000	\$2.08	\$6	\$2,822
	100,000	109,999	\$4,171	1	\$62.62	2.000	\$3.54	\$9	\$4,180
	110,000	119,999	\$4,905	1	\$62.62	2.000	\$3.54	\$10	\$4,915
	130,000	99,999,999	\$27,923	3	\$62.62	2.000	\$3.54	\$72	\$27,995

	Class Bottom	Class Top	Sales at Test	Customers in	New	New Usage	New Unit		Grand Total
	Use in	Use in	Year Rates	Each Volume	Minimum	Allowance in	Charge This	Sales at	"Blended" Sales
	Gallons	Gallons		Group	Charge Base	1,000 Gallons	Class per 1,000	Adjusted Rates	This Year
					Rates1		Gallons		
	0	999	\$4,773	3	\$124.31	2.000	\$1.60	\$13	\$4,786
	2,000	2,999	\$126	0	\$124.31	2.000	\$1.60	\$0	\$126
	7,000	7,999	\$126	0	\$124.31	2.000	\$1.60	\$0	\$126
	10,000	10,999	\$377	0	\$124.31	2.000	\$1.60	\$1	\$378
	11,000	17,999	\$1,507	1	\$124.31	2.000	\$1.60	\$5	\$1,512
	23,000	27,999	\$251	0	\$124.31	2.000	\$1.60	\$1	\$252
	28,000	32,999	\$126	0	\$124.31	2.000	\$1.60	\$0	\$126
3" Com & Res/Com	33,000	37,999	\$251	0	\$124.31	2.000	\$1.60	\$1	\$252
	38,000	42,999	\$251	0	\$124.31	2.000	\$1.60	\$1	\$252
	43,000	47,999	\$126	0	\$124.31	2.000	\$1.60	\$1	\$126
	48,000	52,999	\$662	0	\$124.31	2.000	\$1.60	\$3	\$664
	53,000	57,999	\$1,032	1	\$124.31	2.000	\$1.60	\$4	\$1,036
	58,000	62,999	\$1,819	1	\$124.31	2.000	\$1.60	\$6	\$1,824
	78,000	119,999	\$5,665	1	\$124.31	2.000	\$1.60	\$11	\$5,676
	120,000	239,999	\$1,995	0	\$124.31	2.000	\$2.08	\$4	\$1,998
	240,000	99,999,999	\$44,384	3	\$124.31	2.000	\$3.54	\$94	\$44,478
	0	999	\$0	0	\$210.69	2.000	\$1.60	\$0	\$0
	10,000	14,999	\$215	0	\$210.69	2.000	\$1.60	\$1	\$216
	30,000	34,999	\$431	0	\$210.69	2.000	\$1.60	\$1	\$432
	50,000	59,999	\$646	0	\$210.69	2.000	\$1.60	\$2	\$648
	60,000	69,999	\$1,723	1	\$210.69	2.000	\$1.60	\$7	\$1,730
4" Com & Res/Com	70,000	79,999	\$646	0	\$210.69	2.000	\$1.60	\$3	\$649
	80,000	89,999	\$861	0	\$210.69	2.000	\$1.60	\$4	\$865
	90,000	99,999	\$215	0	\$210.69	2.000	\$1.60	\$1	\$216
	100,000	109,999	\$215	0	\$210.69	2.000	\$1.60	\$1	\$216
	110,000	209,999	\$3,937	1	\$210.69	2.000	\$1.60	\$16	\$3,953
	210,000	434,999	\$0	0	\$210.69	2.000	\$2.08	\$0	\$0
	435,000	99,999,999	\$0	0	\$210.69	2.000	\$3.54	\$0	\$0
	0	999	\$2,154	1	\$457.49	2.000	\$1.60	\$13	\$2,166
	1,000	1,999	\$1,508	1	\$457.49	2.000	\$1.60	\$9	\$1,516
	2,000	2,999	\$215	0	\$457.49	2.000	\$1.60	\$1	\$217
6" Com & Res/Com	80,000	89,999	\$215	0	\$457.49	2.000	\$1.60	\$2	\$217
	110,000	484,999	\$1,595	0	\$457.49	2.000	\$1.60	\$5	\$1,600
	485,000	974,999	\$3,980	0	\$457.49	2.000	\$2.08	\$9	\$3,988
	975,000	99,999,999	\$3,100	0	\$457.49	2.000	\$3.54	\$6	\$3,106
	0	999	\$0	0	\$457.49	2.000	\$1.60	\$0	\$0
6"	485,000	974,999	\$0	0	\$457.49	2.000	\$2.08	\$0	\$0
	975,000	99,999,999	\$0	0	\$457.49	2.000	\$3.54	\$0	\$0
	0	999	\$0	0	\$25.60	2.000	\$1.60	\$0	\$0
Commercial (Assume 1 Inch)	10,000	14,999	\$0	0	\$25.60	2.000	\$2.08	\$0	\$0
	25,000	29,999	\$0	0	\$25.60	2.000	\$3.54	\$0	\$0
	975,000	99,999,999	\$0	0	\$25.60	2.000	\$3.54	\$0	\$0

	Class Bottom Use in Gallons	Class Top Use in Gallons	Sales at Test Year Rates	Customers in Each Volume Group	New Minimum Charge Base Rates ¹	New Usage Allowance in 1,000 Gallons	New Unit Charge This Class per 1,000 Gallons	Sales at Adjusted Rates	Grand Total "Blended" Sales This Year
Sprinkler Low	0	999	\$3,075	14	\$19.74	0.000	\$0.00	\$9	\$3,084
	120,000	239,999	\$0	0	\$19.74	0.000	\$0.00	\$0	\$0
	240,000	99,999,999	\$0	0	\$19.74	0.000	\$0.00	\$0	\$0
Sprinkler Med	0	999	\$14,971	51	\$26.38	0.000	\$0.00	\$44	\$15,016
	120,000	239,999	\$0	0	\$26.38	0.000	\$0.00	\$0	\$0
	240,000	99,999,999	\$0	0	\$26.38	0.000	\$0.00	\$0	\$0
Sprinkler High	0	999	\$1,761	4	\$39.57	0.000	\$0.00	\$5	\$1,766
	120,000	239,999	\$0	0	\$39.57	0.000	\$0.00	\$0	\$0
	240,000	99,999,999	\$0	0	\$39.57	0.000	\$0.00	\$0	\$0
Rate Rev at Current Rates			\$985,403						
								Rate Rev at Adjusted Rates	\$2,934
								Total Blended Rate Revenues for the Year ²	\$988,337

Note 1, New Minimum Charge Base Rates: If meter or connection size-based minimum charges are to be used, and the user classes modeled above include meter or connection sizes, the amounts shown in this column include meter or connection size surcharges as calculated in Table 8. Otherwise, use the rates in the "Total Minimum Charge per Billing Period" column of Table 8 when setting minimum charges for each customer when their minimums will be based upon meter or connection size.

Note 2, Blended Rate Revenues: During the year when rates will be adjusted, rate revenues generated will be "blended" revenues - part collected at the current rates and part collected at the adjusted rates. The table above calculates both kinds of revenue and totals them in the right-most column. Therefore, the anticipated timing of rate adjustment shown at the top of this table will cause rates to be charged as follows:

12.0 months at the old user charge rates and 0.0 months at the new user charge rates.

Polson, MT, Water Rates Scenario 2014-3

Table 13 - Rate Statistics

This table shows measures of equitability of the rates as modeled in Table 12.

If your rates are absolutely proportional to use on a volumetric basis, your % of usage and % of revenues figures will be the same within all the classes. That is not possible if you have any minimum charge.

Normally, the % of usage figure will be lower than the % of revenue for the lower volumes of use. That will switch for the higher volumes of use. Even for declining rate structures, this switch should occur near the volume of the average residential user, typically near 5,000 gallons/month (668 cu ft).

In urban and suburban areas the average monthly use for residential or general customers can be twice that used by their rural and "old town" counterparts. Use is largely dependent upon who lives in a community. Older people living in longer established neighborhoods tend to use less volume than younger people living in more recently developed areas. Consider this.

Your average residential customer uses 5,311 Gallons per billing cycle.

Compare the % of Usage and % of Revenue for this volume of use, and others, in the chart below to get an idea of how proportional to actual volume use the rates are as calculated in this model.

	Class Bottom Use in Gallons	Class Top Use in Gallons	% Users	% Usage	% Rev at Current Rates	% Rev at Modeled Rates
	0	999	9.04%	0.00%	3.75%	4.49%
	1,000	1,999	7.97%	0.94%	3.30%	3.95%
	2,000	2,999	11.01%	2.61%	4.56%	5.46%
	3,000	3,999	11.29%	4.01%	4.68%	6.09%
	4,000	4,999	9.33%	4.42%	3.86%	5.45%
	5,000	5,999	6.68%	3.95%	2.77%	4.19%
	6,000	6,999	4.44%	3.16%	2.21%	3.04%
	7,000	7,999	3.44%	2.85%	2.00%	2.55%
	8,000	8,999	2.43%	2.30%	1.61%	1.94%
	9,000	9,999	1.66%	1.77%	1.24%	1.42%
	10,000	14,999	1.39%	1.65%	1.16%	1.27%
	15,000	19,999	4.21%	6.62%	5.24%	5.89%
3/4" Residential	20,000	24,999	1.25%	2.94%	2.48%	2.57%
	25,000	29,999	0.83%	2.43%	2.39%	2.12%
	30,000	34,999	0.55%	1.94%	2.09%	1.69%
	35,000	39,999	0.41%	1.66%	1.92%	1.45%
	40,000	44,999	0.28%	1.31%	1.59%	1.15%
	45,000	49,999	0.15%	0.82%	1.02%	0.71%
	50,000	59,999	0.09%	0.50%	0.64%	0.44%
	60,000	69,999	0.05%	0.31%	0.45%	0.29%
	70,000	79,999	0.05%	0.38%	0.66%	0.42%
	80,000	89,999	0.05%	0.37%	0.75%	0.46%
	90,000	99,999	0.02%	0.17%	0.41%	0.25%
	100,000	109,999	0.02%	0.21%	0.61%	0.36%
	110,000	119,999	0.01%	0.13%	0.43%	0.25%
120,000	129,999	0.01%	0.10%	0.40%	0.23%	
130,000	99,999,999	0.05%	0.68%	2.39%	1.37%	
Totals for Class			76.74%	48.24%	54.59%	59.50%
1" Residential	0	999	0.09%	0.00%	0.05%	0.04%
	1,000	1,999	0.11%	0.01%	0.06%	0.05%
	2,000	2,999	0.05%	0.01%	0.03%	0.02%
	3,000	3,999	0.04%	0.02%	0.03%	0.02%
	4,000	4,999	0.02%	0.01%	0.01%	0.01%
	5,000	5,999	0.08%	0.04%	0.04%	0.05%
	6,000	6,999	0.11%	0.08%	0.07%	0.07%
	7,000	7,999	0.03%	0.02%	0.02%	0.02%
	8,000	8,999	0.04%	0.04%	0.03%	0.03%
	9,000	9,999	0.03%	0.04%	0.03%	0.03%
	10,000	14,999	0.19%	0.26%	0.22%	0.18%
	15,000	19,999	0.09%	0.18%	0.15%	0.11%
	20,000	24,999	0.02%	0.06%	0.05%	0.04%
	25,000	29,999	0.02%	0.07%	0.07%	0.04%
	30,000	34,999	0.02%	0.07%	0.07%	0.04%
	35,000	39,999	0.01%	0.06%	0.07%	0.04%
	40,000	44,999	0.01%	0.03%	0.04%	0.02%
45,000	49,999	0.00%	0.02%	0.02%	0.01%	
50,000	59,999	0.01%	0.09%	0.11%	0.06%	
60,000	69,999	0.00%	0.03%	0.03%	0.02%	
80,000	89,999	0.00%	0.03%	0.05%	0.03%	
110,000	119,999	0.00%	0.05%	0.06%	0.04%	
130,000	99,999,999	0.00%	0.08%	0.12%	0.06%	
Totals for Class			0.98%	1.30%	1.44%	1.05%

	Class Bottom Use in Gallons	Class Top Use in Gallons	% Users	% Usage	% Rev at Current Rates	% Rev at Modeled Rates
	0	999	2.60%	0.00%	1.30%	1.29%
	1,000	1,999	2.21%	0.26%	1.10%	1.10%
	2,000	2,999	1.50%	0.35%	0.75%	0.74%
	3,000	3,999	0.99%	0.35%	0.49%	0.53%
	4,000	4,999	0.79%	0.38%	0.40%	0.46%
	5,000	5,999	0.70%	0.41%	0.35%	0.44%
	6,000	6,999	0.58%	0.41%	0.35%	0.40%
	7,000	7,999	0.45%	0.38%	0.32%	0.34%
	8,000	8,999	0.45%	0.43%	0.36%	0.36%
	9,000	9,999	0.35%	0.37%	0.31%	0.30%
	10,000	14,999	1.21%	1.66%	1.40%	1.29%
	15,000	19,999	0.49%	0.97%	0.82%	0.77%
3/4" Com & Res/Com	20,000	24,999	0.32%	0.83%	0.70%	0.67%
	25,000	29,999	0.13%	0.42%	0.35%	0.34%
	30,000	34,999	0.08%	0.30%	0.25%	0.24%
	35,000	39,999	0.06%	0.27%	0.23%	0.22%
	40,000	44,999	0.04%	0.20%	0.17%	0.16%
	45,000	49,999	0.02%	0.11%	0.10%	0.09%
	50,000	59,999	0.02%	0.11%	0.09%	0.09%
	60,000	69,999	0.01%	0.05%	0.04%	0.04%
	70,000	79,999	0.01%	0.09%	0.08%	0.07%
	80,000	89,999	0.01%	0.06%	0.05%	0.05%
	90,000	99,999	0.00%	0.04%	0.03%	0.03%
	110,000	119,999	0.00%	0.05%	0.04%	0.04%
	120,000	129,999	0.00%	0.05%	0.04%	0.04%
	130,000	99,999,999	0.01%	1.77%	1.49%	1.45%
	Totals for Class		13.04%	10.33%	11.61%	11.55%
	0	999	0.33%	0.00%	0.22%	0.24%
	1,000	1,999	0.15%	0.02%	0.10%	0.10%
	2,000	2,999	0.23%	0.05%	0.15%	0.16%
	3,000	3,999	0.18%	0.06%	0.12%	0.13%
	4,000	4,999	0.14%	0.06%	0.09%	0.11%
	5,000	5,999	0.12%	0.07%	0.08%	0.10%
	6,000	6,999	0.11%	0.08%	0.09%	0.10%
	7,000	7,999	0.12%	0.10%	0.11%	0.11%
	8,000	8,999	0.08%	0.07%	0.08%	0.08%
	9,000	9,999	0.10%	0.11%	0.11%	0.10%
	10,000	14,999	0.50%	0.71%	0.68%	0.58%
	15,000	19,999	0.33%	0.67%	0.62%	0.48%
	20,000	24,999	0.15%	0.38%	0.34%	0.25%
1" Com & Res/Com	25,000	29,999	0.14%	0.43%	0.39%	0.28%
	30,000	34,999	0.08%	0.29%	0.26%	0.20%
	35,000	39,999	0.06%	0.25%	0.22%	0.18%
	40,000	44,999	0.07%	0.34%	0.30%	0.24%
	45,000	49,999	0.05%	0.30%	0.26%	0.22%
	50,000	59,999	0.07%	0.45%	0.39%	0.34%
	60,000	69,999	0.02%	0.15%	0.13%	0.12%
	70,000	79,999	0.02%	0.18%	0.15%	0.14%
	80,000	89,999	0.03%	0.27%	0.24%	0.21%
	90,000	99,999	0.02%	0.19%	0.16%	0.15%
	100,000	109,999	0.01%	0.13%	0.11%	0.10%
	110,000	119,999	0.01%	0.18%	0.16%	0.14%
	120,000	129,999	0.01%	0.10%	0.09%	0.08%
	130,000	99,999,999	0.04%	0.85%	0.72%	0.68%
	Totals for Class		3.16%	6.52%	6.36%	5.62%

	Class Bottom Use in Gallons	Class Top Use in Gallons	% Users	% Usage	% Rev at Current Rates	% Rev at Modeled Rates
1.5" Com & Res/Com	0	999	0.20%	0.00%	0.31%	0.22%
	1,000	1,999	0.06%	0.01%	0.09%	0.07%
	2,000	2,999	0.03%	0.01%	0.04%	0.03%
	3,000	3,999	0.00%	0.00%	0.01%	0.00%
	4,000	4,999	0.00%	0.00%	0.00%	0.00%
	5,000	5,999	0.02%	0.01%	0.03%	0.02%
	6,000	6,999	0.04%	0.03%	0.06%	0.05%
	7,000	7,999	0.06%	0.05%	0.09%	0.08%
	8,000	8,999	0.10%	0.09%	0.15%	0.13%
	9,000	9,999	0.08%	0.09%	0.13%	0.12%
	10,000	14,999	0.17%	0.23%	0.27%	0.26%
	15,000	19,999	0.11%	0.22%	0.19%	0.19%
	20,000	24,999	0.08%	0.20%	0.17%	0.15%
	25,000	29,999	0.08%	0.26%	0.22%	0.18%
	30,000	34,999	0.05%	0.21%	0.18%	0.13%
	35,000	39,999	0.08%	0.34%	0.30%	0.22%
	40,000	44,999	0.06%	0.29%	0.25%	0.18%
	45,000	49,999	0.03%	0.15%	0.13%	0.09%
	50,000	59,999	0.09%	0.55%	0.47%	0.32%
	60,000	69,999	0.04%	0.33%	0.28%	0.20%
70,000	79,999	0.06%	0.57%	0.49%	0.35%	
80,000	89,999	0.04%	0.41%	0.34%	0.26%	
90,000	99,999	0.02%	0.19%	0.16%	0.13%	
100,000	109,999	0.04%	0.46%	0.39%	0.31%	
110,000	119,999	0.04%	0.55%	0.47%	0.38%	
120,000	129,999	0.03%	0.40%	0.34%	0.28%	
130,000	99,999,999	0.17%	3.84%	3.24%	2.85%	
Totals for Class			1.76%	9.48%	8.80%	7.21%
2" Com & Res/Com	0	999	0.14%	0.00%	0.27%	0.25%
	1,000	1,999	0.02%	0.00%	0.04%	0.04%
	2,000	2,999	0.01%	0.00%	0.02%	0.02%
	3,000	3,999	0.04%	0.01%	0.08%	0.07%
	4,000	4,999	0.01%	0.00%	0.02%	0.02%
	5,000	5,999	0.00%	0.00%	0.01%	0.01%
	6,000	6,999	0.01%	0.00%	0.01%	0.01%
	7,000	7,999	0.01%	0.01%	0.02%	0.02%
	8,000	8,999	0.01%	0.01%	0.01%	0.01%
	9,000	9,999	0.02%	0.02%	0.03%	0.03%
	10,000	14,999	0.03%	0.05%	0.06%	0.07%
	15,000	19,999	0.01%	0.03%	0.03%	0.03%
	20,000	24,999	0.01%	0.03%	0.02%	0.03%
	25,000	29,999	0.01%	0.03%	0.03%	0.03%
	30,000	34,999	0.01%	0.04%	0.03%	0.03%
	35,000	39,999	0.01%	0.04%	0.04%	0.03%
	40,000	44,999	0.02%	0.12%	0.10%	0.08%
	45,000	49,999	0.02%	0.10%	0.08%	0.06%
	50,000	59,999	0.03%	0.22%	0.18%	0.14%
	60,000	69,999	0.02%	0.16%	0.13%	0.10%
70,000	79,999	0.02%	0.15%	0.13%	0.09%	
80,000	89,999	0.03%	0.31%	0.26%	0.18%	
90,000	99,999	0.03%	0.34%	0.29%	0.20%	
100,000	109,999	0.04%	0.51%	0.42%	0.29%	
110,000	119,999	0.04%	0.60%	0.50%	0.36%	
120,000	129,999	0.01%	0.20%	0.16%	0.12%	
130,000	99,999,999	0.11%	3.38%	2.83%	2.46%	
Totals for Class			0.74%	6.38%	5.79%	4.78%

	Class Bottom Use in Gallons	Class Top Use in Gallons	% Users	% Usage	% Rev at Current Rates	% Rev at Modeled Rates
3" Com & Res/Com	0	999	0.13%	0.00%	0.48%	0.44%
	2,000	2,999	0.00%	0.00%	0.01%	0.01%
	7,000	7,999	0.00%	0.00%	0.01%	0.01%
	8,000	8,999	0.00%	0.00%	0.01%	0.01%
	10,000	10,999	0.01%	0.01%	0.04%	0.04%
	11,000	17,999	0.04%	0.08%	0.15%	0.17%
	18,000	22,999	0.01%	0.02%	0.03%	0.03%
	23,000	27,999	0.01%	0.02%	0.03%	0.03%
	28,000	32,999	0.00%	0.01%	0.01%	0.02%
	33,000	37,999	0.01%	0.03%	0.03%	0.03%
	38,000	42,999	0.01%	0.04%	0.03%	0.04%
	43,000	47,999	0.00%	0.02%	0.01%	0.02%
	48,000	52,999	0.02%	0.11%	0.07%	0.10%
	53,000	57,999	0.02%	0.15%	0.10%	0.13%
	58,000	62,999	0.03%	0.24%	0.18%	0.19%
	63,000	67,999	0.01%	0.07%	0.06%	0.05%
	68,000	72,999	0.01%	0.15%	0.16%	0.13%
73,000	77,999	0.03%	0.42%	0.51%	0.36%	
78,000	119,999	0.03%	0.42%	0.57%	0.37%	
120,000	239,999	0.01%	0.15%	0.20%	0.13%	
240,000	99,999,999	0.11%	4.44%	4.50%	3.21%	
	Totals for Class		0.49%	6.40%	7.22%	5.52%
4" Com & Res/Com	0	999	0.00%	0.00%	0.00%	0.00%
	10,000	14,999	0.00%	0.00%	0.02%	0.02%
	30,000	34,999	0.01%	0.03%	0.04%	0.05%
	50,000	59,999	0.01%	0.06%	0.07%	0.08%
	60,000	69,999	0.03%	0.21%	0.17%	0.23%
	70,000	79,999	0.01%	0.09%	0.07%	0.09%
	80,000	89,999	0.01%	0.13%	0.09%	0.13%
	90,000	99,999	0.00%	0.04%	0.02%	0.03%
100,000	109,999	0.00%	0.04%	0.02%	0.04%	
110,000	209,999	0.04%	0.79%	0.40%	0.55%	
	Totals for Class		0.12%	1.40%	0.90%	1.22%
6" Com & Res/Com	0	999	0.03%	0.00%	0.22%	0.43%
	1,000	1,999	0.02%	0.00%	0.15%	0.30%
	2,000	2,999	0.00%	0.00%	0.02%	0.04%
	80,000	89,999	0.00%	0.03%	0.02%	0.06%
	110,000	484,999	0.01%	0.24%	0.16%	0.17%
	485,000	974,999	0.01%	0.53%	0.40%	0.30%
975,000	99,999,999	0.00%	0.40%	0.31%	0.21%	
	Totals for Class		0.08%	1.21%	1.30%	1.51%
6"	0	999	0.00%	0.00%	0.00%	0.00%
	975,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		0.00%	0.00%	0.00%	0.00%
Commercial (Assume 1 Inch)	0	999	0.00%	0.00%	0.00%	0.00%
	110,000	484,999	0.00%	0.00%	0.00%	0.00%
	485,000	974,999	0.00%	0.00%	0.00%	0.00%
	975,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		0.00%	0.00%	0.00%	0.00%
Sprinkler Low	0	999	0.57%	0.00%	0.31%	0.31%
	240,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		0.57%	0.00%	0.31%	0.31%
Sprinkler Med	0	999	2.09%	0.00%	1.52%	1.51%
	240,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		2.09%	0.00%	1.52%	1.51%
Sprinkler High	0	999	0.16%	0.00%	0.18%	0.18%
	240,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		0.16%	0.00%	0.18%	0.18%

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Table 15 - Rates at End of Test Year

CBGreatRates© Version 6.3

This table shows user rates at the end of the test year.

	Class Bottom Use in Gallons	Class Top Use in Gallons	Median or Actual Average use in 1,000 Gallons	Base Minimum Charge	Usage Allowance in 1,000 Gallons	Unit Charge This Class per 1,000 Gallons
	0	999	0.000	\$13.93	5.000	\$2.79
3/4" Residential	15,000	19,999	13.268	\$13.93	5.000	\$3.66
	20,000	24,999	19.787	\$13.93	5.000	\$5.91
	130,000	99,999,999	112.667	\$13.93	5.000	\$5.91
	0	999	0.000	\$19.54	5.000	\$2.79
1" Residential	15,000	19,999	16.630	\$19.54	5.000	\$3.66
	20,000	24,999	21.571	\$19.54	5.000	\$5.91
	130,000	99,999,999	202.000	\$19.54	5.000	\$5.91
3/4" Com & Res/Com	0	999	0.000	\$16.80	5.000	\$3.35
	130,000	99,999,999	1,094.750	\$16.80	5.000	\$3.35
1" Com & Res/Com	0	999	0.000	\$22.39	5.000	\$3.35
	130,000	99,999,999	191.455	\$22.39	5.000	\$3.35
1.5" Com & Res/Com	0	999	0.000	\$52.78	15.000	\$3.35
	130,000	99,999,999	189.720	\$52.78	15.000	\$3.35
2" Com & Res/Com	0	999	0.000	\$62.72	20.000	\$3.35
	130,000	99,999,999	269.806	\$62.72	20.000	\$3.35
3" Com & Res/Com	0	999	0.000	\$125.44	50.000	\$3.35
	240,000	99,999,999	354.290	\$125.44	50.000	\$3.35
4" Com & Res/Com	0	999	0.500	\$215.07	125.000	\$3.35
	435,000	99,999,999	50,217.500	\$215.07	125.000	\$3.35
6" Com & Res/Com	0	999	0.000	\$215.07	125.000	\$3.35
	975,000	99,999,999	985.000	\$215.07	125.000	\$3.35
6"	0	999	0.000	\$215.07	125.000	\$3.35
	975,000	99,999,999	50,487.500	\$215.07	125.000	\$3.35
Commercial	0	999	0.500	\$16.80	0.000	\$0.00
	975,000	99,999,999	50,487.500	\$16.80	0.000	\$0.00
Sprinkler Low	0	999	0.000	\$18.28	0.000	\$0.00
	240,000	99,999,999	50,120.000	\$18.28	0.000	\$0.00
Sprinkler Med	0	999	0.000	\$24.43	0.000	\$0.00
	240,000	99,999,999	50,120.000	\$24.43	0.000	\$0.00
Sprinkler High	0	999	0.000	\$36.64	0.000	\$0.00
	240,000	99,999,999	50,120.000	\$36.64	0.000	\$0.00

Polson, MT, Water Rates Scenario 2014-3

Table 16 - AMHI and Incomes

CBGreatRates© Version 6.3

This table shows annual median household income and system incomes for the test year.

Annual Median Household Income (AMHI)

\$32,978	Census Bureau estimate of AMHI for the year:	2011	"AMHI" stands for annual median household income
<u>\$21,870</u>	Census Bureau estimate of AMHI for the year:	2000	
\$11,108 AMHI growth during these years			
4.6% Simple annual income growth rate during these years (used to project incomes into the future)			

System Incomes for 7/1/12 Through 6/30/13

\$867,008	Water Revenues	Predicted sales:	\$984,084
	Penalties	Sales normalized at:	\$984,084
	10 Number New Taps		
	\$430 Average Impact Fee		
\$4,301	Impact Fee	Actual sales exceeded or fell	
\$9,377	Interest, All Sub-accounts	short of (-) predicted sales by:	-12%
\$2,100	Water Permits		
\$1,532	Water Installation Charges		
\$5,480	Sale Materials/Supplies		
\$135	Insurance Reimbursements		
\$1,400	Gain on Sale of Fixed Assets		
<u>\$4,736</u>	State Fee (\$2/connection)		
\$896,069	Total Regular Income		

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Table 17 - Equipment Replacement Details Chart

This schedule depicts detailed equipment replacement and refurbishment needed during the next 20 years. Total annual expenses from this table are used in Table 18 to calculate the annuity (savings deposit) needed to pay for these expenses as they come due.

Year Beginning	Misc Additional R&R (5%)												Total Annual Replacement Costs
7/1/12	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/13	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/14	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/15	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/16	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/17	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/18	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/19	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/20	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/21	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/22	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/23	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/24	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/25	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/26	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/27	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/28	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/29	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/30	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/31	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/32	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346
7/1/33	\$35,346	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,346

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Table 18 - Replacement Schedule

Replacement Scheduler© Version 1.4

This schedule calculates the annual annuity needed to fund all replacement and refurbishment from the detailed schedule, if that schedule was used. Otherwise, this chart includes assumed equipment replacement needs.

- 4.00% Average Inflation Rate for the Following Water System Equipment for the Term of This Replacement Schedule
- 2.00% Average Interest Rate on Balances Invested for the Term of This Replacement Schedule
- 4.00% Average Interest Rate on Amounts Borrowed for the Term of This Replacement Schedule

Year Beginning	Item Description	This Year's Costs in Current Dollars	Future Annual Inflated Net Costs	Interest Earned on Prior Balance	End of Year Balance in Future Dollars	Minimum Desired End of Year Balance in Future Dollars
7/1/12	Last year's replacements	\$35,346	\$35,346	\$16,747	\$818,773	\$257,670
7/1/13	Total of replacements from detailed replacement schedule	\$35,346	\$36,759	\$16,375	\$825,683	\$267,976
7/1/14	Total of replacements from detailed replacement schedule	\$35,346	\$38,230	\$16,514	\$831,260	\$278,695
7/1/15	Total of replacements from detailed replacement schedule	\$35,346	\$39,759	\$16,625	\$835,420	\$289,843
7/1/16	Total of replacements from detailed replacement schedule	\$35,346	\$41,349	\$16,708	\$838,073	\$301,437
7/1/17	Total of replacements from detailed replacement schedule	\$35,346	\$43,003	\$16,761	\$839,125	\$313,494
7/1/18	Total of replacements from detailed replacement schedule	\$35,346	\$44,723	\$16,782	\$838,477	\$326,034
7/1/19	Total of replacements from detailed replacement schedule	\$35,346	\$46,512	\$16,770	\$836,028	\$339,076
7/1/20	Total of replacements from detailed replacement schedule	\$35,346	\$48,373	\$16,721	\$831,669	\$352,639
7/1/21	Total of replacements from detailed replacement schedule	\$35,346	\$50,308	\$16,633	\$825,289	\$366,744
7/1/22	Total of replacements from detailed replacement schedule	\$35,346	\$52,320	\$16,506	\$816,768	\$381,414
7/1/23	Total of replacements from detailed replacement schedule	\$35,346	\$54,413	\$16,335	\$805,984	\$396,671
7/1/24	Total of replacements from detailed replacement schedule	\$35,346	\$56,589	\$16,120	\$792,808	\$412,537
7/1/25	Total of replacements from detailed replacement schedule	\$35,346	\$58,853	\$15,856	\$777,105	\$429,039
7/1/26	Total of replacements from detailed replacement schedule	\$35,346	\$61,207	\$15,542	\$758,734	\$446,200
7/1/27	Total of replacements from detailed replacement schedule	\$35,346	\$63,655	\$15,175	\$737,546	\$464,048
7/1/28	Total of replacements from detailed replacement schedule	\$35,346	\$66,202	\$14,751	\$713,389	\$482,610
7/1/29	Total of replacements from detailed replacement schedule	\$35,346	\$68,850	\$14,268	\$686,101	\$501,915
7/1/30	Total of replacements from detailed replacement schedule	\$35,346	\$71,604	\$13,722	\$655,513	\$521,991
7/1/31	Total of replacements from detailed replacement schedule	\$35,346	\$74,468	\$13,110	\$621,449	\$542,871
7/1/32	Total of replacements from detailed replacement schedule	\$35,346	\$77,447	\$12,429	\$583,725	\$564,586

Notes: This schedule includes costs from the detailed equipment replacements. A Discretionary Annuity amount was added so that at the end of the 20-year modeling period, the balance will equal the current balance. The Required Annual Deposit was calculated based upon these assumptions.

Starting Account Balance	\$837,371	\$257,670
Minimum Annual Annuity	\$4,294	Minimum Desired Balance in Today's Dollars

Discretionary Annuity \$23,000

Required Annual Deposit to Replacement Account **\$27,294**

This amount is entered into Table 3 and Table 19 as an operating cost of the system.

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Table 19 - Cost Basis for "Proportional" Rate Structure Calculations

CBGreatRates© Version 6.3

This table distributes costs from a representative year (the "target" year) to fixed and variable categories (see Definitions) in order to calculate the "proportional to use" rate structure of the cost breakdown for that year.

The rate structure target year runs from 7/1/2018 through 6/30/2019

Operating Costs

Item	Amount	% of This Cost That is Fixed	% of This Cost That is Variable	Total Costs After Adjustment for Special Costs Below	Fixed Costs After Adjustment for Special Costs	Variable Costs After Adjustment for Special Costs
290 Inventory Adjustment	\$0	50.0%	50.0%	\$0	\$0	\$0
295 Misc Income purchase offset 343027	\$159	50.0%	50.0%	\$159	\$79	\$79
299 Assets less than \$5000	\$2,992	100.0%	0.0%	\$2,992	\$2,992	\$0
300 Purchased Services	\$1,759	100.0%	0.0%	\$1,759	\$1,759	\$0
546 Water Quality Tap Fee	\$0	100.0%	0.0%	\$0	\$0	\$0
898 Reimburse Impact Fees	\$7,916	50.0%	50.0%	\$7,916	\$3,958	\$3,958
901 Replacement and Depreciation	\$0	100.0%	0.0%	\$0	\$0	\$0
Pmt to 358 Gen & Billing Personal Services and Benes	\$156,763	100.0%	0.0%	\$156,763	\$156,763	\$0
Ops, All Personal Services & Benes	\$224,667	25.0%	75.0%	\$224,667	\$56,167	\$168,500
200 Supplies	\$1,452	50.0%	0.0%	\$1,452	\$726	\$0
297 Homeland Security Projects/Safety	\$0	100.0%	0.0%	\$0	\$0	\$0
299 Assets less than \$5000	\$1,356	100.0%	0.0%	\$1,356	\$1,356	\$0
300 Purchased Services	\$13,662	50.0%	50.0%	\$13,662	\$6,831	\$6,831
303 Wellhead Protection Project-DNRC Grant	\$0	50.0%	50.0%	\$0	\$0	\$0
341 Electric	\$53,343	0.0%	100.0%	\$53,343	\$0	\$53,343
354 Engineer Services	\$0	50.0%	50.0%	\$0	\$0	\$0
Depreciation, All	N.A.	50.0%	50.0%	\$0	\$0	\$0
900 Capital Outlay \$5,000+	\$0	50.0%	50.0%	\$0	\$0	\$0
200 Supplies	\$10,778	50.0%	50.0%	\$10,778	\$5,389	\$5,389
300 Purchased Services	\$284	50.0%	50.0%	\$284	\$142	\$142
354 Engineer Services	\$0	50.0%	50.0%	\$0	\$0	\$0
375 Education, Travel, Dues	\$509	100.0%	0.0%	\$509	\$509	\$0
200 Supplies	\$164,990	0.0%	100.0%	\$164,990	\$0	\$164,990
231 Gas, Oil, Diesel Fuel, Grease, etc.	\$8,383	50.0%	50.0%	\$8,383	\$4,192	\$4,192
299 Assets less than \$5000	\$2,281	100.0%	0.0%	\$2,281	\$2,281	\$0
300 Purchased Services	\$30,698	50.0%	50.0%	\$30,698	\$15,349	\$15,349
308 Water Study/TSEP Grant PER	\$0	50.0%	50.0%	\$0	\$0	\$0
345 Telephone & Data Svcs	\$5,621	100.0%	0.0%	\$5,621	\$5,621	\$0
354 Engineer Services	\$18,030	50.0%	50.0%	\$18,030	\$9,015	\$9,015
375 Education, Travel, Dues	\$1,270	100.0%	0.0%	\$1,270	\$1,270	\$0
900 Capital Outlay \$5,000+	\$0	50.0%	50.0%	\$0	\$0	\$0
912 Hillcrest Reservoir Replacement	\$0	0.0%	100.0%	\$0	\$0	\$0
919 Utility System Upgrades	\$0	100.0%	0.0%	\$0	\$0	\$0
940 Machinery & Equipment	\$0	0.0%	100.0%	\$0	\$0	\$0
950 Construction	\$0	100.0%	0.0%	\$0	\$0	\$0
200 Supplies	\$3,194	100.0%	0.0%	\$3,194	\$3,194	\$0
299 Assets less than \$5000	\$0	100.0%	0.0%	\$0	\$0	\$0
300 Purchased Services	\$9,808	100.0%	0.0%	\$9,808	\$9,808	\$0
375 Education, Travel, Dues	\$0	50.0%	50.0%	\$0	\$0	\$0
395 Damage Payout	\$0	25.0%	75.0%	\$0	\$0	\$0
State Fee (\$2/connection)	\$4,853	100.0%	0.0%	\$4,853	\$4,853	\$0
Annual Payment to Replacement Fund	\$27,294	50.0%	50.0%	\$27,294	\$13,647	\$13,647
User Charge Analysis Services	\$0	100.0%	0.0%	\$0	\$0	\$0
CIP Spending Plus Debt Payments	\$202,805	50.0%	50.0%	\$202,805	\$101,402	\$101,402
Grand Total Costs, Weighted Av Percentages	\$954,865	42.7%	57.3%	\$954,865	\$407,301	\$546,838

"Proportional to Use" Rate Structure Cost Basis	
Average Fixed Cost/User/Month =	\$13.92
Average Variable Cost to Produce/1,000 Gallons =	\$2.21
Gallons/Billing Cycle Used by Average Residential Customer =	5,311

\$954,139	
Surchargeable Services are Estimated at	\$0
Water Loss is Estimated at	12%
% of Water Loss to Allocate to Fixed Costs is	0%
Cost of Water Loss is Estimated at	18%
Resulting Cost of Water Loss	\$11,769
Test Year Usage Metered Through Customer Meters (in Gallons)	247,177,000
+ Test Year Water Loss	34,731,000
= Total Test Year Volume	281,908,000

Polson, MT, Water Rates Scenario 2014-3

Table 20 - Marginal Fixed and Variable Costs for Rate Structure Target Year

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This table depicts incremental fixed and variable costs that would be incurred if the system took on one or a few more customers or produced incrementally more volume of service that did not increase cost at all, or much. Such service has little effect on most costs other than those that are direct production costs like electricity and chemicals, at least in the short-term.

The rate structure target year runs from 7/1/2018 through 6/30/2019

Item	Total Costs After Adjustment for Special Costs	Fixed Cost	Marginal Fixed Cost Percentage	Marginal Fixed Cost	Variable Cost	Marginal Variable Cost Percentage	Marginal Variable Cost
290 Inventory Adjustment	\$0	\$0	0%	\$0	\$0	0%	\$0
295 Misc Income purchase offset 343027	\$159	\$79	0%	\$0	\$79	0%	\$0
299 Assets less than \$5000	\$2,992	\$2,992	0%	\$0	\$0	0%	\$0
300 Purchased Services	\$1,759	\$1,759	10%	\$176	\$0	10%	\$0
546 Water Quality Tap Fee	\$0	\$0	100%	\$0	\$0	100%	\$0
898 Reimburse Impact Fees	\$7,916	\$3,958	0%	\$0	\$3,958	0%	\$0
901 Replacement and Depreciation	\$0	\$0	0%	\$0	\$0	0%	\$0
Pmt to 358 Gen & Billing Personal Services and Benes	\$156,763	\$156,763	10%	\$15,676	\$0	10%	\$0
Ops, All Personal Services & Benes	\$224,667	\$56,167	10%	\$5,617	\$168,500	10%	\$16,850
200 Supplies	\$1,452	\$726	10%	\$73	\$726	10%	\$73
297 Homeland Security Projects/Safety	\$0	\$0	0%	\$0	\$0	0%	\$0
299 Assets less than \$5000	\$1,356	\$1,356	0%	\$0	\$0	0%	\$0
300 Purchased Services	\$13,662	\$6,831	10%	\$683	\$6,831	10%	\$683
303 Wellhead Protection Project-DNRC Grant	\$0	\$0	0%	\$0	\$0	0%	\$0
341 Electric	\$53,343	\$0	100%	\$0	\$53,343	100%	\$53,343
354 Engineer Services	\$0	\$0	0%	\$0	\$0	0%	\$0
Depreciation, All	\$0	\$0	0%	\$0	\$0	0%	\$0
900 Capital Outlay \$5,000+	\$0	\$0	0%	\$0	\$0	0%	\$0
200 Supplies	\$10,778	\$5,389	10%	\$539	\$5,389	10%	\$539
300 Purchased Services	\$284	\$142	10%	\$14	\$142	10%	\$14
354 Engineer Services	\$0	\$0	0%	\$0	\$0	0%	\$0
375 Education, Travel, Dues	\$509	\$509	0%	\$0	\$0	0%	\$0
200 Supplies	\$164,990	\$0	10%	\$0	\$164,990	10%	\$16,499
231 Gas, Oil, Diesel Fuel, Grease, etc.	\$8,383	\$4,192	10%	\$419	\$4,192	10%	\$419
299 Assets less than \$5000	\$2,281	\$2,281	0%	\$0	\$0	0%	\$0
300 Purchased Services	\$30,698	\$15,349	10%	\$1,535	\$15,349	10%	\$1,535
308 Water Study/TSEP Grant PER	\$0	\$0	0%	\$0	\$0	0%	\$0
345 Telephone & Data Svcs	\$5,621	\$5,621	0%	\$0	\$0	0%	\$0
354 Engineer Services	\$18,030	\$9,015	10%	\$902	\$9,015	10%	\$902
375 Education, Travel, Dues	\$1,270	\$1,270	0%	\$0	\$0	0%	\$0
900 Capital Outlay \$5,000+	\$0	\$0	0%	\$0	\$0	0%	\$0
912 Hillcrest Reservoir Replacement	\$0	\$0	0%	\$0	\$0	0%	\$0
Annual Payment to Replacement Fund	\$27,294	\$13,647	25%	\$3,412	\$13,647	25%	\$3,412
User Charge Analysis Services	\$0	\$0	0%	\$0	\$0	0%	\$0
CIP Spending Plus Debt Payments	\$202,805	\$101,402	0%	\$0	\$101,402	0%	\$0
Grand Total All Costs	\$954,865	\$407,301	7%	\$29,045	\$547,564	17%	\$94,268

Marginal Costs per Customer and per Unit of Use

The system would lose money if it set minimum or unit charges lower than the marginal fixed and variable costs at right. It would make a "profit" on a marginal cost basis if it charged more.

	Volume in Number of Customers	1,000s of Gallons	Marginal Fixed Cost/ Customer =	Unit Cost Basis/1,000 Gallons to Recover All Costs =	Marginal Variable Cost/ 1,000 Gallons =
	2,438	247,177	\$0.99	\$0.50	\$0.38

Marginal Fixed Cost as a Percent of Average Fixed Cost (Chart 28):	7%
Marginal Variable Cost as a Percent of Average Variable Cost (Chart 28):	17%

Polson, MT, Sewer Rates Scenario 2014-2 Modeling Results

This document contains the calculations that were performed to arrive at new user rates and fees for the next 10 years. These calculations are complex so key issues are also described in a narrative report that accompanies this model.

This analysis was conducted so as to establish user rates that are adequate to pay all reasonably expectable costs while charging rates that are fairly structured and appropriately simple or complex.

Scenario Description: Debt service will be the major driver of sewer rate increases. This analysis model assumes minimum charges that capture all fixed costs plus a surcharge based upon meter size to capture part of the cost of building system capacity. Unit charges will fully capture all variable costs. Residential customers will pay bills on a winter-average use basis; all others on a monthly metered water basis. After initial rate adjustments shown in Table 1, inflationary rate increases will be done annually.

For most, the best way to read and understand what this model means is this. Scan the "Index of Tables, Charts and Other Results" to see how the model is laid out. Scan the "Definitions" for any terms you are not already familiar with. Read and even ponder Table 1 and the line graph charts. These will show you how the proposed rate adjustments will affect ratepayers and the system. If you need more detail than that, review the entire model. Finally, rate setting involves much more than just rates so you need to read the accompanying narrative report to understand what you need to do and why.

Several tables in this model depict volume usage and user rates for the various customer classes. The model includes a continuum of volumes but many volume categories had no users. Most of these lines have been hidden simply to make the tables less voluminous. However, all volume classes that had use or that are break points for rate blocks are shown. For volume classes that are not shown, rates will be the same as the previous rate that is shown.

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Definitions, Continued

User Fee, User Charge, User Rates	Fees assessed to customers for use of the system. Does not include tap, capacity or connection fees, late payment penalties or other types of charges.
Water Loss	Measured by volume or percent, the part of a water system's net water production that does not get to customers. This loss also includes billable volume lost due to under-registering customer meters.
Working Capital, Net Income	The amount left in the operating fund after paying all costs due during that month, year or other time period. Working capital of \$0 is "break even."
Working Capital Goal	The desired percentage in excess of "break even" for the operating fund. Small systems (a few hundred connections) generally should target 35 percent or greater. Larger systems can target less, down to a minimum of about 20 percent for systems with 5,000 or more connections but the goal for each system should be based upon the needs of that system.

Return on Investment

The rates depicted in this model will produce various returns on investment or paybacks. Usually the most important payback, at least to ratepayers, is a rate structure that is demonstrably fair. For the system, revenues (usually increased) that will be adequate to pay all expected, expectable and many unexpected costs is the key return.

The following calculations show what was invested and what the returns will be over two periods; five years and 10 years. Five years is a reasonable period for return projections. Ten years is a good basic planning horizon but you should not bank on amounts or returns projected that far out. Besides, most systems should have their analyses redone long before then.

Consider these key points about returns on investment. Because the recommended, overall higher rates will fund more improvements, better repair and replacement and such, much of the increase in revenues will be absorbed by those expenses. Thus, few systems end up with a dramatic increase in their reserves because most of the additional revenues get used up making needed improvements. Fairer and higher rates generally enable systems to qualify for grant and loan funding, too, increasing those funds but also using up those funds.

Also note that rates in this model have been modeled to be adjusted during the year following the test year or even later. That year is included in the first five-year return on investment calculation. Thus, the first year of returns calculated below include most or all of one year where rates will not have been changed yet, lowering the calculated return on investment but not the real rate of return.

Calculations

\$5,522 Fees to Carl Brown Consulting
\$500 Estimated value of system staff time and incidentals to assemble needed information
\$6,022 Total Investment for This Analysis

\$5,944,435 Five-year Improvement in Cash Position Due at Least Partly to This Analysis
98707% Five-year Return on Investment (increase in revenues / investment)

\$17,765,000 Ten-year Improvement in Cash Position Due at Least Partly to This Analysis
294985% Ten-year Return on Investment (increase in revenues / investment)

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Polson, MT, Sewer Rates Scenario 2014-2

Table 1 - Recommended Rates

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When initially adjusted, user rates should be set as follows. Rates for skipped volume classes are the same as those in the next lowest volume class.

This tables includes minimum charges that are based upon meter size, as calculated in Table 10.

	Class Bottom Use in Gallons	Class Top Use in Gallons	Minimum Charge per Billing Cycle	Usage Allowance in 1,000 Gallons	Unit Charge This Class per 1,000 Gallons
0.75" Res-Avg	0	999	\$41.73	0.000	\$5.78
	1,000	1,999	\$41.73	0.000	\$5.78
	130,000	99,999,999	\$41.73	0.000	\$5.78
1" Res-Avg	0	999	\$47.99	0.000	\$5.78
	1,000	1,999	\$47.99	0.000	\$5.78
	130,000	99,999,999	\$47.99	0.000	\$5.78
0.75" Com-Avg	0	999	\$41.73	0.000	\$5.78
	1,000	1,999	\$41.73	0.000	\$5.78
	130,000	99,999,999	\$41.73	0.000	\$5.78
1" Com-Avg	0	999	\$47.99	0.000	\$5.78
	1,000	1,999	\$47.99	0.000	\$5.78
	130,000	99,999,999	\$47.99	0.000	\$5.78
1.5" Com-Avg	0	999	\$60.83	0.000	\$5.78
	1,000	1,999	\$60.83	0.000	\$5.78
	130,000	99,999,999	\$60.83	0.000	\$5.78
0.75" Res-Act	0	999	\$41.73	0.000	\$5.78
	1,000	1,999	\$41.73	0.000	\$5.78
	130,000	99,999,999	\$41.73	0.000	\$5.78
0.75" Res-Act-Only	0	999	\$54.17	0.000	\$0.00
	1,000	1,999	\$54.17	0.000	\$0.00
	130,000	99,999,999	\$54.17	0.000	\$0.00
0.75" Com-Act	0	999	\$41.73	0.000	\$5.78
	1,000	1,999	\$41.73	0.000	\$5.78
	130,000	99,999,999	\$41.73	0.000	\$5.78
1" Com-Act	0	999	\$47.99	0.000	\$5.78
	1,000	1,999	\$47.99	0.000	\$5.78
	130,000	99,999,999	\$47.99	0.000	\$5.78
1.5" Com-Act	0	999	\$60.83	0.000	\$5.78
	1,000	1,999	\$60.83	0.000	\$5.78
	130,000	99,999,999	\$60.83	0.000	\$5.78
1.5" Com-Act-Only	0	999	\$284.02	0.000	\$0.00
	1,000	1,999	\$284.02	0.000	\$0.00
	130,000	99,999,999	\$284.02	0.000	\$0.00
2" Com-Act	0	999	\$78.81	0.000	\$5.78
	1,000	1,999	\$78.81	0.000	\$5.78
	130,000	99,999,999	\$78.81	0.000	\$5.78
3" Com-Act	0	999	\$130.17	0.000	\$5.78
	1,000	1,999	\$130.17	0.000	\$5.78
	130,000	99,999,999	\$130.17	0.000	\$5.78

Polson, MT, Sewer Rates Scenario 2014-2
Table 2 - User Base and Operating Incomes

This table depicts user statistics and system incomes during the test year and for the next 10 years.

(First year balances and incomes are <u>actual</u> , subsequent years are <u>projected</u> .)	Infla./Deflation (-) Factor	Test Year	This Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year
		Year Starting	Year Starting	Year Starting	Year Starting	Year Starting	Year Starting	Year Starting	Year Starting	Year Starting	Year Starting	Year Starting
		7/1/12	7/1/13	7/1/14	7/1/15	7/1/16	7/1/17	7/1/18	7/1/19	7/1/20	7/1/21	7/1/22
User Base												
Average Users for the Year	NA	2042	2047	2052	2057	2062	2067	2072	2077	2082	2087	2092
Users Added/Lost During the Year	NA	5	5	5	5	5	5	5	5	5	5	5
User Growth/Loss Rate	NA	0.24%	0.24%	0.24%	0.24%	0.24%	0.24%	0.24%	0.24%	0.24%	0.24%	0.24%
Weighted-average Rate Increases Started During This & Future Years	NA	NA	253.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%

"Weighted-average Rate Increases Started During This & Future Years," and the rate revenues that result, were calculated as follows:

- In the early part of the year in the "This Year" column above revenues will be collected at the now-current rates. After that they will be collected at adjusted rates. (Thus, the revenues shown in the section below are "blended" revenues for "This Year.") The percentage increases shown above in the "This Year" column are the weighted average increases of the rates that are modeled to be enacted yet this year. (A negative percentage would mean rates would go down.)
- The ending rates for "This Year" become the beginning rates for the "2nd Year." In future years, on about the anniversary of the initial increases, inflationary increases of the percentages shown are modeled to be added. Thus, the "2nd Year's" revenues will also come from blended rates. It is also assumed that future rate revenues include extra revenues due to user growth and capacity charges, if they are included in Table 9. If capacity charges are not included in Table 9, but they will be assessed, they appear below in the Operating Incomes section of this table.
- Finally, if the commodity sales volume during the test year was unusual, the volume was normalized for future years and sales revenues adjusted as shown below in the Operating Incomes section.

Operating Incomes

Sewer Service Charges	NA	\$539,586	\$525,177	\$1,846,021	\$1,961,550	\$2,084,285	\$2,214,685	\$2,353,231	\$2,500,429	\$2,656,820	\$2,822,975	\$2,999,505
Disregard	NA	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Impact Fee (Current Rate Structure)	% Above	\$1,394	\$697	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Meter-size Based Tap Fees (Table 5)	% Above	\$0	\$3	\$1,150	\$1,219	\$1,292	\$1,370	\$1,452	\$1,539	\$1,631	\$1,729	\$1,833
Interest, All Sub-accounts	NA	\$12,067	\$1,932	\$1,823	\$1,867	\$1,932	\$3,574	\$3,685	\$3,823	\$3,990	\$4,116	\$4,272
Sewer Permits Repl/Depr	NA	\$2,212	\$2,212	\$2,212	\$2,212	\$2,212	\$2,212	\$2,212	\$2,212	\$2,212	\$2,212	\$2,212
Sale Materials/Supplies	NA	\$598	\$598	\$598	\$598	\$598	\$598	\$598	\$598	\$598	\$598	\$598
Insurance Reimbursements	NA	\$135	\$135	\$135	\$135	\$135	\$135	\$135	\$136	\$136	\$136	\$137
Sewer Dept. Land Rental	NA	\$12,350	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
CHS - Redeemed Equity	NA	\$227	\$227	\$227	\$227	\$227	\$227	\$227	\$227	\$227	\$227	\$227
Miscellaneous Revenue	NA	\$570	\$570	\$570	\$570	\$570	\$570	\$570	\$570	\$570	\$570	\$570
Grease Mgmt/Elimination Program Surcharges	NA	\$0	\$0	\$0	\$0	\$10,000	\$10,400	\$10,816	\$11,249	\$11,699	\$12,167	\$12,653
Revenue Loss Due to Conservation	2.5%	\$0	-\$13,129	-\$46,151	-\$49,039	-\$52,107	-\$55,367	-\$58,831	-\$62,511	-\$66,420	-\$70,574	-\$74,988
Total Regular Income		\$569,138	\$518,421	\$1,806,586	\$1,919,339	\$2,049,143	\$2,178,403	\$2,314,095	\$2,458,272	\$2,611,462	\$2,774,156	\$2,947,019

Polson, MT, Sewer Rates Scenario 2014-2
 Table 3 - Operating Costs and Net Income

This table depicts expenses during the test year, this year and for the next 10 years.

(First year costs and net incomes are actual, subsequent years are projected.)

	Infla./De- flation (-) Factor	Test Year	This Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year
		Year Starting 7/1/12	Year Starting 7/1/13	Year Starting 7/1/14	Year Starting 7/1/15	Year Starting 7/1/16	Year Starting 7/1/17	Year Starting 7/1/18	Year Starting 7/1/19	Year Starting 7/1/20	Year Starting 7/1/21	Year Starting 7/1/22
(Note: Some future costs will experience inflation. Those costs that go up as use goes up are also increased by the growth rate in users and the percentage by which that cost is variable as reported in Chart 4.)												
295 Misc Income purchase offset 343027	4.0%	\$126	\$131	\$136	\$142	\$148	\$155	\$161	\$168	\$175	\$183	\$190
299 Assets less than \$5000	4.0%	\$2,399	\$2,495	\$2,595	\$2,699	\$2,807	\$2,919	\$3,036	\$3,157	\$3,284	\$3,415	\$3,552
300 Purchased Services	4.0%	\$1,390	\$1,445	\$1,503	\$1,563	\$1,626	\$1,691	\$1,759	\$1,829	\$1,902	\$1,978	\$2,057
302 Sewer Study/Engineering	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
375 Education, Travel, Dues	4.0%	\$3,832	\$3,986	\$4,145	\$4,311	\$4,483	\$4,663	\$4,849	\$5,043	\$5,245	\$5,455	\$5,673
898 Reimburse Impact Fees	4.0%	\$1,533	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
358 Gen & Billing Personal Services and Benes	4.0%	\$124,237	\$129,206	\$134,375	\$139,750	\$145,340	\$151,153	\$157,199	\$163,487	\$170,027	\$176,828	\$183,901
200 Supplies (for Acct and Collection)	4.0%	\$2,337	\$2,430	\$2,528	\$2,629	\$2,734	\$2,843	\$2,957	\$3,075	\$3,198	\$3,326	\$3,459
300 Purchased Services (for Acct and Collection)	4.0%	\$7,646	\$7,951	\$8,269	\$8,600	\$8,944	\$9,302	\$9,674	\$10,061	\$10,463	\$10,882	\$11,317
314 Lobbyists/2011 Legislature Contr. Svc. (for Acct and Collection)	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
345 Telephone & Data Svcs (for Acct and Collection)	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
354 Engineer Services (for Acct and Collection)	4.0%	\$393	\$409	\$425	\$442	\$460	\$479	\$498	\$518	\$538	\$560	\$582
395 Damage Payout (for Acct and Collection)	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ops, All Personal Services & Benes	4.0%	\$113,428	\$117,965	\$122,683	\$127,591	\$132,694	\$138,002	\$143,522	\$149,263	\$155,234	\$161,443	\$167,901
200 Supplies (for All Ops)	4.0%	\$40,181	\$41,788	\$43,460	\$45,198	\$47,006	\$48,886	\$50,842	\$52,875	\$54,990	\$57,190	\$59,477
231 Gas, Oil, Diesel Fuel, Grease, etc. (for All Ops)	4.0%	\$16,041	\$16,682	\$17,350	\$18,044	\$18,765	\$19,516	\$20,297	\$21,109	\$21,953	\$22,831	\$23,744
299 Assets less than \$5000 (for All Ops)	4.0%	\$1,831	\$1,904	\$1,980	\$2,060	\$2,142	\$2,228	\$2,317	\$2,409	\$2,506	\$2,606	\$2,710
300 Purchased Services (for All Ops)	4.0%	\$61,468	\$51,927	\$54,004	\$56,164	\$58,410	\$60,747	\$63,177	\$65,704	\$68,332	\$71,065	\$73,908
341 Electric (for All Ops)	4.0%	\$49,796	\$51,788	\$53,860	\$56,014	\$58,255	\$60,585	\$63,008	\$65,529	\$68,150	\$70,876	\$73,711
345 Telephone & Data Svcs (for All Ops)	4.0%	\$5,546	\$5,767	\$5,998	\$6,238	\$6,488	\$6,747	\$7,017	\$7,298	\$7,590	\$7,893	\$8,209
354 Engineer Services (for All Ops)	4.0%	\$12,529	\$13,030	\$13,551	\$14,093	\$14,657	\$15,243	\$15,853	\$16,487	\$17,147	\$17,833	\$18,546
900 Capital Outlay \$5,000+ (for All Ops)	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
940 Machinery & Equipment (for All Ops)	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
950 Construction (for All Ops)	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
297 Homeland Security Projects/Safety (for All Ops)	4.0%	\$650	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
875 Fines & Forfeitures (for All Ops)	4.0%	\$40,200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
933 DNRC Sewer Treatment Study	4.0%	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4
314 Lobbyists/2011 Legislature Contr. Svc. (for All Ops)	4.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Grease Mgmt/Elimination Program	4.0%	\$0	\$0	\$0	\$0	\$10,000	\$10,400	\$10,816	\$11,249	\$11,699	\$12,167	\$12,653
Operation and Maintenance Increase w/ New Plant	4.0%	\$0	\$0	\$0	\$0	\$433,548	\$450,890	\$468,926	\$487,683	\$507,190	\$527,477	\$548,577
Annual Payment to Replacement Fund	0.0%	\$66,433	\$66,433	\$66,433	\$66,433	\$66,433	\$66,433	\$66,433	\$66,433	\$66,433	\$66,433	\$66,433
User Charge Analysis Services	5.0%	\$0	\$5,522	\$0	\$0	\$6,088	\$0	\$0	\$6,712	\$0	\$0	\$7,400
Debt Service	N.A.	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4	Table 4
Total Operating Costs		\$551,994	\$520,861	\$533,296	\$551,971	\$1,021,029	\$1,052,881	\$1,092,339	\$1,140,088	\$1,176,054	\$1,220,440	\$1,274,001
Net Income (or Loss)		\$17,144	-\$2,440	\$1,273,290	\$1,367,368	\$1,028,115	\$1,125,522	\$1,221,756	\$1,318,183	\$1,435,408	\$1,553,716	\$1,673,018
Working Capital Goal: 35%		In Dollars, That is:	\$193,198	\$182,301	\$186,653	\$193,190	\$357,360	\$368,508	\$382,319	\$399,031	\$411,619	\$445,900

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Table 4 - Capital Improvement Program

This table depicts capital improvements and their funding. Costs reflect inflation.

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	Year Starting	This Year	Next Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year
	7/1/12	7/1/13	7/1/14	7/1/15	7/1/16	7/1/17	7/1/18	7/1/19	7/1/20	7/1/21	7/1/22
CIP Spending Plan											
Capital Improvements to be Paid With Debt											
WWTP MBR Alternative, SRF Loan	\$0	\$0	\$0	\$9,450,600	\$9,450,600	\$0	\$0	\$0	\$0	\$0	\$0
Financed Interest Expense	\$0	\$0	\$0	\$47,253	\$47,253	\$0	\$0	\$0	\$0	\$0	\$0
Total Capital Improvements to be Paid With Debt	\$0	\$0	\$0	\$9,497,853	\$9,497,853	\$0	\$0	\$0	\$0	\$0	\$0
Capital Improvements to be Paid With Cash											
WWTP MBR Alternative, RRGL	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WWTP MBR Alternative, TSEP	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WWTP MBR Alternative, CDBG	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Cap Improvements to be Paid With Cash	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total CIP Planned Spending	\$0	\$0	\$0	\$9,497,853	\$9,497,853	\$0	\$0	\$0	\$0	\$0	\$0
CIP Funding Plan											
CIP Reserves Carryover Plus Transfers in	\$1,036,553	\$1,045,009	\$2,334,678	\$3,716,825	\$4,627,889	\$5,019,536	\$4,709,573	\$4,485,064	\$4,375,544	\$4,376,767	\$4,491,798
CIP Reserves Interest Earned (or Paid)	\$0	\$20,731	\$21,315	\$47,120	\$75,279	\$78,103	\$70,033	\$63,672	\$59,054	\$56,772	\$56,751
Grants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WWTP MBR Alternative, SRF Loan SRF Loan				\$9,497,853	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WWTP MBR Alternative, SRF Loan SRF Loan					\$9,497,853	\$0	\$0	\$0	\$0	\$0	\$0
Total CIP Fund Sources	\$1,036,553	\$1,065,740	\$2,355,993	\$13,261,798	\$14,201,021	\$5,097,639	\$4,779,605	\$4,548,736	\$4,434,598	\$4,433,539	\$4,548,549
CIP Debt Payment Plan											
Payments for future loans assume 100 percent financing for projects, term of:						20	years and	3.00%	interest		
25% Debt Coverage	\$0	\$0	\$0	\$0	\$159,601	\$319,202	\$319,202	\$319,202	\$319,202	\$319,202	\$319,202
WWTP MBR Alternative, SRF Loan SRF Loan					\$638,405	\$638,405	\$638,405	\$638,405	\$638,405	\$638,405	\$638,405
WWTP MBR Alternative, SRF Loan SRF Loan						\$638,405	\$638,405	\$638,405	\$638,405	\$638,405	\$638,405
Total Debt Payments	\$0	\$0	\$0	\$0	\$798,006	\$1,596,012	\$1,596,012	\$1,596,012	\$1,596,012	\$1,596,012	\$1,596,012
CIP Spending Plus Debt Payments	\$0	\$0	\$0	\$9,497,853	\$10,295,859	\$1,596,012	\$1,596,012	\$1,596,012	\$1,596,012	\$1,596,012	\$1,596,012
CIP Reserves Balance	\$1,036,553	\$1,065,740	\$2,355,993	\$3,763,945	\$3,905,162	\$3,501,627	\$3,183,593	\$2,952,724	\$2,838,586	\$2,837,527	\$2,952,536
Net CIP Spending This Year	\$0	\$0	\$0	\$0	\$798,006	\$1,596,012	\$1,596,012	\$1,596,012	\$1,596,012	\$1,596,012	\$1,596,012

Notes: The wastewater system has a large improvement project, as listed above. Funding will primarily be by SRF loans, with smaller amounts through grants. For planning purposes, costs for the large project were split evenly between two years because it is assumed construction will take at least parts of two years.

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Table 5 - Capacity Cost Recovery

This table shows tap and capacity fee revenues and costs to expect. From these costs, tap fees and capacity demand charges will be developed in Table 5 and Table 8, respectively.

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(First year figures are actual, subsequent years are projected.)

Infla./De- flation (-) Factor	Year Starting 7/1/12	Year Starting 7/1/13	Year Starting 7/1/14	Year Starting 7/1/15	Year Starting 7/1/16	Year Starting 7/1/17	Year Starting 7/1/18	Year Starting 7/1/19	Year Starting 7/1/20	Year Starting 7/1/21	Year Starting 7/1/22
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Tap Fee Revenues

Customers (Taps) Added During the Year		5	5	5	5	5	5	5	5	5	5	
Weighted Average Tap Fee	6.0%	\$279	\$140	\$230	\$244	\$258	\$274	\$290	\$308	\$326	\$346	\$367
Total Tap Fee Revenues	NA	\$1,394	\$700	\$1,150	\$1,219	\$1,292	\$1,370	\$1,452	\$1,539	\$1,631	\$1,729	\$1,833

Operating Costs Associated With Making New Connections

Field Costs for New Connections	4.0%	\$250	\$260	\$270	\$281	\$292	\$304	\$316	\$329	\$342	\$356	\$370
Administration Costs	4.0%	\$125	\$130	\$135	\$141	\$146	\$152	\$158	\$164	\$171	\$178	\$185
Total Direct Costs for New Connections		\$375	\$390	\$406	\$422	\$439	\$456	\$474	\$493	\$513	\$534	\$555

Note: These costs should be recovered by fees charged for making new taps (usually called, "tap fees") regardless of the demand capacity (generally size) of each new tap made.

Net Tap Fee Revenues

Revenues Net of Operating Costs		\$1,019	\$310	\$744	\$797	\$854	\$914	\$977	\$1,046	\$1,118	\$1,196	\$1,278
Cum Rev Net of Operating Costs		\$1,019	\$1,329	\$2,073	\$2,871	\$3,724	\$4,638	\$5,615	\$6,661	\$7,779	\$8,974	\$10,252

Note: Connection charges should almost always cover at least the operating costs to make connections. Thus, cumulative revenues net of operating costs (immediately above) should be positive.

Annualized Capacity Cost (Depreciation)

	Total Fixed Assets Book Value	% of Total Attributable to Capacity	Capacity Cost	Annualized Capacity Cost (see Note)
Existing System	\$2,538,890	50.0%	\$1,269,445	\$73,981
Totals	\$2,538,890	50.0%	\$1,269,445	\$73,981

Note: Capacity and connection costs WILL be recovered in one way by default, or a combination of ways by design: through regular user fees, in which case existing customers pay the costs to bring on new customers; through "tap" or connection fees, in which case new customers pay "up front" for the costs they cause the system to incur; through on-going demand or capacity charges, preferably based upon meter or connection size, in which case all customers pay for the capacity costs they cause over time; or some combination of these.

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Table 6 - Indicators

This table depicts the affordability of future rates, the financial health of the system and the ending balances in various accounts for the test year and the next 10 years.

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	Year Starting 7/1/12	Year Starting 7/1/13	Year Starting 7/1/14	Year Starting 7/1/15	Year Starting 7/1/16	Year Starting 7/1/17	Year Starting 7/1/18	Year Starting 7/1/19	Year Starting 7/1/20	Year Starting 7/1/21	Year Starting 7/1/22	
Capacity Indicators												
Equivalent Average Monthly Bill Actually Paid by All Customers Throughout the Year	\$22.02	\$21.38	\$74.96	\$79.46	\$84.23	\$89.28	\$94.64	\$100.31	\$106.33	\$112.71	\$119.47	
Equivalent Final Monthly Bill for a 5,000 gal per Month Residential User	\$20.38	\$70.61	\$74.85	\$79.34	\$84.10	\$89.14	\$94.49	\$100.16	\$106.17	\$112.54	\$119.30	
Annual Median Household Income (AMHI)	\$32,978	\$34,501	\$36,094	\$37,760	\$39,504	\$41,328	\$43,236	\$45,233	\$47,321	\$49,506	\$51,792	
Affordability Index for Proposed Rates	0.74%	2.46%	2.49%	2.52%	2.55%	2.59%	2.62%	2.66%	2.69%	2.73%	2.76%	
Affordability Index is the percent of AMHI needed by a 5,000 gallon per month residential user to pay their bill. Rates near 1.0% are common in the U.S. and are generally considered affordable. Federal grant agencies generally will not consider awarding grants if this indicator is less than 2.0%.												
Estimated Operating Ratio for Proposed Rates	3.30	3.44	3.42	1.26	1.38	5.09	4.58	4.17	3.89	3.70	3.60	
1.0 is break even for Operating Ratio. Below 1.0 indicates operating in the "red." Generally, the operating ratio should be at least 1.15 for large systems, 1.30 or more for medium systems and perhaps as high as 2.0 for small systems.												
Estimated Coverage Ratio for Proposed Rates	N.A.	N.A.	N.A.	N.A.	6.40	3.45	3.26	3.13	3.06	3.07	3.16	
Coverage Ratio applies only to years with debt service. 1.0 is break even. Generally, the coverage ratio should be at least 1.25.												
Reserves	Balance Ending on 6/30/12	Balance Ending on 6/30/13	Balance Ending on 6/30/14	Balance Ending on 6/30/15	Balance Ending on 6/30/16	Balance Ending on 6/30/17	Balance Ending on 6/30/18	Balance Ending on 6/30/19	Balance Ending on 6/30/20	Balance Ending on 6/30/21	Balance Ending on 6/30/22	Balance Ending on 6/30/23
Current Position (Working Capital)	\$491,209	\$193,198	\$182,301	\$186,653	\$193,190	\$357,360	\$368,508	\$382,319	\$399,031	\$411,619	\$427,154	\$445,900
CIP Reserves	\$721,398	\$1,036,553	\$1,065,740	\$2,355,993	\$3,763,945	\$3,905,162	\$3,501,627	\$3,183,593	\$2,952,724	\$2,838,586	\$2,837,527	\$2,952,536
Cash Impact Fee/Restricted	\$55,258	\$42,908	\$42,908	\$42,908	\$42,908	\$42,908	\$42,908	\$42,908	\$42,908	\$42,908	\$42,908	\$42,908
Total Cash Assets (Excluding Dedicated Reserves) Before Inflation	\$1,267,865	\$1,272,659	\$1,290,950	\$2,585,555	\$4,000,043	\$4,305,430	\$3,913,044	\$3,608,820	\$3,394,663	\$3,293,113	\$3,307,589	\$3,441,345
Total Cash Assets (Excluding Dedicated Reserves) Discounted for Inflation (Future Unrestricted Purchasing Power)	\$1,267,865	\$1,272,659	\$1,290,950	\$2,482,133	\$3,686,440	\$3,809,169	\$3,323,530	\$2,942,533	\$2,657,199	\$2,474,601	\$2,386,060	\$2,383,248
Replacement Fund	\$721,398	\$684,531	\$711,307	\$736,485	\$759,947	\$781,570	\$801,226	\$818,778	\$834,085	\$846,998	\$857,361	\$865,012
Debt Service Reserves	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sum of All Reserves	\$1,989,263	\$1,957,190	\$2,002,257	\$3,322,040	\$4,759,990	\$5,087,001	\$4,714,269	\$4,427,598	\$4,228,748	\$4,140,111	\$4,164,950	\$4,306,357

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Table 7 - Old Rates, New Rates and Changes

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This table compares bills for various volumes at the current rates and billing frequency with what the same volumes would cost at the equivalent proposed rates for that same billing frequency. (An "apples to apples" comparison.) If surcharges were calculated for these same classes of users, these bills include those surcharges. Otherwise, surcharges are not included in this comparison, they are shown in Table 8 and they are discussed in the narrative report.

	Class Bottom Use in Gallons	Class Top Use in Gallons	Median or Actual use in 1,000 Gallons	Customers in Each Volume Group	Cumulative Customers in This Rate Class	Current Average Bill, Paid Monthly	Proposed Average, Same Time Period	Bill Increase or Decrease (-) After Rate Adjustment	Percent Increase or Decrease (-) After Rate Adjustment
0.75" Res-Avg	0	999	0.500	0	0	\$7.82	\$44.62	\$36.80	470%
	1,000	1,999	1.500	0	0	\$10.61	\$50.39	\$39.78	375%
	2,000	2,999	2.500	0	0	\$13.40	\$56.16	\$42.76	319%
	3,000	3,999	3.356	1,497	1,497	\$15.79	\$61.10	\$45.31	287%
	4,000	4,999	4.500	0	1,497	\$18.97	\$67.70	\$48.73	257%
	5,000	5,999	5.500	0	1,497	\$21.76	\$73.47	\$51.71	238%
	6,000	6,999	6.500	0	1,497	\$24.55	\$79.24	\$54.69	223%
	7,000	7,999	7.500	0	1,497	\$27.33	\$85.01	\$57.67	211%
	8,000	8,999	8.500	0	1,497	\$30.12	\$90.78	\$60.65	201%
	9,000	9,999	9.500	0	1,497	\$32.91	\$96.55	\$63.64	193%
	10,000	14,999	12.500	0	1,497	\$41.28	\$113.87	\$72.59	176%
	25,000	29,999	27.500	0	1,497	\$83.12	\$200.48	\$117.36	141%
	50,000	59,999	55.000	0	1,497	\$159.83	\$359.27	\$199.44	125%
	100,000	109,999	105.000	0	1,497	\$299.31	\$648.01	\$348.69	116%
	130,000	99,999,999	50,065.000	0	1,497	\$139,687.71	\$289,181.98	\$149,494.27	107%
1" Res-Avg	0	999	0.500	0	0	\$7.82	\$50.88	\$43.06	550%
	1,000	1,999	1.500	0	0	\$10.61	\$56.65	\$46.04	434%
	2,000	2,999	2.500	0	0	\$13.40	\$62.42	\$49.02	366%
	3,000	3,999	3.983	12	12	\$17.54	\$70.98	\$53.45	305%
	4,000	4,999	4.500	0	12	\$18.97	\$73.96	\$54.98	290%
	5,000	5,999	5.500	0	12	\$21.76	\$79.73	\$57.97	266%
	6,000	6,999	6.500	0	12	\$24.55	\$85.50	\$60.95	248%
	7,000	7,999	7.500	0	12	\$27.33	\$91.27	\$63.93	234%
	8,000	8,999	8.500	0	12	\$30.12	\$97.03	\$66.91	222%
	9,000	9,999	9.500	0	12	\$32.91	\$102.80	\$69.90	212%
	10,000	14,999	12.500	0	12	\$41.28	\$120.12	\$78.85	191%
	25,000	29,999	27.500	0	12	\$83.12	\$206.74	\$123.62	149%
	50,000	59,999	55.000	0	12	\$159.83	\$365.53	\$205.70	129%
	100,000	109,999	105.000	0	12	\$299.31	\$654.26	\$354.95	119%
	0.75" Com-Avg	0	999	0.500	0	0	\$7.82	\$44.62	\$36.80
1,000		1,999	1.500	0	0	\$10.61	\$50.39	\$39.78	375%
2,000		2,999	2.500	0	0	\$13.40	\$56.16	\$42.76	319%
3,000		3,999	3.500	0	0	\$16.19	\$61.93	\$45.74	283%
4,000		4,999	4.500	0	0	\$18.97	\$67.70	\$48.73	257%
5,000		5,999	5.500	0	0	\$21.76	\$73.47	\$51.71	238%
6,000		6,999	6.365	32	32	\$24.17	\$78.46	\$54.29	225%
7,000		7,999	7.500	0	32	\$27.33	\$85.01	\$57.67	211%
8,000		8,999	8.500	0	32	\$30.12	\$90.78	\$60.65	201%
9,000		9,999	9.500	0	32	\$32.91	\$96.55	\$63.64	193%
10,000		14,999	12.500	0	32	\$41.28	\$113.87	\$72.59	176%
25,000		29,999	27.500	0	32	\$83.12	\$200.48	\$117.36	141%
50,000		59,999	55.000	0	32	\$159.83	\$359.27	\$199.44	125%
100,000		109,999	105.000	0	32	\$299.31	\$648.01	\$348.69	116%

	Class Bottom Use in Gallons	Class Top Use in Gallons	Median or Actual Average use in 1,000 Gallons	Customers in Each Volume Group	Cumulative Customers in This Rate Class	Current Average Bill, Paid Monthly	Proposed Average, Same Time Period	Bill Increase or Decrease (-) After Rate Adjustment	Increase or Decrease (-) After Rate Adjustment
1" Com-Avg	0	999	0.500	0	0	\$7.82	\$50.88	\$43.06	550%
	1,000	1,999	1.500	0	0	\$10.61	\$56.65	\$46.04	434%
	2,000	2,999	2.500	0	0	\$13.40	\$62.42	\$49.02	366%
	3,000	3,999	3.500	0	0	\$16.19	\$68.19	\$52.00	321%
	4,000	4,999	4.500	0	0	\$18.97	\$73.96	\$54.98	290%
	5,000	5,999	5.500	0	0	\$21.76	\$79.73	\$57.97	266%
	6,000	6,999	6.500	0	0	\$24.55	\$85.50	\$60.95	248%
	7,000	7,999	7.500	0	0	\$27.33	\$91.27	\$63.93	234%
	8,000	8,999	8.617	12	12	\$30.45	\$97.71	\$67.26	221%
	9,000	9,999	9.500	0	12	\$32.91	\$102.80	\$69.90	212%
	10,000	14,999	12.500	0	12	\$41.28	\$120.12	\$78.85	191%
	25,000	29,999	27.500	0	12	\$83.12	\$206.74	\$123.62	149%
	50,000	59,999	55.000	0	12	\$159.83	\$365.53	\$205.70	129%
	100,000	109,999	105.000	0	12	\$299.31	\$654.26	\$354.95	119%
	1.5" Com-Avg	0	999	0.500	0	0	\$7.82	\$63.72	\$55.89
1,000		1,999	1.500	0	0	\$10.61	\$69.49	\$58.88	555%
2,000		2,999	2.500	0	0	\$13.40	\$75.26	\$61.86	462%
3,000		3,999	3.500	0	0	\$16.19	\$81.03	\$64.84	401%
4,000		4,999	4.500	0	0	\$18.97	\$86.80	\$67.82	357%
5,000		5,999	5.500	0	0	\$21.76	\$92.57	\$70.81	325%
6,000		6,999	6.500	0	0	\$24.55	\$98.34	\$73.79	301%
7,000		7,999	7.500	0	0	\$27.33	\$104.11	\$76.77	281%
8,000		8,999	8.500	0	0	\$30.12	\$109.87	\$79.75	265%
9,000		9,999	9.500	0	0	\$32.91	\$115.64	\$82.74	251%
10,000		14,999	12.500	0	0	\$41.28	\$132.96	\$91.69	222%
25,000		29,999	27.500	0	0	\$83.12	\$219.58	\$136.46	164%
50,000		59,999	50.400	7	7	\$147.00	\$351.80	\$204.81	139%
100,000		109,999	105.000	0	7	\$299.31	\$667.10	\$367.79	123%
0.75" Res-Act		0	999	0.500	0	0	\$7.82	\$44.62	\$36.80
	1,000	1,999	1.500	0	0	\$10.61	\$50.39	\$39.78	375%
	2,000	2,999	2.154	91	91	\$12.43	\$54.16	\$41.73	336%
	3,000	3,999	3.500	0	91	\$16.19	\$61.93	\$45.74	283%
	4,000	4,999	4.500	0	91	\$18.97	\$67.70	\$48.73	257%
	5,000	5,999	5.500	0	91	\$21.76	\$73.47	\$51.71	238%
	6,000	6,999	6.500	0	91	\$24.55	\$79.24	\$54.69	223%
	7,000	7,999	7.500	0	91	\$27.33	\$85.01	\$57.67	211%
	8,000	8,999	8.500	0	91	\$30.12	\$90.78	\$60.65	201%
	9,000	9,999	9.500	0	91	\$32.91	\$96.55	\$63.64	193%
	10,000	14,999	12.500	0	91	\$41.28	\$113.87	\$72.59	176%
	25,000	29,999	27.500	0	91	\$83.12	\$200.48	\$117.36	141%
	50,000	59,999	55.000	0	91	\$159.83	\$359.27	\$199.44	125%
	100,000	109,999	105.000	0	91	\$299.31	\$648.01	\$348.69	116%

	Class Bottom Use in Gallons	Class Top Use in Gallons	Median or Actual Average use in 1,000 Gallons	Customers in Each Volume Group	Cumulative Customers in This Rate Class	Current Average Bill, Paid Monthly	Proposed Average, Same Time Period	Bill Increase or Decrease (-) After Rate Adjustment	Increase or Decrease (-) After Rate Adjustment
0.75" Res-Act-Only	0	999	0.000	21	21	\$17.19	\$54.17	\$36.98	215%
	1,000	1,999	1.500	0	21	\$17.19	\$54.17	\$36.98	215%
	2,000	2,999	2.500	0	21	\$17.19	\$54.17	\$36.98	215%
	3,000	3,999	3.500	0	21	\$17.19	\$54.17	\$36.98	215%
	4,000	4,999	4.500	0	21	\$17.19	\$54.17	\$36.98	215%
	5,000	5,999	5.500	0	21	\$17.19	\$54.17	\$36.98	215%
	6,000	6,999	6.500	0	21	\$17.19	\$54.17	\$36.98	215%
	7,000	7,999	7.500	0	21	\$17.19	\$54.17	\$36.98	215%
	8,000	8,999	8.500	0	21	\$17.19	\$54.17	\$36.98	215%
	9,000	9,999	9.500	0	21	\$17.19	\$54.17	\$36.98	215%
	10,000	14,999	12.500	0	21	\$17.19	\$54.17	\$36.98	215%
	25,000	29,999	27.500	0	21	\$17.19	\$54.17	\$36.98	215%
	50,000	59,999	55.000	0	21	\$17.19	\$54.17	\$36.98	215%
	100,000	109,999	105.000	0	21	\$17.19	\$54.17	\$36.98	215%
	0.75" Com-Act	0	999	0.500	0.0	0	\$17.19	\$44.62	\$27.43
1,000		1,999	1.500	0.0	0	\$17.19	\$50.39	\$33.20	193%
2,000		2,999	2.500	0.0	0	\$17.19	\$56.16	\$38.97	227%
3,000		3,999	3.500	0.0	0	\$17.19	\$61.93	\$44.74	260%
4,000		4,999	4.500	0.0	0	\$17.19	\$67.70	\$50.51	294%
5,000		5,999	5.718	261.8	262	\$17.19	\$74.73	\$57.54	335%
6,000		6,999	6.500	0.0	262	\$17.19	\$79.24	\$62.05	361%
7,000		7,999	7.500	0.0	262	\$17.19	\$85.01	\$67.82	395%
8,000		8,999	8.500	0.0	262	\$17.19	\$90.78	\$73.59	428%
9,000		9,999	9.500	0.0	262	\$17.19	\$96.55	\$79.36	462%
10,000		14,999	12.500	0.0	262	\$17.19	\$113.87	\$96.68	562%
25,000		29,999	27.500	0.0	262	\$17.19	\$200.48	\$183.29	1066%
50,000		59,999	55.000	0.0	262	\$17.19	\$359.27	\$342.08	1990%
100,000		109,999	105.000	0.0	262	\$17.19	\$648.01	\$630.82	3670%
1" Com-Act		0	999	0.500	0	0	\$7.82	\$50.88	\$43.06
	1,000	1,999	1.500	0	0	\$10.61	\$56.65	\$46.04	434%
	2,000	2,999	2.500	0	0	\$13.40	\$62.42	\$49.02	366%
	3,000	3,999	3.500	0	0	\$16.19	\$68.19	\$52.00	321%
	4,000	4,999	4.500	0	0	\$18.97	\$73.96	\$54.98	290%
	5,000	5,999	5.500	0	0	\$21.76	\$79.73	\$57.97	266%
	6,000	6,999	6.500	0	0	\$24.55	\$85.50	\$60.95	248%
	7,000	7,999	7.500	0	0	\$27.33	\$91.27	\$63.93	234%
	8,000	8,999	8.500	0	0	\$30.12	\$97.03	\$66.91	222%
	9,000	9,999	9.500	0	0	\$32.91	\$102.80	\$69.90	212%
	10,000	14,999	12.500	0	0	\$41.28	\$120.12	\$78.85	191%
	15,000	19,999	15.086	60	60	\$48.49	\$135.05	\$86.57	179%
	25,000	29,999	27.500	0	60	\$83.12	\$206.74	\$123.62	149%
	50,000	59,999	55.000	0	60	\$159.83	\$365.53	\$205.70	129%
	100,000	109,999	105.000	0	60	\$299.31	\$654.26	\$354.95	119%

	Class Bottom Use in Gallons	Class Top Use in Gallons	Median or Actual Average use in 1,000 Gallons	Customers in Each Volume Group	Cumulative Customers in This Rate Class	Current Average Bill, Paid Monthly	Proposed Average, Same Time Period	Bill Increase or Decrease (-) After Rate Adjustment	Increase or Decrease (-) After Rate Adjustment
1.5" Com-Act	0	999	0.500	0	0	\$7.82	\$63.72	\$55.89	714%
	1,000	1,999	1.500	0	0	\$10.61	\$69.49	\$58.88	555%
	2,000	2,999	2.500	0	0	\$13.40	\$75.26	\$61.86	462%
	3,000	3,999	3.500	0	0	\$16.19	\$81.03	\$64.84	401%
	4,000	4,999	4.500	0	0	\$18.97	\$86.80	\$67.82	357%
	5,000	5,999	5.500	0	0	\$21.76	\$92.57	\$70.81	325%
	6,000	6,999	6.500	0	0	\$24.55	\$98.34	\$73.79	301%
	7,000	7,999	7.500	0	0	\$27.33	\$104.11	\$76.77	281%
	8,000	8,999	8.500	0	0	\$30.12	\$109.87	\$79.75	265%
	9,000	9,999	9.500	0	0	\$32.91	\$115.64	\$82.74	251%
	10,000	14,999	12.500	0	0	\$41.28	\$132.96	\$91.69	222%
	25,000	29,999	27.500	0	0	\$83.12	\$219.58	\$136.46	164%
	50,000	59,999	55.000	0	25	\$159.83	\$378.37	\$218.54	137%
	100,000	109,999	105.000	0	25	\$299.31	\$667.10	\$367.79	123%
	1.5" Com-Act-Only	0	999	0.000	1	1	\$17.19	\$284.02	\$266.83
1,000		1,999	1.500	0	1	\$17.19	\$284.02	\$266.83	1552%
2,000		2,999	2.500	0	1	\$17.19	\$284.02	\$266.83	1552%
3,000		3,999	3.500	0	1	\$17.19	\$284.02	\$266.83	1552%
4,000		4,999	4.500	0	1	\$17.19	\$284.02	\$266.83	1552%
5,000		5,999	5.500	0	1	\$17.19	\$284.02	\$266.83	1552%
6,000		6,999	6.500	0	1	\$17.19	\$284.02	\$266.83	1552%
7,000		7,999	7.500	0	1	\$17.19	\$284.02	\$266.83	1552%
8,000		8,999	8.500	0	1	\$17.19	\$284.02	\$266.83	1552%
9,000		9,999	9.500	0	1	\$17.19	\$284.02	\$266.83	1552%
10,000		14,999	12.500	0	1	\$17.19	\$284.02	\$266.83	1552%
25,000		29,999	27.500	0	1	\$17.19	\$284.02	\$266.83	1552%
50,000		59,999	55.000	0	1	\$17.19	\$284.02	\$266.83	1552%
100,000		109,999	105.000	0	1	\$17.19	\$284.02	\$266.83	1552%
2" Com-Act		0	999	0.500	0	0	\$7.82	\$81.69	\$73.87
	1,000	1,999	1.500	0	0	\$10.61	\$87.46	\$76.85	724%
	2,000	2,999	2.500	0	0	\$13.40	\$93.23	\$79.84	596%
	3,000	3,999	3.500	0	0	\$16.19	\$99.00	\$82.82	512%
	4,000	4,999	4.500	0	0	\$18.97	\$104.77	\$85.80	452%
	5,000	5,999	5.500	0	0	\$21.76	\$110.54	\$88.78	408%
	6,000	6,999	6.500	0	0	\$24.55	\$116.31	\$91.76	374%
	7,000	7,999	7.500	0	0	\$27.33	\$122.08	\$94.75	347%
	8,000	8,999	8.500	0	0	\$30.12	\$127.85	\$97.73	324%
	9,000	9,999	9.500	0	0	\$32.91	\$133.62	\$100.71	306%
	10,000	14,999	12.500	0	0	\$41.28	\$150.94	\$109.66	266%
	25,000	29,999	27.500	0	0	\$83.12	\$237.55	\$154.43	186%
	50,000	59,999	55.000	0	0	\$159.83	\$396.34	\$236.52	148%
	60,000	69,999	69.333	11	11	\$199.82	\$479.12	\$279.30	140%
	100,000	109,999	105.000	0	11	\$299.31	\$685.08	\$385.77	129%

3" Com-Act

Class Bottom Use in Gallons	Class Top Use in Gallons	Median or Actual Average use in 1,000 Gallons	Customers in Each Volume Group	Cumulative Customers in This Rate Class	Current Average Bill, Paid Monthly	Proposed Average, Same Time Period	Bill Increase or Decrease (-) After Rate Adjustment	Increase or Decrease (-) After Rate Adjustment
0	999	0.500	0	0	\$7.82	\$133.05	\$125.23	1601%
1,000	1,999	1.500	0	0	\$10.61	\$138.82	\$128.21	1208%
2,000	2,999	2.500	0	0	\$13.40	\$144.59	\$131.19	979%
3,000	3,999	3.500	0	0	\$16.19	\$150.36	\$134.18	829%
4,000	4,999	4.500	0	0	\$18.97	\$156.13	\$137.16	723%
5,000	5,999	5.500	0	0	\$21.76	\$161.90	\$140.14	644%
6,000	6,999	6.500	0	0	\$24.55	\$167.67	\$143.12	583%
7,000	7,999	7.500	0	0	\$27.33	\$173.44	\$146.11	535%
8,000	8,999	8.500	0	0	\$30.12	\$179.21	\$149.09	495%
9,000	9,999	9.500	0	0	\$32.91	\$184.98	\$152.07	462%
10,000	14,999	12.500	0	0	\$41.28	\$202.30	\$161.02	390%
25,000	29,999	27.500	0	0	\$83.12	\$288.91	\$205.79	248%
50,000	59,999	55.000	0	0	\$159.83	\$447.70	\$287.87	180%
100,000	109,999	105.000	0	0	\$299.31	\$736.44	\$437.12	146%
110,000	119,999	113.395	10	10	\$322.74	\$784.92	\$462.19	143%

Chart 1 - Operating Ratio

Polson, MT

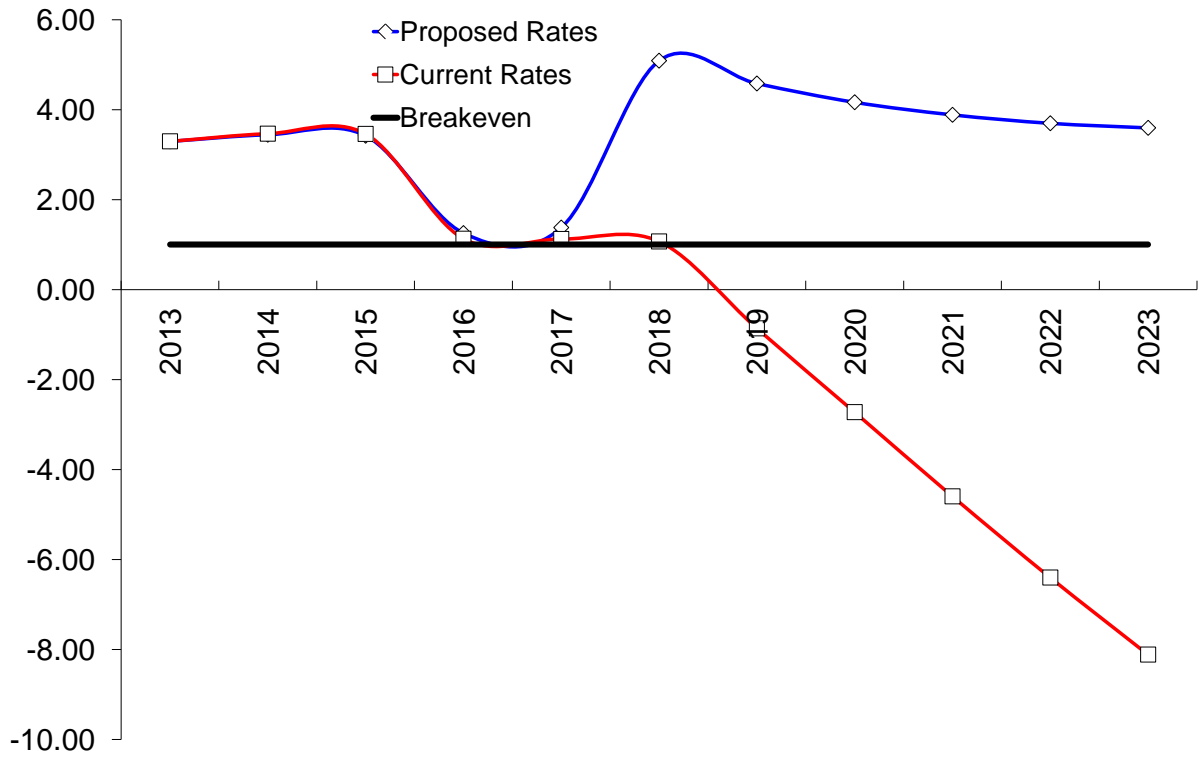


Chart 2 - Coverage Ratio

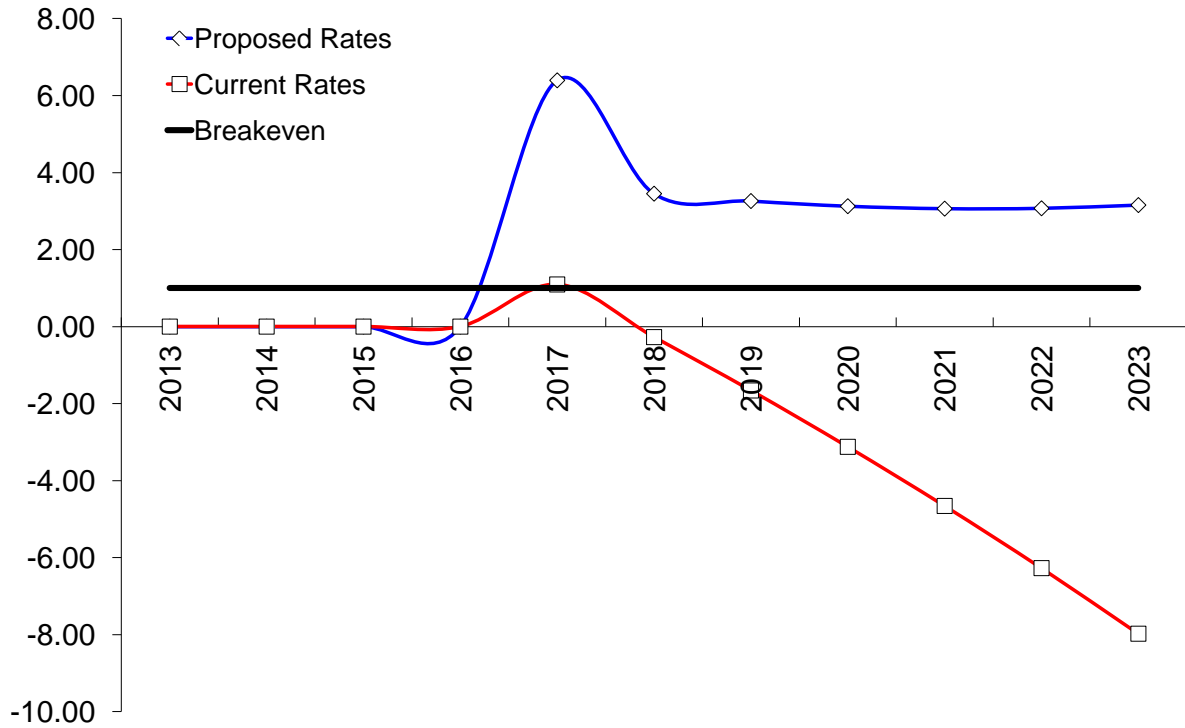


Chart 3 - 5,000 Gal Residential User's Bill

Polson, MT

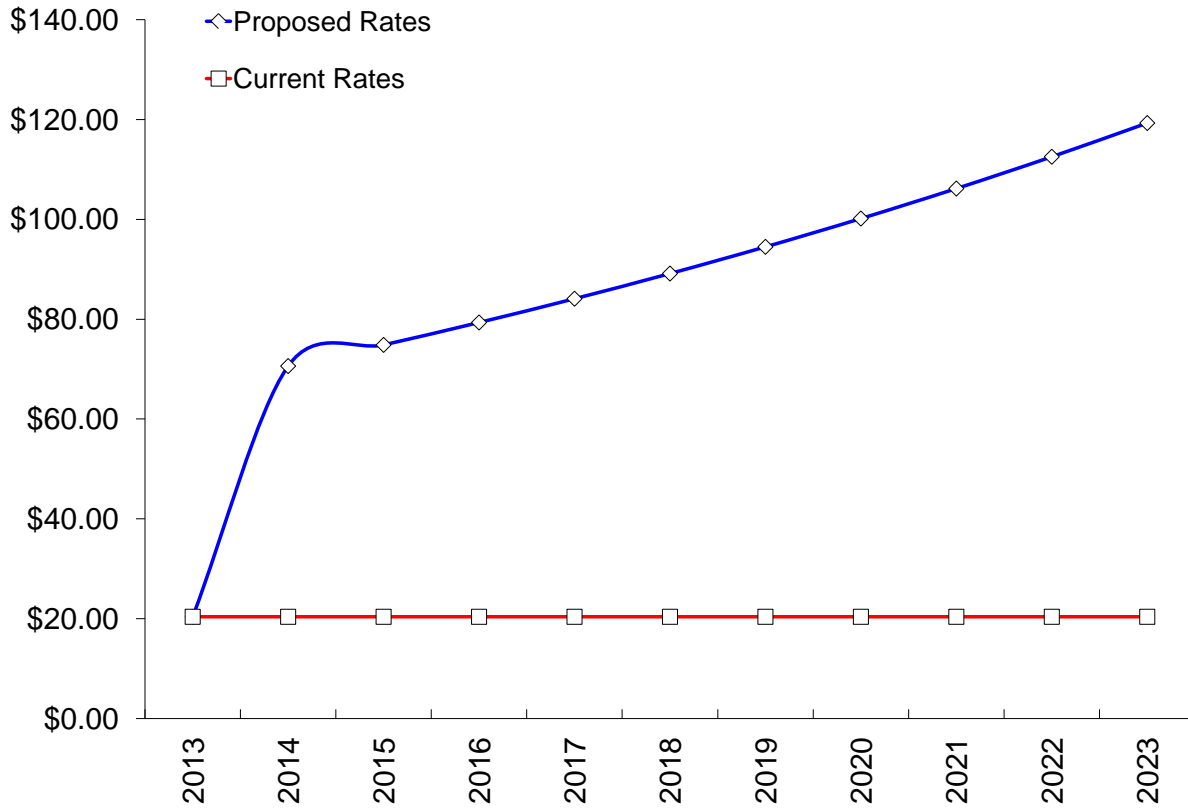


Chart 4 - Affordability Index

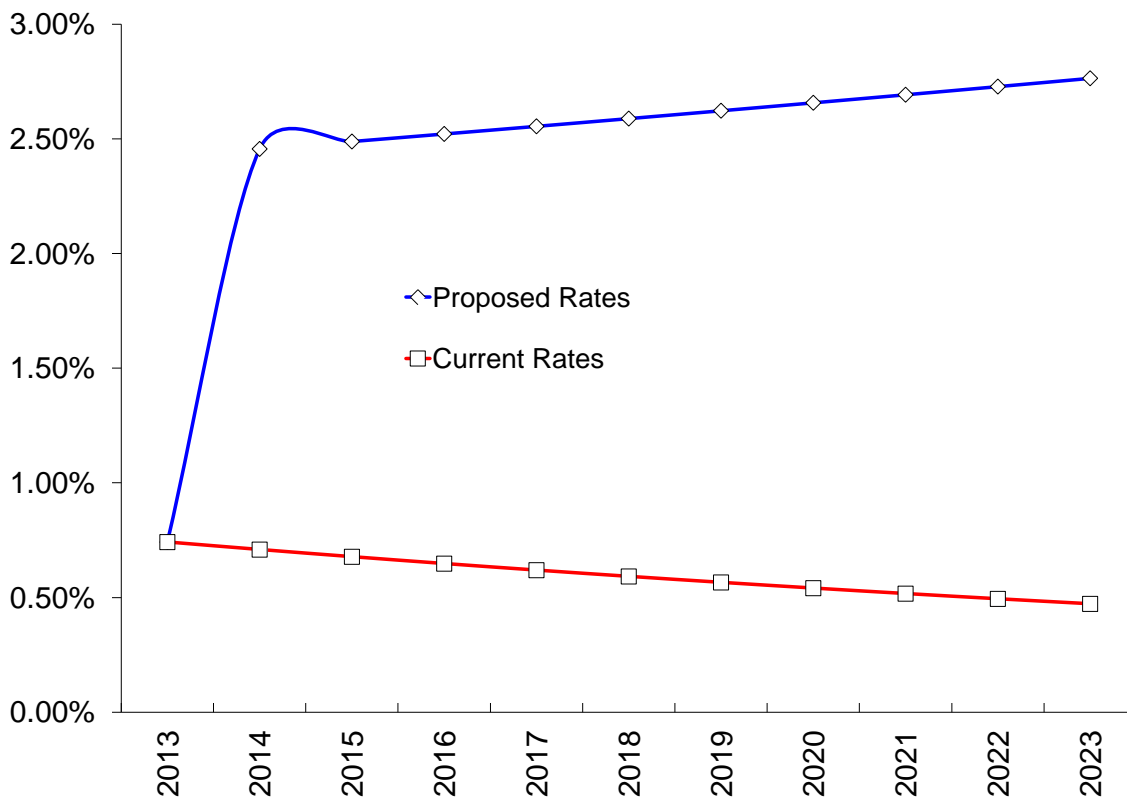


Chart 5 - Working Capital vs Goal

Polson, MT

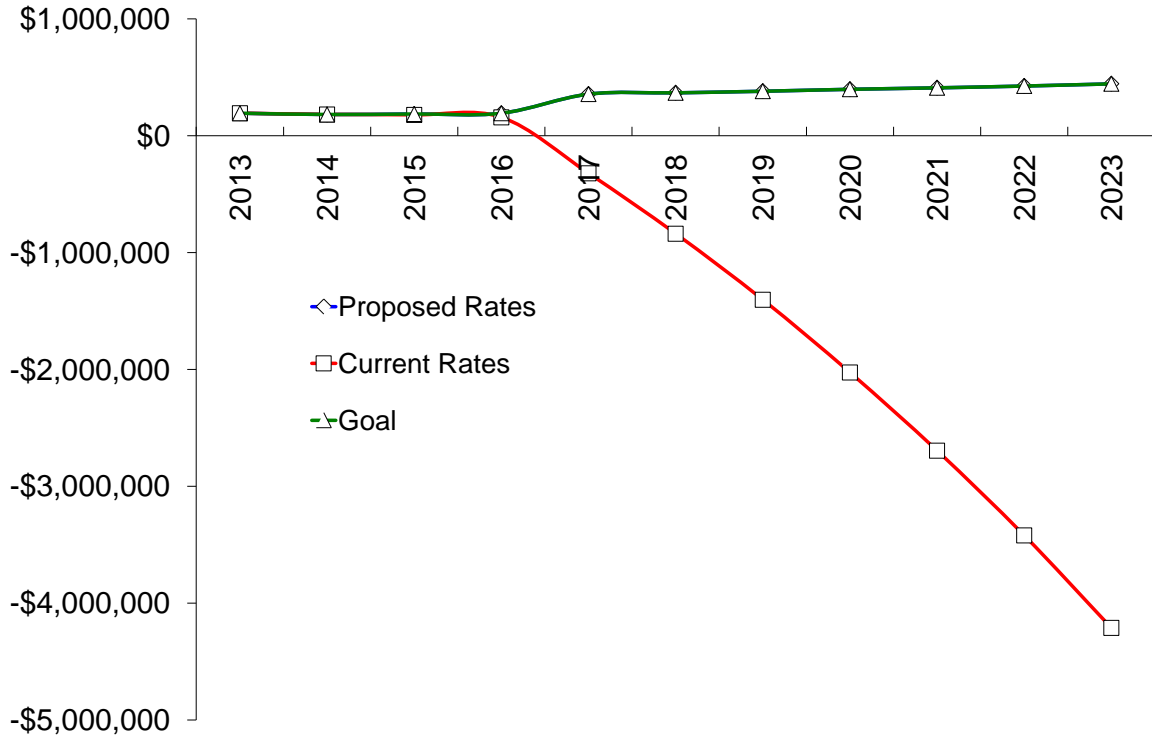


Chart 6 - Value of Cash Assets Before Inflation

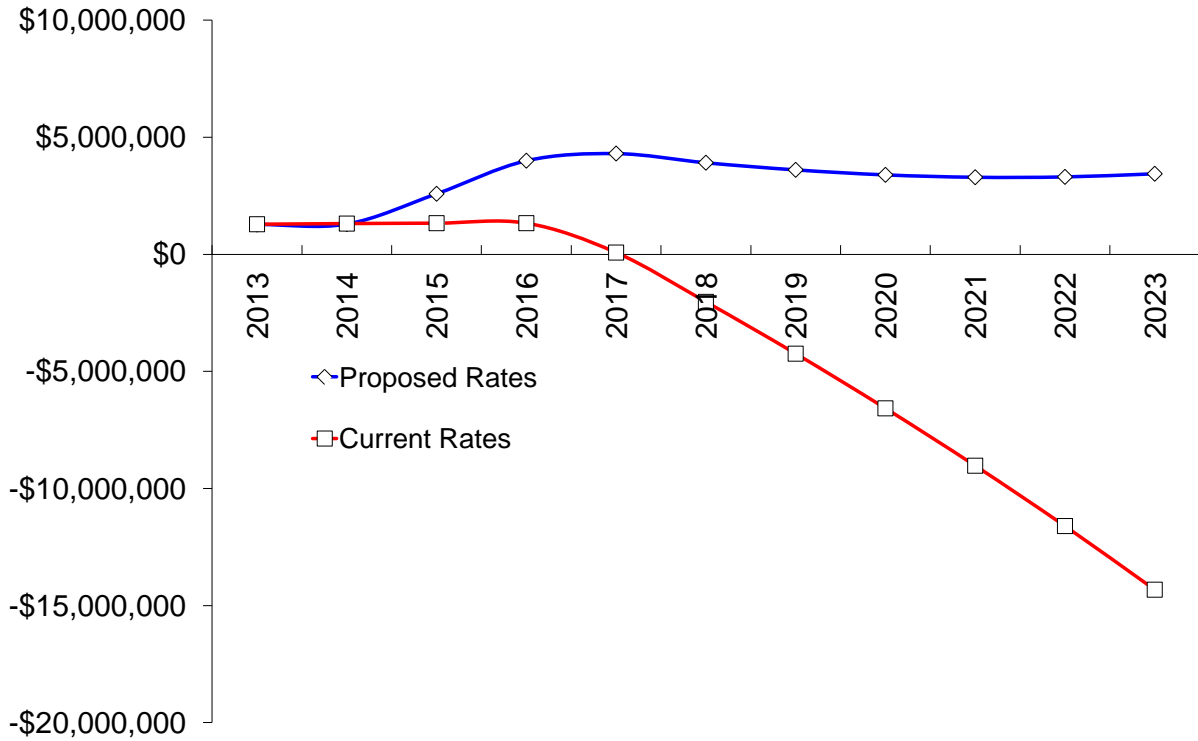
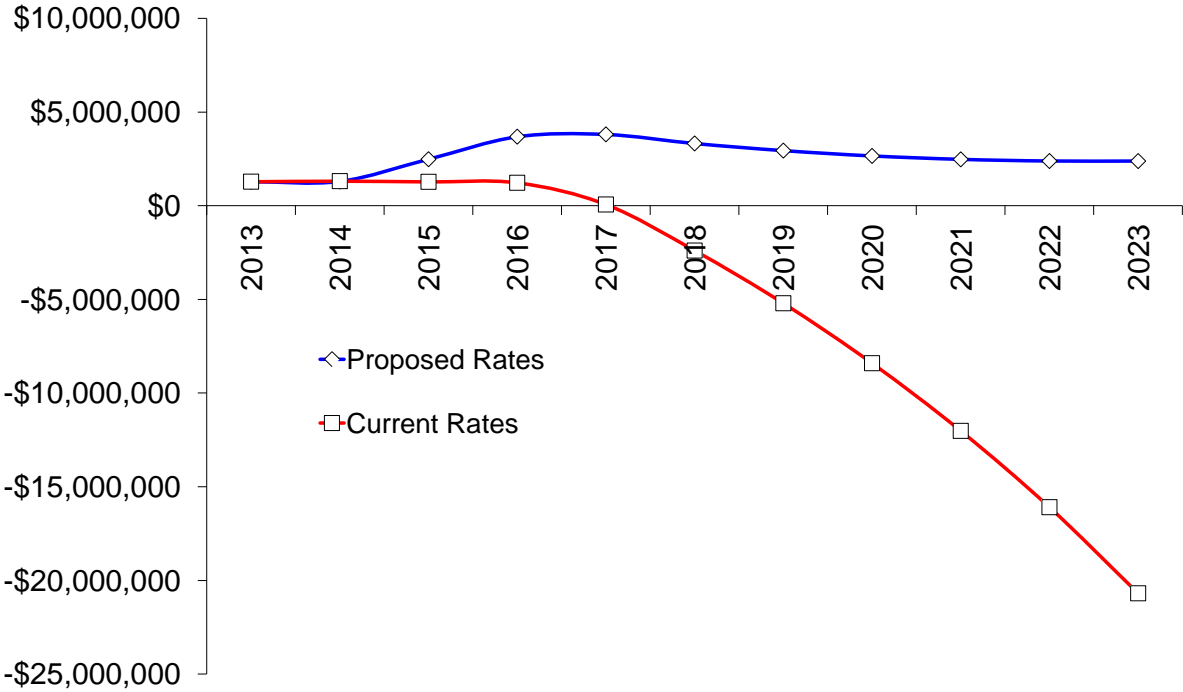


Chart 7 - Value of Cash Assets After Inflation

Polson, MT



Polson, MT, Sewer Rates Scenario 2014-2

Table 9 - Meter-size Based Tap Fees

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This table calculates tap fees to charge each meter size and total tap fee revenues that would be generated during one full year following initial adjustment.

Class Name	Mix of New Taps in a Typical Year	Meter Size in Square Inches	This Meter is Times Bigger Than a Five Eighths Meter	Percentage This Meter Size is of Average Meter Size	Total Square Inch Capacity of New Meters in Each Class	Capacity Cost Each Meter Size	Economy of Scale Savings Factor	Average Fixed Costs	Total Tap Fee for Each Meter Size	Full-year Tap Fee Income From Each Size Class	
Five Eighths	0.00	0.307	1.000	50%	0.000	\$139	100%	\$78	\$217	\$0	
Three Quarters	5.00	0.307	1.000	50%	1.534	\$139	100%	\$78	\$217	\$1,085	
One Inch	0.00	0.785	2.560	128%	0.000	\$356	93%	\$78	\$409	\$0	
One & a Half Inch	0.00	1.767	5.760	288%	0.000	\$801	86%	\$78	\$770	\$0	
Two Inch	0.00	3.142	10.240	512%	0.000	\$1,423	80%	\$78	\$1,223	\$0	
Three Inch	0.00	7.069	23.040	1152%	0.000	\$3,202	75%	\$78	\$2,474	\$0	
Four Inch	0.00	12.566	40.960	2048%	0.000	\$5,693	70%	\$78	\$4,039	\$0	
Five Inch	0.00	19.635	64.000	3200%	0.000	\$8,896	65%	\$78	\$5,833	\$0	
Six Inch	0.00	28.274	92.160	4608%	0.000	\$12,810	60%	\$78	\$7,786	\$0	
Seven Inch	0.00	38.485	125.440	6272%	0.000	\$17,435	56%	\$78	\$9,835	\$0	
Eight Inch	0.00	50.266	163.840	8192%	0.000	\$22,773	52%	\$78	\$11,929	\$0	
Nine Inch	0.00	63.617	207.360	10368%	0.000	\$28,822	48%	\$78	\$14,027	\$0	
Ten Inch	0.00	78.540	256.000	12800%	0.000	\$35,582	45%	\$78	\$16,094	\$0	
Total New Meters:	5.00									\$1,085	
Projected Tap Fees for One Full Year Following Initial Adjustment										\$1,085	
Prorated Tap Fees										\$3	
(This is the full-year tap fee total, then adjusted to account for time of year when rates will be adjusted initially. This amount is included in Table 2 and called, "Meter-size Based Tap Fees.")											
Economy of Scale Savings Factor:	7.0%	Total Capacity Costs to Recover From Tap Fees This Year (Table 4)				\$1,390	Capacity Cost to Recover per Square Inch of Meter				\$453

Notes:

Because growth rates and meter sizes to be installed in future years cannot be predicted with certainty, tap fee revenues are also uncertain. However, the projections above are based upon historical growth and meter sizes so they should be reasonable projections. Generally, tap fees should only be used to pay for capital improvements so there is time to make adjustments in fee levels.

Economy of Scale Savings Factor - Generally the cost of infrastructure to serve a customer does not go up as quickly as their capacity (meter size) goes up. That is called economy of scale. This value is an estimate of the economy of scale the system enjoys as meter size goes up. Generally this factor should be no more than about 7%.

In the interest of simplicity, 3/4 inch meters, which are usually residential meters, may have been calculated at the 5/8 inch meter capacity for tap fee calculation purposes.

Polson, MT, Sewer Rates Scenario 2014-2

Table 10 - Capacity Charges Based on Meter Size

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This table depicts minimum charges that are commensurate with the potential of each customer, based on their connection or meter size, to place flow demands on the system. For simplicity, all five-eighths and three-quarter inch meters (generally residential) are assumed to have the same flow capacity and will pay the same capacity surcharges.

Class Name	Meter Size in Inches	Meter Size in Square Inches	Number Meters This Size	Total Square Inch Capacity Each Meter Size Group	Total Potential Demand of a Meter This Size	Capacity Charge per Meter per Billing Period	Charge Modifying Factor ¹	Adjusted Capacity & Usage Allowance Costs per Meter per Billing Period	New Minimum Charge Base Rate	Total Minimum Charge per Billing Period ²	Total Annual Capacity Surcharge Fees by Meter Size ³	"Snow Bird" Fee	Out of City Surcharge Factor			
Five Eighths	0.625	0.307	0	0	\$48	\$4.01	100%	\$4.01	\$37.72	\$41.73	\$0	\$14.22	100%			
Three Quarters	0.750	0.307	1,902	584	\$48	\$4.01	100%	\$4.01	\$37.72	\$41.73	\$91,588	\$14.22	100%			
One Inch	1.000	0.785	84	66	\$123	\$10.27	100%	\$10.27	\$37.72	\$47.99	\$10,395	\$20.48	100%			
One & a Half Inch	1.500	1.767	33	59	\$277	\$23.11	100%	\$23.11	\$37.72	\$60.83	\$9,245	\$33.32	100%			
Two Inch	2.000	3.142	11	35	\$493	\$41.09	100%	\$41.09	\$37.72	\$78.81	\$5,424	\$51.29	100%			
Three Inch	3.000	7.069	10	73	\$1,109	\$92.45	100%	\$92.45	\$37.72	\$130.17	\$11,463	\$102.65	100%			
Four Inch	4.000	12.566	0	0	\$1,972	\$164.35	100%	\$164.35	\$37.72	\$202.07	\$0	\$174.56	100%			
Five Inch	5.000	19.635	0	0	\$3,082	\$256.80	100%	\$256.80	\$37.72	\$294.52	\$0	\$267.00	100%			
Six Inch	6.000	28.274	0	0	\$4,437	\$369.79	100%	\$369.79	\$37.72	\$407.51	\$0	\$379.99	100%			
Seven Inch	7.000	38.485	0	0	\$6,040	\$503.32	100%	\$503.32	\$37.72	\$541.04	\$0	\$513.53	100%			
Eight Inch	8.000	50.266	0	0	\$7,889	\$657.40	100%	\$657.40	\$37.72	\$695.12	\$0	\$667.60	100%			
Nine Inch	9.000	63.617	0	0	\$9,984	\$832.02	100%	\$832.02	\$37.72	\$869.74	\$0	\$842.22	100%			
Ten Inch	10.000	78.540	0	0	\$12,326	\$1,027.18	100%	\$1,027.18	\$37.72	\$1,064.90	\$0	\$1,037.39	100%			
Total:			2,041	816										Full year of capacity surcharges	\$128,115	
											Prorated capacity surcharges	\$351				

The prorated capacity surcharges amount immediately above is the amount to be collected after rates are adjusted. If rates in Table 12 are meter sized-based, this amount is filtered into the calculated rate revenues of Table 12 for each rate class. Otherwise, it is included as a separate amount at the bottom of that table.

¹ Charge Modifying Factor is used to raise or lower the charges to be levied on each size class because small meter and residential users are less prone to wide variations in use, and thus, their peak usage is lower on a percentage basis.

² Total Minimum Charge per Billing Period - If minimum charge fees are to be based upon meter size, use the charges in this column instead of those in Table 1.

³ Total Annual Capacity Charge Fees by Meter Size - The sum at the bottom of this column is the dollar amount that these meter size based charges will generate in one year.

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Table 12 - Initial Rate Adjustments and Resulting Revenues

7/1/13 Through 6/30/14

This table depicts how rates would be set and the revenues they would generate.

Out of City Multiplier 150% Conservation Rate Block Multiplier 100% Other Multiplier 100%

6/30/14 Date when fees will first be collected at adjusted rates. Actual adjustment should occur one billing period earlier.

Compare the rates here with the adjusted rates in the table below. If there are no special costs to consider, rates are "proportional to use" when there is no usage allowance, the minimum charge is \$37.72 and the unit charge is \$5.78 per 1,000 Gallons.

After rate adjustments are made, general customers will be billed monthly.

Sales to be Billed This Year: Subtotals for Sales at the Current (Test Year) Rates, Adjusted Rates and (Blended) Grand Total of All Sales

	Class Bottom Use in Gallons	Class Top Use in Gallons	Sales at Test Year Rates	Customers in Each Volume Group	New Minimum Charge Base Rates ¹	New Usage Allowance in 1,000 Gallons	New Unit Charge This Class per 1,000 Gallons	Sales at Adjusted Rates	Grand Total "Blended" Sales This Year
0.75" Res-Avg	0	999	\$0	0	\$41.73	0.000	\$5.78	\$0	\$0
	3,000	3,999	\$283,440	1,497	\$41.73	0.000	\$5.78	\$3,014	\$286,454
	130,000	99,999,999	\$0	0	\$41.73	0.000	\$5.78	\$0	\$0
1" Res-Avg	0	999	\$0	0	\$47.99	0.000	\$5.78	\$0	\$0
	3,000	3,999	\$2,524	12	\$47.99	0.000	\$5.78	\$28	\$2,552
	130,000	99,999,999	\$0	0	\$47.99	0.000	\$5.78	\$0	\$0
0.75" Com-Avg	0	999	\$0	0	\$41.73	0.000	\$5.78	\$0	\$0
	6,000	6,999	\$9,221	32	\$41.73	0.000	\$5.78	\$82	\$9,303
	130,000	99,999,999	\$0	0	\$41.73	0.000	\$5.78	\$0	\$0
1" Com-Avg	0	999	\$0	0	\$47.99	0.000	\$5.78	\$0	\$0
	8,000	8,999	\$4,383	12	\$47.99	0.000	\$5.78	\$39	\$4,422
	130,000	99,999,999	\$0	0	\$47.99	0.000	\$5.78	\$0	\$0
1.5" Com-Avg	0	999	\$0	0	\$60.83	0.000	\$5.78	\$0	\$0
	50,000	59,999	\$12,344	7	\$60.83	0.000	\$5.78	\$81	\$12,425
	130,000	99,999,999	\$0	0	\$60.83	0.000	\$5.78	\$0	\$0
0.75" Res-Act	0	999	\$0	0	\$41.73	0.000	\$5.78	\$0	\$0
	2,000	2,999	\$13,597	91	\$41.73	0.000	\$5.78	\$163	\$13,760
	130,000	99,999,999	\$0	0	\$41.73	0.000	\$5.78	\$0	\$0
0.75" Res-Act-Only	0	999	\$4,245	21	\$54.17	0.000	\$0.00	\$37	\$4,281
	1,000	1,999	\$0	0	\$54.17	0.000	\$0.00	\$0	\$0
	130,000	99,999,999	\$0	0	\$54.17	0.000	\$0.00	\$0	\$0
0.75" Com-Act	0	999	\$0	0	\$41.73	0.000	\$5.78	\$0	\$0
	5,000	5,999	\$53,995	262	\$41.73	0.000	\$5.78	\$645	\$54,639
	130,000	99,999,999	\$0	0	\$41.73	0.000	\$5.78	\$0	\$0
1" Com-Act	0	999	\$0	0	\$47.99	0.000	\$5.78	\$0	\$0
	15,000	19,999	\$35,095	60	\$47.99	0.000	\$5.78	\$269	\$35,363
	130,000	99,999,999	\$0	0	\$47.99	0.000	\$5.78	\$0	\$0
1.5" Com-Act	0	999	\$0	0	\$60.83	0.000	\$5.78	\$0	\$0
	35,000	39,999	\$34,708	25	\$60.83	0.000	\$5.78	\$237	\$34,945
	130,000	99,999,999	\$0	0	\$60.83	0.000	\$5.78	\$0	\$0
1.5" Com-Act-Only	0	999	\$206	1	\$284.02	0.000	\$0.00	\$9	\$216
	120,000	129,999	\$0	0	\$284.02	0.000	\$0.00	\$0	\$0
	130,000	99,999,999	\$0	0	\$284.02	0.000	\$0.00	\$0	\$0
2" Com-Act	0	999	\$0	0	\$78.81	0.000	\$5.78	\$0	\$0
	60,000	69,999	\$26,368	11	\$78.81	0.000	\$5.78	\$174	\$26,541
	130,000	99,999,999	\$0	0	\$78.81	0.000	\$5.78	\$0	\$0
3" Com-Act	0	999	\$0	0	\$130.17	0.000	\$5.78	\$0	\$0
	110,000	119,999	\$40,007	10	\$130.17	0.000	\$5.78	\$267	\$40,274
	130,000	99,999,999	\$0	0	\$130.17	0.000	\$5.78	\$0	\$0
Est Unmetered Usage	0	999	\$0	0	\$0.00	0.000	\$0.00	\$0	\$0
	120,000	129,999	\$0	0	\$0.00	0.000	\$0.00	\$0	\$0
	130,000	99,999,999	\$0	1	\$0.00	0.000	\$0.00	\$0	\$0
Rate Rev at Current Rates			\$520,133						
				Rate Rev at Adjusted Rates				\$5,044	
				Total Blended Rate Revenues for the Year ²				\$525,177	

Note 1, New Minimum Charge Base Rates: If meter or connection size-based minimum charges are to be used, and the user classes modeled above include meter or connection sizes, the amounts shown in this column include meter or connection size surcharges as calculated in Table 8. Otherwise, use the rates in the "Total Minimum Charge per Billing Period" column of Table 8 when setting minimum charges for each customer when their minimums will be based upon meter or connection size.

Note 2, Blended Rate Revenues: During the year when rates will be adjusted, rate revenues generated will be "blended" revenues - part collected at the current rates and part collected at the adjusted rates. The table above calculates both kinds of revenue and totals them in the right-most column. Therefore, the anticipated timing of rate adjustment shown at the top of this table will cause rates to be charged as follows:

12.0 months at the old user charge rates and 0.0 months at the new user charge rates.

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Table 13 - Rate Statistics

This table shows measures of equitability of the rates as modeled in Table 12.

If your rates are absolutely proportional to use on a volumetric basis, your % of usage and % of revenues figures will be the same within all the classes. That is not possible if you have any minimum charge.

Normally, the % of usage figure will be lower than the % of revenue for the lower volumes of use. That will switch for the higher volumes of use. Even for declining rate structures, this switch should occur near the volume of the average residential user, typically near 5,000 gallons/month (668 cu ft).

In urban and suburban areas the average monthly use for residential or general customers can be twice that used by their rural and "old town" counterparts. Use is largely dependent upon who lives in a community. Older people living in longer established neighborhoods tend to use less volume than younger people living in more recently developed areas. Consider this.

Your average residential customer uses 3,356 Gallons per billing cycle.

Compare the % of Usage and % of Revenue for this volume of use, and others, in the chart below to get an idea of how proportional to actual volume use the rates are as calculated in this model.

	Class Bottom Use in Gallons	Class Top Use in Gallons	% Users	% Usage	% Rev at Current Rates	% Rev at Modeled Rates
0.75" Res-Avg	0	999	0.00%	0.00%	0.00%	0.00%
	3,000	3,999	73.29%	38.50%	54.49%	59.75%
	130,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		73.29%	38.50%	54.49%	59.75%
1" Res-Avg	0	999	0.00%	0.00%	0.00%	0.00%
	3,000	3,999	0.59%	0.37%	0.49%	0.56%
	130,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		0.59%	0.37%	0.49%	0.56%
0.75" Com-Avg	0	999	0.00%	0.00%	0.00%	0.00%
	6,000	6,999	1.56%	1.55%	1.77%	1.63%
	130,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		1.56%	1.55%	1.77%	1.63%
1" Com-Avg	0	999	0.00%	0.00%	0.00%	0.00%
	8,000	8,999	0.59%	0.79%	0.84%	0.77%
	130,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		0.59%	0.79%	0.84%	0.77%
1.5" Com-Avg	0	999	0.00%	0.00%	0.00%	0.00%
	50,000	59,999	0.34%	2.70%	2.37%	1.61%
	130,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		0.34%	2.70%	2.37%	1.61%
0.75" Res-Act	0	999	0.00%	0.00%	0.00%	0.00%
	2,000	2,999	4.46%	1.50%	2.61%	3.23%
	130,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		4.46%	1.50%	2.61%	3.23%
0.75" Res-Act-Only	0	999	1.01%	0.00%	0.82%	0.73%
	120,000	129,999	0.00%	0.00%	0.00%	0.00%
	130,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		1.01%	0.00%	0.82%	0.73%
0.75" Com-Act	0	999	0.00%	0.00%	0.00%	0.00%
	5,000	5,999	12.82%	11.47%	10.38%	12.78%
	130,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		12.82%	11.47%	10.38%	12.78%
1" Com-Act	0	999	0.00%	0.00%	0.00%	0.00%
	15,000	19,999	2.95%	6.98%	6.75%	5.32%
	130,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		2.95%	6.98%	6.75%	5.32%
1.5" Com-Act	0	999	0.00%	0.00%	0.00%	0.00%
	35,000	39,999	1.24%	7.50%	6.67%	4.70%
	130,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		1.24%	7.50%	6.67%	4.70%
1.5" Com-Act-Only	0	999	0.05%	0.00%	0.04%	0.19%
	120,000	129,999	0.00%	0.00%	0.00%	0.00%
	130,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		0.05%	0.00%	0.04%	0.19%
2" Com-Act	0	999	0.00%	0.00%	0.00%	0.00%
	60,000	69,999	0.54%	5.85%	5.07%	3.44%
	130,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		0.54%	5.85%	5.07%	3.44%
3" Com-Act	0	999	0.00%	0.00%	0.00%	0.00%
	110,000	119,999	0.51%	8.98%	7.69%	5.30%
	130,000	99,999,999	0.00%	0.00%	0.00%	0.00%
	Totals for Class		0.51%	8.98%	7.69%	5.30%
Est Unmetered Usage	0	999	0.00%	0.00%	0.00%	0.00%
	120,000	129,999	0.00%	0.00%	0.00%	0.00%
	130,000	99,999,999	0.05%	13.80%	0.00%	0.00%
	Totals for Class		0.05%	13.80%	0.00%	0.00%

Table 14 - Test Year Usage

Test year, the one-year period being analyzed starts: 7/1/2012

Date this scenario created: 4/1/2014

This table shows usage by all customers during the test year. In the rate class names below, "Avg" means the average November-March usage is used for billing. "Act" means use is for all 12 months.

	Class Bottom Use in Gallons	Class Top Use in Gallons	Median or Actual Average use in 1,000 Gallons	July-12	August-12	September-12	October-12	November-12	December-12	January-13	February-13	March-13	April-13	May-13	June-13	Customers in Each Volume Group
0.75" Res-Avg	0	999	0.500													0.0
	3,000	3,999	3.356					1,496.8	1,496.8	1,496.8	1,496.8	1,496.8				1,496.8
	Monthly and Annual Subtotals:							1,496.8	1,496.8	1,496.8	1,496.8	1,496.8				1,496.8
1" Res-Avg	0	999	0.500													0.0
	3,000	3,999	3.983					12.0	12.0	12.0	12.0	12.0				12.0
	Monthly and Annual Subtotals:							12.0	12.0	12.0	12.0	12.0				12.0
0.75" Com-Avg	0	999	0.500													0.0
	6,000	6,999	6.365					31.8	31.8	31.8	31.8	31.8				31.8
	Monthly and Annual Subtotals:							31.8	31.8	31.8	31.8	31.8				31.8
1" Com-Avg	0	999	0.500													0.0
	8,000	8,999	8.617					12.0	12.0	12.0	12.0	12.0				12.0
	Monthly and Annual Subtotals:							12.0	12.0	12.0	12.0	12.0				12.0
1.5" Com-Avg	0	999	0.500													0.0
	50,000	59,999	50.400					7.0	7.0	7.0	7.0	7.0				7.0
	Monthly and Annual Subtotals:							7.0	7.0	7.0	7.0	7.0				7.0
0.75" Res-Act	0	999	0.500		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2,000	2,999	2.154	91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2
	Monthly and Annual Subtotals:			91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2
0.75" Res-Act-Only	0	999	0.000	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6
	130,000	99,999,999	50,065.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Monthly and Annual Subtotals:			20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6
0.75" Com-Act	0	999	0.500		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	5,000	5,999	5.718	261.8	261.8	261.8	261.8	261.8	261.8	261.8	261.8	261.8	261.8	261.8	261.8	261.8
	Monthly and Annual Subtotals:			261.8	261.8	261.8	261.8	261.8	261.8	261.8	261.8	261.8	261.8	261.8	261.8	261.8
1" Com-Act	0	999	0.500		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	15,000	19,999	15.086	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3
	Monthly and Annual Subtotals:			60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3
1.5" Com-Act	0	999	0.500		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	35,000	39,999	38.645	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3
	Monthly and Annual Subtotals:			25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3
1.5" Com-Act-Only	0	999	0.000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	130,000	99,999,999	50,065.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Monthly and Annual Subtotals:			1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2" Com-Act	0	999	0.500		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	60,000	69,999	69.333	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
	Monthly and Annual Subtotals:			11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
3" Com-Act	0	999	0.500		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	110,000	119,999	113.395	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
	Monthly and Annual Subtotals:			10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
Est Unmetered Usage	0	999	0.500		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	130,000	99,999,999	1,800.000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Monthly and Annual Subtotals:			1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Monthly and Annual Grand Totals:							2,042	2,042	2,042	2,042	2,042				2,042

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Table 15 - Rates at End of Test Year

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This table shows user rates at the end of the test year. In the rate class names below, "Avg" means the average November-March usage is used for billing. "Act" means usage billed is for all 12 months.

	Class Bottom Use in Gallons	Class Top Use in Gallons	Median or Actual Average use in 1,000 Gallons	Base Minimum Charge	Usage Allowance in 1,000 Gallons	Unit Charge This Class per 1,000 Gallons
0.75" Res-Avg	0	999	0.500	\$6.43	0.000	\$2.79
	130,000	99,999,999	50,065.000	\$6.43	0.000	\$2.79
1" Res-Avg	0	999	0.500	\$6.43	0.000	\$2.79
	130,000	99,999,999	50,065.000	\$6.43	0.000	\$2.79
0.75" Com-Avg	0	999	0.500	\$6.43	0.000	\$2.79
	130,000	99,999,999	50,065.000	\$6.43	0.000	\$2.79
1" Com-Avg	0	999	0.500	\$6.43	0.000	\$2.79
	130,000	99,999,999	50,065.000	\$6.43	0.000	\$2.79
1.5" Com-Avg	0	999	0.500	\$6.43	0.000	\$2.79
	130,000	99,999,999	50,065.000	\$6.43	0.000	\$2.79
0.75" Res-Act	0	999	0.500	\$6.43	0.000	\$2.79
	130,000	99,999,999	50,065.000	\$6.43	0.000	\$2.79
0.75" Res-Act-Only	0	999	0.000	\$17.19	0.000	\$0.00
	130,000	99,999,999	50,065.000	\$17.19	0.000	\$0.00
0.75" Com-Act	0	999	0.500	\$17.19	0.000	\$0.00
	130,000	99,999,999	50,065.000	\$17.19	0.000	\$0.00
1" Com-Act	0	999	0.500	\$6.43	0.000	\$2.79
	130,000	99,999,999	50,065.000	\$6.43	0.000	\$2.79
1.5" Com-Act	0	999	0.500	\$6.43	0.000	\$2.79
	130,000	99,999,999	50,065.000	\$6.43	0.000	\$2.79
1.5" Com-Act-Only	0	999	0.000	\$17.19	0.000	\$0.00
	130,000	99,999,999	50,065.000	\$17.19	0.000	\$0.00
2" Com-Act	0	999	0.500	\$6.43	0.000	\$2.79
	130,000	99,999,999	50,065.000	\$6.43	0.000	\$2.79
3" Com-Act	0	999	0.500	\$6.43	0.000	\$2.79
	130,000	99,999,999	50,065.000	\$6.43	0.000	\$2.79
Est Unmetered Usage	0	999	0.500	\$0.00	0.000	\$0.00
	130,000	99,999,999	1,800.000	\$0.00	0.000	\$0.00

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Table 16 - AMHI and Incomes

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This table shows annual median household income and system incomes for the test year.

Annual Median Household Income (AMHI)

\$32,978	Census Bureau estimate of AMHI for the year:	2011	"AMHI" stands for annual median household income
<u>\$21,870</u>	Census Bureau estimate of AMHI for the year:	2000	
\$11,108 AMHI growth during these years			
4.6% Simple annual income growth rate during these years (used to project incomes into the future)			

System Incomes for 7/1/12 Through 6/30/13

\$539,586	Sewer Service Charges	Predicted sales:	\$520,291
\$0	Disregard	Sales normalized at:	\$539,586
	5 Number New Taps		
	\$279 Average Sewer Tap Fee		
\$1,394	Impact Fee	Actual sales exceeded or fell	
\$12,067	Interest, All Sub-accounts	short of (-) predicted sales by:	4%
\$2,212	Sewer Permits Repl/Depr		
\$598	Sale Materials/Supplies		
\$135	Insurance Reimbursements		
\$12,350	Sewer Dept. Land Rental		
\$227	CHS - Redeemed Equity		
<u>\$570</u>	Miscellaneous Revenue		
\$569,138	Total Regular Income		

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Table 17 - Equipment Replacement Details Chart

This schedule depicts detailed equipment replacement and refurbishment needed during the next 20 years. Total annual expenses from this table are used in Table 18 to calculate the annuity (savings deposit) needed to pay for these expenses as they come due.

Year Beginning	Misc Additional R&R (5%)												Total Annual Replacement Costs
7/1/12	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/13	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/14	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/15	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/16	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/17	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/18	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/19	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/20	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/21	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/22	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/23	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/24	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/25	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/26	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/27	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/28	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/29	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/30	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/31	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/32	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295
7/1/33	\$51,295	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,295

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Table 18 - Replacement Schedule

Replacement Scheduler© Version 1.4

This schedule calculates the annual annuity needed to fund all replacement and refurbishment from the detailed schedule, if that schedule was used. Otherwise, this chart includes assumed equipment replacement needs.

- 4.00% Average Inflation Rate for the Following Sewer System Equipment for the Term of This Replacement Schedule
- 2.00% Average Interest Rate on Balances Invested for the Term of This Replacement Schedule
- 4.00% Average Interest Rate on Amounts Borrowed for the Term of This Replacement Schedule

Year Beginning	Item Description	This Year's Costs in Current Dollars	Future Annual Inflated Net Costs	Interest Earned on Prior Balance	End of Year Balance in Future Dollars	Minimum Desired End of Year Balance in Future Dollars
7/1/12	Last year's replacements	\$51,295	\$51,295	\$14,428	\$684,531	\$628,368
7/1/13	Total of replacements from detailed replacement schedule	\$51,295	\$53,347	\$13,691	\$711,307	\$653,503
7/1/14	Total of replacements from detailed replacement schedule	\$51,295	\$55,481	\$14,226	\$736,485	\$679,643
7/1/15	Total of replacements from detailed replacement schedule	\$51,295	\$57,700	\$14,730	\$759,947	\$706,828
7/1/16	Total of replacements from detailed replacement schedule	\$51,295	\$60,008	\$15,199	\$781,570	\$735,102
7/1/17	Total of replacements from detailed replacement schedule	\$51,295	\$62,409	\$15,631	\$801,226	\$764,506
7/1/18	Total of replacements from detailed replacement schedule	\$51,295	\$64,905	\$16,025	\$818,778	\$795,086
7/1/19	Total of replacements from detailed replacement schedule	\$51,295	\$67,501	\$16,376	\$834,085	\$826,889
7/1/20	Total of replacements from detailed replacement schedule	\$51,295	\$70,201	\$16,682	\$846,998	\$859,965
7/1/21	Total of replacements from detailed replacement schedule	\$51,295	\$73,009	\$16,940	\$857,361	\$894,363
7/1/22	Total of replacements from detailed replacement schedule	\$51,295	\$75,930	\$17,147	\$865,012	\$930,138
7/1/23	Total of replacements from detailed replacement schedule	\$51,295	\$78,967	\$17,300	\$869,778	\$967,343
7/1/24	Total of replacements from detailed replacement schedule	\$51,295	\$82,125	\$17,396	\$871,481	\$1,006,037
7/1/25	Total of replacements from detailed replacement schedule	\$51,295	\$85,411	\$17,430	\$869,932	\$1,046,279
7/1/26	Total of replacements from detailed replacement schedule	\$51,295	\$88,827	\$17,399	\$864,937	\$1,088,130
7/1/27	Total of replacements from detailed replacement schedule	\$51,295	\$92,380	\$17,299	\$856,288	\$1,131,655
7/1/28	Total of replacements from detailed replacement schedule	\$51,295	\$96,075	\$17,126	\$843,771	\$1,176,921
7/1/29	Total of replacements from detailed replacement schedule	\$51,295	\$99,918	\$16,875	\$827,161	\$1,223,998
7/1/30	Total of replacements from detailed replacement schedule	\$51,295	\$103,915	\$16,543	\$806,222	\$1,272,958
7/1/31	Total of replacements from detailed replacement schedule	\$51,295	\$108,072	\$16,124	\$780,708	\$1,323,876
7/1/32	Total of replacements from detailed replacement schedule	\$51,295	\$112,394	\$15,614	\$750,360	\$1,376,831

Notes: This schedule includes costs from the detailed equipment replacements. A Discretionary Annuity amount was added so that at the end of the 20-year modeling period, the balance will equal the average of the annual replacement cost amounts. The Required Annual Deposit was calculated based upon these assumptions.

Starting Account Balance	\$721,398	\$628,368
Minimum Annual Annuity	\$36,433	Minimum Desired Balance in Today's Dollars
Discretionary Annuity	\$30,000	

Required Annual Deposit to Replacement Account **\$66,433**

This amount is entered into Table 3 and Table 19 as an operating cost of the system.

Polson, MT, Sewer Rates Scenario 2014-2

Table 19 - Cost Basis for "Proportional" Rate Structure Calculations

CBGreatRates© Version 6.3

This table distributes costs from a representative year (the "target" year) to fixed and variable categories (see Definitions) in order to calculate the "proportional to use" rate structure of the cost breakdown for that year.

The rate structure target year runs from 7/1/2018 through 6/30/2019

Operating Costs

Item	Amount	% of This Cost That is Fixed	% of This Cost That is Variable	Total Costs After Adjustment for Special Costs Below	Fixed Costs After Adjustment for Special Costs	Variable Costs After Adjustment for Special Costs
295 Misc Income purchase offset 343027	\$161	100.0%	0.0%	\$161	\$161	\$0
299 Assets less than \$5000	\$3,036	50.0%	50.0%	\$3,036	\$1,518	\$1,518
300 Purchased Services	\$1,759	50.0%	50.0%	\$1,759	\$879	\$879
302 Sewer Study/Engineering	\$0	50.0%	50.0%	\$0	\$0	\$0
375 Education, Travel, Dues	\$4,849	100.0%	0.0%	\$4,849	\$4,849	\$0
898 Reimburse Impact Fees	\$0	100.0%	0.0%	\$0	\$0	\$0
358 Gen & Billing Personal Services and Benes	\$157,199	100.0%	0.0%	\$157,199	\$157,199	\$0
200 Supplies (for Acct and Collection)	\$2,957	100.0%	0.0%	\$2,957	\$2,957	\$0
300 Purchased Services (for Acct and Collection)	\$9,674	100.0%	0.0%	\$9,674	\$9,674	\$0
314 Lobbyists/2011 Legislature Contr. Svc. (for Acct and Collection)	\$0	100.0%	0.0%	\$0	\$0	\$0
345 Telephone & Data Svcs (for Acct and Collection)	\$0	100.0%	0.0%	\$0	\$0	\$0
354 Engineer Services (for Acct and Collection)	\$498	100.0%	0.0%	\$498	\$498	\$0
395 Damage Payout (for Acct and Collection)	\$0	100.0%	0.0%	\$0	\$0	\$0
Ops, All Personal Services & Benes	\$143,522	25.0%	75.0%	\$143,522	\$35,881	\$107,642
200 Supplies (for All Ops)	\$50,842	50.0%	50.0%	\$50,842	\$25,421	\$25,421
231 Gas, Oil, Diesel Fuel, Grease, etc. (for All Ops)	\$20,297	50.0%	50.0%	\$20,297	\$10,148	\$10,148
299 Assets less than \$5000 (for All Ops)	\$2,317	50.0%	50.0%	\$2,317	\$1,158	\$1,158
300 Purchased Services (for All Ops)	\$63,177	50.0%	50.0%	\$63,177	\$31,588	\$31,588
341 Electric (for All Ops)	\$63,008	0.0%	100.0%	\$63,008	\$0	\$63,008
345 Telephone & Data Svcs (for All Ops)	\$7,017	50.0%	50.0%	\$7,017	\$3,508	\$3,508
354 Engineer Services (for All Ops)	\$15,853	50.0%	50.0%	\$15,853	\$7,927	\$7,927
900 Capital Outlay \$5,000+ (for All Ops)	\$0	50.0%	50.0%	\$0	\$0	\$0
940 Machinery & Equipment (for All Ops)	\$0	50.0%	50.0%	\$0	\$0	\$0
950 Construction (for All Ops)	\$0	50.0%	50.0%	\$0	\$0	\$0
297 Homeland Security Projects/Safety (for All Ops)	\$0	100.0%	0.0%	\$0	\$0	\$0
875 Fines & Forfeitures (for All Ops)	\$0	100.0%	0.0%	\$0	\$0	\$0
933 DNRC Sewer Treatment Study	Table 4	50.0%	50.0%	\$0	\$0	\$0
314 Lobbyists/2011 Legislature Contr. Svc. (for All Ops)	\$0	50.0%	50.0%	\$0	\$0	\$0
Grease Mgmt/Elimination Program	\$10,816	0.0%	100.0%	\$10,816	\$0	\$10,816
Operation and Maintenance Increase w/ New Plant	\$468,926	50.0%	50.0%	\$468,926	\$234,463	\$234,463
Annual Payment to Replacement Fund	\$66,433	50.0%	50.0%	\$66,433	\$33,216	\$33,216
User Charge Analysis Services	\$0	100.0%	0.0%	\$0	\$0	\$0
CIP Spending Plus Debt Payments	\$1,596,012	50.0%	50.0%	\$1,596,012	\$798,006	\$798,006
Grand Total Costs, Weighted Av Percentages	\$2,688,352	50.6%	49.4%	\$2,688,352	\$1,359,052	\$1,329,299

"Proportional to Use" Rate Structure Cost Basis			
Average Fixed Cost/User/Month =	\$55.46	Surchargeable Services are Estimated at	\$0
Average Variable Cost to Produce/1,000 Gallons =	\$8.49	Inflow and Infiltration is Estimated at	12%
Gallons/Billing Cycle Used by Average Residential Customer =	3,356	% of Inflow and Infiltration to Allocate to Fixed Costs is	0%
		Cost of Inflow and Infiltration is Estimated at	24%
		Resulting Cost of Inflow and Infiltration	\$43,268
		Test Year Usage Metered Through Customer Meters (in Gallons)	156,561,600
		+ Test Year Inflow and Infiltration	20,463,400
		= Total Test Year Volume	177,025,000

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Table 20 - Marginal Fixed and Variable Costs for Rate Structure Target Year

CBGreatRates© Version 6.3

This table depicts incremental fixed and variable costs that would be incurred if the system took on one or a few more customers or produced incrementally more volume of service that did not increase cost at all, or much. Such service has little effect on most costs other than those that are direct production costs like electricity and chemicals, at least in the short-term.

The rate structure target year runs from 7/1/2018 through 6/30/2019

Item	Total Costs After Adjustment for Special Costs	Fixed Cost	Marginal Fixed Cost Percentage	Marginal Fixed Cost	Variable Cost	Marginal Variable Cost Percentage	Marginal Variable Cost
295 Misc Income purchase offset 343027	\$161	\$161	0%	\$0	\$0	0%	\$0
299 Assets less than \$5000	\$3,036	\$1,518	20%	\$304	\$1,518	20%	\$304
300 Purchased Services	\$1,759	\$879	20%	\$176	\$879	20%	\$176
302 Sewer Study/Engineering	\$0	\$0	20%	\$0	\$0	20%	\$0
375 Education, Travel, Dues	\$4,849	\$4,849	20%	\$970	\$0	20%	\$0
898 Reimburse Impact Fees	\$0	\$0	0%	\$0	\$0	0%	\$0
358 Gen & Billing Personal Services and Benes	\$157,199	\$157,199	0%	\$0	\$0	0%	\$0
200 Supplies (for Acct and Collection)	\$2,957	\$2,957	100%	\$2,957	\$0	100%	\$0
300 Purchased Services (for Acct and Collection)	\$9,674	\$9,674	100%	\$9,674	\$0	100%	\$0
314 Lobbyists/2011 Legislature Contr. Svc. (for Acct and Collection)	\$0	\$0	0%	\$0	\$0	0%	\$0
345 Telephone & Data Svcs (for Acct and Collection)	\$0	\$0	100%	\$0	\$0	100%	\$0
354 Engineer Services (for Acct and Collection)	\$498	\$498	100%	\$498	\$0	100%	\$0
395 Damage Payout (for Acct and Collection)	\$0	\$0	0%	\$0	\$0	0%	\$0
Ops, All Personal Services & Benes	\$143,522	\$35,881	20%	\$7,176	\$107,642	20%	\$21,528
200 Supplies (for All Ops)	\$50,842	\$25,421	20%	\$5,084	\$25,421	20%	\$5,084
231 Gas, Oil, Diesel Fuel, Grease, etc. (for All Ops)	\$20,297	\$10,148	20%	\$2,030	\$10,148	20%	\$2,030
299 Assets less than \$5000 (for All Ops)	\$2,317	\$1,158	20%	\$232	\$1,158	20%	\$232
300 Purchased Services (for All Ops)	\$63,177	\$31,588	20%	\$6,318	\$31,588	20%	\$6,318
341 Electric (for All Ops)	\$63,008	\$0	100%	\$0	\$63,008	100%	\$63,008
345 Telephone & Data Svcs (for All Ops)	\$7,017	\$3,508	0%	\$0	\$3,508	0%	\$0
354 Engineer Services (for All Ops)	\$15,853	\$7,927	20%	\$1,585	\$7,927	20%	\$1,585
900 Capital Outlay \$5,000+ (for All Ops)	\$0	\$0	20%	\$0	\$0	20%	\$0
940 Machinery & Equipment (for All Ops)	\$0	\$0	20%	\$0	\$0	20%	\$0
950 Construction (for All Ops)	\$0	\$0	20%	\$0	\$0	20%	\$0
297 Homeland Security Projects/Safety (for All Ops)	\$0	\$0	20%	\$0	\$0	20%	\$0
875 Fines & Forfeitures (for All Ops)	\$0	\$0	0%	\$0	\$0	0%	\$0
933 DNRC Sewer Treatment Study	\$0	\$0	20%	\$0	\$0	20%	\$0
314 Lobbyists/2011 Legislature Contr. Svc. (for All Ops)	\$0	\$0	0%	\$0	\$0	0%	\$0
Annual Payment to Replacement Fund	\$66,433	\$33,216	20%	\$6,643	\$33,216	20%	\$6,643
User Charge Analysis Services	\$0	\$0	100%	\$0	\$0	100%	\$0
CIP Spending Plus Debt Payments	\$1,596,012	\$798,006	20%	\$159,601	\$798,006	20%	\$159,601
Grand Total All Costs	\$2,688,352	\$1,359,052	18%	\$250,140	\$1,329,299	24%	\$315,565

Marginal Costs per Customer and per Unit of Use

The system would lose money if it set minimum or unit charges lower than the marginal fixed and variable costs at right. It would make a "profit" on a marginal cost basis if it charged more.

Number of Customers	Volume in 1,000s of Gallons	Marginal Fixed Cost/ Customer =	Unit Cost Basis/1,000 Gallons to Recover All Costs =	Marginal Variable Cost/ 1,000 Gallons =
2,042	156,562	\$10.21	\$3.61	\$2.02
Marginal Fixed Cost as a Percent of Average Fixed Cost (Chart 28):		18%	Marginal Variable Cost as a Percent of Average Variable Cost (Chart 28):	
				24%