

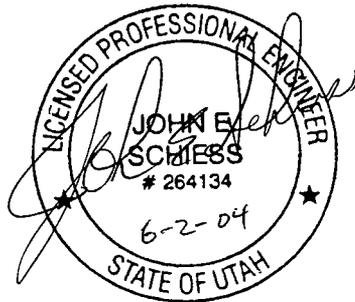
Erratum:

Duchesne County Upper Country Water Improvement District, Water Resources Planning Report, December 2003, Horrocks Engineers, No. 1, June 2, 2004

Page five, paragraph one, third sentence

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# Duchesne County Upper Country Water Improvement District

## WATER RESOURCES PLANNING REPORT



December 2003

 **HORROCKS  
ENGINEERS**

**DUCHESNE COUNTY  
UPPER COUNTRY WATER IMPROVEMENT  
DISTRICT**

**WATER RESOURCES PLANNING REPORT**



**December 20, 2003**

**HORROCKS ENGINEERS  
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## List of Acronyms

<b>cfs</b>	- Cubic Feet Per Second
<b>DDW</b>	- Utah Division of Drinking Water
<b>DGIC</b>	- Dry Gulch Irrigation Company
<b>ERC</b>	- Equivalent Residential Connection
<b>gpd</b>	- Gallons Per Day
<b>gpm</b>	- Gallons Per Minute
<b>MAGI</b>	- Median Adjusted Gross Income
<b>PRV</b>	- Pressure Reducing Valve
<b>PWS</b>	- Public Water System

## **1. INTRODUCTION**

Upper Country Water Improvement District is a Public Water System (PWS) in the State of Utah. The District service area encompasses approximately 104 square miles and is located in the northern portion of Duchesne County in the Uinta Basin. The District supplies culinary water for the communities of Altamont, Altonah, Bluebell, Boneta, Mountain Home, Mt. Emmons, Sand Wash, and Talmage (see Figure I-1). Peak user demand within the service area currently fully utilizes the District's existing water supplies. This report assesses the District's need for additional water resources over a 25-year planning period. The report describes the District's existing water system, evaluates its present and future water supply needs, and evaluates alternatives for meeting these needs.

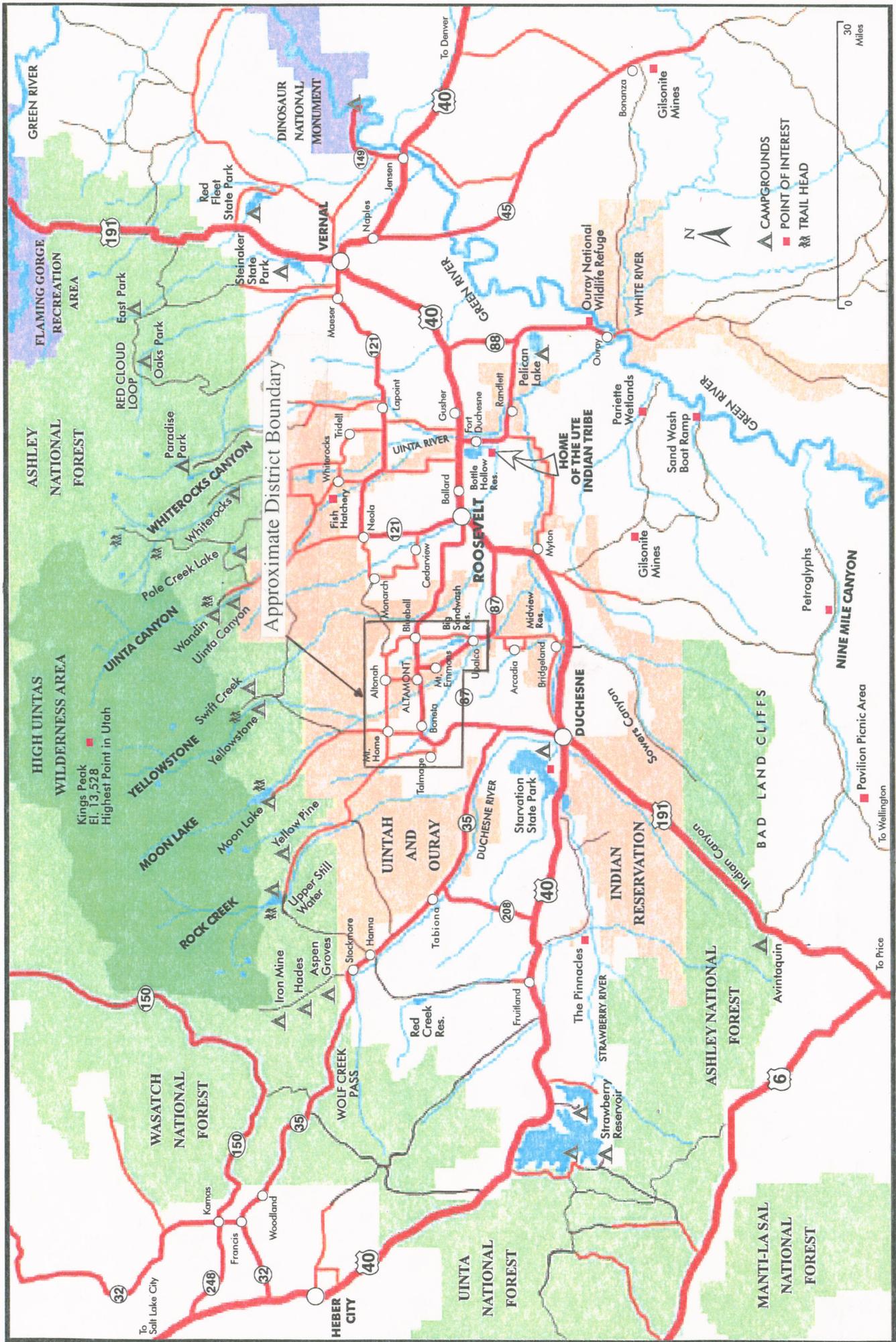


Figure I-1 Vicinity Map of Uinta Basin and Surrounding Areas (courtesy of US Forest Service)

## **2. SYSTEM DESCRIPTION**

The District was formed July 3, 1990, as a Special Improvement District in the State of Utah. As organized, the District has the ability to levy taxes upon the land owners within the District service area boundary to pay for the services provided. The current tax system levies those land owners within the service area who elected to participate in the District's PWS when it was originally formed. Not all land owners within the District presently use water from the system, but most expect to at some point in the future. Under the present system, those landowners within the service area who elected not to participate in the PWS when the District was originally formed would have to pay back taxes in order to join the PWS. Under State law, all tax paying landowners within the service area of the District's PWS must be afforded equal access to the District's services.

Presently, the District's water sources consist of two perennial springs located within the Ashley National Forest. The Springs are in Cow Canyon which is situated within the Yellowstone River Watershed immediately downstream from the Moon Lake Electric Association hydro project. Water from the springs flow into the Yellowstone River approximately 700 feet downstream from the existing diversion dam. The District applied for and obtained a special use permit from the Forest Service in 1992 in order to develop these springs. The permit has been recently renewed with an expiration date of 2011. The District has no other water sources but has maintained the most reliable of the original Town of Altamont wells as an emergency backup water source. This well is currently dry because of the drought.

### **a. Water Rights**

When the District was first formed, it purchased a farm in order to obtain the water shares it had rights to in the Dry Gulch Irrigation Company (DGIC). The water rights for these shares were then transferred through change application to the three Cow Canyon Springs. The DGIC administers these water rights and has allowed the District to divert them from the Cow Canyon Springs. Any excess water right the District does not use out of the springs, the Irrigation Company stores in Moon Lake and delivers to its users through a secondary ditch system. Since about 70 percent of the District's existing water users have irrigation shares in the DGIC, storage of the District's unused water has effectively decreased the demand on the culinary water system when secondary surface water supplies are adequate. The DGIC delivers this water to its users until it runs out; after the water is depleted, the demand on the culinary system increases. The District currently has enough summer water rights in the Cow Canyon Springs for 10 years of growth prior to transferring more Dry Gulch Irrigation Company water rights to the springs. The District will need to purchase

more water shares of the DGIC when that time comes. The winter water right is sufficient for many years past the 25-year planning period. The Districts water rights in Cow Canyon Spring are numbers 43-10445 and 43-11108.

The District has an additional 25 ac-ft of Central Utah Project Water that has been allocated for their use. Because this water right is located in Starvation Reservoir and there are no facilities available to deliver this water to the District, the U.S. Bureau of Reclamation (Reclamation) is presently using the water for in-stream flow maintenance on the Duchesne River in the District's behalf. The U.S. Bureau of Reclamation pays the District's yearly capital costs and assessment on the water they use.

The Forest Service currently has water rights in the upper Cow Canyon Springs (spring 1) and portions of these rights are delivered to a ranger station and two campgrounds through the District's water system. They have a total of 5.89 ac-ft or 3.65 gpm of water right. Approximately 2.25 ac-ft or 1.39 gpm is delivered to the Forest Service facilities through the District's water system. The balance is for stock watering and is delivered as part of the bypass flows that were required by the Forest Service as mitigation for the original development of Springs 1 & 2. The District supplies the Forest Service its water as part of the permitted flow rate available to the District

**b. Physical Facilities and System Operation**

The original system was designed for 600 residential connections with each irrigating 0.25 acres of ground. This amounted to a 844 gpm of flowrate requirement. Cow Canyon Springs 1 & 2 were originally estimated at 900 gpm, but the total flow has since been measured at 756 gpm. This flow is referenced in the special use permit whereby the district is obligated to bypass 225 gpm for mitigation and permitted to utilize the rest in their system. This is also the flow that has been reported yearly to the Forest Service. Measurements have been taken over the past several years by District staff on weirs designed and inspected by Horrocks Engineers. Flows do not vary significantly throughout the year.

Figure II-1 shows the combined flow allotments for the District's two springs. The difference between the total spring flow and the permitted flow available to the District is the amount the Forest Service required the District to bypass as a mitigation measure to maintain the stream channels fed by the springs.

# Cow Canyon Flows

## Spring 1 & 2

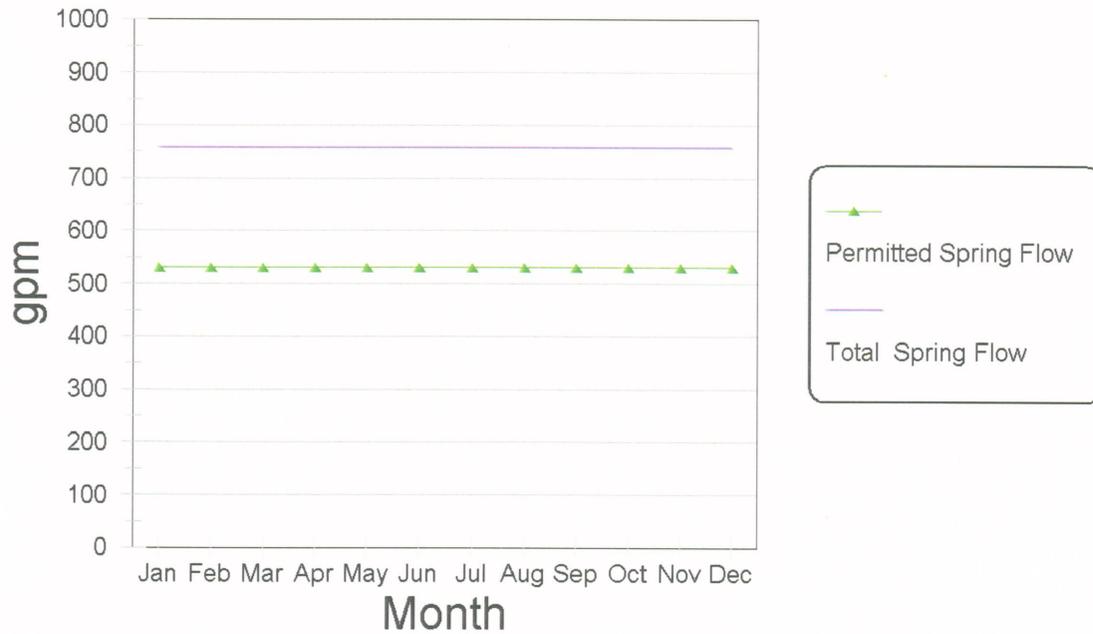


Figure II-1 Cow Canyon Spring Flowrates

The flow from the upper spring (Spring 1) has been measured at about 554 gpm while the lower spring (Spring 2) was measured at about 202 gpm. About 110 gpm is delivered into the pipeline year round. During periods of high water use, typically June through September, an additional 646 gpm is delivered into the pipeline to supplement the water supply. The spring collection areas were designed to continuously bypass a minimum of 112 gpm each to maintain downstream and riparian habitat. The bypass system has served its function very well.

The water quality of the springs is outstanding and requires no water treatment for consumption. This includes disinfection such as chlorine. This fact alone saves the District a considerable amount of money. Treatment costs are discussed in Section 3 of this Report.

The District's water system consists of approximately 144 miles of distribution lines, five water storage tanks, 19 pressure reducing valve (PRV) stations, and two spring collection areas. Figure II-2 shows the distribution system and the District service area boundaries. The two upper tanks were designed so chlorination systems could be installed if necessary. The tanks range in size from 500,000 gallons (2) to 50,000 for a total of 1,300,000 gallons of storage.

The system operates on a gravity flow basis. The water enters the system at the springs and gains pressure through approximately 2,400 feet of elevation change. In fact, the elevation change from one end of the system to the other is great enough that (PRV) stations are required to bring the pressure to safe operating levels for the District's users. The advantage to this system is that no pumping is required to operate the system. This eliminates the need for system-wide pumps and minimizes operational and maintenance costs and reliability concerns.

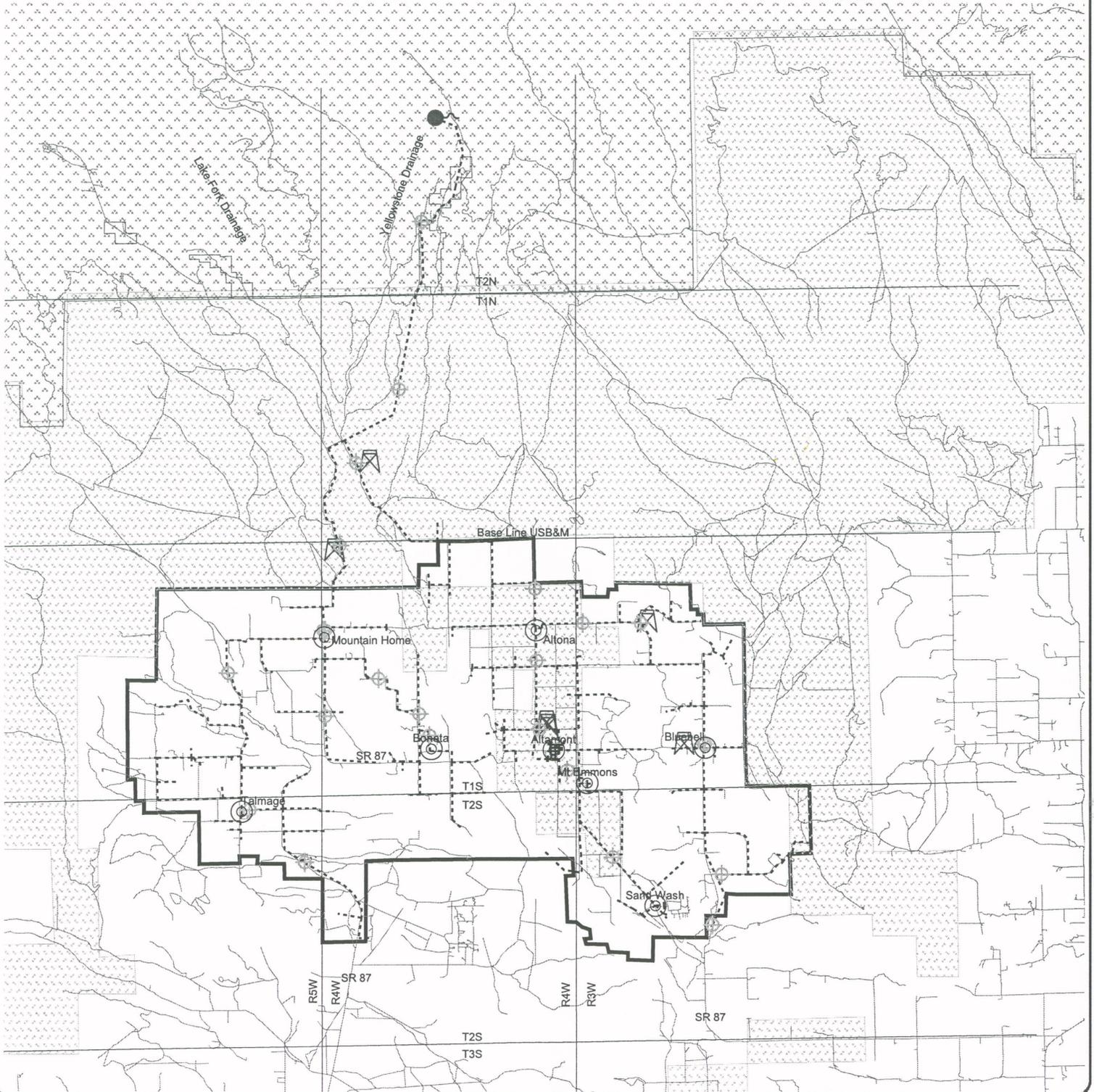
The system was constructed in 1991 and 1992 and was financed through several different agencies. The existing water system is in very good working condition and has very little leakage. The system was designed and constructed according to the State of Utah Division of Drinking Water (DDW) rules and standards. The District has had minimal problems or repairs with the physical facilities in the system. Operationally, the system is unique and sometimes labor intensive in order to keep it at an optimal level of service. It is unique in that its only water supply and most of its storage is located at an elevation that is much higher than that of the District's users which allows for a gravity-based water distribution system. Most other supply options would require a pump-based water distribution system. Most of the labor requirements entail maintenance of all of the PRV stations and monitoring of the storage tanks to keep them as full as possible given the constant permitted spring flow.

Water collected from Spring 1 & 2 is transmitted through a single line and several PRVs to where it splits and flows into two 500,000 gallon storage tanks. These tanks act to regulate the flow and pressure during daily fluctuations in water usage. The tanks also provide water storage for fire flows. From the tanks, the water flows through distribution lines and PRVs throughout the District. Three other tanks with a total capacity of 300,000 gallons are located in various parts of the system to help serve the fire flows and daily usage fluctuations in those parts of the system. The State DDW rules require that each PWS maintain storage for fire flows according to local fire district standards. The local fire district has determined that each fire hydrant should be able to supply 500 gpm for two hours. This translates to 60,000 gallons of storage water the District must maintain for fire flows.

# Figure 2-1 District Boundary and Physical Facilities



- ⊙ Communities
- Cow Canyon Springs
- ⊕ Pressure reducing valve
- ⊠ Tank
- - - Waterlines
- Roads
- ▨ Forest Lands
- ▤ Tribal Lands
- ▭ District Boundary



**c. User Fees and Conservation**

The District maintains an aggressive water conservation program. It promotes conservation through public education and water rates. They have two rate schedules whereby those who use more water pay more for the water usage. They have a normal rate schedule and a conservation schedule that can be applied during time of water shortages. The conservation schedule was recently developed due to drought and water supply concerns and will be in effect for the summer months this year and possibly other years as needed. An unofficial version of the conservation schedule was in effect during the Summer of 2002 because of water supply concerns. The normal rate schedule will be in effect during the winter months and times when there are not drought and water supply concerns.

Monthly costs for the normal schedule are based on a \$30 base fee for the first 10,000 gallons of water usage, \$1.00 per 1,000 up to 20,000 gallons and \$0.50 per 1,000 gallons after that amount. Conservation rates are a \$30 base fee for the first 10,000 gallons of water usage, \$1.00 per 1,000 from 10,000 to 60,000 gallons, \$1.25 per 1,000 for 60,000 to 500,000 gallons, \$2.00 per 1,000 to 750,000 gallons, and \$3.50 per 1,000 over 750,000 gallons.

The District's normal rates are among the highest 6 percent in the State of Utah, Duchesne County, and the Uinta Basin (Rural Water Association of Utah Survey, 2002). The Median Adjusted Gross Income of the District's users (\$29,690) is 14 percent below the State average (\$32,711). Under the regular rate schedule the average monthly water bill is 1.5 percent of the Median Adjusted Gross Income of the area compared to a State-wide average of 1.25 percent of the Median Adjusted Gross Income of the State. This comparison does not include the taxes that are assessed on the landowners within the district which would be in addition, nor does it include shareholder fees in the DGIC.

Also as part of their public education program, the District sends out educational flyers, provides information with water bills, and presents water savings and awareness presentations to local schools. Outdoor irrigation testing equipment is available for users to borrow in evaluating and improving their water usage. The District also has a couple of bulk water connections where the local oil companies may purchase water for their use. It is the District's policy to discontinue bulk water service during times of limited supply.

The latest water use records in the Appendix show that over all water use declined by 7.6 percent in 2003 while water use in the peak month of July was down 7.7 percent. This was during the same period when the conservation rate schedule was applied.

**d. Financial**

A majority of land owners who voted in favor of formation of the District committed property taxes toward General Obligation bonds to finance the construction. The District has loan obligations to the Utah Water Resources, Utah Drinking Water Board, and Utah Community Impact Board. These loans are various combinations of General Obligation bonds and Revenue bonds. The interest rates are between 0.0 and 3.0 percent. The District's annual budget for debt payment, administration, system operation and maintenance is approximately \$260,000. Approximately 40 percent of the budget (\$109,000) is funded from yearly taxes and 60 percent (\$151,000) from impact and usage fees. Currently, the District's tax rates are set to collect the maximum allowable according to State statutes. Additional bonding would be difficult under current conditions because the usage rates and tax rate are high. In future years, more users would allow additional bonding capacity while maintaining current tax and usage fee percentages. Information on the District's financial situation is included in the Appendix.

A certain amount of the revenues are required by State law to be earmarked for specific spending accounts such as capital improvements, minor improvements, and operating reserves. The District collects impact fees on each new connection to offset the cost of developing the capacity for each. These funds can only be spent on those items that they are identified for. These fees are adjusted periodically based on engineering estimates of required improvements.

**e. Equivalent Residential Connections**

It is helpful in a PWS's planning process to establish a benchmark for water use by which they can plan for future growth, analyze current water usage, and establish user rates. This benchmark is handled a little differently among PWSs and is sometimes referred to by different names, but the purposes are very similar. PWSs supply water to a variety of water users, which can include: domestic, irrigation, agriculture, industrial, commercial, institutional, and other uses. Therefore, it is helpful to equate all users to a bench mark water usage amount. Most PWSs in the State of Utah have many more residential customers than other types. Therefore, it is sensible to equate all users to a typical residential user in that system; hence the term, Equivalent Residential Connection (ERC). A large industrial user may use as much water as several "average" residential homes and be assigned an ERC value of 2.5 or more while a small commercial operation may use very little water and be assigned a fractional ERC value of 0.5 or less (see table II-1 for actual District ERC values). ERC values are assigned by each PWS for their own planning purposes. These values are then reviewed by the DDW to verify they conform to State requirements.

**i. State of Utah Requirements**

The State of Utah Division of Drinking Water (DDW) has requirements for PWSs that cover the minimum amount of source water required to meet the needs of its users. Specifics of the requirements can be found in R-309-510 of the State of Utah Administrative Rules.

The amount of source water required is broken down into two parts for domestic use. The first is indoor domestic water use, and the second is outdoor irrigation. The State's flow requirements for indoor residential use are standard throughout the State. However, the States' flow requirements for outdoor irrigation vary in different areas of the State according to climatological conditions. State rules specifically require that a PWS in Duchesne County be able to supply 0.56 gpm per home for indoor use and 3.39 gpm per acre of irrigated land. For its planning purposes, the District had originally determined that the average residential landowner within its service area would irrigate 0.25 acres of land. For an average residence with approximately 0.25 acres of irrigated land, the monthly State mandated ERC including both culinary and irrigation water is about 1.40 gpm. The State's ERC requirements have a safety factor built into them to help insure that a PWS can provide adequate water to its users and still have a little extra for emergencies.

The State Rule allows for a reduction in requirements if the PWS has sufficient data to show the requirements are excessive. Data supplied must demonstrate with a 90 percent confidence level that the proposed supply requirements will be adequate. These requests are evaluated on a case-by-case basis by the DDW's Executive Secretary. Currently there are very few PWSs in the State that have been given a reduction in requirements. When setting ERCs, the DDW must ensure that a PWS can provide an adequate water supply to its users.

The DDW keeps track of the number of connections on each PWS and maintains an estimate of how many ERCs they are obligated to serve. The DDW also tracks the quantity of water available from each water source and how much each ERC in that system requires. Whenever a PWS constructs additions or improvements to their water system, they must get prior approval from the DDW. The DDW will not approve such additions or improvements if the water supply can not meet the ERC water demands. If, however, a PWS system were to connect more users to their system than they have ability to serve, the DDW could do a number of things.

The DDW has a point system whereby they evaluate each system and grade them according to several criteria, one of which is having enough water supply in accordance with the ERCs that were approved by the State for the PWS. A PWS would lose points if they don't have enough supply and

could lose approved status. An un-approved system would lose funding opportunities, insurance rates would go up, and in severe cases the PWS could be taken over and managed by the DDW to ensure that the PWS is in compliance with the State-mandated rules and regulations. The State is also allowed by statute to impose fines for not meeting State standards. Most PWSs in the State monitor their own connections to keep them within DDW rules and the State encourages this practice by not getting directly involved unless there are serious problems in meeting water supply or water quality standards. Although the State has the option in statute to assume control of a water system or impose fines, it rarely does so; but will work with the system to bring it back into compliance. The inability of a PWS to provide service in accordance with the State-mandated ERCs could be a serious problem.

## **ii. Upper Country System ERCs**

Most of Upper Country Water users are residential, and the District originally established that an ERC is equivalent to one home with 0.25 acres of outdoor irrigation. This equates to 1.40 gpm peak flow required for each ERC. This was established in 1991 during the original design. It was also used in 1997 when the District last updated its master plan. At the time of the update, the actual peak usage was considerably less than the 1.40 gpm required by DDW rules. The District established that for the purposes of planning they would use 80 percent of 1.40 gpm or 1.12 gpm for each ERC in their system. General system usage justified this reduction; although specific data required for an official DDW reduction in requirement was not available at the time.

Horrocks Engineers re-visited the District's ERC calculations and believe that the 1.12 gpm benchmark can be justified. The original study assumed that each home irrigated about 0.25 acres of land. This assumption was acceptable to the State. After further analysis, the District has determined that only about 30 percent of the current residential users actually irrigate outside their homes with culinary water. The other 70 percent use secondary irrigation water. It is therefore recommended that ERCs in the District's system be based on 1.12 gpm or one home with 0.16 acres of irrigation on average. This adjustment to the District's ERCs does not require a specific request for reduction of the State Rule to the DDW because it is based on observed irrigated acreage. Additional reduction in ERC requirements based on this principle is not recommended because it is not justified by actual data on irrigated acreage. Therefore, for the purposes of this planning report an ERC of 1.12 gpm will be used for assessing the District's present and future water supply needs.

The District could request a reduction in the State-mandated requirement to provide 3.39 gpm per acre equivalent for residential irrigating. However, the likelihood of having a reduction approved by the State is low for several reasons. In the past few years of drought, the District has seen increases in water use because of the unavailability of secondary sources of irrigation water. There are no restrictions on outdoor water use in this system other than user rates and conservation efforts. Many homes will not irrigate outdoors with culinary water unless secondary water is unavailable. In other words, the system has to be able to supply outdoor water even if it is not used most of the time. Also, future growth will require more water per home because new houses generally do not have access to secondary irrigation water and will use culinary water for lawns and gardens. The District has and will continue to evaluate its usage patterns on a regular basis in order to maintain adequate water supplies for its users. The District identified in its 1997 Master Plan that they would need additional water supply in 2003 based on actual usage and DDW requirements. Data in this report demonstrate that this is the case even with the reduced ERC flow requirement of 1.12 gpm.

Table II-2 shows the number of connections and ERCs the District is obligated to serve. Those the District are obligated to serve include all existing connections and those who have purchased connections for future construction. The ERC calculations are from 2002 water usage data and State mandated requirements. The average ERC per connection type is established by comparing actual water usage. For example, the average industrial connection uses 2.68 times the amount of an average residential connection and is assigned an ERC value of 2.68 and would need 3 gpm water supply.

The existing system has a capacity to serve 600 ERCs. The system currently has a total of 599 connections (equating to 675 ERCs) that are in use plus an additional 57 connections (equating to 61 ERCs) that have been purchased but are not presently in use. Therefore the District has an immediate need to develop additional supply for 136 ERCs to meet its current obligations and a long-term need to develop additional supply to meet its 25-year planning projections.

Table II-1 Duchesne County Upper Country Water Improvement District ERCs.

<b>Connection Type (Average ERC per Connection Type)</b>	<b>Existing Connections (ERCs<sup>1</sup>)</b>	<b>Connections Purchased (ERCs), but not in use</b>	<b>Total ERCs Obligated to Serve</b>
Residential(1.00)	513 (513)	31 (31)	544
Commercial(2.54)	17 (43)	0 (0)	43
Industrial(2.68)	23 (61)	0 (0)	61
Institutional(1.92)	15 (29)	0 (0)	29
Stock/Property(1.19)	18 (21)	26 (31)	52
Ute Tribe(0.55)	13 (7)	0 (0)	7
Totals	599 (675)	57 (61)	736
Original State Approval	600 (600)		600
<b>Deficiencies</b>	<b>- (75)</b>	<b>- (61)</b>	<b>136</b>

<sup>1</sup> One ERC = 1.12 gpm for peak supply

**f. Water Usage**

The District maintains several different records on its water usage for different reasons. Each water connection has a meter which is read and recorded on a regular basis. This is done mostly for billing purposes but is also used for monitoring and planning. The District also has two “master meters” at their two 500,000 gallon water tanks. These meters provide total water usage values for State of Utah Division of Water Rights records. This data can also be used for planning, evaluating peak demands, evaluating individual connection meter accuracy, and evaluating leakage and loss at a system-wide level.

**i. Usage History**

Table II-3 shows the water usage records as maintained by the District on a yearly basis for the past five years. Several factors can contribute to differences between total metered usage values and master meter values. These could include leakage, un-metered water use from fire hydrants (fire, flushing, water theft), freeze protection flows, meter accuracy (599 individual versus 2 master meters), rounding due to dates meters were read (599 individual versus 2 master meters), recorder

errors, and others. It is interesting to note that there is not a clear pattern of differences. The average difference between the two metered values over the past five years is three percent. The difference is relatively low compared to other PWSs in the State.

Table II-2 Duchesne County Upper Country Water Improvement District Annual Water Usage

Year	ERCs <sup>1</sup>	Annual Supply Required by State (ac-ft)	Total Individual Metered Usage (ac-ft)	System Wide Master Meters (af-ft)	Percent Difference
1998	612	440	196 <sup>2</sup>	202	3.4
1999	626	450	251	283	12.8
2000	640	460	293	283	-3.3
2001	655	471	319	334	4.9
2002	675	486	334 <sup>2</sup>	324	-2.8
Original System Approval	600	519			

<sup>1</sup> One ERC = 1.12 gpm for peak supply and 0.72 ac-ft per year (0.44 gpm) for average supply

<sup>2</sup> One or more of the individual values in monthly usage records were considered unlikely values because they were several orders of magnitude higher or lower than expected. Average values for that month in other years were used instead.

Figure II-3 shows the monthly water usage for 2002 based on total metered usage. Attached in Appendix A are the District's monthly usage records from 1994 to present. The graph shows several different items. The first is the *2002 Actual Usage*. During the month of July, the District used its entire allotted water supply from Springs #1 & 2 while still maintaining the mitigation bypass flows. They averaged 450 gpm usage from the spring over the whole month while peaking at 531 gpm for two weeks during that month. 531 gpm is the maximum flow available from the springs. The second is the *Average Usage* over the year. The third is the *Obligated Conn. Projected Usage*; this is the monthly average flowrate of water that would have been used had all of the connections the District is obligated to serve been connected. The fourth line shows the *Permitted Spring Flow* that is available for the District's water system. The *DDW ERC Reqr. Actual Conn.* line is the amount of flow that the DDW expects the District to have in their water sources to maintain the number of ERCs that are connected.

# Water Usage Summary 2002

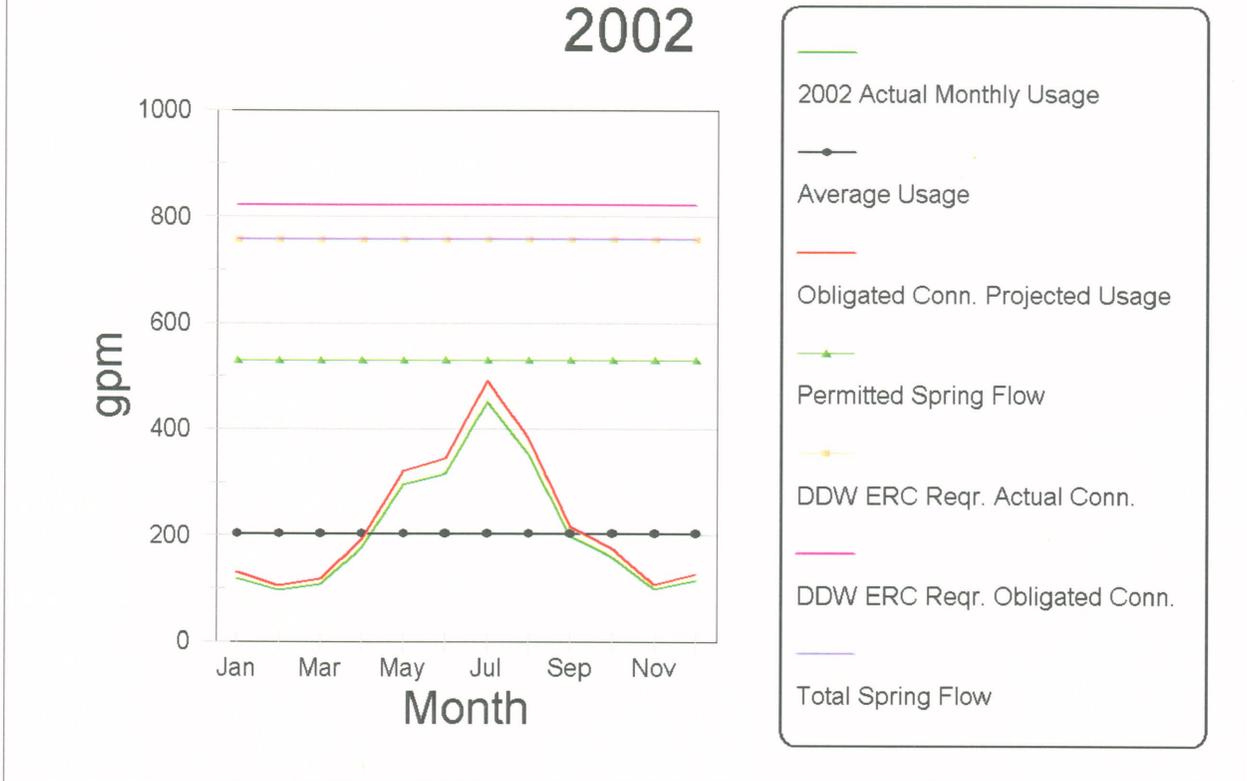


Figure II-3 2002 Water Usage Summary

The *DDW ERC Req. Obligated Conn.* line shows the flow for the ERCs the DDW would expect for the District to serve all of its obligated connections. The *Total Spring Flow* line is the total spring flow as measured by the District and Horrocks Engineers personnel at various times, most recently February 2003. The difference between the *Total Spring Flow* and the *Permitted Spring Flow* is the mitigation bypass flow required by the Forest Service. The graph shows that the District is using its maximum allotment to serve its existing connections and cannot meet its obligation to serve any of its obligated or new connections without additional water supply.

The total allowable flow rate from the springs is used only during the hottest portions of the summer months. During those months when demand is less than the available flows for the system, the unused water is bypassed with mitigation flows. The District has only used the total allowable flow

rate from the springs in July of 2002 and has never before reached that amount. Total DDW requirements for connected users matches the total flow rate of the springs. This point is exactly where the District expected to be when planning for growth in the 1997 Master Plan, and that is when they began the process of developing a new water supply.

**g. Population Projections**

Population projections are critical to PWS planning. They help determine when system improvements are needed to keep abreast with user demands and State-mandated ERC requirements. When these projections are made, the PWS can then begin planning to provide needed improvements before they become critical issues. They can also prepare for the financial burden of needed improvements by generating additional funds through taxes or user fees or by seeking alternative funding sources through various private, federal, or State programs.

**i. Planning Period**

The standard planning period for a PWS Water Resources Master Plan is typically 20 to 30 years. Typically, a PWS will update its master plan every 5 to 10 years. The State of Utah has projected out even further for water resources. The State recommends that all PWSs prepare master plans and requires master plans for certain funding applications. Most planning periods for PWSs are 20 to 30 years because they correlate to funding sources requirements and repayment periods. The District has several funding loans to pay off and most will end around the year 2030. Therefore, the District has chosen a 25-year planning period.

**ii. Demographics**

The District is located in the northern portion of the Uinta Basin of Utah. It is a rural area with farming and ranching as the primary occupation. The growth projections in this area are somewhat smaller than the urban areas in the State of Utah. The Governor's Office of Planning and Budget has projections for population growth throughout Utah. They have projected growth rates of between 0.23 and 1.41 percent per year in Duchesne County during the District's 25-year planning period. Actual growth rates of ERCs in the District have ranged from 1.32 to 2.96 percent per year over the last several years with an average of 2.24 percent. A linear regression of past growth in ERC's was performed with excellent correlation. This regression was extended to project ERC growth through the planning period. This method is conservative because it estimates higher growth

than the State has projected for Duchesne County. This is expected because there is typically greater growth in areas with a PWS in place.

### **iii. Projected Water Usage**

Figure II-4 shows the water use projections for the planning period compared to the present available water in the system. The bottom line shows the permitted water supply for use by the District within its existing system. The other lines show the projected water use and DDW requirements over the 25-year planning period. The projected peak water use gets closer to the DDW requirements as more new homes are built that do not have access to secondary irrigation water for outdoor use. It is assumed that all new ERCs will irrigate a full 0.25 acres while the average ERC today irrigates 0.16 acres. The DDW requirements are based on 1.12 gpm per ERC. It is projected the District will need 1,124 gpm for peak daily usage and 1,161 gpm to meet the State-mandated ERC requirements.

### **h. Conclusion**

The District has allocated all of the water it is permitted from the Cow Canyon Spring #1 and # 2 during peak demand as allowed by the Forest Service Special Use Permit. The District can no longer add connections to its system because it cannot supply any more peak demand. Currently a moratorium is in place on selling connections and the District has turned away many applicants. Additionally, the District cannot provide service to all of its obligated connections due to lack of available peak water supply. Therefore, the District must develop additional water supplies to meet both the short-term and long-term needs of its tax-paying users and to maintain compliance with ERC requirements mandated by the State.

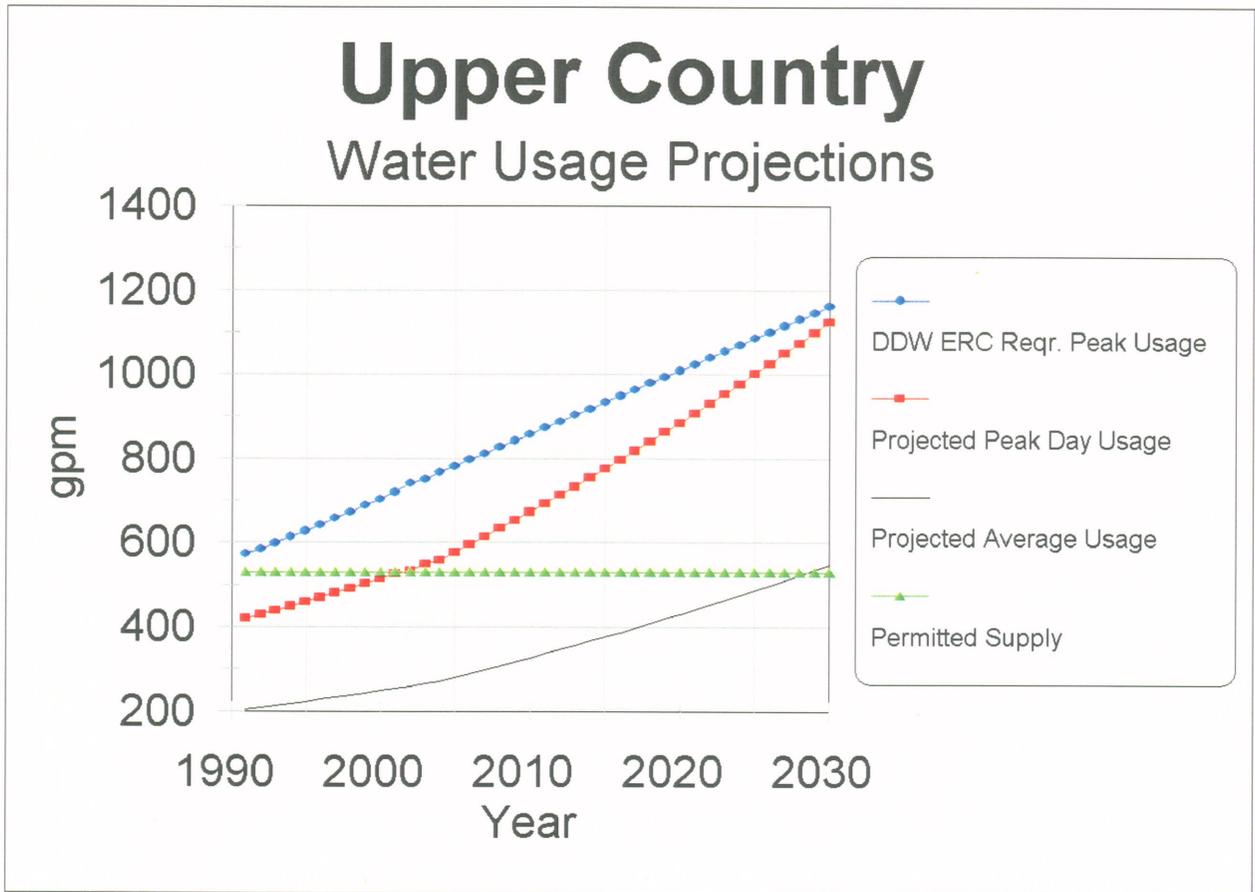


Figure II-4 Water Usage Projections

### 3. WATER SUPPLY ALTERNATIVES

The following sections discuss various alternatives for addressing the District's need to develop additional water supplies that will meet their present and future demands. They include No Action, Conservation, Un-used Permitted Flow Storage, Mitigation Bypass Usage, Spring #3 Development, Wells, and Surface Water Treatment. Each alternative will be discussed and evaluated according to cost, feasibility, and environmental consequences.

**a. No Action**

The no action alternative would leave the District right where it is at present. The District would remain over-appropriated on its water supply and unable to meet either its short-term or long-term PWS service needs. The District would also remain out of compliance with State-mandated ERC requirements. The District would not be able to add any more connections or serve any more people. In fact, the District would not be able to serve all the people they are obligated to serve. Many people have purchased connections for use in the future and may want to connect at any time. In addition to this concern is the fact that the District is a taxing authority and collects taxes from land owners within the District. The District is obligated to provide reasonable service to all participating land owners within the District. If the District cannot meet the service demands for its obligated connections, the State could assume control of the water system and take all necessary measures to meet the required service demand. All costs would be passed on to the District's users.

No significant environmental impacts would result from this alternative, although there would be significant socio-economic effects. The up front cost of this alternative is zero, but the potential costs in loss of tax and usage revenue, legal challenges, connection buy back, tax refunds, and land owners withdrawing from the District would be significant. Therefore the no action alternative is not recommended.

**b. Conservation**

As mentioned previously, the District already maintains an aggressive conservation effort through public education and graduated water rates. The success of these measures is evident in water usage data. For example, the average water usage per ERCs in the winter months is around 0.19 gpm compared to around 0.28 to 0.35 gpm in other communities Horrocks Engineers has studied. If additional conservation measures were successful in saving 10 percent of water use, the effect would be to extend water supply by approximately 3 years or provide enough water to serve all of its obligated connections. Obtaining an additional 10 percent or greater reduction in use from conservation is possible and highly recommended but does not provide a long term solution to growth. Figure III-1 shows the affect a 10 percent reduction of water usage would have on the water supply compared to projected needs. The figure also shows the affect of a 20 percent reductions in DDW requirements. A reduction of this magnitude is not likely as noted earlier in the report nor does it help meet the District's long term needs. It is only shown here for comparison. This reduction would only be temporary because the projected use will exceed the DDW requirements in future years.

# Effects of 10% Conservation

## Water Usage Projections

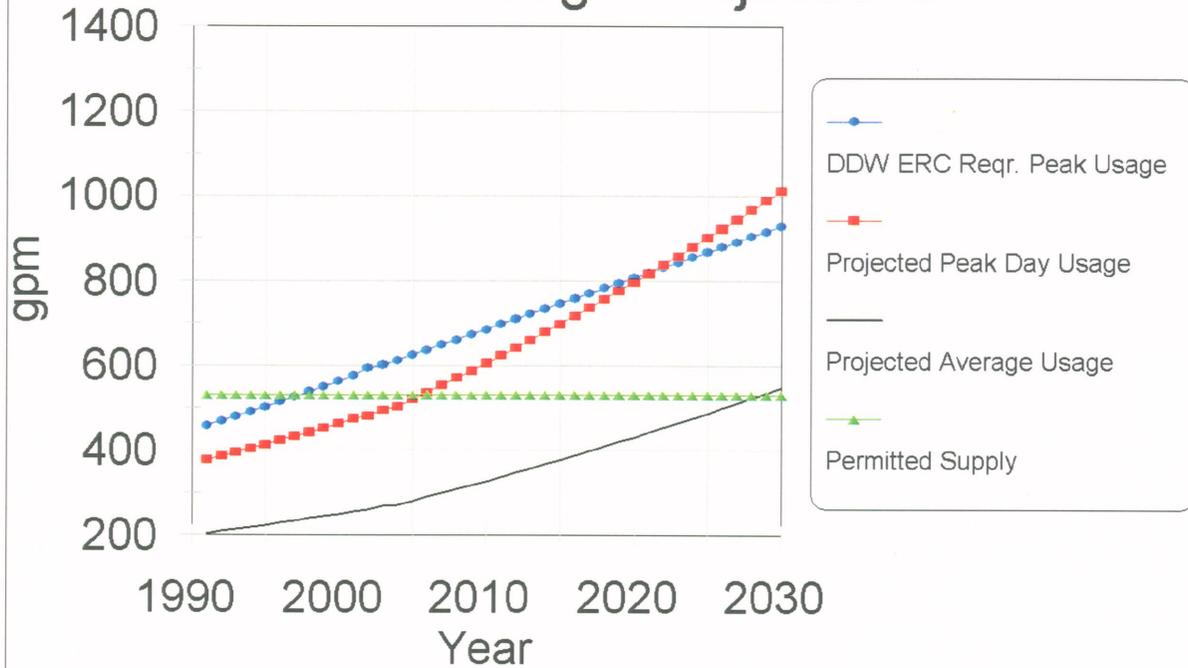


Figure III-1 Effects of Conservation on Water Supply

Another area where water could be conserved is in leakage and un-metered water losses. There is always a certain amount of water lost to leakage and other losses. As noted before, the system is relatively new and has few physical problems. Older systems often leak more because of aging infrastructure. Also note that the difference in measured flow between the master meters and total metered use is around 3 percent which is relatively small considering the geographic size of the District's service area of 104 square miles. If water loss could be reduced to zero, the effect would be to extend the water supply approximately 1 year. Bringing water losses down to zero is considered unlikely.

Another method of conserving water would be for the District to purchase water saving devices for all residences in the District. Toilets consume the largest percentage of indoor water use at 27 percent on average (Utah Division of Water Resources). Low flow toilets could save half of that amount. The amount of indoor water used by the District averages around 237 gallons per day per ERC or 68 gallons per person. If all 600 residential connections were given a \$100 low flow toilet the water savings would amount to 14.5 gpm or three percent reduction in water use and would provide for approximately one years worth of growth. The total cost would be near \$60,000 or \$4,600 per new ERC capacity conserved. Other water savings devices like shower heads and washing machines would either not provide significant water savings for future growth or would cost much more per new connection than low flow toilets.

No significant environmental impacts would result from this alternative, although there would be significant socio-economic effects because it would not meet the District's long-term need. Costs for this alternative are not addressed because of the difficulty of determining costs and the likelihood that additional conservation measures would be significant enough to meet the District's long-term planning needs.

**c. Un-used Permitted Flow Storage**

The District is permitted to utilize approximately 531 gpm from Cow Canyon Springs # 1 and # 2 while bypassing a minimum of 112 gpm from each spring to maintain the downstream channels. The District only utilizes the full 531 gpm of permitted flow during times of high summer usage. During other times of the year, the un-used flow is allowed to flow down its historical channels. Approximately half of the permitted flow or 350 ac-ft (114 million gallons) is un-used. This un-used flow could support an additional 600 connections if it could be stored for later use. It is not economically feasible for the District to construct culinary grade storage for that amount of water (\$15 to 20 million based on recent construction projects); and even if it was, the water quality could not be maintained for the eight month storage period because of stagnant water. Also, the DDW will not allow the use of excess storage to supplement an insufficient water supply. In other words, culinary grade storage is not an acceptable supply alternative according to DDW rules.

The only other option would be to construct surface water storage but the water would then have to be treated before use or a delivery system constructed to supply the outdoor irrigation requirements of the District. Treatment costs are discussed in section g. As mentioned in the system description, the Dry Gulch Irrigation company already stores the District's unused water

Reservoir to be delivered to its users through the Ditch system. Additional water rights would not be required under this option.

This alternative would provide enough water for the District's projected water usage for approximately 35 years and would bring the District into compliance with the State-mandated requirements for the 25-year planning period. However, both the construction costs and long-term operation and maintenance costs are prohibitive. The environmental impacts would likely be limited to a construction area large enough to create a 114 million gallon storage facility and water treatment plant or separate delivery system. The un-used permitted flow storage alternative is not recommended.

**a. Mitigation Bypass Usage**

The District is permitted to utilize approximately 531 gpm from Cow Canyon Springs # 1 and # 2 while bypassing a minimum of 112 gpm from each spring to maintain the downstream channels. Full utilization of the existing developed springs would add 225 gpm to the District's water supply. Figure III-2 shows the available supply compared to the projected usage and the State-mandated ERC requirements. This alternative would provide enough water for the District's projected water usage for approximately 11 years, but would only bring the District into full compliance with the State-mandated requirements for one year. Current water rights would be sufficient for this alternative.

There is minimal financial cost associated with this alternative. The environmental impacts would be of the loss of the stream channel and riparian habitats that are currently maintained by the mitigation bypass flows. These environmental losses would have to be mitigated elsewhere. The downside to this alternative is that it would not fulfill the State-mandated requirements for more than a year. The District would need to proceed with planning for other water sources and funding immediately in order to maintain water service to its current and future users. The very short-term gain does not warrant the environmental loss if better alternatives are available.

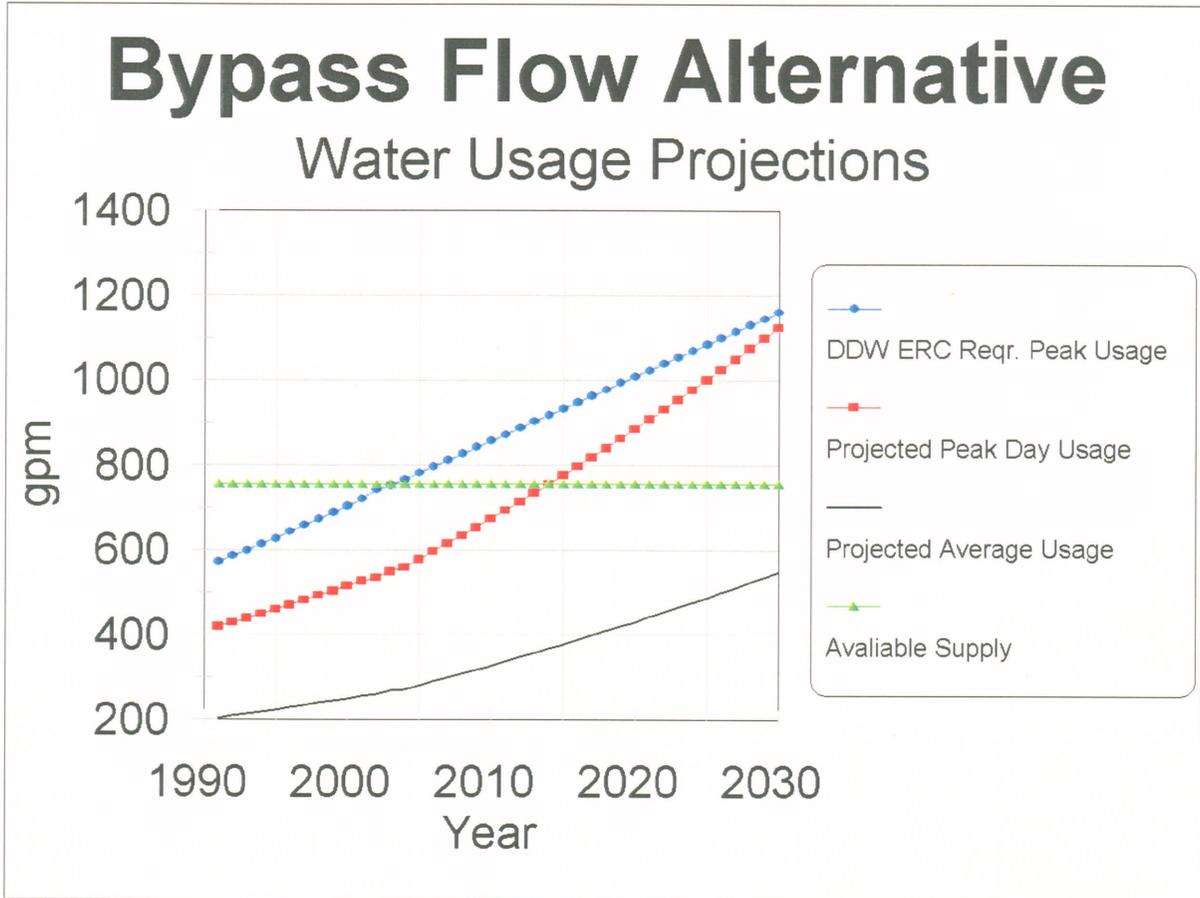


Figure III-2 Effects of Bypass Flows on Water Supply

**b. Cow Canyon Spring #3**

Development of water from Cow Canyon Spring #3 would supply the most amount of benefit for the least amount of cost. The District expected to need additional water sources in the future and designed the system so that Spring #3 could be added with minimal effort and disruption to the surrounding environment. Construction requirements would be limited to developing the spring and connecting to the transmission line located directly adjacent to the spring area. Less than 7,700 square feet of wetlands and spring overflow channel would be directly impacted by the development of Spring #3.

The design of the spring diversion would include bypass flows to maintain the downstream portions of the spring channels and wetland areas as a measure to avoid/minimize indirect impacts. A mitigation plan would be developed to replace the direct loss of wetland and aquatic habitats such that there would be no net loss of these resources. Yellowstone River flows would not be impacted because the same method of flow replacement would continue under the agreement the District has with Moon Lake Water Users to replace the flow from the hydroelectric project which is located immediately upstream of the Cow Canyon Springs. Development of the third spring would add an additional 450 gpm to the system. Figure III-3 shows the available water compared to the projected usage and ERC requirements if the Cow Canyon Spring #3 alternative is developed. This alternative would allow the District to maintain high quality water service to its users and allow them to plan for the development of other sources of water in the future when existing bonds are retired. This alternative would not require any additional chemical or electrical usage.

This alternative would provide enough water for the District's projected peak daily usage for 21 years; and it would bring the District into compliance with the State-mandated ERC requirements for 15 years. Current water rights are adequate for 10 years at which time the District will be required to purchase additional DGIC water shares and transfer the water right to the springs. Money from impact fees can be collected during this period to purchase these shares. Development of the third spring will not impair any prior water rights.

The District realizes that they will need new water supplies in 15 years or will be required to put another moratorium on new connections. To address this the District would maintain and improve its water conservation program and research new options for water supply to be implemented within 15 years. The District will identify these options early on to enable them to begin to collect impact fees toward these improvements. They project to have an additional \$2,000,000 in bonding capacity in nine years and \$2,500,000 in ten years.

The cost to develop the spring is estimated to be around \$72,000 construction costs with only around \$1,000 a year for operations and maintenance. The cost per new connection would be around \$175 per ERC capacity developed. The District has been collecting impact fees for the past several years to develop a new water source and has the money to complete these improvements without bonding.

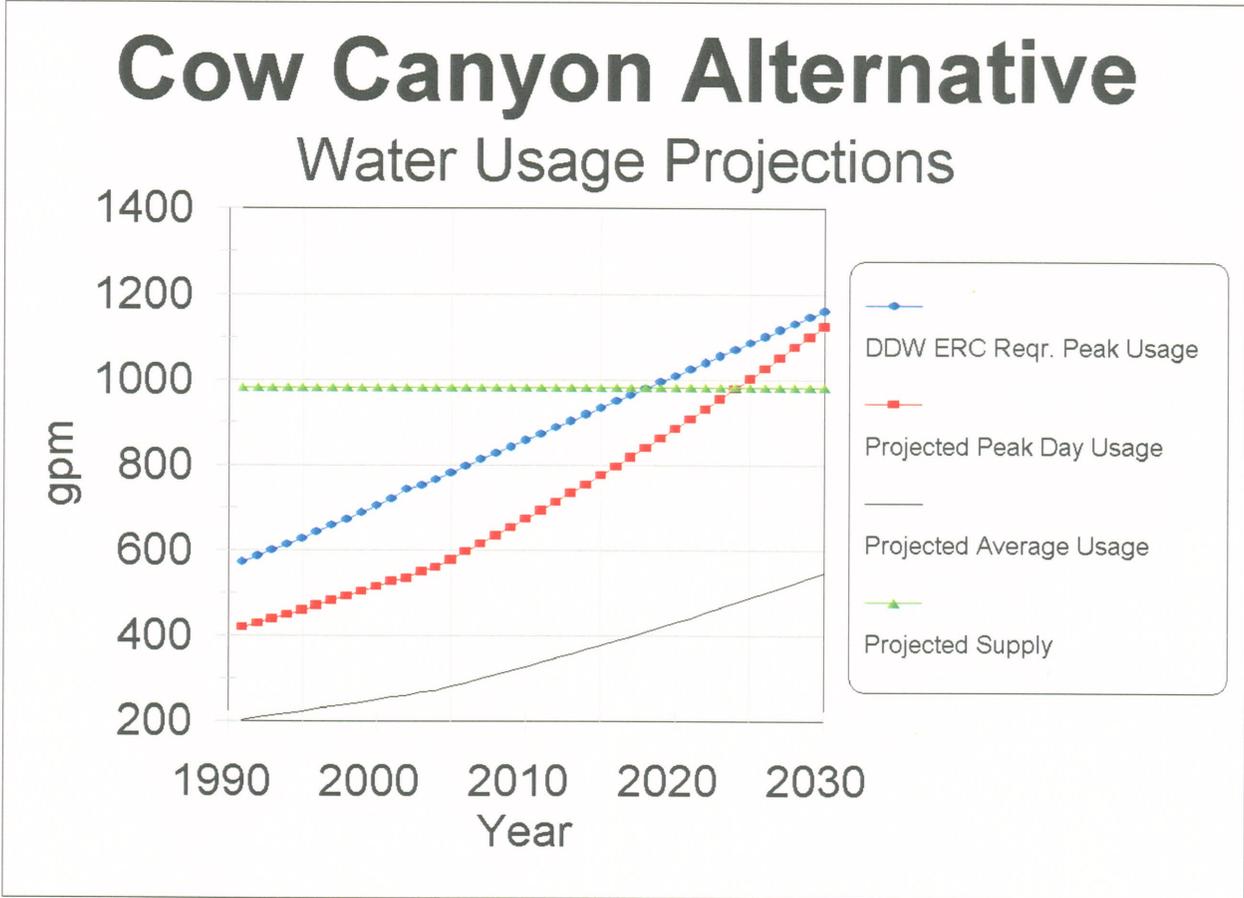


Figure III-3 Effects of Spring #3 on Water Supply

**c. Wells**

Developing wells is another alternative that was evaluated. There are two principal aquifer options in this area. The first is the surface alluvium aquifer which is generally 200-feet deep or less. This aquifer is recharged by surface infiltration from streams, ditches, precipitation, and flow from the underlying bedrock aquifer. The underlying bedrock aquifer is recharged from bedrock flow from the Unita Mountains to the north. Neither aquifer has yielded significant quantities of water to wells in the past. A typical large well in this area would produce 150 gpm.

The aquifer concerns in this area are significant. The surface aquifer is very shallow and subject

to contamination as well as fluctuations due to drought and other water use. The deeper aquifer has water quality concerns due to the type of rock it travels through (USGS T.P. 62 1978). In fact, the biggest reason the District was formed in the first place was because a large percentage of the wells in the area were drying up and or having water quality concerns. All of the homes in the District obtained water from wells before the District was formed. Approximately 50 percent of those were experiencing significant degradation of water supply and or quality (Environmental Assessment, Sitex Environmental, Inc, 1991). In fact, the Town of Altamont which had wells for their water supply could only run the wells intermittently because of low water levels. These same wells are dry again during the current drought. Some of the original residential wells are still being used for irrigation and the District understands that some of these are again experiencing problems in this drought although the number and percentage has not been determined. Of the last seven connections added to the District, six were existing homes that were experiencing problems with their wells.

Assuming a suitable ground water aquifer could be found with regard to both yield and quality, it would take approximately two years to get a new well approved, designed, drilled, and equipt for use at a cost of approximately \$300,000 each. This does not include the cost to purchase land and source protection easements. In addition, it would cost approximately \$40,000 to develop a hydrogeologic report that would identify suitable well sites. Three or more typical wells would be needed to extend the water supply by an equal amount as the Cow Canyon Spring #3 alternative. Annual operation and maintenance costs including electricity would be around \$35,000 per year, assuming that there would be no significant water treatment costs. Total costs for this alternative could range from \$1 to 1.5 million. The capital cost would be around \$2,200 per new ERC capacity developed. In addition, the District would have to locate and purchase water rights to be transferred to the wells.

This alternative would provide enough water for the District's projected peak day water usage for approximately 21 years and would bring the District into compliance with the State-mandated requirements for 15 years.

The District would have to bond for the money to construct new wells and raise user rates to cover bond payments and O&M. As noted, the District already has some of the highest water rates in the State of Utah. Environmental impacts would probably be limited to the individual construction areas for the well development sites and the utility corridors that would connect the wells to the main system. The District's water needs are immediate and current bonds are already a large part of annual budgets; therefore, developing wells are not recommended.

#### **d. Surface Water Treatment**

Surface water treatment is the last alternative discussed in this report. Its principal flaws are the capital cost to construct; time to put into operation; and annual O&M costs. The capital cost of a 650 gpd facility would be between \$1,500,000 and \$2,000,000 while the annual O&M costs would be between \$60,000 and \$125,000 depending on the yearly operation time. These cost are comparable to other communities in the area that own and operate water treatment facilities. This option would take at least a year or possibly two to get approvals, design, and construct the facility. The capital cost per new connection would be between \$2,500 and \$3,400 per new ERC capacity developed.

The water treatment alternative would also require a means to obtain the water to treat either through storage in adjacent reservoirs or stream diversions. Potential storage sites would be Moon Lake, Starvation Reservoir, or Sand Wash Reservoir. Property would need to be purchased and approvals obtained to construct the facilities. All but the Moon Lake option would require pumping stations and pipelines to be built to deliver the water to the District. The other option of stream diversions is problematic because of several factors. The environmental concerns of constructing a new diversion on the Yellowstone or other stream would be significant. Overall costs for storage, pumping, transmission and diversion have not been evaluated because of the overriding cost of a treatment plant its self.

This alternative would provide enough water for the District's projected peak day water usage for approximately 30 years and would bring the District into compliance with the State-mandated requirements for 28 years.

The District would have to bond for the money to construct treatment facilities and raise usage rates to cover bond payments and O&M. As noted, the District already has some of the highest water rates in the State of Utah. The alternative of constructing a surface water treatment plant is not recommended.

## **2. CONCLUSION**

The District has been planning for and pursuing options for supplying additional water to its users and for projected growth. This process started in 1997 with their water master plan update. All of the alternatives listed were discussed and evaluated but never written in a formal report. They identified Cow Canyon Springs #3 early on as the most cost effective and beneficial to its customers

and have been pursuing that option since that time. In the mean time, they have run out of peak water supply for future users and are concerned about maintaining high quality water service. Development of the third Cow Canyon Springs will provide the water needed through most of the planning period and can be paid for under existing revenues without additional burdens on their customers. Cow Canyon Spring development is the preferred alternative.

## REFERENCES

Hood, James W., F. K. Fields. 1978. Water Resources of the Northern Uinta Basin Area, Utah and Colorado, With Special Emphasis on Ground-Water Supply. Technical Publication No. 62. State of Utah, Department of Natural Resources, Division of Water Rights. Salt Lake City, Utah.

Rural Water Association Of Utah. 2002. Water Rate Comparison. Alpine, Utah.

SITEX Environmental, Inc. 1992. Duchesne County Upper Country Water Improvement District Culinary Water Project Environmental Assessment. Salt Lake City, Utah.

Utah Division of Administrative Rules. 2001. R309-510 Minimum Sizing Requirements. Salt Lake City, Utah.

## **Appendix A**

Response to Comments Memo

Altamont Well Operator Notes

Monthly Water Use Records

Division of Drinking Water Concurrence Letter

Rural Water Association of Utah User Fee Survey

Cash Flow/Constraint Model

**To:** Clark Tucker  
Forest Service



**From:** John E. Schiess, P.E. *JES*

*MEMORANDUM*

**Date:** August 5, 2003

**Subject:** Response to Comments on Upper Country's Water Resources Planning Report

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The following memo is to discuss the comments raised by the Army Corps of Engineers and EPA on the Draft Water Resources Planning Report for Upper Country Water Improvement District. The first 16 responses are directed toward the Corps of Engineer's numerical comments. Many of those responses will address the concerns of EPA. Other comments are added after. This memo will discuss changes in the report, clarify points in the report or address why no changes are made. Please contact me if you have any questions.

1. The report was updated to standardize the units to make it easier to understand and compare.
2. The Town of Altamont well is dry and was also dry in 2002 and 2001 (see attached operator notes). This well is turned on yearly to evaluate the equipment and sometimes used to supplement surface irrigation in the Town of Altamont. The nature of the District's system is such that the greatest need for water comes in dry years when the District's users do not have access to surface irrigation water. This corresponds to the time when the well is dry. The well by its self or in conjunction with other alternatives will not provide the District with the water supply required for the immediate need or future growth precisely because it is unavailable during times of greatest need.
3. Attached is the District's water use records by month for the past 10 years.
4. We believe the District can get additional water rights from CUP through Starvation Reservoir. The problem is not water rights but the ability to deliver the water to the District's system. This was addressed previously in the report. The Bureau of Reclamation is currently using the District's 25 ac-ft allotment from CUP for in-stream flows and other purposes and is paying the District's yearly capital payment and yearly assessment on that water. The CUP does not allow anyone to sell their allotment at a profit but will allow others to use it at cost.
5. The Forest Service holds 5.89 ac-ft of water right in the upper Cow Canyon Spring that has already been developed. 3.64 ac-ft of that is for stock watering and is fulfilled by the bypass flows already existing. The balance is delivered to Forest Service facilities through the District's water system. Development of the third spring will not affect the Forest Services water right.
6. The District's three lower water tanks are a 150,000 gallon, a 100,000 gallon and a 50,000 gallon tank.

7. The typical industrial user on this system are the area dairy farmers, a gas company, electric company and a few welders/contractors who dedicate less than one percent of usage for outdoor irrigation. The potential for conservation savings from outdoor irrigation from this segment of the District is limited. Overall conservation from the industrial users is encouraged but the effect will be limited as well. Industrial users represent nine percent of the water use and it would take a 33 percent reduction in their water use to extend the existing capacity for one years growth. I believe that the established conservation rates will encourage conservation because of the nature of the industrial user in this predominantly agricultural based economy.
8. Residential rates are also discussed and similar conclusions reached. The State of Utah Median Adjusted Gross Income (MAGI) in 2001 was \$32,476 while the same for the District is \$28,181. The average Utahan pays 1.25 percent of their MAGI for water while the District users will pay 1.5 percent of their MAGI for water. This does not include the cost many District users will pay for their secondary irrigation water or pumping of private wells. I believe the District's conservation schedule will encourage conservation.
9. The District will need to develop another water supply even if significant conservation were successful. Conserving 10 percent of the current water use would extend the current supply for three years. Saving an other 10 percent would extend it another three years. The District needs to conserve at least 10 percent just to take care of its connections that it is obligated to serve aside from natural growth in the area. Storage options in conjunction with conservation are addressed more fully later in this memo and in the report.
10. Data for reduction in requirements from the State Division of Drinking Water (DDW) should be collected and possibly used for a reduction in requirement. The data submitted must show that the peak day usage can be determined with a 90 percent confidence level or that the District has a 10 percent cushion with any reduction. At best the DDW could lower the requirements to what the District is currently using plus ten percent which is still more than the permitted spring flow. This would not help the District meet its obligation to the DDW or those who purchased connections but have not hooked on to the system. If the District was successful in reducing demand by 10 percent, additional reductions in requirement could be requested but this would take several years of data while the District could not add any more connections. It is mentioned in the report that the DDW has issued very few reductions in requirement across the State and looks at these very closely. It is my professional opinion that obtaining the reduction needed by the District to meet its obligation is unlikely.
11. There is no exact "safely factor" used by the DDW. They have set minimum standards for the State as a whole which they felt would give most systems a margin of error. Some of the water systems we consult for use more while some use less. To their credit, the District has shown that they use considerably less than what the DDW requires. If the DDW were to issue a reduction in requirement, at best it would be what the District is currently using plus 10 percent. This would still leave the District non-compliant.
12. The DDW will not punish the District for trying to make improvements to increase supply or decrease demand. On the contrary, the DDW highly recommends both. The DDW will punish the District if it does nothing to make improvements. What the DDW

will not do is give reductions in requirements at a less than 90 percent confidence level. Attached to this memo is the DDW concurrence letter concerning the Draft Water Resources Planning Report

13. The move from 2020 gpd (1.4 gpm) to 1613 gpd (1.12 gpm) supply requirement is based on irrigated acreage and not a reduction in the DDW requirements per acre. The District originally estimated that each ERC would have 0.25 acres of irrigation. From the start the District's users have been motivated to conserve culinary water because of the cost. If they had surface irrigation rights, that is what they used instead of culinary because it cost less. Culinary water is used only if surface irrigation is unavailable. During time of drought, surface water is only available for part of the summer. The District settled on 1613 gpd because they felt the average irrigated acreage per ERC was closer to 0.16 acres than 0.25 acres. The DDW has accepted this analysis and the District's water usage verifies that assumption. During dry years the District's outdoor use per acre matches the DDW requirements but is less during wet years. Users in the District consistently use less indoor water than the DDW requirements. All calculations in the report are based on a source flow requirement of 1613 gpd (1.12 gpm) per ERC and not 2020 gpd (1.4 gpm).
14. Here again the current water usage verifies the assumption of 0.16 irrigated acres per ERC on average. The secondary water sources are from the local irrigation companies who supply surface water through ditches and a few people who use old domestic wells for irrigation. The District purchased shares in a local irrigation company and the company allows the District to divert these water rights from Cow Canyon Springs. Any unused water right is stored in Moon Lake and distributed to company shareholders through the ditch system. All of the water rights within Cow Canyon Spring are used for the benefit of share holders and District users. Culinary demand would be greater if these excess rights were not stored and used in the ditch system. This is evident in years of drought because culinary water use increases when the surface waters are used up.
15. Putting restrictions on outdoor water use could save water. Here again the question is how much and would it put off the need to develop new water sources. The answer is that conservation is encouraged and beneficial but would only put off the need for new supplies a limited amount of time.
16. All of these options would be possible and all may be beneficial but the fact still remains that the District has an immediate need. It would be difficult for the District to set different requirement on future users because of their taxing status. As noted in the report State law requires that all tax payers within the District must be afforded equal access to District's services.
17. Storage costs were determined based on actual costs to construct culinary grade storage tanks on projects we have designed. Current DDW rules state that the District shall have sufficient source flow rate to meet the peak day usage. Storage and source are analyzed separately to determine if they meet their separate requirements. The DDW has never allowed extra storage to supplement an inadequate supply of water and staff at the DDW have told me that they would not do so in this case. While this is not specifically stated in the rules, they will provide a letter to that effect if required. Pumping and storing water from wells presents the same problems with maintaining water quality and source requirements that the excess spring water does. The Altamont well cannot be considered

- as part of the reliable supply of the District because it is not available during the peak usage day.
18. The conservation water rate structure was obviously designed to conserve water during the summer months when the need is the greatest. Domestic winter use hardly ever reaches the level where they pay more than the \$30 base fee. Conservation of water in the winter is encouraged and a good idea but does not improve the District current situation. The conservation schedule does encourage both indoor and outdoor water savings when the demand is the greatest.
  19. One way the District could encourage water conservation would be to purchase water saving devices for District users. Toilets consume the largest percentage of indoor water use at 27 percent on average. Low flow toilets could save half of that amount compared to standard toilets. The amount of indoor water used by the District averages around 237 gallons per day or 68 gallons per person. If all 600 residential connections were given a \$162 low flow toilet the water savings would amount to 14.5 gpm and would provide for approximately one years worth of growth. The total cost would be near \$100,000 or \$7,500 per new connection. Conversely the cost per new connection to develop the third Cow Canyon Spring would be around \$125 per connection. Other water savings devises like shower heads and washing machines would either not provide significant water savings for future growth or would cost much more per new connection than low flow toilets.
  20. One significant change to the report can be seen in section 2.a. and figures II-1 and II-2. The original draft stated that the flow from the springs was measured at a little more than 675 gpm of which 450 was available for use by the District. The full flow was not referenced in an attempt to be conservative and concerns about the accuracy of water measurements. Figure II-2 showed that the full flow of 450 gpm was utilized during July of 2002. This was a monthly average and not peak day suggesting that some days were less than 450 and some were greater than 450 gpm. This would not be possible if the total permitted flow were only 450 gpm. I have reviewed the measurement techniques and the fact that the full permitted flow was utilized for approximately two weeks in the month of July 2002 to determine that the measured flow is accurate. I have updated the report to reflect the full flow as measured at 756 gpm with 531 gpm available for use by the District. Figure II-2 now shows the permitted flow being more than the monthly average of 450 gpm. This does not change the fact that the full permitted flow was utilized and that the District has allocated its entire capacity in the developed springs. The other figures were updated as well and an additional line shown that illustrates peak day projections versus peak month projections as shown previously.
- 

cc: File

## Flow Tests Altamont Well

June 20, 2001 Start pumping well at  
8:15 A.M. at 130 gal. @ min  
Pump down at 8:27 A.M. KC

Sept. 11, 2001 Start pumping at 2:10 P.M.  
at about 120 gal. @ min.  
Pump down at 2:18 P.M. KC

May 15, 02 Start pumping at 10:15 A.M.  
at 85 gal. @ min.  
Pump down by 10:19 A.M. KC

Aug 28, 2002 Start pumping at 4:12 P.M.  
85 gal. @ min.  
Pump down by 4:15 P.M. KC

March 10, 2003 Start pumping at 1:00 P.M.  
85 gal. @ min.  
Pump down at 1:06 P.M. KC

Aug. 4, 2003 start pumping at 4:32 PM  
85 gal. @ min.  
• Pump down by 4:41 P.M. KC

<b>UPPER COUNTRY WATER - FLOW TOTALS 2003</b>						
<b>MONTH</b>	<b>ALTONAH</b>		<b>MTN HOME</b>		<b>OTHER</b>	
	<b>METER</b>	<b>USAGE</b>	<b>METER</b>	<b>USAGE</b>		<b>USAGE</b>
2002 - DEC	537,504,000		186,296,000			
2003 - JAN	541,875,000	4,371,000	187,298,000	1,002,000	3,000	3,000
<b>TOTAL JANUARY USAGE</b>					<b>5,376,000</b>	
2003 - FEB	545,259,000	3,384,000	189,184,000	1,886,000	6,000	3,000
<b>TOTAL FEBRUARY USAGE</b>					<b>5,273,000</b>	
2003 - MAR	548,758,000	3,499,000	190,822,000	1,638,000	9,000	3,000
<b>TOTAL MARCH USAGE</b>					<b>5,140,000</b>	
2003 - APR	552,894,000	4,136,000	192,913,000	2,091,000	12,000	3,000
<b>TOTAL APRIL USAGE</b>					<b>6,230,000</b>	
2003 - MAY	559,410,000	6,516,000	195,085,000	2,172,000	31,000	19,000
<b>TOTAL MAY USAGE</b>					<b>8,707,000</b>	
2003 - JUNE	567,239,000	7,829,000	197,929,000	2,844,000	65,000	34,000
<b>TOTAL JUNE USAGE</b>					<b>10,707,000</b>	
2003 - JULY	577,642,000	10,403,000	203,111,000	5,182,000	150,000	85,000
<b>TOTAL JULY USAGE</b>					<b>15,670,000</b>	
2003 - AUG	585,920,000	8,278,000	206,909,000	3,798,000	243,000	93,000
<b>TOTAL AUGUST USAGE</b>					<b>12,169,000</b>	
2003 - SEPT	593,278,000	7,358,000	210,087,000	3,178,000	386,000	143,000
<b>TOTAL SEPTEMBER USAGE</b>					<b>10,679,000</b>	
2003 - OCT	598,463,000	5,185,000	213,130,000	3,043,000	439,000	53,000
<b>TOTAL OCTOBER USAGE</b>					<b>8,281,000</b>	
2003 - NOV	601,048,000	2,585,000	215,295,000	2,165,000	443,000	4,000
<b>TOTAL NOVEMBER USAGE</b>					<b>4,754,000</b>	
2003 - DEC	603,835,000	2,787,000	217,331,000	2,036,000	447,000	4,000
<b>TOTAL DECEMBER USAGE</b>					<b>4,827,000</b>	
<b>2003 YEAR TO DATE TOTAL USAGE</b>					<b>97,813,000</b>	

## UPPER COUNTRY WATER - FLOW TOTALS 2002

MONTH	ALTONAH		MTN HOME		OTHER	
	METER	USAGE	METER	USAGE		USAGE
2001 - DEC	463,910,000		152,203,000			
2002 - JAN	467,391,000	3,481,000	153,679,000	1,476,000	2,000	2,000
<b>TOTAL JANUARY USAGE</b>					4,959,000	
2002 - FEB	471,532,000	4,141,000	156,141,000	2,462,000	4,000	2,000
<b>TOTAL FEBRUARY USAGE</b>					4,143,000	
2002 - MAR	475,173,000	3,641,000	158,186,000	2,045,000	5,000	1,000
<b>TOTAL MARCH USAGE</b>					5,687,000	
2002 - APR	481,007,000	5,834,000	160,897,000	2,711,000	14,000	9,000
<b>TOTAL APRIL USAGE</b>					8,554,000	
2002 - MAY	489,181,000	8,174,000	164,282,000	3,385,000	62,000	48,000
<b>TOTAL MAY USAGE</b>					11,607,000	
2002 - JUN	499,791,000	10,610,000	168,848,000	4,566,000	197,000	135,000
<b>TOTAL JUNE USAGE</b>					15,311,000	
2002 - JULY	510,838,000	11,047,000	174,653,000	5,805,000	323,000	126,000
<b>TOTAL JULY USAGE</b>					16,978,000	
2002 - AUG	520,397,000	9,559,000	179,096,000	4,443,000	456,000	133,000
<b>TOTAL AUGUST USAGE</b>					14,135,000	
2002 - SEPT	526,179,000	5,782,000	181,590,000	2,494,000	520,000	64,000
<b>TOTAL SEPTEMBER USAGE</b>					8,340,000	
2002 - OCT	530,406,000	4,227,000	183,408,000	1,818,000	598,000	78,000
<b>TOTAL OCTOBER USAGE</b>					6,123,000	
2002 - NOV	533,368,000	2,962,000	185,164,000	1,756,000	601,000	3,000
<b>TOTAL NOVEMBER USAGE</b>					4,721,000	
2002 - DEC	537,504,000	4,136,000	186,296,000	1,132,000	604,000	3,000
<b>TOTAL DECEMBER USAGE</b>					5,271,000	
<b>2002 YEAR TO DATE TOTAL USAGE</b>					105,829,000	

FLOW TOTALS  
2001

Upper Country Water  
P.O. Box 406  
Altamont, Ut 84001  
(435)454-3513

MONTH	ALTONAH METER	USAGE	MTN. HOME METER	USAGE	OTHER	USAGE
DEC-00	386,660,000		121,050,000		0	0
JAN-2001	394,698,000	8,038,000	122,906,000	1,856,000	0	0
TOTAL JANUARY USAGE					9,894,000	
FEB-2001	400,505,000	5,807,000	123,545,000	639,000		
TOTAL FEBRUARY USAGE					6,446,000	
MAR-2001	404,408,000	3,903,000	125,212,000	1,667,000		0
TOTAL FEBRUARY/MARCH USAGE					5,570,000	
APR-2001	408,460,000	4,052,000	127,836,000	2,624,000		0
TOTAL APRIL USAGE					6,676,000	
MAY-2001	416,572,000	8,112,000	131,352,000	3,516,000	88,000	88,000
TOTAL MAY USAGE					11,716,000	
JUN-2001	425,176,000	8,604,000	135,511,000	4,159,000	133,000	45,000
TOTAL JUNE USAGE					12,808,000	
JULY-2001	435,985,000	10,809,000	139,872,000	4,361,000	254,000	121,000
TOTAL JULY USAGE					15,291,000	
AUG-2001	445,630,000	9,645,000	144,589,000	4,717,000	388,000	134,000
TOTAL AUGUST USAGE					14,496,000	
SEPT-2001	452,554,000	6,924,000	147,567,000	2,978,000	520,000	132,000
TOTAL SEPTEMBER USAGE					10,034,000	
OCT-2001	457,578,000	5,024,000	149,695,000	2,128,000	573,000	53,000
TOTAL OCTOBER USAGE					7,205,000	
NOV-2001	460,539,000	2,961,000	150,806,000	1,111,000	576,000	3,000
TOTAL NOVEMBER USAGE					4,075,000	
DEC-2001	463,910,000	3,371,000	152,203,000	1,397,000	578,000	2,000
TOTAL DECEMBER USAGE					4,770,000	
2001 YEAR TO DATE TOTAL USAGE					108,981,000	

DATE SUBMITTED: January 2, 2002

LOW TOTALS  
2000

Upper Country Water  
P.O. Box 406  
Altamont, Ut 84001  
(435)454-3513

MONTH	ALTONAH METER	USAGE	MTN. HOME METER	USAGE	OTHER	USAGE
DEC-99	317,100,000		98,570,000		0	0
JAN-2000	320,290,000	3,190,000	99,490,000	920,000	0	0
TOTAL JANUARY USAGE					4,110,000	
FEB-2000	320,290,000	0	99,490,000	0		
TOTAL FEBRUARY USAGE					0	
MAR-2000	328,720,000	8,430,000	101,160,000	1,670,000		0
TOTAL FEBRUARY/MARCH USAGE					10,100,000	
APR-2000	334,270,000	5,550,000	102,350,000	1,190,000		0
TOTAL APRIL USAGE					6,740,000	
MAY-2000	341,260,000	6,990,000	105,160,000	2,810,000		0
TOTAL MAY USAGE					9,800,000	
JUN-2000	349,370,000	8,110,000	108,450,000	3,290,000	20,000	20,000
TOTAL JUNE USAGE					11,420,000	
JULY-2000	359,340,000	9,970,000	112,260,000	3,810,000	70,000	50,000
TOTAL JULY USAGE					13,830,000	
AUG-2000	368,560,000	9,220,000	115,250,000	2,990,000	160,000	90,000
TOTAL AUGUST USAGE					12,300,000	
SEPT-2000	374,580,000	6,020,000	117,370,000	2,120,000	190,000	30,000
TOTAL SEPTEMBER USAGE					8,170,000	
OCT-2000	379,440,000	4,860,000	119,250,000	1,880,000	240,000	50,000
TOTAL OCTOBER USAGE					6,790,000	
NOV-2000	383,220,000	3,780,000	120,240,000	990,000	280,000	40,000
TOTAL NOVEMBER USAGE					4,810,000	
DEC-2000	386,660,000	3,440,000	121,050,000	810,000	280,000	0
TOTAL DECEMBER USAGE					4,250,000	
2000 YEAR TO DATE TOTAL USAGE					92,320,000	

DATE SUBMITTED: January 3, 2001

LOW TOTALS  
1999

Upper Country Water  
P.O. Box 406  
Altamont, Ut 84001  
(435)454-3513

MONTH	ALTONAH METER	USAGE	MTN. HOME METER	USAGE	OTHER	USAGE
DEC-99	242,640,000		81,030,000		0	0
JAN-99	245,850,000	3,210,000	82,080,000	1,050,000	0	0
TOTAL JANUARY USAGE					4,260,000	
FEB-99	248,890,000	3,040,000	83,090,000	1,010,000	0	0
TOTAL FEBRUARY USAGE					4,050,000	
MAR-99	252,100,000	3,210,000	84,280,000	1,190,000	0	0
TOTAL MARCH USAGE					4,400,000	
APR-99	257,810,000	5,710,000	85,400,000	1,120,000	10,000	10,000
TOTAL APRIL USAGE					6,840,000	
MAY-99	262,520,000	4,710,000	86,470,000	1,070,000	40,000	30,000
TOTAL MAY USAGE					5,810,000	
JUN-99	271,960,000	9,440,000	88,790,000	2,320,000	80,000	40,000
TOTAL JUNE USAGE					11,800,000	
JULY-99	282,670,000	10,710,000	91,320,000	2,530,000	120,000	40,000
TOTAL JULY USAGE					13,280,000	
AUG-99	293,060,000	10,390,000	93,430,000	2,110,000	170,000	50,000
TOTAL AUGUST USAGE					12,550,000	
SEPT-99	299,490,000	6,430,000	95,280,000	1,850,000	260,000	90,000
TOTAL SEPTEMBER USAGE					8,370,000	
OCT-99	307,910,000	8,420,000	96,620,000	1,340,000	320,000	60,000
TOTAL OCTOBER USAGE					9,820,000	
NOV-99	313,690,000	5,780,000	97,630,000	1,010,000	340,000	20,000
TOTAL NOVEMBER USAGE					6,810,000	
DEC-99	317,100,000	3,410,000	98,570,000	940,000	340,000	0
TOTAL DECEMBER USAGE					4,350,000	
1999 YEAR TO DATE TOTAL USAGE					92,340,000	

DATE SUBMITTED: January 5, 2000

FLOW TOTALS  
1998

Upper Country Water  
P.O. Box 406  
Altamont, Ut 84001  
(801)454-3513

MONTH	ALTONAH METER	USAGE	MTN. HOME METER	USAGE	OTHER	USAGE
DEC-97	197,390,000	0	61,100,000	0	0	0
JAN-98	197,390,000	0	61,100,000	0	0	0
TOTAL JANUARY USAGE					0	
FEB-98	197,390,000	0	61,100,000	0	0	0
TOTAL FEBRUARY USAGE					0	
MAR-98	203,510,000	6,120,000	63,150,000	2,050,000	65,000	65,000
TOTAL JANUARY-MARCH USAGE					8,235,000	
APR-98	204,960,000	1,450,000	64,100,000	950,000	77,000	12,000
TOTAL APRIL USAGE					2,412,000	
MAY-98	207,640,000	2,680,000	65,340,000	1,240,000	122,000	45,000
TOTAL MAY USAGE					3,965,000	
JUN-98	213,060,000	5,420,000	68,450,000	3,110,000	252,000	130,000
TOTAL JUNE USAGE					8,660,000	
JULY-98	220,870,000	7,810,000	72,510,000	4,060,000	462,000	210,000
TOTAL JULY USAGE					12,080,000	
AUG-98	227,990,000	7,120,000	74,690,000	2,180,000	602,000	140,000
TOTAL AUGUST USAGE					9,440,000	
SEPT-98	232,770,000	4,780,000	77,600,000	2,910,000	712,000	110,000
TOTAL SEPTEMBER USAGE					7,800,000	
OCT-98	236,570,000	3,800,000	78,920,000	1,320,000	760,000	48,000
TOTAL OCTOBER USAGE					5,168,000	
NOV/DEC-98	242,640,000	6,070,000	81,030,000	2,110,000	760,000	0
TOTAL NOVEMBER/DECEMBER USAGE					8,180,000	
1998 YEAR TO DATE TOTAL USAGE					65,940,000	

DATE SUBMITTED: January 5, 1999

LOW TOTALS  
1997

Upper Country Water  
P.O. Box 406  
Altamont, Ut 84001  
(801)454-3513

MONTH	ALTONAH METER	USAGE	MTN. HOME METER	USAGE	OTHER	USAGE
DEC-96	155,696,000	0	50,636,000	0	0	0
JAN-97	155,696,000	0	50,636,000	0	0	0
TOTAL JANUARY USAGE					0	
FEB-97	155,696,000	0	50,636,000	0	0	0
TOTAL FEBRUARY USAGE					0	
MAR-97	160,700,000	5,004,000	51,830,000	1,194,000	79,000	79,000
TOTAL JANUARY-MARCH USAGE					6,277,000	
APR-97	164,050,000	3,350,000	52,680,000	850,000	99,000	20,000
TOTAL APRIL USAGE					4,220,000	
MAY-97	168,790,000	4,740,000	53,470,000	790,000	139,000	40,000
TOTAL MAY USAGE					5,570,000	
JUN-97	174,420,000	5,630,000	54,390,000	920,000	234,000	95,000
TOTAL JUNE USAGE					6,645,000	
JULY-97	181,570,000	7,150,000	56,060,000	1,670,000	394,000	160,000
TOTAL JULY USAGE					8,980,000	
AUG-97	181,570,000	0	56,060,000	0	394,000	0
TOTAL AUGUST USAGE					0	
SEPT-97	191,820,000	10,250,000	59,100,000	3,040,000	844,000	450,000
TOTAL SEPTEMBER USAGE					13,740,000	
OCT-97	194,270,000	2,450,000	60,110,000	1,010,000	879,000	35,000
TOTAL OCTOBER USAGE					3,495,000	
NOV-97	194,270,000	0	60,110,000	0	879,000	0
TOTAL NOVEMBER USAGE					0	
DEC-97	197,390,000	3,120,000	61,100,000	990,000	959,000	80,000
TOTAL NOVEMBER-DECEMBER USAGE					4,190,000	
1997 YEAR TO DATE TOTAL USAGE					53,117,000	

DATE SUBMITTED: 1-5-98

1996

## UPPER COUNTRY WATER FLOW TOTALS

MONTH	ALTONAH METER	USAGE	MTN. HOME METER	USAGE	OTHER	USAGE
DEC-95	102,000,000	0	35,510,000	0	0	0
JAN-96	102,000,000	0	35,510,000	0	0	0
TOTAL JANUARY USAGE					0	
FEB-96	102,000,000	0	35,510,000	0	0	0
TOTAL FEBRUARY USAGE					0	
MAR-96	111,850,000	9,850,000	36,160,000	650,000	15,000	15,000
TOTAL JANUARY-MARCH USAGE					10,515,000	
APR-96	116,110,000	4,260,000	36,630,000	470,000	17,000	2,000
TOTAL APRIL USAGE					4,732,000	
MAY-96	120,850,000	4,740,000	38,700,000	2,070,000	27,000	10,000
TOTAL MAY USAGE					6,820,000	
JUN-96	126,500,000	5,650,000	40,950,000	2,250,000	67,000	40,000
TOTAL JUNE USAGE					7,940,000	
JULY-96	133,000,000	6,500,000	43,400,000	2,450,000	122,000	55,000
TOTAL JULY USAGE					9,005,000	
AUG-96	140,620,000	7,620,000	46,170,000	2,770,000	282,000	160,000
TOTAL AUGUST USAGE					10,550,000	
SEPT-96	147,530,000	6,910,000	48,230,000	2,060,000	452,000	170,000
TOTAL SEPTEMBER USAGE					9,140,000	
OCT-96	152,360,000	4,830,000	49,840,000	1,610,000	692,000	240,000
TOTAL OCTOBER USAGE					6,680,000	
NOV-96	152,360,000	0	49,840,000	0	692,000	0
TOTAL NOVEMBER USAGE					0	
DEC-96	155,696,000	3,336,000	50,636,000	796,000	692,000	0
TOTAL NOVEMBER-DECEMBER USAGE					4,132,000	
1996 YEAR TO DATE TOTAL USAGE					69,514,000	

1995

## UPPER COUNTRY WATER FLOW TOTALS

MONTH	ALTONAH METER	USAGE	MTN. HOME METER	USAGE	OTHER	USAGE
DEC-94	62,415,000		23,490,000			
JAN-95	63,720,000	1,305,000	23,575,000	85,000	0	0
TOTAL JANUARY USAGE					1,390,000	
FEB-95	66,035,000	2,315,000	23,855,000	280,000	0	
TOTAL FEBRUARY USAGE					2,595,000	
MAR-95	68,610,000	2,575,000	24,180,000	325,000	0	0
TOTAL MARCH USAGE					2,900,000	
APR-95	72,460,000	3,850,000	25,745,000	1,565,000	0	0
TOTAL APRIL USAGE					5,415,000	
MAY-95	76,010,000	3,550,000	27,195,000	1,450,000	0	0
TOTAL MAY USAGE					5,000,000	
JUN-95	80,050,000	4,040,000	28,350,000	1,155,000	15,000	15,000
TOTAL JUNE USAGE					5,210,000	
JULY-95	84,800,000	4,750,000	30,590,000	2,240,000	40,000	25,000
TOTAL JULY USAGE					7,015,000	
AUG-95	89,300,000	4,500,000	32,800,000	2,210,000	90,000	50,000
TOTAL AUGUST USAGE					6,760,000	
SEPT-95	93,400,000	4,100,000	34,300,000	1,500,000	130,000	40,000
TOTAL SEPTEMBER USAGE					5,640,000	
OCT-95	96,850,000	3,450,000	35,200,000	900,000	140,000	10,000
TOTAL OCTOBER USAGE					4,360,000	
NOV-95	99,800,000	2,950,000	35,350,000	150,000	140,000	0
TOTAL NOVEMBER USAGE					3,100,000	
DEC-95	102,000,000	2,200,000	35,510,000	160,000	140,000	0
TOTAL DECEMBER USAGE					2,360,000	
1995 YEAR TO DATE TOTAL USAGE					51,745,000	

Sent 4-11-96

1994

## UPPER COUNTRY WATER FLOW TOTALS

MONTH	ALTONA METER	USAGE	MTN. HOME METER	USAGE	OTHER	USAGE
DEC-93	23,430,000		8,970,000			
JAN-94	23,430,000	0	8,970,000	0	0	0
TOTAL JANUARY USAGE						0
FEB-94	23,430,000	0	8,970,000	0	0	0
TOTAL FEBRUARY USAGE						0
MAR-94	27,300,000	3,870,000	9,560,000	590,000	0	0
TOTAL JAN, FEB, MAR USAGE						4,460,000
APR-94	30,350,000	3,050,000	10,590,000	1,030,000	0	0
TOTAL APRIL USAGE						4,080,000
MAY-94	34,430,000	4,080,000	12,230,000	1,640,000	0	0
TOTAL MAY USAGE						5,720,000
JUN-94	39,390,000	4,960,000	12,700,000	470,000	21,000	21,000
TOTAL JUNE USAGE						5,451,000
JULY-94	43,950,000	4,560,000	14,900,000	2,200,000	39,000	18,000
TOTAL JULY USAGE						6,778,000
AUG-94	50,250,000	6,300,000	17,740,000	2,840,000	123,000	84,000
TOTAL AUGUST USAGE						9,224,000
SEPT-94	57,000,000	6,750,000	20,750,000	3,010,000	171,000	48,000
TOTAL SEPTEMBER USAGE						9,808,000
OCT-94	58,620,000	1,620,000	22,425,000	1,675,000	217,000	46,000
TOTAL OCTOBER USAGE						3,341,000
NOV-94	60,995,000	2,375,000	23,400,000	975,000	232,000	15,000
TOTAL NOVEMBER USAGE						3,365,000
DEC-94	62,415,000	1,420,000	23,490,000	90,000	232,000	0
TOTAL DECEMBER USAGE						1,510,000
1994 YEAR TO DATE TOTAL USAGE						53,737,000

Sent 2-1-95



# Utah!

*Where ideas connect*

Department of Environmental Quality  
Division of Drinking Water

150 North 1950 West  
P.O. Box 144830  
Salt Lake City, Utah 84114-4830  
(801) 536-4200  
(801) 536-4211 Fax  
(801) 536-4414 T.D.D.  
[drinkingwater.utah.gov](http://drinkingwater.utah.gov)

Michael O. Leavitt  
Governor

Dianne R. Nielson, Ph.D.  
Executive Director

Kevin W. Brown, P.E.  
Director

HORROCKS ENG.

JUL 22 2003

RECEIVED

July 18, 2003

Kirk Christensen  
Upper Country Water Improvement District  
P.O. Box 406  
Altamont, UT 84001

Subject: Review of Water Resource Planning Report for Upper Country Water Improvement District, System #07059, File #06227

On June 30, 2003, we received a copy of the above referenced water resource report from your consultant, John Scheiss with Horrocks Engineering. As mentioned in the report, the District has a special use permit from the Forest Service to use two springs, Cow Canyon Springs one and two. The combined yield of the two springs was originally estimated at 900 gpm (2.0 cfs). However, the combined yield has decreased to about 675 gpm (1.5 cfs) recently due to drought conditions. We understand that the special use permit requires the District to bypass 0.5 cfs of the combined spring yield for mitigation and allows diversion of the remaining 1.0 cfs for the drinking water system.

The District estimated that the average residential landowner within its service would irrigate 0.25 acres of land. Public Drinking Water Rules require that sources are capable of meeting a peak day demand, 800 gallons per day (gpd) for indoor use and 4,880 gpd for irrigating each acre within map zone 3. Thus, the peak day demand for one residential connection is calculated to be 2020 gpd (1.40 gpm). The report indicates that the actual residential peak day demand is less than this calculated demand. The report states that the 1997 and more recent water use data justify a peak day demand of 1,613 gpd, 80 percent of the calculated demand. The report also pointed out that 70 percent of the existing connections have access to secondary water for outdoor use. It was concluded that the average irrigated land per existing residential connection is closer to 0.16 acres rather than 0.25 acres.

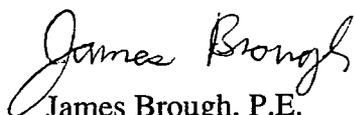
The report pointed out that the drought has reduced the availability of secondary water for irrigation and that new connections generally do not have access to secondary water for outdoor use. Thus, an upward trend is expected in the average drinking water use per residential connection. We understand that the District will continue to track and evaluate the water use demand on a regular basis. We strongly encourage this effort for future planning.

We understand that the District has 599 existing connections, 513 are residential and 86 are non-residential. The 86 non-residential connections use the same amount of water as 162 residential connections. The report concludes that the District has 675 existing equivalent residential connections (ERCs). This District also has obligations to serve an additional 56 purchased connections, 31 residential and 26 stock/property connections. The July 2002 water use data shows that the District used the entire allotted water supply from Springs 1 and 2. **Thus, it is apparent that the District's current source capacity (i.e., yields from Cow Springs 1 & 2) is insufficient to meet the peak day water demands for both the existing and purchased connections.** As mentioned in the report, the District has a water conservation program that is implemented through public education and water rates.

The report discusses several alternatives the District has regarding meeting future water demands and developing additional source capacity. The alternatives include: 1) no action, 2) conservation, 3) large reservoirs to store unused permitted flows, 4) mitigation bypass usage, 5) Cow Canyon Spring #3 development, 6) well development, and 7) surface water treatment of reservoirs. We encourage all conservation efforts. The report concludes that option of developing Cow Canyon Spring #3 is the most beneficial with the least amount of cost and disturbance. **We concur with the conclusion that the development of Cow Canyon Spring #3 is a favorable alternative.**

If you have any questions or need further assistance, please call me at (801) 536-4150.

Sincerely,



James Brough, P.E.  
Environmental Engineer

cc: John Scheiss, P.E., Horrocks Engineers, One West Main, P.O. Box 377, American Fork City, UT 84003  
Clark Tucker, Roosevelt Ranger District, P.O. Box 127, Roosevelt, UT 84066  
Bob Leak, P.E., Regional Engineer, State & County Building, 152 E., 100 N., Vernal, UT 84078-2126  
Daren Brown, Tri-County Health Department

\* = Updated 6-01 & 8-02

County	District	System	Drinking Water						Wastewater			Irrigation			
			Usable Number of Connections	Impact Fee	Connection Fee	Monthly Base Users Rate	Minimum Gallonage	Average Rate per 1000 gal.	Number of Res Sewer Conn.	Sewer Impact Fee	Sewer Conn. Fee	Monthly Sewer Rate	Irrigation Type	Irrigation Rate per year	
Arizona	6	Fredonia	375	\$350		\$13.00	15,000		\$0.75						
Beaver	6	Beaver City	2700			\$13.00	12,000	\$0.60-\$0.90-\$1.25							
Beaver	6	Milford	650	\$894	\$450	\$18.00	10,000		\$0.95	483	\$598		100% Pres.	\$12.00	
Beaver	6	Minersville	308	\$1,250	Cost	\$15.25	10,500	\$0.30-\$0.50	273	\$429	\$29.00	50% Pres.	\$67.00		
Box Elder	1	Acme Water	286	Variable	\$1,600	\$10.00	25,000		\$0.40	237	\$2,500	\$7.50	Ditch	\$6.00	
Box Elder	1	Bear River City	260							241	\$4,000	\$7.50			
Box Elder	1	Brigham City	5212	\$340		\$7.00	7,000		\$0.90	5388	\$1,176	\$24.10			
Box Elder	1	Corinne	285	\$2,862	\$1,616	\$13.00	7,000	\$1.25-\$150	250	\$2,022	\$14.00	Ditch	\$36.00		
Box Elder	1	East Grouse Creek	47			\$500	\$15.00								
Box Elder	1	Elwood Town	225	\$0	\$2,500	\$15.00	20,000		\$0.50						
Box Elder	1	Garland	677	\$0	\$1,400	\$12.75	15,000		\$0.50	578	None	\$22.30			
Box Elder	1	Honeyville	405			\$2,000	\$16.00	30,000	\$0.50						
Box Elder	1	Mantua	235	\$1,977	\$475	\$18.00	10,000		\$0.85	203	\$1,149	\$31.00	Ditch		
Box Elder	1	Perry	813	\$2,030	\$580	\$15.00	10,000		\$0.95	788	\$1,795	\$11.50	60P/40D		
Box Elder	1	Plymouth	129			\$17.50	20,000		\$0.60						
Box Elder	1	Portage	82	\$750		\$15.00	30,000		\$1.00						
Box Elder	1	Riverside/N Grind	315		\$4,000	\$16.00	10,000		\$0.75	None			None		
Box Elder	1	South Willard	105	\$0	\$3,000	\$22.00	17,000		\$0.75	None			None		
Box Elder	1	Thatcher-Penrose	235			\$21.50	15,000		\$0.75						
Box Elder	1	Tremonton	1750	\$1,500	\$530	\$13.00	12,750		\$1.13	1300	\$750	\$22.50			
Box Elder	1	Ukon Water Co	317		\$400	\$15.00	12,000		\$1.00						
Box Elder	1	West Corinne	530		\$5,000	\$28.00	10,000		\$0.65	None			None		
Box Elder	1	Willard	447	\$950		\$17.50	25,000		\$0.25						
Cache	1	Benson Cul Wtr	510			\$28.00	15,000		\$0.75						
Cache	1	Hyde Park	843	\$1,000		\$29.00	10,000	\$0.50-\$1.00	686	\$1,711	\$25.00				
Cache	1	Hyrum	1680	Cost		\$10.00	10,000	\$0.45-\$0.65	1700	\$1,258	\$18.46	Pressure	\$10.10/mo		
Cache	1	Lewiston	653	\$1,750		\$14.00	12,000	\$0.42-\$0.60	214	\$1,250	\$11.00				
Cache	1	Logan	14026	\$900		\$8.95	3,000		\$0.55	12323	\$500	\$12.75			
Cache	1	Mendon	300	\$0	\$1,750	\$22.00	18,000		\$0.30	None			70% Pres.	\$14.25	
Cache	1	Millville	406	\$3,000	\$100	\$20.00	0		\$0.65	None			80% Ditch		
Cache	1	Newton	230	\$1,000	\$500	\$15.50	20,000		\$0.30	None			80% Pres.	\$10.00	
Cache	1	Nibley	595	\$1,000	\$1,095	\$7.50			\$0.80	None			20D/10P		
Cache	1	North Logan	1602	\$2,284	\$0	\$7.11	0		\$1.57	1533	\$737	\$17.85	25D/75P		
Cache	1	Paradise Town	240	\$2,050	\$1,485	\$24.00	10,000		\$1.40				90% Pres.		
Cache	1	Providence	1344	\$2,084	\$185	\$19.25	10,000	\$0.40-\$1.15	1244	\$1,266	\$27.65	Ditch	\$13.00		
Cache	1	Richmond	627	\$991	\$1,257	\$21.00	1,000		\$0.80	603	\$554	\$1,278	\$20.00	75% Pres.	
Cache	1	River Heights	510	\$1,720	\$586	\$25.50	8,333	\$0.40-\$0.55	475	\$1,193	\$11.00	60% Ditch			
Cache	1	Smithfield	2190	\$1,140	\$100	\$8.00	6,000		\$0.50	2119	\$540	\$21.75	55P/1D	\$60.00	
Cache	1	Wellsville	862	\$1,078	\$725	\$23.00	20,000	\$0.40-\$0.60	736	\$321	\$20.50	10% Pres.			
Carbon	5	Columbia		\$750		\$14.00	5,000		\$1.25		\$750	\$4.50			
Carbon	5	East Carbon	821	n/a	\$1,500	\$12.00	5,000		\$1.25	611	None	\$4.50	None		
Carbon	5	Helper	1200	\$0	\$300	\$12.00	10,000		\$1.95	960	\$0	\$16.50	20D/15P	Pending	
Carbon	5	Price	3837	\$0	\$700	\$14.99	0		\$1.50	3600	\$0	\$0	\$20.00	4% Ditch	
Carbon	5	Price River WID	2347			\$8.00	8,000		\$0.65						
Carbon	5	Scofield	100			\$12.00				100	\$750	\$7.00			
Carbon	5	Sunnyside	184		\$25	\$36.00	8,000		\$3.00	184	\$0	\$24.00	None		
Carbon	5	Wellington	700	\$0	\$1,150	\$31.00	1,000		\$1.95	600	\$0	\$17.25	100% Pres.	\$144.00	
Daggett	3	Daggett Co W/S	248	\$2,000	Actual	\$40.00	10,000		\$0.50	None					
Daggett	3	Flaming Gorge				\$27.50			\$1.50						
Daggett	3	Manila	435	Cost	\$800	\$20.00	12,000		\$0.75	385	\$500+cost	\$11.50	None		
Davis	2	Bountiful	10,053	\$1,241		\$5.50	5,000		\$0.80	8728	\$1,556	\$7.42	Pressure		
Davis	2	Centerville	3912	\$1,200	\$470	\$11.75	0	\$0.60-\$1.00-\$0.80	None				90% Pres.	\$60.00	
Davis	2	Central Davis Swr								9200	\$1,700	\$16.00			
Davis	2	Clearfield	6739	\$1,493	\$65	\$9.50	10,000	\$0.65-\$0.75	4552	\$473	\$11.40	None			
Davis	2	Clinton	2520	\$400		\$11.50	10,000		\$1.50	3301	\$1,725	\$8.50			
Davis	2	Farmington	2300	\$750		\$8.50	8,000		\$0.70	2951	\$1,700	\$17.17	60% Pres.		
Davis	2	Fruit Heights	1282	\$550		\$12.75	8,000		\$1.10	1241	\$1,785	\$14.22	100% Pres		
Davis	2	Kaysville	5436			\$10.00	10,000		\$1.00	4610	\$1,700	\$18.92			
Davis	2	North Salt Lake	1972	\$3,500	\$250	\$15.00	12,000	\$1.25-\$2.00	None				None		
Davis	2	So Davis Co WID	2008	\$0	\$850	\$9.00	9,000		\$0.85	None			100% Pres.	\$66.00	
Davis	2	South Weber	1274	\$1,207	\$180	\$10.75	8,000		\$1.00	1173	\$1,473	\$22.74			
Davis	2	Sunset	1644	\$0	\$400	\$11.10	10,000		\$0.40	1471	\$1,500	\$10.60	None		
Davis	2	Syracuse	3300	\$475	\$300	\$12.70	10,000		\$1.27	2864	\$0	\$8.05	100% Pres		
Davis	2	West Bountiful	1211		\$975	\$18.00	12,000		\$0.60						
Davis	2	West Point	1447	\$421	\$300	\$11.00	12,000		\$0.50	1705	\$317	\$11.50	100% Pres.	\$25.00	
Davis	2	Woods Cross	1750	\$1,968	\$45	\$8.00	8,000		\$1.00	None			90% Pres.		
Davis/Wbr	2	No Davis Unincorp								50,000	\$1,500	\$5.80			
Duchesne	3	Altamont								74		\$10.00	Ditch		
Duchesne	3	Duch Vly Trmt Pl	3			\$27.00									
Duchesne	3	Duchesne	698	\$0	\$1,500	\$19.50	10,000		\$0.85	513	\$1,000	\$11.50	95% Pres.	\$10.00	
Duchesne	3	Fruitland	337	\$4,000	\$500	\$30.00	1,000		\$3.00	None			None		
Duchesne	3	Johnson Wtr Dist	591	\$934	\$566	\$25.00	7,000		\$1.25						
Duchesne	3	Myton	204	\$0	\$500	\$18.00	12,000		\$1.00	180	\$500	\$18.00	20% Ditch		
Duchesne	3	Neola	200	\$1,500		\$21.50	8,000		\$1.19	150	\$500	\$9.50	None		
Duchesne	3	Roosevelt	1500	\$1,000		\$12.00	8,000		\$0.95	1500	\$1,200	\$18.00			
Duchesne	3	Tabiona	109		\$500	\$12.00	13,000		\$3.00	93	\$600	\$14.00	100% Pres	\$20.00	
Duchesne	3	Upper Country	650			\$30.00	10,000		\$0.50						
Emery	5	Castle Dale	579			\$7.00	10,000			590	\$700	\$19.18	Pressure		
Emery	5	Cleveland	181	\$350		\$7.50	15,000			170	\$650	\$19.18	Pressure		
Emery	5	Elmo	118	\$500		\$7.50			\$0.26	100	\$500	\$19.68	Pressure		

Seasonal rate →  
10th of April

\* = Updated 6-01 & 8-02

Drinking Water

Wastewater

Irrigation

County	District	System	Updated	Number of Connections	Impact Fee	Connection Fee	Monthly Base Users Rate	Minimum Gallonage	Average Rate per 1000 gal.	Number of Res Sewer Conn.	Sewer Impact Fee	Sewer Conn. Fee	Monthly Sewer Rate	Irrigation Type	Irrigation Rate per year
Emery	5	Ferron	*	681			\$9.00	10000	\$0.30	497	\$650		\$18.68		
Emery	5	Green River	*	450	\$1,500	\$600	\$11.50		\$1.50	400	\$1,800		\$18.50		
Emery	5	Huntington City	*	653		\$650	\$7.00	15000	\$0.60-\$1.75	555			\$4.00	100% Pres.	\$55.00
Emery	5	North Emery	*	455	\$0	\$1,350	\$20.00	10000	\$1.00-\$1.50						
Emery	5	Orangeville	*	434	\$0	\$7	\$8.00	12000	\$0.50-\$0.75	419	n/a		\$4.00	100% Pres.	
Garfield	6	Antimony	*	81	\$0	\$750	\$20.00	0			n/a				
Garfield	6	Boulder Farmstead	*	91		\$4,000	\$18.50	30000	\$1.00						
Garfield	6	Cannonville	*	123	\$2,750	\$1,250	\$26.50	20,000	\$2.00	None				100% Pres.	\$660.00
Garfield	6	Escalante	*	575	\$1,000	\$500	\$17.00	15,000	\$1.50-\$2.00	460	\$1,000		\$28.00		
Garfield	6	Hatch	*	91		\$1,000	\$17.00	10000	\$0.50					Ditch/Pres.	
Garfield	6	Henrieville	*	82	\$0	\$950	\$16.00							95% Pres.	\$30.00
Garfield	6	Panguitch	*	674	\$0	\$1,000	\$16.00	12000	\$1.00	665	\$2,000		\$23.00	85% Pres.	\$48.00
Garfield	6	Tropic	*	189	\$0	\$1,000	\$21.00	2,000	\$2.00	168	\$0		\$13.00		
Grand	5	Grand Wtr/Swr SA	*	1089	\$1,227	\$925	\$11.00	0	\$0.50-\$1.25	1103	\$1,655		\$22.00	10% Pres.	\$35.00
Grand	5	Moab	*	1775	\$478	\$825	\$5.54	2000	\$0.44-\$0.60	1261	\$1,303		\$18.65	None	
Grand	5	Thompson SSD	*	38	\$0	\$400	\$25.00	15000	\$0.40						
Iron	6	Brian Head	*	1199	\$1,400		\$25.00	3,000	\$1.00	1,199	\$873		\$18.00		
Iron	6	Cedar City	*	5407	\$1,200		\$13.00	0	\$0.48-\$0.60-\$1.20	4311	\$441		\$23.00		
Iron	6	Enoch	*	775	\$600		\$20.00	30,000	\$0.25-\$0.40	775			\$24.00	None	
Iron	6	Kanarraville	*	163	\$0	\$3,000	\$21.00	18000	\$1.50	0				100% Pres.	\$90.00
Iron	6	Meadows Ranches	*	120		\$1,500	\$21.00								
Iron	6	New Harmony	*	104			\$27.00	16,000	\$0.65						
Iron	6	Paragonah	*	236	\$500	\$500	\$15.00	10,000	\$0.20-\$1.00	None				Pressure	
Iron	6	Parowan	*	1077	\$450		\$9.50	5000	\$0.25	1137	\$648		\$22.00	100% Pres.	
Iron	6	Summit	*	72	\$1,000		\$11.50	30000	\$0.15	None					
Juab	4	Eureka	*	297			\$10.80			330	\$1,000		\$9.00	10% Ditch	
Juab	4	Levan	*	260			\$23.00	40000	\$0.75						
Juab	4	Mona	*	285	\$3,488	\$750	\$19.00	20000	\$0.42						
Juab	4	Nephi	*	1500	\$900		\$7.50	5000	\$0.60	1442	\$1,000		\$7.25	60% Pres.	
Juab	4	Rocky Ridge	*	38	\$0	\$1,000	\$50.00	20000	\$0.65						
Kane	6	Alton	*	56	\$2,500	\$1,500	\$22.00	10,000	\$2.20	None				100% Pres.	\$40.00
Kane	6	Church Wells	*	54	\$2,500		\$15.00	15,000	\$1.00	None					
Kane	6	Glen Canyon SSD	*	225	\$2,140	\$500	\$15.00	10000	\$1.15-\$2.00	None					
Kane	6	Glendale	*	206	\$0	\$2,500	\$28.00	12000	\$1.50						
Kane	6	Hilltop East	*	101		\$4,000	\$7.00								
Kane	6	Kanab	*	1556	\$2,378	\$40	\$25.00	10000	\$0.90	901	\$904		\$5.75	70% Pres.	
Kane	6	Long Valley SSD	*							365	\$1,000		\$11.75		
Kane	6	Orderville	*	290	\$0	\$750	\$15.00	15000	\$0.65	253		\$1,000	\$11.75	Pressure	
Kane	6	Strawberry Vly Mut	*	2	\$0	\$0	\$0.00	0	\$0.00	0	\$0		\$0.00		
Kane	6	Timber Trails	*	62			\$8.30								
Millard	4	Delta	*	1055	\$600		\$14.00	8,000	\$0.50	811	\$800		\$12.00	10% Ditch	
Millard	4	Deseret-Oasis	*	174			\$22.00	10,000	\$1.00						
Millard	4	Fillmore	*	915	\$710	\$1,650	\$15.00	10000	\$0.50	882		\$350	\$12.00	Pressure	
Millard	4	Hinckley	*	260	n/a	\$1,000	\$12.00	10,000	\$0.50	180	n/a		\$20.00	Ditch	
Millard	4	Holden	*	200	\$450		\$16.50	25000	\$0.50-\$5.00-\$7.50						
Millard	4	Kanosh	*	250	\$500		\$11.00	20000	\$0.25					80% Pres.	
Millard	4	Leamington	*	85	\$1,000		\$12.00	20000	\$0.60					Ditch	
Millard	4	Lynndyl	*	73	\$0	Cost	\$18.00	10000	\$0.75	0	\$0				
Millard	4	Meadow Cul Wtr	*	155			\$8.00	30000	\$0.30						
Millard	4	Oak City	*	233	\$2,700	\$1,200	\$20.00	1500	\$1.00-\$1.25						
Millard	4	Scipio	*	151			\$17.50	20,000	\$0.85						
Millard	4	Sherwood Shores	*	81	\$2,250		\$15.00	8000	\$0.50	None				None	
Morgan	2	Croydon	*	15			\$6.00	8,000	\$0.00					Ditch	
Morgan	2	Enterprise Estates	*	23	\$1,750	\$750	\$20.00	8,000	\$0.50	None				None	
Morgan	2	Highlands Wtr Co	*	247	\$0	\$2,500	\$12.00	6000	\$0.60-\$1.00				\$27.26	Ditch	
Morgan	2	Morgan	*	880	\$1,562	Cost+\$300	\$17.00	14000	\$0.85	855	\$550		\$18.75	27% Ditch	
Morgan	2	Mountain Green	*	21			\$12.00	12000	\$0.12	376	\$2,000		\$10.27		
Morgan	2	Richville Pipeline	*	48			\$18.00	10,000	\$1.00	0	\$0	\$0	\$0.00		
Morgan	2	Wilkinson Water	*	133			\$8.00								
Piute	4	Circleville	*	200			\$12.00	10,000	\$0.25						
Piute	4	Junction	*	150	\$310		\$15.00	15,000	\$0.40					90% Pipe	
Piute	4	Marysvale	*	323			\$13.00	20,000	\$0.35-\$0.50						
Rich	1	Bear Lake SSD	*	621	\$750		\$7.00	10,000	\$0.20	1235	\$2,250		\$11.00		
Rich	1	Garden City	*	580	\$206	\$1,500	\$14.00	15000	\$0.25						
Rich	1	Mountain Meadow	*	22			Free								
Rich	1	Randolph	*	197		\$1,000	\$16.00	15000	\$0.75						
Rich	1	Woodruff	*	60	\$1,000		\$10.00	1500	\$1.00						
Salt Lake	2	Alta	*	83	\$0	\$60	\$27.50	5000	\$2.50	22	\$0		\$33.34		
Salt Lake	2	Bluffdale	*	1130	\$2,200	\$300	\$12.00	10,000	\$0.72-\$1.20	1100	n/a		n/a	50D/50P	\$5.00
Salt Lake	2	Copperton WID	*	290	\$1,200		\$15.00	10,000	\$1.00-\$1.50					100%	
Salt Lake	2	Coltonwood ID	*							24000	\$1,830		\$6.00		
Salt Lake	2	Draper	*	2000	\$1,050		\$21.00	5,000	\$1.75		\$2,901		\$15.02		
Salt Lake	2	Granger Hunter	*	26,302	\$1,408	\$297	\$12.00	9000	\$0.95	25,000	\$2,245		\$11.00	None	
Salt Lake	2	Holiday Water Co	*	3800	\$500	\$1,570	\$10.00	7,000	\$0.85/\$1.10	None					
Salt Lake	2	Keams ID	*	11,800	\$1,652	\$0	\$10.00	10,000	\$1.10-\$1.20	11570	\$1,471		\$12.00		
Salt Lake	2	Magna Water Co	*	7200	\$2,023	Varies	\$10.80	6000	\$0.98-\$1.10	7200	\$1,543		\$14.10	None	
Salt Lake	2	Midvale	*	2882	\$1,000		\$8.95	6000	\$0.53	2259	\$600		\$10.97		
Salt Lake	2	Murray	*	9136	\$1,682	n/a	\$5.00	0	\$0.83	9,135	\$1,040		\$14.71		
Salt Lake	2	North Salt Lake	*	2084			\$7.25	7,000	\$0.72						
Salt Lake	2	Riverton	*	6146			\$13.00	10,000	\$1.00-\$1.10-\$1.25						
Salt Lake	2	S L City Pub Util	*	90457	\$881	\$110	\$7.55	3,740	\$0.74-\$1.11	48773	\$500		\$3.60	None	

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			Updated	Number of Connections	Impact Fee	Connection Fee	Monthly Base Users Rate	Minimum Gallonage	Average Rate per 1000 gal.	Number of Res Sewer Connt.	Sewer Impact Fee	Sewer Conn. Fee	Monthly Sewer Rate	Irrigation Type
Utah	2	Cedar Fort		122			\$6.00	0	\$0.90				Ditch	
Utah	2	Cedar Hills	*	914	\$683	\$300	\$9.75	13,000	\$0.75	\$172-588		\$9.69		
Utah	2	Eagle Mountain	*	1268						650			None	
Utah	2	Elk Ridge	*	420	\$3,005	\$375	\$25.00	12,000	\$1.00-\$1.25	400	\$1,700	\$20.50	None	
Utah	2	Genola	*	275	\$2,800	\$600	\$45.00	4000	\$0.60					
Utah	2	Goshen	*	278			\$32.00	40000	\$0.50-\$1.00-\$2.00					
Utah	2	Highland Wtr Co	*	1900	\$1,100	\$475	\$10.00	6000	\$0.60-\$1.00					
Utah	2	Lehi	*	5746	\$940	\$337	\$6.00	0	\$0.80	4832	\$460	\$9.00	Pressure	\$960 Impct
Utah	2	Lindon	*	1700	\$1,070		\$14.00	6000	\$0.65	2864	\$1,348	\$16.52		
Utah	2	Mapleton	*	1629	\$1,238	\$448	\$10.00	None	\$0.60-\$1.00	1119	\$1,491	\$37.88	25% Pres.	\$144.00
Utah	2	North Fork SSD	*	300	\$800	\$4,500	\$15.00	5000	\$0.50-\$8.00	60	\$0	\$64.00		
Utah	2	Orem	*	18500	\$1,104		\$5.91	0	\$0.39	17400	\$1,500	\$16.30		
Utah	2	Payson	*	4216	\$1,238	\$438	\$10.00	0	\$0.55	3697	\$1,025	\$22.70	99P/1D	\$108.00
Utah	2	Pleasant Grove	*	4800	\$650	\$500	\$6.20	8000	\$0.75	5000	\$450	\$12.07	Ditch	
Utah	2	Provo	*	16,678	\$994	\$934	\$8.47	3740	\$0.48	15,902	\$575	\$4.26	60% Ditch	
Utah	2	Riverton	*	4507	\$739		\$7.70	5000	\$0.45	4507	\$2,901	\$15.02		
Utah	2	Salem	*	1091	\$750		\$15.00	10000	\$0.75	1085	\$1,115	\$21.50	70% Ditch	
Utah	2	Santaquin	*	1582	\$2,500	\$250	\$13.95	8000	\$0.21-\$0.51-\$0.75	1448	\$2,300	\$14.20	Ditch	
Utah	2	Saratoga Springs	*	606	\$0	\$300	\$6.00			594	\$0	\$9.25	Pressure	
Utah	2	Spanish Fork	*	6510	\$485		\$10.00	4000	\$0.77	5600	\$1,002	\$17.05		
Utah	2	Spring Lake	*	139			\$15.00	15,000	\$0.40-\$0.70					
Utah	2	Springville	*	6054	\$1,400		\$8.50	8000	\$0.55	5000	\$884	\$18.80	Ditch	
Utah	2	Woodland Hills City	*	840	\$3,000		\$30.00	0	\$0.83-2.92	None			None	
Wasatch	3	Charleston WCD	*	212	\$5,000	Cost	\$20.00	5000	\$0.75	0	\$0	\$0	Pressure	
Wasatch	3	Danlels Domestic	*	108			\$13.00	30,000	\$4.00	None			50% Ditch	
Wasatch	3	Heber City	*	2655	\$2,550		\$9.60	10000	\$0.72	2501	\$2,000	\$20.60	40% Ditch	
Wasatch	3	Jordanelle SSD	*							3	\$3,540	\$15.00		
Wasatch	3	Midway	*	969	\$2,100	\$4,000	\$10.00	20000	\$0.50-\$2.00	1014	\$2,450		Variable 10% Ditch	
Wasatch	3	Rockville	*	150		\$500	\$15.00	20000	\$1.50-\$2.00-\$2.50					
Wasatch	3	Storm Haven	*	52	\$3,000		\$15.00	8000	\$1.15	None			25%	
Wasatch	3	Swiss Alpine	*	85	\$1,300		\$13.00							
Wasatch	3	Timber Lakes SSD	*	516		\$4,500	\$45.00	4000	\$2.00	None			None	
Wasatch	3	Twin Creeks SSD	*	118	\$4,725	\$0	\$30.00	12000	\$0.15	55	\$3,541	\$7.00	None	
Wasatch	3	Wdlnl So Hills Irrig	*	44	\$1,500	\$250	\$25.00	7000	\$1.00	None				
Washington	6	Ash Creek SSD	*	None						3,700	\$1,995	\$18.00	None	
Washington	6	Dixie Deer SSD	*	248	\$2,000		\$25.00	12,000	\$0.50-\$1.00	None				
Washington	6	Enterprise	*	484	\$2,000	\$525	\$24.00	24,000	\$0.50-\$0.75-\$1.00	393	\$2,500	\$24.50		
Washington	6	Gunlock SSD	*	100	\$0	Usage	\$35.00	0	\$0.00	None			None	
Washington	6	Harmony Heights	*	93		\$2,000	\$25.00							
Washington	6	Hildale/Colo City	*	797	n/a	\$150	\$20.00	10000	\$1.00	730	\$1,000	\$27.00	20% Pres.	\$300.00
Washington	6	Hurricane	*	3550	\$1,750	\$550	\$12.00	10000	\$0.60-\$1.20				Pressure	\$90.00
Washington	6	Ivins	*	1795	\$2,500	\$435	\$20.00	10,000	\$1.20-\$1.70	1600	\$1,800	\$32.11	25% Pres.	
Washington	6	LaVerkin	*	1023	\$1,976	\$200+	\$18.00	0	\$1.18	900		\$15.00	Pressure	
Washington	6	Leeds	*	170	\$2,500		\$16.00	30,000	\$1.00					
Washington	6	Pine Vly. Irrigation	*	260	\$1,450		\$7.50	300	\$1.00					
Washington	6	Santa Clara	*	1212	\$600		\$10.00	5000	\$0.60-\$0.65	1283	\$1,320	\$31.13	7%	
Washington	6	Springdale	*	377	\$2,500		\$2.60	1000	\$2.50	210	\$1,505	\$14.28	100% Pres	
Washington	6	St. George	*	11,800	\$1,000		\$10.62	5000	\$0.56	19480	\$1,160	\$17.28		
Washington	6	Toquerville	*	245	\$1,500		\$10.50	12000	\$1.00-\$1.25	245	\$1,995	\$18.00	Ditch	
Washington	6	Uveyo	*	300	\$500	\$200	\$20.00	20,000	\$1.00	None			80% Ditch	\$4.00
Washington	6	Virgin	*	1791	\$1,238	\$500	\$27.00	15000	\$2.00	None				
Washington	6	Washington	*	3000	\$2,283	\$225	\$12.00	5000	\$0.75	3431	\$2,150	\$0.00	35% Ditch	\$60.00
Wayne	4	Bicknell	*	192	\$1,000		\$29.00	24,000	\$1.00-\$1.05					
Wayne	4	Fremont Wtrwrks	*	163		\$1,250	\$8.00	8000	\$0.80	0				65% Pres.
Wayne	4	Hanksville	*	73	\$1,350	\$600	\$20.00	10000	\$4.00	78	\$0	\$10.50		
Wayne	4	Loa	*	285	\$0	\$1,000	\$14.00	13,000	\$1.00-\$1.20	n/a				95%
Wayne	4	Lyman	*	100		\$1,250	\$10.00	10,000	\$0.80	0				95% Pres.
Wayne	4	Torrey	*	200	\$300		\$20.00	30,000						
Weber	1	Bona Vista	*	5300	\$705	\$975	\$7.00	1000	\$1.15					
Weber	1	Eden	*	300	\$2,500		\$8.00	20,000	\$0.50					
Weber	1	Farr West								711	\$1,650	\$13.50		
Weber	1	Harrisville								1021	\$510	\$10.85		
Weber	1	Hooper Water SSD	*	2550	\$2,534	\$635	\$10.60	10000	\$1.25					
Weber	1	Layton	*	11,860			\$7.20	7000	\$0.79	13774	\$750	\$14.08		
Weber	1	Liberty	*	258	\$5,500		\$20.00	20,000	\$0.10					
Weber	1	North Ogden	*	4399	\$1,015	\$307	\$6.00	0	\$1.50-\$2.00	4377	\$79	\$9.25	75% Pres.	
Weber	1	Ogden	*	23,380	\$0	\$629	\$9.82	3000	\$0.92	22,000	\$325	\$16.32	25%	
Weber	1	Plain City										\$13.00		
Weber	1	Pleasant View	*	1200	\$1,000		\$10.00	8000	\$1.50-\$2.25	1236	\$325	\$12.24	100% Pres	
Weber	1	Riverdale	*	1650		Cost+15%	\$9.35	15000	\$0.70	1746	\$765	\$11.49	14%	
Weber	1	Roy	*	9619	\$680	\$125	\$10.46	0	\$0.61-\$1.34	9619	\$280	\$21.50	90% Pres.	\$120.00
Weber	1	South Ogden	*	4680	\$1,334	\$150	n/a	n/a	\$1.32	4521	\$131	n/a	95% Pres.	\$1.15/tn.gal.
Weber	1	South Weber	*	1221			\$10.75	8000	\$1.00					
Weber	1	Taylor W.Weber	*	1385	\$1,405	\$595	\$10.00	12000	\$0.75					
Weber	1	Uintah Highlands	*	822	\$1,060	\$64	\$15.00	12000	\$0.90-\$2.50	742	\$1,000	\$32.00	None	
Weber	1	Uintah Town	*	293	\$800		\$10.00	15000	\$0.60-\$1.25-\$1.50					
Weber	1	W Warren-Warren	*	170	\$1,500		\$30.00	15000	\$1.00	None				
Weber	1	Wash Terrace	*	2804	\$694	\$15	\$9.50	10000	\$1.60	2778	\$554	\$10.50		
Weber	1	Wolf Creek	*	250	\$1,500		\$9.00	12000		275		\$9.00	95% Ditch	

\* = Updated 6-01 & 8-02

County	District	System	Drinking Water						Wastewater			Irrigation			
			Number of Connections	Impact Fee	Connection Fee	Monthly Base Users Rate	Minimum Gallonage	Overage Rate per 1000 gal.	Number of Res Sewer Conn.	Sewer Impact Fee	Sewer Conn. Fee	Monthly Sewer Rate	Irrigation Type	Irrigation Rate per Year	
Salt Lake	2	S L City Sub SD #1								49089	\$865		\$4.00		
Salt Lake	2	S L City SSD #1	450	\$475					\$0.41				\$5.55		
Salt Lake	2	S L Co Ctnwd	400	\$1,490			8000		\$0.50				\$6.35		
Salt Lake	2	SLCoSA#3Snowbird	148	\$0	\$1,500	\$32.00	8000		\$1.65	148	n/z		\$23.00	None	
Salt Lake	2	Sandy	26144	\$1,580			8000		\$1.08	10000	\$1,680		\$13.72		
Salt Lake	2	Solitude ID								1170		\$3,250	\$30.00		
Salt Lake	2	Solitude Water Co	15	\$0	\$2,500	\$0.00	20000		n/a						
Salt Lake	2	South Jordan	6000	\$800		\$20.20	8000		\$1.08						
Salt Lake	2	South Salt Lake	3274	\$0	\$800	\$9.60	5		\$1.65	2203	\$0		\$2.30	None	
Salt Lake	2	Taylorsville/Benn.	15175	\$2,100	\$0	\$1.50	0		\$0.85	15175	\$1,000		\$0.85	None	
Salt Lake	2	Waterpro Draper Irrig.	5068	\$1,813	\$1,150	\$24.00	5000		\$1.23-\$2.41	None				35% Pres.	\$228.00
Salt Lake	2	West Jordan	12500	\$1,050		\$9.71	6000		\$0.80-\$1.10	14706	\$267		\$18.08		
Salt Lake	2	White City	3980		\$325	\$31.50	7500		\$1.07	None				None	
San Juan	5	Blanding	1250	\$0	\$1,033	\$15.20	5,000	\$0.63-\$0.83-\$1.04		964	\$0		\$13.50	Pressure	\$137.00
San Juan	5	Eastland SSD	23	\$0	\$700	\$30.00	7,000		\$2.00-\$3.50						
San Juan	5	Monticello	578	\$1,130	\$1,000	\$18.00	10000	\$0.60-\$0.70-\$0.80		521	\$0		\$16.00	Pressure	\$84.00
San Juan	5	San Juan SA#1 Bluff	194	\$0	\$3,250	\$20.00	5000		\$0.60-\$0.95	None				None	
San Juan	5	San Juan SSD #1	17							6	\$500		\$12.75		
Sanpete	4	Axtell SSD	71	\$1,200		\$15.00	10,000		\$0.40						
Sanpete	4	Centerfield	378	\$1,500	\$600	\$13.00	10,000		\$1.00	349	\$2,300		\$20.00	80% Pres.	\$10.00
Sanpete	4	Ephraim	1310	\$3,010	\$1,000	\$10.80	7,000	\$0.45-\$0.65-\$0.75		1080	\$1,230		\$18.00	None	
Sanpete	4	Fairview	532	\$1,350	\$940	\$23.00	8,000		\$1.00	None					
Sanpete	4	Fayette	78	\$0	\$1,000	\$20.00	15000	\$1.00-\$1.30	None					100% Ditch	\$6.00
Sanpete	4	Fountain Green	280	\$500		\$22.00	6000		\$0.15	312	\$2,662		\$25.00	Ditch	
Sanpete	4	Gunnison	623		\$1,000	\$13.50	3000		\$0.90	592			\$11.00	80% Pres	\$900.00
Sanpete	4	Mantle	1016	\$1,400	\$1,020	\$20.00	7000		\$1.00	1016	\$1,200		\$15.00	98% Pres.	
Sanpete	4	Mayfield	201			\$22.00	15,000		\$1.00						
Sanpete	4	Moroni	525	\$0	\$1,500	\$12.00	1000		\$2.50	436	\$0		\$14.00	Ditch	
Sanpete	4	Mt. Pleasant	1107	\$865	\$811	\$19.41	3000		\$0.50	996	\$1,272		\$8.30	95P/5D	\$71.40
Sanpete	4	Spring City	366	\$0	\$1,200	\$20.00	5000		\$0.50-\$1.00	355	\$0		\$17.50	100% Pres	
Sanpete	4	Wales	89	\$600		\$15.00	12000		\$0.75	None					
Sevier	4	Annabella	237	\$2,400	\$750	\$17.00	15000		\$1.50	None				98% Pres.	\$168.00
Sevier	4	Aurora	327	\$1,350	\$650	\$15.10	15,000		\$0.50	314	\$720		\$23.50	96% Pres.	\$67.20
Sevier	4	Austin SSD	45			\$12.00	15,000	\$0.20-\$0.30							
Sevier	4	Cove SSD	46	\$1,000	\$500	\$14.00	4000		\$0.50	None				None	
Sevier	4	Elsinore	532			\$10.00	20,000		\$1.00						
Sevier	4	Glenwood	177	\$3,234	\$0	\$18.00	10,000		\$0.60	None				100% Ditch	
Sevier	4	Joseph	159	\$0	\$3,000	\$17.00	25000		\$1.00	None				None	
Sevier	4	Koosharem	172	\$3,497	\$500	\$15.00	2000	\$1.00-\$1.50							
Sevier	4	Monroe	681	\$3,000		\$18.00	10,000		\$1.00					70% Pres.	
Sevier	4	Redmond	273	\$1,300	\$600	\$20.00	10000		\$1.25	265	\$1,200		\$10.50	None	
Sevier	4	Richfield	2000	\$450		\$10.00	10000		\$0.25	2460	\$3,000		\$22.00	70% Ditch	
Sevier	4	Salina	924	\$500		\$17.00	8000		\$0.75	810	\$1,175		\$22.00	100% Pres	
Sevier	4	Sigurd	168	\$3,131	\$500	\$12.00	10000		\$1.20	None					
Summit	3	Cluff Ward Pipeline	65	\$1,600	\$350	\$20.00	6,000	\$0.50-\$0.75-\$1.00							
Summit	3	Coalville	450	\$1,836	\$1,250	\$10.00		\$1.00-\$3.00		445	\$2,206		\$28.00	90% Pres.	\$216.00
Summit	3	Community Water	500	\$3,750		\$10.00	0		\$2.88	500	\$4,750		\$28.50		
Summit	3	Echo	32	\$0	\$1,500	\$15.00	8,000		\$1.25	17			\$5.00	Ditch	
Summit	3	Francis	267	\$2,543	\$250	\$35.00	10000		\$0.50	244	\$2,519		\$20.00	None	
Summit	3	Gorgoza	1500	\$0	\$1,000	\$32.50	12,500	\$2.50-\$3.00		1000	\$4,750		\$28.50		
Summit	3	Henefer	235	\$900		\$12.00				232	\$800		\$18.75	40% Ditch	
Summit	3	High Valley Wtr	205	\$2,500		\$20.00	0						\$12.25		
Summit	3	Kamas	493	\$450		\$20.00	20000		\$0.25	480	\$2,197		\$16.00	Ditch	
Summit	3	Mountain Reg SSD	111			\$35.00							\$28.50		
Summit	3	Oakley	300	\$3,000	\$0	\$18.00	15000		\$0.05	200	\$3,000		\$27.50		
Summit	3	Park City	4500	\$2,100	\$300	\$18.00	5000	\$1.44-\$1.58-\$1.73		3650	\$4,750		\$28.50		
Summit	3	Pine Mtn Mutual	308		\$2,000										
Summit	3	Silver Springs	603	\$2,750		\$39.50	5000		\$4.50	603	\$4,750		\$28.50		
Summit	3	Snyderville SID								7103	\$4,750		\$28.50		
Summit	3	Summit Co #3	86	\$4,000		\$27.00	20,000		\$2.00	86	\$4,750		\$28.50		
Summit	3	Summit Park	401	\$700	Cost	\$30.30	10000		\$0.20	401	\$4,750		\$28.50		
Summit	3	Summit Wtr Distrib	620	\$350		\$28.69	0			620	\$4,750		\$28.50		
Summit	3	Wdland Hills Mut	30	\$450		\$20.00	24000								
Tooele	2	Dugway-Carr Fac	100		Incl.w/rent	Incl.w/rent									
Tooele	2	Dugway-Engl Vlg	450		Incl.w/rent	Incl.w/rent				497				100% Pres.	
Tooele	2	Grantsville	1694	\$1,061	\$1,275	\$15.00	7000		\$0.70	1891	\$1,175		\$20.00		
Tooele	2	Lake Point ID								190	\$2,958		\$8.33		
Tooele	2	Ophir Canyon	45			\$20.00									
Tooele	2	Stansbury Park	1000	\$1,636	\$30	\$20.00	25000	\$0.60-\$0.75		1000	\$2,807		\$45.00	None	
Tooele	2	Stockton	227	\$2,800	\$500	\$17.00	16,000		\$2.00						
Tooele	2	Tooele	4937	\$1,100		\$10.00	0	\$0.67-\$0.75-\$1.00		6577	\$1,830		\$23.71		
Tooele	2	Wendover	300		\$800	\$17.25	7500		\$2.30	247	\$759		\$11.65		
Uintah	3	Ashley Valley W/S	2976	\$1,300	\$700	\$15.00	10,000		\$1.20	1,422	\$1,300		\$19.00	50% Ditch	
Uintah	3	Ballard SSD	290	\$2,200	\$1,800	\$20.00	10,000		\$1.10	84	\$1,200		\$18.00	None	
Uintah	3	Jensen WID	503		\$2,000	\$17.50	1000		\$0.90						
Uintah	3	Maeser WSID	877	\$750	\$750	\$14.00	10000		\$1.40	567	\$425		\$26.00	80% Pres.	
Uintah	3	Ouray Park WID	116			\$15.00	10,000		\$0.90						
Uintah	3	Tridell-Lapoint	398	\$0	\$2,500	\$15.00	0		\$0.50	None				None	
Uintah	3	Vernal	2512	\$700	\$706	\$24.00	8000		\$1.60	1961	\$1,350		\$18.70		
Utah	2	Alpine	1160	\$2,500		\$6.00	8,000	\$0.90-\$1.40-\$2.80					\$25.49	Ditch	
Utah	2	American Fork	5520	\$800		\$8.00	6,000		\$0.60				\$25.00	Ditch	

# **MEMO**

**TO:** Dennis Wenger, Frontier Corporation USA Project Manager  
**FROM:** Justin Robinson, MAcc  
**RE:** Duchesne County UCWID Improvement Feasibility Analysis  
**DATE:** December 16, 2003  
**ATTACHMENT:** Cash Flow / Constraint Model with Assumptions (13 pgs)

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## **Scope of Analysis & Sources of Information**

I completed a feasibility analysis of various water improvement options to be implemented by the Duchesne County Upper Country Water Improvement District (hereinafter "DCUCWID"). I have reviewed information prepared by Seeley, Aycock & Associates, CPAs (DCUCWID's engaged CPA firm & hereinafter "Seeley"); and have compiled their information and compared it against and utilized it in conjunction with further relevant information collected from sources believed to be reliable, including the following: Duchesne County Property Tax Values from 1970 – 2003 and Duchesne County Property Values (Tax Basis) by Taxing District for 2003, posted to the Duchesne County Website by Ms. Diane Freston, Duchesne County Clerk / Auditor, as of September 2003. My feasibility analysis is limited to information that was: 1) provided by Seeley; 2) obtained from the Duchesne County Website; and 3) provided by Van Christensen at the State of Utah Auditor's Office.

## **Property Tax Revenue**

Future property tax valuation projections were initially estimated based on the past 34 years of available tax data, which resulted in an annual percentage growth rate of 5.5059%. It is important to note that in reviewing the past 34 years of property tax valuations, significant swings in valuations were noted throughout the years analyzed, and a constant growth rate is not in reality likely. Therefore, a one percent (1.0%) growth in projected tax valuations has been assumed for this model to maintain a conservative approach. Based on my somewhat limited knowledge of the economic history of the area, it is my perception that the property tax valuations somewhat followed the up- and down-swings of the oil and gas industry that are so prevalent in the area. I have based projected tax revenue to DCUCWID on the effective property tax rate for the year 2003, which was 0.3363%, multiplied by the corresponding annual projected property tax valuation. Once again, fluctuations in the tax revenue could materially affect the model, especially if the area experiences a negative tax growth, as has occurred at various times throughout the 34 year tax record history.

## **Operating Revenue & Expenses**

Operating revenue and expenses were established by Seeley based on current figures and projections provided by DCUCWID on new hookups in the next three years. Given the materiality of these numbers, holding them constant will not materially affect the results of this study, unless a determination is made by DCUCWID to significantly increase the rates charged to water users, thus materially raising revenue; or an election to implement a water development project by DCUCWID requires a significant operating expense budget. Either of these scenarios would require insertion into the model to determine feasible outcomes. However, it is unlikely that DCUCWID will raise water rates, due to the fact that the district already has one of the sixth highest water user rate charges in the State of Utah.

## **Debt Compliance Issues with Utah State Law**

In July 2003, the Board of Trustees of DCUCWID received notice from the Office of the State Auditor that stated that DCUCWID's general obligation indebtedness was in excess of legal limits as of the year ended December 31, 2002. The notice referenced Section XIV-3 & 4 of the State Constitution and directed that if the general obligation debt exceeded legal limits, it must be reduced to the legal limit immediately. On November 24, 2003, Mr. Van Christensen, of the State of Utah Auditor's Office, confirmed that accordingly, the district must maintain a general obligation debt level at or below 2.4% of the current property tax valuation. The DCUCWID Debt Repayment Schedule provided shows 2003 total outstanding debt to be in excess of \$4.7 million. Of this \$4.7 million, approximately \$1.023 million is general obligation debt. The property tax valuation for the DCUCWID taxing district shows 2003 property tax valuation at \$43,874,451. In order to be in compliance with Utah State Law, general obligation debt must be at or below \$1.053 million. Given the existence of \$1.023 million in current general obligation debt, DCUCWID's hands are effectively tied in securing additional general obligation debt to acquire additional water improvements in the near future.

## **General Obligation Debt Compliance Constraints**

Given the 1.00% projected tax growth scenario, the district will need to retain cash as its major component of infrastructure growth. Per the constraints of the model, and provided the district chose to utilize all cash being held in the unreserved account in excess of \$500,000, a \$2.0 million development project could be completed in 2012. Maintaining the same factors, a \$2.5 million development project could possibly be completed as soon as 2013, based on the assumptions placed in the financial analysis. Thus, interim water development projects of this magnitude must be pursued via other non-general obligation debt.

## **Cash Flow Constraints**

The model illustrates the ability of available excess cash flow to service debt for a water improvement project as it progresses throughout the years. Again, a major component of the cash flow as the years progress is the property tax revenue generated from the property valuation growth rate factor utilized in the model. Based on the assumptions, available annual cash flow to support a 30 year, zero percent interest loan could be available immediately at limited amounts, which would grow over time. Additionally, DCUCWID has an existing amount of cash, approximately \$1.5 million, of which \$1.0 million could be added at any time to the cash flow debt capacity constraint to determine the ultimate size of the water improvement project that could be feasible. The district has expressed a desire to maintain a \$500,000 cash cushion in unreserved cash to serve as a buffer to any unforeseen cash requirements.

## **Inflation Factors**

The model does not account for any inflation. It is likely that inflation will vary from time to time, and I would suggest that as inflation factors rise, the corresponding water rates will need to be adjusted accordingly. I would anticipate that property values may not correspond proportionately with the rise of construction costs and other economic factors. Given this fact, I would hesitate to reliably predict how inflation may affect the model.

## **Conclusion**

DCUCWID is faced with a unique set of challenges... it must develop solutions to overcome its current shortage in water supply, while adhering to the debt compliance and cash flow constraints to which it is subject. Again, providing the district chose to utilize all cash being held in the unreserved account in excess of \$500,000, a \$2.0 million development project could be completed in 2012. Maintaining the same factors, a \$2.5 million development project could possibly be completed as soon as 2013, based on the assumptions placed in the financial analysis. The modeled projections for these two scenarios are attached to this memorandum. Due to the various constraints facing DCUCWID, a combination of alternatives likely will be necessary for the long-term success of a water supply to the DCUCWID... a smaller expenditure in the short-term to get the District by until a long-term solution becomes feasible.



**Duchesne County Upper Country Water District**

**Cash Flow Analysis for \$2 Million Proposed Water Improvement Project**

New Users Increase % In Users	10	10	10	10	10	10	10
	1.42%	1.40%	1.38%	1.36%	1.34%	1.32%	1.31%
	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
Year:	2008	2009	2010	2011	2012	2013	2014
<b>Cash Flow from Operating Activities</b>							
Operating Revenues	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000
Operating Expenses	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)
Cash flow from system improvements							
Operating costs of Cow Canyon Spring #3 Development	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)
Operating costs of new treatment plant	\$ -	\$ -	\$ -	\$ -	\$ (125,000)	\$ (125,000)	\$ (125,000)
Revenue increase from new customers (\$446 / user)	\$ 28,980	\$ 33,450	\$ 37,910	\$ 42,370	\$ 46,830	\$ 51,290	\$ 55,750
Expense increase from new customers (\$292 / user)	\$ (18,980)	\$ (21,900)	\$ (24,820)	\$ (27,740)	\$ (30,660)	\$ (33,580)	\$ (36,500)
<b>Net Cash Flow from Operations</b>	<b>\$ 109,010</b>	<b>\$ 110,550</b>	<b>\$ 112,090</b>	<b>\$ 113,630</b>	<b>\$ (9,830)</b>	<b>\$ (8,290)</b>	<b>\$ (6,750)</b>
<b>Cash Flows from Investing Activities</b>							
Investment Interest	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
System Additions / Improvements	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (2,000,000)	\$ (10,000)	\$ (10,000)
Equipment Purchases	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)
<b>Net Cash Flows (Used) / Provided by Investing</b>	<b>\$ 4,000</b>	<b>\$ 4,000</b>	<b>\$ 4,000</b>	<b>\$ 4,000</b>	<b>\$ (1,986,000)</b>	<b>\$ 4,000</b>	<b>\$ 4,000</b>
<b>Cash Flows from Capital Financing Activities</b>							
Impact Fees	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000
General Obligation Bond Proceeds (30 Yr 0%)	\$ -	\$ -	\$ -	\$ -	\$ 455,000	\$ -	\$ -
Revenue Bond Proceeds (30 Yr 0%)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Principal Pmts on Existing Debt	\$ (159,800)	\$ (158,800)	\$ (159,800)	\$ (158,800)	\$ (160,800)	\$ (158,800)	\$ (160,800)
Principal Pmts on New General Obligation Bond Debt	\$ -	\$ -	\$ -	\$ -	\$ (15,167)	\$ (15,167)	\$ (15,167)
Principal Pmts on New Revenue Bond Debt	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)
(Increase) / Decrease in Reserved Cash	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)
<b>Net Cash (Used) / Provided by Capital Financing</b>	<b>\$ (182,133)</b>	<b>\$ (181,133)</b>	<b>\$ (182,133)</b>	<b>\$ (181,133)</b>	<b>\$ 266,700</b>	<b>\$ (196,300)</b>	<b>\$ (198,300)</b>
<b>Cash Flows from Non-Capital Financing Activities</b>							
Taxes Received	\$ 152,623	\$ 154,150	\$ 155,691	\$ 157,248	\$ 158,821	\$ 160,409	\$ 162,013
Miscellaneous Revenues	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
<b>Net Cash (Used) / Provided by Non-Capital Financing</b>	<b>\$ 159,623</b>	<b>\$ 161,150</b>	<b>\$ 162,691</b>	<b>\$ 164,248</b>	<b>\$ 165,821</b>	<b>\$ 167,409</b>	<b>\$ 169,013</b>
<b>Net Increase (Decrease) In Cash</b>	<b>\$ 90,500</b>	<b>\$ 94,566</b>	<b>\$ 96,648</b>	<b>\$ 100,745</b>	<b>\$ (1,573,309)</b>	<b>\$ (33,181)</b>	<b>\$ (32,037)</b>
Unreserved Cash Balance- Beginning of Year	\$ 1,941,886	\$ 2,032,386	\$ 2,126,952	\$ 2,223,600	\$ 2,324,345	\$ 751,035	\$ 717,854
Net increase (Decrease) In Cash	\$ 90,500	\$ 94,566	\$ 96,648	\$ 100,745	\$ (1,573,309)	\$ (33,181)	\$ (32,037)
Unreserved Cash Balance- End of Year	\$ 2,032,386	\$ 2,126,952	\$ 2,223,600	\$ 2,324,345	\$ 751,035	\$ 717,854	\$ 685,817
Property Tax Valuation (Actual in '03, Estimated after)	\$ 46,112,489	\$ 46,573,614	\$ 47,039,350	\$ 47,509,743	\$ 47,984,841	\$ 48,464,689	\$ 48,949,336
Legal Capacity Allowable General Obligation Debt Load (2.4% of Property Value)	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987
Existing General Obligation Debt Load	\$ 648,000	\$ 573,000	\$ 498,000	\$ 423,000	\$ 348,000	\$ 273,000	\$ 198,000
Projected General Obligation Debt Load	\$ -	\$ -	\$ -	\$ -	\$ 455,000	\$ 439,833	\$ 424,667
Legal Capacity / (Reduction Needed) for General Obligation Debt Load	\$ 404,987	\$ 479,987	\$ 554,987	\$ 629,987	\$ 249,987	\$ 340,153	\$ 430,320

See Assumptions as Attached

**Duchesne County Upper Country Water District**

**Cash Flow Analysis for \$2 Million Proposed Water Improvement Project**

New Users Increase % in Users	10	10	10	10	10	10	10
	1.29%	1.27%	1.26%	1.24%	1.23%	1.21%	1.20%
Year:	Estimated 2015	Estimated 2016	Estimated 2017	Estimated 2018	Estimated 2019	Estimated 2020	Estimated 2021
<b>Cash Flow from Operating Activities</b>							
Operating Revenues	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000
Operating Expenses	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)
Cash flow from system improvements							
Operating costs of Cow Canyon Spring #3 Development	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)
Operating costs of new treatment plant	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)
Revenue increase from new customers (\$446 / user)	\$ 60,210	\$ 64,670	\$ 69,130	\$ 73,590	\$ 78,050	\$ 82,510	\$ 86,970
Expense increase from new customers (\$292 / user)	\$ (39,420)	\$ (42,340)	\$ (45,260)	\$ (48,180)	\$ (51,100)	\$ (54,020)	\$ (56,940)
<b>Net Cash Flow from Operations</b>	<b>\$ (6,210)</b>	<b>\$ (3,670)</b>	<b>\$ (2,130)</b>	<b>\$ (690)</b>	<b>\$ 950</b>	<b>\$ 2,490</b>	<b>\$ 4,030</b>
<b>Cash Flows from Investing Activities</b>							
Investment Interest	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
System Additions / Improvements	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)
Equipment Purchases	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)
<b>Net Cash Flows (Used) / Provided by Investing</b>	<b>\$ 4,000</b>						
<b>Cash Flows from Capital Financing Activities</b>							
Impact Fees	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000
General Obligation Bond Proceeds (30 Yr 0%)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue Bond Proceeds (30 Yr 0%)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Principal Pmts on Existing Debt	\$ (158,800)	\$ (160,800)	\$ (148,800)	\$ (136,800)	\$ (137,800)	\$ (139,800)	\$ (140,800)
Principal Pmts on New General Obligation Bond Debt	\$ (15,167)	\$ (15,167)	\$ (15,167)	\$ (15,167)	\$ (15,167)	\$ (15,167)	\$ (15,167)
Principal Pmts on New Revenue Bond Debt	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)
(Increase) / Decrease in Reserved Cash	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)
<b>Net Cash (Used) / Provided by Capital Financing</b>	<b>\$ (196,300)</b>	<b>\$ (198,300)</b>	<b>\$ (186,300)</b>	<b>\$ (174,300)</b>	<b>\$ (175,300)</b>	<b>\$ (177,300)</b>	<b>\$ (178,300)</b>
<b>Cash Flows from Non-Capital Financing Activities</b>							
Taxes Received	\$ 163,633	\$ 165,269	\$ 166,922	\$ 168,591	\$ 170,277	\$ 171,980	\$ 173,700
Miscellaneous Revenues	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
<b>Net Cash (Used) / Provided by Non-Capital Financing</b>	<b>\$ 170,633</b>	<b>\$ 172,269</b>	<b>\$ 173,922</b>	<b>\$ 175,591</b>	<b>\$ 177,277</b>	<b>\$ 178,980</b>	<b>\$ 180,700</b>
<b>Net Increase (Decrease) in Cash</b>	<b>\$ (26,877)</b>	<b>\$ (25,701)</b>	<b>\$ (10,508)</b>	<b>\$ 4,701</b>	<b>\$ 6,927</b>	<b>\$ 8,170</b>	<b>\$ 10,430</b>
Unreserved Cash Balance- Beginning of Year	\$ 685,817	\$ 658,940	\$ 633,239	\$ 622,731	\$ 627,433	\$ 634,360	\$ 642,530
Net Increase (Decrease) in Cash	\$ (26,877)	\$ (25,701)	\$ (10,508)	\$ 4,701	\$ 6,927	\$ 8,170	\$ 10,430
Unreserved Cash Balance- End of Year	\$ 658,940	\$ 633,239	\$ 622,731	\$ 627,433	\$ 634,360	\$ 642,530	\$ 652,960
Property Tax Valuation (Actual in '03, Estimated after)	\$ 49,438,830	\$ 49,933,218	\$ 50,432,550	\$ 50,936,876	\$ 51,446,244	\$ 51,960,707	\$ 52,480,314
Legal Capacity Allowable General Obligation Debt Load (2.4% of Property Value)	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987
Existing General Obligation Debt Load	\$ 123,000	\$ 48,000	\$ -	\$ -	\$ -	\$ -	\$ -
Projected General Obligation Debt Load	\$ 410,006	\$ 395,344	\$ 380,683	\$ 366,022	\$ 351,361	\$ 336,700	\$ 322,039
Legal Capacity / (Reduction Needed) for General Obligation Debt Load	\$ 519,981	\$ 609,642	\$ 672,303	\$ 686,965	\$ 701,626	\$ 716,287	\$ 730,948

See Assumptions as Attached

**Duchesne County Upper Country Water District**

**Cash Flow Analysis for \$2 Million Proposed Water Improvement Project**

New Users Increase % In Users	10	10	10	10	10	10	10
	1.18%	1.17%	1.16%	1.14%	1.13%	1.12%	1.10%
Year:	Estimated 2022	Estimated 2023	Estimated 2024	Estimated 2025	Estimated 2026	Estimated 2027	Estimated 2028
<b>Cash Flow from Operating Activities</b>							
Operating Revenues	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000
Operating Expenses	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)
Cash flow from system improvements							
Operating costs of Cow Canyon Spring #3 Development	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)
Operating costs of new treatment plant	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)
Revenue increase from new customers (\$446 / user)	\$ 91,430	\$ 95,890	\$ 100,350	\$ 104,810	\$ 109,270	\$ 113,730	\$ 118,190
Expense increase from new customers (\$292 / user)	\$ (59,860)	\$ (62,780)	\$ (65,700)	\$ (68,620)	\$ (71,540)	\$ (74,460)	\$ (77,380)
<b>Net Cash Flow from Operations</b>	<b>\$ 5,570</b>	<b>\$ 7,110</b>	<b>\$ 8,650</b>	<b>\$ 10,190</b>	<b>\$ 11,730</b>	<b>\$ 13,270</b>	<b>\$ 14,810</b>
<b>Cash Flows from Investing Activities</b>							
Investment Interest	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
System Additions / Improvements	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)
Equipment Purchases	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)
<b>Net Cash Flows (Used) / Provided by Investing</b>	<b>\$ 4,000</b>						
<b>Cash Flows from Capital Financing Activities</b>							
Impact Fees	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000
General Obligation Bond Proceeds (30 Yr 0%)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue Bond Proceeds (30 Yr 0%)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Principal Pmts on Existing Debt	\$ (142,800)	\$ (143,800)	\$ (144,800)	\$ (146,800)	\$ (148,800)	\$ (150,800)	\$ (152,800)
Principal Pmts on New General Obligation Bond Debt	\$ (15,167)	\$ (15,167)	\$ (15,167)	\$ (15,167)	\$ (15,167)	\$ (15,167)	\$ (15,167)
Principal Pmts on New Revenue Bond Debt	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)
(Increase) / Decrease in Reserved Cash	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)
<b>Net Cash (Used) / Provided by Capital Financing</b>	<b>\$ (180,300)</b>	<b>\$ (181,300)</b>	<b>\$ (182,300)</b>	<b>\$ (184,300)</b>	<b>\$ (186,300)</b>	<b>\$ (188,300)</b>	<b>\$ (190,300)</b>
<b>Cash Flows from Non-Capital Financing Activities</b>							
Taxes Received	\$ 175,437	\$ 177,191	\$ 178,963	\$ 180,753	\$ 182,560	\$ 184,386	\$ 186,230
Miscellaneous Revenues	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
<b>Net Cash (Used) / Provided by Non-Capital Financing</b>	<b>\$ 182,437</b>	<b>\$ 184,191</b>	<b>\$ 185,963</b>	<b>\$ 187,753</b>	<b>\$ 189,560</b>	<b>\$ 191,386</b>	<b>\$ 193,230</b>
<b>Net Increase (Decrease) In Cash</b>	<b>\$ 11,707</b>	<b>\$ 14,001</b>	<b>\$ 16,313</b>	<b>\$ 17,643</b>	<b>\$ 18,990</b>	<b>\$ 20,356</b>	<b>\$ 21,740</b>
Unreserved Cash Balance- Beginning of Year	\$ 652,960	\$ 664,666	\$ 678,667	\$ 694,980	\$ 712,623	\$ 731,613	\$ 751,969
Net Increase (Decrease) In Cash	\$ 11,707	\$ 14,001	\$ 16,313	\$ 17,643	\$ 18,990	\$ 20,356	\$ 21,740
Unreserved Cash Balance- End of Year	\$ 664,666	\$ 678,667	\$ 694,980	\$ 712,623	\$ 731,613	\$ 751,969	\$ 773,709
Property Tax Valuation (Actual In '03, Estimated after)	\$ 53,005,117	\$ 53,535,168	\$ 54,070,520	\$ 54,611,225	\$ 55,157,337	\$ 55,708,911	\$ 56,266,000
Legal Capacity Allowable General Obligation Debt Load (2.4% of Property Value)	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987
Existing General Obligation Debt Load	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Projected General Obligation Debt Load	\$ 307,378	\$ 292,717	\$ 278,056	\$ 263,394	\$ 248,733	\$ 234,072	\$ 219,411
Legal Capacity / (Reduction Needed) for General Obligation Debt Load	\$ 745,609	\$ 760,270	\$ 774,931	\$ 789,592	\$ 804,253	\$ 818,915	\$ 833,576

See Assumptions as Attached

**Duchesne County Upper Country Water District**

**Cash Flow Analysis for \$2 Million Proposed Water Improvement Project**

New Users Increase % in Users	10	10	10	10	10	10	10
	1.09%	1.08%	1.07%	1.06%	1.05%	1.04%	1.03%
	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
Year:	2029	2030	2031	2032	2033	2034	2035
<b>Cash Flow from Operating Activities</b>							
Operating Revenues	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000
Operating Expenses	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)
Cash flow from system improvements							
Operating costs of Cow Canyon Spring #3 Development	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)
Operating costs of new treatment plant	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)
Revenue increase from new customers (\$446 / user)	\$ 122,650	\$ 127,110	\$ 131,570	\$ 136,030	\$ 140,490	\$ 144,950	\$ 149,410
Expense increase from new customers (\$292 / user)	\$ (80,300)	\$ (83,220)	\$ (86,140)	\$ (89,060)	\$ (91,980)	\$ (94,900)	\$ (97,820)
<b>Net Cash Flow from Operations</b>	<b>\$ 16,350</b>	<b>\$ 17,890</b>	<b>\$ 19,430</b>	<b>\$ 20,970</b>	<b>\$ 22,510</b>	<b>\$ 24,050</b>	<b>\$ 25,590</b>
<b>Cash Flows from Investing Activities</b>							
Investment Interest	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
System Additions / Improvements	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)
Equipment Purchases	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)
<b>Net Cash Flows (Used) / Provided by Investing</b>	<b>\$ 4,000</b>	<b>\$ 4,000</b>					
<b>Cash Flows from Capital Financing Activities</b>							
Impact Fees	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000
General Obligation Bond Proceeds (30 Yr 0%)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue Bond Proceeds (30 Yr 0%)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Principal Pmts on Existing Debt	\$ (154,800)	\$ (156,800)	\$ (156,800)	\$ (91,800)	\$ (91,800)	\$ (83,800)	\$ (43,800)
Principal Pmts on New General Obligation Bond Debt	\$ (15,167)	\$ (15,167)	\$ (15,167)	\$ (15,167)	\$ (15,167)	\$ (15,167)	\$ (15,167)
Principal Pmts on New Revenue Bond Debt	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)
(Increase) / Decrease in Reserved Cash	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)
<b>Net Cash (Used) / Provided by Capital Financing</b>	<b>\$ (192,300)</b>	<b>\$ (194,300)</b>	<b>\$ (194,300)</b>	<b>\$ (129,300)</b>	<b>\$ (129,300)</b>	<b>\$ (121,300)</b>	<b>\$ (81,300)</b>
<b>Cash Flows from Non-Capital Financing Activities</b>							
Taxes Received	\$ 188,092	\$ 189,973	\$ 191,873	\$ 193,791	\$ 195,729	\$ 197,687	\$ 199,663
Miscellaneous Revenues	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
<b>Net Cash (Used) / Provided by Non-Capital Financing</b>	<b>\$ 195,092</b>	<b>\$ 196,973</b>	<b>\$ 198,873</b>	<b>\$ 200,791</b>	<b>\$ 202,729</b>	<b>\$ 204,687</b>	<b>\$ 206,663</b>
<b>Net Increase (Decrease) in Cash</b>	<b>\$ 23,142</b>	<b>\$ 24,563</b>	<b>\$ 28,003</b>	<b>\$ 96,461</b>	<b>\$ 99,939</b>	<b>\$ 111,437</b>	<b>\$ 154,953</b>
Unreserved Cash Balance- Beginning of Year	\$ 773,709	\$ 796,851	\$ 821,414	\$ 849,416	\$ 945,877	\$ 1,045,817	\$ 1,157,253
Net Increase (Decrease) in Cash	\$ 23,142	\$ 24,563	\$ 28,003	\$ 96,461	\$ 99,939	\$ 111,437	\$ 154,953
Unreserved Cash Balance- End of Year	\$ 796,851	\$ 821,414	\$ 849,416	\$ 945,877	\$ 1,045,817	\$ 1,157,253	\$ 1,312,207
Property Tax Valuation (Actual in '03, Estimated after)	\$ 56,828,660	\$ 57,396,946	\$ 57,970,916	\$ 58,550,625	\$ 59,136,131	\$ 59,727,493	\$ 60,324,767
Legal Capacity Allowable General Obligation Debt Load (2.4% of Property Value)	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987
Existing General Obligation Debt Load	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Projected General Obligation Debt Load	\$ 204,750	\$ 190,089	\$ 175,428	\$ 160,767	\$ 146,106	\$ 131,444	\$ 116,783
Legal Capacity / (Reduction Needed) for General Obligation Debt Load	\$ 848,237	\$ 862,898	\$ 877,559	\$ 892,220	\$ 906,881	\$ 921,542	\$ 936,203

See Assumptions as Attached

**Duchesne County Upper Country Water District**

**Cash Flow Analysis for \$2 Million Proposed Water Improvement Project**

	10 1.02%	10 1.01%	10 1.00%
	Estimated	Estimated	Estimated
Year:	2036	2037	2038
<b>Cash Flow from Operating Activities</b>			
Operating Revenues	\$ 290,000	\$ 290,000	\$ 290,000
Operating Expenses	\$ (190,000)	\$ (190,000)	\$ (190,000)
Cash flow from system improvements			
Operating costs of Cow Canyon Spring #3 Development	\$ (1,000)	\$ (1,000)	\$ (1,000)
Operating costs of new treatment plant	\$ (125,000)	\$ (125,000)	\$ (125,000)
Revenue increase from new customers (\$446 / user)	\$ 153,870	\$ 158,330	\$ 162,790
Expense increase from new customers (\$292 / user)	\$ (100,740)	\$ (103,660)	\$ (106,580)
<b>Net Cash Flow from Operations</b>	<b>\$ 27,130</b>	<b>\$ 28,670</b>	<b>\$ 30,210</b>
<b>Cash Flows from Investing Activities</b>			
Investment Interest	\$ 20,000	\$ 20,000	\$ 20,000
System Additions / Improvements	\$ (10,000)	\$ (10,000)	\$ (10,000)
Equipment Purchases	\$ (6,000)	\$ (6,000)	\$ (6,000)
<b>Net Cash Flows (Used) / Provided by Investing</b>	<b>\$ 4,000</b>	<b>\$ 4,000</b>	<b>\$ 4,000</b>
<b>Cash Flows from Capital Financing Activities</b>			
Impact Fees	\$ 16,000	\$ 16,000	\$ 16,000
General Obligation Bond Proceeds (30 Yr 0%)	\$ -	\$ -	\$ -
Revenue Bond Proceeds (30 Yr 0%)	\$ -	\$ -	\$ -
Principal Pmts on Existing Debt	\$ (43,800)	\$ (43,800)	\$ (43,800)
Principal Pmts on New General Obligation Bond Debt	\$ (15,167)	\$ (15,167)	\$ (15,167)
Principal Pmts on New Revenue Bond Debt	\$ (23,333)	\$ -	\$ -
(Increase) / Decrease in Reserved Cash	\$ (15,000)	\$ (15,000)	\$ (15,000)
<b>Net Cash (Used) / Provided by Capital Financing</b>	<b>\$ (81,300)</b>	<b>\$ (57,967)</b>	<b>\$ (57,967)</b>
<b>Cash Flows from Non-Capital Financing Activities</b>			
Taxes Received	\$ 201,660	\$ 203,677	\$ 205,713
Miscellaneous Revenues	\$ 7,000	\$ 7,000	\$ 7,000
<b>Net Cash (Used) / Provided by Non-Capital Financing</b>	<b>\$ 208,660</b>	<b>\$ 210,677</b>	<b>\$ 212,713</b>
<b>Net Increase (Decrease) in Cash</b>	<b>\$ 158,490</b>	<b>\$ 185,380</b>	<b>\$ 188,957</b>
Unreserved Cash Balance- Beginning of Year	\$ 1,312,207	\$ 1,470,697	\$ 1,656,077
Net Increase (Decrease) in Cash	\$ 158,490	\$ 185,380	\$ 188,957
Unreserved Cash Balance- End of Year	\$ 1,470,697	\$ 1,656,077	\$ 1,845,033
Property Tax Valuation (Actual in '03, Estimated after)	\$ 60,928,015	\$ 61,537,295	\$ 62,152,668
Legal Capacity Allowable General Obligation Debt Load (2.4% of Property Value)	\$ 1,052,987	\$ 1,052,987	\$ 1,052,987
Existing General Obligation Debt Load	\$ -	\$ -	\$ -
Projected General Obligation Debt Load	\$ 102,122	\$ 87,461	\$ 72,800
Legal Capacity / (Reduction Needed) for General Obligation Debt Load	\$ 950,865	\$ 965,526	\$ 980,187

See Assumptions as Attached

**Duchesne County Upper Country Water District**

**Cash Flow Analysis for \$2.5 Million Proposed Water Improvement Project**

New Users Increase % In Users	Current Users:						
	Actual 2001	Actual 2002	Estimated 2003	Estimated 2004	Estimated 2005	Estimated 2006	Estimated 2007
			650	25 3.86%	10 1.48%	10 1.46%	10 1.44%
<b>Cash Flow from Operating Activities</b>							
Operating Revenues	\$ 260,818	\$ 292,682	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000
Operating Expenses	\$ (175,690)	\$ (185,374)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)
Cash flow from system improvements							
Operating costs of Cow Canyon Spring #3 Development	\$ -	\$ -	\$ -	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)
Operating costs of new water surface treatment plant	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue increase from new customers (\$446 / user)	\$ -	\$ -	\$ -	\$ 11,150	\$ 15,610	\$ 20,070	\$ 24,530
Expense increase from new customers (\$292 / user)	\$ -	\$ -	\$ -	\$ (7,300)	\$ (10,220)	\$ (13,140)	\$ (16,080)
<b>Net Cash Flow from Operations</b>	<b>\$ 85,128</b>	<b>\$ 107,308</b>	<b>\$ 100,000</b>	<b>\$ 102,850</b>	<b>\$ 104,390</b>	<b>\$ 105,930</b>	<b>\$ 107,470</b>
<b>Cash Flows from Investing Activities</b>							
Investment Interest	\$ 77,859	\$ 41,367	\$ 38,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
System Additions / Improvements	\$ (4,172)	\$ (13,221)	\$ (10,000)	\$ (10,000)	\$ (700,000)	\$ (10,000)	\$ (10,000)
Equipment Purchases	\$ (5,500)	\$ (6,658)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)
<b>Net Cash Flows (Used) / Provided by Investing</b>	<b>\$ 68,187</b>	<b>\$ 21,488</b>	<b>\$ 22,000</b>	<b>\$ 4,000</b>	<b>\$ (686,000)</b>	<b>\$ 4,000</b>	<b>\$ 4,000</b>
<b>Cash Flows from Capital Financing Activities</b>							
Impact Fees	\$ 8,400	\$ 19,300	\$ 8,000	\$ 40,000	\$ 16,000	\$ 16,000	\$ 16,000
General Obligation Bond Proceeds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue Bond Proceeds	\$ -	\$ -	\$ -	\$ -	\$ 700,000	\$ -	\$ -
Principal Pmts on Debt	\$ (158,800)	\$ (158,800)	\$ (158,800)	\$ (158,800)	\$ (158,800)	\$ (158,800)	\$ (158,800)
Principal Pmts on New General Obligation Bond (30 Yr 0%)	\$ -	\$ -	\$ -	\$ -	\$ (23,333)	\$ (23,333)	\$ (23,333)
Principal Pmts on New Revenue Bond (30 Yr 0%)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(Increase) / Decrease in Reserved Cash	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)
<b>Net Cash (Used) / Provided by Capital Financing</b>	<b>\$ (165,400)</b>	<b>\$ (154,500)</b>	<b>\$ (165,800)</b>	<b>\$ (133,800)</b>	<b>\$ 518,867</b>	<b>\$ (181,133)</b>	<b>\$ (181,133)</b>
<b>Cash Flows from Non-Capital Financing Activities</b>							
Taxes Received	\$ 124,690	\$ 145,216	\$ 145,000	\$ 146,450	\$ 147,915	\$ 149,394	\$ 150,888
Miscellaneous Revenues	\$ 5,813	\$ 8,986	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
<b>Net Cash (Used) / Provided by Non-Capital Financing</b>	<b>\$ 130,503</b>	<b>\$ 154,202</b>	<b>\$ 152,000</b>	<b>\$ 153,450</b>	<b>\$ 154,915</b>	<b>\$ 156,394</b>	<b>\$ 157,888</b>
<b>Net Increase (Decrease) in Cash</b>	<b>\$ 118,418</b>	<b>\$ 128,498</b>	<b>\$ 108,200</b>	<b>\$ 126,500</b>	<b>\$ 92,171</b>	<b>\$ 85,190</b>	<b>\$ 88,224</b>
Unreserved Cash Balance- Beginning of Year	\$ 1,193,582	\$ 1,312,000	\$ 1,440,498	\$ 1,548,698	\$ 1,675,198	\$ 1,767,369	\$ 1,852,559
Net Increase (Decrease) in Cash	\$ 118,418	\$ 128,498	\$ 108,200	\$ 126,500	\$ 92,171	\$ 85,190	\$ 88,224
Unreserved Cash Balance- End of Year	\$ 1,312,000	\$ 1,440,498	\$ 1,548,698	\$ 1,675,198	\$ 1,767,369	\$ 1,852,559	\$ 1,940,784
<b>Property Tax Valuation Increase Factor (based on 34 year historical apr) %:</b>							
Property Tax Valuation (Actual in '03, Estimated after)	\$ 39,411,635	\$ 41,583,216	\$ 43,874,451	\$ 44,313,196	\$ 44,756,327	\$ 45,203,891	\$ 45,655,930
Legal Capacity Allowable General Obligation Debt Load (2.4% of Property Value)		2.40%	\$ 1,052,987	\$ 1,063,517	\$ 1,074,152	\$ 1,084,893	\$ 1,095,742
Existing General Obligation Debt Load	\$ 1,173,000	\$ 1,098,000	\$ 1,023,000	\$ 948,000	\$ 873,000	\$ 798,000	\$ 723,000
Projected General Obligation Debt Load							
Legal Capacity / (Reduction Needed) for General Obligation Debt Load			\$ 29,987	\$ 104,987	\$ 179,987	\$ 254,987	\$ 329,987

See Assumptions as Attached

**Duchesne County Upper Country Water District**

**Cash Flow Analysis for \$2.5 Million Proposed Water Improvement Project**

New Users Increase % in Users	10	10	10	10	10	10	10
	1.42%	1.40%	1.38%	1.36%	1.34%	1.32%	1.31%
Year:	Estimated 2008	Estimated 2009	Estimated 2010	Estimated 2011	Estimated 2012	Estimated 2013	Estimated 2014
<b>Cash Flow from Operating Activities</b>							
Operating Revenues	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000
Operating Expenses	\$ (180,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)
Cash flow from system improvements							
Operating costs of Cow Canyon Spring #3 Development	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)
Operating costs of new water surface treatment plant	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (125,000)	\$ (125,000)
Revenue increase from new customers (\$446 / user)	\$ 28,990	\$ 33,450	\$ 37,910	\$ 42,370	\$ 46,830	\$ 51,290	\$ 55,750
Expense increase from new customers (\$292 / user)	\$ (18,980)	\$ (21,900)	\$ (24,820)	\$ (27,740)	\$ (30,660)	\$ (33,580)	\$ (36,500)
<b>Net Cash Flow from Operations</b>	<b>\$ 109,010</b>	<b>\$ 110,550</b>	<b>\$ 112,090</b>	<b>\$ 113,630</b>	<b>\$ 115,170</b>	<b>\$ (8,290)</b>	<b>\$ (6,750)</b>
<b>Cash Flows from Investing Activities</b>							
Investment Interest	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
System Additions / Improvements	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (2,500,000)	\$ (10,000)
Equipment Purchases	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)
<b>Net Cash Flows (Used) / Provided by Investing</b>	<b>\$ 4,000</b>	<b>\$ (2,486,000)</b>	<b>\$ 4,000</b>				
<b>Cash Flows from Capital Financing Activities</b>							
Impact Fees	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000
General Obligation Bond Proceeds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 776,000	\$ -
Revenue Bond Proceeds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Principal Pmts on Debt	\$ (159,800)	\$ (158,800)	\$ (159,800)	\$ (158,800)	\$ (160,800)	\$ (158,800)	\$ (160,800)
Principal Pmts on New General Obligation Bond (30 Yr 0%)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (25,867)	\$ (25,867)
Principal Pmts on New Revenue Bond (30 Yr 0%)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)
(Increase) / Decrease in Reserved Cash	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)
<b>Net Cash (Used) / Provided by Capital Financing</b>	<b>\$ (182,133)</b>	<b>\$ (181,133)</b>	<b>\$ (182,133)</b>	<b>\$ (181,133)</b>	<b>\$ (183,133)</b>	<b>\$ 569,000</b>	<b>\$ (209,000)</b>
<b>Cash Flows from Non-Capital Financing Activities</b>							
Taxes Received	\$ 152,396	\$ 153,920	\$ 155,460	\$ 157,014	\$ 158,584	\$ 160,170	\$ 161,772
Miscellaneous Revenues	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
<b>Net Cash (Used) / Provided by Non-Capital Financing</b>	<b>\$ 159,396</b>	<b>\$ 160,920</b>	<b>\$ 162,460</b>	<b>\$ 164,014</b>	<b>\$ 165,584</b>	<b>\$ 167,170</b>	<b>\$ 168,772</b>
<b>Net Increase (Decrease) in Cash</b>	<b>\$ 90,273</b>	<b>\$ 94,337</b>	<b>\$ 96,416</b>	<b>\$ 100,511</b>	<b>\$ 101,621</b>	<b>\$ (1,768,120)</b>	<b>\$ (42,978)</b>
Unreserved Cash Balance- Beginning of Year	\$ 1,940,784	\$ 2,031,057	\$ 2,125,394	\$ 2,221,810	\$ 2,322,321	\$ 2,423,942	\$ 665,822
Net Increase (Decrease) in Cash	\$ 90,273	\$ 94,337	\$ 96,416	\$ 100,511	\$ 101,621	\$ (1,768,120)	\$ (42,978)
Unreserved Cash Balance- End of Year	\$ 2,031,057	\$ 2,125,394	\$ 2,221,810	\$ 2,322,321	\$ 2,423,942	\$ 665,822	\$ 622,844
<b>Property Tax Val</b>							
Property Tax Valuation (Actual in '03, Estimated after)	\$ 46,112,489	\$ 46,573,614	\$ 47,039,350	\$ 47,509,743	\$ 47,984,841	\$ 48,464,689	\$ 48,949,336
Legal Capacity Allowable General Obligation Debt Load (2.4% of Property Valu	\$ 1,106,700	\$ 1,117,767	\$ 1,128,944	\$ 1,140,234	\$ 1,151,636	\$ 1,163,153	\$ 1,174,784
Existing General Obligation Debt Load	\$ 648,000	\$ 573,000	\$ 498,000	\$ 423,000	\$ 348,000	\$ 1,049,000	\$ 948,133
Projected General Obligation Debt Load	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 776,000	\$ 750,133
Legal Capacity / (Reduction Needed) for General Obligation Debt Load	\$ 404,987	\$ 479,987	\$ 554,987	\$ 629,987	\$ 704,987	\$ 3,987	\$ 104,863

See Assumptions as Attached

**Duchesne County Upper Country Water District**

**Cash Flow Analysis for \$2.5 Million Proposed Water Improvement Project**

New Users Increase % In Users	10 1.29%		10 1.27%		10 1.26%		10 1.24%		10 1.23%		10 1.21%		10 1.20%		
	Year:	Estimated 2015	Estimated 2016	Estimated 2017	Estimated 2018	Estimated 2019	Estimated 2020	Estimated 2021	Estimated 2015	Estimated 2016	Estimated 2017	Estimated 2018	Estimated 2019	Estimated 2020	Estimated 2021
<b>Cash Flow from Operating Activities</b>															
Operating Revenues	\$	290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000
Operating Expenses	\$	(190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)
Cash flow from system improvements															
Operating costs of Cow Canyon Spring #3 Development	\$	(1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)
Operating costs of new water surface treatment plant	\$	(125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)
Revenue increase from new customers (\$446 / user)	\$	60,210	\$ 64,670	\$ 69,130	\$ 73,590	\$ 78,050	\$ 82,510	\$ 86,970	\$ 91,430	\$ 95,890	\$ 100,350	\$ 104,810	\$ 109,270	\$ 113,730	\$ 118,190
Expense increase from new customers (\$292 / user)	\$	(39,420)	\$ (42,340)	\$ (45,260)	\$ (48,180)	\$ (51,100)	\$ (54,020)	\$ (56,940)	\$ (59,860)	\$ (62,780)	\$ (65,700)	\$ (68,620)	\$ (71,540)	\$ (74,460)	\$ (77,380)
<b>Net Cash Flow from Operations</b>	\$	<b>(6,210)</b>	\$ <b>(3,670)</b>	\$ <b>(2,130)</b>	\$ <b>(590)</b>	\$ <b>950</b>	\$ <b>2,490</b>	\$ <b>4,030</b>	\$ <b>5,570</b>	\$ <b>7,110</b>	\$ <b>8,650</b>	\$ <b>10,190</b>	\$ <b>11,730</b>	\$ <b>13,270</b>	\$ <b>14,810</b>
<b>Cash Flows from Investing Activities</b>															
Investment Interest	\$	20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
System Additions / Improvements	\$	(10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)
Equipment Purchases	\$	(6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)
<b>Net Cash Flows (Used) / Provided by Investing</b>	\$	<b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>
<b>Cash Flows from Capital Financing Activities</b>															
Impact Fees	\$	16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000
General Obligation Bond Proceeds	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue Bond Proceeds	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Principal Pmts on Debt	\$	(158,800)	\$ (160,800)	\$ (148,800)	\$ (136,800)	\$ (137,800)	\$ (139,800)	\$ (140,800)	\$ (142,800)	\$ (144,800)	\$ (146,800)	\$ (148,800)	\$ (150,800)	\$ (152,800)	\$ (154,800)
Principal Pmts on New General Obligation Bond (30 Yr 0%)	\$	(25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)
Principal Pmts on New Revenue Bond (30 Yr 0%)	\$	(23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)
(Increase) / Decrease in Reserved Cash	\$	(15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)
<b>Net Cash (Used) / Provided by Capital Financing</b>	\$	<b>(207,000)</b>	\$ <b>(209,000)</b>	\$ <b>(197,000)</b>	\$ <b>(185,000)</b>	\$ <b>(186,000)</b>	\$ <b>(188,000)</b>	\$ <b>(189,000)</b>	\$ <b>(190,000)</b>	\$ <b>(191,000)</b>	\$ <b>(192,000)</b>	\$ <b>(193,000)</b>	\$ <b>(194,000)</b>	\$ <b>(195,000)</b>	\$ <b>(196,000)</b>
<b>Cash Flows from Non-Capital Financing Activities</b>															
Taxes Received	\$	163,390	\$ 165,024	\$ 166,674	\$ 168,340	\$ 170,024	\$ 171,724	\$ 173,441	\$ 175,165	\$ 176,904	\$ 178,658	\$ 180,427	\$ 182,201	\$ 183,980	\$ 185,764
Miscellaneous Revenues	\$	7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
<b>Net Cash (Used) / Provided by Non-Capital Financing</b>	\$	<b>170,390</b>	\$ <b>172,024</b>	\$ <b>173,674</b>	\$ <b>175,340</b>	\$ <b>177,024</b>	\$ <b>178,724</b>	\$ <b>180,441</b>	\$ <b>182,165</b>	\$ <b>183,904</b>	\$ <b>185,658</b>	\$ <b>187,427</b>	\$ <b>189,201</b>	\$ <b>190,980</b>	\$ <b>192,764</b>
<b>Net Increase (Decrease) in Cash</b>	\$	<b>(37,820)</b>	\$ <b>(36,646)</b>	\$ <b>(21,456)</b>	\$ <b>(6,250)</b>	\$ <b>(4,026)</b>	\$ <b>(2,786)</b>	\$ <b>(1,546)</b>	\$ <b>(300)</b>	\$ <b>1,244</b>	\$ <b>2,488</b>	\$ <b>3,732</b>	\$ <b>4,976</b>	\$ <b>6,220</b>	\$ <b>7,464</b>
Unreserved Cash Balance- Beginning of Year	\$	622,844	\$ 585,024	\$ 548,377	\$ 526,921	\$ 520,672	\$ 516,646	\$ 513,860	\$ 511,074	\$ 508,288	\$ 505,502	\$ 502,716	\$ 500,000	\$ 497,284	\$ 494,568
Net Increase (Decrease) in Cash	\$	(37,820)	\$ (36,646)	\$ (21,456)	\$ (6,250)	\$ (4,026)	\$ (2,786)	\$ (1,546)	\$ (300)	\$ 1,244	\$ 2,488	\$ 3,732	\$ 4,976	\$ 6,220	\$ 7,464
<b>Unreserved Cash Balance- End of Year</b>	\$	<b>585,024</b>	\$ <b>548,377</b>	\$ <b>526,921</b>	\$ <b>520,672</b>	\$ <b>516,646</b>	\$ <b>513,860</b>	\$ <b>511,074</b>	\$ <b>508,288</b>	\$ <b>505,502</b>	\$ <b>502,716</b>	\$ <b>500,000</b>	\$ <b>497,284</b>	\$ <b>494,568</b>	\$ <b>491,852</b>
<b>Property Tax Val</b>															
Property Tax Valuation (Actual in '03, Estimated after)	\$	49,438,830	\$ 49,933,218	\$ 50,432,550	\$ 50,936,876	\$ 51,446,244	\$ 51,960,707	\$ 52,480,314	\$ 52,999,871	\$ 53,519,428	\$ 54,038,985	\$ 54,558,542	\$ 55,078,099	\$ 55,597,656	\$ 56,117,213
Legal Capacity Allowable General Obligation Debt Load (2.4% of Property Val)	\$	1,186,532	\$ 1,198,397	\$ 1,210,381	\$ 1,222,485	\$ 1,234,710	\$ 1,247,057	\$ 1,259,528	\$ 1,272,000	\$ 1,284,571	\$ 1,297,142	\$ 1,309,713	\$ 1,322,284	\$ 1,334,855	\$ 1,347,426
Existing General Obligation Debt Load	\$	847,267	\$ 746,400	\$ 672,533	\$ 646,667	\$ 620,800	\$ 594,933	\$ 569,067	\$ 543,200	\$ 517,333	\$ 491,467	\$ 465,600	\$ 439,733	\$ 413,867	\$ 388,000
Projected General Obligation Debt Load	\$	724,267	\$ 698,400	\$ 672,533	\$ 646,667	\$ 620,800	\$ 594,933	\$ 569,067	\$ 543,200	\$ 517,333	\$ 491,467	\$ 465,600	\$ 439,733	\$ 413,867	\$ 388,000
Legal Capacity / (Reduction Needed) for General Obligation Debt Load	\$	205,720	\$ 306,587	\$ 380,453	\$ 406,320	\$ 432,187	\$ 458,053	\$ 483,919	\$ 509,786	\$ 535,653	\$ 561,519	\$ 587,386	\$ 613,253	\$ 639,119	\$ 664,986

See Assumptions as Attached

**Duchesne County Upper Country Water District**

**Cash Flow Analysis for \$2.5 Million Proposed Water Improvement Project**

New Users Increase % In Users	10	10	10	10	10	10	10
	1.18%	1.17%	1.16%	1.14%	1.13%	1.12%	1.10%
	Estimated						
Year:	2022	2023	2024	2025	2026	2027	2028
<b>Cash Flow from Operating Activities</b>							
Operating Revenues	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000
Operating Expenses	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)
Cash flow from system improvements							
Operating costs of Cow Canyon Spring #3 Development	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)
Operating costs of new water surface treatment plant	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)
Revenue increase from new customers (\$446 / user)	\$ 91,430	\$ 95,890	\$ 100,350	\$ 104,810	\$ 109,270	\$ 113,730	\$ 118,190
Expense increase from new customers (\$292 / user)	\$ (59,860)	\$ (62,780)	\$ (65,700)	\$ (68,620)	\$ (71,540)	\$ (74,460)	\$ (77,380)
<b>Net Cash Flow from Operations</b>	<b>\$ 5,570</b>	<b>\$ 7,110</b>	<b>\$ 8,650</b>	<b>\$ 10,190</b>	<b>\$ 11,730</b>	<b>\$ 13,270</b>	<b>\$ 14,810</b>
<b>Cash Flows from Investing Activities</b>							
Investment Interest	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
System Additions / Improvements	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)
Equipment Purchases	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)
<b>Net Cash Flows (Used) / Provided by Investing</b>	<b>\$ 4,000</b>						
<b>Cash Flows from Capital Financing Activities</b>							
Impact Fees	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000
General Obligation Bond Proceeds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue Bond Proceeds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Principal Pmts on Debt	\$ (142,800)	\$ (143,800)	\$ (144,800)	\$ (145,800)	\$ (146,800)	\$ (148,800)	\$ (152,800)
Principal Pmts on New General Obligation Bond (30 Yr 0%)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)
Principal Pmts on New Revenue Bond (30 Yr 0%)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)
(Increase) / Decrease in Reserved Cash	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)
<b>Net Cash (Used) / Provided by Capital Financing</b>	<b>\$ (191,000)</b>	<b>\$ (192,000)</b>	<b>\$ (193,000)</b>	<b>\$ (195,000)</b>	<b>\$ (197,000)</b>	<b>\$ (199,000)</b>	<b>\$ (201,000)</b>
<b>Cash Flows from Non-Capital Financing Activities</b>							
Taxes Received	\$ 175,176	\$ 176,928	\$ 178,697	\$ 180,484	\$ 182,289	\$ 184,112	\$ 185,953
Miscellaneous Revenues	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
<b>Net Cash (Used) / Provided by Non-Capital Financing</b>	<b>\$ 182,176</b>	<b>\$ 183,928</b>	<b>\$ 185,697</b>	<b>\$ 187,484</b>	<b>\$ 189,289</b>	<b>\$ 191,112</b>	<b>\$ 192,953</b>
<b>Net Increase (Decrease) In Cash</b>	<b>\$ 746</b>	<b>\$ 3,038</b>	<b>\$ 5,347</b>	<b>\$ 6,674</b>	<b>\$ 8,019</b>	<b>\$ 9,382</b>	<b>\$ 10,763</b>
Unreserved Cash Balance- Beginning of Year	\$ 513,331	\$ 514,077	\$ 517,114	\$ 522,461	\$ 529,135	\$ 537,154	\$ 546,535
Net Increase (Decrease) In Cash	\$ 746	\$ 3,038	\$ 5,347	\$ 6,674	\$ 8,019	\$ 9,382	\$ 10,763
Unreserved Cash Balance- End of Year	\$ 514,077	\$ 517,114	\$ 522,461	\$ 529,135	\$ 537,154	\$ 546,535	\$ 557,298
<b>Property Tax Val</b>							
Property Tax Valuation (Actual in '03, Estimated after)	\$ 53,005,117	\$ 53,535,168	\$ 54,070,520	\$ 54,611,225	\$ 55,157,337	\$ 55,708,911	\$ 56,268,000
Legal Capacity Allowable General Obligation Debt Load (2.4% of Property Val)	\$ 1,272,123	\$ 1,284,844	\$ 1,297,692	\$ 1,310,669	\$ 1,323,776	\$ 1,337,014	\$ 1,350,384
Existing General Obligation Debt Load	\$ 543,200	\$ 517,333	\$ 491,467	\$ 465,600	\$ 439,733	\$ 413,867	\$ 388,000
Projected General Obligation Debt Load	\$ 543,200	\$ 517,333	\$ 491,467	\$ 465,600	\$ 439,733	\$ 413,867	\$ 388,000
Legal Capacity / (Reduction Needed) for General Obligation Debt Load	\$ 609,787	\$ 636,653	\$ 661,520	\$ 687,387	\$ 713,263	\$ 739,120	\$ 764,987

See Assumptions as Attached

**Duchesne County Upper Country Water District**

**Cash Flow Analysis for \$2.5 Million Proposed Water Improvement Project**

New Users Increase % In Users	10 1.09%		10 1.08%		10 1.07%		10 1.06%		10 1.05%		10 1.04%		10 1.03%		
	Year:	Estimated 2029	Estimated 2030	Estimated 2031	Estimated 2032	Estimated 2033	Estimated 2034	Estimated 2035	Estimated 2029	Estimated 2030	Estimated 2031	Estimated 2032	Estimated 2033	Estimated 2034	Estimated 2035
<b>Cash Flow from Operating Activities</b>															
Operating Revenues	\$	290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000
Operating Expenses	\$	(190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)
Cash flow from system improvements															
Operating costs of Cow Canyon Spring #3 Development	\$	(1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)
Operating costs of new water surface treatment plant	\$	(125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)
Revenue increase from new customers (\$446 / user)	\$	122,650	\$ 127,110	\$ 131,570	\$ 136,030	\$ 140,490	\$ 144,950	\$ 149,410	\$ 153,870	\$ 158,330	\$ 162,790	\$ 167,250	\$ 171,710	\$ 176,170	\$ 180,630
Expense increase from new customers (\$292 / user)	\$	(80,300)	\$ (83,220)	\$ (86,140)	\$ (89,060)	\$ (91,980)	\$ (94,900)	\$ (97,820)	\$ (100,740)	\$ (103,660)	\$ (106,580)	\$ (109,500)	\$ (112,420)	\$ (115,340)	\$ (118,260)
<b>Net Cash Flow from Operations</b>	\$	<b>16,350</b>	\$ <b>17,890</b>	\$ <b>19,430</b>	\$ <b>20,970</b>	\$ <b>22,510</b>	\$ <b>24,050</b>	\$ <b>25,590</b>	\$ <b>27,130</b>	\$ <b>28,670</b>	\$ <b>30,210</b>	\$ <b>31,750</b>	\$ <b>33,290</b>	\$ <b>34,830</b>	\$ <b>36,370</b>
<b>Cash Flows from Investing Activities</b>															
Investment Interest	\$	20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
System Additions / Improvements	\$	(10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)
Equipment Purchases	\$	(6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)
<b>Net Cash Flows (Used) / Provided by Investing</b>	\$	<b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>	\$ <b>4,000</b>
<b>Cash Flows from Capital Financing Activities</b>															
Impact Fees	\$	16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000
General Obligation Bond Proceeds	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue Bond Proceeds	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Principal Pmts on Debt	\$	(154,800)	\$ (156,800)	\$ (158,800)	\$ (160,800)	\$ (162,800)	\$ (164,800)	\$ (166,800)	\$ (168,800)	\$ (170,800)	\$ (172,800)	\$ (174,800)	\$ (176,800)	\$ (178,800)	\$ (180,800)
Principal Pmts on New General Obligation Bond (30 Yr 0%)	\$	(25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)
Principal Pmts on New Revenue Bond (30 Yr 0%)	\$	(23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)
(Increase) / Decrease in Reserved Cash	\$	(15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)
<b>Net Cash (Used) / Provided by Capital Financing</b>	\$	<b>(203,000)</b>	\$ <b>(205,000)</b>												
<b>Cash Flows from Non-Capital Financing Activities</b>															
Taxes Received	\$	187,812	\$ 189,690	\$ 191,567	\$ 193,443	\$ 195,320	\$ 197,197	\$ 199,074	\$ 200,951	\$ 202,828	\$ 204,705	\$ 206,582	\$ 208,459	\$ 210,336	\$ 212,213
Miscellaneous Revenues	\$	7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
<b>Net Cash (Used) / Provided by Non-Capital Financing</b>	\$	<b>194,812</b>	\$ <b>196,690</b>	\$ <b>198,567</b>	\$ <b>200,443</b>	\$ <b>202,320</b>	\$ <b>204,197</b>	\$ <b>206,074</b>	\$ <b>207,951</b>	\$ <b>209,828</b>	\$ <b>211,705</b>	\$ <b>213,582</b>	\$ <b>215,459</b>	\$ <b>217,336</b>	\$ <b>219,213</b>
<b>Net Increase (Decrease) in Cash</b>	\$	<b>12,162</b>	\$ <b>13,580</b>	\$ <b>17,017</b>	\$ <b>85,473</b>	\$ <b>88,948</b>	\$ <b>100,442</b>	\$ <b>143,956</b>	\$ <b>147,431</b>	\$ <b>158,925</b>	\$ <b>162,400</b>	\$ <b>173,894</b>	\$ <b>177,369</b>	\$ <b>188,863</b>	\$ <b>192,338</b>
Unreserved Cash Balance- Beginning of Year	\$	557,298	\$ 569,460	\$ 583,040	\$ 600,058	\$ 618,531	\$ 638,479	\$ 658,927	\$ 679,875	\$ 701,323	\$ 723,271	\$ 745,719	\$ 768,667	\$ 792,115	\$ 816,063
Net Increase (Decrease) in Cash	\$	12,162	\$ 13,580	\$ 17,017	\$ 85,473	\$ 88,948	\$ 100,442	\$ 143,956	\$ 147,431	\$ 158,925	\$ 162,400	\$ 173,894	\$ 177,369	\$ 188,863	\$ 192,338
Unreserved Cash Balance- End of Year	\$	<b>569,460</b>	\$ <b>583,040</b>	\$ <b>600,058</b>	\$ <b>685,531</b>	\$ <b>707,479</b>	\$ <b>774,921</b>	\$ <b>831,883</b>	\$ <b>879,314</b>	\$ <b>938,248</b>	\$ <b>1,008,648</b>	\$ <b>1,082,542</b>	\$ <b>1,160,911</b>	\$ <b>1,243,774</b>	\$ <b>1,331,401</b>
<b>Property Tax Val</b>															
Property Tax Valuation (Actual in '03, Estimated after)	\$	56,828,660	\$ 57,396,946	\$ 57,970,916	\$ 58,550,625	\$ 59,136,131	\$ 59,727,493	\$ 60,324,787	\$ 60,918,125	\$ 61,517,507	\$ 62,121,933	\$ 62,731,403	\$ 63,346,917	\$ 63,968,485	\$ 64,596,107
Legal Capacity Allowable General Obligation Debt Load (2.4% of Property Val)	\$	1,363,888	\$ 1,377,527	\$ 1,391,302	\$ 1,405,215	\$ 1,419,267	\$ 1,433,460	\$ 1,447,794	\$ 1,462,267	\$ 1,476,689	\$ 1,491,260	\$ 1,505,980	\$ 1,520,849	\$ 1,535,867	\$ 1,551,034
Existing General Obligation Debt Load	\$	362,133	\$ 336,267	\$ 310,400	\$ 284,533	\$ 258,667	\$ 232,800	\$ 206,933	\$ 181,067	\$ 155,200	\$ 129,333	\$ 103,467	\$ 77,600	\$ 51,733	\$ 26,067
Projected General Obligation Debt Load	\$	362,133	\$ 336,267	\$ 310,400	\$ 284,533	\$ 258,667	\$ 232,800	\$ 206,933	\$ 181,067	\$ 155,200	\$ 129,333	\$ 103,467	\$ 77,600	\$ 51,733	\$ 26,067
Legal Capacity / (Reduction Needed) for General Obligation Debt Load	\$	690,853	\$ 716,720	\$ 742,587	\$ 768,453	\$ 794,320	\$ 820,187	\$ 846,053	\$ 871,920	\$ 897,783	\$ 923,646	\$ 949,509	\$ 975,372	\$ 1,001,235	\$ 1,027,098

See Assumptions as Attached

**Duchesne County Upper Country Water District**

**Cash Flow Analysis for \$2.5 Million Proposed Water Improvement Project**

	10		10		10	
	1.02%		1.01%		1.00%	
Year:	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
	2036	2037	2038	2039	2040	2041
<b>Cash Flow from Operating Activities</b>						
Operating Revenues	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000	\$ 290,000
Operating Expenses	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)	\$ (190,000)
Cash flow from system improvements						
Operating costs of Cow Canyon Spring #3 Development	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)
Operating costs of new water surface treatment plant	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)	\$ (125,000)
Revenue increase from new customers (\$446 / user)	\$ 153,870	\$ 158,330	\$ 162,790	\$ 167,250	\$ 171,710	\$ 176,170
Expense increase from new customers (\$292 / user)	\$ (100,740)	\$ (103,660)	\$ (106,580)	\$ (109,500)	\$ (112,420)	\$ (115,340)
<b>Net Cash Flow from Operations</b>	<b>\$ 27,130</b>	<b>\$ 28,670</b>	<b>\$ 30,210</b>	<b>\$ 31,750</b>	<b>\$ 33,290</b>	<b>\$ 34,830</b>
<b>Cash Flows from Investing Activities</b>						
Investment Interest	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
System Additions / Improvements	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)	\$ (10,000)
Equipment Purchases	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)	\$ (6,000)
<b>Net Cash Flows (Used) / Provided by Investing</b>	<b>\$ 4,000</b>					
<b>Cash Flows from Capital Financing Activities</b>						
Impact Fees	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000
General Obligation Bond Proceeds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue Bond Proceeds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Principal Pmts on Debt	\$ (43,800)	\$ (43,800)	\$ (43,800)	\$ (43,800)	\$ (43,800)	\$ (43,800)
Principal Pmts on New General Obligation Bond (30 Yr 0%)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)	\$ (25,867)
Principal Pmts on New Revenue Bond (30 Yr 0%)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)	\$ (23,333)
(Increase) / Decrease in Reserved Cash	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)	\$ (15,000)
<b>Net Cash (Used) / Provided by Capital Financing</b>	<b>\$ (92,000)</b>					
<b>Cash Flows from Non-Capital Financing Activities</b>						
Taxes Received	\$ 201,360	\$ 203,374	\$ 205,407	\$ 207,440	\$ 209,473	\$ 211,506
Miscellaneous Revenues	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
<b>Net Cash (Used) / Provided by Non-Capital Financing</b>	<b>\$ 208,360</b>	<b>\$ 210,374</b>	<b>\$ 212,407</b>	<b>\$ 214,440</b>	<b>\$ 216,473</b>	<b>\$ 218,506</b>
<b>Net Increase (Decrease) in Cash</b>	<b>\$ 147,490</b>	<b>\$ 151,044</b>	<b>\$ 154,617</b>	<b>\$ 158,171</b>	<b>\$ 161,725</b>	<b>\$ 165,279</b>
Unreserved Cash Balance- Beginning of Year	\$ 1,018,878	\$ 1,166,368	\$ 1,317,411	\$ 1,472,029	\$ 1,629,754	\$ 1,791,033
Net increase (Decrease) in Cash	\$ 147,490	\$ 151,044	\$ 154,617	\$ 158,171	\$ 161,725	\$ 165,279
Unreserved Cash Balance- End of Year	\$ 1,166,368	\$ 1,317,411	\$ 1,472,029	\$ 1,629,754	\$ 1,791,033	\$ 1,956,312
<b>Property Tax Val</b>						
Property Tax Valuation (Actual in '03, Estimated after)	\$ 60,928,015	\$ 61,537,295	\$ 62,152,668	\$ 62,773,041	\$ 63,398,414	\$ 64,023,787
Legal Capacity Allowable General Obligation Debt Load (2.4% of Property Valu	\$ 1,462,272	\$ 1,476,895	\$ 1,491,664	\$ 1,506,433	\$ 1,521,202	\$ 1,535,971
Existing General Obligation Debt Load	\$ 181,067	\$ 155,200	\$ 129,333	\$ 103,466	\$ 77,600	\$ 51,733
Projected General Obligation Debt Load	\$ 181,067	\$ 155,200	\$ 129,333	\$ 103,466	\$ 77,600	\$ 51,733
Legal Capacity / (Reduction Needed) for General Obligation Debt Load	\$ 871,920	\$ 897,787	\$ 923,653	\$ 951,501	\$ 975,372	\$ 1,000,244

See Assumptions as Attached

## **Assumptions for Cash Flow Analysis of \$2M and \$2.5M Proposed Water Improvement Projects**

1. Projected tax revenue was initially based on the actual 2003 effective property tax rate multiplied by a growth factor of 5.5059%, which is the average annualized growth rate of property valuations in Duchesne County as listed by County Auditor Diane Freston on the Duchesne County website, [www.duchesnegov.net](http://www.duchesnegov.net). The average growth factor was based on a 34 year period of record: 1970-2003. However, due to the currently economic conditions and the uncertainty of future conditions, a 1% growth factor was used for the model. Thus, this is considered a very conservative estimate of future tax revenues.
2. Per Utah State Statute, the general debt obligation of the DCUCWID cannot exceed 2.4% of the current year's property tax base, which is projected to grow at an annual average rate of 1% as noted in Assumption #1.
3. The \$50,000 to \$65,000 development cost of Cow Canyon Springs #3 will be paid with existing reserved funds in the District's accounts. Annual operation and maintenance costs are estimated by the District to be \$1,000.
4. The model assumes that \$500,000 must be retained in unreserved funds for emergency purposes, as indicated by District Board Members.
5. Additional storage tanks will have to be built in 2005 or later, at an estimated cost of \$700,000, which will be funded with revenue bond proceeds. The new tanks are independent of the water development alternatives under consideration, and will have to be built regardless of future water projects.
6. A new surface water treatment project is estimated to cost \$2-2.5 million, according to the District's estimate. This estimate includes land and right-of-way acquisitions, plant and distribution infrastructure costs, and equipment. Annual operation and maintenance for this project is estimated to cost \$125,000 according to the District's estimate.
7. Base line cash flow information, projection for new hookups and resulting hookup revenue, and other projections not specifically illustrated were provided by the District. The model assumes 25 hook ups to be immediately connected in the summer of 2004, and 10 per year thereafter.
8. All new debt is assumed to be 30 year 0% debt.
9. Inflation factors have been held at 0% for the model due to their unpredictability, with the exception of the growth rate on Property Tax Valuations, as noted in Notes #1&2.