

# Water Rate Study

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Gun Plain Charter Township

January 4, 2010

2090532

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## I. INTRODUCTION

The purpose of this water rate study is to help Gun Plain Charter Township determine what water rates it should charge to adequately fund operation of its water system over the coming five years. Appropriate rates, along with reasonable levels of water reserve funds, should provide financial stability of water operations in the future.

Revenues required to operate the water utility services provided by the Township must be generated from appropriate water rates. Both the Township and its customers should recognize that the rates established are fair and equitable, and that the rates appropriately collect revenue from various classes of customers. Classes of customers and individual customers must pay their appropriate share of costs, without subsidizing one another.

The Township plans to raise necessary revenue for operation of its water system by charging a uniform commodity rate based on the amount of water used (billed quarterly per 1,000 gallons) and by a monthly read-to-serve (RTS) charge per customer, as it has in the past.

There are two distinct service areas. This study will identify appropriate rates for each service area. The study will review the past effectiveness of these rates to generate adequate revenue and it will guide the township in rate adjustments for the coming five years so projected revenues meet or exceed anticipated expenses within each service area.

Anticipated annual usage, rates, revenues, and expenses (some annualized like repainting the interior of the water tower) are estimated for the coming five years. By projecting these over five years the Township can obtain a long term balanced overview prior to setting new rates.

The proposed rates will help the Township maintain adequate reserve funds. Adequate reserve funds will accommodate variations from projected expenses, revenues and usage without short term rate modifications. By establishing dedicated reserve funds for planned major maintenance or replacement expenditures, those costs can be distributed over several years balancing rates. These reserve funds also provide funds for unexpected events and emergencies.

Capital cost for expansion of the water system is not addressed in this rate study. Generally the Township requires that developers fund expansion into new areas. The Township may allow property owners in a developed area to fund expansion through a special assessment district, determining the financing and assessments needed to adequately fund the project for their area. Because master plan and system improvements may be required as part of specific projects the Township needs connection charges to generate adequate funds to make those improvements to its water system.

Below we will provide our recommendations, our water rate analysis, several report sections about the water systems, and exhibits that contributed to our analysis and recommendations.

## II. Recommendations

Based on the analysis performed for the rate study we recommend that the Township implement the items listed below.

1. The ready to serve (RTS) rate for all customers should be increased by \$1.00 per year each of the next three years, from \$5.45 to \$8.45/month/customer.
2. The RTS rate and commodity rate for City of Plainwell service area customers must be adjusted whenever the City changes its rates.
3. The commodity rate for the City service area should be increased from \$2.10 to \$2.30 over the next three years (plus any City commodity rate increases).
4. The commodity rate for the Lake Doster service area should be increased from \$1.50 to \$1.60 for the fiscal year 2010/2011, and then to \$1.70 in 2013.
5. Dedicated amounts should be set aside over several years to fund planned major replacement and maintenance items, like interior repainting of the water tower and overhauling wells.
6. In addition to dedicated reserve funds for planned expenditures, water reserve funds should be maintained at a level of about \$135,000 to \$150,000.
7. Expenses and revenues should be allocated and tracked by service area to the fullest extent practical.
8. Actual expenses and revenues should be reviewed annually so adjustments can be made to the rates if necessary.
9. The quantity of water sales and the produced/purchased water quantity should be compared monthly for each metered area. The cause of significant discrepancies should be determined and corrected. The estimated quantities of unmetered usage (flushing, fire flows, bulk sales, construction uses, and water main or service lead breaks) should be recorded to help reconcile the water loss differences and detect significant discrepancies.
10. Significant unmetered users should be charged for the estimated water cost.
11. Rate categories should be set up in the billing system so that usage and corresponding revenues can readily be segregated by water district and by sub metered areas within those districts. Specifically, the RTS rate and revenue must be separated by service area and the sub metered 10<sup>th</sup>/Pine Meadows area should have its own RTS and commodity billing codes. In addition, provisions should be made for RTS charges by meter size in each service area.
12. The Township should prepare a master plan to guide development of future water systems improvements. A capital improvement plan should be developed for critical portions of the master plan to help the Township anticipate future funding requirements.
13. The connection charge in the City service area should be raised by the amount that must be passed onto the City as an indirect connection charge.

## III. WATER RATE ANALYSIS

The Township operates and maintains two separate water systems. Both systems are managed under one township water budget. These systems are separated geographically and they have different sources of water. They have different operation and management costs. With input from the township supervisor and contracted water operator, we have allocated past and projected water revenues and expenses based on the two service areas to compute appropriate

rates in each service area. Additional input from the Township is welcome so the allocation best reflects the distribution of cost between the two service areas. We can readily adjust the allocation and compute the impact on projected rates. The allocation of cost by service area is provided in Exhibit No. 10, pages 1 to 5.

Our analysis assumed that the City rates charge to the Township are held at the 2009 amounts of \$1.83 per 1000 gallons (metered at two master meters and at James Street residences) and \$6.45 per month ready to serve charge per customer. Any future City rate increases that are applied to the Township for the City service area must be passed on to the City service area customers in order to have similar results in net operating income (loss).

The analysis made at the bottom of Exhibit No. 10 – 3 and Exhibit No. 10 – 5 shows the commodity rates needed to balance allocated expenses and revenues for each service area, after first applying the past and projected ready to serve rates. The intent of the RTS charge is to cover portions of fixed annual operating costs, those that are not quantity based. The rate calculations provide guidance for future rates and the basis for our rate recommendations.

Our recommendations for future commodity and ready to serve rates are provided in Exhibit No. 10 – 6 for each service area; see the corresponding rows in that exhibit. For comparison of past and projected future cost of service, Exhibit No. 4 shows the monthly water cost for a residence using 6,000 gallons per month for the past five years, current year, and future five years.

Exhibit No. 10 – 6 shows the past revenue from rates and the projected revenue from recommended future rates. The past and projected revenues and expenses for water operations are provided in Exhibit No. 10 – 7. It shows the anticipated annual net income (loss). The water system has had net income for the past four years when depreciation expense is excluded. Significant replacement and maintenance are included in the coming five years, rather than including depreciation. Losses are anticipated for both the current year and next year, and then small net income amounts are expected for several years. This exhibit also provides an estimate of the reserve fund balance excluding dedicated funds set aside for the water tower interior repainting (about \$90,000 cumulative in years 2010 to 2014) and Well No. 3 maintenance (\$25,000 in year 2015), allowing for 4% inflation. An adequate and stable level of reserve funds are anticipated based on our analysis for the coming five years.

Our review and analysis included information and calculations that are provided in several other exhibits. These are briefly described below.

Exhibit No. 1 and Exhibit No. 2 show the number of customers in the past five years and the number projected for the next five years. Exhibit No. 3 shows the past and current water rates. Exhibit No. 9 is a summary of historic information about water sales, revenue, gallons per day usage, and purchased quantities from the City. These were obtained or computed from billing information. It includes some analysis of the water loss and its cost in the City service area.

Exhibit No. 5 through Exhibit No. 8 show the relationship of water sales and produced/purchased water for each service area. These exhibits present both the past five years and the projections for the future five years. We projected water purchased and water sales for 2009/2010 in the City service area starting from the actual metered water from April to September 2009 then estimated October 2009 to March 2010 from the prior two years allowing for about 16% loss. This provided a high base year quantity for estimating the future cost of water from the City (usage of 286 gpd/customer), which is the major expense item for that service area. For years 2010 to 2015 in the City service area we projected one additional customer per year, using 200 gallons per day, and we assumed that 10% more water is purchased from the City than the amount sold to those customers. We projected future sales in Lake Doster area based on one additional residence per year and the average usage rate of 230 gallons per day per customer. This should provide a conservative water sales quantity since the historic average is slightly higher at 240 gpd/customer.

An annual four percent (4%) increase in expenses per year to account for inflation and increases in costs under many line items.

#### **IV. CLASSES OF CUSTOMERS**

Where possible the cost of service should be allocated to classes of customers so appropriate rates can be established to generate revenue from them. There are two geographically separated service areas with different water supply sources. This is the primary reason for separation of Township customers into two general classifications by service area. This study allocated expenses and revenues to each service area in order to compute appropriate rates for each service area.

One area is supplied by water purchased from the City of Plainwell. This service area includes portions of the Township surrounding the City of Plainwell. The City of Plainwell has the responsibility for a safe and adequate supply of water to this service area from its wells and storage system. The Township operations provide for distribution of the water to customers and monthly billing. The major expenses for the City service area are the metered water purchases from the City (two master meters and the individual James Street customer meters) and the monthly City RTS charges.

The second area is the Lake Doster service area that is supplied by two ground water wells. These wells, along with the storage tank and distribution system, are owned, operated and maintained by the Township. The Township has significantly greater responsibility and risk for providing safe and adequate water to the Lake Doster area because it owns and operates the wells and water tower, in addition to the distribution system. The Township needs to have different rates in these service areas to fairly and equitably raise revenues relative to expenses incurred in each service area.

The Township water system is classified as a small system by AWWA standards based on the number of customers served so a simple rate system is appropriate. The Township primarily serves single family residences, a fairly uniform customer base. The Township uses two rate

categories within each service area. Each customer is billed a monthly ready to serve charge and quarterly charge based on individual metered consumption, at a uniform rate per 1000 gallons of water used.

Because a similar customer base is expected over the next five years we recommend continuing the current rate system and classes of customers.

Benefits from additional customer classes do not appear efficient and necessary at this time, given the small amounts of revenue those might generate. The Township may consider allocating cost of service to other classifications in the future such as: 1) type of customer (residential, commercial, industrial), 2) water meter capacity (size), 3) level of consumption with block commodity rates, and 4) type of usage (such as peak demands, lawn irrigation, fire service, domestic use, production use). The need to pass through City of Plainwell charges directly to some customers and substantial growth may make additional classifications necessary in the future.

With only a few exceptions, the Township presently serves single family residential customers. Some Lake Doster customers are seasonal residents. Those customers, like all other customers, benefit from year round fire protection and availability of public water supply, so the Township has eliminated seasonal rates and applies RTS charges are year round. Many customers in both service areas have high consumption in the dry summer months due to lawn irrigation. The commodity rate accounts for variation in usage, like seasonal reduced demand and high volume use for irrigation. Presently a uniform commodity rate is considered adequate because the water supply systems have capacity to serve the increased demands. If sustained high demands, like irrigation, cause operation problems or cause additional capital costs to be incurred then block commodity rate classifications may be needed to directly allocate those costs to benefiting customers. That could be done both by increasing the commodity charge rate for consumption above average usage. Also, the RTS charge could be increased proportional to meter capacity (size) like in the current City RTS rates by meter size.

## **V. DESCRIPTION OF THE WATER SYSTEMS**

The Township operates and maintains water systems for two service areas. First, the Township operates and maintains a water system in the Lake Doster area that presently serves about 383 residential customers. In the Lake Doster water system the Township owns, operates and maintains two wells and a 200,000 gallon water tower in addition to the distribution system. The Township is responsible for production and storage of water to meet the current and future demands of the system. The difference between metered water production and metered usage is about 6%, which is considered normal. The water rates include the marginal cost of production for lost water. There is not excessive expense to the system for lost water, provided it remains in the normal range. About a dozen residential customers served in Prairieville Township on the Lake Doster system are billed by the Township as their own customers.

Second, the Township purchases water from the City of Plainwell to serve about 117 residential customers around the perimeter of the City of Plainwell. The City, not the Township, is

responsible to supply the area with sufficient water (quantity and pressure). Details of this system are summarized below. Further discussion about rates and water losses in this area are provided under section IX. CITY SERVICE AREA RATES AND BACKGROUND INFORMATION.

The Township also has a commercial area west of US131 that is served by Otsego Township. The Township does not have capital, operation, maintenance and billing responsibilities for that area. In effect, those customers are treated as though they are Otsego Township customers.

The water systems serve residential customers with a few minor exceptions, like a dentist office on 10<sup>th</sup> Street and a club house at Lake Doster. The Township does not separately classify those customers in their billing system and it does not intend to change that in the next five years. Per our discussions with the Township, the rate study will assume that all connections are the same type for purpose of RTS charge by service area. There are not any irrigation meters or other types of individual sub meters.

The Township contracts for daily operation and maintenance with Horizon Operations and with an individual for meter reading.

Physical details of the two Township water systems are listed below and a Water Distribution System Map is enclosed at the end of the report (Exhibit 11). The Township has significant water utility assets. Today the combined replacement cost of all these items would likely be about \$4.5 million dollars. Given the substantial value of these water utility assets, the Township needs to carefully maintain and perpetuate their useful life reducing the need for extensive replacement.

#### City Service Area

Two master meter chambers with fire flow meter assemblies (at Gores Addition and at 10<sup>th</sup> Street by Pine Meadows)

7,700 lf of water main in Pine Meadows and in 10<sup>th</sup> Street

4,300 lf of water main in Gores Addition at 11<sup>th</sup> Street south of Plainwell

1,300 lf of water main in James Street

117 customers (residences and one dental office)

#### Lake Doster Service Area

Two ground water supply wells

200,000 gallon elevated storage tank

Portable generator for back up power supply

48,100 lf of water main

383 customers (residencies and a club house)



## **VI. SYSTEM EXPANSION AND GROWTH**

The Lake Doster system grew by 17 connections over the past five years.

The area served with City water grew by about 55 connections in the past five years, due to the development of the Pine Meadows Site Condominium lots. Homes have been built on 53 of 80 lots in Pine Meadows, and a dentist office occupies one of five commercial lots. There have been no new home connections in Pine Meadows for two years. The Gores Addition and James Street areas served with City water are both established neighborhoods so no change is anticipated in the number of those customers.

The number of customer connections is expected to grow slowly over the next five years due to the depressed economy. One new connection is anticipated in each of the water service areas for a total of two new connections per year in each of the next five years. Water system expansion to new developments is not expected in the next five years due to the current economic recession.

The Township Board decided not to implement the water main loop in 10<sup>th</sup> Street and Miller Road by Pine Meadows so those potential expenses and revenues are not included in the water budget projections.

## **VII. ANTICIPATED CAPITAL IMPROVEMENT AND MAJOR MAINTENANCE COSTS**

Township representatives and the water system operator indicated that the following major improvements and maintenance items are being considered for the existing water system. These items are included in the projected water budget shown in Exhibit 10 – 1.

1. Radio telemetry may be installed between the two wells and water tower at Lake Doster in order to eliminate the expense of those telephone lines. A letter from Peerless Midwest dated January 15, 2009 indicated that the cost for a field radio test was \$2,500 (already completed and successful), the estimated cost for the radios and antennas at the wells and water tower is \$11,000, and estimated replacement cost of the existing controls with programmable logic controllers is \$21,000. These estimated costs are included in the budget for this year under the item “water capital improvement”, though construction may not be implemented until next year so those funds should be set aside as dedicated reserve funds.
2. A water meter replacement program has resumed, replacing 15 meters per year at a cost of about \$300 each, for an annual amount of \$4,500. The initial focus area is Gores Addition due to the discrepancy between billed and purchased water. This is included in the budget under the item “Equipment Purchases”.

3. Lake Doster Well No. 1 is scheduled for maintenance and rehabilitation in the current fiscal year at an estimated cost is \$15,000. This is included under the budget item for “Repair and Maintenance”.
4. Lake Doster Well No. 3 was serviced in 2004 so significant maintenance cost is not anticipated in the coming five years. We recommend that \$25,000 be budgeted for the fiscal year 2014/2015 so dedicated reserve funds are available to recondition that well in the future. (Well No. 2 was abandoned during construction).
5. The Lake Doster 200,000 gallon water tower interior needs to be repainted in about five years. An inspection needs to be made, and bid documents need to be prepared. There may be replacements required at the water tower (items like the cathodic protection system, air vent shroud, and mud valve) that are best completed while the tank is out of service for painting. The estimated cost today is \$80,000 to \$100,000, so we recommend that \$20,000 per year be collected from the Lake Doster district to fund repainting and potential maintenance needs. This is included in the budget under the line item “Repair and Maintenance” as an annualized expense in 2010 through 2014.

The water system has no outstanding debt. The Township does not expect to incur capital cost for expansion of the water systems since developers are required to pay the cost of extensions. Any participation by the Township for expansion of the water systems would have to be negotiated with the Township and justified as necessary for master plan purposes.

## **VIII. ALLOCATION OF REVENUES AND EXPENSES BY SERVICE AREA**

We allocated revenues and expenses to the two water service areas in the analysis provided in Exhibit Nos. 10 - 2 through 10 - 5. We made judgments on the appropriate ratio for several items. The bases for those allocations are discussed below.

The Township does not perform field operations with internal staff. It hires out meter reading and operations. These contracted expenses are included in the past expenditures and are projected to continue in the future with a 4% increase per year. The Township does provide staff and equipment for billing.

Depreciation is not a cash flow expense so that cost was not included as an operating expenditure in computing future rates. Depreciation indicates both the decline in asset value with age and the need to frequently make the repairs and replacements necessary to prolong the life of those assets. Expected costs to sustain and perpetuate the water systems are included in the projected expenditures. The township should maintain a capital reserve fund that enables it to promptly address replacement needs as they occur with funds on hand. We recommend that capital portion of a reserve water funds be maintained at the level of at least 2% of asset replacement value, which is at about \$90,000. Financing could be arranged should larger capital needs occur and then the rates could be adjusted for debt service.

Many line items in the budget are for expenses specific to service areas. Several of the budget line items do not need explanation. The expense of “utility billing personnel” is allocated base on the approximate customer ratio of 20% City service area and 80% Lake Doster service area,

the City area being more compact and readily accessible. Likewise, the 20/80% allocation is used for office supplies, legal fees, audit fees, and mileage.

Ground maintenance expenditures relate to the well and tank sites in the Lake Doster system. There are no utility expenses in the City service area, these relate to natural gas and electric for the wells, well houses and water tower. We allocated 95% of the insurance expense to Lake Doster due to the wells and water tower. The planned water capital improvements are for the Lake Doster system.

Nearly all of the contracted operator costs are for the Lake Doster service area because the Township produces the water from wells and provides storage. Monthly MDEQ reporting is required. Daily inspections are made of the wells and storage tank operations. The line item for "Operating Supplies" relates to the Lake Doster system, for example the addition of chlorine and phosphate chemicals and the annual cathodic system inspection at the water tower. The MDEQ requires water reliability studies at regular intervals, not more frequently than five year intervals, from water supplies like Lake Doster. We included water reliability cost expense straddling years three and four to balance the annual cost impact.

Land line phones are used for alarms and control operations between the wells and water tower of the Lake Doster system so all of the line item "Phone and Miss Dig" is allocated to Lake Doster. Miss Dig cost can apply to both service areas however for this analysis we treated it as part of the larger system at Lake Doster.

We allocated many revenue line items to the districts at the 20/80 ratio, reflecting the relative size of the present service areas. There are not any outstanding water special assessments and there is not any interest earned on special assessments. Availability fees were primarily from the City service area in the past, due the increasing number of customers in Pine Meadows. The connection charge of \$2,000 is reasonable. We recommend that the Township increase its connection rate in the City service area because \$1,900 of that amount is now an indirect charge paid to the City for each new customer. The connection charge is necessary to help fund repair and replacements in the existing systems, for cost sharing in expansions to provide master plan improvements, and for the administrative, legal and engineering costs that the Township incurs in both managing the existing systems and for evaluating and implementing expansions to the system.

The Township may elect to record future expenses by service area to more thoroughly and accurately allocate costs to each the service areas.

## **IX. CITY SERVICE AREA RATES AND BACKGROUND INFORMATION**

The Township and City of Plainwell are completing a revised water agreement for the City service area. Per the Township Supervisor the Township will now pay the following City charges:

- a. Monthly ready to serve charge based on the number of customers, currently \$6.45/month for each ¾ inch meter. This charge was not applied by the City in the past and represents a substantial increase in the cost of purchased water.
- b. Commodity charge per month based on the master meter readings at the current rate of \$1.83/1000 gallons. Likewise, for the individual home meters on James Street.
- c. The Township connection fee will include the indirect connection charge per residence due to the City, currently \$1,900. The City will provide water meters to the Township for new customers, the meter cost being included in the indirect connection charge paid to the City.

Water is purchased from the City of Plainwell to supply water for Township customers in service areas adjacent to the City. The Township constructs and maintains the water distribution system outside of the City at its own expense. Developers are required to pay the cost of extensions. The primary role of the Township includes construction of the distribution system, operations, maintenance, record plans, and billing. The City has responsibility for water production and for delivery of potable water at appropriate quantities and pressures.

Water is supplied to five customers on James Street from a water main that loops outside of the City, so there is not a master meter on it. The quantity of water used by customers on James Street is measured by the individual meters at the homes.

Master meters are used to record the amount of water purchased from the City at two locations – at Gores Addition south of the City and at 10<sup>th</sup> Street north of the City (presently that customer base is homes in Pine Meadows). In the master metered areas the Township must pay the City based on the master meter water quantities, not the individual meters at homes. Billing records indicate that there has been about 16% loss of water based on the quantity measured at the master meters compared to the sum of individual home metered quantities. This amount of loss is very high. For comparison, a normal amount of loss occurs at Lake Doster in the amount of about 6% comparing the pumped water quantity to the billed meter quantity.

A meter replacement program has been implemented to reduce potential meter inaccuracies. Per discussions with the supervisor we understand that the Township re-instituting a water meter replacement program. The anticipated cost is \$4,500/year to replace 15 meters per year. The replacement meter program will focus on the Gores Addition area because that area has the oldest meters and the largest discrepancy in lost water.

A leak was located and repaired in Gores Addition on Lincoln Street in December, 2009 that may account for a significant portion of the difference.

The cost of any water that is not metered at individual customers must be recovered from the rates (commodity and ready to serve charges). It is important to include this cost because the Township has to purchase that water from the City, presently at the rate of \$1.83/1000 gallons. Generally unbilled water is a result of leakage, bulk usage (like fire flows and periodic flushing), illegal connections, and meter inaccuracies. In our analysis for the City service area we assumed that 10% more water is purchase from the City, as measured by the master meters, than is recorded on the residential meters.

In order to have a clear understanding of all the water supplied to the system and the net amount billed we recommend that the township record significant unmetered water uses and estimate those quantities. Primary unmetered uses would be fire fighting, bi-annual flushing, construction uses, and bulk sales. By monitoring the difference between supplied and recorded water use the Township may be able to recognize when significant leakage or unauthorized uses occur. Then the Township can investigate significant losses and correct those problems.

## **X. RESERVE FUNDS**

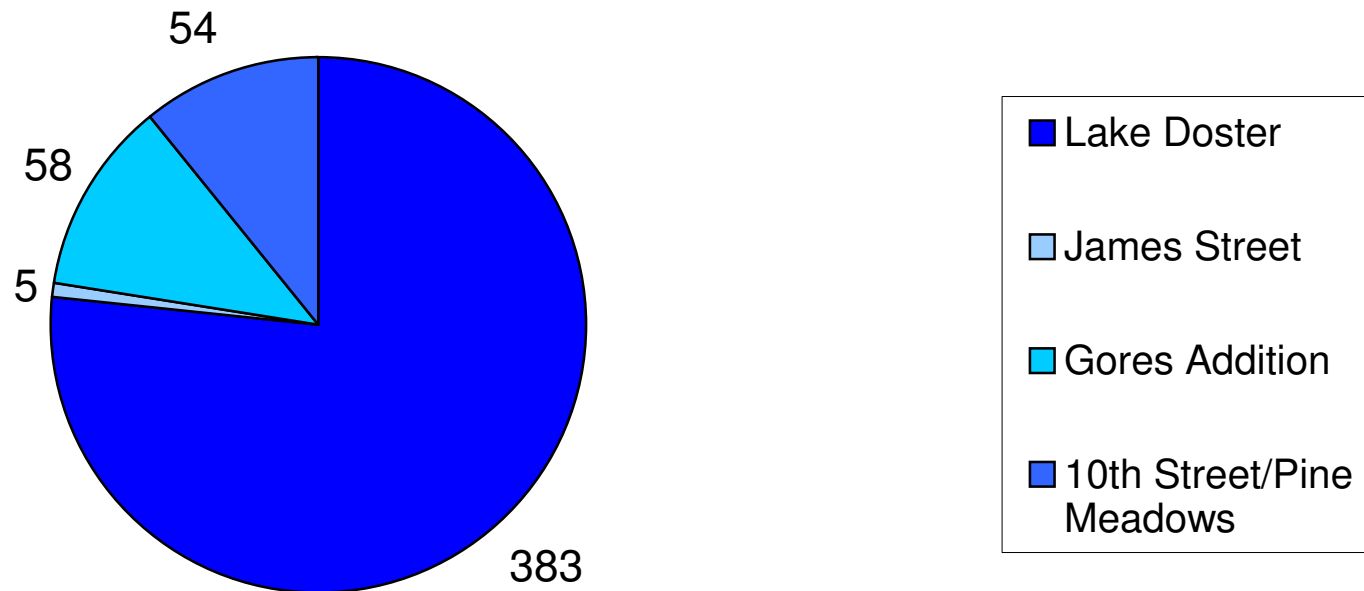
The Township should continue to maintain a reserve water fund balance to assure financial stability and security of water operations. Dedicated funds should also be held in the reserve account based on the annualized cost of future major maintenance expenditures, like the water tower interior repainting. Other parameters used to establish the level of reserve funds include capital reserves, maintenance reserves, rate stabilization and contingencies. In lieu of charging annually for actual depreciation a capital reserve amount of at least 2% of asset value should be maintained. We estimate that amount as \$90,000 based on current replacement cost. Because of the variable nature of water usage funds should be set aside to accommodate short term fluctuations in user revenues. We recommend an amount of at least 10% of the expected annual expenses be held in reserve for rate stabilization, which is about \$15,000. We recommend about \$15,000 be retained in the reserve fund for unbudgeted maintenance and repairs. Unexpected and costly events can occasionally occur, such as a well pump failure or water main break; we suggest that about \$15,000 to \$30,000 of contingency funds. The combined amount of water reserve funds should be at least \$135,000 to \$150,000 plus the amount of dedicated funds for planned future maintenance, repairs and improvements.



Gun Plain Township  
Estimated number of water customers

<b>Water Service Area</b>	<b>Billing Code</b>	<b>2003/4</b>	<b>2004/5</b>	<b>2005/6</b>	<b>2006/7</b>	<b>2007/8</b>	<b>2008/9</b>	<b>2009/10</b>
Lake Doster	(WA1)	368	368	368	368	380	380	383
City Service Areas								
James Street	(WAJ)	5	5	5	5	5	5	5
Gores Addition	(WAG)	57	57	57	57	58	58	58
10th Street/Pine Meadows	(WAG)	0	16	16	18	54	54	54
subtotal		62	78	78	80	117	117	117
Estimated number of customers		430	446	446	448	497	497	500
Computed from RTS charges			484	470	445	536	497	500

**Gun Plain Township  
Number of Water Customers in 2009  
(500 total)**





Gun Plain Township Past and current water rates									
Current Water Meter Fee		\$335							
Current Connection Fee		\$2,000	(Starting in 2010 in the City service area \$1,900 will go to City as an indirect connection charge for new customers, and the City will provide water meters to the Township for those customers)						
			2003/4	2004/5	2005/6	2006/7	2007/8	2008/9	2009/10
Lake Doster Service Area	Commodity RTS	\$/1000 gallons \$/mo/connection		\$ 1.25	\$ 1.35	\$ 1.35	\$ 1.40	\$ 1.40	\$ 1.50
				\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45
City service area	Commodity RTS	\$/1000 gallons \$/mo/connection	\$ 1.60	\$ 1.75	\$ 1.75	\$ 1.85	\$ 1.90	\$ 1.90	\$ 2.10
				\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45
City of Plainwell rates (the commodity and RTS charges apply as pass through charges to the Township in the City service area)	Current Connection fee								\$ 2,850.00
	Commodity RTS \$/mo	\$/1000 gallons		\$ 1.75	\$ 1.79	\$ 1.83	\$ 1.83	\$ 1.83	\$ 1.83
		3/4 inch meter							\$ 6.45
		1 inch							\$ 11.61
		1.5 inch							\$ 12.90
		2 inch							\$ 17.42
		3 inch							\$ 23.87
		4inch							\$ 32.25
6 inch						\$ 47.09			

**Gun Plain Township**  
**Monthly Water Cost for a Residence using 6,000 gallons/month**

Note: Calculations assume that City rates charged that Township hold constant at the 2009 level, cost must be recalculated for any City rate increases that the Township passes onto its customers.

	Year -5	Year -4	Year -3	Year -2	Year -1	Base	Year 1	Year 2	Year 3	Year 4	Year 5
	2004/05	2005/06	2006/07	2007/08	2008/09	Proj. 2009/10	Proj.2010/11	Proj.2011/12	Proj.2012/13	Proj.2013/14	Proj.2014/15
<b>Lake Doster Area</b>											
rts charge	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 6.45	\$ 7.45	\$ 8.45	\$ 8.45	\$ 8.45
1000 gallons billed	6	6	6	6	6	6	6	6	6	6	6
\$/1000 gallons	\$ 1.25	\$ 1.35	\$ 1.35	\$ 1.40	\$ 1.40	\$ 1.50	\$ 1.60	\$ 1.60	\$ 1.60	\$ 1.70	\$ 1.70
commodity revenue	\$ 7.50	\$ 8.10	\$ 8.10	\$ 8.40	\$ 8.40	\$ 9.00	\$ 9.60	\$ 9.60	\$ 9.60	\$ 10.20	\$ 10.20
Monthly Rate/Residence using 6,000 gal/mo	\$ 12.95	\$ 13.55	\$ 13.55	\$ 13.85	\$ 13.85	\$ 14.45	\$ 16.05	\$ 17.05	\$ 18.05	\$ 18.65	\$ 18.65
<b>City Service Area</b>											
rts charge	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 6.45	\$ 7.45	\$ 8.45	\$ 8.45	\$ 8.45
1000 gallons billed	6	6	6	6	6	6	6	6	6	6	6
\$/1000 gallons	\$ 1.75	\$ 1.75	\$ 1.85	\$ 1.90	\$ 1.90	\$ 2.10	\$ 2.10	\$ 2.20	\$ 2.30	\$ 2.30	\$ 2.30
commodity revenue	\$ 10.50	\$ 10.50	\$ 11.10	\$ 11.40	\$ 11.40	\$ 12.60	\$ 12.60	\$ 13.20	\$ 13.80	\$ 13.80	\$ 13.80
Monthly Rate/Residence using 6,000 gal/mo	\$ 15.95	\$ 15.95	\$ 16.55	\$ 16.85	\$ 16.85	\$ 18.05	\$ 19.05	\$ 20.65	\$ 22.25	\$ 22.25	\$ 22.25

# Gun Plain Township (City Service Area)

## Quantity of Water Sales By GPT and Purchased Water from the City of Plainwell

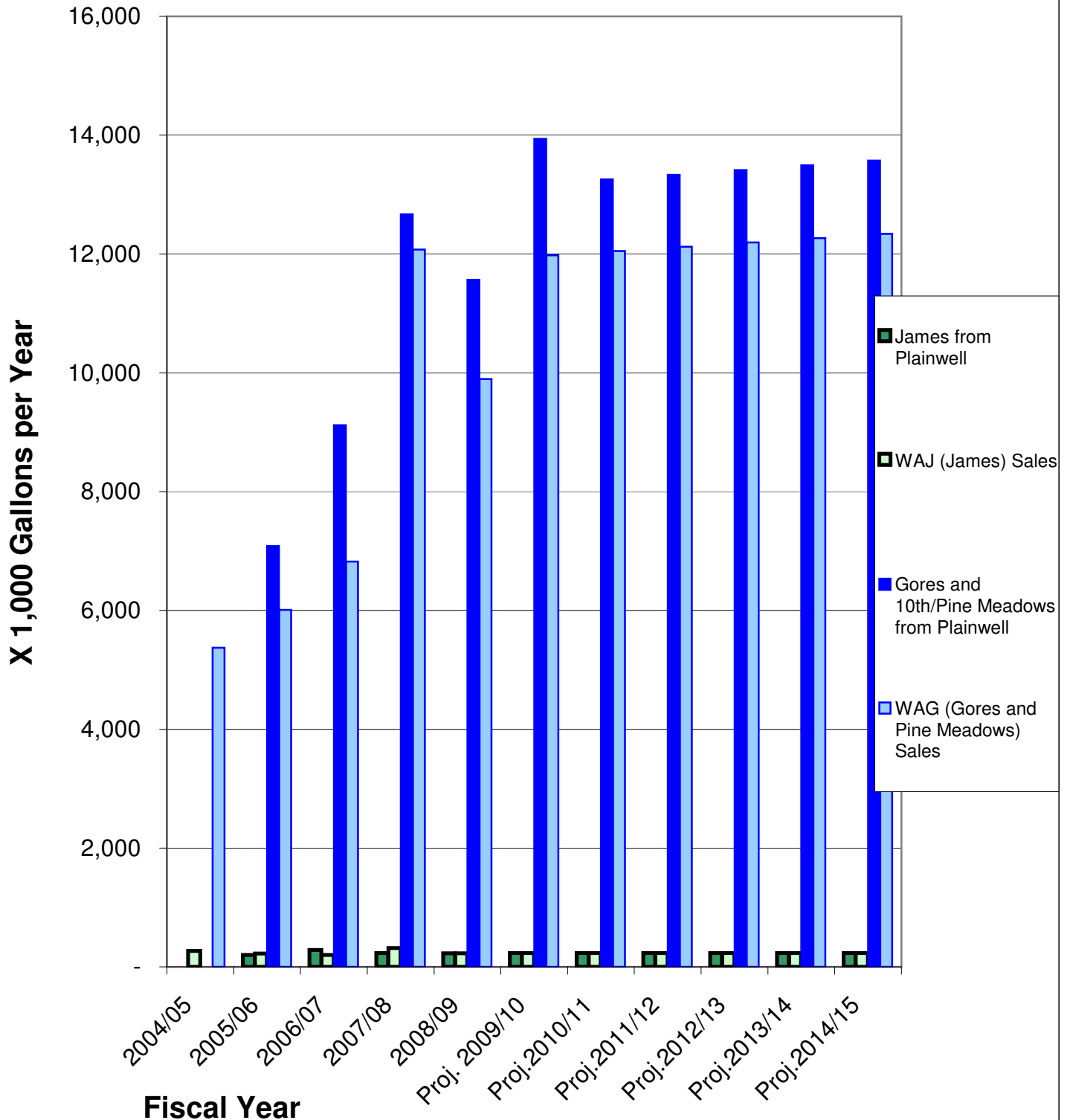
	Year -5	Year -4	Year -3	Year -2	Year -1	BASE	Year 1	Year 2	Year 3	Year 4	Year 5
	2004/05	2005/06	2006/07	2007/08	2008/09	Proj. 2009/10	Proj.2010/11	Proj.2011/12	Proj.2012/13	Proj.2013/14	Proj.2014/15
<b>Metered Sales (1000 gal)</b>											
WAG (Gores and Pine Meadows) Sales	5,372	6,010	6,823	12,075	9,896	11,977					
WAJ (James) Sales	268	223	201	317	228	227					
<b>Purchased water from City (gallons)</b>											
James - Gallons from City		199,000	283,000	232,000	227,000	231,000					
Gores - Gallons from City		4,211,000	4,416,000	5,690,000	4,775,000	5,683,000					
10th/Pine Meadows - Gallons from City		<u>2,870,000</u>	<u>4,700,800</u>	<u>6,975,000</u>	<u>6,792,000</u>	<u>8,254,000</u>					
Sum of Gores & 10th/Pine Meadows- Gallons from City		7,081,000	9,116,800	12,665,000	11,567,000	13,937,000					

Note: Purchased water from City for 2009/10 is based on the metered water quantity of October 2008 to September 2009. A leak in Gores was repaired 12/2009.

## PROJECTED QUANTITIES (1000 gallons)

	2004/05	2005/06	2006/07	2007/08	2008/09	Proj. 2009/10	Proj.2010/11	Proj.2011/12	Proj.2012/13	Proj.2013/14	Proj.2014/15
James from Plainwell		199	283	232	227	231	231	231	231	231	231
WAJ (James) Sales	268	223	201	317	228	231	231	231	231	231	231
Purchased/Sales %		89.24%	140.80%	73.19%	99.56%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Gores and 10th/Pine Meadows from Plainwell		7,081	9,117	12,665	11,567	13,937	13,254	13,333	13,412	13,492	13,571
WAG (Gores and Pine Meadows) Sales	5,372	6,010	6,823	12,075	9,896	11,977	12,049	12,121	12,193	12,265	12,337
Purchased/Sales %		117.82%	133.62%	104.89%	116.89%	116.36%	110.00%	110.00%	110.00%	110.00%	110.00%
Total Water Purchased from Plainwell	-	7,280	9,400	12,897	11,794	14,168	13,485	13,564	13,643	13,723	13,802
Total Water Sales	5,640	6,233	7,024	12,392	10,124	12,208	12,280	12,352	12,424	12,496	12,568
Purchased/Sales %		116.80%	133.82%	104.08%	116.50%	116.06%	109.81%	109.81%	109.81%	109.82%	109.82%
# of customers	79	79	79	117	117	117	118	119	120	121	122
Average gpd/customer	196	216	244	290	237	286	285	284	284	283	282

# **Gun Plain Township (City Service Area): Water Sales By GPT and Water Purchased from Plainwell (Past and Projected)**



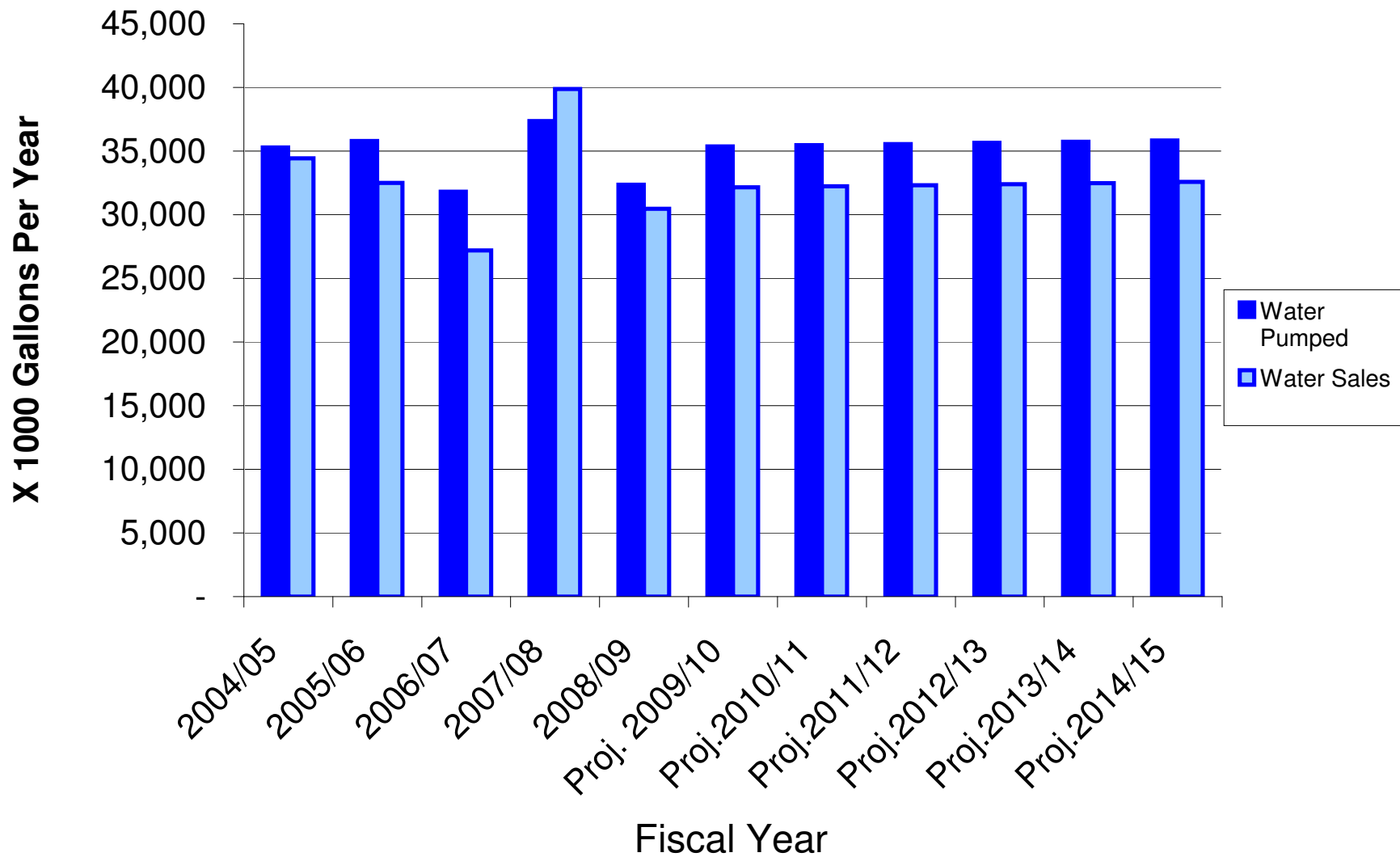
**Gun Plain Township**  
**Lake Doster Service Area: Water Pumped and Water Sales**

	Year -5	Year -4	Year -3	Year -2	Year -1	BASE	Year 1	Year 2	Year 3	Year 4	Year 5
	2004/05	2005/06	2006/07	2007/08	2008/09	Proj. 2009/10	Proj.2010/11	Proj.2011/12	Proj.2012/13	Proj.2013/14	Proj.2014/15
Pumped x1000 gal	35,283	35,800	31,801	37,365	32,359	35,368	35,460	35,553	35,645	35,738	35,830
Sales x1000/gal	34,424	32,507	27,201	39,885	30,461	32,153	32,237	32,321	32,405	32,489	32,573
Loss x 1000 gal	(859)	(3,293)	(4,600)	2,520	(1,898)	(3,215)	(3,224)	(3,232)	(3,240)	(3,249)	(3,257)
Loss/Sales	-2.50%	-10.13%	-16.91%	6.32%	-6.23%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%	-10.00%
# of customers	368	368	374	380	380	383	384	385	386	387	388
sales gpd/customer	256	242	199	288	220	230	230	230	230	230	230

Note 1 - projection using 230 gpd/customer (past average was 240 gpd/customer)

Note 2 - assume a 10% loss relative to quantity of water sales amount

## Gun Plain Township - Lake Doster Service Area Past and Projected Water Pumped and Water Sales



**Gun Plain Township**  
**Water Sales, Revenues, Rates, GPD, Purchased from City**

Year	Est. No. Customers	Service Area	Billing Code	Quantity	Units	Revenue	Rate	Units	Estimated GPD per Customer	Amount Paid to Plainwell for James, Gores and 10th (gallons from City)	Commodity Revenue from WAG & WAJ less amount paid City	Difference Metered Twp - City in WAG & WAJ (gallons) and Difference/Purchased	Estimated Revenue from RTS at \$5.45/customer
2004/5													
	447	all	RS	484	est. no. meters	\$ 31,659.05	\$ 5.45	\$/meter					
	368	Lake Doster	WA1	34,424	x 1000 gal	\$ 43,030.00	\$ 1.25	\$/1000	256				
	57 + 16	Gores & Pine Meadows	WAG	5,372	x 1000 gal	\$ 9,386.00	\$ 1.75	\$/1000	202				
	5	James	WAJ	268	x 1000 gal	\$ 469.00	\$ 1.75	\$/1000	147	(+1 customer 9/28/05)			
		Total		40,064	x 1000 gal	\$ 84,544.05			246				
		Subtotal WAG & WAJ		5,640	x 1000 gal	\$ 9,855.00				\$ 11,220.30	\$ (1,365.30)		\$ 5,166.60
2005/6													
	447	all	RS	470	est. no. meters	\$ 30,705.30	\$ 5.45	\$/meter					
	368	Lake Doster	WA1	32,507	x 1000 gal	\$ 43,002.35	\$ 1.32	\$/1000	242				
	57 + 16	Gores & Pine Meadows	WAG	6,010	x 1000 gal	\$ 10,960.20	\$ 1.82	\$/1000	226				
	5	James	WAJ	223	x 1000 gal	\$ 406.85	\$ 1.82	\$/1000	122				
		Total		38,740	x 1000 gal	\$ 85,074.70			237				
		Subtotal WAG & WAJ		6,233	x 1000 gal	\$ 11,367.05				\$ 14,995.00	\$ (3,627.95)		\$ 5,166.60
										7,280,000 gallons		(1,047,000) gallons -16.80%	
2006/7													
	447	all	RS	445	est. no. meters	\$ 29,097.55	\$ 5.45	\$/meter					
	368	Lake Doster	WA1	27,201	x 1000 gal	\$ 35,111.70	\$ 1.29	\$/1000	203				
	57 + 16	Gores & Pine Meadows	WAG	6,823	x 1000 gal	\$ 12,854.60	\$ 1.88	\$/1000	256				
	5	James	WAJ	201	x 1000 gal	\$ 378.65	\$ 1.88	\$/1000	110				
		Total		34,225	x 1000 gal	\$ 77,442.50			210				
		Subtotal WAG & WAJ		7,024	x 1000 gal	\$ 13,233.25				\$ 19,735.11	\$ (6,501.86)		\$ 5,166.60
										9,399,800 gallons		(2,375,800) gallons -33.82%	
2007/8													
	497	all	RS	536	est. no. meters	\$ 35,040.77	\$ 5.45	\$/meter					
	380	Lake Doster	WA1	39,885	x 1000 gal	\$ 55,839.00	\$ 1.40	\$/1000	288				
	58 + 54	Gores & Pine Meadows	WAG	12,075	x 1000 gal	\$ 22,942.50	\$ 1.90	\$/1000	295				
	5	James	WAJ	317	x 1000 gal	\$ 602.30	\$ 1.90	\$/1000	174				
		Total		52,277	x 1000 gal	\$ 114,424.57			288				
		Subtotal WAG & WAJ		12,392	x 1000 gal	\$ 23,544.80				\$ 25,779.14	\$ (2,234.34)		\$ 7,651.80
										12,897,000 gallons		(505,000) gallons -4.08%	
2008/9													
	497	all	RS	497	est. no. meters	\$ 32,531.02	\$ 5.45	\$/meter					
	380	Lake Doster	WA1	30,461	x 1000 gal	\$ 42,645.40	\$ 1.40	\$/1000	220				
	58 + 54	Gores & Pine Meadows	WAG	9,896	x 1000 gal	\$ 18,802.40	\$ 1.90	\$/1000	242				
	5	James	WAJ	228	x 1000 gal	\$ 433.20	\$ 1.90	\$/1000	125				
		Total		40,585	x 1000 gal	\$ 94,412.02			224				
		Subtotal WAG & WAJ		10,124	x 1000 gal	\$ 19,235.60				\$ 23,522.91	\$ (4,287.31)		\$ 7,651.80
										11,794,000 gallons		(1,670,000) gallons -16.50%	
2009/10 (April to September)									YTD X 2				
	500	all	RS	500	est. no. meters	\$ 16,347.26	\$ 5.45	\$/meter					
	383	Lake Doster	WA1	19,115	x 1000 gal	\$ 26,761.00	\$ 1.40	\$/1000	273				
	58 + 54	Gores & Pine Meadows	WAG	8,747	x 1000 gal	\$ 16,619.30	\$ 1.90	\$/1000	428				
	5	James	WAJ	119	x 1000 gal	\$ 226.10	\$ 1.90	\$/1000	130				
		Total		27,981	x 1000 gal	\$ 59,953.66			307				
		Subtotal WAG & WAJ		8,866	x 1000 gal	\$ 16,845.40							\$ 7,651.80
	Jan 2010 ff									10,260,000 gallons		(1,394,000) gallons -15.72%	
		RS				\$ 6.45							
		WA1				\$ 1.50				Totals \$	(18,016.76)	(6,991,800)	\$ 38,455.20
		WAG				\$ 2.10							
		WAJ				\$ 2.10							
												X \$1.83/1000 g (12,794.99)	

**Gun Plain Township**  
**Water Revenue and Expenses (Historic and Projected)**

ASSUMPTIONS:  
 4% inflation applied to several line items  
 held city rates constant from 2009 forward

	Year -5	Year -4	Year -3	Year -2	Year -1	BASE	Year 1	Year 2	Year 3	Year 4	Year 5
	2004/05	2005/06	2006/07	2007/08	2008/09	Proj. 2009/10	Proj.2010/11	Proj.2011/12	Proj.2012/13	Proj.2013/14	Proj.2014/15
<b>Water Revenue</b>											
Water Contingency Fund	\$ -	\$ -									
Permit Fees	\$ 6,015.00	\$ 5,471.74	\$ 2,955.00	\$ 2,333.00	\$ -	\$ 3,500.00	\$ 670.00	\$ 670.00	\$ 670.00	\$ 670.00	\$ 670.00
Water Billing	\$ 72,320.70	\$ 85,087.83	\$ 86,461.52	\$ 99,471.23	\$ 94,819.88	\$ 106,566.08	\$ 116,221.68	\$ 123,945.20	\$ 131,731.12	\$ 135,482.71	\$ 135,993.82
Late Fees	\$ 2,141.44	\$ 2,652.84	\$ 2,769.05	\$ 5,453.39	\$ 2,774.76	\$ 2,500.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00
Interest on Investment	\$ 2,780.55	\$ 5,797.48	\$ 6,966.22	\$ 5,760.07	\$ 1,411.29	\$ 5,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00
Interest on Special Assessment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Revenues	\$ 4,318.45	\$ -	\$ -	\$ -	\$ -	\$ 20,400.00	\$ -	\$ -	\$ -	\$ -	\$ -
Availability Fees	\$ 14,050.00	\$ 3,600.00	\$ 7,400.00	\$ 5,700.00	\$ 3,800.00	\$ 6,000.00	\$ 5,900.00	\$ 5,900.00	\$ 5,900.00	\$ 5,900.00	\$ 5,900.00
<b>Total Water Revenue</b>	<b>\$ 101,626.14</b>	<b>\$ 102,609.89</b>	<b>\$ 106,551.79</b>	<b>\$ 118,717.69</b>	<b>\$ 102,805.93</b>	<b>\$ 143,966.08</b>	<b>\$ 126,791.68</b>	<b>\$ 134,515.20</b>	<b>\$ 142,301.12</b>	<b>\$ 146,052.71</b>	<b>\$ 146,563.82</b>
<b>Water Expense</b>											
City availability fees							\$ 1,900.00	\$ 1,900.00	\$ 1,900.00	\$ 1,900.00	\$ 1,900.00
Utility Billing Personal	\$ 4,000.00	\$ 5,952.27	\$ 7,500.00	\$ 6,845.40	\$ 3,749.13	\$ 7,000.00	\$ 7,280.00	\$ 7,571.20	\$ 7,874.05	\$ 8,189.01	\$ 8,516.57
Ground Maintenance Crew	\$ 2,000.00	\$ -	\$ -	\$ 1,043.00	\$ 1,743.00	\$ 2,500.00	\$ 2,600.00	\$ 2,704.00	\$ 2,812.16	\$ 2,924.65	\$ 3,041.63
Office Supplies	\$ 4,018.52	\$ 5,034.17	\$ 994.86	\$ 2,456.30	\$ 729.35	\$ 2,500.00	\$ 2,600.00	\$ 2,704.00	\$ 2,812.16	\$ 2,924.65	\$ 3,041.63
Operating Supplies	\$ 5,060.65	\$ 7,794.97	\$ 4,200.65	\$ 7,084.57	\$ 6,583.29	\$ 7,000.00	\$ 7,280.00	\$ 7,571.20	\$ 7,874.05	\$ 8,189.01	\$ 8,516.57
Contracted O&M	\$ 25,609.00	\$ 27,783.87	\$ 25,771.03	\$ 28,677.00	\$ 27,454.98	\$ 27,500.00	\$ 28,600.00	\$ 29,744.00	\$ 30,933.76	\$ 32,171.11	\$ 33,457.95
Management Consultant	\$ 6,593.25	\$ (563.70)	\$ 1,487.50	\$ 1,591.25	\$ 859.30	\$ 1,500.00	\$ 1,560.00	\$ 1,622.40	\$ 1,687.30	\$ 1,754.79	\$ 1,824.98
Legal Fees	\$ 1,621.00	\$ 341.27	\$ 285.00	\$ 700.00	\$ -	\$ 1,500.00	\$ 1,560.00	\$ 1,622.40	\$ 1,687.30	\$ 1,754.79	\$ 1,824.98
Audit Fees	\$ 500.00	\$ 665.00	\$ 675.00	\$ 700.00	\$ 1,000.00	\$ 1,000.00	\$ 1,040.00	\$ 1,081.60	\$ 1,124.86	\$ 1,169.86	\$ 1,216.65
Insurance	\$ 2,000.00	\$ 2,700.00	\$ 3,000.00	\$ 3,000.00	\$ 2,500.00	\$ 3,000.00	\$ 3,120.00	\$ 3,244.80	\$ 3,374.59	\$ 3,509.58	\$ 3,649.96
Pine Meadows Expense	\$ 16,266.30	\$ 636.45	\$ -	\$ -	\$ -	\$ 6,000.00	\$ 1,500.00	\$ 1,560.00	\$ 1,622.40	\$ 1,687.30	\$ 1,754.79
Water Capital Improvement	\$ 200.00	\$ -				\$ 32,500.00					
Water Fees (to City)	\$ 11,220.30	\$ 14,995.00	\$ 19,735.11	\$ 25,779.14	\$ 23,522.91	\$ 34,983.24	\$ 33,810.57	\$ 34,032.90	\$ 34,255.24	\$ 34,477.58	\$ 34,699.91
Phone and Miss Dig	\$ 2,495.34	\$ 2,564.47	\$ 2,140.14	\$ 3,215.82	\$ 3,378.37	\$ 3,050.00	\$ 3,172.00	\$ 3,298.88	\$ 3,430.84	\$ 3,568.07	\$ 3,710.79
Mileage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 50.00	\$ 52.00	\$ 54.08	\$ 56.24	\$ 58.49	\$ 60.83
Print and Publication	\$ 36.00	\$ -	\$ 63.00	\$ 31.83	\$ 36.88	\$ 300.00	\$ 312.00	\$ 324.48	\$ 337.46	\$ 350.96	\$ 365.00
Utilities	\$ 3,782.18	\$ 5,135.35	\$ 5,601.95	\$ 5,815.45	\$ 6,340.98	\$ 7,000.00	\$ 7,280.00	\$ 7,571.20	\$ 7,874.05	\$ 8,189.01	\$ 8,516.57
Repair & Maintenance	\$ 23,320.09	\$ 22,540.98	\$ 18,508.19	\$ 22,989.84	\$ 7,112.99	\$ 20,500.00	\$ 21,320.00	\$ 22,172.80	\$ 23,059.71	\$ 23,982.10	\$ 24,941.38
Depreciation Expense	\$ 42,800.14	\$ 42,800.14	\$ 43,260.14	\$ 43,720.14	\$ -	\$ -					
Equipment Purchases					\$ -		\$ 4,500.00	\$ 4,680.00	\$ 4,867.20	\$ 5,061.89	\$ 5,264.36
Water Reliability Study					\$ -		\$ -		\$ 3,500.00	\$ 3,500.00	
Debt Service Interest	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				
<b>Total Water Expense</b>	<b>\$ 151,522.77</b>	<b>\$ 138,380.24</b>	<b>\$ 133,222.57</b>	<b>\$ 153,649.74</b>	<b>\$ 85,011.18</b>	<b>\$ 157,883.24</b>	<b>\$ 129,486.57</b>	<b>\$ 133,459.94</b>	<b>\$ 141,083.36</b>	<b>\$ 145,362.82</b>	<b>\$ 146,304.57</b>
Net Income including Depr. Exp.	\$ (49,896.63)	\$ (35,770.35)	\$ (26,670.78)	\$ (34,932.05)	\$ 17,794.75	\$ (13,917.17)	\$ (2,694.89)	\$ 1,055.26	\$ 1,217.76	\$ 689.88	\$ 259.25
<b>Net Income excluding Depr. Exp.</b>	<b>\$ (7,096.49)</b>	<b>\$ 7,029.79</b>	<b>\$ 16,589.36</b>	<b>\$ 8,788.09</b>	<b>\$ 17,794.75</b>	<b>\$ (13,917.17)</b>	<b>\$ (2,694.89)</b>	<b>\$ 1,055.26</b>	<b>\$ 1,217.76</b>	<b>\$ 689.88</b>	<b>\$ 259.25</b>



**Gun Plain Township**  
**Water Revenue and Expenses**  
**Lake Doster Service Area - budget allocation ratios**

	Year -5	Year -4	Year -3	Year -2	Year -1	BASE	Year 1	Year 2	Year 3	Year 4	Year 5
	2004/05	2005/06	2006/07	2007/08	2008/09	Proj. 2009/10	Proj.2010/11	Proj.2011/12	Proj.2012/13	Proj.2013/14	Proj.2014/15
<b>Water Revenue</b>											
Water Contingency Fund	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Permit Fees	-	-	-	-	-	-	-	-	-	-	-
Water Billing											
Late Fees	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Interest on Investment	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Interest on Special Assessment	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Other Revenues											
Availability Fees	0.10	0.10	0.10	0.10	0.10	0.33	0.33	0.33	0.33	0.33	0.33
<b>Water Expense</b>											
City availability fees	-	-	-	-	-	-	-	-	-	-	-
Utility Billing Personal	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Ground Maintenance Crew	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Office Supplies	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Operating Supplies	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Contracted O&M	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Management Consultant	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Legal Fees	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Audit Fees	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Insurance	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pine Meadows Expense	-	-	-	-	-	-	-	-	-	-	-
Water Capital Improvement	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Water Fees (to City)	-	-	-	-	-	-	-	-	-	-	-
Phone and Miss Dig	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Mileage	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Print and Publication	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Utilities	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Repair & Maintenance	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Depreciation Expense	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Equipment Purchases	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Water Reliability Study	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Debt Service Interest	-	-	-	-	-	-	-	-	-	-	-

**Gun Plain Township Lake Doster Service Area**  
**Allocated Water Revenue and Expenses (Historic and projected)**  
**and Computed Commodity Rate**

ASSUMPTIONS:

4% inflation applied to several line items

held city rates constant from 2009 forward

	Year -5	Year -4	Year -3	Year -2	Year -1	BASE	Year 1	Year 2	Year 3	Year 4	Year 5
	2004/05	2005/06	2006/07	2007/08	2008/09	Proj. 2009/10	Proj.2010/11	Proj.2011/12	Proj.2012/13	Proj.2013/14	Proj.2014/15
<b>Water Revenue except commodity and rts</b>											
Water Contingency Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Permit Fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Water Billing	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Late Fees	\$ 1,713.15	\$ 2,122.27	\$ 2,215.24	\$ 4,362.71	\$ 2,219.81	\$ 2,000.00	\$ 1,600.00	\$ 1,600.00	\$ 1,600.00	\$ 1,600.00	\$ 1,600.00
Interest on Investment	\$ 2,224.44	\$ 4,637.98	\$ 5,572.98	\$ 4,608.06	\$ 1,129.03	\$ 4,000.00	\$ 1,600.00	\$ 1,600.00	\$ 1,600.00	\$ 1,600.00	\$ 1,600.00
Interest on Special Assessment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Availability Fees	\$ 1,405.00	\$ 360.00	\$ 740.00	\$ 570.00	\$ 380.00	\$ 2,004.00	\$ 1,970.60	\$ 1,970.60	\$ 1,970.60	\$ 1,970.60	\$ 1,970.60
<b>Non Rate Revenue</b>	<b>\$ 5,342.59</b>	<b>\$ 7,120.26</b>	<b>\$ 8,528.22</b>	<b>\$ 9,540.77</b>	<b>\$ 3,728.84</b>	<b>\$ 8,004.00</b>	<b>\$ 5,170.60</b>	<b>\$ 5,170.60</b>	<b>\$ 5,170.60</b>	<b>\$ 5,170.60</b>	<b>\$ 5,170.60</b>
<b>Water Expense</b>											
City availability fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Utility Billing Personal	\$ 3,200.00	\$ 4,761.82	\$ 6,000.00	\$ 5,476.32	\$ 2,999.30	\$ 5,600.00	\$ 5,824.00	\$ 6,056.96	\$ 6,299.24	\$ 6,551.21	\$ 6,813.26
Ground Maintenance Crew	\$ 2,000.00	\$ -	\$ -	\$ 1,043.00	\$ 1,743.00	\$ 2,500.00	\$ 2,600.00	\$ 2,704.00	\$ 2,812.16	\$ 2,924.65	\$ 3,041.63
Office Supplies	\$ 3,214.82	\$ 4,027.34	\$ 795.89	\$ 1,965.04	\$ 583.48	\$ 2,000.00	\$ 2,080.00	\$ 2,163.20	\$ 2,249.73	\$ 2,339.72	\$ 2,433.31
Operating Supplies	\$ 5,060.65	\$ 7,794.97	\$ 4,200.65	\$ 7,084.57	\$ 6,583.29	\$ 7,000.00	\$ 7,280.00	\$ 7,571.20	\$ 7,874.05	\$ 8,189.01	\$ 8,516.57
Contracted O&M	\$ 23,048.10	\$ 25,005.48	\$ 23,193.93	\$ 25,809.30	\$ 24,709.48	\$ 24,750.00	\$ 25,740.00	\$ 26,769.60	\$ 27,840.38	\$ 28,954.00	\$ 30,112.16
Management Consultant	\$ 6,263.59	\$ (535.52)	\$ 1,413.13	\$ 1,511.69	\$ 816.34	\$ 1,425.00	\$ 1,482.00	\$ 1,541.28	\$ 1,602.93	\$ 1,667.05	\$ 1,733.73
Legal Fees	\$ 1,296.80	\$ 273.02	\$ 228.00	\$ 560.00	\$ -	\$ 1,200.00	\$ 1,248.00	\$ 1,297.92	\$ 1,349.84	\$ 1,403.83	\$ 1,459.98
Audit Fees	\$ 400.00	\$ 532.00	\$ 540.00	\$ 560.00	\$ 800.00	\$ 800.00	\$ 832.00	\$ 865.28	\$ 899.89	\$ 935.89	\$ 973.32
Insurance	\$ 1,900.00	\$ 2,565.00	\$ 2,850.00	\$ 2,850.00	\$ 2,375.00	\$ 2,850.00	\$ 2,964.00	\$ 3,082.56	\$ 3,205.86	\$ 3,334.10	\$ 3,467.46
Pine Meadows Expense	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Water Capital Improvement	\$ 200.00	\$ -	\$ -	\$ -	\$ -	\$ 32,500.00	\$ -	\$ -	\$ -	\$ -	\$ -
Water Fees (to City)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Phone and Miss Dig	\$ 2,495.34	\$ 2,564.47	\$ 2,140.14	\$ 3,215.82	\$ 3,378.37	\$ 3,050.00	\$ 3,172.00	\$ 3,298.88	\$ 3,430.84	\$ 3,568.07	\$ 3,710.79
Mileage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 40.00	\$ 41.60	\$ 43.26	\$ 44.99	\$ 46.79	\$ 48.67
Print and Publication	\$ 28.80	\$ -	\$ 50.40	\$ 25.46	\$ 29.50	\$ 240.00	\$ 249.60	\$ 259.58	\$ 269.97	\$ 280.77	\$ 292.00
Utilities	\$ 3,782.18	\$ 5,135.35	\$ 5,601.95	\$ 5,815.45	\$ 6,340.98	\$ 7,000.00	\$ 7,280.00	\$ 7,571.20	\$ 7,874.05	\$ 8,189.01	\$ 8,516.57
Repair & Maintenance	\$ 23,320.09	\$ 22,540.98	\$ 18,508.19	\$ 22,989.84	\$ 7,112.99	\$ 20,500.00	\$ 21,320.00	\$ 22,172.80	\$ 23,059.71	\$ 23,982.10	\$ 24,941.38
Depreciation Expense	\$ 36,380.12	\$ 36,380.12	\$ 36,771.12	\$ 37,162.12	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Equipment Purchases	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,050.00	\$ 4,212.00	\$ 4,380.48	\$ 4,555.70	\$ 4,737.93
Water Reliability Study	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,500.00	\$ 3,500.00	\$ -
Debt Service Interest	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Water Expense</b>	<b>\$ 112,590.48</b>	<b>\$ 111,045.03</b>	<b>\$ 102,293.39</b>	<b>\$ 116,068.61</b>	<b>\$ 57,471.74</b>	<b>\$ 111,455.00</b>	<b>\$ 86,163.20</b>	<b>\$ 89,609.73</b>	<b>\$ 96,694.12</b>	<b>\$ 100,421.88</b>	<b>\$ 100,798.76</b>
Revenue except commodity and rts	\$ 5,342.59	\$ 7,120.26	\$ 8,528.22	\$ 9,540.77	\$ 3,728.84	\$ 8,004.00	\$ 5,170.60	\$ 5,170.60	\$ 5,170.60	\$ 5,170.60	\$ 5,170.60
Est no of customers	\$ 368.00	\$ 368.00	\$ 368.00	\$ 380.00	\$ 380.00	\$ 383.00	\$ 384.00	\$ 385.00	\$ 386.00	\$ 387.00	\$ 388.00
rts charge	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 6.45	\$ 7.45	\$ 8.45	\$ 8.45	\$ 8.45
rts amount	\$ 24,067.20	\$ 24,067.20	\$ 24,067.20	\$ 24,852.00	\$ 24,852.00	\$ 25,048.20	\$ 29,721.60	\$ 34,419.00	\$ 39,140.40	\$ 39,241.80	\$ 39,343.20
subtotal	\$ 83,180.69	\$ 79,857.57	\$ 69,697.97	\$ 81,675.84	\$ 28,890.90	\$ 78,402.80	\$ 51,271.00	\$ 50,020.13	\$ 52,383.12	\$ 56,009.48	\$ 56,284.96
1000 gallons billed	34,424	32,507	27,201	39,885	30,461	32,153	32,237	32,321	32,405	32,489	32,573
Needed \$/1000 gallons	\$ 2.42	\$ 2.46	\$ 2.56	\$ 2.05	\$ 0.95	\$ 2.44	\$ 1.59	\$ 1.55	\$ 1.62	\$ 1.72	\$ 1.73
Needed \$/1000 gallons excluding depr.	\$ 1.36	\$ 1.34	\$ 1.21	\$ 1.12	\$ 0.95	\$ 2.44	\$ 1.59	\$ 1.55	\$ 1.62	\$ 1.72	\$ 1.73

**Gun Plain Township**  
**Water Revenue and Expenses**  
**City Service Area - budget allocation ratios**

	Year -5	Year -4	Year -3	Year -2	Year -1	BASE	Year 1	Year 2	Year 3	Year 4	Year 5
	2004/05	2005/06	2006/07	2007/08	2008/09	Proj. 2009/10	Proj.2010/11	Proj.2011/12	Proj.2012/13	Proj.2013/14	Proj.2014/15
<b>Water Revenue</b>											
Water Contingency Fund	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Permit Fees	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Water Billing											
Late Fees	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Interest on Investment	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Interest on Special Assessment	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Other Revenues											
Availability Fees	0.90	0.90	0.90	0.90	0.90	0.67	0.67	0.67	0.67	0.67	0.67
<b>Total Water Revenue</b>											
<b>Water Expense</b>											
City availability fees	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Utility Billing Personal	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Ground Maintenance Crew	-	-	-	-	-	-	-	-	-	-	-
Office Supplies	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Operating Supplies	-	-	-	-	-	-	-	-	-	-	-
Contracted O&M	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Management Consultant	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Legal Fees	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Audit Fees	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Insurance	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Pine Meadows Expense	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Water Capital Improvement	-	-	-	-	-	-	-	-	-	-	-
Water Fees (to City)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Phone and Miss Dig	-	-	-	-	-	-	-	-	-	-	-
Mileage	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Print and Publication	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Utilities	-	-	-	-	-	-	-	-	-	-	-
Repair & Maintenance	-	-	-	-	-	-	-	-	-	-	-
Depreciation Expense	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Equipment Purchases	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Water Reliability Study	-	-	-	-	-	-	-	-	-	-	-
Debt Service Interest	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Gun Plain Township City Service Area**  
**Allocated Water Revenue and Expenses (Historic and projected)**  
**and Computed Commodity Rate**

ASSUMPTIONS:  
4% inflation applied to several line items  
held city rates constant from 2009 forward

	Year -5	Year -4	Year -3	Year -2	Year -1	BASE	Year 1	Year 2	Year 3	Year 4	Year 5
	2004/05	2005/06	2006/07	2007/08	2008/09	Proj. 2009/10	Proj.2010/11	Proj.2011/12	Proj.2012/13	Proj.2013/14	Proj.2014/15
<b>Water Revenue except commodity and rts</b>											
Water Contingency Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Permit Fees	\$ 6,015.00	\$ 5,471.74	\$ 2,955.00	\$ 2,333.00	\$ -	\$ 3,500.00	\$ 670.00	\$ 670.00	\$ 670.00	\$ 670.00	\$ 670.00
Water Billing	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Late Fees	\$ 428.29	\$ 530.57	\$ 553.81	\$ 1,090.68	\$ 554.95	\$ 500.00	\$ 400.00	\$ 400.00	\$ 400.00	\$ 400.00	\$ 400.00
Interest on Investment	\$ 556.11	\$ 1,159.50	\$ 1,393.24	\$ 1,152.01	\$ 282.26	\$ 1,000.00	\$ 400.00	\$ 400.00	\$ 400.00	\$ 400.00	\$ 400.00
Interest on Special Assessment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Availability Fees	\$ 12,645.00	\$ 3,240.00	\$ 6,660.00	\$ 5,130.00	\$ 3,420.00	\$ 3,996.00	\$ 3,929.40	\$ 3,929.40	\$ 3,929.40	\$ 3,929.40	\$ 3,929.40
<b>Non Rate Revenue</b>	<b>\$ 19,644.40</b>	<b>\$ 10,401.80</b>	<b>\$ 11,562.05</b>	<b>\$ 9,705.69</b>	<b>\$ 4,257.21</b>	<b>\$ 8,996.00</b>	<b>\$ 5,399.40</b>	<b>\$ 5,399.40</b>	<b>\$ 5,399.40</b>	<b>\$ 5,399.40</b>	<b>\$ 5,399.40</b>
<b>Water Expense</b>											
City availability fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,900.00	\$ 1,900.00	\$ 1,900.00	\$ 1,900.00	\$ 1,900.00
Utility Billing Personal	\$ 800.00	\$ 1,190.45	\$ 1,500.00	\$ 1,369.08	\$ 749.83	\$ 1,400.00	\$ 1,456.00	\$ 1,514.24	\$ 1,574.81	\$ 1,637.80	\$ 1,703.31
Ground Maintenance Crew	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Office Supplies	\$ 803.70	\$ 1,006.83	\$ 198.97	\$ 491.26	\$ 145.87	\$ 500.00	\$ 520.00	\$ 540.80	\$ 562.43	\$ 584.93	\$ 608.33
Operating Supplies	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Contracted O&M	\$ 2,560.90	\$ 2,778.39	\$ 2,577.10	\$ 2,867.70	\$ 2,745.50	\$ 2,750.00	\$ 2,860.00	\$ 2,974.40	\$ 3,093.38	\$ 3,217.11	\$ 3,345.80
Management Consultant	\$ 329.66	\$ (28.19)	\$ 74.38	\$ 79.56	\$ 42.97	\$ 75.00	\$ 78.00	\$ 81.12	\$ 84.36	\$ 87.74	\$ 91.25
Legal Fees	\$ 324.20	\$ 68.25	\$ 57.00	\$ 140.00	\$ -	\$ 300.00	\$ 312.00	\$ 324.48	\$ 337.46	\$ 350.96	\$ 365.00
Audit Fees	\$ 100.00	\$ 133.00	\$ 135.00	\$ 140.00	\$ 200.00	\$ 200.00	\$ 208.00	\$ 216.32	\$ 224.97	\$ 233.97	\$ 243.33
Insurance	\$ 100.00	\$ 135.00	\$ 150.00	\$ 150.00	\$ 125.00	\$ 150.00	\$ 156.00	\$ 162.24	\$ 168.73	\$ 175.48	\$ 182.50
Pine Meadows Expense	\$ 16,266.30	\$ 636.45	\$ -	\$ -	\$ -	\$ 6,000.00	\$ 1,500.00	\$ 1,560.00	\$ 1,622.40	\$ 1,687.30	\$ 1,754.79
Water Capital Improvement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Water Fees (to City)	\$ 11,220.30	\$ 14,995.00	\$ 19,735.11	\$ 25,779.14	\$ 23,522.91	\$ 34,983.24	\$ 33,810.57	\$ 34,032.90	\$ 34,255.24	\$ 34,477.58	\$ 34,699.91
Phone and Miss Dig	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Mileage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10.00	\$ 10.40	\$ 10.82	\$ 11.25	\$ 11.70	\$ 12.17
Print and Publication	\$ 7.20	\$ -	\$ 12.60	\$ 6.37	\$ 7.38	\$ 60.00	\$ 62.40	\$ 64.90	\$ 67.49	\$ 70.19	\$ 73.00
Utilities	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Repair & Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Depreciation Expense	\$ 6,420.02	\$ 6,420.02	\$ 6,489.02	\$ 6,558.02	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Equipment Purchases	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 450.00	\$ 468.00	\$ 486.72	\$ 506.19	\$ 526.44
Water Reliability Study	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Debt Service Interest	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Water Expense</b>	<b>\$ 38,932.29</b>	<b>\$ 27,335.22</b>	<b>\$ 30,929.18</b>	<b>\$ 37,581.13</b>	<b>\$ 27,539.45</b>	<b>\$ 46,428.24</b>	<b>\$ 43,323.37</b>	<b>\$ 43,850.22</b>	<b>\$ 44,389.24</b>	<b>\$ 44,940.94</b>	<b>\$ 45,505.81</b>
Revenue except commodity and rts	\$ 19,644.40	\$ 10,401.80	\$ 11,562.05	\$ 9,705.69	\$ 4,257.21	\$ 8,996.00	\$ 5,399.40	\$ 5,399.40	\$ 5,399.40	\$ 5,399.40	\$ 5,399.40
Est no of customers	\$ 80.00	\$ 90.00	\$ 100.00	\$ 110.00	\$ 117.00	\$ 117.00	\$ 118.00	\$ 119.00	\$ 120.00	\$ 121.00	\$ 122.00
Past/Proposed RTS charge	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 6.45	\$ 7.45	\$ 8.45	\$ 8.45	\$ 8.45
rts amount	\$ 5,232.00	\$ 5,886.00	\$ 6,540.00	\$ 7,194.00	\$ 7,651.80	\$ 7,651.80	\$ 9,133.20	\$ 10,638.60	\$ 12,168.00	\$ 12,269.40	\$ 12,370.80
subtotal	\$ 14,055.89	\$ 11,047.41	\$ 12,827.13	\$ 20,681.44	\$ 15,630.44	\$ 29,780.44	\$ 28,790.77	\$ 27,812.22	\$ 26,821.84	\$ 27,272.14	\$ 27,735.61
1000 gallons billed	5,640	6,233	7,024	12,392	10,124	12,208	12,280	12,352	12,424	12,496	12,568
Needed \$/1000 gallons	\$ 2.49	\$ 1.77	\$ 1.83	\$ 1.67	\$ 1.54	\$ 2.44	\$ 2.34	\$ 2.25	\$ 2.16	\$ 2.18	\$ 2.21
Needed \$/1000 gallons excluding depr.	\$ 1.35	\$ 0.74	\$ 0.90	\$ 1.14	\$ 1.54	\$ 2.44	\$ 2.34	\$ 2.25	\$ 2.16	\$ 2.18	\$ 2.21

**Gun Plain Township**  
**Projected Water Revenue from Rates (RTS and Commodity)**

ASSUMPTIONS:  
 4% inflation applied to several line items  
 held city rates constant from 2009 forward

	Year -5	Year -4	Year -3	Year -2	Year -1	BASE	Year 1	Year 2	Year 3	Year 4	Year 5
	2004/05	2005/06	2006/07	2007/08	2008/09	Proj. 2009/10	Proj.2010/11	Proj.2011/12	Proj.2012/13	Proj.2013/14	Proj.2014/15
<b>Lake Doster Area</b>											
Est no of customers	\$ 368.00	\$ 368.00	\$ 368.00	\$ 380.00	\$ 380.00	\$ 383.00	\$ 384.00	\$ 385.00	\$ 386.00	\$ 387.00	\$ 388.00
rts charge	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 6.45	\$ 7.45	\$ 8.45	\$ 8.45	\$ 8.45
rts amount	\$ 24,067.20	\$ 24,067.20	\$ 24,067.20	\$ 24,852.00	\$ 24,852.00	\$ 25,048.20	\$ 29,721.60	\$ 34,419.00	\$ 39,140.40	\$ 39,241.80	\$ 39,343.20
1000 gallons billed	\$ 34,424.00	\$ 32,507.00	\$ 27,201.00	\$ 39,885.00	\$ 30,461.00	\$ 32,152.85	\$ 32,236.80	\$ 32,320.75	\$ 32,404.70	\$ 32,488.65	\$ 32,572.60
\$/1000 gallons	\$ 1.25	\$ 1.35	\$ 1.35	\$ 1.35	\$ 1.40	\$ 1.50	\$ 1.60	\$ 1.60	\$ 1.60	\$ 1.70	\$ 1.70
commodity revenue	\$ 43,030.00	\$ 43,884.45	\$ 36,721.35	\$ 53,844.75	\$ 42,645.40	\$ 48,229.28	\$ 51,578.88	\$ 51,713.20	\$ 51,847.52	\$ 55,230.71	\$ 55,373.42
subtotal Lake Doster Area	\$ 67,097.20	\$ 67,951.65	\$ 60,788.55	\$ 78,696.75	\$ 67,497.40	\$ 73,277.48	\$ 81,300.48	\$ 86,132.20	\$ 90,987.92	\$ 94,472.51	\$ 94,716.62
<b>City Service Area</b>											
Est no of customers	\$ 80.00	\$ 90.00	\$ 100.00	\$ 110.00	\$ 117.00	\$ 117.00	\$ 118.00	\$ 119.00	\$ 120.00	\$ 121.00	\$ 122.00
rts charge	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 5.45	\$ 6.45	\$ 7.45	\$ 8.45	\$ 8.45	\$ 8.45
rts amount	\$ 5,232.00	\$ 5,886.00	\$ 6,540.00	\$ 7,194.00	\$ 7,651.80	\$ 7,651.80	\$ 9,133.20	\$ 10,638.60	\$ 12,168.00	\$ 12,269.40	\$ 12,370.80
1000 gallons billed	\$ 5,640.00	\$ 6,233.00	\$ 7,024.00	\$ 12,392.00	\$ 10,124.00	\$ 12,208.00	\$ 12,280.00	\$ 12,352.00	\$ 12,424.00	\$ 12,496.00	\$ 12,568.00
\$/1000 gallons	\$ 1.75	\$ 1.85	\$ 1.90	\$ 1.90	\$ 1.90	\$ 2.10	\$ 2.10	\$ 2.20	\$ 2.30	\$ 2.30	\$ 2.30
commodity revenue	\$ 9,870.00	\$ 11,531.05	\$ 13,345.60	\$ 23,544.80	\$ 19,235.60	\$ 25,636.80	\$ 25,788.00	\$ 27,174.40	\$ 28,575.20	\$ 28,740.80	\$ 28,906.40
subtotal City Service Area	\$ 15,102.00	\$ 17,417.05	\$ 19,885.60	\$ 30,738.80	\$ 26,887.40	\$ 33,288.60	\$ 34,921.20	\$ 37,813.00	\$ 40,743.20	\$ 41,010.20	\$ 41,277.20
<b>Expected Rate Revenue (Lake Doster &amp; City areas)</b>	\$ 82,199.20	\$ 85,368.70	\$ 80,674.15	\$ 109,435.55	\$ 94,384.80	\$ 106,566.08	\$ 116,221.68	\$ 123,945.20	\$ 131,731.12	\$ 135,482.71	\$ 135,993.82

**Gun Plain Township**  
**Water Revenue and Expenses with Projected Rates Increases**

**ASSUMPTIONS:**

4% inflation applied to several line items  
held city rates constant from 2009 forward

	Year -5	Year -4	Year -3	Year -2	Year -1	BASE	Year 1	Year 2	Year 3	Year 4	Year 5
	2004/05	2005/06	2006/07	2007/08	2008/09	Proj. 2009/10	Proj.2010/11	Proj.2011/12	Proj.2012/13	Proj.2013/14	Proj.2014/15
<b>Water Revenue</b>											
Water Contingency Fund	\$ -	\$ -									
Permit Fees	\$ 6,015.00	\$ 5,471.74	\$ 2,955.00	\$ 2,333.00	\$ -	\$ 3,500.00	\$ 670.00	\$ 670.00	\$ 670.00	\$ 670.00	\$ 670.00
Water Billing	\$ 72,320.70	\$ 85,087.83	\$ 86,461.52	\$ 99,471.23	\$ 94,819.88	\$ 106,566.08	\$ 116,221.68	\$ 123,945.20	\$ 131,731.12	\$ 135,482.71	\$ 135,993.82
Late Fees	\$ 2,141.44	\$ 2,652.84	\$ 2,769.05	\$ 5,453.39	\$ 2,774.76	\$ 2,500.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00
Interest on Investment	\$ 2,780.55	\$ 5,797.48	\$ 6,966.22	\$ 5,760.07	\$ 1,411.29	\$ 5,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00
Interest on Special Assessment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Revenues	\$ 4,318.45	\$ -	\$ -	\$ -	\$ -	\$ 20,400.00	\$ -	\$ -	\$ -	\$ -	\$ -
Availability Fees	\$ 14,050.00	\$ 3,600.00	\$ 7,400.00	\$ 5,700.00	\$ 3,800.00	\$ 6,000.00	\$ 5,900.00	\$ 5,900.00	\$ 5,900.00	\$ 5,900.00	\$ 5,900.00
<b>Revenue</b>	<b>\$ 101,626.14</b>	<b>\$ 102,609.89</b>	<b>\$ 106,551.79</b>	<b>\$ 118,717.69</b>	<b>\$ 102,805.93</b>	<b>\$ 143,966.08</b>	<b>\$ 126,791.68</b>	<b>\$ 134,515.20</b>	<b>\$ 142,301.12</b>	<b>\$ 146,052.71</b>	<b>\$ 146,563.82</b>
<b>Water Expense</b>											
City availability fees							\$ 1,900.00	\$ 1,900.00	\$ 1,900.00	\$ 1,900.00	\$ 1,900.00
Utility Billing Personal	\$ 4,000.00	\$ 5,952.27	\$ 7,500.00	\$ 6,845.40	\$ 3,749.13	\$ 7,000.00	\$ 7,280.00	\$ 7,571.20	\$ 7,874.05	\$ 8,189.01	\$ 8,516.57
Ground Maintenance Crew	\$ 2,000.00	\$ -	\$ -	\$ 1,043.00	\$ 1,743.00	\$ 2,500.00	\$ 2,600.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00
Office Supplies	\$ 4,018.52	\$ 5,034.17	\$ 994.86	\$ 2,456.30	\$ 729.35	\$ 2,500.00	\$ 2,600.00	\$ 2,704.00	\$ 2,812.16	\$ 2,924.65	\$ 3,041.63
Operating Supplies	\$ 5,060.65	\$ 7,794.97	\$ 4,200.65	\$ 7,084.57	\$ 6,583.29	\$ 7,000.00	\$ 7,280.00	\$ 7,571.20	\$ 7,874.05	\$ 8,189.01	\$ 8,516.57
Contracted O&M	\$ 25,609.00	\$ 27,783.87	\$ 25,771.03	\$ 28,677.00	\$ 27,454.98	\$ 27,500.00	\$ 28,600.00	\$ 29,744.00	\$ 30,933.76	\$ 32,171.11	\$ 33,457.95
Management Consultant	\$ 6,593.25	\$ (563.70)	\$ 1,487.50	\$ 1,591.25	\$ 859.30	\$ 1,500.00	\$ 1,560.00	\$ 1,622.40	\$ 1,687.30	\$ 1,754.79	\$ 1,824.98
Legal Fees	\$ 1,621.00	\$ 341.27	\$ 285.00	\$ 700.00	\$ -	\$ 1,500.00	\$ 1,560.00	\$ 1,622.40	\$ 1,687.30	\$ 1,754.79	\$ 1,824.98
Audit Fees	\$ 500.00	\$ 665.00	\$ 675.00	\$ 700.00	\$ 1,000.00	\$ 1,000.00	\$ 1,040.00	\$ 1,081.60	\$ 1,124.86	\$ 1,169.86	\$ 1,216.65
Insurance	\$ 2,000.00	\$ 2,700.00	\$ 3,000.00	\$ 3,000.00	\$ 2,500.00	\$ 3,000.00	\$ 3,120.00	\$ 3,244.80	\$ 3,374.59	\$ 3,509.58	\$ 3,649.96
Pine Meadows Expense	\$ 16,266.30	\$ 636.45	\$ -	\$ -	\$ -	\$ 6,000.00	\$ 1,500.00	\$ 1,560.00	\$ 1,622.40	\$ 1,687.30	\$ 1,754.79
Water Capital Improvement	\$ 200.00	\$ -				\$ 32,500.00					
Water Fees (to City)	\$ 11,220.30	\$ 14,995.00	\$ 19,735.11	\$ 25,779.14	\$ 23,522.91	\$ 34,983.24	\$ 33,810.57	\$ 34,032.90	\$ 34,255.24	\$ 34,477.58	\$ 34,699.91
Phone and Miss Dig	\$ 2,495.34	\$ 2,564.47	\$ 2,140.14	\$ 3,215.82	\$ 3,378.37	\$ 3,050.00	\$ 3,172.00	\$ 3,298.88	\$ 3,430.84	\$ 3,568.07	\$ 3,710.79
Mileage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 50.00	\$ 52.00	\$ 54.08	\$ 56.24	\$ 58.49	\$ 60.83
Print and Publication	\$ 36.00	\$ -	\$ 63.00	\$ 31.83	\$ 36.88	\$ 300.00	\$ 312.00	\$ 324.48	\$ 337.46	\$ 350.96	\$ 365.00
Utilities	\$ 3,782.18	\$ 5,135.35	\$ 5,601.95	\$ 5,815.45	\$ 6,340.98	\$ 7,000.00	\$ 7,280.00	\$ 7,571.20	\$ 7,874.05	\$ 8,189.01	\$ 8,516.57
Repair & Maintenance	\$ 23,320.09	\$ 22,540.98	\$ 18,508.19	\$ 22,989.84	\$ 7,112.99	\$ 20,500.00	\$ 21,320.00	\$ 22,172.80	\$ 23,059.71	\$ 23,982.10	\$ 24,941.38
Depreciation Expense	\$ 42,800.14	\$ 42,800.14	\$ 43,260.14	\$ 43,720.14	\$ -	\$ -					
Equipment Purchases					\$ -		\$ 4,500.00	\$ 4,680.00	\$ 4,867.20	\$ 5,061.89	\$ 5,264.36
Water Reliability Study					\$ -		\$ -		\$ 3,500.00	\$ 3,500.00	
Debt Service Interest	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				
<b>Total Water Expense</b>	<b>\$ 151,522.77</b>	<b>\$ 138,380.24</b>	<b>\$ 133,222.57</b>	<b>\$ 153,649.74</b>	<b>\$ 85,011.18</b>	<b>\$ 157,883.24</b>	<b>\$ 129,486.57</b>	<b>\$ 133,255.94</b>	<b>\$ 140,771.20</b>	<b>\$ 144,938.18</b>	<b>\$ 145,762.94</b>
Net Income including Depr. Exp.	\$ (49,896.63)	\$ (35,770.35)	\$ (26,670.78)	\$ (34,932.05)	\$ 17,794.75	\$ (13,917.17)	\$ (2,694.89)	\$ 1,259.26	\$ 1,529.92	\$ 1,114.53	\$ 800.88
<b>Net Income excluding Depr. Exp.</b>	<b>\$ (7,096.49)</b>	<b>\$ 7,029.79</b>	<b>\$ 16,589.36</b>	<b>\$ 8,788.09</b>	<b>\$ 17,794.75</b>	<b>\$ (13,917.17)</b>	<b>\$ (2,694.89)</b>	<b>\$ 1,259.26</b>	<b>\$ 1,529.92</b>	<b>\$ 1,114.53</b>	<b>\$ 800.88</b>
Cumulative Net Income w/o Depr. Exp.	\$ (7,096.49)	\$ (66.70)	\$ 16,522.66	\$ 25,310.75	\$ 43,105.50	\$ 29,188.34	\$ 26,493.45	\$ 27,752.71	\$ 29,282.62	\$ 30,397.15	\$ 31,198.04
<b>Estimated Reserve Fund Balance excluding dedicated funds</b>					<b>\$ 170,000.00</b>	<b>\$ 156,082.84</b>	<b>\$ 153,387.95</b>	<b>\$ 154,647.21</b>	<b>\$ 156,177.12</b>	<b>\$ 157,291.65</b>	<b>\$ 158,092.54</b>

# Gun Plain Township











Allegan County, Michigan

## Water Distribution System Map

Prein&Newhof  
Phone: 269-372-1158

May, 2009  
2080334

### Legend

- |  |  |
|--|--|
|  Gun Plain Township Watermain |  Gun Plain Township Wells |
|  Other Municipal Watermain    |  Other Municipal Wells    |
|  Gun Plain Township Hydrants  |  Water Towers             |
|  Other Municipal Hydrants     |  Metering Station         |
|  Gun Plain Township Valves    |  |
|  Other Municipal Valves       |  |



Scale: 1" = 2,500'

