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DEPARTMENT OF
WATER RESOURCES

Water System Conservation Plan

FOR

North Kootenai Water District

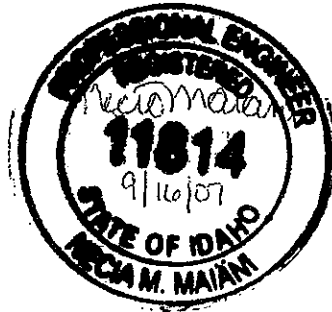
SEPTEMBER, 2007

WATER SYSTEM CONSERVATION PLAN

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SUBMITTED TO THE:

NORTH KOOTENAI WATER DISTRICT



SEPTEMBER 2007

PREPARED BY:



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Table of Contents

1. INTRODUCTION	1
1.1. BACKGROUND	1
1.2. PURPOSE	1
1.3. SCOPE	1
1.4. OBJECTIVES	1
2. DISTRICT PROFILE	3
2.1. SOURCE WATER	3
2.2. WATER RIGHTS	3
2.3. WATER SERVICE CHARACTERISTICS	3
2.4. WASTEWATER TREATMENT AND REUSE	3
2.4.1. <i>Reuse</i>	4
2.5. 3 YEAR CAPITAL IMPROVEMENT PROGRAM	4
3. CONSERVATION PLANNING GOALS	5
3.1. FISCAL YEAR 2007/2008	5
3.1.1. <i>Goal #1: Meter Upgrade and Improvement Program</i>	5
3.1.2. <i>Goal #2: Conservation Policy</i>	5
3.1.3. <i>Goal #3: Conservation Funding</i>	5
3.2. FISCAL YEAR 2008/2009	6
3.2.1. <i>Goal #4: Reduce Consumption per Connection</i>	6
3.2.2. <i>Goal #5: Reduce System Loss</i>	6
3.2.3. <i>Goal #6: Annual Review</i>	6
4. CURRENT AND FUTURE CONSERVATION OPPORTUNITIES	7
4.1. CURRENT MEASURES	7
4.1.1. <i>Water Rates</i>	7
4.1.2. <i>Metering Program</i>	7
4.1.3. <i>Public Education</i>	7
4.1.4. <i>Hydrant Locks</i>	7
4.2. FUTURE MEASURES/IMPROVEMENTS TO EXISTING MEASURES	8
4.2.1. <i>Meter Upgrade and Improvement Program</i>	8
4.2.2. <i>Identification of Unaccounted for Water</i>	12
4.2.3. <i>Leak Detection Program</i>	12
4.2.4. <i>Waterline Replacement Program</i>	13
4.2.5. <i>Pressure Management</i>	13
4.2.6. <i>Public Education</i>	13
4.2.7. <i>Annual Review</i>	14
5. SELECTION OF CONSERVATION MEASURES	15
6. IMPLEMENTATION OF SELECTED MEASURES	16
7. BIBLIOGRAPHY OF REFERENCES	18

Exhibits

- 2.1 NKWD Overview Map (Service Areas and Wells)
- 2.2 Summary of Water Rights
- 2.3 Overview of Water System Characteristics
- 2.4 Average Day Demand per Connection
- 2.5 Average Day Demand (Peak Month) per Connection
- 2.6 Sewer Service Areas
- 2.7 3 Year Capital Improvement Plan
- 3.1 Top Tier Billings 2006 and 2007 (District Wide)
- 3.2 Top Tier Billings 2006 and 2007 (Per Water System)
- 4.1 Water Rate Structure Table
- 4.2 Water Rate Structure Figure

Appendix

- A. Management Plan for the Rathdrum Prairie Groundwater Management Area
- B. NKWD Conservation Informational Brochure

1. INTRODUCTION

1.1. BACKGROUND

North Kootenai Water District (District) currently owns and operates 14 individual public water systems, serving approximately 12,000 people. The District owns and operates a total of 23 groundwater wells on the Spokane Valley – Rathdrum Prairie Aquifer. The Aquifer, which supplies drinking water to over 500,000 people in the region, is a valuable but not unlimited resource. As the population in the region and the District grows, so has the need to promote responsible use of the Aquifer in order to preserve all of its functions for future generations.

A Ground Water Management Plan (the Management Plan) for the Rathdrum Prairie Aquifer was developed by the Rathdrum Prairie Ground Water Advisory Committee. The Management Plan, which was adopted by Final Order on September 15, 2005, includes 6 goals. Goal 5 requires municipal water right holders, applying for new water rights or to change existing water rights, to prepare, follow, and continuously update a Conservation Plan. (See Appendix A.)

1.2. PURPOSE

This Conservation Plan has been prepared by Welch Comer & Associates in accordance with Goal 5 of the Management Plan for the purpose of allowing the District to apply for new water rights and to change existing water rights, as may be required.

1.3. SCOPE

In accordance with “Goal 5” of the Final Order, the scope of this Plan includes the following elements:

1. Measurable Conservation Planning Goals
2. Summary of Existing System Characteristics and Water Use Conditions, including:
 - a. Water System Profile
 - b. Description of Planned Facilities
3. Current and Future Conservation Opportunities
 - a. Identification of Water Conservation Measures
 - b. Analysis of Benefits and Costs
4. Selection of Water Conservation Measures
5. Implementation Mechanisms, Timetable, and Assessment Strategy

1.4. OBJECTIVES

North Kootenai Water District is among the first municipal water right holders to submit a DRAFT Conservation Plan in the State of Idaho. The State of Idaho (Idaho Department of Water Resources) has prepared a DRAFT Conservation Planning Document Guidance Manual. However, this document has not yet been finalized and discussions with IDWR officials have indicated that this DRAFT Guidance may be significantly modified.

North Kootenai Water District initially set out to develop the District's conservation plan in general conformance with IDWR's DRAFT Guidance Manual. However, it became clear upon the initial water usage data collection and reduction that precise information regarding past water use cannot be obtained from the District's historic meter records for the purpose of establishing reliable conservation goals. The reason for this is attributable to recording equipment and procedures.

It should be noted that in prior water system plans¹, we have used raw consumption and production meter readings and made reasonable assessments and planning approaches for each individual water system using the data with respect to system demand. However, the Conservation Plan, considering its far reaching impacts, requires in our opinion, that the data meet a higher standard of accuracy and reliability, especially as it pertains to system losses.

Thus, after further consultation with the District, it was determined that the initial version of this conservation plan should be developed to meet the following objectives:

1. Meet the requirements listed in Goal 5 of the Final Order.
2. Develop and Implement a Process for Accurately Monitoring and Tracking Water Production and Consumption throughout the District
3. Use Accurate Production and Consumption Data to Establish Baseline Flow Rates
4. Develop and Implement Strategies for Lowering baseline Water Production and Consumption Rates on a per capita, per connection, or per ER basis.

Although it is not specifically required, this Plan, also indirectly follows many of the guidelines presented in the USEPA, "Water Conservation Plan Guidelines." August 6, 1998.

¹ Three Water System Master plans have been completed for North Kootenai Water District. These included the "Hillside [including GTE/Hayden Pines] Water System Master Plan" in 2001, "Twin Lakes Water System Master Plan" in 2002 and "Rimrock Water System Master Plan" in 2003, all by Welch Comer & Associates, Inc. These documents cover 4 out of the District's 14 water systems. Several other short reports and annexation analyses for the various other small water systems have been prepared utilizing the available meter data.

2. DISTRICT PROFILE

2.1. SOURCE WATER

As noted, the District currently owns and operates 14 individual public water systems, serving approximately 12,000 people. The District owns and operates a total of 23 groundwater wells on the Aquifer. Each of these existing water systems relies on the Spokane Valley – Rathdrum Prairie Aquifer as the source of supply.

A map of the District's water systems and well locations are provided in Exhibit 2.1.

2.2. WATER RIGHTS

A summary of the District's existing water rights and the status of each are provided in Exhibit 2.2. The District holds numerous water rights for municipal supply purposes. The District currently has a total instantaneous Municipal diversion right of 13.33 cfs. The District holds an additional 4.53 cfs in ground water rights and 0.94 cfs in surface water rights from Hayden Lake. Approval of this Conservation Plan in accordance with Goal 5 of the Groundwater Management Plan is necessary before the District can apply to change the purpose of use for those District water rights that are not specified presently as municipal

2.3. WATER SERVICE CHARACTERISTICS

The District's 14 supply systems currently provide water to approximately 3537 active connections (4004 active equivalent residences (ER's)), making the District the third largest water purveyor in Kootenai County (behind City of Coeur d'Alene and City of Post Falls). The characteristics of each service area within the District are diverse. Some of the areas served are within defined City Limits (Coeur d'Alene, Hayden, Hayden Lake, Post Falls) others serve rural areas (Chilco and Ohio Match). Some water systems provide service to large parcels of property with large homes (Rimrock), and some of provide service for very small lots and homes (East Seasons Acres). Some water systems are relatively new, while others are more than 50 years old. As a consequence, water consumption and production varies significantly from system to system through the District.

A general overview of each of the District's water systems is provided in Exhibit 2.3. As previously indicated, consumption and production rates could not be precisely calculated due to apparent inaccuracies in the historic metering data. (See Section 4.2.1.) However, we have included in Exhibits 2.4 and 2.5, the estimated demand summary based on the available meter data.

2.4. WASTEWATER TREATMENT AND REUSE

A summary of sewer service providers for each water system was listed in Exhibit 2.3. As shown, the majority of the water systems have individual septic/drainfield systems. The larger water systems (Hillside and Rimrock) are part of a sewer district (Hayden Area Regional Sewer Board-HARSB or Hayden Lake Recreational Water and Sewer District-HLRWSD). Wastewater from HLRWSD is ultimately treated by HARSB and land applied or sent to the

Spokane River. The following is a brief summary of the treatment level supplied by the sewer district

2.4.1. REUSE

None of the existing public water systems in the District (or in the region) use reclaimed water. The District is committed to exploring and participating in the use of reclaimed water as a potential method of reducing production demand in the future. However, reuse is not considered a viable option for reduction in water demand for the majority of the District's systems at this time for the following reasons:

1. As shown in Exhibit 2.3, many of the District's service areas utilize individual septic systems. Before reuse can be practical these areas would have to construct community wastewater treatment systems.
2. Some of the District's service areas are part of a larger Sewer District. Before reuse is practical those Sewer Districts must upgrade their respective treatment facilities so that reclaimed wastewater can be applied without buffers. Additionally, reclaimed water transmission/distribution mains would have to be constructed from the treatment facility to each system.

A figure of each NKWD water system with respect to existing wastewater treatment facilities and approximate boundaries is shown in Exhibit 2.6.

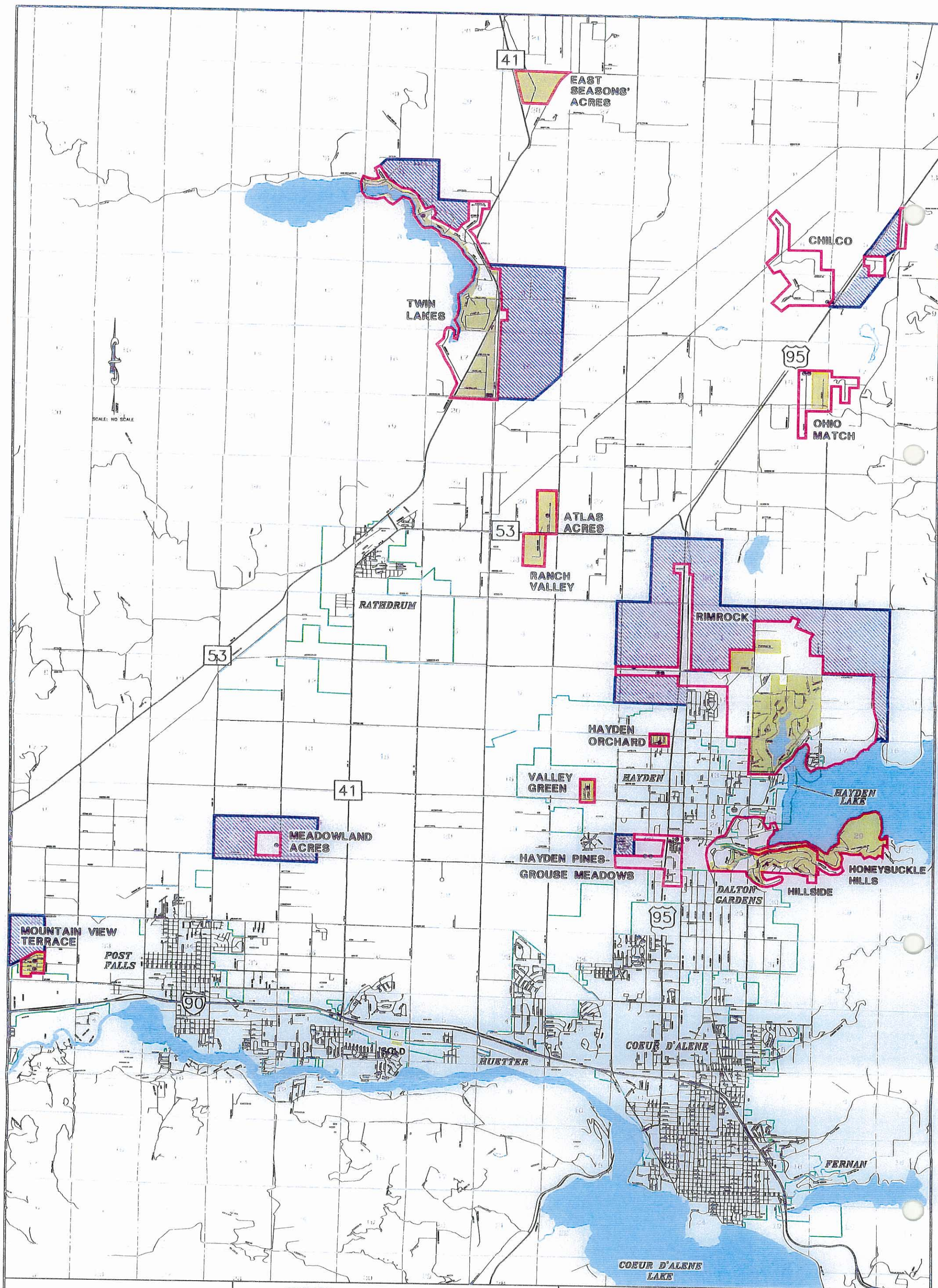
2.5. 3 YEAR CAPITAL IMPROVEMENT PROGRAM

The District maintains a 3 year Capital Improvement Program. This program is reviewed and updated on a monthly basis. A copy of the current program is provided in Exhibit 2.7. Conservation related items are defined as "Priority 6". The following is a summary list of conservation related improvements for each fiscal year:

1. **Fiscal Year 2006/2007: (Total Conservation Improvements: \$70,000)**
 - a. Conservation Plan (Phase 1)
 - b. Point Hayden Mains
2. **Fiscal Year 2007/2008: (Total Conservation Improvements: \$218,600)**
 - a. Hydrant Locks
 - b. Telemetry Improvements (See Section 4.2.1.1)
 - c. Radio Read Meters
 - d. Conservation Plan (Phase 2)
 - e. Conservation Public Education
3. **Fiscal Year 2008/2009: (Total Conservation Improvements: \$180,300)**
 - a. Hydrant Locks
 - b. Telemetry Improvements
 - c. Radio Read Meters
 - d. Conservation Public Education
 - e. Annual Review

The 3 year Capital Improvement Program does not include emergency waterline repairs.

EXHIBIT 2.1
NKWD OVERVIEW MAP
(SERVICE AREAS & WELLS)



WELCH COMER
ASSOCIATES, INC.
ENGINEERS & SURVEYORS

ADAPTED FROM KOOTENAI COUNTY
ASSESSOR'S MAP JUNE 19, 1998

LEGEND

- NORTH KOOTENAI WATER DISTRICT SERVICE AREAS
- NORTH KOOTENAI WATER DISTRICT BOUNDARIES
- NORTH KOOTENAI WATER POTENTIAL SERVICE AREAS
- NKWD WELLS

EXHIBIT 2.1

**NORTH KOOTENAI WATER DISTRICT
BOUNDARIES AND DISTRICT SERVICE AREAS**

EXHIBIT 2.2

SUMMARY OF WATER RIGHTS

Exhibit 2.2
North Kootenai Water District
Summary of Water Rights

Existing IDWR Permit No	Basis (Permit or License)	Priority Date	Source of Water	Max. Instantaneous Quantity (cfs)			Max. Annual Quantity (AFA)
				Municipal	Domestic	Irrigation	Total
95-8639	Permit	1/5/1990	Ground Water	1			1
95-9199	Permit	3/3/2003	Ground Water	8.83			8.83
95-9217	Permit	1/22/2004	Ground Water	2.51			2.51
95-7138	License	3/25/1971	Ground Water	0.14			0.14
95-7713	License	3/30/1977	Ground Water	0.04			0.04
95-7827	License	3/29/1978	Ground Water	0.2			0.2
95-8522	License	8/20/1986	Ground Water	0.61			0.61
				Total (cfs or AFA)			13.33
						Total (gpm)	5983
95-7763	License	8/29/1977	Ground Water		3		3
96-9134	N/A	5/6/2003	Ground Water	0.2			0.2
95-7231	License	2/23/1973	Ground Water		0.08		0.08
95-8681	Permit	3/14/1991	Ground Water		0.11	0.24	0.3
95-9129	Permit	4/30/2002	Ground Water	0.95			0.95
				Total (cfs or AFA)			4.53
						Total (gpm)	2033
95-2199	Decreed	2/2/1967	Hayden Lake		0.34		0.34
95-0506	Decreed	6/1/1957	Hayden Lake				
95-4002	Statutory Claim	7/1/1957	Hayden Lake		0.6		0.6
				Total (cfs or AFA)			0.94
						Total (gpm)	421.872
							34

Place of Use:
District Limits

Place of Use:
Individual Water System

Surface Water Rights

EXHIBIT 2.3

OVERVIEW OF WATER SYSTEM CHARACTERISTICS

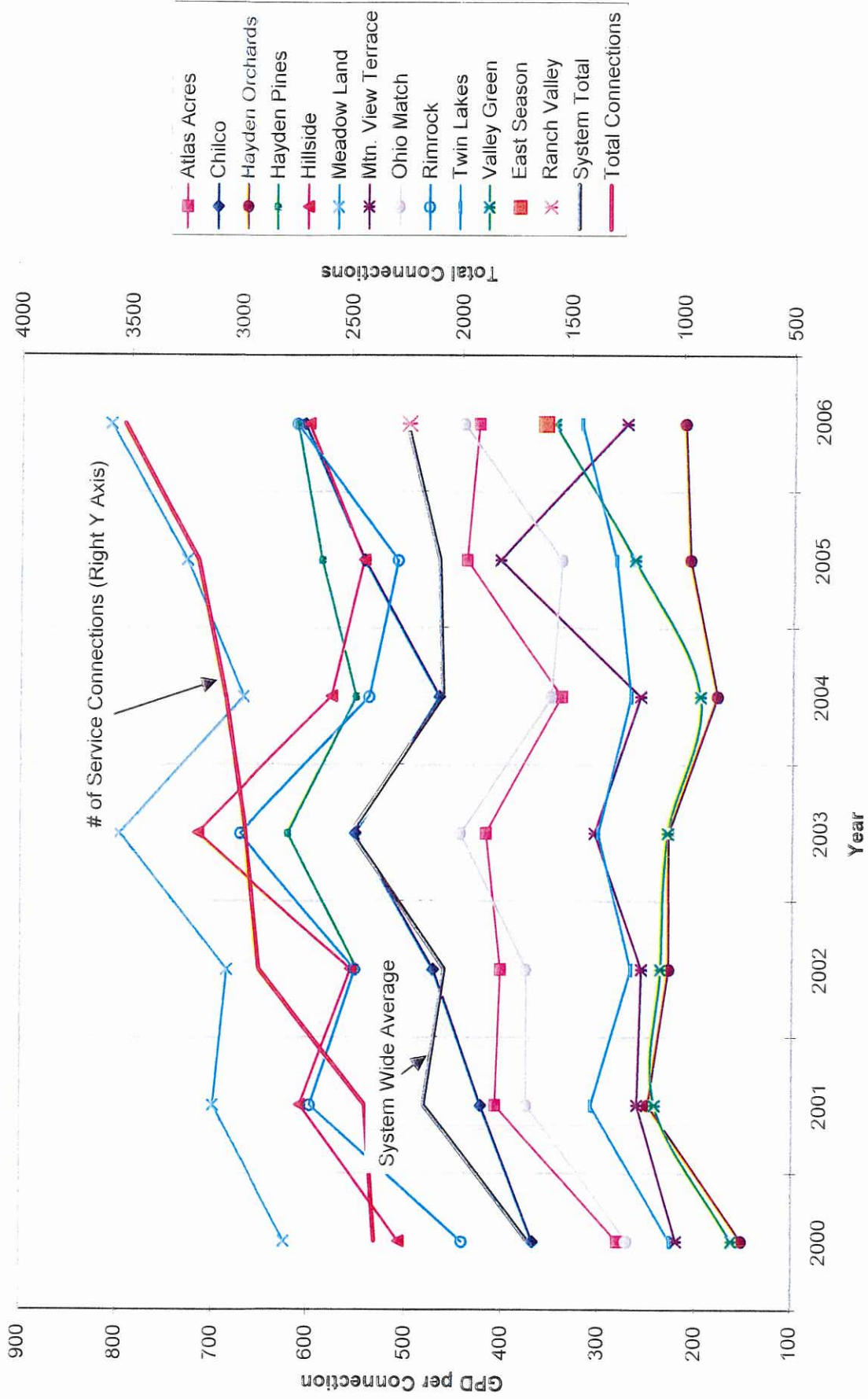
Exhibit 2.3:
NKWD Water System Overview

	Hayden Pines	Rimrock	Hillside	Hayden Orchards	Vally Green	Chilco	Ohio Match	Twin Lakes	Mtn. View Terrace	Meadow Land	Atlas Acres	East Season	Rach. Valley	Honeysuckle Hills	Total
Existing Service Connections:	390	964	748	50	58	118	39	662	170	23	15	21	16	264	3537
Estimated Acreage of Service Area	240	2778	658	337	48	569	284	1282	67	79	119	179	104	337	7081
Connections per Acre	1.64	0.35	1.14	0.15	1.22	0.21	0.14	0.53	2.53	0.29	0.13	0.12	0.16		
Water Lines (linear mi.):	5.90	26.75	14.99	0.60	0.73	3.75	2.32	14.93	1.65	1.04	0.81		0.60	5.35	79.43
Reservoirs (number):	2	2	3	1	1	1	1	2	1	1	1	1		1	18
Reservoirs (gallons):	129,000	1,000,000	735,000	20,000	30,000	10,000	10,000	300,000	100,000	20,000	90,000	18,100		170,000	2,632,100
Sources (Number of Wells):	3	3	2	1	1	2	1	3	2	1	2	1	1	0	23
Well Capacity (gpm)	990	2400	1560	120	64	575	52	750	414	110	170	18	25	See Hillside	7,248
Separate Water Systems	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
Treatment Plants (number)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wastewater Treatment	HARSB	HLRWSD	HLRWSD	HARSB	HARSB	Septic	Septic	Septic and Twin Lakes Sewer	Post Falls	Septic	Septic	Septic	Septic	See Hillside	

Service area acreage based on total area within red boundary. See Exhibit 2.1.

EXHIBIT 2.4
AVERAGE DAY DEMAND
PER CONNECTION

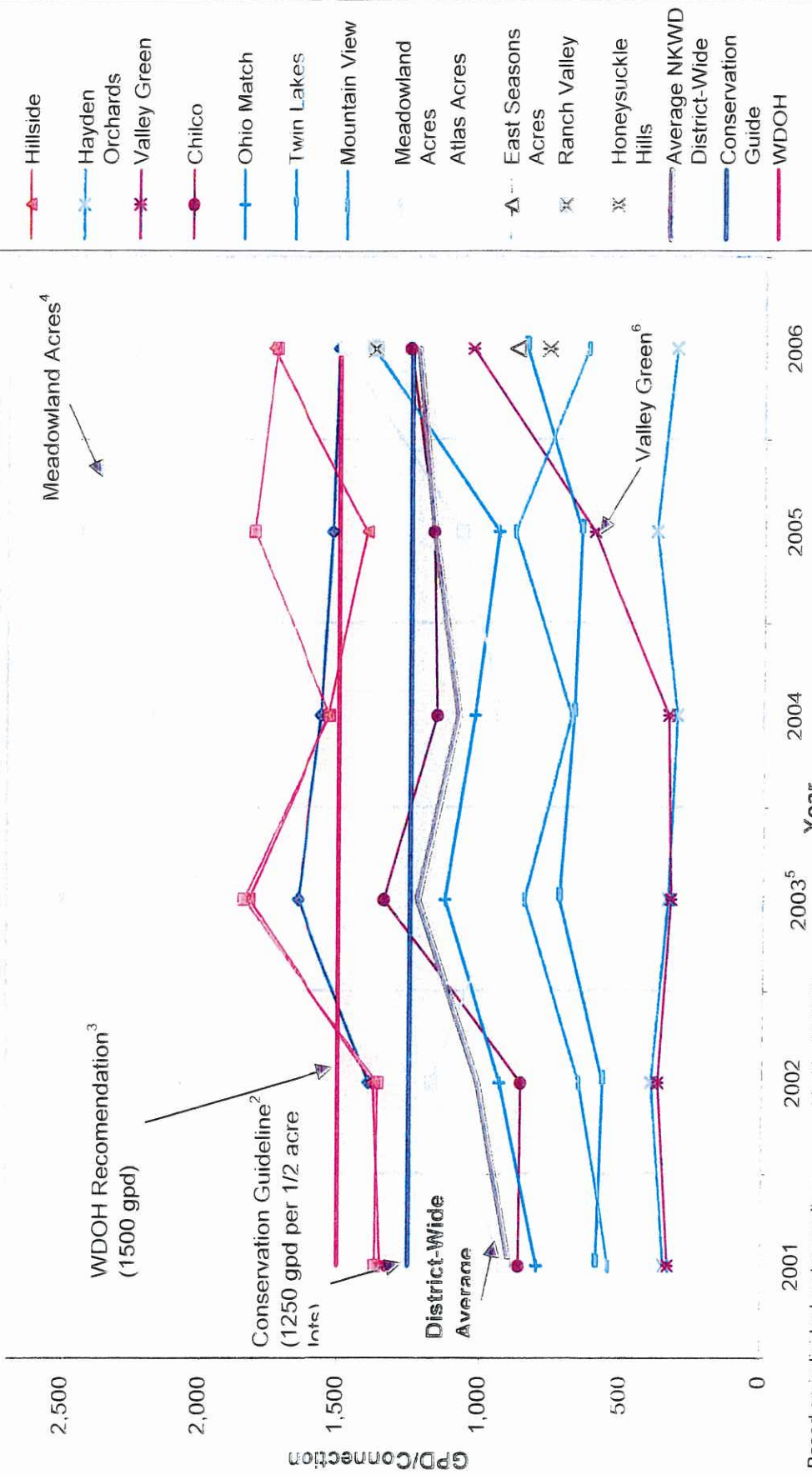
Exhibit 2.4
Average Day Demand per Connection*



*Based on individual meter readings as provided by NKWD

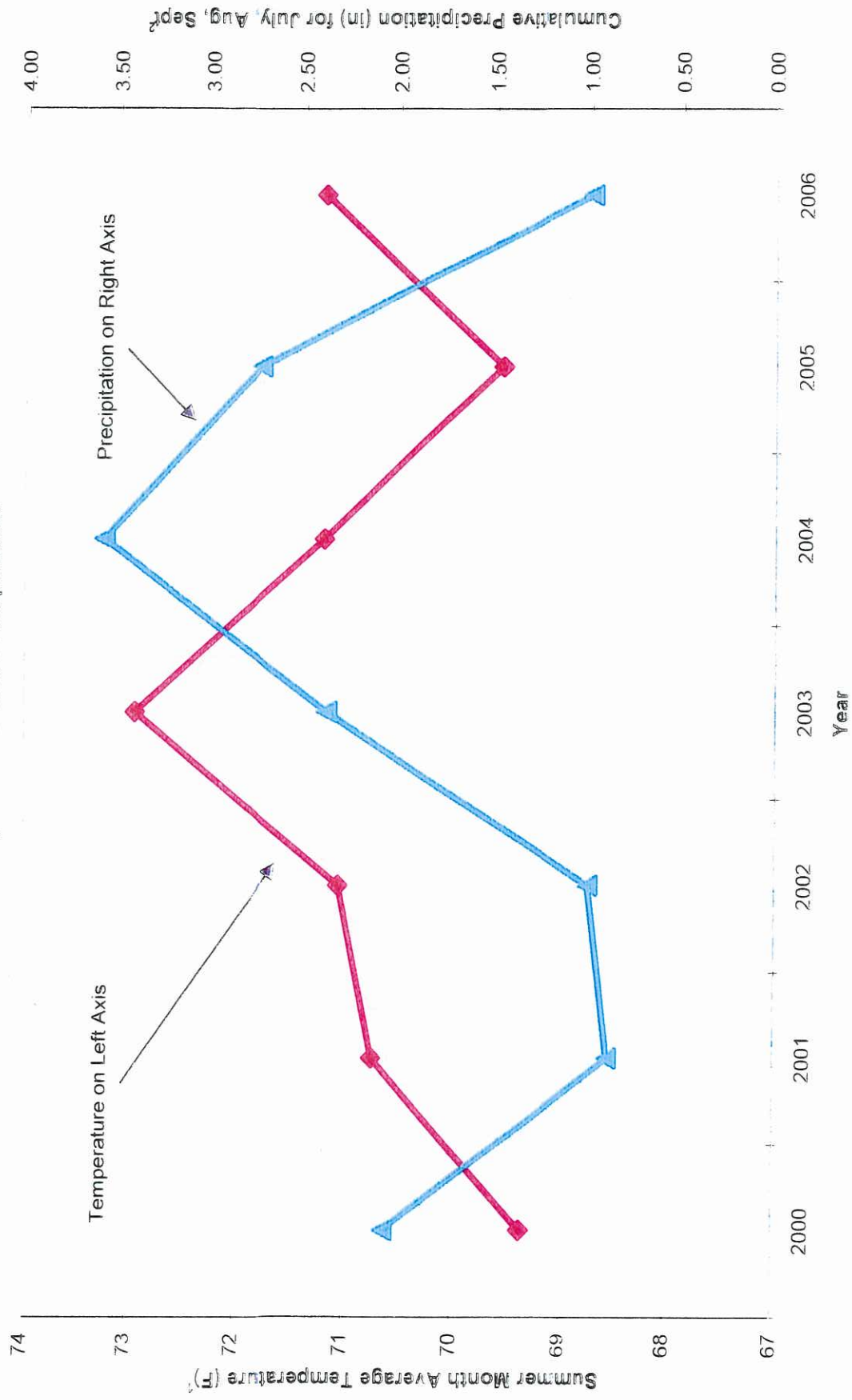
EXHIBIT 2.5
AVERAGE DAY DEMAND
(PEAK MONTH) PER CONNECTION

Exhibit 2.5 A
North Kootenai Water District
Average Day Demand (Peak Month) per Connection¹



1. Based on individual meter readings as provided by NKWD.
2. Conservation guideline for average day use during irrigation season with 1/2 acre lots as discussed with Kootenai Environmental Alliance Representatives. Assumes 250 gpd for domestic use and 1,000 gpd for irrigation (approx. 1 inch per week per 1/4 acre lawn.)
3. 1999 Washington State Department of Health Water System Design Manual references historic guideline of 1500 gpd for MDD in western Washington.
4. Meadowland Acres experiences high demand due to its large lot size (average lot size 3.4 acres). Rimrock average lot size is 2.8 acres. Hillside average lot size is 0.9 acres.
5. The year 2003 had a high summer month average temperature (see Exhibit 2.5 B for comparison of summer temperature and precipitation).
6. Valley Green customers are served domestic water by NKWD and irrigation water by Hayden Irrigation District. In the past 2 years many property owners have started to use NKWD for irrigation and domestic.

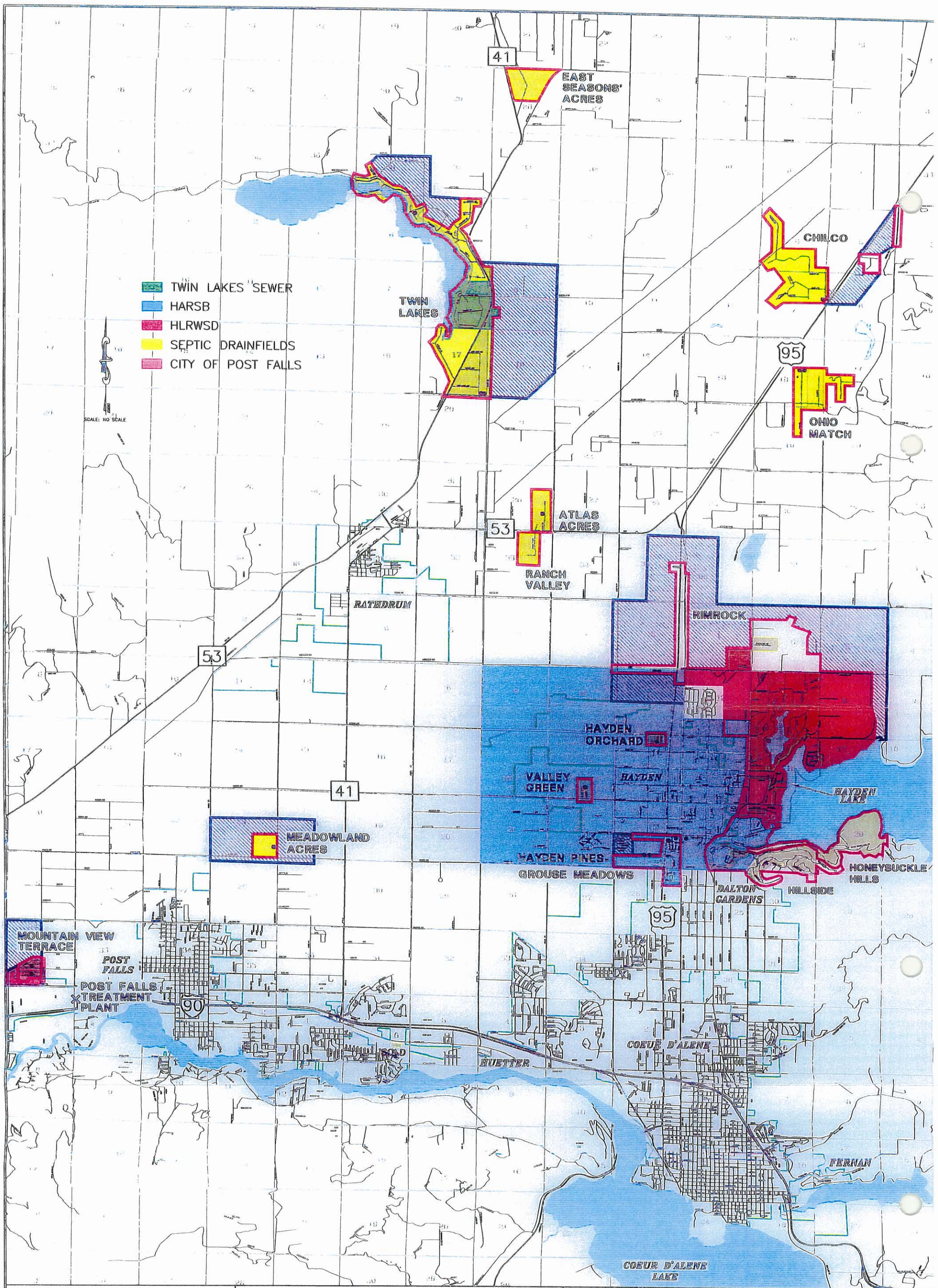
Exhibit 2.5 B
Comparison of Summer
Temperatures and Precipitation¹



¹ Temperature information obtained from the Western Regional Climate Center and National Weather Service NOWdata.

EXHIBIT 2.6

SEWER SERVICE AREAS



WELCH COMER
 & ASSOCIATES, INC.
 ENGINEERS & SURVEYORS

ADAPTED FROM KOOTENAI COUNTY
 ASSESSOR'S MAP JUNE 10, 1998

LEGEND

- NORTH KOOTENAI WATER DISTRICT SERVICE AREAS
- NORTH KOOTENAI WATER DISTRICT BOUNDARIES
- NORTH KOOTENAI WATER POTENTIAL SERVICE AREAS
- NKWD WELLS

EXHIBIT 2.6
SEWER SERVICE OVERVIEW

EXHIBIT 2.7

3 YEAR CAPITAL IMPROVEMENT PLAN

Updated 9/19/2007

3. CONSERVATION PLANNING GOALS

3.1. FISCAL YEAR 2007/2008

The following Conservation Planning Goals ("Goals") were developed by the District using the Groundwater Management Plant Goals, and IDWR's Draft Water Conservation Guidance Manual. In establishing the Goals, the District considered the economic impact on its customers, the estimated reduction in water consumption, and the time frame within which the Goal could be accomplished.

3.1.1. GOAL #1: METER UPGRADE AND IMPROVEMENT PROGRAM

The District's first conservation goal is to establish a metering program to accurately track consumption and production. Implementation of this goal is necessary to establish the baseline consumption and production data needed to properly evaluate the effectiveness of subsequent conservation efforts. This goal will be implemented on or before October 2007 in order to allow the District a full year to gather data as required for Goal #4 and Goal #5.

3.1.2. GOAL #2: CONSERVATION RESOLUTION

On or before October 2007, the District will adopt a Conservation Resolution, implementing the following District-wide policies for new and existing customers in the Fiscal Year 2007/2008:

1. Irrigation Hours: The District will establish mandatory hours of "non-irrigation" between 10 am and 6 pm in order to reduce peak hour source requirements as well as to eliminate irrigation during the hottest, driest hours of the day when evaporation is highest.
2. Construction Water: The District will require contractors to pay for construction water. Contractors will be assigned a hydrant and water will be metered and billed on a monthly basis. Contractors will then be charged based on the volume of water consumed.

3.1.3. GOAL #3: CONSERVATION FUNDING

On or before October 2007, the District will establish a Conservation Fund. This fund will be used to fund conservation measures and related improvements. The Conservation Fund will be funded by transferring 8% of the total money collected (on a monthly basis) from the top tier of the District's current water rate structure. The top tier generated an estimated \$365,000 in 2006, at 8 % the District estimates they will put aside \$20,000 to \$30,000 per year for implementation of conservation measures. A graphic of the funds accumulated on a monthly basis between January of 2006 and July of 2007 for the Top Tier is shown in Exhibit 3.1 (District-wide) and Exhibit 3.2 (Per Water System).

Additionally, the District Board will adopt a formal policy on or before October 2007 to evaluate on a scale of 1 to 5 (5 being the highest priority) the following criteria in establishing the priority of improvements listed in the Capital Improvement Program:

1. Health and Safety

2. System Reliability
3. System Performance
4. Water Conservation
5. Opportunity Cost
6. Public Right of Way Required Relocations

3.2. FISCAL YEAR 2008/2009

3.2.1. GOAL #4: REDUCE CONSUMPTION PER CONNECTION

As part of the mandatory annual review in 2008 (see Section 4.2.7 below) the District will use the baseline production and consumption rates, established pursuant to Goal 1 above, to develop and adopt appropriate numerical conservation goals. These goals will be established District-wide and for each water system individually; they may be measured and expressed in terms of volume, per capita, per connection or per equivalent residence.

3.2.2. GOAL #5: REDUCE SYSTEM LOSS

On or before October 2008, the District will review and update the current leak detection program to identify and repair leakage and other system losses. The District will calculate such losses as part of the baseline work conducted pursuant to Goal 1 above. As part of the mandatory evaluation in 2008, the District will prioritize any necessary repairs on a system by system basis with the objective of meeting or exceeding industry standards for system loss across the District.

3.2.3. GOAL #6: ANNUAL REVIEW

An annual review will be conducted, beginning October 2008 in order to determine the impact of conservation measures implemented each year. New goals will be established each year based upon the prior years' results. Additionally, conservation measures will be modified or added as necessary to reach the District's goals.

EXHIBIT 3.1
TOP TIER BILLINGS 2006 & 2007
(DISTRICT WIDE)

**Exhibit 3.1:
Top Tier Consumption Sales (2006 and 2007)**

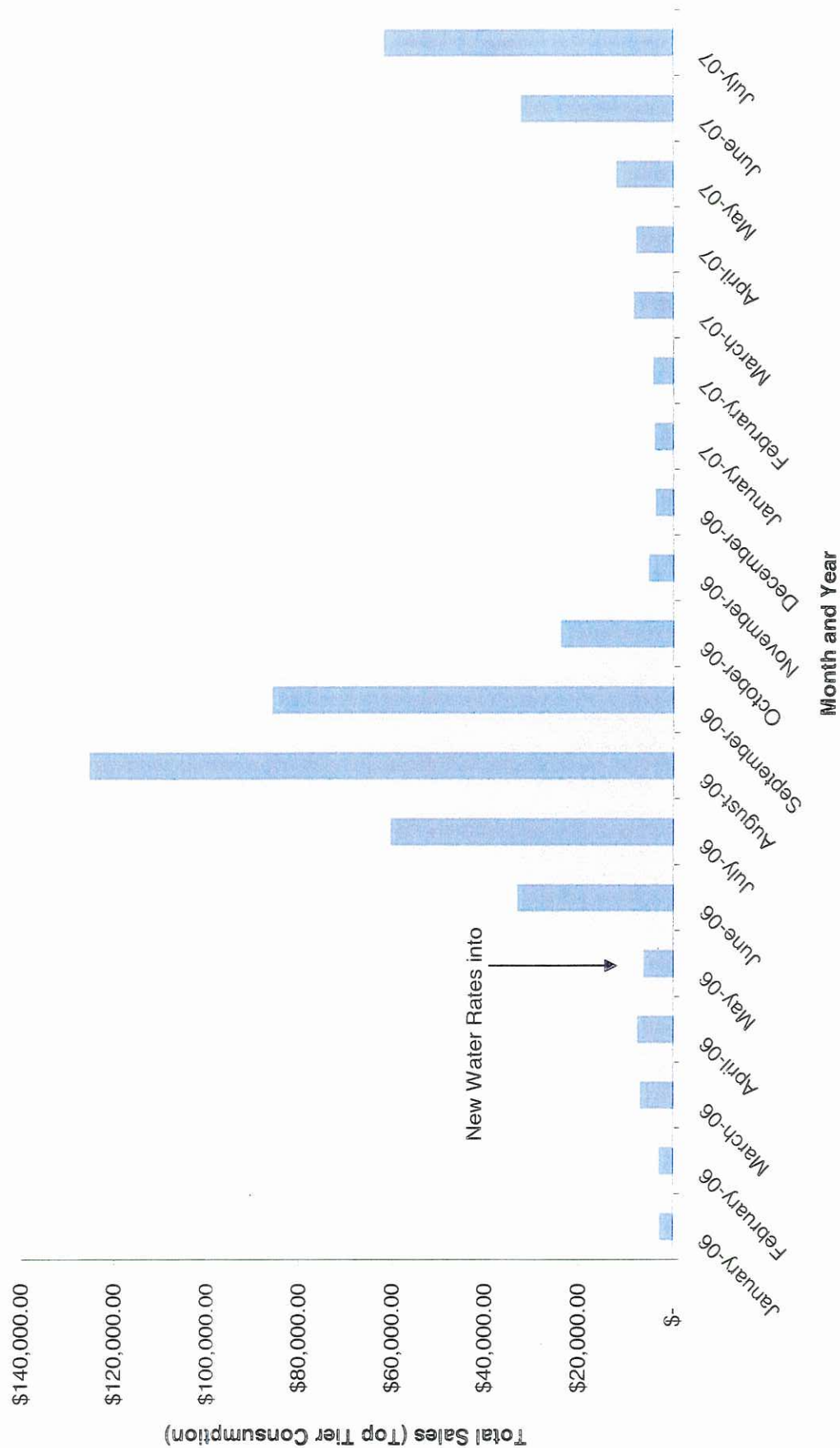
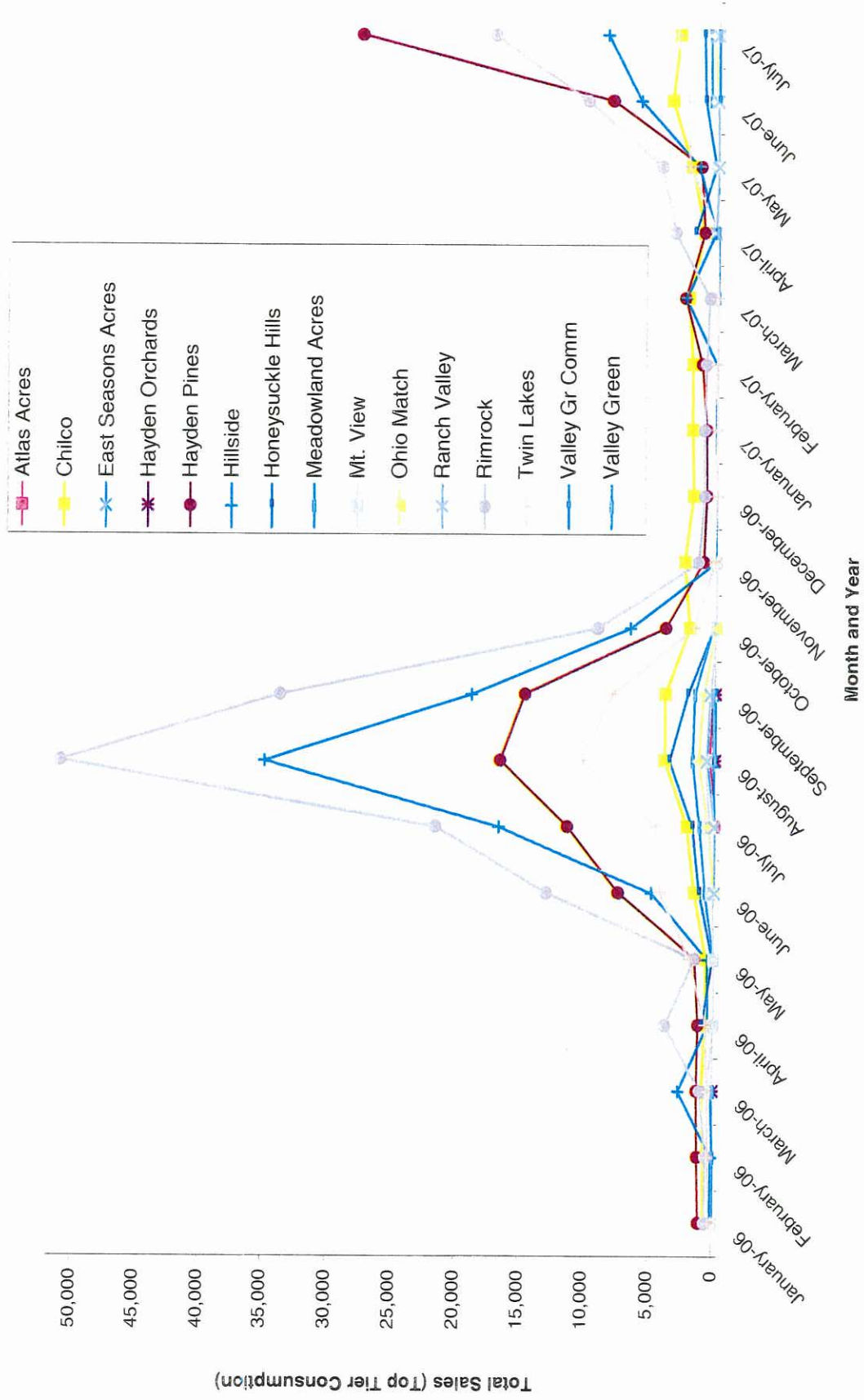


EXHIBIT 3.2
TOP TIER BILLINGS 2006 & 2007
(PER WATER SYSTEM

Exhibit 3.2:
Top Tier Consumption Sales Each Month per Water System



4. CURRENT AND FUTURE CONSERVATION OPPORTUNITIES

Water conservation not only helps to preserve and protect one of the most valuable natural resources in this area, upon which thousands depend, it will also reduce operating costs and increase operating efficiencies for the District. The following section includes a list of some current and future conservation measures that will help the District to realize the goals listed in Section 3.

4.1. CURRENT MEASURES

4.1.1. WATER RATES

The current water rates were implemented on May 15, 2006 and consist of a base rate and a progressive block rate structure. The current rate structure is very aggressive in promoting water conservation; there are four tiers, with the highest tier charging 90% more than the lowest tier. The water rate structure is shown in Exhibit 4.1. The 2006 rate structure replaced a rate structure that had been in effect since 2001 and was also a progressive block structure. However, the previous rate structure had only three tiers and wasn't as aggressive as the current structure.

A graphic of the District's water rate schedule is provided in Exhibit 4.2. The District evaluates their rate schedule every 2 years. The District intends to maintain the progressive rate schedule in order to promote conservation. Beginning in 2008, the rate evaluation will be scheduled to coincide with the annual review of this conservation plan on even numbered years.

4.1.2. METERING PROGRAM

All known water service connections within the District are metered. Consistent with standard regional practice, unless radio read meters are used, the District currently reads meters on most water systems starting in April through October due to snow cover in the winter months. During winter months, services are charged based on an estimated average monthly demand. Those estimates are reconciled for the actual consumption during the first month of meter reading during the year.

4.1.3. PUBLIC EDUCATION

Since 2005, the District has produced a brochure that includes water conservation tips. This brochure is mailed annually to all customers. A copy of the brochure is included in Appendix B. In 2007, the District began listing the prior years' consumption for each account on their monthly water bill. An example bill is provided in Appendix B. In addition, the District operates and maintains a website with additional information on conservation as well as links to conservation resources.

4.1.4. HYDRANT LOCKS

The District has an estimated 330 fire hydrants, many located in rural areas. The District has installed a hydrant lock on approximately 200 of these hydrants to prevent unauthorized water use and to protect the system from contamination. The locks are approximately \$75 per hydrant

4.2. FUTURE MEASURES/IMPROVEMENTS TO EXISTING MEASURES

4.2.1. METER UPGRADE AND IMPROVEMENT PROGRAM

Although the District has meters installed on all existing service connections and water sources they have not been required in the past to track water system losses to a measurable degree of accuracy. In developing this Conservation Plan it became apparent that the meter data available could not be used to determine baseline consumption, production, or loss for the following reasons:

1. Meter read dates for production meters did not match the read dates for consumption meters.
2. The exact amount of time between meter reads for the consumption data could not be determined.
3. Some of the source meters are believed to be out of calibration or failing.

The potential impacts of using the current data in order to establish a baseline demand, production and loss are as follows:

1. If production meters are read over a period of 28 days and consumption meters are read over a period of 31 days, the data may indicate the water system has negative loss or more consumption then production.
2. Even if production and consumption meters are read over the same number of days, but production meters are read on the 28th of each month and consumption meters are read at the 1st of each month, we still would not be accurately tracking loss. In a month such as July, production may be artificially low compared to consumption if tracked from June 28 to July 28 where consumption was tracked from July 1 to August 1, as demands may increase rapidly from the end of June to the beginning of August.

While the current meter reading practice is suitable for utility accounting and billing purposes, it becomes apparent that use of the existing production and consumption data will limit the accuracy of the analysis and the ultimate recommendations provided in the Conservation Plan. Thus, the following meter upgrade and improvement program will be implemented in Fiscal Year 2007/2008 in order to meet Goal #1 defined in Section 3.

4.2.1.1. METER UPGRADES AND IMPROVEMENTS

Individual Meters

The District is currently in the process of installing radio read meters District-wide. This will allow the District to read meters throughout the year. The District has installed 250 meters. The radio reads are located on the following systems:

1. Ohio Match
2. Mountain View Terrace (1/2 of water system)
3. Rimrock (Lancaster Road)
4. Twin Lakes (Condo Buildings)

Radio reads are required on all new connections. In addition the District has budgeted \$100,000 per year for retrofitting 500 meters per year. The District has been unable to complete installations during the last two years due to funding limitations and priority projects in the last two years. The District intends to continue the program in Fiscal Year 2007/2008. The program will likely take another 5 years to complete based on projected budgeting.

Source Meters

All of the District's sources are metered. However, some of the meters are very old and the accuracy is questionable. The District replaces the meters as required and as funds allow. In the long term, the District intends to rebuild and upgrade their source meters to allow for remote read capabilities through their telemetry system. Currently the only meters tied into the telemetry system are:

1. Lancaster #3 on the Rimrock Water System
2. Tree Farm #2 on the Twin Lakes Water System

The District has telemetry capabilities on the following water systems and thus intends to upgrade the source meters for these systems next. The estimated cost for upgrades and addition to telemetry for each source meter is \$3000 to \$5000 per site. These upgrades are included in the 3 Year Capital Improvement Program for Fiscal Year 2006/2007 and 2007/2008.

1. Twin Lakes (Echo Beach Well and Tree Farm #1)
2. Atlas Acres (Selkirk Meadows Well and Atlas Acres Well)
3. Chilco (Chilco #1 and #2)
4. Hillside (Hayden and Finucane Wells)

Improvements to the GTE/Hayden Pines water system will take place in Fiscal Year 2007/2008 which will include telemetry for the GTE/Hayden Pines Water System. Thus at that time the GTE well #1 and #2 and Hayden Pines source meters will be added to the District's telemetry system.

The District has budgeted \$15,000 per system to complete the telemetry work at the following water systems for Fiscal Year 2007/2008 and 20010/2011:

1. Ohio Match
2. Mountain View
3. Meadowland Acres
4. Valley Green
5. Hayden Orchard
6. Ranch Valley
7. East Season's Acres

Upon completion of telemetry at the remaining systems, the District will upgrade the source meters to allow for remote read capabilities. The following is a general list currently used by the District to prioritize when and where new meters and radio reads should be installed:

1. Multi-family dwellings (condos, apartments, etc.): Allows for meter reading year round allowing for easier billing justifications to Owners and Tenants.
2. Size of water system. The District has installed radio reads at some of the smaller water systems so that they could test the program's effectiveness before it is implemented on a large system.
3. Safety Concerns. The District has installed radio reads along Lancaster Road which has high traffic volume and is very narrow. This eliminates the need for workers to stop and read meters along the side of the road.
4. Retrofits. Many of the District's current meters can be retrofit with radio reads which leads to a considerable reduction in cost to replacing an entire meter. The District has put priority for radio reads to meters that can be retrofit.

4.2.1.2. METER READING

In order to establish the baseline consumption and production for each system, the following meter reading program should be implemented starting immediately, even though the individual and source meters may not be upgraded for at least five years. Aligning the water consumption to production readings will eliminate one layer of error or imprecision in the current set of data. Aligning the water data will help make it apparent which water systems need the most "tuning", whether it be replacing meters to further refine the data collected or replacing water lines to reduce leakage. This will help the District to prioritize improvements for each water system.

The following is the proposed meter reading program to be implemented:

1. Source Meters
 - a. All source meters shall read to a minimum of 100 gallons. (Magnetic meters shall read to a minimum of 0 gallons).
 - b. Source meter accuracy shall be tested at least every 5 years. Meters performing beyond an accuracy of 5% shall be replaced or repaired.
 - c. Propeller meters shall be used for constant speed pumps. Magnetic meters shall be used for variable speed pumps. (New source meters shall be McCrometer.)
 - d. Source meters shall be read on a **weekly** basis. During individual meter readings, source meters for the corresponding water system shall be read on a **daily** basis. The following information shall be gathered at each reading:
 - i. Weather condition
 - ii. Pump run hours
 - iii. Instantaneous flow
 - iv. Pressure
 - v. Meter reading to the nearest 100 gallons.
 - vi. Date and exact time of reading
 - e. Meter readings that are 20% (or more) different than the prior year shall be reported immediately to the District Manager.

- f. Broken meters shall be replaced within 30 days of the last correct reading.
- 2. Individual Meters
 - a. All individual meters shall read to a minimum of 100 gallons. All new meters shall be Master Meter equipped with Radio Read.
 - b. Individual meters shall be read on a **monthly** basis. To the extent practicable, each individual meter shall be read on the **same** day of each month. The date corresponding to **each** reading shall be recorded with the meter reading.
 - c. Inordinate (very high or very low) meter readings shall be reported immediately to the District Manager. The current software flags readings are 20% (or more) different than last year's reading. It should be noted that radio read meters alarm when a leak is detected (24 hour flow through the meter). The District Manager will review and determine if it is necessary to contact the Property Owner for further investigation.
 - d. Broken meters shall be replaced within 30 days of the most current reading.
 - e. Service line leaks on the District's side of the meter shall be repaired within 30 days of discovery.
- 3. Record Keeping: The District shall maintain an electronic record of the following information:
 - a. Maintenance/Depreciation Information
 - i. Source
 - 1. Meter #
 - 2. Meter Model
 - 3. Meter Install Date
 - 4. Meter Service Date
 - ii. Individual
 - 1. Meter #
 - 2. Meter Model
 - 3. Meter Install Date
 - b. Meter Reading
 - i. Source
 - 1. Weather condition
 - 2. Pump run hours
 - 3. Instantaneous flow
 - 4. Pressure
 - 5. Meter reading to the nearest 100 gallon.
 - 6. Date and exact time of reading
 - ii. Individual
 - 1. Meter reading to the nearest 100 gallon
 - 2. Date and exact time of reading

4.2.2. IDENTIFICATION OF UNACCOUNTED FOR WATER

It is important to note that “lost” water does not necessarily equal water system leakage. Lost water is defined as the difference between the water produced for a system and the water consumed for that system. There are many potential sources for “lost” or unaccounted for water including:

1. Meter error
2. Accounting or reading errors
3. Unmetered connections
4. Unpermitted connections
5. Construction water
6. Waterline or Reservoir Leakage
7. Other system losses

In order to meet Goal #5 (Reduction of System Loss—Section 3.2.2), the most cost-effective measures the District can take will be to define and eliminate or minimize items #1 through #4 listed above.

The following is a summary of how Items 1-6, listed above, will be addressed by the District:

1. Meter and Accounting Errors:
 - a. Items #1d and #2d (identification of very high or low meter readings) from Section 4.2 will assist in minimizing number 1 and number 2 listed above.
2. Unmetered Connections:
 - a. There are currently no known unmetered permanent connections within the District.
 - b. The District will continuously attempt to identify any unmetered (illegal) connections. Once identified, these connections will be eliminated from the system or will be metered and charged as appropriate.
3. Construction Water:
 - a. Since the District started its hydrant lock program (see Section 4.1.4) it has spent approximately \$15,000 locking 200 hydrants. Beginning in Fiscal Year 2007/2008 contractors and others using water from locked hydrants shall be required to meter and pay for water used. See Goal #2 in Section 3.
4. Waterline Leakage: See Section 4.2.3.

4.2.3. LEAK DETECTION PROGRAM

The District currently monitors meter reading for inordinate readings. Meter readings that are 20% (or more) different than the prior year’s reading are further inspected and any necessary repairs on the District side of the meter are repaired. If leakage is suspected on the customer side of the meter, the customer is notified.

Over the past 2 years, the District has repaired an average of 12 to 15 service line (District side of meter) or main line leaks per year. The estimated average cost of these repairs is \$3000 to \$4000 per each repair. In order to further minimize "lost" water, and as an aid to quantify waterline leakage as well as to locate leaks, a leak detection program shall be implemented following completion of the radio read program described above or sooner if resources become available.

4.2.4. WATERLINE REPLACEMENT PROGRAM

The District fully funds water system depreciation. A depreciation fund is maintained by the District to allow for replacement of depreciated water system components. For example, the District presently has several thousand feet of aging water main that may need to be replaced in the short to mid-term. The District's practice is to prioritize replacement of depreciated or depreciating components and to include these projects in their 3 and 10 year Capital Improvement Programs. Refer to the 3-year Capital Improvement Program in Exhibit 2.4 for a listing of projects to be completed within the next 3 years.

4.2.5. PRESSURE MANAGEMENT

In the future, the District may evaluate methods for reducing excessive pressures (>80 psi) in areas to reduce the average water consumption and system stress. One alternative would be to incorporate main line pressure reducing valves (PRV) for portions of service areas with pressures exceeding 80 psi. This program would apply only to a handful of the District's large water systems (Rimrock, Hillside, and Twin Lakes) as most of the District's systems normally operate below 80 psi.

This program is not proposed for implementation in the first five years of the conservation program. Additional analysis of each water system will be necessary to determine the feasibility and cost effectiveness of a program of this nature. The cost of a main line PRV station is likely to be as much \$30,000. The District will not have budget to implement this program within the first five years of the conservation plan.

4.2.6. PUBLIC EDUCATION

In addition to the annual conservation brochure and website resource, the District intends to implement the following public education measures as conservation funds allow each year:

1. Publicize District resolution eliminating irrigation between 10 am and 6 pm.
2. Include a graphic chart of the prior year's consumption on each water bill for each water service to show trend in use and cost or savings.
3. Develop a water conservation review team to work with high use customers in order to assist them with reducing consumption.
4. Work with local sprinkler companies to develop low volume irrigation plans for District customers.
5. Facilitate an annual conference with local water purveyors to discuss conservation measures implemented and the effectiveness of each.
6. Sponsor public workshops to promote conservation.
7. Conservation incentive program for demonstrated reduction of water consumption on an annual basis

- a. One option would be to provide a rebate to property owners who install rain sensors as part of their irrigation system.

This is not intended to be an exclusive or comprehensive list. The District will select at least one measure each year for implementation. Depending upon the effectiveness of the selected measure as determined in the annual review (Section 4.2.7), the District may choose to continue that measure and/or choose a new measure to implement in the following year.

4.2.7. ANNUAL REVIEW

An annual review will be prepared each year (at the end of the fiscal year) evaluating the goals that were set for that year and the effectiveness of the conservation measures implemented that year. The annual review will include revisions or additions to the District's goals and conservation measures and improvements to be implemented in the following year.

The first annual review will be completed in October 2008. The annual review will be presented to the public in a publicly noticed hearing in order to get public input on the effectiveness of District policies and conservation measures used in the previous year.

EXHIBIT 4.1

WATER RATE STRUCTURE TABLE

Exhibit 4.1:
Comparison of Current Water Rates for Groundwater Systems

			NKWD
			Monthly Base Rate ¹
			\$17.60
Consumption			
Minimum (gallons per month)	Maximum (gallons per month)		Additional Gallon Charge (\$ per 1,000 gallons)
0	5,000		\$1.00
5,000	8,000		\$1.15
8,000	12,000		\$1.15
12,000	15,000		\$1.15
15,000	20,000		\$1.25
20,000	30,000		\$1.25
30,000	50,000		\$1.90
50,000	100,000		\$1.90
			Total Month Water Rate Based on Consumption
Monthly Consumption ²			Total
0			\$17.60
5,000			\$22.60
8,000			\$26.05
12,000			\$30.65
15,000			\$34.10
20,000			\$40.35
30,000			\$52.85
50,000			\$90.85
100,000			\$185.85

Assumptions/ Notes

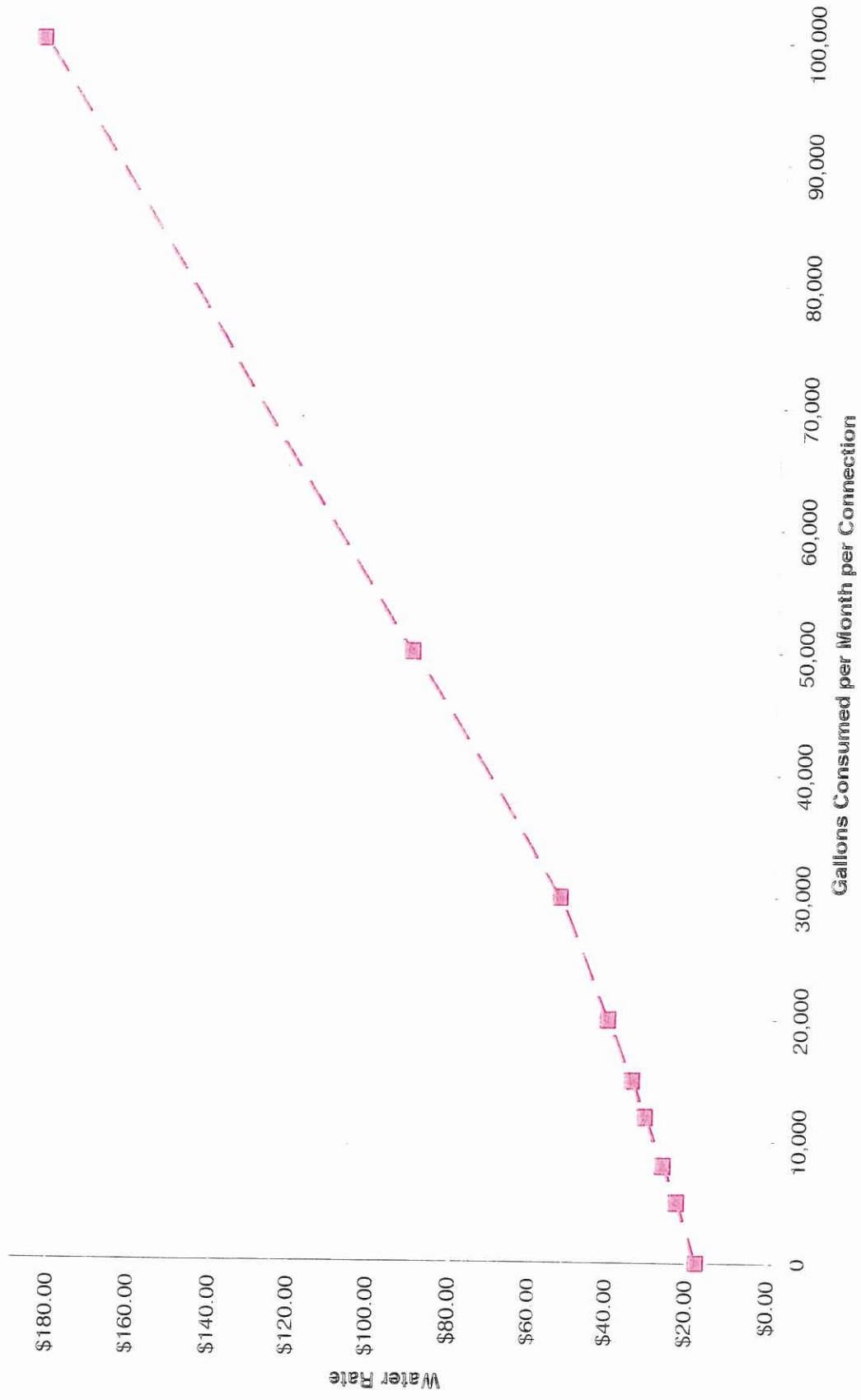
1 All rates based on a 1-inch meter size.

2 Monthly water rates represent consumption up to value designated.

EXHIBIT 4.2

WATER RATE STRUCTURE FIGURE

**Exhibit 4.2:
North Kootenai Water District Monthly Rate for Gallons Consumed**



5. SELECTION OF CONSERVATION MEASURES

The estimated annual available funding for the conservation program is \$20,000 to \$30,000. Based on this and the analysis of conservation measures presented in Section 4, the District has selected the following as the most effective and economical conservation measures required to meet the goals listed in Section 3:

1. Fiscal Year 2006/2007:
 - a. Conservation Plan
2. Fiscal Year 2007/2008
 - a. Meter Upgrade and Improvement Program
 - b. Establish baseline consumption and production rates
 - c. Conservation Fund
 - d. Conservation Policy
 - e. Public Education (Select 1 from the list provided in Section 4.2.6.)
 - f. Annual review
3. Fiscal Year 2008/2009
 - a. Continuation of 2007/2008 Measures
 - b. Annual review
4. Fiscal Year 2009/2010
 - a. Continuation of 2008/2009 Measures
 - b. Leak Detection Program
 - c. Annual review

6. IMPLEMENTATION OF SELECTED MEASURES

The following table shows the schedule of implementation for the selected measures, relative to the goals they are intended to achieve (see Section 3) as well as the estimated cost of implementation and source of funding for each measure.

Conservation Measure	Implementation Date	Schedule	Estimated Annual Cost	Source of Funding
Conservation Plan	October 2007	Update Every 5 Years	\$32,000	Capitalization Fee Fund
Goal #1: Meter Upgrade and Improvement Program				
Individual Meters (Radio Read)	October 2007	Annual for 5 years	\$105,000 per year	Capitalization Fee-Depreciation Fund/Conservation Fund
Source Meters (Remote Read)	October 2007	Annual for 5 years	\$15,000 to \$60,000 per year	Capitalization Fee-Depreciation Fund/Conservation Fund
Goal #2: Conservation Fund				
Conservation Fund	October 2007	Continuous	\$0	N/A
Goal #3: Conservation Policy				
Hydrant Lock Program	October 2007	Annual for 2 years	\$3,000	Conservation Fund
Goal #4 and #5: Reduce Water System Consumption and Loss				
Leak Detection/Repair	October 2007	Continuous	\$30,000	Depreciation Fund/Conservation Fund
Annual review	October 2008	Annual/Continuous	\$5,000	Conservation Fund
Estimated Annual Total			\$235,000	

The above table shows that the estimated annual expenditure for the District for conservation related improvements is \$235,000. The District's conservation fund will provide only \$20,000 to \$30,000 each year. The remaining portion of the improvements will be funded using the capitalization fee and depreciation funds. (Also refer to Section 2.5 and Exhibit 2.7 for further detail.)

The following is a summary of conservation policies that will be implemented on or before October 2007 as part of this Conservation Plan:

1. Irrigation Hours and Enforcement: See Section 3.1.2
2. Construction Water: See Section 3.1.2

3. Customer Incentives for Conservation: See Section 4.2.6
4. Conservation Funding: See Section 3.1.3
5. Capital Improvement Program, Priority Rating: See Section 3.1.3

7. BIBLIOGRAPHY OF REFERENCES

Idaho Department of Water Resources, "Water Conservation Measures and Guidelines for Preparing Water Conservation Plans." DRAFT February 2006.

U.S. Environmental Protection Agency, "Water Conservation Plan Guidelines." August 6, 1998.

APPENDIX A
MANAGEMENT PLAN FOR THE
RATHDRUM PRAIRIE GROUNDWATER
MANAGEMENT AREA

ATTACHMENT A
MANAGEMENT PLAN FOR THE
RATHDRUM PRAIRIE GROUND WATER MANAGEMENT AREA

Adopted by the Director of the Idaho Department of Water Resources
September 15, 2005

1.0 General

- 1.1 The Rathdrum Prairie Ground Water Management Area ("RPGWMA") is located in Kootenai and Bonner Counties. The Rathdrum Prairie lies over the Idaho portion of the extensive Rathdrum Prairie-Spokane Valley ("RP-SV") Aquifer, which extends from Lake Pend Oreille to Long Lake, in Spokane County, Washington. The portion of the aquifer in Idaho is a prolific and provides an extensive ground water supply.
- 1.2 The RP-SV Aquifer is a thick layer (as much as 600 feet) of coarse sediments (gravels, cobbles, and boulders) deposited by catastrophic flooding associated with the rapid draining of ancient lakes when ice dams broke. This geologic feature extends southwest from the southern end of Lake Pend Oreille in northern Kootenai County, Idaho, past the Idaho-Washington border and then west towards Spokane, Washington, covering an area of about 320 square miles of which approximately 200 square miles are in Idaho.
- 1.3 Ground water within the aquifer occurs under unconfined, non-artesian conditions. The top of the saturated surface within the aquifer (the ground water table) is sufficiently lower than the surface elevation of all of the lakes and the reach of the Spokane River located within Idaho, such that ground water is not tributary to surface water within Idaho, but is tributary to the Spokane River and tributaries in Washington beginning about five to seven miles west of the state line.
- 1.4 While protecting the sovereign rights of the State of Idaho, the Idaho Department of Water Resources ("IDWR") supports the concept of regional water management for the RP-SV Aquifer. The aquifer is a regional resource that requires cooperation for comprehensive management and long-term viability.

2.0 Statutory Requirement and Authorities

- 2.1 Idaho Code § 42-226 declares all ground water in Idaho to be the property of the state, and charges the state with supervising the appropriation and allotment of the same. One of the purposes of this provision is to assure that early appropriators of ground water are protected in the maintenance of reasonable ground water pumping levels.
- 2.2 Idaho Code § 42-233b authorizes the Director of IDWR to designate a "Ground Water Management Area" when the water supply in the area may be approaching conditions that could lead to designation as a critical ground water area.

- 2.3 Idaho Code § 42-233b also authorizes the Director to approve a ground water management plan. The purpose of the plan is to provide for managing the effects of ground water withdrawals on the aquifer and any other hydraulically-connected sources of water.
- 2.4 Idaho Code § 42-235 provides that a permit to construct a well shall be required to protect the public health, safety and welfare, and the environment, and to prevent the waste of water or mixing of water from different aquifers.
- 2.5 Idaho Code § 42-237a.g, Idaho Code, empowers the Director to prohibit or limit the withdrawal of water from any well during the period that he determines that water to fill any water right is not available.

3.0 Management Plan ("Plan")

The following goals, strategies, and actions are adopted for use in future management of the ground water resources of the RP-SV Aquifer and associated activities.

Goal 1

Obtain adequate technical data and quantification of water availability to make knowledgeable and appropriate management decisions about the ground water resources of the Rathdrum Prairie.

- 3.1.1 IDWR supports and is participating in the ongoing, bi-state, hydrogeologic study for the entire RP-SV Aquifer. This study includes collection and analyses of data to understand the sustainable yield of the aquifer. The knowledge gained will be applied to modeling and other techniques for future management of the aquifer.
- 3.1.2 IDWR will modify its management of the aquifer as additional information becomes available and as change is warranted. Modifications to aquifer management may include changing the boundary of the RPGWMA, imposing special conditions on new and future water right permits, and other modifications deemed appropriate and consistent with the goals of the Plan and Idaho law.
- 3.1.3 IDWR will develop an appropriate process to take advantage of opportunities to obtain the following information during well construction and development of specific wells identified by IDWR in strategic locations:
 - (1) Depth to water
 - (2) GPS coordinates of well locations
 - (3) Detailed lithology
 - (4) Depth to bedrock
 - (5) Pump tests
 - (6) Water quality sampling

Goal 2

Obtain adequate technical data and quantification of water use to make knowledgeable and appropriate management decisions about the ground water resources of the Rathdrum Prairie.

3.2.1 IDWR will, as an interim measure, establish a Water Measurement District, as defined by Title 42, Chapter 7, Idaho Code until such time as a water district as described in Title 42, Chapter 6, Idaho Code can be created. A water measurement district will provide needed information about water use on the Rathdrum Prairie. Measurement and reporting to IDWR will assist in compiling water use information for developing and updating a water budget. Monitoring and reporting will be initiated for all consumptive water uses as follows:

3.2.1.1 New uses, 0.2 cubic feet per second (cfs) or less, are required to have a functional metering device, the water user must report the total ground water withdrawal once per year, and the water user must agree to a simple list of conservation measures;

3.2.1.2 Existing and new uses, 0.21 cfs to 1.0 cfs, shall have the same requirements as in 3.2.1.1 plus quarterly monitoring and reporting of ground water depth; and

3.2.1.3 Existing and new uses, 1.01 cfs or greater, shall have the same requirements the same as in 3.2.1.2 except the metering device and water depth must be measured monthly and reported quarterly. A conservation plan must be developed if application is made to appropriate water or to transfer a water right. Upon approval of the application, the plan must be reviewed by the right holder every five years, at a minimum, to evaluate the effectiveness in achieving the conservation goals.

3.2.2 IDWR will work with the advisory committee and local elected officials to determine the feasibility, cost, and potential funding mechanisms to begin an adjudication of water rights in the Coeur d'Alene Basin.

Goal 3

Manage the ground water resource efficiently and fairly for all users of the resource.

3.3.1 IDWR shall evaluate applications for transfer of water rights to ensure consistency with the conservation of the ground water resource and the local public interest.

3.3.2 Upon completion of an adjudication of water rights, a water district shall be created to replace the water measurement district. Water administration under the direction of the water district will provide for the distribution of water in accordance with the elements of the decreed rights and prevent unauthorized uses of ground water.

Goal 4

Encourage water purveyors, regulatory agencies, and local & regional governments to plan for future water needs and incorporate the principles of this Plan in programs, policies, and ordinances.

- 3.4.1 Long-term planning for municipal and community needs should use the tools available to plan for and protect future water needs. The privileges accorded municipal water purveyors by Idaho law should be investigated for use by all local and regional bodies that qualify for that status.
- 3.4.2 IDWR encourages local jurisdictions to require connections to community systems when available in lieu of individual wells.

Goal 5

Encourage water conservation efforts by all users of the resource.

- 3.5.1 For all new water rights or changes to existing water rights held by municipal purveyors, IDWR will require conservation plans for all systems regulated as public water systems. IDWR will enforce adherence to the conservation plan provisions through water right conditions and civil penalties as allowed by law. The advisory committee specifically supports this element of the management plan.

Each plan may include the elements as listed in guidelines published by EPA ("Water Conservation Plan Guidelines", Environmental Protection Agency, 1998, <http://www.epa.gov/owm/water-efficiency/webguid.html>). These guidelines are primarily designed for public water supply systems. However, any water user can follow the steps described in the guidelines to evaluate the existing conditions and systems, identify and evaluate opportunities for conservation measures, and develop strategies and timetables to meet defined, measurable goals.

The advisory committee will identify elements to be considered by IDWR for inclusion based on system size. The conservation plan may include the following components:

- measurable conservation planning goals
- summary of existing system characteristics and water use conditions
 - water system profile
 - description of planned facilities
- current and future conservation opportunities
 - identification of water conservation measures
 - analysis of benefits and costs
- select water conservation measures
- implementation mechanisms, timetable, and assessment strategy

3.5.2 IDWR encourages the establishment of an aquifer-wide water conservation advisory committee representing municipal purveyors for purposes of water conservation planning, education, and implementation.

3.5.3 IDWR will encourage and assist, through management actions, the following measures:

- Economic support for water purveyors to develop conservation plans through access to federal and state programs, such as the Drinking Water State Revolving Fund (SRF);
- Landscaping efficiency demonstration projects and funding support through state and federal sources;
- Price structures for water use that encourage conservation of water resources;
- Development of water conservation educational activities by municipal purveyors regulated as public water systems; and
- Use of reclaimed water for existing or planned consumptive uses of ground water on the Rathdrum Prairie wherever it is readily available and meets water quality requirements. IDWR supports the investigation of using reclaimed wastewater from municipal wastewater facilities to lessen the impact of the wastewater on the Spokane River.

4.0 Additional Actions

- 4.1 New domestic uses defined by Idaho Code § 42-111 shall be authorized only upon IDWR approval of an application for a well drilling permit. New individual ground water domestic uses shall be discouraged if water can be reasonably supplied from a municipal source or community system.
- 4.2 Ground water rights with points of diversion located within the RPGWMA shall not be considered lost, abandoned, and/or forfeited for non-use, in whole or in part, if non-use is for the purposes of conservation or other conditions of this management plan. The five (5) year period of non-use for forfeiture of a water right shall resume upon termination of this Plan unless such non-use is otherwise excepted from forfeiture by Idaho law.
- 4.3 Any well to be abandoned in the RPGWMA shall require a well abandonment permit issued by IDWR. This requirement will protect water quality and limit wasting of water that might otherwise result from improper well abandonment techniques. Before any well is abandoned, the possibility that it could be used for monitoring should be explored.
- 4.4 The Director may require aquifer monitoring for any new ground water diversions approved surrounding the RPGWMA to the extent that such monitoring would be expected to yield data relevant to the boundaries and conditions of the RPGWMA.

- 4.5 IDWR supports the investigation of managed recharge of the RPSV aquifer. During periods of high flow in the Spokane River, the potential exists for enhancing the volume of water that enters the aquifer along the losing reaches of the river. The stored water could then be available for discharge to the river during the traditional low-flow time period. The investigations must evaluate the economics of augmented volumes while preserving the water quality of the aquifer.
- 4.6 The advisory committee shall continue to perform the duties and provide the representation described in the Order designating the RPGWMA, including recommending solutions to issues that arise in the RPGWMA. The advisory committee shall meet at least once a year no later than May 31. Minutes from this annual meeting shall be provided to the Director. Additional meetings may be convened to address specific issues that arise. Notice of meetings shall meet all requirements of state rules and statutes.
- 4.7 The Plan shall be reviewed annually by the advisory committee, and modifications shall be recommended to the Director as needed. At the end of each five (5) year period, starting from the date the Plan is approved, the advisory committee shall provide a summary report documenting the progress of the Plan to the Director.

APPENDIX B
NKWD CONSERVATION INFORMATION
BROCHURE



North Kootenai Water District
PO Box 2290
1841 W. Hayden Avenue
Hayden, ID 83835
Tel: 208-772-3619
www.nkwsd.com

Statement Date	Account Number	Payment Due Date	Amount Now Due
08/16/07	1036294-01	09/15/07	\$103.20

Financial Aid Contribution: _____

Amount Enclosed \$



01036294010000103207

↑ Tear Here, Return Top Portion With Payment. ↑



North Kootenai Water District
PO Box 2290
1841 W. Hayden Avenue
Hayden, ID 83835
Tel: 208-772-3619
www.nkwsd.com

Service Address

[Redacted Service Address]

ACCOUNT NUMBER: 1036294-01

Billing Date: Aug 16, 2007

# OF UNITS	TYPE OF SERVICE	GALLONS USAGE	AMOUNT	TYPE OF SERVICE	GALLONS USAGE	AMOUNT
1	Water	56500	\$99.38			
	Bond Payment		\$3.82			

33 Days of Service From 07/11/07 To 08/13/07 Bill Code: Normal

MONTHLY CONSUMPTION COMPARISON: THIS MONTH 56500 LAST YEAR 115000

Water Meter Number	Start Date	Start Read	End Date	End Read	Read Type	Consumption
47910887	07/11/07	18637	08/13/07	19202	NORMAL RD	56500

Consumption Billed As:

Consumption 0 - 5,000 gallons	5000 @ \$1.00 Per 1,000	\$5.00
Consumption 5,001 - 15,000 gallons	10000 @ \$1.15 Per 1,000	\$11.50
Consumption 15,001 - 30,000 gallons	15000 @ \$1.25 Per 1,000	\$18.75
Consumption greater than 30,000 gallons	26500 @ \$1.90 Per 1,000	\$50.35
System Access Fee		\$13.78

Visit North Kootenai Water District at: www.NKWSD.com

ACCOUNT SUMMARY

Previous Balance	\$74.13
Payments Received - Thank You	\$74.13
Total Charges This Bill	\$103.20

Account Balance	\$103.20
Due Date (Applies To New Charges Only)	09/15/07

You can now pay your bill online at: www.NKWSD.com

Water Conservation

With Landscaping



Mulch Trees Shrubs and Flowers to Retain Soil Moisture—2" of mulch can reduce evaporation by 50%



Separate Landscaping and Plants into Different Irrigation Zones—Trees and shrubs have different water needs than flowers and lawns



Reduce Lawn Areas and Replace With Ground Covers—



Consider Native Vegetation or Drought Tolerant Varieties—Drought tolerance occurs once plant is established

Some Good Choices for the Local Area

Trees: Hackberry, Russian Olive, Locust

Shrubs: Siberian Pea Shrub, Caryopteris, Smoke Tree, Catoneaster, Juniper, Yew, Sumac, Mahonia, Pyracantha, Snowberry.

Ground Covers and Vines: Juniper, Thyme, Kinnikinnick

Perennials: Thrift, Artemesia, Butterfly Weed, Bearded Iris, Daffodills, Penstemon,

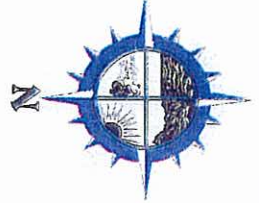
**VOLUNTARY CONSERVATION NOW MAY
AVOID MANDATORY RESTRICTIONS LATER**

WATER CONSERVATION

We Can All Do Our Part



NORTH KOOTENAI WATER DISTRICT



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NORTH KOOTENAI WATER DISTRICT

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Saving Water Saves Money and the Environment.

These conservation tips are being provided by the North Kootenai Water District in an effort to encourage preservation and protection of our important sole source aquifer. Thank You for your help.

Conservation Tips— Inside and Out

Water Conservation in the Home



Fix Leaking Faucets—A small leak can waste 20 or more gallons per day



Wash Full Loads of Clothes and Dishes—Each extra load can use up to 40 gallons



Shut Off Faucet When Brushing Your Teeth or Shaving—Running a faucet for two minutes can waste a gallon of water.



Shorten Showers or Turn Them Off While Soaping—



Use Water Efficient Appliances—Newer appliances can cut water use by 50%



Each Flush wastes Water—Don't use the toilet as a waste basket

Water Conservation in the Yard



Avoid Over Watering your Lawn—Lawns need only 1–2" of water per week including rain



Check Sprinklers Regularly and Fix Leaks or Broken Units



Adjust Sprinklers to Avoid Watering Pavement—If it can't grow, why water it?



Adjust Watering Schedule According to the Season—Plants need less water in early and late seasons.



Turn Sprinklers Off During and Following a Rainstorm—Why pay for water if Mother Nature does it for you?



Sprinkle Lawns Before 10 AM or After 6 PM to Reduce Evaporation—Water that evaporates doesn't help the plants



Use Drip Irrigation Systems on Shrubs, Trees and Flowers



Sweep Sidewalks, Driveways, Parking Areas or Other Paved Surfaces With a Broom Instead of Washing With Water



Wash Cars Where Water Is Not Wasted—Water in the gutter is just money down the drain.



Hand Water Dry Spots in the Yard Rather Than Over Watering the Rest

**Each Step Saves a Little but
Together They Can Save a Lot!**

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