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Volusian Water Alliance
Governance Study

Options And Recommendations

VOLUSIAN WATER ALLIANCE

GOVERNANCE STUDY

Options and Recommendations

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FOWLER WHITE BOGGS BANKER, P.A.

MAY 30, 2002

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EXECUTIVE SUMMARY

The combined efforts of the local governments and private utility providers in Volusia County have resulted in the provision of clean, plentiful potable water to the residents of and visitors to this area. The primary potable water source, ground water, has been both cost-effective and reliable, and the historical levels of usage have not resulted in significant visible environmental damage from drawdown.

Despite this relatively stable situation, there is general consensus that over the long term, projected demands will exceed the sustainable amount of ground water in Volusia County. New sources of water supply will be needed within the next ten to twenty years in order to meet the demands of current and future residents of this area. Additionally, strategies may be necessary during that time period to mitigate the environmental effects of ground water withdrawals.

After considerable deliberation and debate, a consensus has emerged among several local governments in Volusia County that their interests are best served by agreeing to address future water supply issues together, rather than separately. This opinion is not unanimous, nor does it need to be, in order for a cooperative venture to be successful. The ingredients for a positive outcome are present even if only a few local governments join together to form the recommended entity through the execution of an interlocal agreement. Naturally, it is hoped that more than a few local governments would be motivated to participate.

The type of entity which is recommended would be created under the authority of Section 163.01, Florida Statutes (F.S.). The membership of the entity would consist of any local government: (1) which generates water to distribute to its own customers; (2) which purchases water from a local government who is a member of the entity; or (3) whose residents purchase water from a member of the entity. A member would commit to getting all of its water from the entity and water supply contracts would be entered between the entity and each member that leases water supply facilities to the entity. As a wholesale provider of water, the entity would pose no threat to a local government's ability to maintain a revenue transfer from its water utility. All members would have equal voting rights. Operation of the entity would be funded with revenues generated through a charge for water based upon the cost of operations of the entity.

The functions of the entity would include:

(1) coordinating the operation of the member's existing wellfields;

(2) operation and maintenance of the existing wellfields of member governments after an appropriate transition period;

(3) planning, designing, funding, constructing and operating the system interconnects and related decision support system;

(4) planning, designing, funding, constructing, operating and maintaining the RAMP segments determined to be effective and economically reasonable;

(5) CUP permitting, on a consolidated basis, for all member government water supply facilities and operations;

(6) monitoring and compliance for CUPs for all member governments;

(7) future water supply planning, including being an active participant in the development and preparation of the regional water supply plan;

(8) planning, designing, funding, constructing, operating and maintaining future alternative water supply sources for member governments;

(9) coordination of water conservation programs by its members; and

(10) such other responsibilities assigned to the entity in the interlocal agreement executed by the member governments.

It is not recommended that the entity purchase the existing water supply facilities of member governments, but instead that it lease them for a nominal sum. In this manner, each local government's existing capital investment, debt arrangements and accounting considerations are left intact, and the initial expenses of the entity are kept to a minimum. New sources of supply, however, are anticipated to be owned and operated by the entity, thereby relieving member governments of this responsibility in the future. It is recommended that the entity limit future ground water sources to Volusia County, but that this limitation would not be applicable to alternative water supply sources.

The financial analyses conducted during this study show that under virtually all assumptions and scenarios evaluated, member utilities will experience lower costs of water over the next twenty years as a member of the recommended entity. The entity offers economics of scale that simply cannot be achieved by a local

government or utility on a stand-alone basis.

During the discussions leading up to this recommendation, there was considerable debate regarding whether a separate legal entity was needed to perform the above functions, or whether it would be equally advantageous to have one or more local governments join together to perform the functions cooperatively, but without creating the separate entity. A separate legal entity is recommended primarily because such an arrangement would avoid the inevitable concerns regarding conflicting interests which would arise when employees of one local government perform dual functions. The other advantages include a more focused effort to address water supply issues, a broader view of environmental issues relating to water supply, potential cost-savings from consolidated permitting and compliance monitoring, and potential favorable consideration, e.g., longer term permits, in the permitting process. While some of these advantages are arguably attainable without the formation of a separate entity, they are considerably more likely if an entity is created.

Whether or not any changes are made in the water supply system in Volusia County, and the decision as to whether such changes are needed, rests squarely and appropriately with the elected representatives of the people. We are confident that the vision and leadership which will be brought to bear on this important public policy issue will be sufficient to protect the economic, environmental and social interests of all of the citizens of Volusia County.

INTRODUCTION

Historically, the primary responsibility for providing adequate supplies of potable water to Florida residents, visitors and businesses was carried out by local governments, primarily municipalities. Today, many entities are involved in water supply, including cities, counties, private companies, governmental utility authorities and regional water supply authorities. As a general rule, cities still provide a greater quantity of water and have been in the water supply business much longer than other water suppliers.

Florida's significant growth brought with it new demands for water. This growth occurred not only within the limits of existing cities, but also within previously unincorporated areas of the State, where it brought about the creation of new cities and suburban communities. To meet the water supply demands of this growth, the existing municipal water systems had to expand, including expansions to serve adjacent unincorporated areas. Many cities availed themselves of the opportunity to annex as well as the opportunity provided under Chapter 180, F.S., to extend their service areas up to five miles beyond their city limits. In addition, many local governments (both cities and counties) elected to enter the water supply business for the first time and, in some instances, private companies constructed, owned and operated water supply systems. While there are still numerous private water supply companies in Florida, they now account for less than 10% of the water which is currently being supplied, and it is likely that this percentage will continue to decrease over time. There are many who believe that, in time, all potable water systems will be owned and operated by a governmental entity. Also, being in the water supply business was a profitable exercise for most. Ground water, rather than surface water, was the primary source of most cities' water supply, in part because it was cheaper and of excellent quality.

With about 90% of Florida's population residing within 20 miles of the coast, it was not long before demands for ground water exceeded the sustainable capacity of local ground water sources in some coastal areas of the State. As soon as local governments started going beyond their own jurisdictions looking for water, conflicts arose. It was difficult enough when a city went beyond its city limits into the county for ground water, but when cities or counties went into another county for ground water the conflicts became very serious.

HISTORY OF REGIONAL COOPERATION

Volusia County has been blessed with community and business leadership that has a history of cooperation. The local governments and community leaders in Volusia County have learned from the experiences of other areas of the State and country where "water wars" have taken place and have taken steps to avoid that outcome in Volusia County.

Long before the water issue had become a critical public policy issue in Volusia County, the Halifax Regional Water Authority was formed and long range planning for future water needs was initiated for certain local governments in Volusia County. As long range planning began, it became evident that there were many cooperative steps that could be taken throughout Volusia County, including the following: (1) interconnecting all of the existing systems; (2) managing the water production facilities to minimize conflicts and optimize pumpage; (3) water reuse; and (4) conservation. All of these steps would lead to a more reasonable beneficial use of water in Volusia County. In an effort to expand membership and participation, the Halifax Regional Water Authority was succeeded by the Volusia City-County Water Supply Cooperative, and subsequently the Volusian Water Alliance ("VWA"). In each instance, the changes were made with the intent to include more representation for local governments and designated interests, such as agriculture and private utility providers.

Fortunately, there is no current crisis in either water supply or water quality in the Volusia County area. However, total permitted ground water withdrawals appear to be nearing the maximum sustainable yield. The current water supply system adequately serves the short-term needs of individual local governments rather than the long-term needs of the Volusia County area. In addition, because any mitigation strategy or new water supply source takes years to develop, now is the time to start making decisions about the future course of action which would be in the best interests of the citizens of Volusia County.

STUDY OBJECTIVES

Fowler White Boggs Banker ("Fowler White") was asked to conduct an independent evaluation of alternative strategies for implementing new water supply sources, including those in the VWA Water Supply Plan. Fowler White's evaluation was to include the following alternatives:

A. Continue with current delivery system (i.e., no change, or status quo).

B. Develop interlocal agreements between local government utilities.

C. Developing contracts between local governments in which a "lead" local government assumes the responsibility for providing future water supply.

D. Formation of a non-profit corporation by local governments to provide new water supply sources.

E. Creation of a governmental utility authority pursuant to Section 163.01(7)(g), F.S., to acquire, own, construct, improve, operate and manage public water facilities.

F. Creation of a regional water supply authority created pursuant to Section 373.1962, F.S.

The goal of the evaluation process was to reach consensus on a feasible organizational and financial framework for developing new water supply sources.

The evaluation was conducted under the direction of Jacob D. Varn and Linda Loomis Shelley of Fowler White. Personal interviews were conducted with representatives of every VWA member government and numerous other individuals who had extensive experience or interest in the area of water supply in Volusia County. Three workshops were conducted with the VWA Board of Representatives, and presentations and discussions occurred with the VWA Executive Committee, the VWA Technical Advisory Committee, the Manager's Advisory Committee, and the Volusia County Water Policy Review Commission.

The financial implications of implementing new water supply sources were evaluated

by Michael Burton and Jonathan Varnes of Burton & Associates under the direction of Fowler White. This evaluation includes a comparative analysis of implementation costs, impacts to the cost of water for three typical sized utilities, and an analysis of benefit/cost impact equalization strategies. The financial model was validated through review by the St. Johns River Water Management District (SJRWMD) staff and consultants and was demonstrated to the VWA member government representatives.

STUDY ASSUMPTIONS

In order to evaluate alternatives, it is necessary for certain assumptions to be made about the future. The assumptions which were made in this evaluation are as follows:

1. Environmental resource constraints, among other factors, will make it necessary for alternative water supplies, i.e., other than ground water sources, to be developed within the foreseeable future. These environmental resource constraints, which include the establishment of minimum flows and levels (MFLs), will certainly limit future withdrawals of ground water and may reduce current withdrawals. For comparative analysis purposes, it is reasonable to project a seventy (70) million gallon per day (MGD) limitation on ground water withdrawals for public supply in the year 2020.

2. Rather than competing for a limited supply of sustainable ground water, a cooperative effort is needed to develop alternative water supply sources and thereby increase the total amount of water available to all users. In addition, cooperation and the resulting elimination of competition for water resources is the most economical and environmentally sustainable approach.

3. Future growth management decisions will remain solely and exclusively within the purview of local governments. If an entity is formed for the purpose of developing future water supply sources, it shall have only responsibilities related to that function and have no authority over land use decisions. Decisions as to the amount of growth that is appropriate shall remain the exclusive authority of local government.

4. Finished water interconnections are currently planned and designed. These interconnections will be beneficial to water suppliers in Volusia County and should be undertaken as soon as possible. In order to receive the maximum benefit from the interconnections, it is necessary to implement a decision support system in addition to the capital upgrades and installations. The interconnections must be appropriately sized so that the local governments are capable of wheeling

treated water between local government providers. Such interconnections also will allow for the optimization of resource utilization. Emergency backup and provision of routine system maintenance are other benefits of these interconnections.

EXISTING SITUATION

VWA

The Volusian Water Alliance ("VWA") was created by Interlocal Agreement on May 1, 1996 for the primary purpose of developing a county-wide water supply plan and projects to ensure that the aquifer is managed in a manner which provides a sustainable water supply without significant environmental damage. The VWA is a successor to the Volusia County City-County Water Supply Cooperative created in 1992 and the Halifax Regional Water Supply Authority created in 1987.

As of January 1, 2002, members of the Alliance consisted of all sixteen (16) cities (See Exhibit 1) in Volusia County and Volusia County, as well as an agricultural representative. In accordance with the Amended and Restated Interlocal Agreement Creating the Volusian Water Alliance, the VWA Board of Representatives is comprised of both General and Ex Officio Members. The General Members have a consumptive use permit, pay an administrative operations fee to VWA and vote on all matters. In addition, Volusia County may appoint two additional representatives, one representing agriculture and the other representing the largest private public water supply utility in Volusia County. However, in recent months, representatives of the private utility, Florida Water Services ("FWS"), indicated that it would no longer be an active participant in the VWA, at least partially because of the anticipated purchase of Florida Water Services by the Florida Governmental Utilities Association ("FGUA"). Also, the Cities of Debary, Deltona and Pierson resigned from the VWA in early 2002 based upon concerns relating to adoption of the VWA Water Supply Plan.

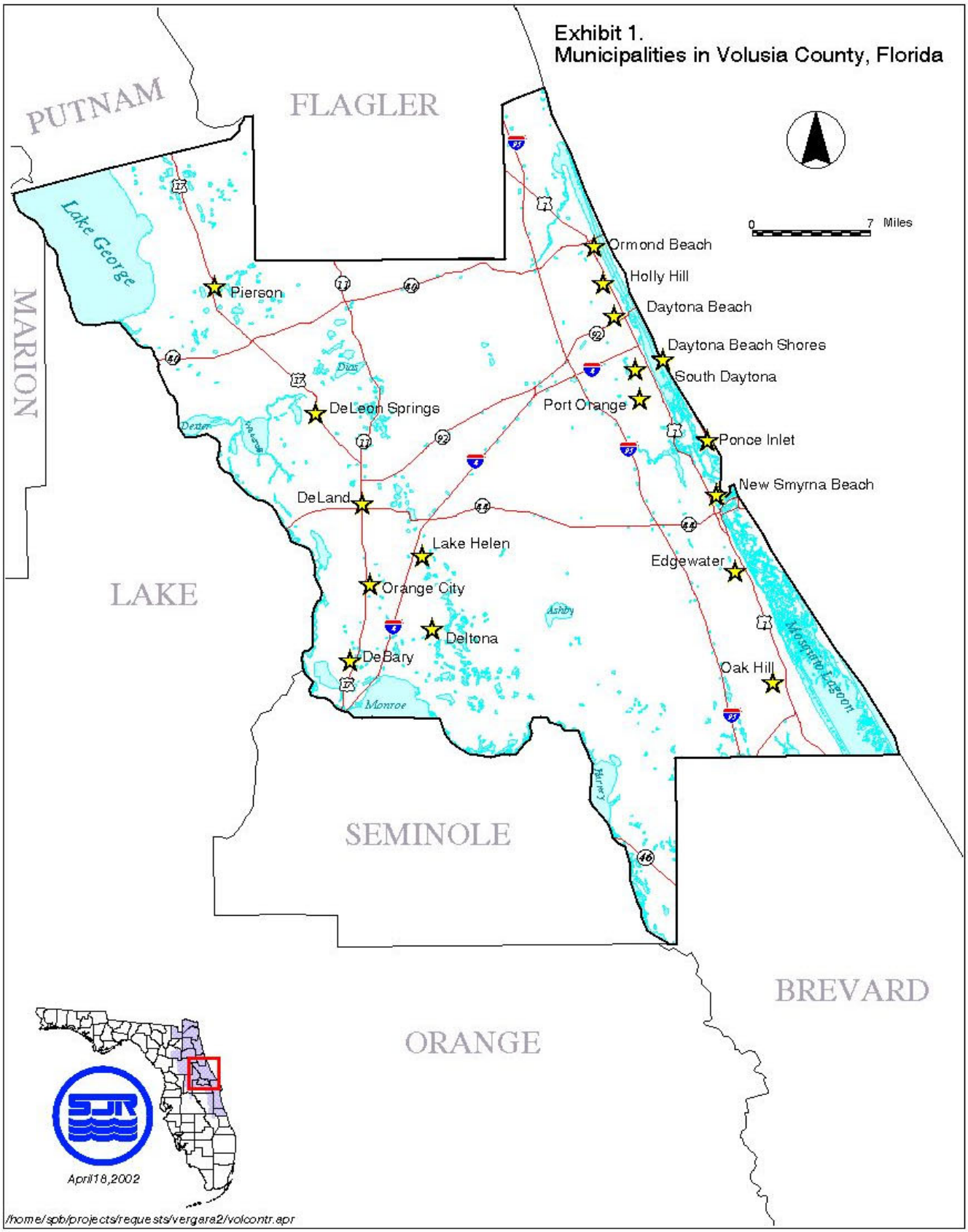
Exhibit 1.
Municipalities in Volusia County, Florida
PUTNAM
FLAGLER
MARION
LAKE
SEMINOLE
BREVARD
ORANGE
Lake George
Dias
Dexter
Monroe
Ashby
Mosquito Lagoon
Harney
0
7 Miles
Ormond Beach
Holly Hill
Daytona Beach
Daytona Beach Shores
South Daytona
Port Orange
Ponce Inlet
New Smyrna Beach
Edgewater
Oak Hill
Pierson
DeLeon Springs
DeLand
Lake Helen
Orange City
Deltona
DeBary
SJR
April18,2002
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The General Members of the VWA currently include:

1. City of Daytona Beach
2. City of DeLand
3. City of Edgewater
4. City of Holly Hill
5. City of Lake Helen
6. City of New Smyrna Beach
7. City of Orange City
8. City of Ormond Beach
9. City of Port Orange
10. Volusia County
11. Volusia County - Agriculture Representative

In addition to General Members, several cities within Volusia County have representatives, who serve as Ex Officio members on the Board of Representatives. The Ex Officio Members represent cities which do not have a consumptive use permit and do not pay an administrative operations fee to VWA. The Ex Officio Members currently include:

1. City of Daytona Beach Shores
2. City of Oak Hill
3. Town of Ponce Inlet
4. City of South Daytona

(See Exhibit 2 which reflects the public supply utility service areas and wells in Volusia County, Florida)

Except for Volusia County, funding for the operation of the VWA under the current Interlocal Agreement is based upon the following calculation:

		Administrative		General
Water Pumped by General Member	X	Operations	=	Member's
Water Pumped By All General Members		Budget		Fee

Volusia County's fee is based upon: i) the gallonage pumped by the County's wells; ii) one-fifth of the annual agricultural ground water usage; and iii) the gallonage pumped by the largest private water utility. Volusia County contributes financially on behalf of the agricultural representative.

USE, OWNERSHIP AND MANAGEMENT OF EXISTING WATER FACILITIES

Of the twelve water utilities in Volusia County which currently own and operate water supply systems, eleven are owned by local governments and one is owned by Florida Water Services. Each of the remaining local governments or residents of these local governments purchase at least a portion of its water from one of the eleven governmentally-owned utilities. Exhibit 3 depicts a map showing the location of existing water supply facilities (wellfields) and proposed RAMP projects. Exhibit 4 is a chart showing existing (2001) use, permitted use, the date of CUP expiration, and projected use in 2020.

The chart reflects current usage of approximately fifty-eight (58) MGD, and permitted use of approximately seventy (70) MGD. If sustainable ground water for these water suppliers is seventy (70) MGD, there is little room for increased ground water withdrawals, without the implementation of strategies such as artificial recharge that would increase the sustainable supply. If for any reason substantially less than seventy (70) MGD of ground water is available, new sources of water provided in the near future or in the alternative, significant constraints on water use shall be required.

The local governments in Volusia County each individually operate and maintain their water supply and distribution systems. They apply for and receive separate CUPs of variable duration on an individual, as opposed to a collective, basis. Additionally, each utility performs separate monitoring and compliance functions.

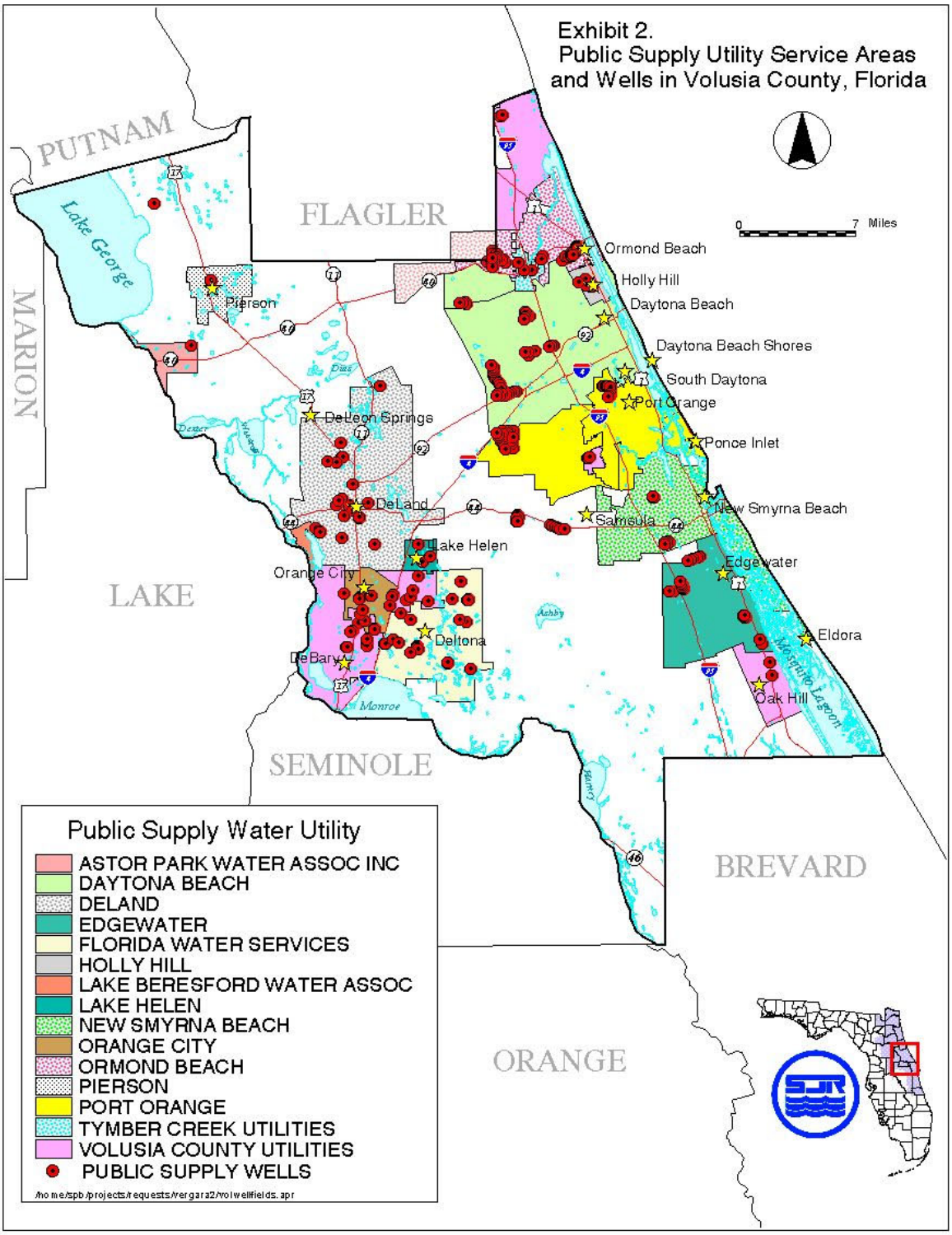
Exhibit 2.
Public Supply Utility Service Areas
and Wells in Volusia County, Florida
PUTNAM
FLAGLER
MARION
LAKE
SEMINOLE
BREVARD
ORANGE
Lake George
Pierson
DeLeon Springs
DeLand
Lake Helen
Orange City
Deltona
DeBary
Samsula
Ormond Beach
Holly Hill
Daytona Beach
Daytona Beach Shores
South Daytona
Port Orange
Ponce Inlet
New Smyrna Beach
Edgewater
Eldora
Oak Hill
Indian River Lagoon
0
7 Miles
Public Supply Water Utility
ASTOR PARK WATER ASSOC INC
DAYTONA BEACH
DELAND
EDGEWATER
FLORIDA WATER SERVICES
HOLLY HILL
LAKE BERESFORD WATER ASSOC
LAKE HELEN
NEW SMYRNA BEACH
ORANGE CITY
ORMOND BEACH
PIERSON
PORT ORANGE
TYMBER CREEK UTILITIES
VOLUSIA COUNTY UTILITIES
PUBLIC SUPPLY WELLS
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VOLUSIAN WATER ALLIANCE

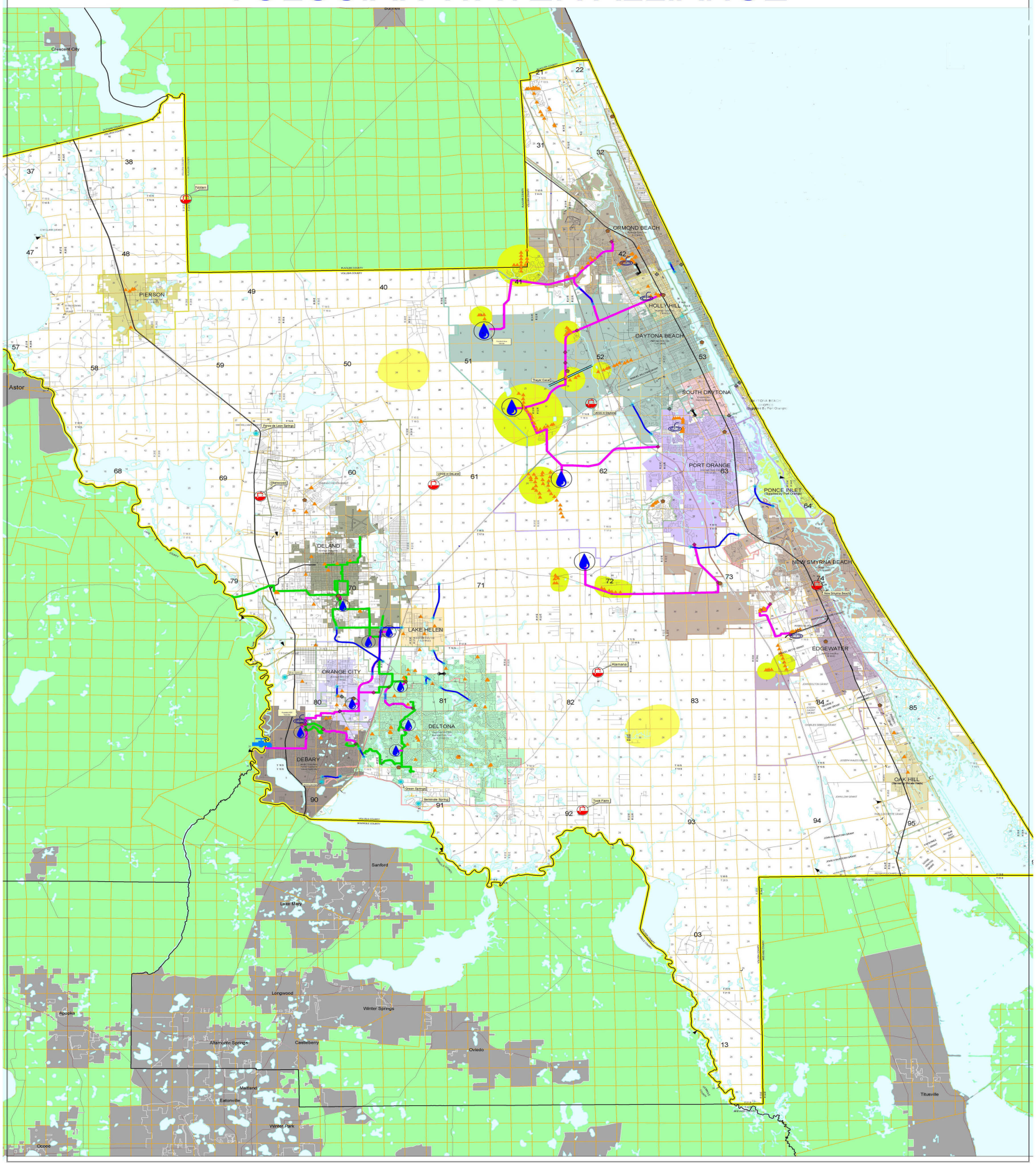


Exhibit 3.

WATER SUPPLY PLAN ELEMENTS

March 1, 2002

- Groundwater Monitoring Well
- Potential Surface Water Treatment Facility
- Potential Aquifer Storage and Recovery (ASR) Well
- Proposed Rapid Infiltration Basin Site
- Public Supply Wells

Finished Water Interconnection Points
- Existing
- Proposed

Finished Water Interconnection Lines
- Existing
- Proposed

- Reclamation Facilities
- Reclaimed Water Interconnection Points

Reclaimed Water Lines
- Existing
- Possible Future
- Proposed

Utility Service Area Boundaries
- City of Daytona Beach
- DeLand
- Edgewater
- Florida Water Services
- Holly Hill
- Lake Helen
- New Smyrna Beach
- Orange City
- Ormond Beach
- Pierson
- Port Orange
- Volusia County Utilities

Canals and Streams
- Channel In Water Area
- Ditch or Canal
- Intermitant
- Stream

- Existing Wellfield
- Potential Wellfield

N W E S

The Volusian Water Alliance prepares and uses this information for its own purposes and this information may not be suitable for other purposes. This information is provided as is.
Further documentation of this data can be obtained by

Volusian Water Alliance
Permitted, Actual, and Projected Water Use
May 9, 2002

User	Original Issue Date of CUP	CUP Expiration Date	CUP Duration (yr)	Permitted Annual Avg Withdrawal (mgd)	Actual Groundwater Use (mgd)	VWA Water Supply Plan Projection (mgd) (1)	New CUP Applica	
							New CUP Application Date	Allocation Requested (MGD)
				2001	2001	2020		
Daytona Beach	1/14/1992	1/14/1999	7	16.02	13.47	18.61	8/28/1998	18.62
DeLand	11/18/1998	11/18/2003	5	6.18	5.38	7.38		
Edgewater	8/11/1998	8/12/2003	5	2.25	1.90	4.10		
Florida Water Services (Deltona)	4/23/1990	5/8/2000	10	17.32	10.11	14.57	7/13/1999	16.7
Holly Hill	3/30/2000	3/30/2005	5	1.55	1.26	1.70		
Lake Helen	10/1/1997	10/1/2007	10	0.25	0.25	0.85		
New Smyrna Beach Util Comm	6/13/2000	2/9/2020	20	4.80	4.59	8.56		
Orange City	10/8/1996	10/8/2006	10	1.87	1.27	2.82		
Ormond Beach	8/9/1994	8/9/2001	7	6.40	6.12	7.23	8/5/2001	9.23
Pierson	9/1/1997	9/1/2007	10	0.27	0.14	0.23		
Port Orange	2/10/1993	2/10/2000	7	7.19	5.62	8.98	2/1/2000	8.97
Volusia County	5/8/2001	5/8/2021	20	3.91	3.07	14.42	5/8/2001	5.98
Sub-Total				**68.01**	**53.18**	**89.45**		
Agriculture **(2)**				N/A	21.97	21.64	Total Requested:	59.5
TOTAL					**75.15**	**111.09**		

(1) These projections were developed earlier than the 2020 quantity projections contained within the new CUP applications' allocation requests and therefore the two may be different. Volusia County's projection includes 6 MGD for a possible microchip plant.

(2) Agricultural Actual Water Use is from 1999 SJRWMD Annual Water Use Survey (DRAFT report).

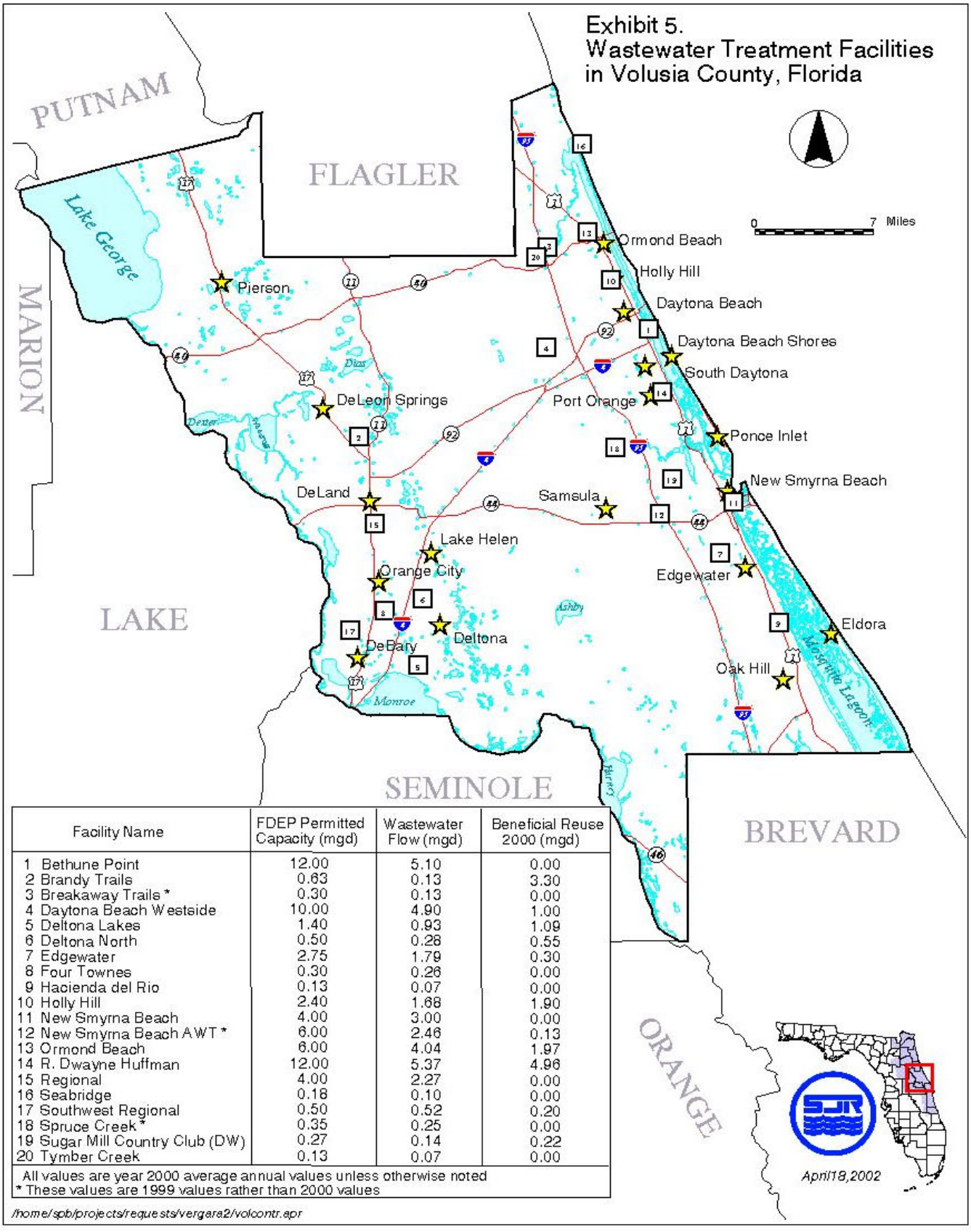
RETAIL WATER SERVICES SUMMARY BY MEMBER GOVERNMENTS

Only eleven of the seventeen general purpose local governments in Volusia County have developed their own public water supply systems and have consumptive use permits. Five of the other local governments purchase water from another local government or a private water provider, and one municipality, Oak Hill, has a limited number of residents who receive water from Volusia County and most of its residents rely on domestic self-supply. A general description of the water supply and distribution parameters of each local government, as well as other general information about their wastewater facilities, is provided in Exhibit 5. A map depicting the location and ownership of wellfields is provided as Exhibit 3.

FLORIDA GOVERNMENTAL UTILITIES AUTHORITY

Pursuant to Section 163.01(7)(g), F. S., the Florida Governmental Utilities Authority ("FGUA") was created in 1999 for the purpose of acquiring, owning, improving, operating and maintaining water and wastewater utilities. By December 2000, Citrus, Nassau, Polk and Sarasota Counties were members of FGUA, and FGUA had acquired certain utility facilities owned and/or controlled by Avatar Holdings, Inc., and its subsidiaries.

Negotiations between FGUA and Florida Water Services, Inc. ("FWS"), a private water supplier providing service to areas within several Florida counties, including Volusia County, are ongoing at the time of this report. The importance of whether the Volusia area assets of FWS are acquired by FGUA is that the membership of any entity subsequently created, either as a successor to the VWA or otherwise, may be affected because a private entity cannot be a member of an entity created pursuant to s. 163.01, F.S., but a public entity, such as FGUA, can be a member.



Facility Name	FDEP Permitted Capacity (mgd)	Wastewater Flow (mgd)	Beneficial Reuse 2000 (mgd)
1 Bethune Point	12.00	5.10	0.00
2 Brandy Trails	0.63	0.13	3.30
3 Breakaway Trails *	0.30	0.13	0.00
4 Daytona Beach Westside	10.00	4.90	1.00
5 Deltona Lakes	1.40	0.93	1.09
6 Deltona North	0.50	0.28	0.55
7 Edgewater	2.75	1.79	0.30
8 Four Townes	0.30	0.26	0.00
9 Hacienda del Rio	0.13	0.07	0.00
10 Holly Hill	2.40	1.68	1.90
11 New Smyrna Beach	4.00	3.00	0.00
12 New Smyrna Beach AWT *	6.00	2.46	0.13
13 Ormond Beach	6.00	4.04	1.97
14 R. Dwayne Huffman	12.00	5.37	4.96
15 Regional	4.00	2.27	0.00
16 Seabridge	0.18	0.10	0.00
17 Southwest Regional	0.50	0.52	0.20
18 Spruce Creek *	0.35	0.25	0.00
19 Sugar Mill Country Club (DW)	0.27	0.14	0.22
20 Tymber Creek	0.13	0.07	0.00

All values are year 2000 average annual values unless otherwise noted
* These values are 1999 values rather than 2000 values

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VOLUSIA COUNTY WATER POLICY REVIEW COMMISSION

In 1996, the voters of Volusia County created a Water Policy Review Commission ("WPRC") as part of its consideration of the recommendations of the 1995 Charter Review Commission. In accordance with that decision, the WPRC convened in May 2001and will make its report to Volusia County not later than June 30, 2002. The purpose of the WPRC is to evaluate the progress of the VWA and applicable water plans and to "propose amendments to the charter, as needed, to ensure that an adequate supply of affordable, potable and sustainable water will be available to all citizens within the county." The WPRC has been advised by Volusia County's legal counsel that it has limited authority with regard to the creation of a water authority, or similar entity, but that it could suggest to the County that an advisory statement be placed on the November 2002 ballot with regard to the water supply issue.

ENVIRONMENTAL ISSUES

One of the important environmental issues facing Volusia County as it makes decisions about its future water supply options is the requirement in Florida law that each water management district establish "minimum flows and levels" ("MFLs") for surface waters and aquifers within its jurisdiction. The minimum flow is defined as the "...limit at which further withdrawals would be significantly harmful to the water resources or ecology of the area." See, Section 373.042(1), F.S. The legal definition of the minimum level is the "limit at which further withdrawals would be significantly harmful to the water resources of the area."

Water management districts must use the best available data in establishing MFLs. Non-consumptive uses must be considered and may be protected. Baseline conditions for the resource functions must be identified through consideration of changes and structural alterations in the hydrologic system.

Although MFLs are not the only resource protection tool available to a water management district to maintain a sustainable resource or protect it from significant harm, it is intended and anticipated to be an important reference point in determining the amount of water needed for sustainability of designated resources. Moreover, the establishment of MFLs may directly impact the CUP permitting process, as the potential for significant harm from proposed ground water withdrawals is likely to conflict with the desire to maintain dependence on or increase the reliance on ground water as a water supply source.

An example of the MFL conflict with water supply expectations can be seen in the case of Blue Spring. The SJRWMD was scheduled to establish a MFL for Blue

Spring in 2001, but concern was raised by the Florida Department of Environmental Protection (FDEP), the U.S. Fish and Wildlife Service, and the Save the Manatee Club, among others, that the proposed minimum average flow for the spring would not allow for the continued growth of the manatee populations. The SJRWMD and FDEP are working to address the ecological concerns and are continuing to analyze data in order to re-evaluate the MFL. During this process, the CUP application for requested ground water withdrawals that may affect Blue Spring are being held in abeyance.

While the establishment of an MFL for Blue Spring has brought a lot of attention to the MFL issue, the water management district has also gathered considerable data concerning the impacts of existing withdrawals on the Floridan aquifer and the surficial aquifer. See Exhibits 6 and 7. The data and models indicate that the potentiometric surface in the Floridan aquifer has decreased as much as four (4) feet on a long-term average annual basis in some areas of Volusia County and the surficial aquifer has also dropped as much as four (4) feet. The cumulative impact of all ground water withdrawals is an issue that will impact all ground water users. Because a substantial number of consumptive use permits for local government are currently pending or must be reviewed shortly, the renewal of consumptive use permits will undoubtedly require more supporting data, which means that the permitting process will become more expensive and take more time. It is also possible that there may be competing uses and this will only add to the complexity of the permitting process.

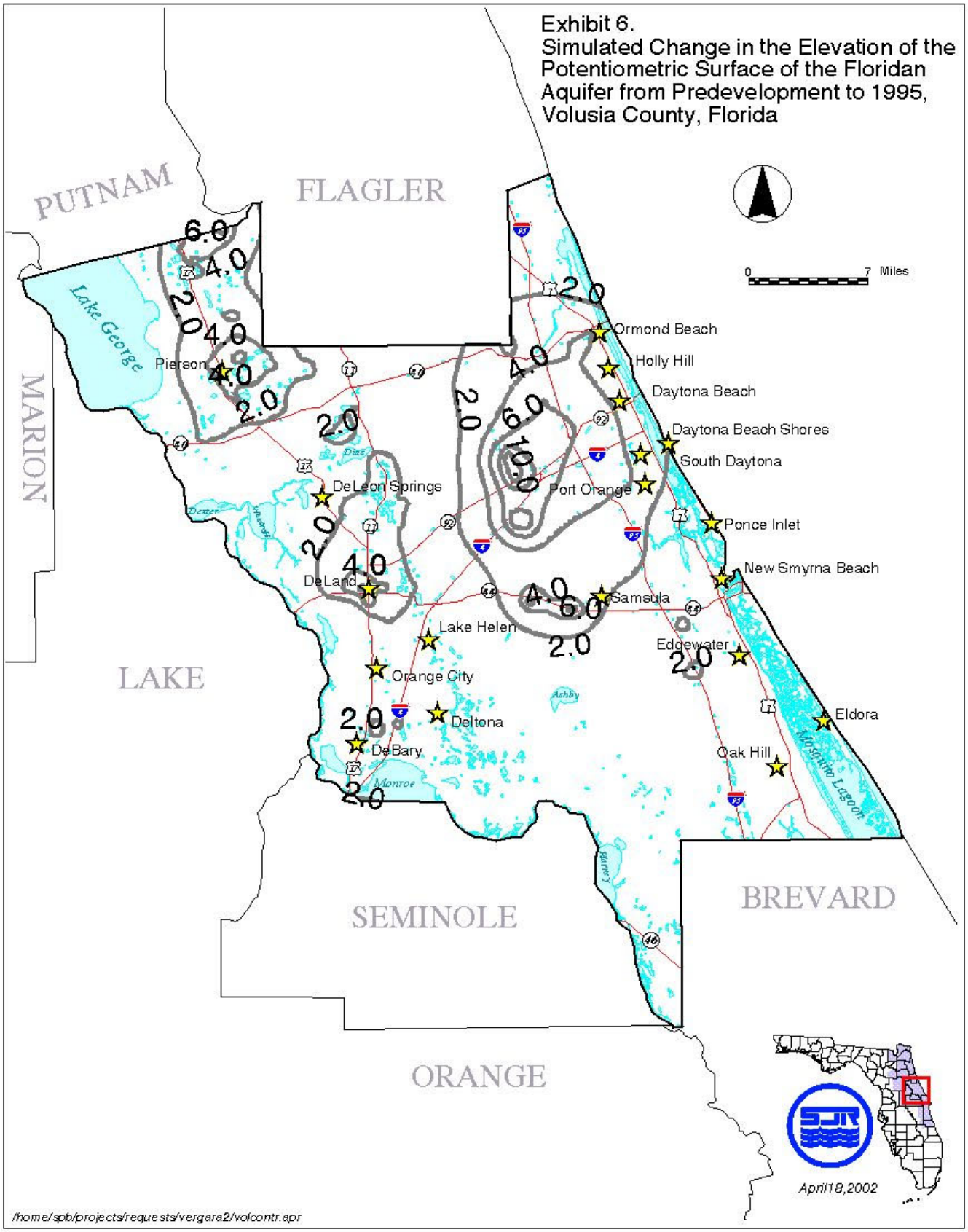
Exhibit 6.
Simulated Change in the Elevation of the Potentiometric Surface of the Floridan Aquifer from Predevelopment to 1995, Volusia County, Florida
PUTNAM
FLAGLER
MARION
LAKE
SEMINOLE
ORANGE
BREVARD
Lake George
Pierson
DeLeon Springs
DeLand
Lake Helen
Orange City
Deltona
DeBary
Ormond Beach
Holly Hill
Daytona Beach
Daytona Beach Shores
South Daytona
Port Orange
Ponce Inlet
New Smyrna Beach
Samsula
Edgewater
Oak Hill
Eldora
Mosquito Lagoon
0
7 Miles
April18,2002
/home/spb/projects/requests/vergara2/volcontr.apr

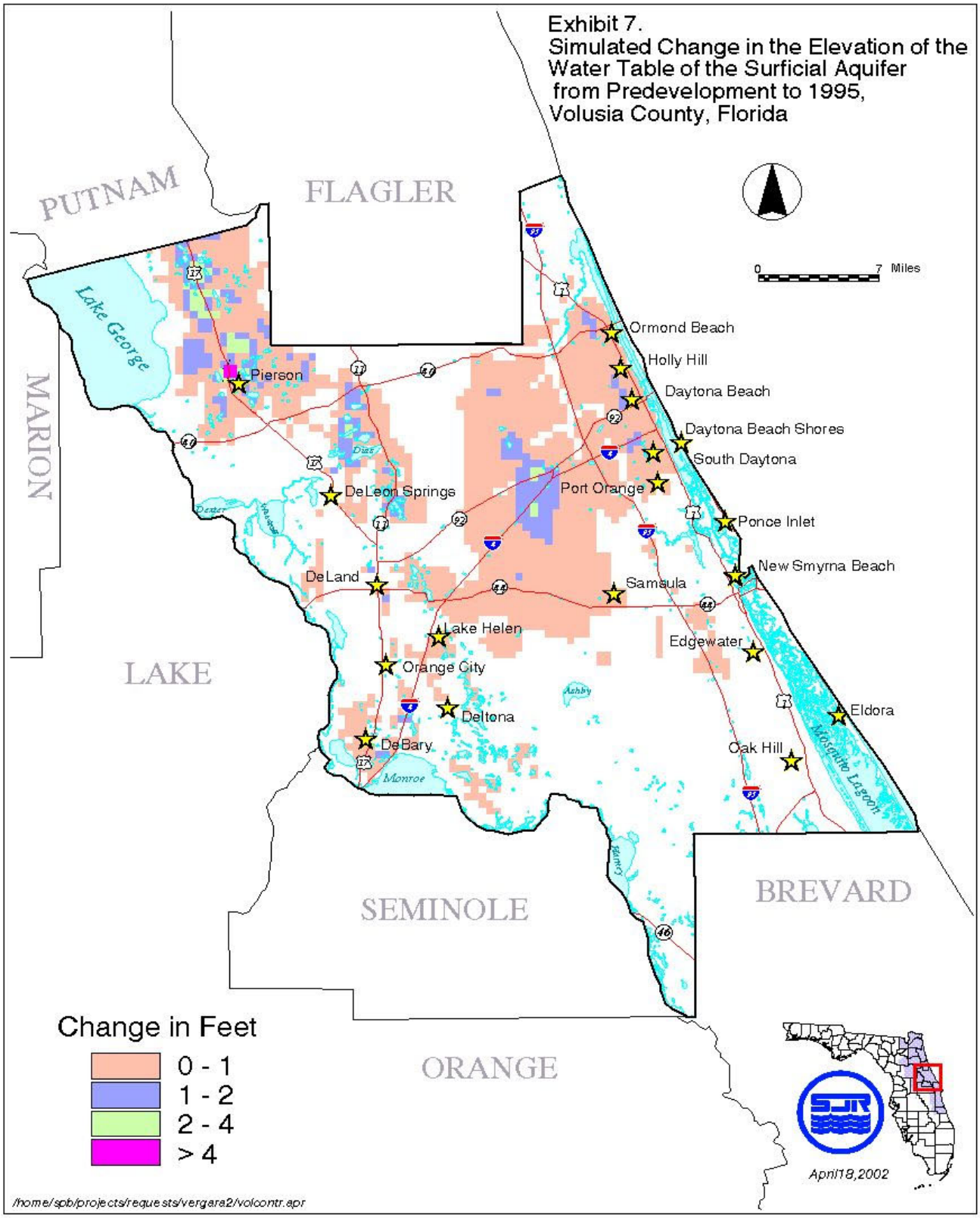
Exhibit 7.
Simulated Change in the Elevation of the Water Table of the Surficial Aquifer from Predevelopment to 1995, Volusia County, Florida
PUTNAM
FLAGLER
MARION
LAKE
SEMINOLE
ORANGE
BREVARD
Lake George
Pierson
Ormond Beach
Holly Hill
Daytona Beach
Daytona Beach Shores
South Daytona
Port Orange
DeLeon Springs
Ponce Inlet
New Smyrna Beach
DeLand
Samsula
Lake Helen
Edgewater
Orange City
Deltona
Eldora
DeBary
Oak Hill
Mosquito Lagoon
0
7 Miles
Change in Feet
0 - 1
1 - 2
2 - 4
> 4
April18,2002
/home/spb/projects/requests/vergara2/volcontr.apr

VWA WATERUPPLY PLAN

Funded by the SJRWMD as an integral part of its own water supply planning process, the Volusian Water Supply Plan ("Plan") was adopted by the VWA in early 2002. The purpose of the Plan is to present a strategy to meet the water supply needs of the Volusia County area, particularly with regard to public water supply.

The provisions of Executive Order 96-297 and Sections 373.036 and 373.0361, F. S., require each water management district to complete a district-wide water supply assessment no later than July 1, 1998. When a water management district determines in its water supply assessment that for the identified planning period sources of water are not adequate for all existing and projected reasonable-beneficial uses and to sustain the water resources and related natural systems, the district is to prepare a regional water supply plan. Section 373.0361(2), F. S., provides extensive requirements as to what must be included in the regional water supply plan. Included in the statutory criteria is the need for a twenty (20) year planning horizon. The Plan was developed for Work Group Area II of the SJRWMD regional water supply plan and involves all of Volusia County and portions of Flagler and Putnam counties.

Due to significant uncertainty associated with projected water demands and the constraints of modeling efforts, the Plan is general in nature, and does not specify which of the identified potential new water supply sources or projects should be embraced by the VWA members.

The Plan was prepared by Post, Buckley, Schuh & Jernigan (PBS&J) for the VWA pursuant to a contract entered in May 1997. The Plan was developed to assist SJRWMD in developing and evaluating water supply options to meet the needs of VWA members through the year 2020. The original project was to be completed within two years and was to include a five-year plan (2000-2005). For several reasons, adoption of the Plan was delayed until 2002, but the Plan remains on a five-year schedule, so that the next planning effort is scheduled to commence in 2003, for the 2005-2010 time frame.

The Plan addresses eight potential sources and management strategies to be considered in order to meet the anticipated future demand. They are:

1. **New Ground Water Sources**

Because almost all of the current potable water demand in Volusia County is

supplied from withdrawals from the Floridan aquifer, members of the VWA are justifiably concerned that any new ground water withdrawals not interfere with the existing utilization of ground water resources. Questions regarding the environmental impacts associated with current withdrawals have recently arisen, thus heightening this concern. Additionally, because adjacent jurisdictions have in the past viewed Volusia County as a county with a bountiful amount of ground water, and thus, ideal as an area with potential for the exportation of water, there is a growing desire that ground water sources within Volusia County must be protected against significant additional withdrawals.

2. System Interconnections

There are ongoing efforts sponsored by the VWA to interconnect existing water supply systems within Volusia County. While interconnections should be encouraged for a variety of reasons, e.g., to provide an emergency backup system or to ease environmental pressures at a specific location, no significant increase to total water supply resources is anticipated through interconnections. It is critical that these interconnects be adequately sized so that water can be freely "wheeled" among the local governments. Additionally, although not emphasized in the Plan, an adequate decision support system to optimize the use of the connected systems is critical and may make for more efficient withdrawals and minimize impacts. There are some who believe that with an adequate decision support system in place, the current water supply sources might produce more water.

3. Surface Water

The St. Johns River is an obvious source of surface water supply for Volusia County and a study is underway to further evaluate the potential use of the river as a future potable water source. The St. Johns River Water Supply Project, begun in February 2001, is expected to provide the level and type of information necessary to evaluate the St. Johns River as a potential potable water source, both from an economic and an environmental standpoint.

The Atlantic Ocean or nearby saline rivers, bays and lagoons are obvious potential sources of surface water supply for the Volusia County area. The Plan did not evaluate specific seawater or other surface saline waters as a water supply source, however, as it was considered "unlikely that significant quantities of seawater will be developed within SJRWMD before the year 2020." Plan, at ES-7.

Consideration of either the St. Johns River or the Atlantic Ocean as a future water supply source for the Volusia County area inevitably leads to concerns being

raised about both the initial capital costs of these sources, as well as concerns about the costs of transmission lines and treatment. Moreover, several local governments view either the St. Johns River source or the Atlantic Ocean as a "west side" or an "east side" solution, respectively, as opposed to a solution which may be used by the area as a whole.

4. Brackish Ground Water

The Plan identified brackish ground water as a potential source of future water supply. The options for developing this source ranged from the construction of a wellfield with minimum treatment facilities and the blending of this treated, but highly mineralized, water with existing high-quality water supply to complete treatment through reverse osmosis (RO), so that the brackish water could be used directly as a source of potable water. The Plan recognized the use of brackish water as having the same potential to impact environmental resources as fresh ground water pumping through drawdowns and increased chloride concentrations.

5. Water Conservation and Reuse

The Plan considered water conservation as a water supply management option because of the potential reduction of a utility's future water supply needs. The Plan recognized the ongoing water conservation programs that are included in all SJRWMD water supply utilities and the aggressive reuse programs already implemented by VWA utilities. Previous studies on the potential for reuse indicate that VWA utilities reuse almost half of available reclaimed water, therefore new interconnections or long-term storage should be considered to increase the reclaimed water reuse to even higher levels.

6. Artificial Recharge

The Plan indicates that the most likely area to benefit from additional recharge through rapid infiltration basins (RIBs) is the DeLand Ridge. The area has a number of wellfields, a high recharge rate and available land surface area that could benefit from the application of reclaimed water, stormwater, or raw or partially-treated surface water. The Plan suggests that providing additional aquifer recharge could increase available fresh ground water supplies, thereby reducing or delaying the need for development of alternative water supplies. However, the magnitude and extent of this effect or potential source is not quantified by the Plan.

7. Wetlands Augmentation

Because adverse impacts on wetlands may limit the amount of fresh water that

can be withdrawn from the Floridan aquifer, wetlands augmentation is viewed in the Plan as a potential way to protect affected wetlands and allow for the continued withdrawal of fresh water from the aquifer. The feasibility of this option for the Rima Ridge utilities and the western wellfield area of eastern Volusia County was viewed in the Plan as areas identified for potential augmentation. Two ongoing demonstration projects, one in the Bennett Swamp wetlands and one in the Port Orange wellfield, may provide additional information regarding this management option.

8. **Aquifer Storage and Recovery (ASR)**

ASR was recognized in the Plan as a potentially cost-effective method of storing large quantities of treated drinking water. No details regarding timing or location for potential ASR projects were provided.

PLAN RECOMMENDATIONS

Based on the ground water model provided and refined by the SJRWMD, the VWA Board determined that the Plan should be based on a deficit target of approximately twenty (20) million gallons per day (MGD) for the 2020 planning horizon. Considerable uncertainty and debate continues regarding the potential extent of a deficit, and this has distracted attention from the overall goal of planning for future water supply. It is justifiable that this critical piece of the planning process be the focus of so much attention, however, the timing and selection of alternative future water supply options are directly dependent on knowing when and how much additional water will be needed.

The Plan assumes that public water utilities will be the only user group with a significant need for increased water use by 2020, which is a conservative assumption. Water supply sources and management strategies that are recommended in the Plan are reuse and water conservation, wetlands augmentation, ground water recharge, interconnections and surface water. The surface water project which is identified in the Plan is the development of a ten (10) MGD annual average daily flow (AADF) of surface water supply in southwest Volusia County.

The surface water project (the "Project") described in the Plan is under study at the present time. The Project includes facilities to withdraw surface water from the St. Johns River, a surface water treatment plant, storage facilities, and a pumping and transmission system capable of supplying peak demands of seventeen and one-half (17.5) MGD to existing water plants near the proposed plant site. Treated water would be pumped into a regional transmission system that would supply individual

water supply utilities through the utility's own treatment facility, then on to retail customers. ASR would allow treated surface water to be stored for recovery and pumping into the transmission system during times when direct withdrawals from the river are not possible.

The Plan also recommends implementation of a Regional Aquifer Management Project ("RAMP") which consists of a Rima Ridge wetland augmentation project in east Volusia County and a DeLand Ridge artificial recharge project in west Volusia County. The goal of each project is to develop five (5) MGD of additional ground water withdrawals. For the Rima Ridge project, treated reclaimed water would be pumped from a location near the Daytona Beach Regional Water Reclamation Facility to a constructed wetlands system and then to natural wetlands in the vicinity of the western wellfields. The DeLand project is less developed in concept at this time.

GOVERNANCE AND STRATEGIC OPTIONS

EVALUATION CRITERIA

It is obvious that for any undertaking to be successful, it needs the support and cooperation of its member local governments. What, then, are the criteria by which the affected local governments will measure the success of any future governance or strategic option? Based upon numerous interviews and several workshops with the VWA Board, Executive Committee, and Technical Advisory Committee, it is clear that certain characteristics must be present in order for a new entity or approach to be successful. The following factors are recommended as criteria for evaluating the available options.

1. **There must be representation of both water suppliers and water users.**

Regardless of how many local governments ultimately make the decision to join a new entity, it is fair to expect that all of the participating local governments will have a tremendous stake in the operation of a water supply entity and each will want a voice in the governance of such an entity. The future prospects of each local government are dependent on there being an adequate water supply system to serve residents' and visitors' needs, but no affected local government wants to voluntarily give up its control over this vital resource unless it is assured that it has direct involvement in the governance of the entity and long term assurances of an adequate water supply.

The current VWA governance structure distinguishes between local governments that have consumptive use permits (CUPs) from SJRWMD and those which do not. This decision-making model has lead to considerable controversy and this controversy is likely to continue unless the non-CUP members are given the right to vote on certain decisions that substantially affect them. In fact, the representation issue is likely to increase in importance if the purpose of the new entity is to function as a water supplier, as then the critical issue of rates will be injected into the debate. Additionally, if water supply projects are undertaken by the entity, assumption of the responsibility for obtaining funding or financing debt will bring this issue to the forefront.

2. **Financial advantages over existing water supply methods.**

Financial advantages over existing water supply methods will typically require that the cost of water to the local government must be lower than the current cost each

local government incurs in order for this factor to be present. However, because of an anticipated increase in the cost of supplying water in the future, a more appropriate comparison is to determine whether, over the long term, the cost of future water supply alternatives to each participating local government will be individually or collectively lower than the cost at which water could be supplied by an entity created for that purpose.

Another financial consideration which should be evaluated is whether there will be potential economies of scale relative to the development of new water sources or savings generated in the cost of the permitting process, from the standpoint that multiple permits will be avoided and that longer term permits and financial assistance may be available for a cooperative effort. Additionally, the cost of operating an entity must be compared against the cost of operating individual water supply utilities. In this regard, it is understood that many employees of local governments have multiple duties, not just responsibilities, that relate exclusively to water supply; therefore, only estimates of comparative costs will be available.

3. **Operational advantages over existing water supply methods.**

Assuming that a new entity existed which could serve several local governments now independently providing for their own water supply, a reasonable criterion for analyzing options is whether operational efficiencies could be realized by a more encompassing organizational structure which serves more than one local government. The efficiencies considered include interconnections so that water supply sources may be rotated, or "wheeled," to avoid negative environmental impacts, and possibly increase total available supply, as well as the ability to undertake regional mitigation strategies which would be cost-prohibitive or practically infeasible for a single local governmental unit. This evaluation criteria should address the issue of whether a more efficient use of water supply infrastructure will be possible under the new governance structure.

4. Improved environmental protection.

Many of the strategies identified in the VWA Water Supply Plan involve large-scale, regional mitigation efforts such as the Regional Aquifer Management Project (RAMP). Financing and managing such a project may not be feasible for an individual local government, and coordinating such a project between several local sponsors offers separate challenges, as well. Such a project would, however, be practical for a larger entity to undertake and would result in improved accountability for carrying out and maintaining the project in the future.

GOVERNANCE OPTIONS

The options which were identified by VWA for this evaluation were determined by the VWA Board of Representatives, and are discussed below**.**

1. Continue with current system.

Often, the easiest decision to make is to do nothing. Change is inherently risky, and if the status quo is comfortable, little incentive exists for change. As the old saying goes, "If it ain't broke, don't fix it."

The current system in Volusia County consists of several separate utility providers each owning and operating separate water utilities. There are several advantages which exist in the present system, which should not be overlooked. Primary among these are control, a better familiarity with local needs and a corresponding increased incentive to better serve them, the ability to link utility decisions more directly with land use policies, and potentially increased conservation measures, particularly reuse. The primary disadvantages are that the utilities may expect to compete against each other for future water supply sources, do not have the operational flexibility associated with combined systems, and do not enjoy the economies of scale of a large entity.

Some of the individual utilities in Volusia County are already encountering permitting constraints associated with environmental impacts identified by SJRWMD. These constraints are not expected to lessen unless ground water withdrawals are mitigated, or alternatives to ground water supply sources are put in place. The question then becomes whether the individual utilities are in a better position to address mitigation or alternative source options, or whether a combination of local government utilities would better address these issues.

2. Develop interlocal agreements between local government utilities.

Based upon the home rule authority of local governments and the statutory authority contained in Section 163.01, F. S., two or more local governments may enter into agreements regarding water supply. Many local governments in Volusia County already purchase or sell water to each other, and this type of agreement may be expanded to include cooperative undertakings for new water supply projects or for strategic mitigation projects. In such an agreement, the responsibilities for developing, financing, owning, operating and maintaining such projects may be negotiated on mutually agreeable terms.

There are few disadvantages to such an approach, and many potential advantages. The main disadvantage is that even when the contractual relationship is very clear regarding responsibilities and funding obligations, there may be disagreements between the local governments regarding the implementation of the undertaking. A common type of disagreement which arises relates to whether the personnel assigned by one of the governments to the agreed task are spending the required amount of time, effort and priority on tasks which benefit the combined enterprise and accomplish the contracted responsibilities, as opposed to others which are performed on behalf of his local government employer. Another common disagreement is the assignment of the costs or the distribution of the benefits created by the joint enterprise, which although they may be clear at the outset of the relationship, tend to create ambiguity over the long term, particularly when the outcome of the project does not meet the expectations of the parties.

The primary advantage of this option is that the combination of local governments are able to accomplish larger projects which would otherwise have been beyond the reach, financial or operational, of one local government. Additionally, the ability to accomplish the desired task cooperatively without creating a separate entity eliminates the expense and bother of a separate administrative configuration.

3. "Lead" local governments contracting with local government utilities and private utilities.

In this option, which is a variation on Item 2 relating to interlocal agreements, it is envisioned that one of the participating local governments would be designated as the "lead" local government and the remaining participants would contract with the designated lead local government for the assigned purpose, e.g., to obtain water supply. In that circumstance, the lead local government would be responsible for permitting, owning, operating and maintaining the water supply system, and the remaining local governments would agree to receive all or a certain portion of their water needs from that local government in exchange for guaranteed payment for a certain time period.

Again, there are few disadvantages to such an approach, and many potential advantages. There still may be disagreements about whether participating local governments may be subsidizing non-venture responsibilities of the lead local government, and there may be problems relating to the amount of expense, effort and priority given to the shared goals as opposed to the goals of the lead local government. The advantages are that the combination of local governments are able to accomplish larger projects which would otherwise have been beyond the reach,

financially or operationally, of one local government. Also, if this option is selected and a separate administrative entity is not created, the participating local governments would have been able to accomplish the desired task cooperatively without creating a separate entity, thereby eliminating the expense and burden (governance, oversight, bureaucracy) of a separate administrative configuration.

4. A non-profit corporation formed by local governments.

Local governments have the authority to create a non-profit corporation, and could do so for the purpose of developing and operating a water supply utility, or implementing strategic mitigation projects. Depending upon how the corporation was governed, it may be subject to taxation by the federal government. Additionally, such a corporation would not be entitled to the protections afforded by sovereign immunity. The ability to include a private water supplier, Florida Water Services, in the governance and management of the corporation may be an advantage to this option

5. A governmental utility authority created pursuant to S. 163.01(7). F.S.

Pursuant to Section 163.01 (7) (g), F. S., counties and municipalities are empowered to create a separate legal entity known as a governmental utility authority (or GUA) to own, operate, and separately finance the purchase and operation of utility systems. A GUA is not legally considered to be a special district, but is governed by a board composed of representatives appointed by the participating local governments or any other method of appointment agreed to in the interlocal agreement creating the GUA. The participating local governments therefore control the GUA, but do not incur any direct liability for GUA debt or operations.

As determined by the interlocal agreement, a GUA can be given all of the powers to operate a utility, e.g., to set rates, levy special assessments and issue debt to finance and manage utility systems, except the power to tax or the power of eminent domain, either direct or indirect, over the facilities or property of any existing water or wastewater plant utility system.

6. **A regional water supply authority created pursuant to S. 373.1962,F.S.**

The creation of a regional water supply authority ("RWSA") is authorized pursuant to Section 373.1962, F. S. The mechanism for creating an RWSA is by interlocal agreement, approved by the Secretary of the Department of Environmental Protection. Membership is limited to local governments. The authority is required to develop, recover, store and supply water "in such a manner as will give priority to reducing adverse environmental effect of excessive or improper withdrawals of water

from concentrated areas." See, Section 373.1962 (1), F.S. The RWSA can provide potable water directly to the local government distribution system or raw water to the local government water treatment plants, but may not engage in local distribution of water.

The RWSA can levy ad valorem taxes not to exceed 0.5 mill with voter approval, and may issue revenue bonds which may be additionally secured by the full faith and credit of local governments. The RWSA can exercise the power of eminent domain to condemn private property for public use, but cannot condemn water or water rights already devoted to reasonable and beneficial uses or any water production or transmission facilities owned by local government.

FINANCIAL ANALYSIS

This section presents the results of the financial analysis that was performed for the governance alternatives considered in this report. Because numerous governance alternatives were considered in this report, and numerous utilities will be affected by the recommended governance option, it was important to develop a financial analysis that allowed consideration of the financial impact of a broad array of governance options to a diverse group of utilities.

A. Scenario Analysis

In order to present a manageable representation of the magnitude and range of the financial impacts for the numerous combinations of governance options and unique utilities in the service area, a number of scenarios were evaluated. The scenarios were defined in terms of the governance option and the type of utility as described in the following sub-sections.

1. Governance Options

The governance options considered in this report range from continuing with the status quo, that is each utility continuing as a "stand-alone" utility to the assumption that some utilities will join together as members of a new entity for water supply. The primary financial advantage of the entity option is the economy of scale afforded by the larger utility as alternative water supply resources are required. Also, the entity option would facilitate a coordinated utility treated water interconnect program and Regional Aquifer Management Project (RAMP) and it offers efficiencies regarding water resource regulatory costs by means of a consolidated consumptive use permit.

All other governance options have attributes that would place them, in terms of financial impact to the utilities, somewhere between a stand-alone utility and the entity option. Based upon these facts, it was determined that a financial impact analysis of the stand-alone utility option and the entity option would represent the range of financial impact to utilities in the area. Therefore, the governance assumptions of 1) a stand-alone utility, and 2) a new water supply entity were the primary governance scenarios evaluated for the financial impact analysis presented herein. Sub-scenarios for the new water supply entity were also developed to reflect 1) alternative sizing of the entity equal to 50% and 75% respectively of current water usage in the total county, 2) inclusion and exclusion of the costs and benefits of the RAMP program identified in the Water Supply Plan, and 3) alternative assumptions as to the distance of the required transmission line from the alternative water supply

facilities to the point of delivery to the member utilities.

a. Original Governance Options Evaluated

In the original analysis, for all scenarios involving a new water supply entity, it was assumed that each member utility would lease its existing water supply facilities to the entity for $1.00 per year, essentially a no cost lease. The entity will then be responsible for providing raw ground water from these existing ground water supply facilities. It is assumed that the entity will be responsible for operation and maintenance (O&M) of these ground water supply facilities, either directly or through contracts with some or all of the member utilities, and the entity will include these O&M costs in a unitary wholesale rate to the member utilities. The rate will be charged to each utility based upon its metered treated water production. No capital costs for these leased existing ground water supply facilities will be included in the entity's wholesale rate to member utilities, because the entity has incurred essentially no capital costs through the nominal lease arrangement described above.

If new ground water supply resources are required during the projection period, it is assumed that the entity will plan, design, construct, own and operate those facilities and that the entity will include the annual debt service for the capital cost and the additional annual O&M to operate and maintain these new ground water supply facilities in its unitary wholesale rate to member utilities.

When maximum public supply ground water withdrawals are reached, and alternative water supply, treatment and transmission facilities are required, it is assumed that the entity will plan, design, construct, own and operate those facilities and that the entity will include the annual debt service for the capital cost and the additional annual O&M to operate and maintain these new alternative water supply, treatment and transmission facilities in its unitary wholesale rate to member utilities.

b. Alternative Governance Option Evaluated

During a presentation of the preliminary results of this analysis to a joint meeting of the Technical Advisory Committee (TAC) and the Management Advisory Committee (MAC), the members of these committees requested that an alternative scenario be evaluated. This alternative scenario assumes that at its inception, the new water supply entity does not lease the existing water supply facilities from member utilities. The committee members were concerned about potential operational confusion and problems stemming from the close proximity and relationship of their existing ground water supply and treatment facilities and the overlapping responsibilities for both functions of their personnel.

Under this alternative scenario, the entity would be responsible for water usage in that it would secure a consumptive use permit for the combined usage of all member utilities. Therefore, only when the net water usage of all member utilities exceeds the maximum ground water withdrawals in the entity's consumptive use permit would alternative water supply facilities be required. Also, the entity would be responsible for funding, implementing and managing the treated water interconnect program, and the mgd benefit against ground water withdrawals would be credited against the total water usage of all member utilities.

Under this alternative scenario, at its inception and until alternative water supply resources are developed, the entity will not provide water to the member utilities. However, the entity will incur costs from its inception. Therefore, under this alternative scenario, the entity will develop a unitary wholesale rate that will be charged to member utilities based upon their respective metered treated water produced. At such time as the entity begins providing water from alternative water supply resources the unitary wholesale rate will be based upon the treated ground water produced by each member utility plus the water from alternative water supply resources delivered to each member utility by the entity.

2. Utilities

The utilities in the service area of this study vary considerably in size, rate of growth, capital structure, etc. In order to present a manageable financial analysis that would be meaningful to all utilities, it was decided that a financial impact analysis that considered representative small, medium and large utilities would allow all utilities in the area to relate the results of the financial analysis to their particular situation with regard to size. Furthermore, it was decided that if the representative utilities were set up to reflect the average attributes of the county as a whole, such as growth, available ground water supply, etc., sensitivity analyses could demonstrate the range of impact for variations from these average assumptions.

For instance, if a utility had a slower growth rate than the county as a whole, it would have to go to alternative water supply resources later than if it had average growth. The implications of this would be that as a stand-alone utility, this utility could go longer before a relatively large rate increase would be required to cover the higher costs of alternative water supply; whereas under the entity scenario, this utility would have to implement a relatively large rate increase sooner, but the increase would be less than under the stand-alone option, reflecting 1) the average growth assumption for the entity resulting in the need to go to alternative water supply sooner than the stand-alone with lower growth, and 2) the economies of scale realized by the entity

and passed on to the utility in its wholesale rate.

Therefore, the utility assumptions of 1) small – 1.5 mgd, 2) medium - 6.0 mgd, and 3) large – 13.0 mgd, were the primary utility scenarios evaluated for the financial impact analysis presented herein, and each utility was set up to reflect the average growth and available public supply ground water compared to current flows for the county as a whole as represented in the Water Supply Plan.

B. Basis of the Scenario Analysis

The basis of the scenario analysis was to develop a financial model to simulate the financial performance of the three representative utilities under the stand-alone and the new water supply entity assumptions for each year in the projection period from 2000 through 2020. The simulation of the financial performance of each utility allowed the determination of the timing and amount, expressed as a percentage of prior year rate revenue, of rate increases required for the utility to meet all of its ongoing and new financial obligations throughout the projection period.

For each year in the projection period, the effective rate per 1,000 gallons (total cost of service divided by total usage, in 1,000 gallons) was calculated for both the stand-alone utility and the utility as a member of the entity scenarios, which reflected the required annual rate increases for each scenario determined by the model. These effective rates per 1,000 gallons for the stand-alone and the entity scenarios were then compared in each year, to determine the difference in effective rate per 1,000 gallons under the stand-alone and the entity scenarios. This is where "the rubber meets the road" in the scenario analysis, as it reflects the combined impact of all of the assumptions at the level where the utilities' customers will be effected, the retail rates.

It should be pointed out that it was recognized that every utility in the service area of the study will have a different rate structure, that is fixed monthly charge, usage charge, inclining block rates, etc. Therefore, it was determined that the effective rate per 1,000 gallons, as defined in the previous paragraph, would be the fairest and most consistent way to compare the rate impacts in the scenario analysis. It would also be a valid approach to apply the percentage increases identified in the scenario analysis to the average monthly water bill of a typical single family customer in the subject utility.

In order to simulate the financial performance of the subject utility for the scenarios evaluated, the financial model was developed to track the utility's water usage, with the effects of growth, against 1) available ground water withdrawals and 2) available

capacity. If the water usage in any year is projected to exceed maximum ground water withdrawals, the model identifies the need for alternative water supply, sizes the facilities to accommodate 10 years of projected growth and determines the capital and additional O&M costs of the new facilities. The capital costs are assumed to be debt financed and the annual debt service is the capital cost component that effects the utility's revenue requirements from that year forward.

If the water usage in any year is projected to exceed the available capacity, the model identifies the need for either 1) additional ground water capacity, if maximum available ground water withdrawals are not depleted, or 2) additional alternative water supply capacity, if maximum available ground water withdrawals are depleted. For either ground water facilities or alternative water supply facilities, the model sizes the facilities to accommodate 7 or 10 years of projected growth respectively and determines the capital and additional O&M costs of the new facilities. The capital costs are assumed to be debt financed and the annual debt service is the capital cost component that effects the utility's revenue requirements from that year forward.

The model calculates the additional capital and O&M costs of ground water and alternative water supply facilities, including a transmission line needed to deliver the alternative water supply water, by using algorithms provided by the SJRWMD which were updated from the District's 2000 Water Supply Plan. These algorithms reflect the economies of scale in the unit costs of larger increments of additional capacity and O&M costs.

The same process of identifying the need for, timing, size and cost of water supply facilities was conducted for the water supply entity in the entity scenarios evaluated.

C. Treated Water Interconnects

The Plan calls for treated water interconnects and assumes that these interconnects will derive a 2 mgd benefit against ground water withdrawals for a total 2002 capital cost of $4,813,450 for the Deland Ridge Project and $4,317,000 for the Rima Ridge Project and a total additional annual 2002 O&M cost of $43,321 for the Deland Ridge project and $38,857 for the Rima Ridge project. It is assumed that these interconnects can only be achieved through some cooperative form of governance and could not be achieved under a strictly stand-alone utility assumption. Therefore, the cost and benefit of these treated water interconnects are only assumed in the entity scenarios presented herein. Where included, these interconnect costs are assumed to be incurred in two sequential years, 2004 and 2005. It is assumed that in 2004, the above referenced capital costs escalated to 2004 dollars will be incurred to construct the interconnects and annual O&M costs escalated to 2004 dollars will be incurred

thereafter. In addition in 2005, capital costs in 2002 dollars of $3,000,000 will be incurred to implement a Decision Support System to manage and optimize the interconnects to achieve the 2 mgd benefit and additional annual O&M costs of $250,000 in 2002 dollars will be incurred thereafter.

For the entity scenarios, in its projection of ground water usage each year after 2004, the model subtracts the 2 mgd benefit of the treated water interconnects from actual projected water usage before comparing that net water usage against maximum ground water withdrawals to determine if that year's projected net water usage can be accommodated from ground water resources.

D. **RAMP**

The Plan identifies a Regional Aquifer Management Project (RAMP). This RAMP program assumes that in western Volusia county, approximately 5 mgd of recharge can be achieved for a capital cost of $23,480,400 in 2002 dollars, and an annual O&M cost of $305,245 in 2002 dollars and that in eastern Volusia County approximately 5 mgd can be achieved for a capital cost of $26,217,000 and an annual O&M cost of $340,821 in 2002 dollars. Therefore, in the scenarios evaluated herein that include RAMP, those scenarios that size the entity at 50% of total water usage assume that the western RAMP program will be implemented in 2008, whereas, those scenarios that size the entity at 75% of total water usage assume that the western RAMP program will be implemented in 2008 and the eastern RAMP program will be implemented in 2012.

For the entity scenarios sized at 50% of current water usage, in the model's projection of ground water usage each year after 2008, it subtracts the 5 mgd benefit of the western RAMP project from actual projected water usage before comparing that net water usage against maximum ground water withdrawals to determine if that year's projected net water usage can be accommodated from ground water resources.

For the entity scenarios sized at 75% of current water usage, in the model's projection of ground water usage each year after 2008, it subtracts the 5 mgd benefit of the western RAMP project from actual projected water usage before comparing that net water usage against maximum ground water withdrawals to determine if that year's projected net water usage can be accommodated from ground water resources. Also, in the model's projection of ground water usage each year after 2012, it subtracts the additional 5 mgd benefit of the eastern RAMP project from actual projected water usage before comparing that net water usage against maximum ground water withdrawals to determine if that year's projected net water usage can be accommodated from ground water resources.

For all RAMP assumptions, the total assumed benefit in mgd achieved is phased in equal annual amounts over a five year period, beginning in the year that the capital cost is incurred.

E. Scenarios

For each scenario described in this section, the rate impacts, that is the effective rate per 1,000 gallons of water usage, were determined for the subject utility under the stand-alone utility assumption and the utility as a member of the entity assumption. The scenarios evaluated are described below:

Scenario 1 – New Water Supply Entity Sized at 50% of Current Water Usage in the Total County – Entity to Provide all Existing and New Raw Water Resources and all New Treated Water from Alternative Water Supply Resources

- Scenarios 1a, b, c, d, e & f - Entity sized at 50% of current water usage for the total county

- Scenarios 1a, b, c & d - Maximum available public supply ground water withdrawals are 70 mgd, entity has pro-rata share, or 50%, based upon current water usage

- Scenarios 1a, b, c, d, e & f - 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities

- Ramp scenarios

  Scenario 1a - No RAMP

  Scenario 1b - 5 mgd of RAMP at full cost and 100% effectiveness, or 5 net mgd of recharge.

  Scenario 1c - 5 mgd of RAMP at full cost and 70% effectiveness, or 3.5 net mgd of recharge.

  Scenario 1d - 5 mgd of RAMP at full cost and 40% effectiveness, or 2 net mgd of recharge.

Scenario 1e - For the 5 mgd RAMP at full cost and 40% effectiveness scenario, assume Minimum Flows and Levels (MFLs) reduce the available public supply ground water withdrawals in the county by 10 mgd.

Scenario 1f - For the maximum public supply ground water withdrawal scenario with the MFL effect, remove the cost and benefits of RAMP

Scenario 2 – New Water Supply Entity Sized at 75% of Current Water Usage in the Total County – Entity to Provide all Existing and New Raw Water Resources and all New Treated Water from Alternative Water Supply Resources

- Scenarios 2a, b, c, d, e & f - Entity sized at 75% of current water usage for the total county

- Scenarios 2a, b, c & d - Maximum available public supply ground water withdrawals are 70 mgd, entity has pro-rata share, or 75%, based upon current water usage

- Scenarios 2a, b, c, d, e & f - 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities

- Ramp scenarios

  Scenario 2a - No RAMP

  Scenario 2b - 10 mgd of RAMP at full cost and 100% effectiveness, or 10 net mgd of recharge.

  Scenario 2c - 10 mgd of RAMP at full cost and 70% effectiveness, or 7.0 net mgd of recharge.

  Scenario 2d - 10 mgd of RAMP at full cost and 40% effectiveness, or 4.0 net mgd of recharge.

  Scenario 2e - For the 10 mgd RAMP at full cost and 40% effectiveness scenario, assume Minimum

Flows and Levels (MFLs) reduce the available public supply ground water withdrawals in the county by 10 mgd.

Scenario 2f - For the maximum public supply ground water withdrawal scenario with the MFL effect, remove the cost and benefits of RAMP

***Alternative Scenario 3 – New Water Supply Entity Sized at 50% of Current Water Usage in the Total County – Entity to Provide all New Raw Water* Resources and all New Treated Water from Alternative Water Supply Resources**

- Scenarios 3a, b, c, d, e & f - Entity sized at 50% of current water usage for the total county

- Scenarios 3a, b, c & d - Maximum available public supply ground water withdrawals are 70 mgd, entity has pro-rata share, or 50%, based upon current water usage

- Scenarios 3a, b, c, d, e & f - 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities

- RAMP scenarios

Scenario 3a - No RAMP

Scenario 3b - 5 mgd of RAMP at full cost and 100% effectiveness

Scenario 3c - 5 mgd of RAMP at full cost and 70% effectiveness

Scenario 3d - 5 mgd of RAMP at full cost and 40% effectiveness

Scenario 3e - For the 5 mgd RAMP at full cost and 40% effectiveness assume Minimum Flows and

Levels (MFLs) reduce the available public supply ground water withdrawals by 10 mgd.

Scenario 3f - For the maximum public supply ground water withdrawals scenario with the MFL effect, remove the cost and benefits of RAMP

Alternative Scenario 4 – New Water Supply Entity Sized at 75% of Current Water Usage in the Total County – Entity to Provide all New Raw Water Resources and all New Treated Water from Alternative Water Supply Resources

- Scenarios 4a, b, c, d, e & f - Entity sized at 75% of current water usage for the total county

- Scenarios 4a, b, c & d - Maximum available public supply ground water withdrawals are 70 mgd, entity has pro-rata share, or 75%, based upon current water usage

- Scenarios 4a, b, c, d, e & f - 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities

- RAMP scenarios

  Scenario 4a - No RAMP

  Scenario 4b - 10 mgd of RAMP at full cost and 100% effectiveness

  Scenario 4c - 10 mgd of RAMP at full cost and 70% effectiveness

  Scenario 4d - 10 mgd of RAMP at full cost and 40% effectiveness

  Scenario 4e - For the 10 mgd RAMP at full cost and 40% effectiveness assume Minimum Flows and Levels (MFLs) reduce the available public supply ground water withdrawals by 10 mgd.

Scenario 4f - For the maximum public supply ground water withdrawal scenario with the MFL effect, remove the cost and benefits of RAMP

F. Results of the Financial Analysis

This section presents the results of the financial analyses conducted for each scenario listed in the prior section. A summary discussion of the results is presented first followed by detailed descriptions of the results of each scenario evaluated. Supporting schedules for each scenario evaluated are presented in the Appendix and are referenced in the text of this section where appropriate.

G. Summary Results

1. Original Scenarios

A detailed review of each scenario evaluated leads to the conclusion that under virtually all assumptions for all scenarios, the rate impact to the member utilities is less over the twenty (20) year projection period under the assumption that the utilities are members of a new water supply entity than if the utilities were to continue as stand-alone utilities. In fact, for virtually all assumptions for all scenarios, not only is the effective retail rate per 1,000 gallons lower in 2020 for each representative utility under the entity scenario than as a stand-alone utility, but also, with the exception of a slightly higher effective retail rate, about $.05 per 1,000 gallons, for the first 5 or 6 years of the projection period, the effective retail rate per 1,000 gallons for each representative utility under the entity scenario is less than or equal to the effective retail rate per 1,000 gallons as a stand-alone utility in virtually all of the years after 2007. A graphical comparison of the effective retail rate for the stand-alone and entity scenarios for all sub scenarios is presented in the schedules in the Appendix.

2. RAMP Effects

Also, the larger rate increases, or rate spikes, caused by the requirement to invest in alternative water supply resources occur in the same years for the stand-alone and entity scenarios if RAMP is not included in the analysis. However, when RAMP is included in the entity scenarios, at every assumed level of effectiveness the time at which alternative water supply resources are required is delayed compared to the stand-alone scenario, causing a reduced effective cost per 1,000 gallons for the entity scenario than the same scenario without RAMP. The effect of this RAMP impact is to increase the differential in rate impact upon member utilities' retail rates under the

entity scenario compared to the stand-alone scenario.

However, it should be pointed out that there is uncertainty as to the ultimate effectiveness of RAMP. Under the most conservative assumptions regarding the recharge effectiveness of RAMP evaluated in this report, RAMP only delayed the need for alternative water supply from 2007 to between 2009 and 2012, depending upon the size of the entity. This is still "just around the corner" relative to the time required to plan, design and construct alternative water supply resources. Therefore, although RAMP appears to be an effective interim strategy, it should not be relied upon at the exclusion of planning for alternative water supply resources.

3. **Sensitivity to Growth Rate and Consumptive Use Permit**

The above conclusion is true for the assumption that each representative utility has average attributes for growth, consumptive use permit, capacity, etc. relative to the total county. However, sensitivity analyses show that if a member utility has a lower growth rate than the average for the total county or a higher consumptive use permit relative to its current water usage than for the total county, on a stand-alone basis the time at which alternative water supply resources will be required is later than under the entity scenario without RAMP. If RAMP is assumed for the entity scenario, this effect is mitigated by the delay in the time that alternative water supply resources will be required for the entity. Depending upon how low the growth rate, or large the consumptive use permit of the member utility, the effect of RAMP in the entity scenario may completely offset the delay in the requirement for alternative water supply resources under the stand-alone scenario. Sensitivity analyses indicate that if the growth rate of a medium sized member utility is lower than the average for the total county by up to approximately 20%, the rate impact of the entity scenario is less than the stand-alone scenario; whereas, if the growth rate of a member utility is lower than the average for the total county by more than approximately 20%, the rate impact of the entity scenario is more than the stand-alone scenario. However, if the entity implements the interconnect and RAMP projects projected herein, the member utility's growth rate could be as much as 30% lower than the average for the county and rate impact of the entity scenario would be less than as a stand-alone utility.

The converse effect is true for a utility that has a growth rate that is higher than the average for the total county or a consumptive use permit that is lower relative to its current water usage than for the total county. In this case, the utility as a stand-alone utility will require alternative water supply resources sooner than under the entity scenario, causing the rate spikes to happen sooner and the rate per 1,000 gallons differential to be greater than under the entity scenario by the end of the projection period.

4. Minimum Flows and Levels (MFLs) Effect

The impact of assuming that MFLs will reduce the maximum ground water withdrawals for public supply, was evaluated with the assumption that RAMP achieves a 40% effectiveness. Under that assumption, MFLs reduce the available ground water under the entity and stand-alone scenarios to the point that alternative water supply resources would have been required in 2001. This causes sooner and larger ultimate rate impacts for both the stand-alone and the entity scenarios, however, the entity scenarios still result in lower rate impacts to member utilities than under the stand-alone scenarios.

5. More RAMP Effects

It is interesting to note that when RAMP costs and benefits are removed from the above referenced entity scenario with the effects of MFLs included, the retail rate impacts become less. This, along with the observations as to the positive impact of RAMP in scenarios where it delays the time that alternative water supply resources are required, leads to the conclusion that if RAMP can be implemented in time to delay the need for alternative water supply resources, it is cost effective; however, if RAMP is implemented after alternative water supply resources are required, it is not as cost effective as providing that additional water from the alternative water supply source. This phenomenon occurs because 1) the entity incurs the double cost of RAMP and alternative water supply, 2) these double costs are incurred early in the projection period causing a compounding effect as costs are escalated and rates are increased throughout the forecast period, and 3) the unit cost of upsizing the alternative water supply resources to cover the requirements that otherwise would have been offset by RAMP reflect the lower unit costs attributable to the economies of scale of larger facilities.

6. Financial Effects Based upon the Size of the Utility

Review of the results for the representative small, medium and large utilities reveals that the advantage in the difference in the impact upon the rates of the member utility that the entity scenario offers over the stand-alone utility scenario is greatest for the small utility and smallest for the large utility. This is due to the fact that the large utility, even as a stand-alone utility, can realize some of the economies of scale in the cost of larger alternative water supply facilities.

As the assumption as to the size of the entity diminishes to the point where it approaches the size of the largest utility, the financial advantage of the entity effectively disappears. Our analysis indicates that if the size of the entity is equal to

or greater than 30% of the current water usage in the total county, the rate impact to member utilities will be substantially lower over the 20 year projection period than as a stand-alone utility. Entity sizes that represent lower than 30% of the total county water usage may also be desirable, but the rate impact advantage of the entity is not as significant in those ranges of size.

7. Alternative Scenarios

A review of the alternative scenario requested by the TAC and MAC reveals that the assumptions as to the structure of the entity relative to operation and maintenance of current ground water supply facilities of member utilities results in minimal financial impact advantages over the original scenarios.

These alternative scenarios result in lower initial costs under the entity because 1) in the original scenarios the inefficiencies assumed in the avoidance of O&M costs for water supply O&M for the member utilities were assumed to be offset by the efficiencies in consumptive use permit costs for the entity due to the fact that only one permit would be required for the entity instead of one permit for each utility; whereas, 2) in the alternative scenarios there is no transfer from the member utility to the entity of responsibility for existing water supply facilities' O&M costs and thus no avoided cost assumption and therefore no inefficiencies to occur relative to avoided cost for the utility as a stand-alone utility, yet the efficiencies in consumptive use permit costs still effect the entity.

The effect is that under the original scenarios these assumptions regarding inefficiencies in avoided O&M costs of supply facilities and CUP efficiencies resulted in no impact upon the ultimate cost to the member utility through the wholesale rate of the entity, whereas, under the alternative scenarios, the entity will incur less permitting costs than the member utilities will avoid thus causing a net reduction in cost to the member utilities in the entity's wholesale rate.

The financial dynamics of all other aspects of the alternative scenarios are the same as for the original scenarios except that the cost differential caused by the avoided cost assumptions as described in the prior paragraph is compounded throughout the projection period as costs are escalated annually for the effects of inflation and annual rate increases are factored in.

However, CUP permitting costs only occur once or twice in the projection period and are not regularly occurring costs. Also the order of magnitude of the permitting costs, when they are incurred is small relative to the annual O&M cost of the utilities. Therefore, although the alternative scenarios result in a minimally better rate impact

for the entity scenarios than the original scenarios, we believe that, given the small cost differential and the margin of judgement in the underlying assumptions that differentiate the alternative scenarios from the original scenarios, the difference is not material enough to select the alternative scenarios on the basis of financial impact. Rather, we believe that in a comparison of the alternative scenarios to the original scenarios, organizational and operational considerations should be the differentiating factors. For these reasons, the output of the alternative scenarios are not included in this report, as their results are in all material respects the same as for the respective original scenarios.

8. Detailed Results of Scenarios

The detailed results of each scenario evaluated are presented in the Appendix. This section presents all of the underlying assumptions included in each scenario.

1. Assumptions:

The assumptions presented below apply to all scenarios evaluated. Assumptions that differ by scenario are presented in the subsections describing each specific scenario.

2. Size of Representative Utility:

Small	1.5 mgd
Medium	6.0 mgd
Large	13.0 mgd

c. Growth Rate:

Entity	Same as for the total county as presented in the Water Supply Plan
Utilities	Same as for the total county as presented in the Water Supply Plan

d. Maximum Public Supply Ground Water Withdrawal:

Total County	70 mgd

Entity Same ratio to current flow as total county maximum ground water withdrawal is to total county current flow

Utility Same ratio to current flow as total county maximum ground water withdrawal is to total county current flow

e. Financial Assumptions:

Annual Inflation Rate for Escalation of Operations and Maintenance

Expenses (O & M)	3.0%
Funding of Capital Costs	Debt financed
Term of Debt Financing	30 Years
Interest Rate for Debt Financing	6.0%
Debt Service Coverage Required	1.10
Interest Earnings Rate on Invested Funds	4.5%

Water Supply Costs:

Ground water and alternative water supply costs were derived from formulas provided by SJRWMD's engineering consultant. These formulas are included in the sample pro forma analysis included in the Appendix.

f. Sizing of Required Additional Water Supply Capacity:

Ground water - 7 years of growth

Alternative Water Supply - 10 years of growth

g. Detailed Results of Each Scenario:

The detailed results of each scenario are presented in the appendix.

RECOMMENDATION

Based on extensive interviews with representatives of the various local governments and interested parties involved in the process, and the financial analysis conducted of the cost effectiveness of a stand-alone utility versus that utility as a member of a water supply entity, it is our recommendation that a new entity be created by interlocal agreement pursuant to s.163.01(7)(g) , F.S. Set out below are the important elements to be incorporated in the interlocal agreement:

1. Entity's mission - to provide a cost-effective, reliable and sustainable supply of high-quality water to meet the present and future needs of its members on a wholesale (at cost) basis and in a manner that shall not cause adverse environmental impacts.

2. Membership - any local government that: (1) receives its water directly from the entity, (2) receives its water through another member of the entity, or (3) has residents that receive water through another member of the entity may be a member. In addition, all members must: (a) agree to enter a lease with the entity wherein the entity shall assume the immediate responsibility for managing the water production facilities (wells) but the local government may continue to operate and maintain the water production facilities (wells) for an agreed upon time following the creation of the entity; and (b) contract to get all of its water exclusively from the entity. In addition, ex-officio memberships can be made available to representatives of large water users, such as agriculture, so that these groups can participate in the long range planning activities involving the water resources within Volusia County.

3. Voting - all members shall have a right to vote (one vote per member).

4. Cost of Water - the entity shall sell water at a single wholesale rate to all members who lease their water supply facilities to the entity. The wholesale rate shall include capital costs, if applicable, and operations and maintenance ("O & M") expenses of the entity, including administrative costs.

5. Administration - initially the entity shall be headed by a general manager and sufficient staff and third party contractors to perform the duties and responsibilities undertaken by the entity. As the entity assumes more responsibilities, such as the operation and maintenance of existing wells, more staff or contractors will be required. To the maximum extent feasible, the entity shall retain the services of third parties (members, private parties and public parties) to carry out its responsibilities (i.e. do not create a big, new bureaucracy).

6. Responsibilities –

a. Planning new water supply projects to meet the water supply demands of its members. The entity should prepare and maintain a long range plan that should be incorporated as part of the approved regional water supply plan;

b. Until the entity assumes the responsibility for operating and maintaining the existing water supply facilities, the entity shall be responsible for managing the existing facilities consistent with the consumptive use permit and to optimize water production from all of the facilities;

c. After an appropriate transition period, operating and maintaining all existing water production facilities (wells and wellfields) of its members. The entity will not be involved in the treatment of ground water, nor in distribution to retail users;

d. Planning, constructing, operating and maintaining appropriate inter-connections of the water distribution systems between members so that water can be "wheeled" among its members;

e. Providing for the most efficient and economic water supply services within the service areas of the members in a non-discriminatory manner;

f. Providing water at a unitary rate to all members who lease facilities to the entity. The unitary rate may include allowances for capital reserves for future water supply projects and maintenance and replacement of existing facilities;

g. Constructing, financing, operating and maintaining future water projects, including, but not limited to, new water supply and mitigation strategies, such as RAMP and reuse strategies;

h. Treating new or alternative water supplies to insure that water of a certain water quality can be provided to the members;

i. Receiving via transfer all consumptive use permits from its members, including the responsibility for complying with all terms and conditions, such as monitoring, reporting and mitigation;

j. Taking all necessary actions to obtain appropriate permits and approvals. More specifically, the entity shall seek and obtain a consolidated consumptive use permit for all existing and future water supply sources;

k. Entering long term supply contracts with each member wherein the entity shall be the exclusive provider of water to those members who have leased water supply facilities to the entity. Those members who do not lease water supply facilities to the entity shall continue to receive their water from the members that are currently providing them water. The contracts between the entity and the member shall provide for the delivery of water at the point of delivery.

7. Funding - while the entity is not a profit making organization, its primary source of revenue will be from the sale of water. Generally, the water revenues should equal the total costs of providing the water to its members. To offset or reduce the cost of providing water to its members, the entity should seek additional funding. The creation of the entity will benefit more than just the members. For example, all water users and citizens in Volusia County will benefit, yet all water users are not members. Thus, it is appropriate to find a funding source that comes from all the beneficiaries. An ad valorem tax assessed throughout Volusia County to cover all or a portion of the costs incurred in the financing and construction of new water supply facilities, including the inter-connections, would be an equitable way for all beneficiaries to pay for future water. There are several options, including the following: (a) a charter amendment authorizing the entity to levy an ad valorem tax; (b) having the County establish a municipal service taxing unit (MSTU) and designate the entity as the governing body of the MSTU; or (c) amend Chapter 373, F.S., and authorize SJRWMD to levy an ad valorem tax within Volusia County for this specified purpose upon the request of the entity. If this funding is made available, it will reduce the revenues required to cover the capital costs and, thereby, keep the water rates lower.

Appendix

This Appendix presents a summary schedule of the results of each scenario evaluated. The scenarios evaluated are described in the tables on the following page, followed by the summary schedules of the results for each scenario

Scenario Name	Entity Size as a Percentage of Total County Water Use	Size of Utility Small = 1.5 mgd Medium = 6.0 mgd Large = 13.0 mgd	Available Public Supply Groundwater in MGD			Length of Transmission Line in Miles	RAMP Included ?	Percentage Effectiveness of RAMP
			Total County	Effect of MFLs Included	Total County Net of MFLs Effect			
Scenario 1a	50%	Small	70	0	70	5	No	NA
Scenario 1b	50%	Small	70	0	70	5	Yes	100%
Scenario 1c	50%	Small	70	0	70	5	Yes	70%
Scenario 1d	50%	Small	70	0	70	5	Yes	40%
Scenario 1e	50%	Small	70	10	60	5	Yes	40%
Scenario 1f	50%	Small	70	10	60	5	No	NA
Scenario 1a	50%	Medium	70	0	70	5	No	NA
Scenario 1b	50%	Medium	70	0	70	5	Yes	100%
Scenario 1c	50%	Medium	70	0	70	5	Yes	70%
Scenario 1d	50%	Medium	70	0	70	5	Yes	40%
Scenario 1e	50%	Medium	70	10	60	5	Yes	40%
Scenario 1f	50%	Medium	70	10	60	5	No	NA
Scenario 1a	50%	Large	70	0	70	5	No	NA
Scenario 1b	50%	Large	70	0	70	5	Yes	100%
Scenario 1c	50%	Large	70	0	70	5	Yes	70%
Scenario 1d	50%	Large	70	0	70	5	Yes	40%
Scenario 1e	50%	Large	70	10	60	5	Yes	40%
Scenario 1f	50%	Large	70	10	60	5	No	NA
Scenario 2a	75%	Small	70	0	70	25	No	NA
Scenario 2b	75%	Small	70	0	70	25	Yes	100%
Scenario 2c	75%	Small	70	0	70	25	Yes	70%
Scenario 2d	75%	Small	70	0	70	25	Yes	40%
Scenario 2e	75%	Small	70	10	60	25	Yes	40%
Scenario 2f	75%	Small	70	10	60	25	No	NA
Scenario 2a	75%	Medium	70	0	70	25	No	NA
Scenario 2b	75%	Medium	70	0	70	25	Yes	100%
Scenario 2c	75%	Medium	70	0	70	25	Yes	70%
Scenario 2d	75%	Medium	70	0	70	25	Yes	40%
Scenario 2e	75%	Medium	70	10	60	25	Yes	40%
Scenario 2f	75%	Medium	70	10	60	25	No	NA
Scenario 2a	75%	Large	70	0	70	25	No	NA
Scenario 2b	75%	Large	70	0	70	25	Yes	100%
Scenario 2c	75%	Large	70	0	70	25	Yes	70%
Scenario 2d	75%	Large	70	0	70	25	Yes	40%
Scenario 2e	75%	Large	70	10	60	25	Yes	40%
Scenario 2f	75%	Large	70	10	60	25	No	NA

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1a **Small** *1.5 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 35.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- No RAMP in Entity Scenario

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$3.35	$3.35
2020	$6.00	$5.11
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.89)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	79.1%	52.5%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.29
2020	NA	$1.68
5. First Year Alternative Water is Required	2007	2010
Percentage Retail Rate Spike for Alternative Water	28.2%	14.1%
6. Second Year Alternative Water is Required	2017	2020
Percentage Retail Rate Spike for Alternative Water	22.9%	13.4%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	1.5%
Second Year 2005	NA	1.7%
10. Years of RAMP Implementation:		
First Year	NA	NA
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd NA	NA	NA
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year NA	NA	NA
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	NA
14. Planning Years before Alternative Water is Required	5	8

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1a **Medium** *6.0 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 35.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- No RAMP in Entity Scenario

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.36	$2.36
2020	$4.42	$4.04
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.37)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	87.1%	71.3%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.29
2020	NA	$1.68
5. First Year Alternative Water is Required	2007	2010
Percentage Retail Rate Spike for Alternative Water	29.8%	19.5%
6. Second Year Alternative Water is Required	2017	2020
Percentage Retail Rate Spike for Alternative Water	23.6%	17.3%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.1%
Second Year 2005	NA	2.3%
10. Years of RAMP Implementation:		
First Year	NA	NA
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd NA	NA	NA
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year NA	NA	NA
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	NA
14. Planning Years before Alternative Water is Required	5	8

Source: Burton & Associates

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Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1a **Large** *13.0 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 35.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- No RAMP in Entity Scenario

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.37	$2.37
2020	$4.27	$4.05
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.22)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	80.2%	71.1%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.29
2020	NA	$1.68
5. First Year Alternative Water is Required	2007	2010
Percentage Retail Rate Spike for Alternative Water	26.0%	19.4%
6. Second Year Alternative Water is Required	2017	2020
Percentage Retail Rate Spike for Alternative Water	21.3%	17.2%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.0%
Second Year 2005	NA	2.3%
10. Years of RAMP Implementation:		
First Year	NA	NA
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd NA	NA	NA
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year NA	NA	NA
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	NA
14. Planning Years before Alternative Water is Required	5	8

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1b **Small** *1.5 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 35.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 100% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$3.35	$3.35
2020	$6.00	$4.54
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($1.46)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	79.1%	35.4%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.29
2020	NA	$1.11
5. First Year Alternative Water is Required	2007	2017
Percentage Retail Rate Spike for Alternative Water	28.2%	12.4%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	22.9%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	1.5%
Second Year 2005	NA	1.7%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	5
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	5.8%
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	10
14. Planning Years before Alternative Water is Required	5	15

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1b **Medium** *6.0 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 35.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 100% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.36	$2.36
2020	$4.42	$3.47
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.94)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	87.1%	47.1%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.29
2020	NA	$1.11
5. First Year Alternative Water is Required	2007	2017
Percentage Retail Rate Spike for Alternative Water	29.8%	16.6%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	23.6%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.1%
Second Year 2005	NA	2.3%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	5
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	8.1%
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	10
14. Planning Years before Alternative Water is Required	5	15

Source: Burton & Associates

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Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1b **Large** *13.0 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 35.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 100% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.37	$2.37
2020	$4.27	$3.48
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.79)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	80.2%	47.0%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.29
2020	NA	$1.11
5. First Year Alternative Water is Required	2007	2017
Percentage Retail Rate Spike for Alternative Water	26.0%	16.5%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	21.3%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.0%
Second Year 2005	NA	2.3%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	5
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	8.0%
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	10
14. Planning Years before Alternative Water is Required	5	15

Source: Burton & Associates

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Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1c **Small** *1.5 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 35.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 70% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$3.35	$3.35
2020	$6.00	$4.59
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($1.41)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	79.1%	37.1%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.29
2020	NA	$1.17
5. First Year Alternative Water is Required	2007	2015
Percentage Retail Rate Spike for Alternative Water	28.2%	12.6%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	22.9%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	1.5%
Second Year 2005	NA	1.7%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	3.5
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	5.8%
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	8
14. Planning Years before Alternative Water is Required	5	13

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1c **Medium** *6.0 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 35.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 70% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.36	$2.36
2020	$4.42	$3.53
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.89)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	87.1%	49.5%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.29
2020	NA	$1.17
5. First Year Alternative Water is Required	2007	2015
Percentage Retail Rate Spike for Alternative Water	29.8%	17.0%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	23.6%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.1%
Second Year 2005	NA	2.3%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	3.5
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	8.1%
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	8
14. Planning Years before Alternative Water is Required	5	13

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1c **Large** *13.0 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 35.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 70% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.37	$2.37
2020	$4.27	$3.54
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.73)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	80.2%	49.3%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.29
2020	NA	$1.17
5. First Year Alternative Water is Required	2007	2015
Percentage Retail Rate Spike for Alternative Water	26.0%	16.9%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	21.3%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.0%
Second Year 2005	NA	2.3%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	3.5
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	8.0%
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	8
14. Planning Years before Alternative Water is Required	5	13

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1d **Small** *1.5 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 35.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 40% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$3.35	$3.35
2020	$6.00	$4.64
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($1.36)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	79.1%	38.6%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.29
2020	NA	$1.22
5. First Year Alternative Water is Required	2007	2012
Percentage Retail Rate Spike for Alternative Water	28.2%	12.9%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	22.9%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	1.5%
Second Year 2005	NA	1.7%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	2
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	5.8%
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	5
14. Planning Years before Alternative Water is Required	5	10

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1d **Medium** *6.0 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 35.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 40% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.36	$2.36
2020	$4.42	$3.58
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.84)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	87.1%	51.6%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.29
2020	NA	$1.22
5. First Year Alternative Water is Required	2007	2012
Percentage Retail Rate Spike for Alternative Water	29.8%	17.4%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	23.6%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.1%
Second Year 2005	NA	2.3%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	2
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	8.1%
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	5
14. Planning Years before Alternative Water is Required	5	10

Source: Burton & Associates

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Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1d **Large** *13.0 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 35.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 40% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.37	$2.37
2020	$4.27	$3.59
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.68)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	80.2%	51.4%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.29
2020	NA	$1.22
5. First Year Alternative Water is Required	2007	2012
Percentage Retail Rate Spike for Alternative Water	26.0%	17.3%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	21.3%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.0%
Second Year 2005	NA	2.3%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	2
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	8.0%
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	5
14. Planning Years before Alternative Water is Required	5	10

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1e **Small** *1.5 - mgd - 10 mgd Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 60 mgd. Entity has pro-rata share, or 30.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 40% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$3.35	$3.35
2020	$5.81	$5.15
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.66)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	73.5%	53.7%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.78
2020	NA	$1.74
5. First Year Alternative Water is Required	2001	2001
Percentage Retail Rate Spike for Alternative Water	26.9%	13.3%
6. Second Year Alternative Water is Required	2011	2016
Percentage Retail Rate Spike for Alternative Water	23.1%	12.4%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	1.7%
Second Year 2005	NA	0.2%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	2
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	5.2%
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	0
14. Planning Years before Alternative Water is Required	-1	-1

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1e **Medium** *6.0 - mgd - 10 mgd Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 60 mgd. Entity has pro-rata share, or 30.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 40% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.36	$2.36
2020	$4.32	$4.09
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.23)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	82.9%	73.1%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.78
2020	NA	$1.74
5. First Year Alternative Water is Required	2001	2001
Percentage Retail Rate Spike for Alternative Water	28.3%	18.8%
6. Second Year Alternative Water is Required	2011	2016
Percentage Retail Rate Spike for Alternative Water	23.9%	16.0%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.2%
Second Year 2005	NA	0.2%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	2
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	6.9%
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	0
14. Planning Years before Alternative Water is Required	-1	-1

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1e **Large** *13.0 - mgd - 10 mgd Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 60 mgd. Entity has pro-rata share, or 30.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 40% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.37	$2.37
2020	$4.20	$4.10
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.11)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	77.3%	72.8%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.78
2020	NA	$1.74
5. First Year Alternative Water is Required	2001	2001
Percentage Retail Rate Spike for Alternative Water	24.7%	18.8%
6. Second Year Alternative Water is Required	2011	2016
Percentage Retail Rate Spike for Alternative Water	21.5%	16.0%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.2%
Second Year 2005	NA	0.2%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	2
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	6.9%
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	0
14. Planning Years before Alternative Water is Required	-1	-1

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1f **Small** *1.5 - mgd - 10 mgd Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 60 mgd. Entity has pro-rata share, or 30.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- No RAMP in Entity Scenario

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$3.35	$3.35
2020	$5.81	$5.05
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.76)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	73.5%	50.8%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.79
2020	NA	$1.64
5. First Year Alternative Water is Required	2001	2001
Percentage Retail Rate Spike for Alternative Water	26.9%	13.4%
6. Second Year Alternative Water is Required	2011	2013
Percentage Retail Rate Spike for Alternative Water	23.1%	13.1%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	1.7%
Second Year 2005	NA	0.2%
10. Years of RAMP Implementation:		
First Year	NA	NA
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd NA	NA	NA
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year NA	NA	NA
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	NA
14. Planning Years before Alternative Water is Required	-1	-1

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1f **Medium** *6.0 - mgd - 10 mgd Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 60 mgd. Entity has pro-rata share, or 30.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- No RAMP in Entity Scenario

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.36	$2.36
2020	$4.32	$3.99
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.33)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	82.9%	69.0%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.79
2020	NA	$1.64
5. First Year Alternative Water is Required	2001	2001
Percentage Retail Rate Spike for Alternative Water	28.3%	19.0%
6. Second Year Alternative Water is Required	2011	2013
Percentage Retail Rate Spike for Alternative Water	23.9%	17.1%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.2%
Second Year 2005	NA	0.2%
10. Years of RAMP Implementation:		
First Year	NA	NA
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd NA	NA	NA
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year NA	NA	NA
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	NA
14. Planning Years before Alternative Water is Required	-1	-1

Source: Burton & Associates

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Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 1f **Large** *13.0 - mgd - 10 mgd Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 50% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 60 mgd. Entity has pro-rata share, or 30.0 mgd, based upon current water usage.
- 5 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- No RAMP in Entity Scenario

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.37	$2.37
2020	$4.20	$4.00
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.20)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	77.3%	68.8%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.79
2020	NA	$1.64
5. First Year Alternative Water is Required	2001	2001
Percentage Retail Rate Spike for Alternative Water	24.7%	18.9%
6. Second Year Alternative Water is Required	2011	2013
Percentage Retail Rate Spike for Alternative Water	21.5%	17.0%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.2%
Second Year 2005	NA	0.2%
10. Years of RAMP Implementation:		
First Year	NA	NA
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd NA	NA	NA
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year NA	NA	NA
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	NA
14. Planning Years before Alternative Water is Required	-1	-1

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2a **Small** *1.5 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 52.5 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- No RAMP in Entity Scenario

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$3.35	$3.35
2020	$8.34	$5.45
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($2.89)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	148.9%	62.8%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.28
2020	NA	$2.03
5. First Year Alternative Water is Required	2007	2009
Percentage Retail Rate Spike for Alternative Water	65.6%	18.7%
6. Second Year Alternative Water is Required	2017	2019
Percentage Retail Rate Spike for Alternative Water	41.7%	17.2%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	1.8%
Second Year 2005	NA	1.3%
10. Years of RAMP Implementation:		
First Year	NA	NA
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd NA	NA	NA
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year NA	NA	NA
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	NA
14. Planning Years before Alternative Water is Required	5	7

Source: Burton & Associates

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Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2a **Medium** *6.0 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 52.5 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- No RAMP in Entity Scenario

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.36	$2.36
2020	$5.53	$4.39
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($1.15)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	134.5%	85.9%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.28
2020	NA	$2.03
5. First Year Alternative Water is Required	2007	2009
Percentage Retail Rate Spike for Alternative Water	54.3%	25.9%
6. Second Year Alternative Water is Required	2017	2019
Percentage Retail Rate Spike for Alternative Water	36.6%	22.1%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.5%
Second Year 2005	NA	1.7%
10. Years of RAMP Implementation:		
First Year	NA	NA
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd NA	NA	NA
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year NA	NA	NA
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	NA
14. Planning Years before Alternative Water is Required	5	7

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2a **Large** *13.0 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 52.5 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- No RAMP in Entity Scenario

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.37	$2.37
2020	$5.02	$4.40
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.62)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	111.8%	85.6%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.28
2020	NA	$2.03
5. First Year Alternative Water is Required	2007	2009
Percentage Retail Rate Spike for Alternative Water	42.0%	25.8%
6. Second Year Alternative Water is Required	2017	2019
Percentage Retail Rate Spike for Alternative Water	30.4%	22.0%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.5%
Second Year 2005	NA	1.7%
10. Years of RAMP Implementation:		
First Year	NA	NA
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd NA	NA	NA
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year NA	NA	NA
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	NA
14. Planning Years before Alternative Water is Required	5	7

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2b **Small** *1.5 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 52.5 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 100% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$3.35	$3.35
2020	$8.34	$4.71
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($3.62)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	148.9%	40.7%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.28
2020	NA	$1.29
5. First Year Alternative Water is Required	2007	2018
Percentage Retail Rate Spike for Alternative Water	65.6%	15.7%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	41.7%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	1.8%
Second Year 2005	NA	1.3%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	2012
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	5
Second Year Recharge in mgd 2012	NA	5
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	4.0%
Second Year 2012	NA	4.4%
13. Number of Years Alternative Supply Delayed because of RAMP	NA	11
14. Planning Years before Alternative Water is Required	5	16

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2b **Medium** *6.0 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 52.5 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 100% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.36	$2.36
2020	$5.53	$3.65
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($1.89)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	134.5%	54.6%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.28
2020	NA	$1.29
5. First Year Alternative Water is Required	2007	2018
Percentage Retail Rate Spike for Alternative Water	54.3%	21.0%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	36.6%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.5%
Second Year 2005	NA	1.7%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	2012
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	5
Second Year Recharge in mgd 2012	NA	5
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	5.5%
Second Year 2012	NA	5.9%
13. Number of Years Alternative Supply Delayed because of RAMP	NA	11
14. Planning Years before Alternative Water is Required	5	16

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2b **Large** *13.0 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 52.5 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 100% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.37	$2.37
2020	$5.02	$3.66
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($1.36)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	111.8%	54.4%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.28
2020	NA	$1.29
5. First Year Alternative Water is Required	2007	2018
Percentage Retail Rate Spike for Alternative Water	42.0%	21.0%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	30.4%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.5%
Second Year 2005	NA	1.7%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	2012
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	5
Second Year Recharge in mgd 2012	NA	5
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	5.5%
Second Year 2012	NA	5.9%
13. Number of Years Alternative Supply Delayed because of RAMP	NA	11
14. Planning Years before Alternative Water is Required	5	16

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2c **Small** *1.5 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 52.5 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 70% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$3.35	$3.35
2020	$8.34	$4.72
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($3.62)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	148.9%	41.0%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.28
2020	NA	$1.30
5. First Year Alternative Water is Required	2007	2011
Percentage Retail Rate Spike for Alternative Water	65.6%	16.6%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	41.7%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	1.8%
Second Year 2005	NA	1.3%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	2012
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	3.5
Second Year Recharge in mgd 2012	NA	3.5
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	4.0%
Second Year 2012	NA	3.5%
13. Number of Years Alternative Supply Delayed because of RAMP	NA	4
14. Planning Years before Alternative Water is Required	5	9

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2c **Medium** *6.0 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 52.5 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 70% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.36	$2.36
2020	$5.53	$3.66
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($1.88)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	134.5%	55.0%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.28
2020	NA	$1.30
5. First Year Alternative Water is Required	2007	2011
Percentage Retail Rate Spike for Alternative Water	54.3%	22.7%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	36.6%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.5%
Second Year 2005	NA	1.7%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	2012
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	3.5
Second Year Recharge in mgd 2012	NA	3.5
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	5.5%
Second Year 2012	NA	4.5%
13. Number of Years Alternative Supply Delayed because of RAMP	NA	4
14. Planning Years before Alternative Water is Required	5	9

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2c **Large** *13.0 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 52.5 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 70% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.37	$2.37
2020	$5.02	$3.67
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($1.35)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	111.8%	54.8%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.28
2020	NA	$1.30
5. First Year Alternative Water is Required	2007	2011
Percentage Retail Rate Spike for Alternative Water	42.0%	22.6%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	30.4%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.5%
Second Year 2005	NA	1.7%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	2012
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	3.5
Second Year Recharge in mgd 2012	NA	3.5
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	5.5%
Second Year 2012	NA	4.5%
13. Number of Years Alternative Supply Delayed because of RAMP	NA	4
14. Planning Years before Alternative Water is Required	5	9

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2d **Small** *1.5 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 52.5 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 40% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$3.35	$3.35
2020	$8.34	$4.82
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($3.52)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	148.9%	44.0%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.28
2020	NA	$1.40
5. First Year Alternative Water is Required	2007	2009
Percentage Retail Rate Spike for Alternative Water	65.6%	17.2%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	41.7%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	1.8%
Second Year 2005	NA	1.3%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	2012
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	2
Second Year Recharge in mgd 2012	NA	2
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	4.1%
Second Year 2012	NA	3.6%
13. Number of Years Alternative Supply Delayed because of RAMP	NA	2
14. Planning Years before Alternative Water is Required	5	7

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2d **Medium** *6.0 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 52.5 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 40% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.36	$2.36
2020	$5.53	$3.76
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($1.78)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	134.5%	59.3%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.28
2020	NA	$1.40
5. First Year Alternative Water is Required	2007	2009
Percentage Retail Rate Spike for Alternative Water	54.3%	23.5%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	36.6%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.5%
Second Year 2005	NA	1.7%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	2012
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	2
Second Year Recharge in mgd 2012	NA	2
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	5.7%
Second Year 2012	NA	4.6%
13. Number of Years Alternative Supply Delayed because of RAMP	NA	2
14. Planning Years before Alternative Water is Required	5	7

Source: Burton & Associates

Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2d **Large** *13.0 - mgd - No Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 70 mgd. Entity has pro-rata share, or 52.5 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 40% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.37	$2.37
2020	$5.02	$3.77
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($1.25)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	111.8%	59.0%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.28
2020	NA	$1.40
5. First Year Alternative Water is Required	2007	2009
Percentage Retail Rate Spike for Alternative Water	42.0%	23.4%
6. Second Year Alternative Water is Required	2017	NA
Percentage Retail Rate Spike for Alternative Water	30.4%	NA
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.5%
Second Year 2005	NA	1.7%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	2012
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	2
Second Year Recharge in mgd 2012	NA	2
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	5.7%
Second Year 2012	NA	4.6%
13. Number of Years Alternative Supply Delayed because of RAMP	NA	2
14. Planning Years before Alternative Water is Required	5	7

Source: Burton & Associates

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Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2e **Small** *1.5 - mgd - 10 mgd Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 60 mgd. Entity has pro-rata share, or 45.0 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 40% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$3.35	$3.35
2020	$7.80	$5.49
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($2.32)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	132.9%	63.7%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.93
2020	NA	$2.07
5. First Year Alternative Water is Required	2001	2001
Percentage Retail Rate Spike for Alternative Water	63.2%	17.9%
6. Second Year Alternative Water is Required	2011	2015
Percentage Retail Rate Spike for Alternative Water	40.9%	15.5%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	1.9%
Second Year 2005	NA	0.2%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	2012
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	2
Second Year Recharge in mgd 2012	NA	2
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	3.5%
Second Year 2012	NA	3.7%
13. Number of Years Alternative Supply Delayed because of RAMP	NA	0
14. Planning Years before Alternative Water is Required	-1	-1

Source: Burton & Associates

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Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2e **Medium** *6.0 - mgd - 10 mgd Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 60 mgd. Entity has pro-rata share, or 45.0 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 40% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.36	$2.36
2020	$5.26	$4.42
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.84)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	122.9%	87.4%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.93
2020	NA	$2.07
5. First Year Alternative Water is Required	2001	2001
Percentage Retail Rate Spike for Alternative Water	52.2%	25.3%
6. Second Year Alternative Water is Required	2011	2015
Percentage Retail Rate Spike for Alternative Water	37.3%	19.7%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.4%
Second Year 2005	NA	0.2%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	2012
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	2
Second Year Recharge in mgd 2012	NA	2
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	4.6%
Second Year 2012	NA	4.8%
13. Number of Years Alternative Supply Delayed because of RAMP	NA	0
14. Planning Years before Alternative Water is Required	-1	-1

Source: Burton & Associates

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Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2e **Large** *13.0 - mgd - 10 mgd Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 60 mgd. Entity has pro-rata share, or 45.0 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- RAMP Included in Entity Scenario at 40% of projected recharge effectiveness.

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.37	$2.37
2020	$4.83	$4.43
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.40)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	104.0%	87.0%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.93
2020	NA	$2.07
5. First Year Alternative Water is Required	2001	2001
Percentage Retail Rate Spike for Alternative Water	40.1%	25.2%
6. Second Year Alternative Water is Required	2011	2015
Percentage Retail Rate Spike for Alternative Water	30.9%	19.7%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.4%
Second Year 2005	NA	0.2%
10. Years of RAMP Implementation:		
First Year	NA	2008
Second Year	NA	2012
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd 2008	NA	2
Second Year Recharge in mgd 2012	NA	2
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year 2008	NA	4.6%
Second Year 2012	NA	4.7%
13. Number of Years Alternative Supply Delayed because of RAMP	NA	0
14. Planning Years before Alternative Water is Required	-1	-1

Source: Burton & Associates

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Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2f **Small** *1.5 - mgd - 10 mgd Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 60 mgd. Entity has pro-rata share, or 45.0 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- No RAMP in Entity Scenario

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$3.35	$3.35
2020	$7.80	$5.34
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($2.46)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	132.9%	59.4%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.93
2020	NA	$1.93
5. First Year Alternative Water is Required	2001	2001
Percentage Retail Rate Spike for Alternative Water	63.2%	17.9%
6. Second Year Alternative Water is Required	2011	2012
Percentage Retail Rate Spike for Alternative Water	40.9%	16.9%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	1.9%
Second Year 2005	NA	0.2%
10. Years of RAMP Implementation:		
First Year	NA	NA
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd NA	NA	NA
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year NA	NA	NA
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	NA
14. Planning Years before Alternative Water is Required	-1	-1

Source: Burton & Associates

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Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2f **Medium** *6.0 - mgd - 10 mgd Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 60 mgd. Entity has pro-rata share, or 45.0 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- No RAMP in Entity Scenario

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.36	$2.36
2020	$5.26	$4.28
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.98)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	122.9%	81.2%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.93
2020	NA	$1.93
5. First Year Alternative Water is Required	2001	2001
Percentage Retail Rate Spike for Alternative Water	52.2%	25.4%
6. Second Year Alternative Water is Required	2011	2012
Percentage Retail Rate Spike for Alternative Water	37.3%	22.0%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.4%
Second Year 2005	NA	0.2%
10. Years of RAMP Implementation:		
First Year	NA	NA
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd NA	NA	NA
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year NA	NA	NA
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	NA
14. Planning Years before Alternative Water is Required	-1	-1

Source: Burton & Associates

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Volusian Water Alliance - Water Supply Plan Implementation Study
Financial Scenario Analysis Summary Results

Scenario 2f **Large** *13.0 - mgd - 10 mgd Minimum Flows & Levels (MFLs) Effect*

Assumptions:

- Entity sized at 75% of current total county water usage.
- Maximum available public supply groundwater withdrawals for the total county are 60 mgd. Entity has pro-rata share, or 45.0 mgd, based upon current water usage.
- 25 mile transmission line from alternative water supply facilities to point of delivery to member utilities.
- No RAMP in Entity Scenario

Summary Results:

	Stand-Alone	*Member of Entity*
1. Effective Retail Rate per 1,000 gallons:		
1999	$2.37	$2.37
2020	$4.83	$4.29
2. 2020 Marginal Difference in Effective Retail Rate as Member of the Entity	NA	($0.55)
3. Cumulative Percent Change in Retail Rate from 1999 to 2020	104.0%	81.0%
4. Entity's Wholesale Rate per 1,000 gallons:		
2004	NA	$0.93
2020	NA	$1.93
5. First Year Alternative Water is Required	2001	2001
Percentage Retail Rate Spike for Alternative Water	40.1%	25.3%
6. Second Year Alternative Water is Required	2011	2012
Percentage Retail Rate Spike for Alternative Water	30.9%	22.0%
7. Years in which Interconnects are Implemented:		
First Year	NA	2004
Second Year	NA	2005
8. Benefit of Interconnections in mgd	NA	2
9. Percent Change in Retail Rates in Years of Interconnect Implementation :		
First Year 2004	NA	2.4%
Second Year 2005	NA	0.2%
10. Years of RAMP Implementation:		
First Year	NA	NA
Second Year	NA	NA
11. Recharge Benefit of RAMP:		
First Year Recharge in mgd NA	NA	NA
Second Year Recharge in mgd NA	NA	NA
12. Percent Change in Retail Rates in Years of RAMP Implementation		
First Year NA	NA	NA
Second Year NA	NA	NA
13. Number of Years Alternative Supply Delayed because of RAMP	NA	NA
14. Planning Years before Alternative Water is Required	-1	-1

Source: Burton & Associates

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