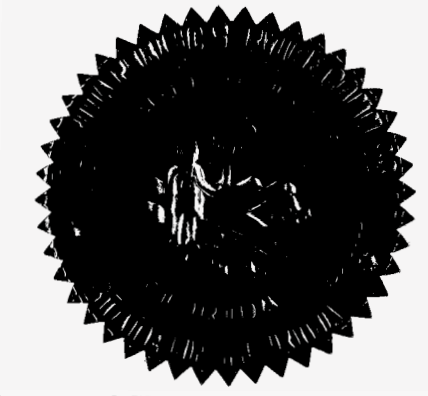
BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 021256-WU

In the Matter of:

APPLICATION FOR CERTIFICATE TO PROVIDE WATER SERVICE IN VOLUSIA AND BREVARD COUNTIES BY FARMTON WATER RESOURCES, LLC.

_____/



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Volume 4

Pages 453 through 603

PROCEEDINGS:	HEARING
BEFORE:	COMMISSIONER J. TERRY DEASON COMMISSIONER LILA A. JABER COMMISSIONER RUDOLPH "RUDY" BRADLEY
DATE:	Wednesday, June 23, 2004
TIME:	Commenced at 9:00 a.m. Concluded at 2:20 p.m.
PLACE:	Betty Easley Conference Center Room 148 4075 Esplanade Way Tallahassee, Florida
REPORTED BY:	TRICIA DeMARTE, RPR Official FPSC Reporter (850) 413-6736
APPEARANCES:	(As heretofore noted.)

DOCUMENT NUMBER-DATE
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FPSC-COMMISSION CLERK

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P R O C E E D I N G S

(Transcript follows in sequence from Volume 3.)

COMMISSIONER DEASON: Call the hearing back to order. We were in the rebuttal phase of the case.

Mr. Deterding.

MR. DETERDING: Thank you, Commissioner. We call Gerald Hartman.

GERALD C. HARTMAN

was called as a rebuttal witness on behalf of Farmton Water Resources, LLC and, having been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. DETERDING:

Q Mr. Hartman, you've previously been sworn?

A Yes, sir.

Q And you previously provided direct testimony in this proceeding?

A Yes, sir.

Q Did you prepare in conjunction with my office a document referred to as rebuttal testimony of Gerald Hartman consisting of 46 pages?

A Yes, sir.

Q If I ask you those same questions here today, would your answers be the same?

A Yes, sir.

Q Do you have any corrections to make to that testimony?

A Yes, sir. Those corrections are on Page 18, Line 17, remove the word "not" from that line. Also, on Page 21 --

Q Hold on just a minute.

A Page 18 --

Q Line 17.

A -- Line 17, remove the word "not."

Q "This IOU has participated" then it will say?

A Yes.

Q Okay. The next one was?

A And Page 21, Line 2, the second word is "closest," and the "s" was put over after "t" versus in front of the "t."

Q Okay.

A And then on Exhibit R2, Page 2, third line, change the county from "Volusia" to "Brevard." Also, in that same exhibit, Page 4, Item 3, Subset E, under 1, which is the alternative water supply programs, due to the passage of time, the Cocoa/Orange County OUC agreement for alternative water supply has also been accomplished. That's just an addition. That's it.

Q Okay. You got a little ahead of me there, but that's all right. Did you prepare in conjunction with the preparation of this rebuttal testimony certain exhibits that were prefiled as GCH-R1, GCH-R2, GCH-R3, and GCH-R4?

A Yes.

Q And you've just given us the corrections to those as well; correct?

A That's correct.

Q And I believe these exhibits have already been admitted. Mr. Hartman, please provide us with a summary of your rebuttal testimony.

A Surely. First, there's a little bit of -- on qualifications, that myself and our firm does serve other nonregulated counties in the state of Florida on certification issues, and that in that service, when we have multi-county situations, the investor-owned utility is always regulated by the Florida Public Service Commission. Every multi-county situation, such as GDU, Lake Suzy Utilities, the Nocatee one, and Florida Water Services Corporation, in the historic cases when they were multi-county, they were regulated by the Florida Public Service Commission. This is not a single county application. It is a multi-county application, and there's an obligation to serve, not a guarantee for service, relative to that obligation to serve.

Relative to service from others, Brevard County does not serve within Volusia County. Titusville does not serve in Volusia County, and Volusia County does not serve in Brevard County. So the ability to serve by each of these entities in the other counties, other jurisdictions, those stated by those

witnesses, I state in here that that doesn't -- cannot happen or without -- it hasn't happened historically. That there's a unified total service area; it has to be incorporated for its overall management, planning, and operations.

The need is in two different counties. It does have integrated management. The customers are throughout the yellow area, not some isolated area around a wellhead. The customers do move throughout the area, and in the future, other areas, other demands as the customers' desire would be then met based on their desire.

There's no duplication of service. I testified that the Titusville water supply problems have been occurring for at least 20 years. Back in 1984, I served Titusville as a water resource engineer with Dr. Nicholson, did the complete water resources there, requested service from Brevard and also Cocoa for raw water, was denied. Since that time, none of the other entities have provided raw water service to Titusville, yet it's been an existing need for the City of Titusville for well over 20 years, probably 30 years.

Carlton Wilder of Black, Crow, and Eidness, who was my mentor as an engineer here in the state of Florida, was the original design engineer of the Garden Street Plant for the City of Titusville. So the need for raw water supply and water resource at that facility has been well known for many, many years.

There are customers within the service area. Each one of our two-inch wells are serving 23 ERCs. The ERCs are pursuant to the FDEP and the Florida Public Service Commission's rules and regulations. We divided 350 gallons per day to create an ERC. The Florida Public Service Commission on numerous occasions has looked at the ERC basis for customer service. The number of people are known, but the usage, as I testified earlier, was not known. So no one has asked me then with no study, what's the basis? The basis is, of course, FDEP. It's the rules and regulations of the state of Florida, Ten State Standards, Florida Sanitary Code, and engineering practice, what a professional engineer states. It's well stated within all of those items that for this type of service, 50 gallons per day per person, is the appropriate per capita utilization for each -- that's shown in each of those documents. It's shown to be a minimum usage. So when you take that times the number of people and divide it out, you get 23 ERCs per two-inch meter.

The two classifications for your reference are tourist camps with an individual well or a resort which includes hunting camps with limited plumbing. Both are 50 gallons per day per person, manual practice.

Bulk private and/or governmental customers are possible, and there is need along the I-95 corridor. As the Commission probably knows, the Utilities Commission of New

Smyrna Beach working with Reliant Energy, originally with Duke Energy, has a power plant location along that transmission network. I served the Utilities Commission of New Smyrna Beach, and we assisted in getting the reuse water for water supply for that power plant, but also did the Transmission Corridor Study and Transmission Capability Study for Reliant Energy Corporation. And there are many other sites that are possible for power development and merchant power plants once the economy improves.

Titusville did request Brevard County to intervene based upon what I've been informed and that the sole purpose that Titusville stated to was to oppose Titusville's water permit I believe is false. There's many other reasons for a Florida Public Service Commission certificate as stated in the direct testimony by others as well as myself.

The public interest test is addressed in my rebuttal testimony, and I've hit all those public interest test components. The local sources first preference by the state of Florida is fully complied with this application. All the supplies for the customers are derived from the local sources within the land.

There is no forcing of any customer outside the service area of a certificated area to be a customer. And this is in the rebuttal of one of the intervenors here. This is an option of any customer when you're outside the service area

whether they want to be a customer or not. There is no forcing that occurs.

There was a statement by one of the witnesses, Mr. Thomas, that Farmton's demand can be served cheaper than by Farmton itself. I think this really only addresses the cost to the City of Titusville customers and not the actual cost within Farmton Water Resources' certificated area because additional facilities unrefuted would be required than would already exist. There's no way that another entity can serve those customers any cheaper than the present landowner with existing facilities. Neither Brevard nor Volusia County address the cost for service as well as other aspects which are quite distant from their demand centers, and obviously the cost of service is the lowest for these customers within this potential certificated area.

I did want to mention as an addition the Cocoa/ECFS Taylor Creek Reservoir situation becoming a certificated utility. There were some suggestions to back-plug the Tram Road wellfield, which was very positive from Water Resources' standpoint. Put in the Pipeline Road shallow wells, intermediate wells, as well as to develop the Taylor Creek Reservoir, and along with the cooperation of the Army Corps of Engineers, all of those have been done. Cocoa has historically been in a water shortage situation, now is in a water surplus situation, and has now offered water to Titusville, which, you

know, of course, they have an agreement for 3 MGD that they could actually export water to another entity. Titusville is cutting that back to a lesser amount, but the water capacity is available. Also, there's a recent agreement settling a water use permit situation with Orange County and OUC. Cocoa was offering to provide 15 million gallons per day made available through the cooperation of Taylor Creek Reservoir as an alternative water supply solving the region's water supply problems and environmentally appropriate in a water management district approved manner.

I guess my reference to ECFS was because I have personal knowledge of that application, and it's also a multi-county large land area owned with significant financial resource applicant when they came to the Florida Public Service Commission. This applicant also is a multi-county large landowner owned applicant also with very significant financial resources. And that ends summary.

Q I want to clarify one thing. I think early on in that summary you referred to two-inch wells. I believe you were talking about the meter size?

A The two-inch meters, not wells. I misspoke.

MR. DETERDING: Okay. I just wanted to make sure we got that understood.

With that, I would request that Mr. Hartman's rebuttal testimony be inserted into the record as though read.

COMMISSIONER DEASON: Without objection, it shall be so inserted.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

APPLICATION OF FARMTON WATER RESOURCES, LLC

FOR AN ORIGINAL WATER CERTIFICATE

DOCKET NO. 021256-WU

ON BEHALF OF FARMTON WATER RESOURCES, LLC

REBUTTAL TESTIMONY OF GERALD C. HARTMAN

Q. What is your name and employment address?

A. Gerald Hartman, 201 East Pine Street, Suite 1000, Orlando, Florida 32801.

Q. Are you the same Gerald C. Hartman who provided direct testimony in this docket?

A. Yes.

Q. Have you reviewed the direct testimony of Richard H. Martens on behalf of Brevard County, Florida?

A. Yes.

Q. Have you reviewed the direct testimony of Gloria Marwick on behalf of Volusia County, Florida?

A. Yes.

Q. Have your reviewed the direct testimony of Raynetta Curry Grant on behalf of the City of Titusville?

A. Yes.

Q. What is the purpose of your rebuttal testimony?

A. I will provide rebuttal to certain portions of the aforementioned three (3) individual's direct testimony as well as others.

Q. Mr. Hartman, have you served as the staff and/or as an expert witness

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on behalf of counties which have taken back jurisdiction from the FPSC?

A. Yes.

Q. In which counties have you served?

A. St. Johns County, Flagler County, Collier County, Hillsborough County, Sarasota County and DeSoto County.

Q. Have you participated in cases involving multi-county investor-owned utilities in Florida related to questions of the proper regulatory authority of the FPSC versus County regulation of those entities?

A. Yes. In the case of General Development Utilities in Sarasota and Charlotte Counties on behalf of the City of North Port.

Q. What was the outcome?

A. In that matter, the FPSC asserted jurisdiction due to the multi-county nature of the utility. This was an interpretation of the FPSC's authority to regulate systems whose service was located in more than one county.

Q. Are you aware of similar cases?

A. Yes. A quick summary includes the following:

1) Lake Suzy Utilities, Inc. case vs. DeSoto County - Result FPSC Jurisdiction;

2) Nocatee Utilities, Inc. case vs. St. Johns County - Result FPSC Jurisdiction

3) United Utilities case - Result FPSC Jurisdiction

4) Florida Water Services Corporation cases (various) - Result FPSC Jurisdiction, to name a few.

Q. Would you review the direct written testimony of Richard H. Martens and

provide your comments?

A. Yes. On Page 2, lines 23 through 25, his answer shows "Policy 3.4, Newly proposed service areas, expanding restricted service areas, or Public Service Commission (PSC) regulated service areas shall be reviewed and approved by Brevard County and applicable agencies." In my experience relative to County regulation and other types of service area reviews, the certification of a multi-county entity is under the purview of the Florida Public Service Commission. Under Section 367.011, Florida Statutes that jurisdiction by the PSC is exclusive. The referenced Comprehensive Plan policy could be appropriate if Brevard County has taken back jurisdiction from the Florida Public Service Commission and if the applicant was solely in Brevard County. If the County has not taken back jurisdiction, then such a policy would not be appropriate because the FPSC would have exclusive jurisdiction. Nonetheless, since the Farmton application is a multi-county application, then this portion of the policy statement that he delineates does not apply.

Q Are there multi-county utilities providing service in Brevard County?

A Yes. On Page 5, lines 4 and 5, Mr. Martens states that the private entity providing input to the County was East Central Florida Services, Inc. I serve this utility as a consultant. This investor-owned utility regulated by the Florida Public Service Commission, is a multi-county utility similar to that being requested in the Farmton Water Resources application. Having a multi-county investor-owned utility such as Farmton Water Resources would be a similar situation as already

exists in Brevard County with ECFS, Inc.

Q. The consent by the Brevard County Commission to private utilities providing service to existing customers and new customers within their (FPSC) certificated areas has what significance?

A. That statement provides the concurrence of the local government to the activities of the FPSC regulated investor-owned utility. The County is stating that it recognizes and approves FPSC certificated utilities. Such a statement does not limit existing investor-owned utilities to their existing certificated areas. Hypothetically, if ECFS, Inc. wished to amend, modify or change their service area, they are fully capable of doing so via appropriate application to the FPSC and based upon the order of the FPSC. If Farmton Water Resources wishes to establish their service area, they are fully capable of doing so through the same process. The Florida Public Service Commission has the exclusive authority to certificate water utilities and not Brevard County especially when there is a multi-county utility involved.

Q. Based upon Mr. Martens' testimony, does Brevard County provide potable water service or raw water service to the proposed Farmton Water Resources certificated area?

A. Based upon my review of his representations, Brevard County does not provide either raw water service, fire protection service, or potable water service to the Farmton Water Resources proposed certificated area, nor has the County provided facilities to do so, nor has the County provided costs, specific plans, nor included the area within the County's active utility operations area.

Q. Mr. Martens said that the area known as the North Brevard Water System, generally located in and around the Mims area, has excess capacity through the Year 2029 and beyond. Does that mean they have capacity for the same time period for the Farmton Water Resources application area as well as their own?

A. No, it does not. His projections for plant capacity are for solely the Mims/North Brevard water system service area as delineated on the maps attached as Exhibit GCH-R1 hereto. The Water Use Permit is for the reasonable and beneficial use within that area and there appears to be no available capacity at this time. The Farmton Water Resources application area is outside of the established North Brevard water system service area and thereby would not utilize such capacity.

Q. Has Brevard County ever served the Farmton Water Resources application area raw water, fire protection, water or potable water?

A. Not to my knowledge.

Q. Why hasn't Brevard County provided raw water service, bulk water service, or other types of water service to the City of Titusville?

A. Based upon my experience in investigating the water resources of Titusville's north and south wellfields in the freshwater lens with Dr. Nicholson while I was a principal with Dyer, Riddle, Mills and Precourt, we found in the 1984 through 1985 time period that Brevard was not willing to provide bulk raw water to Titusville from its wells at Mims and that they do not have adequate capacity in those wells to provide such service. To my knowledge, since 1984 to date, Brevard County has not entered into any agreement to provide bulk raw water

service, fire protection service or potable water service to Titusville or to the Farmton area.

Q. Have you had the opportunity to prepare a graphic which delineates the utility service areas in this region?

A. Yes, I have and that map, which delineates the service areas of the various utilities within the regions, is shown as GCH-R1 to this rebuttal testimony.

Q. What issues do you have from your review of Gloria Marwick's written direct testimony?

A. She states on Page 2, line 3 that the south central portion of Volusia County was not included in the groundwater simulation models of either the St. Johns River Water Management District or the Volusian Water Alliance.

Q. Why is that important?

A. As long as the Farmton Water Resources service area contains the impacts of water withdrawals within the service area, then the importance of such an issue is not great, rather, it is informational and of an update nature to those models. There are several small systems which are not in the model. The groundwater simulation models of both entities are more of a macro/regional scale regarding water resources and not oriented specifically to this area. Moreover, few of the future systems are in the model. A certain amount of agricultural use is reflected in the models, primarily those with water use permits. The various existing governmental utility systems' future growth, as best those can be estimated, have been included in the simulation

models, but the future new systems within Volusia or Brevard County have not been included.

Q. Couldn't Farmton Water Resources belong to WAV?

A. If the group would allow them, yes. I believe that Farmton Water Resources could belong to WAV in the same fashion as Florida Water Services Corporation and Farmton's representative Mr. Underhill, belonged to the Volusia Water Alliance (VWA). WAV is somewhat different than VWA in that it was created by an interlocal (governmental) agreement, and as such the participants would have to agree.

Q. Could then all the coordination and information and other activities for appropriate water management be conducted in that fashion?

A. Yes.

Q. Have you reviewed the comments made by Ms. Grant relative to need for a potable water utility in Northern Brevard County?

A. Yes. She states that there is no need for a utility in this area.

Q. Do you agree with her conclusion?

A. No. There are requests for service in this area for a public water utility. An investor-owned, raw, fire protection, and potable water utility provides many benefits for the area. I have provided a summary of the East Central Florida Services, Inc. example where raw, fire, and potable water service are provided and the significant public benefit which was derived from these services. This summary is shown on Exhibit GCH-R2 attached hereto. The City of Titusville has been in need of additional raw water supplies since my studies for that City in

the mid-1980's and there have been numerous ordinances and practices to optimize the freshwater lens which is utilized for the north and south wellfields as well as to make the maximum percolation and recharge from the stormwater throughout the City. Raw water resources have been a significant and not a speculative need in the Titusville water service area for some 20 years. Neither the City of Cocoa nor Brevard County has offered to meet these raw water needs for the City of Titusville. Many years ago, Titusville built a 16 MGD lime-softening WTP and configured its potable water transmission from that point. The City of Titusville has been put in the position to purchase potable water from the City of Cocoa and thereby not utilize existing capacity in their treatment facilities, which were built many years ago.

Q. Mrs. Grant states that the City and the County have a long history of working cooperatively to ensure that water supply needs are met and you are stating that the neither the City of Cocoa nor the County have met the raw water supply needs of the City of Titusville identified over 20 years ago. Is this correct?

A. Yes. The review of the record for the past 20 years will readily show the City of Titusville's need for raw water supply and neither Brevard County nor the City of Cocoa offering to supply bulk raw water supplies to the City of Titusville. A component of the Farmton Water Resources application serves the regional need for raw water in an appropriate fashion while allowing for proper water resource stewardship. The customers' choice within this very large tract of property, which is multi-county, is to have service from an investor-owned utility.

Neither Brevard County or the City of Titusville include the Farmton area within their active utility facilities service areas prior to the filing of this application.

In addition, while the City of Titusville is receiving bulk water from the City of Cocoa, they are paying retail rates for that service. Since Cocoa is unregulated, they have imposed this high bulk rate on everyone to whom they provide bulk water service. In addition, because as noted, the City of Titusville has substantial excess treatment capacity in its water treatment facilities, its real need is for bulk raw water. The City of Cocoa has not proposed to provide that to them and Farmton Water Resources will propose to provide that to them in a much more efficient and environmentally friendly manner than any other entity can, including the City itself. Plus, Farmton's provision of such service will be regulated and the price charged for such service will be overseen by the Florida Public Service Commission. This constitutes a real advantage over unregulated service of the wrong kind from the City of Cocoa.

Q Have you reviewed Ms. Grant's statement that "the sole purpose of the Farmton application is to give Miami Corporation leverage in opposing the City of Titusville's water use permit application for its new wellfield and to force the City to purchase bulk water from the Miami Corporation through Farmton Water Resources, LLC?"

A The City of Titusville, if it wishes, can develop water resources in a variety of locations. The City has brackish water reserves within the City limits which can be treated via membrane technologies. The City

has various capabilities throughout the region for a variety of water resources. The purpose of the application by Farmton Water Resources is stated in the application and that is the applicant's valid and sincere desire to provide water services within the proposed territory and to provide bulk services to adjacent areas as needed in the most effective and efficient manner possible, while protecting the resource and the environment. Farmton is in a much better position to do this than any other entity. The purpose of the application is simply delineated in the application and there is no other purpose to my knowledge of the application. The fact that Farmton Water Resources, LLC has offered to assist and help the City of Titusville with its raw water supply problems is not a negative, but rather a very positive way to conduct themselves to facilitate the appropriate and responsible development of water resources.

Q. Ms. Grant stated that the water utility proposed by Farmton is not in the public interest. Do you agree?

A. I believe that the Farmton Water Resources application is in the public interest. As shown in Exhibit GCH-R2, and demonstrated and testified to in his direct testimony by Richard Martens of Brevard County, ECFS, Inc. has participated with Brevard County in a very positive fashion. It is conjecture by Ms. Grant to state that Farmton Water Resources would conduct itself in any other fashion than similar to ECFS, Inc. to the benefit of Brevard County. Therefore, as to those issues, it is my testimony that granting Farmton Water Resources application for certification is in the public interest for the public health, safety

and welfare.

Q. As a professional engineer specializing in Florida water and wastewater utilities for the past 28 years, have you had an occasion to address the public policy and interest declarations as stated in Chapter 373.016 and Chapter 403.021 Florida Statutes?

A. Yes, I have. Most recently on April 2, 2004 regarding the DeSoto County water utility water use permit.

Q. Would you address the above-referenced public policies as they relate to the Farmton Water Resources application?

A Yes. I will address Chapter 373.016 F.S. and 403.021 F.S. (Exhibit GCH-R3) with the number and letter subsection (if applicable) provided at the beginning. Chapter 373.016 F.S. states the following to the policies of the State which are to be promoted:

(2) It is the Department of Environmental Regulation and the Governing Board of the Water Management District who take into account the cumulative impacts of water resources and it is through these Departments that appropriate management of these resources is conducted to ensure their sustainability. It is not the responsibility or within the authority of City of Titusville to attempt to do so through their home rule powers, in the City limits, or their alternative water source reserve area, much less outside of it.

(3)(a) Again, is similar to (2), the Department provides for the management of water and related land resources.

(3)(b) The Department promotes conservation and only Farmton could implement such activities to replenish, recapture, enhance, and develop

the proper utilization of surface and groundwater on their property which they own.

(3)(d) To promote the availability of sufficient water for all existing and future reasonable-beneficial uses and natural systems is the declaration of policy in these areas. The natural systems of the Farmton Water Resources are on the related party's property and the availability of sufficient water for such future reasonable-beneficial uses is to be promoted.

(3)(e) To prevent damage from floods, soil erosion, and excessive drainage which is proper stewardship of lands is of extreme interest to the landowner and Farmton Water Resources to maintain the value and sustainability of their property and to protect the resource which sustains it and properties surrounding it.

(3)(f) To minimize degradation of water resources caused by the discharge of stormwater - Farmton Water Resources' related party owns the property where stormwater accumulates from rainfall and can best minimize the degradation of water resources by containing stormwater for recharge. Other entities which do not have adequate land area, cannot avail themselves of the utilization of stormwater to minimize the degradation of water resources.

(3)(g) To preserve natural resources, fish and wildlife - Farmton Water Resources' related party landowner is in the business of preserving the natural resources of the property and in fact, the natural resources of the property are integral to the operations of this entity. ECFS, Inc., as an example, has preserved the natural resources, fish and

wildlife in an effective manner by becoming certificated to provide very similar water services and it is anticipated by Farmton Water Resources that such certification will enable it to do the same things.

(3)(h) This portion refers to Chapter 403.021 of the Florida Statutes and in that section, (1) The pollution of the air and waters of the State constitute a menace to the public health and welfare; creates public nuisances; is harmful to wildlife and fish and other aquatic life; and impairs domestic, agricultural, industrial, recreational, and other beneficial uses of air and water. It has been shown that both the City of Cocoa and the City of Titusville have allowed for the pollution of groundwaters through the inducement of saltwater intrusion. This has significant effects and was one of the primary reasons for the certification of ECFS, Inc. in Brevard, Orange and Osceola Counties. The success of ECFS, Inc. in these arenas has maintained the ability to develop alternative water supplies (Taylor Creek Reservoir), maintain water resources which are not polluted for agricultural, domestic, industrial, recreational and other beneficial uses, and has provided for enhanced water resource management.

(3)(j) Otherwise promote the health, safety and general welfare which certainly public utility systems whether investor-owned or governmentally-owned should do in their practice and operations.

(4)(a) To protect such water resources and to meet the current and future needs of those areas with abundant water, the Legislature directs the Department and the water management districts to encourage the use of water from sources <u>nearest the area of use</u> or application

whenever practicable. This has been generally described as a portion of the "local sources first" doctrine where it is preferred by the State of Florida to have service provided to an area from sources within that area. The Farmton Water Resources application accomplishes this declaration of State policy and no other service provider would be able to accomplish the same within the Farmton area since Farmton's related party owns the property and existing facilities within the proposed certificated area.

Q Have similar statements as those made by Ms. Grant in her direct testimony been made previously by others in a similar setting and what has become the outcome?

A Yes. Ms. Grant's statements concerning public interest were used by others previously in a similar nature and in similar cases. The facts are that no other entity but Farmton Water Resources can as efficiently or effectively serve the customers requiring service within the proposed certificated area. Titusville's WTP is several miles away as shown on Exhibit GCH-R1 and would require a costly duplication of pipelines for service and such service could not be as efficient or effective as service provided by Farmton. Brevard County does not have the Water Use Permit capacity or facilities to provide the services currently needed. Volusia has neither the facilities nor capacity to do it. Witnesses for Brevard County and the City of Cocoa made statements similar to those made here by Ms. Grant, in the ECFS, Inc. certification case. None of those statements were valid and have been proven to be invalid over the past decade.

Q. Has there been a change in the request for the extent of the Farmton Water Resources certificated area?

A. Yes. A settlement has been reached between Farmton Water Resources and the City of Edgewater. The resulting proposed certificated area from the settlement agreement is shown on the maps and legal descriptions shown in composite Exhibit GCH-R4. The modified proposed service area deletes the northern three sections, basically one section north/south and three sections east/west at the very northern part of the previously requested service area.

Q. Have similar settlements occurred in other FPSC certification cases that you have participated in?

A. Yes. One example would be the ECFS, Inc. settlement with Orange County.

Q. Do you have any additional comments concerning Mr. Marten's testimony?

A. Yes. First, Mr. Martens states that the Mims/Brevard County active utility water service area does not overlap Farmton Water Resources' application. In essence, he is saying that Farmton Water Resources is not within the Brevard County utility's active service area and therefore the typical functions that Brevard County would provide for an entity that may be within its active service area are not being provided for the Farmton Water Resources area. The active Brevard County in his testimony is the northernmost service area in the County and is bounded on the south and west by the City of Cocoa and in the central and east southern areas, by the City of Titusville. Therefore, Brevard County is the closest utility service area to the Farmton Water

Resources application area and the two other utilities, the City of Cocoa and the City of Titusville both would have to traverse the Brevard County service area to get to the Farmton Water Resources service area. The Brevard County active utility service area extends one or two miles west of I-95. It should be noted that Brevard County has not planned for and has not developed the cost of service to provide services for Farmton Water Resources customers.

Q. What are Brevard County's facilities and capacities?

A. The County expanded Mims water treatment plant to a maximum daily flow capacity of 2.4 MGD as a lime-softening plant. The County derives its water supply from shallow wells similar to the City of Titusville's wellfield though further inland and to the north and that the Brevard County wellfield abuts and is to the north of the City of Titusville's northern wellfield.

Q. Was there any other testimony concerning service to the Farmton Water Resources area?

A. The Brevard County studies did not include service to the Farmton Water Resources area and the County does not plan to develop water as a raw water source in the Farmton Water Resources service area that is being applied for to the Florida Public Service Commission, and that the Farmton Water Resources area and development of water resources doesn't adversely impact the County's existing water system or the expansions planned by the County.

Q. Does Brevard County have plans for their active service area which is a few miles south Farmton Water Resources?

A. Yes, Brevard County is planning to expand their wellfield with new well sites adjacent to the existing wellfield area. The Walkabout Development has one existing new well and additional wells will be constructed within the Walkabout Development areas. The average annual demand in the Mims service area is about 750,000 to 800,000 gallons per day and he admits that Brevard County is presently overpumping their water use permit and is violation of that permit at this time. In addition, this overpumping has continued for one to two years. Brevard County has projected water use needs of 1.8 MGD on an average basis over the next 20 years within their active service area, which specifically excludes the Farmton Water Resources proposed certificated area. Their wells include nine wells are south of SR 46 with one well north of SR 46 in the Walkabout Development. Brevard County's near future plans include three more sites in that development. A total of 11 new wells in the Walkabout area for a total of 20 wells at build-out are estimated to yield up to 3 MGD raw water capacity at build-out of the overall service area and that all wells would be from the surficial aquifer system. In essence, Brevard County is considering to expand from the nine wells to the 20 wells in the future and all well sites and facilities have been planned for, evaluated, and are included in a logical development plan with agreements with the Walkabout Developers. There is no capacity being developed by Brevard County for the City of Titusville and at build-out there will be no capacity developed by Brevard County for the City of Titusville and Brevard County has not planned for or embarked upon any activities to provide raw water supply

to the City of Titusville.

Q. Did Mr. Martens express his concerns relative to the Farmton Water Resources Application?

A. Yes. He was concerned about Brevard County water being transported north into Volusia County. He was not worried about the urban sprawl or development aspects within Farmton Water Resources since the County's enforcement is from the issuance of building permits and has other remedies versus intervening in the FPSC case.

Q. Did Mr. Martens testify that Brevard County had availability of facilities to serve Farmton Water Resources?

A. No. He has not testified that Brevard County could or would have facilities to serve countywide or to serve systems that are not planned for at this time by County utilities.

Q. Did Mr. Martens comment about any other investor-owned utility (IOU) in Brevard County?

A. Yes, he did. He referenced the ECFS, Inc. system and stated that regarding the ECFS, Inc. that this IOU has ~~not~~ participated with the County on water issues.

Q. In summary, how would you summarize from Mr. Martens' position?

A. That Brevard County is the nearest utility system to the Farmton Water Resources applied for certification area in Brevard County and that it buffers both the City of Titusville and the City of Cocoa from the Farmton Water Resources proposed certificated area. That Brevard County has no plans, does not have an active utility service area overlapping the applied for service area, has no facilities, has no

capacity, and such service to Farmton Water Resources is not within the short or long range capital planning of Brevard County for service. That the county utilities and water resources department are involved in the case due to its concerns of transportation of Brevard County "water" north to Volusia County. That Mr. Martens has no complaints from the certification of ECFS, Inc. and, in fact, in his direct testimony, has shown that they have participated in a beneficial manner with the County.

Q. Have you reviewed Ms. Gloria Marwick's testimony of Volusia County?

A. Yes.

Q. Does Ms. Marwick have an opinion relative to publicly-owned utilities versus privately-owned utilities?

A. Yes. She believes that Volusia County would object to the formation of any private utility in the County.

Q. Does Ms. Marwick have an opinion relative to the "local sources first" statutes and the State of Florida Water Policy?

A. Yes. She believes that fresh groundwater for the County should come from the County. This supports the Farmton Water Resources application since the local sources on Farmton Water Resources will be utilized first to serve the local on-site demand of the certificated area. Volusia County's present use was fairly small, only 3.3 million gallons per day on an annual average basis and Volusia County has a 4.8 MGD Water Use Permit for its various small systems distributed throughout that County.

Q Would such small withdrawals and distributed small systems relatively

far from Farmton Water Resources be impacted by the Farmton Water Resources' public utility functions?

A. No. Not only from the water resource engineering standpoint, such small systems distant from Farmton Water Resources have relatively small cones of influence and due to the land area that any kind of impact by Farmton Water Resources probably would be contained primarily on-site and would not impact any of Volusia County's systems. Generally, I believe that the closest Volusia County utility with its own independent fresh groundwater wellfield to the Farmton Water Resources application is the City of Edgewater system, and that Volusia County buys water for its customers in and around Edgewater from the City of Edgewater as the supplier. As stated earlier in my rebuttal testimony, the City of Edgewater has settled out of this case with the modification to the proposed certificated area. Therefore, the only utility within Volusia County which is the nearest utility has determined that it would not be impacted and has settled the case with Farmton Water Resources. It is obvious that the Edgewater system would not be impacted and the cones of influence would not overlap. The technical information bears this out and we do have a professional geologist, Mr. Charles W. Drake, who historically has served New Smyrna Beach, Edgewater, and Titusville while working with me over the years. He can provide the hydrogeological cones of influence and any professional hydrogeological testimony, modeling, impact analysis, etc. that may be necessary. The County doesn't operate a fresh groundwater source facility close to the Farmton Water Resources area and that the

County does not have a system in that southeastern area of the County. The ~~closest~~ closest source facility owned by Volusia County is generally over some ten (10) miles away.

Q. Does Volusia County have any plans for service of the Farmton Water Resources area?

A. No.

Q. Have you reviewed the testimony of Raynetta Curry Grant on behalf of the City of Titusville?

A. Yes.

Q. Does Ms. Grant object to the Farmton Water Resources application?

A. Yes, she states that it is not in the best interest of the City. The formation of another utility and to provide public utility service is typically found to be a public purpose and she objects simply on the basis of the formation of another utility within Brevard County which she believes will compete with the potential option of a wellfield along the FECR right-of-way and that the Farmton Water Resources, LLC offer to the City costs more than the City's own program. Note that the Farmton Water Resources proposed certificated area is outside the service area of the City of Titusville. That the Brevard County service area then abuts the City of Titusville service area between the Farmton Water Resources proposed certificated area and the City of Titusville service area. That no other utility provides service in this area being proposed for certification, that no other utility has planned for providing service to these properties nor has developed facilities nor has the abilities to serve these properties.

Q. Is her objection contingent on some other unrelated factor?

A. Yes. Ms. Grant does not have a reason to object if the City of Titusville gets its wellfield and water use permit which is located along the Florida East Coast Railroad right-of-way.

Q. Is there a competition for service by the City of Titusville for this area?

A. No. The City of Titusville has not stated an interest in serving Farmton Water Resources proposed certificated area.

Q. Please explain the City of Titusville's facilities.

A. The existing water use permit is about 6 million gallons per day and will be increasing to 6.5 million gallons per day based upon specific terms and conditions of the permit. The safe yield of the north and south wellfields is about 4 MGD. The water use permit is some 2 MGD greater than the safe yield of both the north and south wellfields. The existing lime-softening plant has a capacity of 16 MGD and that the average annual demand being serviced by the system is about 4.2 MGD. If you start with the 4.2 MGD AAD, and subtract the 0.8 MGD which is served by the City of Cocoa from potable water results in approximately 3.4 MGD of raw water being used on an average annual basis from the existing north and south wellfields of the City of Titusville. Cocoa agreed to supply 3 MGD for a capital cost of $8 million. The ability to purchase this quantity of water from the City of Cocoa is due to the fact that the capacity was made available to the City of Cocoa due to the ECFS, Inc. Taylor Creek Reservoir facilitation, the Pipeline Road intermediate aquifer wellfield facilitation and the ECFS, Inc.

recommendations to backplug and optimize the Tram Road wellfield and other actions by ECFS, Inc. such that capacities would be available from the City of Cocoa. Moreover, the City of Titusville has found that the cost for the City of Cocoa capacity to be greater than what they could accomplish themselves and are negotiating that existing and available supply down from 3 MGD to 1.5 MGD. The proposed new City of Titusville's wellfield and the objection from the City of Titusville is all about cost to the City because the problem was solved with the 3 MGD from the City of Cocoa to the City of Titusville, but the City desired to reduce its cost and is renegotiating that agreement down leaving a future shortfall. Moreover, the City of Cocoa sells potable water to the City of Titusville at its retail rate versus a bulk rate, which is implied to be excessive and without regulation or oversight by the FPSC. The renegotiations to reduce capacity may have a higher per unit capital charge such as 1.5 MGD having a capital charge of $5 million associated with it versus 3 MGD @ $8 million. There continued to be a proposed minimum "take or pay" provision reducing over time.

Q. Has the City of Cocoa treated the City of Titusville and differently than a developer or any other customer?

A. No. The City of Cocoa has dealt equally with the City of Titusville as with a developer or any other customer of the system providing for potable service with retail rates and capital charges as well as CIAC to connect to their system. Their rates have a base charge which is converted to a minimum for the larger customer. They have simply followed their rules and regulations with no significant concessions

based upon my review.

Q. It would appear that bulk raw water service would fit the City of Titusville's needs the best since they have more than adequate treatment plant capacity and significant high-service pumping and transmission capacity, would it not?

A. Yes. Presently the treatment plant is used at about 30% of its capacity and the storage within the system, high-service pumping and transmission facilities were designed and laid out to accommodate a significant supply from that location. There have been no agreements with any utility for bulk raw water service and that the City of Titusville has not even thought about it. Of course, bulk raw water service would make the maximum utilization of the existing facilities in the City of Titusville at their regional water treatment plant location. This has been stated to the City of Titusville in the 1980's and has never been pursued.

Q. What are the options for supplemental water supply for the City of Titusville?

A. The options include (1) the Florida East Coast Railroad right-of-way wellfield and raw water transmission system; (2) a surface water supply; (3) the City of Cocoa for potable water supply; (4) a reverse osmosis plant using the City of Titusville's brackish water reserves; (5) a reverse osmosis from a regional RO facility; and, (6) the Farmton Water Resources bulk raw water supply.

Q. From these options, which two would be the least cost options for the City of Titusville for service?

A. The two least cost options would be the options to utilize existing capacity at the water treatment plant and its high-service pumping and transmission capacity for the system. The only two options which accomplish this are the Florida East Coast Railroad right-of-way option and the Farmton Water Resources bulk raw water proposal to the City of Titusville.

Q. Couldn't both of these options be accomplished?

A. Yes. The Florida East Coast Railroad option will not supply and is not being permitted to supply the full capacity of the existing water treatment plant or the full capacity of the high-service transmission system of the City of Titusville. The wellfield will simply increase the supply from its raw water sources allowing the north and south wellfields to be pumped at lower than their safe yield (approximately 4 MGD) and supplementing that flow from the Railroad right-of-way as their proposal. This capacity plus the maximum of 1.5 MGD purchased from the City of Cocoa is anticipated by the City of Titusville to meet their raw water needs for several years. If the City of Titusville supported Farmton Water Resources application and facilitated development of water resources on the property, a lower cost option than the City's own option could be facilitated. In addition, it may be possible to reduce the dependency on the City of Cocoa and utilize greater capacity from existing facilities if the City of Titusville would purchase water from Farmton Water Resources. Farmton Water Resources has the land area to contain all induced impacts from groundwater withdrawals and has the ability to rotate well utilization

and manage the water resources such that saltwater intrusion and/or pollution of the freshwater strata does not occur. This is quite similar to the ECFS, Inc. capabilities and the ECFS, Inc. accomplishments working with the City of Cocoa. Water use permitting has significant obstacles for attainment of a permit. Those obstacles involve not adversely impacting existing legal users, not adversely impacting the environment, and not adversely impacting water quality over time as well as others. Of course, Farmton Water Resources has the land area to better manage the water resources such that their real estate properties are not adversely impacted by groundwater pollution. Farmton Water Resources has a vested interest in stewardship of appropriate water resource development in environmentally sound and hydrogeologically appropriate fashion for sustainable development of water supplies. It is not in the interest of Farmton Water Resources to pollute their own property, to adversely impact their environmental resources, or to manage the system in a fashion to overpump permitted quantities or to overpump safe yield quantities (such as Brevard County overpumping their water use permit for the past one or two years at Mims or the City of Titusville obtaining a water use permit in excess of their safe yield). ECFS, Inc. is an excellent example of landowner stewardship and the vested interest of such landowners to maintain a high quality environmentally sound and appropriately managed water resource.

Q. Do you know of any proposed changes in the Titusville service area?

A. No, I do not. As of this date, I am not aware there are any proposed

changes to the City of Titusville service area. This would further confirm that Farmton Water Resources would not be obtaining service from the City of Titusville and that there is no competition for customers in the Farmton Water Resources service area.

Q. Mr. Hartman, have you ever assisted local government counties in establishing a countywide utility service area?

A. Yes, I have, several throughout the State of Florida.

Q. Would you discuss a few for me?

A. The latest three (3) that I was involved in include St. Johns County countywide utility service area ordinance, the Marion County countywide utility service area ordinance, and the DeSoto County countywide utility service area ordinance. In St. Johns County, the ordinance actually is a little bit more specific than either Brevard or Volusia Counties. It has the active utility zones and the reserve zones as well as the future zones. With those classifications, it is readily apparent that in the active zones it would be competitive with the County utility; in the reserve zones, the utility is planning or has installed or planned for the capacity to extend to such zone; and finally, the future zones are zones which have not had the planning or facilities investment capacity or other items accomplished for those areas. Additionally, such future areas may be known not to be economically practical for the County to serve.

Q. How would you classify Brevard and Volusia County's countywide ordinances and their active utility service areas?

A. I would classify their active areas as very similar to St. Johns

County's active service area and reserve area. Those other areas which have not been planned for, do not have a CIP for, and no not have existing or planned for plant capacity allocated would be analogous to the future zone in St. Johns County.

Q. In that future zone, what was the determination by the St. Johns County Board of County Commissioners?

A. That if water and wastewater service was to be provided, then it should be provided by a public utility such that there is regulation and oversight protecting the public health, safety and welfare. In many counties, there have been individual well and individual commercial private septic tanks, not public utilities which have caused environmental and public health problems. Basically, it is a determination by the Board of County Commissioners. There is a preference to have public utility service in areas which would obtain utility service and that such cluster areas are preferred to have an entity which has oversight either by the Board of County Commissioners, the Florida Public Service Commission, the FDEP, and/or the water management district.

Q. You mentioned that you served Marion County in the preparation of their countywide ordinance. Would you tell me something about that?

A. Yes, in Marion County there are numerous investor-owned utilities, governmentally-owned utilities and private non-regulated utilities. There were some 400 package plants in the County. I assisted the County in the adoption of the countywide utility service area ordinance. This ordinance depicted all the existing investor-owned

utility service areas as well as their expansion areas that they have requested with the County in coordination with the County planning. In addition, it reflected the interlocal agreements between the County and the various cities for service areas and reserve areas for their utilities. The most significant one was with the City of Ocala. The Board of County Commissioners had similar environmental and public health needs as in St. Johns County.

Q. You assisted DeSoto County in its countywide service area ordinance. Tell us something about that.

A. Yes, I did. DeSoto County was late in coming into the utility business. It entered the utility business with the purchase of Florida Water Services service areas and assets and then worked with various State agencies in the expansion of their utility system. The Board of County Commissioners of DeSoto County also had similar findings as in St. Johns and Marion County that it was preferable to have a public utility system, whether governmentally-owned or investor-owned utility owned in providing service such that there was proper oversight and regulation for the proper stewardship of the resources and protection of the public health, safety and welfare.

Q. Have you had any experiences with multi-county investor-owned utilities in each of these counties?

A. Yes. In St. Johns County, I served as the regulatory staff of the County in the consideration of the Nocatee multi-County (Duval and St. Johns) certification and agreement with JEA. This issue was of course, resolved at the Florida Public Service Commission. The County

Regulatory Board found that since it was a multi-county utility, they did not have jurisdiction, the Board of County Commissioners had the same finding. Nonetheless, the St. Johns County Utilities participated in the Nocatee proceeding at the Florida Public Service Commission. In Marion County, the Villages, Little Lake Sumter Utility Company, etc. serve in Marion County, Sumter County and Lake County. The Board of County Commissioners recognized that a multi-County utility system did not violate the countywide utility ordinance and was under the purview of the FPSC. In DeSoto County, Aquasource owned Lake Suzy Utilities, Inc. In fact, prior to my serving DeSoto County, Lake Suzy Utilities, Inc. had a case relative to whether the County would have regulation since they had taken it back from the Florida Public Service Commission or whether the FPSC would have regulation since Lake Suzy Utilities only had a few customers outside of DeSoto County in Charlotte County. That case was completed and the FPSC had jurisdiction over Lake Suzy Utilities. In the year 2000, I was hired by DeSoto County and we adopted a countywide utility ordinance following the acquisition of Florida Water Services Corporation. The Lake Suzy Utility assets were deemed not under the authority of the countywide utility ordinance due to the fact that FPSC had jurisdiction in a previous case. Subsequently, Aquasource sold its assets within the State of Florida to Philadelphia Suburban with Mr. Rick Hugus being involved in that transaction for Philadelphia Suburban. I represented the County in the review of that transaction and stated that the County could obtain information, but that it was my belief and previous rulings were clear

that such a utility purchase and sale and transfer of certificated area were under the purview of the FPSC. The Board of County Commissioners and their special counsel as well as their County Attorney's office basically agreed. Lake Suzy Utilities as part of Aquasource and now Philadelphia Suburban remains a multi-county utility under the purview of the FPSC. In my professional experience, the above three (3) countywide ordinances have no less authority than the Brevard County and Volusia County countywide ordinances. I have been hired to review both the Volusia and Brevard ordinances prior to this case and found them to be similar in nature as other countywide utility service area ordinances. They reflect the finding by the Board of County Commissioners that it is more important to have public utility service for the reasons that I have stated above.

Q. Does Brevard County-Mims wellfield abut the City of Titusville's wells?

A. Yes. The northern Titusville wellfield is adjacent to the southern end of the Brevard County-Mims wellfield which are of the same type and Brevard County is overpumping an adjacent wellfield water use permit next to the City.

Q. Has Miami Corporation offered to provide bulk raw water service to the City of Titusville?

A. The City had discussions with Miami Corporation about bulk raw water supply.

Q. Does the City of Titusville have plans for service in the Farmton Water Resources area?

A. No. The City of Titusville has no plans to my knowledge for service to

the Farmton Water Resources area which is contrary to her direct testimony.

Q. Is there potential service from Brevard County?

A. No. For the County to serve the Farmton Water Resources area is in a manner to compete more greatly with the City of Titusville's northern wellfield which would not be very practical.

Q. Does Ms. Grant contradict herself about bulk raw water as an option?

A. Yes. Her opinion appears that Farmton Water Resources is trying to force the City to purchase bulk raw water from them. Yet, Farmton Water Resources is only an option and there are other options, and Farmton Water Resources is not forcing the City to purchase bulk raw water from them, it is just that Farmton Water Resources may become the best option for the City to buy bulk raw water supply from.

Q. Does the City of Titusville have interconnections with other utility systems?

A. Yes. The City of Titusville has potable water interconnections with the both City of Cocoa and Brevard County and can provide facilities to have flows go either way from those connections. In essence, Titusville could serve Brevard County system and could backfeed to the City of Cocoa if additional water supplies were made available to the City of Titusville. This has been an important point since the City of Titusville already has the investment completely paid off for treatment and transmission for a 16 MGD system. The 16 MGD system was anticipated to have approximately 12 MGD average annual flow from the system. This system was designed by the late Carlton Wilder, P.E.,

then of Black, Crow and Eidness, Inc. In essence, if the City of Titusville had greater bulk raw water supplies and builds its transmission main to its proposed Florida East Coast Railroad wellfield, then the purchase of raw water from Farmton Water Resources would be a marginal cost or a very small incremental cost with raw water transmission, water treatment, and high-service transmission system facilities already in place. In this fashion, the City of Titusville could provide cost-effective service to Brevard County, Cocoa and other customers within its service area.

Q. What the lowest tier in the "take or pay" agreement from the City of Cocoa would be under their present and reduced interlocal agreement which was renegotiated?

A. To my knowledge that in either 2007 or 2008, 0.5 MGD is the lowest tier in the present "take or pay" agreement.

Q. Has Mr. Thomson delineated any service area conflicts to your knowledge for Volusia County?

A. Mr. Thomson states that Farmton Water Resources is in the County service area and that the County service area is consistent with the comp plan. Yet, Farmton Water Resources as its own service area is not consistent with the comp plan. This is due to the fact that the County has determined that all areas not within another governmental utility service area, as the County's service area. Therefore, Volusia County has made the determination that all lands should be in a utility service area within Volusia County. Note that Brevard County has made a similar finding. Gloria Marwick stated that Farmton Water Resources

was not within the County's active utility service area and that Volusia County had no plans, facilities or other infrastructure or availability for service to the Farmton Water Resources area. Therefore, there is a distinct conflict between a Director of Water Resources and Utility Director of Volusia County and the staff comprehensive planner, Mr. John Thomson. It is clear that being in the County service area does not mean that the County would actually serve the area. Actual services would be based upon cost and would be determined by the utility. Gloria Marwick seems to be the better person to determine whether or not the Farmton Water Resources proposed certificated area would obtain service and she has stated that it would not obtain service from Volusia County and that there has been no planning, no available resources, no available facilities and no cost for service to the Farmton Water Resources proposed certificated area.

Q. Does the County have a capital improvement program for utilities in Volusia County?

A. It has come to our attention that Quentin L. Hampton and Associates, Inc. is the County's capital improvement program and plan consultant for Volusia County Utilities.

Q. Does Volusia County classify a FPSC certificate as development?

A. No. There is no classification in the land use or zoning for a certificated territory by the Florida Public Service Commission. Therefore, a certificate by itself should not constitute "development" in Volusia County. It does not in Orange, Osceola, Brevard, Lake, Marion or Flagler Counties to my knowledge either.

Q. Would you summarize your comments concerning Mr. Thomson's testimony?

A. Yes. Mr. Thomson provides information showing that Volusia County finds that all land should be in a utility service area and that if a service area has not been provided, then the default service area becomes Volusia County. That, being in the Volusia County utility service area, does not mean that you would actually get utility service and that service would be based upon cost. He does not state whether any capital funds or financial feasibility has been accomplished for service to the Farmton Water Resources proposed certificated area. Gloria Marwick states that service would not be provided by Volusia County.

Q. Have you had the opportunity to review Mr. Henry Thomas's testimony?

A. Yes. Mr. Thomas offers testimony from an economic perspective.

Q. What is the thrust of Mr. Thomas's testimony?

A. He states that Titusville is cheaper than what Farmton Water Resources offered and he is referring solely to bulk raw water service and his statements are only given in comparison to the City of Titusville serving themselves bulk raw water. He is not stating that Titusville is cheaper to service Farmton Water Resources proposed certificated area than Farmton Water Resources. His perception of public interest is the City of Titusville's water rates and not Farmton Water Resources and not the general public. He has framed his testimony solely to the impact on the City of Titusville's rates and charges for bulk raw water service.

Q. Does he address other issues other than the City of Titusville rates?

A. His thrust is primarily the rate impact to the City of Titusville. He has not considered environmental issues or other issues other than the impact on the City of Titusville rates if the Farmton Water Resources bulk raw water option is a greater cost than the City of Titusville FECR wellfield option and that the City is somehow blocked from implementing those options both. He has not considered the City of Titusville's utility management capability of just not purchasing Farmton Water Resources bulk raw water if they decide that it is too expensive. He does not state that if Farmton Water Resources obtains the certificated area whether it would stop the City's wellfield. He has no basis for objecting to this certificated area, which just provides another option for the City of Titusville versus its presently proposed raw water wellfield, which is remote to the City and on the other side of Brevard County's service area other than a hypothetical economic scenario.

Q. Does Mr. Thomas know that there are other options?

A. **Yes. Titusville has numerous water supply options and others are** possible. Mr. Thomas assumes that the Titusville water use permit will be impacted by the Farmton Water Resources FPSC application. He has no basis for that opinion since his area of testimony is solely economic and not environmental nor hydrogeological. He does not even consider the scenario of the Titusville water use permit and wellfield being granted and Farmton Water Resources certificate being granted and that both could complement each other. He assumes that it must be one or the other which I believe is erroneous.

Q. Does Mr. Thomas focus on the City performing its own wellfield as the most cost-effective?

A. Yes. He states that the City would be more cost-effective in doing its project than Farmton Water Resources, yet has no idea of the pipeline distances, configuration of wells or the engineering, hydrogeological and environmental factors. His conclusion is based solely upon financial numbers given to him to utilize and are hypothetical estimates at best with no actual construction cost basis. He unequivocally states that Farmton Water Resources cannot build a cheaper system and cannot finance it any cheaper than the City of Titusville. He has no basis for either statement since both programs have not been bid out and both programs have not been financed. He knows that the City is limited to the Florida East Coast Railroad right-of-way and therefore could not build a direct pipeline from the wellfield to the City and discounts the fact that Farmton Water Resources, of course, would have a lesser cost facility configuration than the City of Titusville.

Q. Generally, does Mr. Thomas have a opinion generally about investor-owned utilities versus governmentally-owned utilities?

A. Yes. He generally states that City facilities are cheaper than investor-owned utilities no matter what and assumes service solely to the City service area and not to Farmton Water Resources. Such testimony may be appropriate for a Titusville rate hearing, but has no applicability to cost of service within Farmton Water Resources. In fact, Mr. Thomas has not provided any estimates or any comparisons for

the cost of service to Farmton Water Resources and does not state that the City of Titusville would provide service to Farmton Water Resources proposed certificated area. All of his work is for service by the City of Titusville within the City's service area and not to Farmton Water Resources gets any service at all from the City of Titusville. He has assumed that Titusville will not sell water to others. This assumption is that the City of Titusville would not have adequate raw water resources. If bulk raw water was available, he obviously would be mistaken considering the excess treatment plant capacity and transmission capacity which is the vast majority of the cost already owned by the City of Titusville and paid for by that entity.

Q. Does Mr. Thomas assume the use of both a City and Farmton Water Resources bulk raw water supply?

A. No. Mr. Thomas assumes exclusivity either City or Farmton Water Resources, but not both wellfields. Of course, if the City is permitted and builds the line, then Farmton Water Resources is in position to be more competitive on the next expansion than any other supplier for bulk raw water and would provide for the future water resources of the City of Titusville and potentially others. A similar situation occurred for the City of Cocoa which has taken the City of Cocoa out of the position of not having adequate water supplies to serve its service area when ECFS, Inc. worked with them to provide for the shallow aquifer Pipeline Road wells as delineated by ECFS, Inc. for implementation, the back-plugging of the Tram Road deeper wells and optimization of the well rotation in that area; as well as the

implementation of the Taylor Creek Surface Water Reservoir all within the ECFS, Inc. certificated area and cooperatively accomplished between ECFS, Inc. and the City of Cocoa. This is the reason why the City of Cocoa has excess potable water supply through its cooperation with an investor-owned utility having significant land resources and working cooperatively with that certificated entity. This has been documented over the last 10-years.

Q. Have any other options been evaluated by Mr. Thomas such as the desalinization alternative water supply being studied by the water management district?

A. No. Mr. Thomas did not include the water management district's alternative supply program which involves developing desalinization facilities at either or both the Reliant Energy Indian River or at the Cape Canaveral power plants. The reported capital cost of these options range from $80 million to $200 million for plants 10 million to 60 million gallons per day. This is from $3.33 per gallon of capacity to $8 per gallon of capacity for plant costs alone and a plant processing cost of $3 per 1,000 gallons. The public hearing in Titusville on this issue was held by the Southwest Florida Water Management District. These options have not been incorporated into the City of Titusville's alternative water supply evaluation.

Q. Would you summarize Henry Thomas's testimony in your area of expertise?

A. Yes. Basically, he does not testify at all about Farmton Water Resources service area service to itself, competition for retail water service or any economic or operation capability of Farmton Water

Resources. Mr. Thomas' focus is solely the cost of water to the City of Titusville's water customers which are remote to this proposed certificated area and for the City of Titusville to import water across the Brevard County service area down to its Garden Street 16 MGD water treatment plant and to minimize the cost for the City's water service area customers. It is undisputed by Mr. Thomas that Farmton Water Resources has the financial capability and the operational capability to accomplish the provision of service in the Farmton Water Resources proposed certificated area. In addition, Mr. Thomas considers the Farmton Water Resources proposal as the most competitive proposal to the City's proposal as one of the two most cost-effective options for the City of Titusville. Finally, Mr. Thomas does not include facilities configuration and the potential that both water resource opportunities could be developed that would significantly benefit the City of Titusville for many years into the future in the utilization of the existing and paid for treatment plant and transmission components of the City of Titusville's water system.

Q. Ms. James notes in her testimony that the application's area is outside of the County's designated service area and that the future land use elements of both the Brevard and Volusia County Comprehensive Plans prohibit extension of water lines or establishment of central systems of potable water outside of the water service areas. What is your understanding of the Brevard countywide service area and the Volusia countywide service area?

A. The Brevard countywide service area is a non-exclusive service area.

Generally, if another utility does not claim the service area, it defaults to Brevard County. If a city or other utility extends service and there are no facilities operated by Brevard County utilities in the area, then that city or other utility in Brevard County would have the ability to provide service.

Q. What entities in Brevard County and other public utilities have you served relative to utilities?

A. The City of Cape Canaveral, the City of Cocoa Beach, the City of Melbourne, the City of Palm Bay, the Canaveral Port Authority and East Central Florida Services, Inc.

Q. Has the Brevard County generalized countywide service area impacted any of these utilities operations or service areas or certifications to your knowledge?

A. To my knowledge, the countywide generalized service area has not had an impact on these entities as they may expand or modify their utility service areas.

Q. What cities and public utilities do you serve in Volusia County concerning utilities?

A. The City of Daytona Beach, the City of Daytona Beach Shores, the City of DeLand, the City of Deltona, the Utilities Commission, City of New Smyrna Beach, the City of Edgewater, the City of Orange City, and the City of Ponce Inlet.

Q. Has the Volusia County generalized countywide service area impacted the service areas of any of these cities or utility commissions?

A. No. The countywide service area ordinance has not impacted any of

these utilities to my knowledge. Rather, Volusia County has signed interlocal service area agreements with several of my clients that delineate the agreed upon service areas in an interlocal agreement which is recognized and adhered to between the parties. Not all of my clients have signed an interlocal agreement with Volusia County as listed above, but some have.

Q. How would you characterize the Volusia countywide service area?

A. The Volusia countywide service area again is similar to the Brevard service area as a default provision, providing under the finding that the remainder of the County should be within a utility service area, if not provided by another entity. Generally, Volusia County does not service many areas of Volusia County and the Volusia County utility system is relatively small compared to the other cities and other utilities within the County.

Q. Do you believe that County utilities can be inconsistent with their own comprehensive plans?

A. Yes, our firm serves some 28 Florida counties and in general, they are consistent with their comprehensive plans, but a few do have inconsistencies with their own comprehensive plans which are either perfected with the modification of the comprehensive plan by the Board of County Commissioners and then sent for approval to DCA in Tallahassee, or another mechanism is utilized. But the simple answer is yes, counties have in the past been inconsistent with their own comprehensive plans.

Q. Do you have any experience relative to cities being inconsistent with

their own comprehensive plans?

A. Yes, we serve some 87 Florida cities relative to water and wastewater utilities. Again, several of the cities have decided to provide utility infrastructure not consistent with their comprehensive plan and to perfect the comprehensive plan after the fact. Nonetheless, most of the Florida cities that our firm serves do comply with the majority of the comprehensive planning requirements listed under Chapter 9J5.

Q. Have you reviewed the testimony of Ms. James relative to the causal relationship between FPSC certification and urban sprawl?

A. Yes. In the middle of Page 3 of her testimony she makes references to this certification of Farmton as violating the provisions of the local government Comprehensive Plans' intents to limit urban sprawl. She however agreed in her deposition clarifying this that she was not aware of any PSC certification that has led directly to urban sprawl. It is also to my personal knowledge in serving several investor-owned utilities throughout the State, that I am not aware of any FPSC certification that led directly to urban sprawl. I also serve as the consultant to ECFS, Inc. which is a major investor-owned utility also in Brevard County, and located in Orange and Osceola Counties. I was a member of the Policy Advisory Committee representing the State of Florida American Society of Civil Engineers under Lt. Governor Jim Williams on the original drafting of the utility element of the State Comprehensive Plan. During all the sessions, I don't remember any correlation between an FPSC certificate and urban sprawl ever being discussed or that the utility element of the Comprehensive Plan would

preclude certification in and of itself. Moreover, I have assisted several Florida cities and counties on their Chapter 9J5 portions of their approved comprehensive plans. To my knowledge, there has not been a correlation between an FPSC certificate and urban sprawl in those utility elements of the comprehensive plans under Chapter 9J5. As evidenced in over a decade of operations, ECFS, Inc. has appropriately operated and facilitated beneficial activities in the public interest and has not created any of the hypothetical allegations which planners had assigned to ECFS, Inc. during the original certification process. Again, refer to GCH rebuttal exhibits on this issue.

Q. From a planning perspective, have the economics of the provision of service to the Farmton Water Resources areas by any of the entities providing testimony been provided?

A. No. While both witnesses for Brevard County, City of Titusville, and Volusia County have suggested their ability to provide service as and when needed to this area, none of these entities have proposed to provide the raw water, fire protection or potable water service to the Farmton Water Resources area. None of the utilities have planned to serve the area; none of the utilities have available resources to serve the area; none of the utilities have the availability to serve the area and none of the utilities have budgeted to serve the area.

Q. Mr. Thomson, and perhaps others, have provided testimony about the fact that proposal by Farmton to provide water service in this area has not been included in the water supply planning efforts in the region. If a

utility does not participate in the water management district plan, does that preclude that utility from developing its water resources?

A Absolutely not. One great example would be the City of North Miami Beach which was included in the Lower East Coast Water Supply Plan by the South Florida Water Management District at 17 MGD, but did not participate in the planning activity with the SFWMD. Within a few months of the final adoption of the SFWMD plan, HAI on behalf of the City applied for expansion of its water use permit from 17 MGD to 48 MGD. After several months of processing, the City of North Miami Beach received a water use permit for the 48 MGD meeting the rules and regulations of the water management district. It is compliance with rules and regulations that is important not necessarily participation in water resource planning efforts by some other entity. In contrast, ECFS, Inc. has participated in the water management district planning activities and participated with Brevard County in its utility planning activities and has provided good input to the various entities that have been accomplishing planning in and around their large service area. To date, Farmton Water Resources is not a certificated utility and one would expect Farmton Water Resources once it became a certificated utility to participate in the water resource planning activities. Prior to becoming a certificated public utility, it may not choose to participate, as it is rare for individual landowners to participate, although Mr. Earl Underhill did when allowed by the VWA, in the water resource planning activities of regional entities, the water management district, and/or the State of Florida.

Q. Does that complete your rebuttal testimony?

A. Yes.

Dated this 16th day of April, 2004

MR. DETERDING: And we tender the witness for cross.

COMMISSIONER DEASON: Very well. Mr. Knox.

MR. KNOX: I have no questions of Mr. Hartman. However, Mr. Chairman, I believe, if I'm not mistaken, I could be mistaken, but I believe Mr. Hartman went beyond his prefiled testimony in presenting some of the things he did, and to the extent he did that, I'd like to move to exclude that as being considered evidence. I think his summary should be a summary of what he has in his prefiled testimony and not go beyond that.

COMMISSIONER DEASON: Well, that's kind of like putting the toothpaste back in the tube at this point, Mr. Knox. I will allow you the opportunity, once the transcript is filed, to make a motion and see what is included in his summary that should be excluded, and then I'll give the opportunity for Farmton to respond, and I'll rule upon it accordingly. And we'll need sufficient time in the briefing schedule to accommodate that, staff.

Mr. McNamara.

MR. McNAMARA: I have no further questions for Mr. Hartman at this time.

COMMISSIONER DEASON: Mr. Bosch.

MR. BOSCH: Commissioner, I have no questions, but I would just reiterate Mr. Knox's objection and just ask that the Commission request that the future rebuttal witnesses stick to

the rebuttal testimony, prefiled testimony.

COMMISSIONER DEASON: Very well.

MR. BOSCH: Thank you.

COMMISSIONER DEASON: Staff.

MS. FLEMING: According to the schedule, transcripts are due on July 8th with briefs to be filed on July 22nd. I guess I need a little bit of clarification. Would you want Brevard County to file this motion before briefs are due or after?

COMMISSIONER DEASON: Before briefs are due, as quickly as possible after the transcript is filed. I would need a page and line citation to whatever comments were considered to be outside the scope of the prefiled rebuttal testimony. And I will need sufficient time for Farmton to respond and then to rule, but I think that can be done in an expeditious manner.

MR. DETERDING: Commissioner Deason, if I may, along these similar lines. Mr. Wharton and I have both talked to the intervenors, and we were a little concerned with the current briefing schedule in any case.

COMMISSIONER DEASON: Well, let's do all this at the end of the hearing. And, staff, we'll go over all of this and maybe give you some time to think about the schedule and what lies ahead. At this point if you have any cross-examination for this witness, you may proceed.

COMMISSIONER JABER: Let me ask you a question, Commissioner Deason, just not for purposes of the motion but for purposes of our going forward. I'm interested in having Mr. Knox just clarify what he thinks went beyond the record just so that I can go forward and understand better.

COMMISSIONER DEASON: Sure. Mr. Knox, can you clarify?

MR. KNOX: Of course I didn't memorize his rebuttal testimony verbatim, but I thought I heard some things that I didn't recall from his rebuttal testimony. I just want to preserve that objection. Specifically I was concerned about the private customers he mentioned. I don't remember that as being in **there at all.**

COMMISSIONER DEASON: Okay. Staff, questions for the witness?

MS. FLEMING: No, we don't have any questions.

COMMISSIONER DEASON: Commissioners.

I would take it there's no redirect.

MR. DETERDING: No, there is not.

COMMISSIONER DEASON: Okay. And we've already addressed the exhibits. Thank you, Mr. Hartman.

(Witness excused.)

COMMISSIONER JABER: Are there any more like that?

MR. DETERDING: Yeah, that's what I want to know too.

COMMISSIONER DEASON: Well, we were told that the

cross was going to be brief, but you know Mr. Wharton, he wanted lunch.

MR. DETERDING: It doesn't get any more brief than that. We call Earl Underhill.

EARL M. UNDERHILL

was called as a rebuttal witness on behalf of Farmton Water Resources, LLC and, having been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. DETERDING:

Q Mr. Underhill, you have previously been sworn; correct?

A Correct.

Q And you have previously provided direct testimony in this proceeding?

A Yes, I have.

Q Did you prepare in conjunction with my office a document referred to as the rebuttal testimony of Earl Underhill consisting of 11 pages?

A That's correct.

Q If I ask you those same questions here today, would your answers be the same?

A Yes, they would.

Q Do you have any corrections to make to that testimony?

A No corrections.

Q Could you please provide the Commission with a brief summary of that testimony?

A Yes, of that testimony. And I'd just like to allude to two particular areas. The first one being a statement that Mr. Thomson made on Page 3 of his testimony where he talks about Farmton's proposal to establish the utility has not been included in the water supply planning efforts within the region. And I would suggest that there are methods to include that in the future in both the comprehensive plan and the water supply plan, and those are things that as a part of good planning would eventually be done.

And I would take -- particularly, I would take note of the last Volusian water supply plan that included in it a 6 million MGD allotment for a microchip plant that was planned to go into the DeBary area. That never came to fruition. So I would expect that in the next water supply plan that will be removed. And the writer of that next water supply plan, which is currently being rewritten, if they perceive that Farmton's request is significant enough to place in the water supply plan would be included at that time.

By the way, while we're talking about the plan, I should make note that the plan says that new fresh groundwater is the most preferred public water supply source because it is generally safe, reliable, and inexpensive. And the party

related to Farmton, Miami Corporation, does, in fact, own 57,000 acres of land in Volusia and Brevard Counties without any current CUPs. And I would suggest that that provides an excellent opportunity for new, fresh groundwater sources.

And the second thing that I'd like to discuss is a comment that Mr. Burklew made where he noted that Farmton has not applied for any water use permits at this time in the proposed territory. And I want to thank Mr. Burklew for making note of that. Yes, that is true. And I think it's important to take that in context because I'm concerned about what I've heard about the Titusville application and then the Farmton application. I want to assure everybody that Farmton would have no intention of duplicating a wellfield. We would -- that would be the worst use of the resource. And I wanted to make that perfectly clear.

In fact, if we did go ahead with a proposed wellfield on Farmton's lands in order to supply Titusville -- and I'd like to go back with you and tell you where we were in those negotiations when this application was made. We were negotiating with Titusville, and they said they needed to keep their options open. And their options open meant --

MR. McNAMARA: Commissioner --

THE WITNESS: -- that they were looking at Cocoa --

COMMISSIONER DEASON: I'm sorry, Mr. Underhill, can you stop for just -- is there an objection?

MR. McNAMARA: Commissioner, I do not believe this is in his rebuttal testimony.

COMMISSIONER DEASON: That it is not in his rebuttal testimony. There's an objection. Mr. Deterding, can you cite to his testimony where this subject is addressed?

MR. DETERDING: I would have to look through it here, Commissioner, but I know he did discuss the issue of prior discussions with Titusville about bulk water, I believe.

COMMISSIONER DEASON: I'll give you a moment to find that.

MR. DETERDING: Just a minute. I'm looking in the wrong place. Well, he talks on Page 4 about the existing withdrawals not requiring a CUP, and then until such time there are customers -- I'm looking at Line 13 -- for whom the construction of such facilities would be needed, there's no reason for Farmton to apply for such permits. As soon as the request for service presents itself, and all that is related to this bulk water, and then to the -- down at the bottom of that page, it's discussing I believe what he was just discussing there about the fact that -- responding to Mr. Burklew's concerns about the utility not having filed a water use permit.

COMMISSIONER DEASON: But I see no reference to negotiations that Mr. Underhill was alluding to at the time the objection was made.

MR. DETERDING: And I apologize.

COMMISSIONER DEASON: Let me just ask the witness. Mr. Underhill, do you address in your prefiled rebuttal testimony the negotiations?

THE WITNESS: I cannot locate it, no, sir.

COMMISSIONER DEASON: Okay. Well, then I'm just going to ask you to skip over that part of your summary and proceed.

THE WITNESS: I apologize. I guess the only other point I would make on Mr. Burklew's testimony is that Miami Corporation -- excuse me, Farmton is certainly in the best position to look at the entire picture in Brevard County were we to go ahead with a comprehensive use permit request and to understand that we -- there are additional needs that might be required by the campsites. Thank you.

MR. DETERDING: With that, we would request that Mr. Underhill's testimony be inserted in the record as though read.

COMMISSIONER DEASON: Without objection, it shall be so inserted.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FARMTON WATER RESOURCES, LLC

DOCKET NO. 021256-WU

APPLICATION FOR ORIGINAL WATER CERTIFICATE

IN VOLUSIA AND BREVARD COUNTIES

REBUTTAL TESTIMONY OF EARL M. UNDERHILL

Q. Please state your name and business address.

A. My name is Earl M. Underhill. My business address is 1625 Maytown Road, Osteen, Florida 32764.

Q. Have you previously provided testimony in this proceeding?

A. Yes. I provided Direct Testimony.

Q. What is the purpose of your testimony here today?

A. To provide responsive testimony to several of the witnesses for the protestants as contained within their direct testimony.

Q. What is the first area you wish to address?

A. In response to Mr. Scott's comments concerning sprawl and agricultural designation of land, Mr. Landers provided rebuttal testimony that includes discussion of the ability to have large lot subdivisions in areas identified as agricultural in nature. I wanted simply to note that I am aware of several examples of large lot agricultural subdivisions, some of which are immediately adjacent to the proposed territory for Farmton. The

first is on the West side of Powell Road (just west of our proposed territory), West of Section 6, in Township 19 South, Range 33 East and a second one is on the North side of Prideaux Road which separates Section 31, Township 18 South, Range 33 East and Section 6 in Township 19 South, Range 33 East. These are approximately 5 and 10 acre lots created by subdividing agricultural land, both of which have been undertaken in the last 10 years.

Q. What is your next area of discussion?

A. Mr. Thomson on Page 3 of his testimony makes a statement about the fact that Farmton's "proposal to establish the utility has not been included in the water supply planning efforts within the region..." Both the Comprehensive Plan and Water Supply Plan are documents that are regularly reviewed to reflect changes to growth patterns and demand as part of responsible planning and since water is an essential prerequisite to development it would seem that planning for water resources prior to anyone requesting a PUD, DRI, or other change, would be a logical step to ensure availability of water as and when needed. This is not to say that there are any plans for immediate development, but rather to note that planning for water is something that needs to be done before any changes in land use are even considered. That

is why we have made this application before the PSC. The Water Supply Plan dated March 2002 stated that public "...water utilities represent the only user group with significant need for increased water use between 1995 and 2020." However, it further states that "The Plan must be flexible enough to accommodate future modeling improvements, changes in future demands, changes in environmental constraints." The Plan is intended to be reviewed every 5 years along with the District Water Supply Plan. In fact, there was originally projected a 6 MGD need for a new microchip plant anticipated for Southwest Volusia County which never materialized. As such, the next time the Plan is updated that anticipated need will be removed and other water demands will likely replace it.

A Farmton representative participated in all the efforts toward developing the Plan as the County's agricultural representative. The Plan also states that "new, fresh groundwater is the most preferred public water supply source because it is generally safe, reliable, and inexpensive." The related party to Farmton owns 57,000 acres of land without any current CUPs and that provides an excellent opportunity for new, fresh groundwater sources. Farmton Water Resources, LLC, who is the Applicant in this PSC proceeding, is in the best position

to work with that landowner to utilize and obtain those resources at the best possible location and with the least environmental impact or impact on the resource itself.

Q. Mr. Burklew noted that Farmton has not applied for a Water Use Permit at this time for any of the proposed services within its territory.

A. Yes, that is true. While there are some withdrawals within our territory that do not require an application for a Consumptive Use Permit or Water Use Permit, there are some other proposed services such as bulk raw water service that will require such a request to the Water Management District. However, until such time as there are customers for whom the construction of such facilities would be needed, there is no reason for Farmton to apply for such permits. We certainly will do so as soon as such a request for service presents itself, but it does not change the fact that we need to plan for the provision of such services and for the appropriate, efficient, and effective management with the least environmental and resource impacts and Farmton is in the best position to do so. Florida Statutes Section 367.031 specifically provides that a utility should obtain a PSC certificate before it obtains a Consumptive Use Permit. Mr. Dwight Jenkins recently spoke at a Florida Water Law

conference in Orlando and noted that a rule is currently proposed that would make it clear that PSC certification is for the Water Management District Director of the Division of Water Resource Regulation.

It should be noted that the Water Authority of Volusia, which is the successor to the Volusian Water Alliance, includes only public entities and has agreed only to develop new sources for their members. They also will not be involved in any local distribution of water. The predecessor to this entity, the Volusian Water Alliance, included private entities and I served as the agricultural representative on this board. Therefore, while the WAV may be a good local government organization to coordinate location government resource planning, it has by its nature, excluded private property owners and private utilities which in many instances, and especially this one, excludes substantial water resources that may be available for planning. As such, it cannot be relied on to determine overall resource planning for the area, because of this exclusion of not only interested parties, but substantial resources.

Q. On Page 4 of Mr. Thomson's testimony he discusses the land designation in Volusia County's Natural Resource Management Area (NRMA). Do you have any concerns with the comments made by Mr. Thomson there?

A. Yes I do. Mr. Thomson's characterization of the NRMA and the Environmental Systems Corridor (ESC), Forestry Resource (FR), and Agricultural Resource (AR) all suggest that the function of the government and the planners is to tell landowners what land they should develop and in what ways. I take issue with this implication. In fact, landowners should be given the opportunity to show that whatever development proposals they may have meet the reasonable requirements within the Comprehensive Plan and other regulatory constraints. By following Mr. Thomson's logic, landowners must only grow cattle or timber in the NRMA, even if they are losing money in those operations and even if times and circumstances change. I would certainly agree that any public or private supplier withdrawing water from the NRMA would be regulated by the Water Management District and as part of the process of well drilling and water treatment and/or distribution, they would be required to comply with the legally binding environmental requirements and functions of the NRMA. However, I believe that is different than suggesting that the creation of a utility itself somehow violates those designations.

Q. Ms. Marwick who provided testimony on behalf of Volusia County on Page 2 of her testimony talks about the primary aim of the "Vision 2020" long range plan. Would you

comment on that?

A. Yes. In her Direct Testimony, Ms. Marwick states that the "primary aim of this long range plan is to minimize the construction of new systems through the management of current assets and resources." This is an inaccurate statement. I served on this Board when this Plan was adopted. The Plan's executive summary says the "purpose of the Plan is to present a strategy that will meet the needs of the Volusia County area with particular emphasis on public supply." The Plan makes conclusions and recommendations after examining demand, numerous water source alternatives, and management options. It specifically states that 20 to 33 MGD of the projected demands can be met with existing groundwater sources and will be able to meet the needs through 2009 to 2017. Never did it say that a primary objective was to "minimize the construction of new systems." As previously discussed in that document, "new fresh groundwater sources" are one of the preferred alternatives for future water supply. Ms. Marwick's statement at the top of Page 4 of her testimony that "this can only be done by members of the WAV...therefore, Farmton could not be a part of such a regional planning practice" is not a statement about the value of Farmton or about the value of appropriate regional planning, but

merely a statement about the lack of value of WAV to oversee all water resource planning in the area. This is because it fails to include not only private utilities but private landowners who may be in the best position to manage resources and protect the environment in many instances. This is certainly true in this instance where Farmton is by far in the best position to manage the water resource within the boundaries of the property owned by its related party, in the most environmentally efficient and effective manner, with the least impact on the resource. Nowhere in the interlocal agreement does WAV assume that it has the overall authority to manage the resource or that the private utilities should not participate in resource planning. It only takes the position that a private utility cannot join the WAV because it would lose its immunity as a governmental entity. At the present time, there are no County or local city utilities near the areas in Farmton where service is currently needed and to ignore Farmton as the provider of service where not only the need exists, but also where the facilities already exist, is irrational. Ms. Marwick also makes the statement that "Volusia County requires developers to provide and dedicate to the County the potable water distribution and treatment facilities (and wastewater systems) within any new development."

While this may be a true statement with regard to what is required of developers proposing to develop land and receive service from the County system, it certainly is not applicable to requirement of the developers tying into systems other than that owned by the County. Clearly to the extent that a developer constructs facilities within the areas served by other utilities, that provision is wholly inapplicable.

Q. Both Ms. Grant and Ms. Marwick suggest that either Brevard County, Volusia County or the City of Titusville can provide service to the area proposed for service by Farmton Water Resources, LLC if and when the need there arises. Do you agree with this statement?

A. No. Obviously, they have no facilities anywhere near Farmton property to begin with. Secondly and probably more importantly, there is a need for service currently within the territory. That need cannot be met from those entities for several reasons. The first is that the facilities are in place in many of these areas currently in need of service owned by Miami Corporation. Any attempt to construct facilities by any of these governmental entity protestants would be a complete duplication of the facilities already owned and operated by Farmton and in addition, would obviously be more costly than utilizing existing facilities. Secondly, as

the needs arise within the territory they will not be going from very small to very large overnight. Therefore, any proposal by these entities to provide that service by extension of an existing line, is wholly impractical because the areas needing service are not only spread out, but several miles from existing facilities owned by these entities. As those demands increase, they will also likely increase throughout the territory proposed for service by Farmton and Farmton is in the best position to provide that service, not only because of the existence of the facilities throughout the territory, which can either be expanded or extended, but also because the location of the need may have little relation to the location most convenient for these governmental entities and their existing infrastructure. Therefore, their statements that the service is not currently needed are clearly wrong in that there is demand for several types of service within the territory, but their statements that they can provide the service when needed not only ignores the current need, but illogically suggests that there is some ability by them to provide service to the relatively small needs that currently exist and to efficiently provide that service to larger needs as they grow. Not only can they not do so efficiently, but they cannot do so without duplicating

the existing facilities of Farmton.

Q. Do you have any further testimony at this time?

A. No. I do not.

MR. DETERDING: And we tender the witness for cross.

COMMISSIONER DEASON: Mr. Knox.

CROSS EXAMINATION

BY MR. KNOX:

Q Mr. Underhill, I have one question for you.

A Yes, sir.

Q Of the 57,000 acres that you mention being owned by Miami Corporation, and I guess 50,000 of which are the subject of this certificate process, how many are located in Brevard County within the yellow area below the Brevard County line on that map?

A Thank you for asking me that question. Yesterday, we heard the number 14,000 batted about. In fact, there are 10,000 acres in Brevard County.

Q Okay. Thank you.

A Thank you.

COMMISSIONER DEASON: Mr. McNamara.

MR. McNAMARA: I have no questions of the witness at this time.

COMMISSIONER DEASON: Mr. Bosch.

MR. BOSCH: No questions.

COMMISSIONER DEASON: Staff.

MS. FLEMING: We have no questions at this time.

COMMISSIONER DEASON: Commissioners.

Redirect.

MR. DETERDING: None.

COMMISSIONER DEASON: Okay. Thank you, Mr. Underhill, you're excused.

(Witness excused.)

COMMISSIONER DEASON: You may call your next witness.

MR. DETERDING: We call Charles Drake.

CHARLES W. DRAKE

was called as a rebuttal witness on behalf of Farmton Water Resources, LLC and, having been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. DETERDING:

Q Mr. Drake, you've previously been sworn?

A Yes, I have.

Q And you've previously provided direct testimony in this proceeding?

A Yes, I have.

Q Did you prepare in conjunction with my office a document referred to as rebuttal testimony of Charles Drake consisting of seven pages?

A Yes, I have.

Q If I ask you those questions today, would your answers be the same?

A Yes, they would.

Q Do you have any corrections to make to that

testimony?

A No.

Q And you have no exhibits?

A No, sir.

Q Please provide a brief summary of your rebuttal testimony.

A Okay. First, based on what Ms. Grant said in her direct testimony, that Titusville's best position or well position to provide water in the northwest Brevard County area, I don't think that's correct because of the distance from Titusville to northwest Brevard County, and also Brevard County has facilities in that area. Also, that she believes Titusville is best suited to provide water on Farmton's property. They don't have any facilities there; they don't have a way to convey water to Farmton; so I don't believe that that is correct.

Also, she makes the statement that Farmton's request is not in the public interest. And the public interest test at least related to water resources is not defined in Chapter 373 or defined in the Applicant's Handbook of the water management district, but it is a test that they use to evaluate such things as the economic and efficient use of the resource, impacts to existing users, adverse impacts to the environmental features such as the wetlands that Volusia County has mentioned is in the natural resource management area, if I have that

correct. Wetlands are on a significant portion of Farmton's property as well as the mitigation banks that are out there. Why that is, or Farmton's request is in the public interest is because Farmton understands all of those issues, the wetlands, the mitigation banks, the water resources of the property. And by having that -- those water resources -- or the ability to locate future water supply sources on their property, they can better manage all aspects of those water resources. So I believe it is in the public interest that the landowner can best manage those resources for all of its uses.

One illustration of that is the ongoing issues that you heard from Mr. Burklew about potential wetland impacts and salt water upconing. The salt water upconing is that the wells that Titusville has proposed are very closely spaced together because of the limitation on an area where those wells could be placed. And Miami's proposal, if we were to provide water to Titusville or any other customer in that area, we can spread those wells out over a larger area. You have, like Rich Burklew was saying, you could have more wells, more wells pumping at a much lower rate that then spreads that impact out over a larger area. So those wetland impacts would not manifest themselves, and you wouldn't have to revert to a wetland mitigation process that Titusville has proposed to the district. They haven't proposed that they would reduce pumping from the wellfield, but rather they have a wetlands monitoring

network proposed and a wetlands mitigation methodology proposed too, which if Farmton proceeded with their wellfield as it's laid out, we probably could avoid the extensive wetlands monitoring and would not need mitigation. And I would suspect also that if mitigation was required, then Farmton would not pump that rate. They would only pump up to the safe yield such that mitigation would not be required. So we have much greater -- or many more options available to us to prevent any wetland impact, **and more important, the salt water upconing** issue would not **occur.**

As you may or may not know, if you see a wetland impact, that impact is much easier to stop, or once you see it, it will quickly be reversed by stopping or curtailing pumping. On the other hand, with salt water upconing or intrusion, it takes many years for those impacts to manifest themselves and many more years to reverse it. So if there is harm caused, it won't be detected for many years. Farmton's property would be harmed many more years into the future. So with them having their eye on long term and not the 2020 plan but their 2050 or 2080 plan, they're keeping that long-range view always in their land. So with that much greater land area, they have more options to prevent that.

The other thing is, Ms. Grant mentioned that Farmton's proposed water use is not in the district water supply plan. And I think Ms. Marwick may have mentioned also

Volusian water lines plan. That does not preclude Farmton from being able to obtain a consumptive use permit. There's nothing in the Applicant's Handbook, 373, or 40C-2 that says you have to meet -- that you can't get a consumptive use permit unless your proposed use is in our plan. So that does not preclude Farmton or Titusville either from getting a consumptive use permit.

Well, I guess the last one I make too is -- so I think someone asked me on my cross-examination about, well, could Titusville and Farmton reach an agreement on locating a wellfield? Well, that's possible they could.

COMMISSIONER DEASON: Let me caution you. This is not the opportunity to address things that were asked during cross-examination, just a summary of your prefiled rebuttal.

THE WITNESS: Sorry. I didn't understand that rule. Thank you. I'm done.

MR. DETERDING: I request that Mr. Drake's testimony be inserted in the record as though read.

COMMISSIONER DEASON: Without objection, it shall be so inserted.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FARMTON WATER RESOURCES, LLC

DOCKET NO. 021256-WU

APPLICATION FOR ORIGINAL WATER CERTIFICATE

IN VOLUSIA AND BREVARD COUNTIES

REBUTTAL TESTIMONY OF CHARLES W. DRAKE, P.G.

Q. State your name and address.

A. Charles W. Drake, P.G., Hartman & Associates, Inc., 201 E. Pine Street, Orlando, Florida 32801.

Q. Have you previously provided testimony in this proceeding?

A. Yes. I provided direct testimony.

Q. Mr. Drake, what is the purpose of this testimony?

A. To provide responsive testimony to witnesses for the protestants as contained within their direct testimony.

Q. What would you like to first address?

A. I would like to first address the testimony of Ms. Raynetta Curry Grant, the City of Titusville's Water Resources Director.

First, the City of Titusville's service area does not include the Farmton Water Resources proposed certificated area. Second, in order to provide service to Farmton Water Resources, Titusville would have to reach an agreement with Brevard County on service.

On page 2 of 5 of her testimony, lines 19-23, and page 3 of 5 lines 1-6, she states that the City will meet all its

projected needs. This is contradicted by the next statement that the City has applied to the SJRWMD for a new wellfield in order to meet projected demands. Therefore, it is not clear from this statement as to whether the sustainable capacity of the City's current wells is capable of meeting the projected demands, or if additional supply is needed.

Q. Do have other concerns?

A. Yes. On page 2 of 5 lines 11-16, Ms. Grant states that the City is well positioned to meet the potable needs of any communities in the vicinity of the City's service area that are not served by the County or other municipality. This does not address the City's ability to provide potable water within the requested certificated area of Farmton Water Resources. Also in Ms. Grants direct testimony, on page 4 of 5 lines 17-23 she states that the City of Titusville is in a good position to meet the potable water needs of northern Brevard County. I do not agree with this, specifically in reference to the Farmton Water Resources area, in that the City currently does not have any facilities constructed that could provide potable water. This includes the water treatment facilities. It is unlikely that the City could provide potable water at a reasonable cost to customers in northern Brevard County when the potable water would have to be pumped from the City's Garden Street plant into northern Brevard County, versus the

water being pumped and treated locally. Her proposal to meet the needs for water service in this area would therefore be very costly, many times the costs which service by Farmton would entail.

Q. What about her statement on that same page about the City and County working together on supplying water to new development?

A. Certainly, the City could do that. But, so to could Farmton Water Resources, and more cost effectively, given that Farmton would be closer to northern Brevard County than the City.

Q. Does Ms. Grant mention the SJRWMD Water Supply Plan?

A. Yes, she does. This is a plan that the District develops by consulting with existing water utilities to gain an understanding of the demands that are known, or are projected within their service area. It is not a definitive document that describes where the demands will be, or the quantity that will be needed, and that those are the only possible demands and quantities. Publication of the Plan does not preclude anyone from requesting a consumptive use permit. Chapter 40C-2 is quite clear on the requirements of getting a permit, and just because it is not included in the Plan does not mean that it is not appropriate, permittable, or in the public interest. Therefore, any implication that just because the Farmton Water Resources utility is not in

the Plan, does not mean that it is not permittable.

Q. Is there anything else in Ms. Grants' testimony that should be addressed?

A. Yes, she states on page 5 of 5 lines 16-18 that the new water utility proposed by Farmton Water Resources would not be in the public interest. The public interest test is not defined in Chapter 373, Florida Statutes, nor in the SJRWMD rules. The City has not provided any documentation to support the claim that the City could provide retail potable water service to the proposed Farmton service area, much less that it could do so at a reasonable cost or rate. The City recently received another request for additional information (RAI) from the SJRWMD on the groundwater flow modeling related to their pending permit application.

Q. What did the SJRWMD request?

A. There are three areas of interest to the SJRWMD. The first is that the City needed to provide detailed groundwater flow modeling that more accurately simulated the proposed withdrawals. Next, the district asked for a revised wetlands monitoring plan based upon the predicted surficial aquifer impacts. Third, the City had proposed to use recharge wells that would inject water from another area into the Area IV wellfield and supposedly mitigate or prevent the surficial aquifer drawdowns. The SJRWMD has concerns with the use of recharge wells.

Q. In your opinion, what is the SJRWMD concerned with?

A. As with any groundwater withdrawal, they are concerned that no adverse impacts occur to environmental features in the area, such as wetlands, water bodies, etc. They are concerned that there are no off-site impacts, or adverse impacts to land use, among other things.

Q. Do these RAI questions speak to those concerns?

A. Yes, the City has not demonstrated that adverse impacts will not occur. They have proposed an impact avoidance scheme that could cause wetland impacts at the point of withdrawal and the City has not shown that impacts will not occur due to the wells that would pump water to recharge the surficial aquifer. The City also has not presented an acceptable wetland monitoring plan to the district.

Q. Based upon these concerns, is Farmton Water Resources better able to avoid the potential impacts that the SJRWMD is concerned about?

A. Yes, Farmton Water Resources has much more land available in which to construct a dispersed wellfield. That means they can build more wells, spaced further apart, and pump them at a lower rate such that the impacts could be avoided. Because they own the wetlands, monitoring and mitigation will be more efficient. There are also two wetland mitigation banks contained in the requested certificated area. The ability of Farmton Water Resources to locate and

manage a wellfield in their certificated area is far better than the City of Titusville.

Q. What is the concern relative to the adverse impacts to wetlands?

A. The predicted impacts to the surficial aquifer, and therefore the wetlands, is considered to be adverse if the drawdown is greater than around 0.3 feet. This can be avoided by spreading out the wells over larger area. The same is true for preventing the upconing of salt water.

Q. Who then in your opinion, would be a better steward of the water resources?

A. In my opinion, Farmton Water Resources would be the far superior provider of water because they have significantly more land area in which to develop groundwater supplies, and have a vested interest in not causing adverse impacts to their lands, wetlands and silviculture operations. Also, they must protect the permitted wetland mitigation banks that are on the property. By being able to site the wells over a larger area than Titusville could and being able to move those wells relatively easily if needed, thereby avoiding impacts to the wetlands.

Q. To your knowledge, will the retail potable water wells require a permit from the SJRWMD, Brevard County, or Volusia County?

A. If the combined average annual daily flow is less than

100,000 gallons per day, and the total pump capacity is less than 1,000,000 gallons per day, and no well diameter is 6 inches or greater, then no consumptive use permit is needed. A water well construction permit for wells less than 6 inches in diameter would be needed from either Brevard or Volusia County. If the well is 6" in diameter or greater, then a water well construction permit would be needed from the SJRWMD.

Q. If the proposed bulk water supply wells are to be constructed, would they require a consumptive use permit?

A. Yes, because they would trip the criteria that I just described, they would need a CUP.

Q. Does this conclude your Rebuttal Testimony?

A. Yes.

MR. DETERDING: And tender the witness for cross.

COMMISSIONER DEASON: Mr. Knox.

MR. KNOX: I have no questions.

COMMISSIONER DEASON: Mr. McNamara.

MR. McNAMARA: No questions.

COMMISSIONER DEASON: Mr. Bosch.

MR. BOSCH: Nothing.

COMMISSIONER DEASON: Staff.

MS. FLEMING: We have no questions.

COMMISSIONER DEASON: Commissioners.

No redirect?

MR. DETERDING: None.

COMMISSIONER DEASON: Okay. Thank you, Mr. Drake.

(Witness excused.)

COMMISSIONER DEASON: Mr. Deterding, you may call your last witness.

MR. WHARTON: We'll call Mr. Howard Landers.

HOWARD M. LANDERS

was called as a rebuttal witness on behalf of Farmton Water Resources, LLC and, having been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. WHARTON:

Q Mr. Landers, have you previously been sworn in this proceeding?

A Yes, I have.

Q And you provided direct testimony in this proceeding?

A Yes, I did.

Q Did you prepare prefiled rebuttal testimony consisting of 40 pages?

A Yes, I did.

Q And if we ask you those same questions here today, would your answers be the same?

A Yes, sir.

Q Do you have any corrections or modifications to make to that testimony and the attached exhibits at this time?

A Yes, I do.

Q All right. Why don't you go ahead?

A Okay. At Page 6, Line 6, change the word "the" to "their," t-h-e-i-r.

Page 10, Line 10, change "163, F.S." to "380.04, F.S." The definition of development is actually contained in 380.04 and cross-referenced at 163.

Page 28, Line 14, change the acronym "ECS" to "ESC." My fingers get crossed occasionally.

At Page 29, Line 12, change the number "19,325" to "18,082," and change the number "773" to "723."

All these numerical changes result from the changes in the service area in the northern part of the service area, and those occurred after I prefiled.

At Page 29, Line 13, change the number "21,148" to '20,554," and the number "1,057" to "1,028."

Four changes at Page 29, Line 15; Page 29, Line 24; Page 29, Line 25; Page Line 35, Line 3, in all four cases change the number "2,064" to "1,984."

At Page 36, Line 2, change the number "19,325" (sic) to "18,082."

At Page 36, Line 3, change the number --

Q You're going a little too fast, Mr. Landers.

COMMISSIONER JABER: I'm sorry. You have got to slow down.

MR. WHARTON: You've got to give us a chance to make these marks.

THE WITNESS: I apologize.

COMMISSIONER JABER: You lost me with the -- you said there was 18,000 -- what was that change? 18,082 maybe. Where was that?

BY MR. WHARTON:

Q Go back to Page 29 and make those a little slower.

A Okay. Page 29, Line 12, number "19,325" should be "18,082," and the number "773" should be "723."

Also, on Page 29 at Line 13, the number "21,148" should be "20,554," and the number "1,057" should be "1,028."

Then at Page 29, Line 15, the number "2,064" would become "1,984," and that same change occurs again on Page 29 at

Line 24, 1,984; on Page 29 at Line 25, it becomes "1,984;" Page 35, Line 3, it becomes "1,984."

At Page 36, Line 2, the number "19,325" (sic) again becomes "18,082."

At Page 36 at Line 3, the number "21,148" (sic) becomes "20,554." And the number "2,064" becomes "1,984."

At Page 39, Line 24, the word "off," o-f-f, should be "of," o-f.

Then in my Exhibit HML-3, which is the same exhibit that Mr. Hartman used, would have the same changes that Mr. Hartman recited, and I don't have those written out in front of me.

Q Does that conclude your corrections?

A Yes, it does.

Q Sir, did you also prepare certain exhibits which have been stipulated into evidence in this proceeding?

A Yes, sir.

Q All right. Why don't you give a brief summary of your rebuttal testimony?

A Thank you. First, as to summary, in my qualifications I have worked on several very large single-ownership properties. Three of those have involved multiple counties. One of those has involved properties in two states.

As to my testimony -- or rebuttal testimony, Farmton

is proceeding in proper order. First, you obtain a Public Service Commission certification; then proceed with other approvals, development, et cetera. Farmton is at the first step in the process. The PSC has prime authority for regulation of water service territory.

Florida's planning statute, Chapter 163.3211, conflict with other statutes, clearly states that nothing in the planning statute shall withdraw or diminish any legal powers, responsibilities of state agencies. Second, the creation of a regulated water territory by PSC is not a land use or a development activity as defined in Chapter 380.04 as referenced in Chapter 163, F.S., and therefore is not development subject to regulation by a comprehensive plan. Three, the planning witnesses or the original testimonies from the planners from both Brevard and Volusia Counties assume that a creation of water service territory would stimulate development, and that the Brevard and Volusia County comprehensive plans both only allow single-family uses at very low densities. Creation of a water territory by the Commission will not in and of itself stimulate development. Several additional steps would be required to create water service facilities, as I've stated earlier.

Even if we were to assume that Farmton would undertake those steps to create a utility and pursue development, neither of the counties' comprehensive plans is so

simplistic as to permit only very low density residential uses. Through their land development regulations, both plans contain provisions that permit several types of development currently, under the current comprehensive plan, several types of development that would require or would benefit from central water services. Both also permit landowners or developers to cluster the residential development and to include ancillary uses to those residential developments that would greatly benefit from central water services.

Brevard County cited Policy 3.4 of their potable water element as giving the county authority over the creation of water service; yet at Policy 3.5, which immediately follows, provides for, and I quote, a nongovernmental entity to be a provider. Then Policy 4.1 of the future land use element also allows provision of water services, and I quote, through MSBUs, MSTUs, and other means through which the recipients pay for the service or facility, and goes further to state, so long as that's consistent with the comprehensive plan. And I've just cited that you can cluster and do other developments in the comprehensive plan that's currently allowed under the comprehensive plan designations on the property.

So as with the testimony both here on that policy and land use, you need to look at the comprehensive plan in its entirety. The statue actually says that. You cannot selectively choose policies to apply without looking at the

entire plan.

Similarly, the testimonies of both jurisdictional planners assume that creation of a water service territory will stimulate development that constitutes urban sprawl. And again, even if we assume that Farmton would undertake development of the utility, both comprehensive plans pursuant to Chapter 163 contain extensive measures to prevent sprawl. Nothing in the granting of a PSC certificate would override those provisions.

Both plans are in compliance by DCA, and therefore, DCA has accepted those sprawl prevention measures. Also, in my professional opinion, the very low intensity 5 unit to 25 unit per acre lot residential development that both plans permit is one of the worst types of perpetrators of sprawl that we have in the state of Florida; I discussed that yesterday. Throughout Florida, as well as Volusia and Brevard Counties, there are already -- electricity is already available and is already allowing large numbers of units to be developed across the landscape. Right now, approximately 2,000 large lots could be developed in each county on Farmton's property.

Both counties in their original testimonies testified as though Farmton had no opportunity to modify the respective comprehensive plans. Chapter 163 provides or contains three specific opportunities to amend comprehensive plans. Our planning legislation is a framework. It's a vehicle that

guides how owners can use their land. It's not a static or a rigid prohibitional use of their land.

And then finally, the Department of Community Affairs in two technical memoranda that I've cited and have attached as exhibits has clearly stated that large rural landownership such as Farmton and others that I have worked on provide a very special land management opportunity for the state of Florida. In my opinion, Farmton is simply exercising one more option in seeking to manage its lands wisely and ultimately to the benefit of itself, Brevard and Volusia Counties and the state of Florida.

MR. WHARTON: Commissioner Deason, I would request that Mr. Lander's prefiled rebuttal testimony be inserted in the record as though read.

COMMISSIONER DEASON: Without objection, it shall be so inserted.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FARMTON WATER RESOURCES, LLC

DOCKET NO. 021256-WU

APPLICATION FOR ORIGINAL WATER CERTIFICATE

IN VOLUSIA AND BREVARD COUNTIES

REBUTTAL TESTIMONY OF HOWARD M. LANDERS

Q. Please state your name, business affiliation and address.

A. I am Howard M. Landers. I practice as an individual consultant as Howard M. Landers, AICP, Urban Planning Consultant. My address is 326 Settlers Lane, Charlotte, NC 28202.

Q. What is the purpose of your testimony in this proceeding?

A. I have been asked by Farmton Water Resources, LLC, to provide rebuttal testimony in relation to their request for a Certification of a Water Utility and specifically to respond to the testimony filed by various witnesses representing the interveners related to the subject of consistency with comprehensive plans.

Q. Would you please review your educational background?

A. I hold a Bachelor of Architecture degree from Virginia Polytechnic Institute, granted in 1965, and a Master of Science in Urban and Regional Planning from Florida State University, granted in 1966. In addition, I completed the course work and had an accepted dissertation prospectus for the PhD in Urban and Regional Planning from Florida State University from 1969 through 1971. I did not complete the degree.

Q. How many years and where have you practiced as an urban planner?

A. I have 38 years of professional experience, 31 of which were accrued in Florida, three in Denver, Colorado, and for the past four in Charlotte, North Carolina. However, throughout these last four years, I have continuously served clients in Florida.

Q. Would you please review you employment experience as a professional urban planner?

A. Between 1966 and 1969, I held three one year positions in Denver, Colorado: First, I was an entry level planner with the consulting firm of Harmon, O'Donnell & Henninger where I worked on a variety of assignments including drafting the first Planned Unit Development Zoning Code in the State. Second, I was a Planner II with the Planning Department of the City of Denver and performed planning activities related to recreational facilities planning, capital improvements programming and the Model Cities Program. Third, I was Director of Planning and Research for the Metro-Denver Fair Housing Center.

From 1969 to 1971, I held a Research Associate position with full time graduate teaching responsibilities at Florida State University's Department of Urban and Regional Planning. While there, I prepared and taught a three course sequence in urban housing and urban redevelopment.

From 1971 to 1973, I served as Director of the Community Renewal Program for the City of Jacksonville, Florida, a position that reported to both the Mayor's Office and the Department of Housing and Urban Development. Managing a staff of twelve, I directed a complete analysis of all neighborhoods in the City, and prepared a City-wide strategy for neighborhood improvement and redevelopment. The strategy positioned the City for its initial Community Development Block Grant Program and guided the program for several years.

From 1973 to 1983, I was employed by Reynolds, Smith & Hills Architects, Engineers, Planners, Inc., in Jacksonville. During the first five years I was a Project Manager responsible for managing and serving as principal planning professional on a wide variety of consulting projects. Over the second five year period I was

corporate Vice President for Planning and was responsible for all planning activities company-wide. In both positions I maintained an active role in a variety of major projects. With the State of Florida's broad planning legislation having commenced in 1973, I was involved in activities related to the State's program from its inception. The Comprehensive Plan that I prepared for the City of Panama City was the City's first and the seventh plan to be approved by the Department of Community Affairs (DCA) under the Local Government Comprehensive Planning Act. Similarly, the Development of Regional Impact (DRI) Application that I directed for Leadership Housing on their 4,000+ acre community in north Broward County was the third DRI approved after the passage of Chapter 380.06 FS. Other local government planning activities included: The Community Development Block Grant (CDBG) program, a recreation master plan and development plans for two parks for the City of Panama City; CDBG and Housing Strategy Plans for Leon County and the City of Tallahassee; CDBG plans and urban design studies for the City of Dunedin; CDBG and Housing Strategy Plans the City of Ocala; a special area plan for the Palm Harbor district of Martin County; and a Master Plan for St. Simon Island and Sea Island for the Brunswick-Glynn County Planning Department. Throughout nine of the ten years with RS&H, I managed the planning, environmental permitting and design services for five components of Gulf Islands National Seashore for the U.S. National Park Service. During the last year with RS&H, I directed the establishment of a complete planning department with a staff of twenty-seven for the City and Region of Tabuk, Saudi Arabia.

In 1983 I had an opportunity to form a new company and, with Tom Atkins, formed Landers-Atkins Planners, Inc., in Jacksonville, for which I served as president until 2000. We maintained Landers-Atkins as a relatively small – ranging between 6 and

17 persons – planning and landscape architecture firm that maintained a diverse work program. We provided planning services to the cities of Panama City, Destin, Port St. Joe, Chattahoochee, and Jacksonville as well as Monroe County. We provide urban redevelopment planning services for Palm Beach County and Collier County, and the Cities of Jacksonville, Key West, and Keystone Heights. We also served numerous private development clients in the preparation of master plans, sites plans and the pursuit of approvals for a variety of mixed-use and single use projects. This work included preparation of a large number of DRI applications and the management of the local governmental review and approval process. Many of the projects included amendments to local government comprehensive plans. Major clients included: St. Joe Company; Summer Beach, Ltd.; Florida East Coast Railway Company; Rayland Company/Rayonier; Truman Annex Company; Collins Company; Union Camp Corporation; Gilman Paper Company; Deal Properties; among others.

In working for the private property and development sector, I have had the opportunity of working on projects involving rather large land parcels. For the St. Joe Company, I assisted in the preparation of a strategic plan for the entire land ownership – in excess of 1,000,000 acres – in the Panhandle of Florida. I also assisted St. Joe in the planning of an 8,000 acre property in Leon County and a 3,500 acre property in St. Johns County. I assisted Rayland Company/Rayonier with planning studies on a property of over 8,000 acres in Nassau County and a property of over 20,000 acres in St. Johns County. Both involved advice on comprehensive plan amendments. I prepared a Comprehensive Plan amendment for the Gilman Company on their 7,500 acre White Oak Plantation in Nassau County as well as managed a variety of environmental planning efforts on the property. I provided Expert Testimony services on the East Central Florida Services, Inc., Application for

Certification to the PSC involved a property of some 300,000 acres situated in three counties.

We also provided DRI-related planning services for the Florida Department of General Services on Service Centers in Tallahassee and Jacksonville. Landers-Atkins provided military facilities planning services to the Navy in Florida, Virginia, Bermuda, Antigua and Sicily; the Air Force in Florida, Mississippi, and Texas; and the Army in Florida, Georgia, and Germany.

From May 2000 to March 2003, I was Regional Planning Manager and Senior Planning Consultant with HDR Engineering, Inc. of North Carolina, based in Charlotte. In that capacity I continued to serve some of my established clients in Florida as well as established HDR's Planning program in the Carolinas. I directed land use planning on two mass transit corridors for the City of Charlotte, a Downtown Redevelopment Plan for the City of Florence, SC, the Cape Fear River Corridor Plan and two Neighborhood Redevelopment Plans for the City of Fayetteville, NC, a twelve-mile long US-52 Corridor Redevelopment plan for the City of Winston-Salem, a Small Area Plan on an 8,000 acre study area for the City of Charlotte, the Vance Road Thoroughfare Location Study for the Town of Huntersville, the historic Beatties Ford Road Improvement Study for the Town of Huntersville, Connectivity studies in four neighborhoods for the City of Charlotte, and a Transportation Enhancement Plan for Spartanburg County, South Carolina. As part of my continued involvement with Florida clients, I assisted Rayland Company/Rayonier with planning studies on a property of over 30,000 acres in Nassau County, and WACO Properties on a DRI Master Plan for 1,700 acres in Alachua County.

In March of 2003, I commenced practice as an individual planning consultant. In that

capacity I assisted the City of Charlotte Department of Transportation in the development of a transportation and land use planning program for the Center City, or downtown area. I also continue to serve established Florida clients including Summer Beach Development Group, Ltd., Bank of America, and Land-Mar Company. I have also continued to assist Rayland Company/Rayonier with planning studies on ~~the~~ their 30,000 acre property in Nassau County.

Q. Do you hold any professional registrations or certifications?

A. I am Certified as an Urban Planner by the American Institute of Certified Planners and am actually a Charter Member of AICP

Q. Are you a member of any other professional organizations?

A. Yes. I am a Charter Member of the American Planning Association, an Associate Member of the Urban Land Institute, and an International Associate of the Royal Town Planning Institute of Great Britain.

Q. Have you ever testified as an expert before courts, administrative tribunals, or in quasi-judicial venues?

A. Yes. I have testified before the Florida Public Service Commission related to a water certification application by East Central Florida Services, Inc. I have served as an expert witness both for and against the Florida Department of Transportation on several eminent domain judicial proceedings. I have served as an expert witness on several Development of Regional Impact (DRI) and comprehensive planning issues in the State of Florida's administrative hearing process. I have testified in quasi-judicial venues before planning commissions, and county and city commissions and councils on numerous rezoning, DRI and comprehensive plan amendment cases

Q. Are you familiar with Chapter 163.3161, Florida Statutes, known as the "Local Government Comprehensive Planning and Land Development Regulation Act"?

A. Yes, I am.

Q. Are you familiar with Chapter 9J-5, Florida Administrative Code, Rules of the Department of Community Affairs, known as "Minimum Criteria for Review of Local Government Comprehensive Plans and Determination of Compliance"?

A. Yes, I am.

Q. Have you reviewed the direct testimony which has been submitted in this case by Mr. Mel Scott, Director of Planning and Zoning of the Brevard County Community Development Group?

Q. Have you reviewed the direct testimony which has been submitted in this case by Mr. Mel Scott, Director of Planning and Zoning of the Brevard County Community Development Group?

A. Yes, I have.

Q. Have you also reviewed the elements, goals and policies of the Comprehensive Plan for Brevard County as referred to by Mr. Scott?

A. Yes, I have reviewed all of Chapter 11 – Future Land Use Element of which Mr. Scott provided portions in his exhibits, and the Glossary as provided in Mr. Scott's exhibits.

Q. Have you reviewed any other planning related policies of the Brevard County that may affect your opinions on Mr. Scott's testimony?

A. Yes, I have also reviewed additional chapters of the Comprehensive Plan including: 1 – Conservation Element, 2 – Surface Water Management Element, 3 – Recreation and Open Space Element, 6 – Potable Water Element, 7 – Sanitary Sewer Element, 8 – Solid Waste Management Element, and 13 Capital Improvements Element. Additionally, I have reviewed Brevard County's Land Development Regulations (Chapter 62 of the Code of Ordinances), as well as the County's recent ordinance

"Creating a Special Water and Sewer district within the Unincorporated Area of Brevard County", as discussed earlier.

Q. What is your opinion concerning Mr. Scott's testimony that the application filed by Farmton for a water service territory and certificate is in conflict with the comprehensive plan of Brevard County?

A. Mr. Scott expresses his opinion based on several aspects of the comprehensive plan.

Q. And what would those aspects be?

A. They are listed beginning at the bottom of page 4 of his testimony as: 1. Farmton has not applied for approval by the County Commission of a water "district" with specific reference to Policy 3.4 of the Potable Water Element of the Plan; 2. Farmton's lands are all designated for "Agricultural" use on the Future Land Use Map component of the Plan; and 3. with specific reference to Objective 4 of the Future Land Use Element of the Plan, the County seeks to preserve Agricultural uses that work to reduce the extent of urban sprawl. In my opinion, Mr. Scott's assertions are based on a rather simplistic interpretation of the plan or by references to very specific plan policies without considering the plan as a whole.

Q. Before we address the three specific items, what do you mean by your last statement concerning consideration of the plan as a whole?

A. Mr. Scott bases his opinion on three very specific policies and upon limited application of those policies. The Brevard County comprehensive Plan, as with all plans prepared pursuant to Chapter 163, F.S., is very complex and must be considered in its entirety. Mr. Scott's testimony approaches the planning process as though the purpose of planning is to tell a land owner or developer what they should or should not do. In my opinion, the Plan and planning process sets forth a framework within which a property owner or developer can use a property following

established guidelines and by showing that their land use and development proposals meet reasonable requirements. I believe that I can demonstrate this point clearly by my response to Mr. Scott's assertion that the "Agricultural" land use designation on Farmton's property restrains development that could be supported by a central water service. So I would like to elaborate on my statement about the general nature of Mr. Scott's testimony in that context.

Q. O.K., you indicated that Mr. Scott listed three specific issues on page 4 of his testimony. If we can go through those sequentially, what is your opinion concerning Mr. Scott's reference to Policy 3.4 of the Potable Water Element of the Plan?

A. There are multiple points to support my opinion:

First, Florida's Planning Statute, Chapter 163 Part II, does not enable local governments to regulate private utility certificated service areas through the comprehensive planning process. In fact, Chapter 163, at 163.3211, Conflict with other Statutes, specifically provides that: "Nothing in this act is intended to withdraw or diminish any legal powers or responsibilities of state agencies or change any requirement of existing law that local regulations comply with state standards or rules." In other words, the Comprehensive Planning process does not and cannot supercede the authority of the PSC to regulate private utility certificated territories. Upon approval by the PSC, Farmton will follow other steps as may be required by Brevard County through its Comprehensive Plan and other regulations.

Second, and directly related to the first point, Farmton is proceeding in proper order as required by Florida Statutes. An "Application for Original Water Certificate" with the PSC has been filed and all affected jurisdictions have been notified of the Application. This is the first step in a process that is established by Florida law. Policy 3.4 actually states:

"Newly proposed service areas, expanding restricted service areas, or Public Service Commission (PSC) regulated service areas shall be reviewed and approved by Brevard County and applicable agencies."

Farmton has actually given Brevard County (and other affected jurisdictions) notice of its application to the PSC and Brevard County is at the table in proper order in this proceeding.

Third, the creation of a regulated water utility and designation of its certificated territory by the PSC is not a land use or development subject to comprehensive plan regulation under Chapter ~~163, F.S.~~ 380.04, F.S., and does not in and of itself stimulate development. This point will be expanded further in my discussion of the "urban sprawl" issue. In addition, the East Central Florida Services, Inc., PSC certification that I referred to earlier in the review of my experience is an example of this last point, which I shall also expand upon in my discussion in response to Mr. Scott's "urban sprawl" item.

Fourth, the policy that follows 3.4 in the Potable Water Element upon which Mr. Scott bases his opinion, Policy 3.5, appears to provide and support the ability for land owners or other entities to establish "private" water service areas outside of established service areas. It reads in part:

"Potable water facilities and services intended to serve future development needs that are not located in the 0-20 year future potable water service area (see Map1) shall not be permitted or provided **unless** the potable water service area is amended to the Potable Water Element of the Comprehensive Plan **or a non-governmental entity is**

> **the provider** of the potable water facilities, so long as the private potable water service is consistent with the Brevard County Comprehensive Plan." (emphases added)

In my opinion, this clearly anticipates the need for water service territories outside of established service areas and provides a policy basis for the creation of territories such as Farmton is requesting. The County's policy on water service areas is further complicated by Criteria B of Policy 4.1 of the Future Land Use Element that defines the "agricultural" land use designation. 4.1 does not permit the County to extend services into agricultural areas, but provides that:

> "the County will accept facilities through dedication, and provide services and utilities through MSBU's, MSTU's and **other means** through which the recipients pay for the service or facility." (emphasis added)

This policy does not prohibit others from establishing districts; in fact, it actually establishes a mechanism through which they can do so. Also, "other means" is a very broad and inclusive term that could encompass a private water service territory such as that sought by Farmton. It is my opinion that there may be some inconsistency among these various policies found in various sections of the Plan. However, they appear to provide support for establishment of water service territories rather than absolutely prohibiting them.

Q. As a related item, you indicated that you have reviewed Brevard County's recent ordinance "Creating a Special Water and Sewer district within the Unincorporated Area of Brevard County".

A. Yes I have.

Q. Does that ordinance have any potential bearing on Mr. Scott's opinion reliance on or

reference to Policy 3.4 of the Potable Water Element of the Plan on the application filed by Farmton for a water certificate, as it relates to the question of the Commission's obligation to consider whether a proposed territory is consistent with the Comprehensive Plan of Brevard County?

A. I believe that it very well may. First, Section 7 of the Ordinance "declares that the creation of the District . . . (is) . . . consistent with the County's approved comprehensive plan and all elements thereof." In my opinion, IF the County has affirmed or affirms that the creation of a District that encompasses all of the unincorporated portions of the county, including Farmton's lands, is consistent with the comprehensive plan, how can the County in turn argue that the creation of an analogous territory by Farmton is inconsistent with the plan? The lands within the County's newly created district are subject to all the same restraints of future land use map designation, other comprehensive plan elements, wetlands, floodplains, aquifer recharge areas, etc. on which the objectors based their original arguments, and on which Mr. Scott bases his current arguments, against Farmton.

Second, Section 4, Paragraph 10, of the Ordinance states that: "the District may grant consent to the construction or expansion of any water or sewer system which is to provide domestic or industrial service to customers." While Farmton maintains that the PSC has ultimate jurisdiction over the granting of a water service territory, it is very interesting to me that the County has acknowledged that other "systems" can be approved to operate in the unincorporated portions of the County. That language would appear to establish basic grounds for Farmton (as well as anyone else) to establish a water service territory.

Q. The next item in Mr. Scott's opinion that you mentioned was the designation of Farmton's land for "Agricultural" use on the Future Land Use Map component of the

Comprehensive Plan. What is your opinion on the relationship of Farmton's request for certification of a territory and the designation of Farmton's land as "Agricultural"?

A. In my opinion, the "Agricultural" designation and related policies are not as simple as Mr. Scott implies and there are opportunities within the "Agricultural" designation for a property owner or developer to engage in development that would be appropriately supported by, if not actually require, a central potable water system. Therefore, it is my opinion that Farmton's request is consistent with those provisions of the Brevard County Comprehensive Plan. As I stated earlier, this point is also directly related to my opinion that the Plan and planning process sets forth a framework within which a property owner or developer can use their property following established guidelines and by showing that their land use and development proposals meet reasonable requirements.

Again, I believe that there are multiple points to support my opinion:

First, as I also stated on the item related to the Potable Water Element, the establishment of a water service territory, in and of itself, is neither a land use nor development as defined by Florida's planning statutes and rules. Nor is such a water service territory a "land use" that is covered by the "agricultural" land use category of Brevard's Plan.

Second, there are provisions in Brevard County's land use policies related to land designated as "agricultural" through which development that would require or greatly benefit from central water service can be pursued and potentially implemented. While the Comprehensive Plan, at Policy 4.1 (p.XI-32), simply states as the primary land use criteria that, "Residential densities shall not exceed one dwelling unit per five (5) acres", the uses that are permitted on land designated as "Agricultural" are

not nearly as restricted as Mr. Scott appears to portray. The use of the County's Land Development Regulations (LDR's) as the primary land use implementation tool in the Comprehensive Plan and the provision in the Plan of a linkage to the LDR's, as required by State Statute, provides far greater potential for development on "Agricultural" lands than one residential unit per five acres. In fact, as I will demonstrate, the possibilities for undertaking development that would benefit from, even require, a potable water system are extensive, and, as a result, the provision of information to support this opinion is rather lengthy. The linkage begins in the Objective 13 - Future Land Use Element with Land Development Regulations, Policy 13.3 - Regulations for Zoning Classifications to be Consistent with the Future Land Use Map (p, XI-57). Policy 13.3 reads:

> "The LDR's shall designate adequate zoning classifications for the location of residential and non-residential development activities which implement the Future Land Use Element, Housing Element, and Future Land Use Map."

The linkage is appropriately reflected in the Land Development Regulations: Chapter 62 Code of Ordinances, Nov. 12, 2002, with Article VI: Zoning Regulations; Sec 62-1255 - Establishment of zoning classifications and consistency with comprehensive plan. In that Article, Paragraph (b), "Consistency of zoning classifications with comprehensive plan" states that zoning classifications depicted on the zoning map shall be consistent with 1988 future land use designations on the FLUM. Sections or sub-paragraphs (b)(2) "Consistency with future land use map" and (b)(3) "Consistency with future land use and residential density guideline maps" both contain the following reference:

> "The following table depicts where the various zoning

classifications can be considered based upon the geographic delineation of future land use on the future land use map and locational criteria defined in the policies of the future land use element of the 1988 county comprehensive plan."

The Table is titled "Exhibit A. Consistency of Zoning Classifications With Future Land Use Map Series" Exhibit A (which is provided as Exhibit HML - 2) is a table that lists Land Use Designations across the top and Zoning Classifications down the left side. The cells of the table are arrayed to use a "Y" for "Yes" or "N" for "No" to indicate the relationship between the two documents. In the table the following zoning classifications are consistent with the Agricultural Land Use Designation:

GU = General Use. Permitted uses: Single-family detached residential dwellings, Parks and public recreation facilities, Private golf courses, Private recreational facilities, Foster homes. Conditional uses that are provided include Adult congregate living facility and Private heliports, among others. Minimum lot size is specified as 5 acres, with a minimum width of 300' and depth of 300'.

PA = Productive Agriculture; Permitted uses: Mobile home residential unit, one single-family dwelling unit, Tenant dwellings (for 40+acre ownership, one tenant dwelling per 5 acres, not to exceed 10 total), All agricultural pursuits including roadside stands, Raising animals, etc, Churches, Group homes (subject to 62.1835.9), Nurseries and horticultural pursuits, Parks and public recreational facilities, Pet kennels. Conditional uses that are provided include Citrus packing, Dude ranches, Farmer's markets, Guest houses or servants' quarters without kitchens, Private heliports, Tenant dwellings exceeding 10 in number, Transfer of development rights, Vet hospital, clinic and related offices, among others. Minimum lot size is specified as 5 acres, with a minimum width of 300' and depth of 300'.

AGR = Agriculture; Permitted uses: Single-family detached residential dwellings, Mobile home residential dwelling, Tenant dwellings (for 20+acre ownership, one tenant dwelling per 5 acres, not to exceed 10 total), Agricultural pursuits including packing and process of commodities raised on the premises and roadside stands, Raising and grazing of animals, Bed and Breakfast inns, Churches, Dude ranches (minimum 40 acres), Landscaping businesses, Parks and public recreation facilities, Pet kennels, Plant nurseries and sale on premises, Group homes (subject to 62.1835.9), Private golf courses, Fish camps, Foster homes. Permitted uses with conditions - Crematoriums, Power substations-telephone exchanges-transmission facilities, Private clubs, Private playgrounds. Tenant Dwellings-Mobile homes; Conditional uses that are provided include Adult congregate living facilities, Athletic fields and stadiums (private), Drive-in theaters, Guest houses or servants' quarters without kitchens, Parking of recreational vehicles accessory to fish camps Private and public clubs, Private heliport, Skateboard ramps, Transfer of development rights, Veterinarian hospital, office or clinic, Zoological parks. Minimum lot size is specified as 5 acres, with a minimum width of 200' and depth of 300'.

RRMH-5 = Rural Residential Mobile Home; "encompass land devoted to single-family mobile home development of spacious character, together with accessory uses as may be necessary or are normally compatible with residential surroundings and at the same time permit agricultural uses which are conducted in such a way as to minimize possible incompatibility to residential development" Permitted uses: One single-family mobile home or detached dwelling unit, Parks and public recreational facilities, Private golf courses, **Sewer lift stations** (emphasis added), Foster homes, Group homes (subject to 62.1835.9). Permitted uses with conditions (not all): Power and telephone exchanges and transmission facilities, Private parks, Private

playgrounds. Conditional uses that are provided include Churches, Guesthouses or servants' quarters without kitchens, Residential/recreational marina, Minimum lot size is specified as 5 acres, with a minimum width of 300' and depth of 300'.

RVP = Recreational Vehicle Park. Permitted uses: Spaces or lots in RVP used of RV, automotive vehicles, tents or other shortterm housing devices, or park trailers, or cabins. Cabins or park trailers shall not be > 20% of spaces or > 1000sf; Non-recreational services and admin buildings, Parks and public recreational facilities. Permitted uses with conditions (not all): Convenience store as accessory to RVP, Recreational vehicle destination park (per 62-1841.5 = Recreational vehicle park destination resort = large scale, low density RV park oriented to the longterm permanent or parttime seasonal resident…resort home may comprise up to 50%..may be considered as permanent residence i.e. greater than180 days. Site planning criteria include a minimum lot of 100 acres, a maximum density of 5 sites per acre, and a minimum lot size of 4,000sf. Conditional uses that are provided include Residential/recreational marina

EA = Environmental Areas. "Purpose is to conserve natural resource functions and features by retaining lands and waters in their pristine character and condition, but permit uses which are compatible with or which shall restore the functions and features of such natural resources. Permitted uses: Group homes, Single family detached residential unit, Passive recreation. Conditional uses that are provided include Development rights transfer… Minimum lot size is specified as 10 acres, with a minimum width of 125' and depth of 125'.

Clearly, there are several uses allowed in these specific zoning Classifications that present significant opportunities to pursue development that would benefit from or require a central potable water system. To summarize uses that I see that could easily

merit central water service: Parks and public recreation facilities; Private golf courses; Private recreational facilities (such as hunt clubs which already exist on Farmton's property); Adult congregate living facility; Private heliports; Churches; Group homes; Nurseries and horticultural pursuits; Citrus packing; Dude ranches; Farmer's markets; Veterinarian hospital, clinic and related offices; Agricultural pursuits including packing and processing of commodities raised on premises; Bed and breakfast inns; Pet kennels; Crematoriums; Private clubs; Private playgrounds; Athletic fields and stadiums; Drive-in theaters; Sewer lift stations (why would sewer lift stations be allowed if water systems were not contemplated?); Recreational vehicle destination parks; and Recreational vehicle park destination resort. I hope that I neither missed or repeated any contained in these several classifications.

In addition to these Zoning classifications that are more specific in nature, the Table also indicates that the Planned Unit Development (PUD) and Residential Planned Unit Development (RPUD) classifications which are much more flexible in nature and are intended to support creative mixed-use developments are also permissible in areas designated as "Agricultural" on the Future Land Use Map. These Classifications present significant opportunities to pursue development that would benefit from or require a central potable water system. In summary, the PUD and RPUD classifications are structured as follows:

PUD = Planned Unit Development. At the beginning of this provision, a reference is made to the fact that PUD's are encouraged by State law; I will come back to this reference in the discussion on Mr. Scott's opinion on sprawl. The LDR provisions are lengthy but contain the following Definitional elements. While the focus of the PUD provisions is on residential uses, additional uses are allowed as provided in Sec. 62-1441.PUD:

"PUD means an area of land developed as a single entity or in approved stages in conformity with a final development plan by a developer or group of developers acting jointly, which is totally planned to provide a variety of residential and compatible uses and common open space."

And, as also provided in Sec. 62-1442 – Purpose and intent, as follows:

"the PUD is a concept that encourages and permits variation in development by allowing deviation in the lot size … etc … from that required in any one residential zoning classification… The purpose of the PUD is to encourage the development of planned residential neighborhoods and communities that provide a full range of residence types as well as industrial, commercial, and institutional land uses. It is recognized that only through ingenuity, imagination and flexibility can residential developments be produced which are in keeping with the intent of this subdivision while departing from the strict application of conventional use and dimension…."

And, as further provided under Permitted uses: 62-1443

"…designed to allow an applicant to submit a proposal for consideration, for **any use or mixture of uses**. … However, no nonresidential land uses shall be permitted within the PUD unless .. criteria are met. .. internal… accessory .. etc. It appears that BU-1 (General Retail Commercial – pretty broad) uses are permitted – others need

to be specifically listed … Parks and recreational facilities,

Group Homes (subject to 62-1835.9) (Emphasis added)

Furthermore Conditional uses can include essentially any use approved as part of plan. A minimum lot size is established at 10 acres, with the maximum density permitted, "As approved by Board of County Commissioners". Minimum recreation and open space is established at 1.5 acres per 100 dwelling units. The PUD provisions contain extensive planning and review procedures that are not uncommon for the several PUD regulations that I have worked within in other jurisdictions. I see nothing in these provisions that is contrary to the listing in Exhibit A that it can be used in the "Agricultural" Future Land Use designation

RPUD = Residential Planned Unit Development. Purpose and intent:

> "the RPUD is a concept that encourages and permits variation in development by allowing deviation in the lot size … etc … from that required in any one residential zoning classification… The purpose of the PUD is to encourage the development of planned residential neighborhoods and communities that are below the state and local level DRI (F.S. Chapter 380) threshold requirements and provide a full range of residence types as well as industrial, commercial, and institutional land uses. It is recognized that only through ingenuity, imagination and flexibility can residential developments be produced which are in keeping with the intent of this subdivision while departing from the strict application of conventional use and dimension…"

Furthermore, the PUD provisions provide for the use of Transfer of Development Rights: 62-1453 "Where a developer owns more than one tract or parcel of land within the unincorporated area of the county, and each such tract or parcel meets the minimum size require of 10 acres, the uses permitted in a PUD may be transferred from one tract or parcel of land to the other tract or tracts provided the following conditions are met:

1. justifiable in enhancing use or nonuse of land in the public interest
2. close proximity between the tracts
3. uses of each tract must complement and be an integral part of the development of the other tracts of land
4. shall not increase overall permitted density for the total acreage transfers are binding conditions on land
5. transfer of motel only to tract of min of 20 acres

I believe that it is also important to recognize that the transfer of density and clustering of uses from one portion of a property to another results in the preservation of agricultural and forestry lands and environmentally sensitive lands, a clear objective of such land use regulations. If Farmton were to develop concentrated community areas under these provisions, the company could still have a majority of it lands under various agricultural, silvicultural and natural area uses. As is currently the case, fire protection would continue to be an essential need in these areas. A water service territory would enhance the ability of the company to protect its lands. Again, I recognize that this is rather lengthy. However, it is very important to understand that the "Agricultural" designation of the Brevard County Comprehensive Plan is not as restrictive as Mr. Scott suggests through the use of limited quotations of the land use policy containing references to agricultural uses and single-family

residential uses on five-acre lots.

Third, as Mr. Scott suggests in his testimony, the land use plan can be amended to allow other uses than those currently allowed on any property. This reference identifies a right that all land owners have under Florida's Growth Management statues and rules, the right to seek an amendment to the Comprehensive Plan. There are at least three separate vehicles through which Farmton could seek an amendment to the Brevard County Comprehensive Plan: 1. The County is required to establish two comprehensive plan amendment cycles per year in which it will receive and consider requests for property owners for amendments to the plan as it applies to their lands; 2. The Development of Regional Impact (DRI) provisions of Chapter 380.06 Florida Statutes provide that an owner or developer can apply for approval of a DRI-scaled project and a simultaneous amendment to the comprehensive plan that makes the uses proposed in the DRI consistent with the plan at any time during the year; 3. The County is required by Chapter 163 F.S. to amend its comprehensive plan at least every five years and that process provides an opportunity for property owners to seek changes in the land use designations applicable to their property. Thus, recognizing that the Comprehensive Plan is not a static regulation but rather a dynamic one and that clear opportunities are provided for Farmton to seek amendments to the Comprehensive Plan's Future Land Use Map, the establishment of a certificated territory is a prudent property management strategy to maintain long-term flexibility for the owner of such a large tract of land.

Q. The third item you mentioned in relation to Mr. Scott's opinion was the issue of urban sprawl. What is your opinion on this position or the role of the County's Comprehensive Plan in this area?

A. It is my opinion that designation of a water services territory will not in and of itself

generate sprawl and that the Brevard Plan contains numerous anti-sprawl policies, as required by Chapter 163, F.S. Once again, I believe that there are multiple points to support my opinion:

First, the provisions that I cited earlier concerning the uses permitted under the "Agricultural" land use designation of the Brevard Comprehensive Plan are specifically responsive to state rules related to the prevention of urban sprawl and, as stated earlier, indicate that development can occur on Farmton's land under the "Agricultural" land use designation consistent with the Comprehensive Plan and that such development would not constitute or generate sprawl. As Mr. Scott even stated, the provisions of the "Agricultural" land use category contain language specifically addressing sprawl. The provisions that I referred to on the linkage between the Future Land Use Element and the zoning provisions of the LDR's are deeper than the simple policy statement on "maintaining agricultural lands as a means of managing sprawl." As an example, the planned unit development (PUD) and transfer of development rights (TDR) provisions that I referred to are specifically encouraged by state statue and rules. In fact, Subdivision (Sub-section) V, Planned Unit Developments of the County's LDR's commences with this statement: "State Law Reference: Planned unit developments encouraged, F.S. 163.3202(3)". That section of Chapter 163 "encourages the use of innovate land use regulations" and lists both PUD's and TDR's as examples of such innovative regulations. Rule 9J-5 goes further in relation to the sprawl question at 9J-5.006(5)(e) which refers on to (5)(j) as describing development controls which may be used by local governments to mitigate the presence of urban sprawl. Paragraph (5)(j) states that: "The following development controls to the extent they are included in the comp plan will be evaluated to determine how they discourage urban sprawl". It goes on to list at

(5)(j)9.Transfer of development rights, and at (5)(j)11. Planned unit development requirements. The State encourages TDR and PUD. The Brevard plan is in compliance with 163 and 9J-5 implying that PUD's and TDR's have been accepted by DCA as anti-sprawl tools. As I stated earlier, PUD and TDR are zoning categories or tools that are consistent with Brevard's "Agricultural" future land use designation. Therefore, development on Farmton's land through the use of the PUD, RPUD and TDR provisions would not cause sprawl and would, in fact, be consistent with the Comprehensive Plan.

Second, as I stated before on the "Agricultural" land use designation item, a certificated territory is not development and can hardly in and of itself stimulate or support development. It does provide one tool through which Farmton can assure its long-term alternatives for the use of this significant, very large land ownership. Even the installation of wells and transmission pipes are not adequate to support urban development and, therefore, to generate urban sprawl. The City of Titusville is proposing to do this very thing on Farmton's property and the County has not attacked that development as being inconsistent with its Comprehensive Plan or as generating urban sprawl. Also, to cite a very direct analogy, electricity is readily available everywhere with no regulation by the County on where the electrical utility can run its lines. In fact electricity has far greater potential to stimulate development (and urban sprawl) by virtue of the fact that electricity will operate any size of small water system to support development of other uses. Development has not and does not occur everywhere electricity is available in large part because the County's other growth management tools are in place and are working.

Third, the fact that the "Agricultural" land use designation permits the development of one residential unit per five acres is, in my opinion, a policy under which the very

worst type of sprawl can occur and is occurring throughout Florida. The ability of land owners to sell lots of five, ten, twenty or more acres for the development of single-family houses opens the door for development to sprawl out over very large areas that are extremely difficult and expensive for the public to serve with fire, emergency medical, garbage, school transportation, and other essential services. Take the Farmton tract itself: with approximately 10,100 acres designated for "Agricultural" use, it is theoretically possible for the development of single-family houses to occur on 2,020 five-acre lots. That is a lot of sprawl. And, as stated earlier, the ease with which electricity can be obtained will enable such single-family units to be constructed with small wells and septic disposal systems. While Objective 4 of the Future Land Use Element says that the "County recognizes the importance of agricultural lands … as the industry (use) … reduces … the costs of providing public facilities and services…" (Page XI-32), development of this type at any significant magnitude is very inefficient for the public to serve. All too commonly, this type of large-lot development is developed with mobile homes which produce further tax revenue problems for the public.

Fourth, as discussed above, Mr. Scott suggests in his testimony the future land use plan can be amended to allow other uses than those currently allowed on any property. A properly pursued and approved amendment to the future land use map would not constitute sprawl.

Q. In your recitation of your qualifications and professional experience, you mentioned that you served as an expert witness on comprehensive planning for the East Central Florida Services, Inc., application to the PSC and that that service area encompassed some 300,000 acres. Was the potential for the issuance of that Certificate to create urban sprawl raised in that Proceeding?

A. Yes it was. Quite prominently.

Q. Since the PSC approved that Certificate are you aware of any sprawling development occurring on the property within ECFS's service territory?

A. While I have not had any subsequent involvement with ECFS, Gerald Hartman, who has served as a consulting hydrologist to ECFS since the late 1980's, has written a paper entitled "FPSC Certification Public Interest Example : East Central Florida services, Inc." , January 30, 2004 (Exhibit HML - 3). On page 5 of that paper, Mr. Hartman states "There have been no developments or other activities that have conflicted with either the Brevard County or City of Cocoa comprehensive plans after over a decade of operations." On pages 3 and 4, he refers to additional new customers that include: hunt clubs, single-family houses, church facilities, telecommunications customers, Osceola County Fire Station, and a power plant. Neither those uses nor the quantity of new customers appear to indicate that sprawling development has resulted from the grant of the Certification by FPSC. In noting that one of the uses that has been developed is a fire station, I refer back to my earlier statement on the ability of the proposed utility to support fire protection. We only need to recall some of the fires that have raged through rural areas of Florida in recent years to be aware of this important function of water service.

Q. Have you reviewed the direct testimony which has been submitted in this case by Mr. Richard H. Martens, Director of Water resources for Brevard County?

A. Yes, I have to the extent it relates to the question of consistency with the Comprehensive Plan and the elements of the Plan that I reviewed in relation to Mr. Marten's testimony.

Q. What reference to the Comprehensive plan does Mr. Martens make in his testimony?

A. He refers to Policy 3.4 of the Potable Water Element, with the same claim that Mr.

Scott makes in his testimony. My response to Mr. Marten's position is the same as made in my rebuttal of Mr. Scott's position on Policy 3.4. He also references Policy 3.5 as defining actions that the County would have to undertake in order to expand its North Brevard County Water System. Again, as I stated in my rebuttal of Mr. Scott's testimony, that policy contains a second part that enables a non-governmental entity to be a provider. Therefore, Mr. Marten's implied position that the only way to provide service is through the expansion of the North Brevard County Water System seems to ignore this second part of Policy 3.5.

Q. Have you reviewed the direct testimony which has been submitted in this case by Mr. John Thomson, Planner III, County of Volusia Growth Management Department?

A. Yes, I have.

Q. Have you also reviewed the elements, goals and policies of the Comprehensive Plan for Volusia County as referred to by Mr. Thomson?

A. Yes, I have reviewed the Chapter 1 – Future Land Use Element, Chapter 7 – Potable Water Sub-Element, and Chapter 10 – Natural Groundwater and Aquifer Recharge Element in their entirety, and the portions of Chapter 14 – Intergovernmental Coordination Element and Chapter 15 – Capital Improvements Element as provided in Mr. Thomson's exhibits.

Q. Have you reviewed any other planning related policies of the Volusia County that may have a bearing on Mr. Thomson's testimony?

A. Yes, I have also reviewed the Introduction to the Comprehensive Plan, Chapter 6 –Sanitary Sewer Sub-Element, Chapter 8 – Drainage Sub-Element, Chapter 11 – Coastal Management Element, Chapter 12 – Conservation Element, Chapter 20 – Definitions, Chapter 21 – Administration and Interpretation. I also reviewed the Volusia County Land Development Code.

Q. What is your opinion concerning Mr. Thomson's opinion that the application filed by Farmton is in conflict with the land use provisions of the comprehensive plan of Volusia County?

A. Mr. Thomson states that the Future Land Use Categories covering the Farmton properties do not include any urban uses, and focuses his references in the Future Land Use element and his conclusions on a limited portion of the element. It is my opinion that the future land use element is not as restrictive as Mr. Thomason claims and that significant uses that would benefit form central water services are permitted under the plan. His testimony is very general and basically relies on 1. an assertion that the Future Land Use Map provides appropriate levels of land for urban development and 2. attachment of the Land Use Element Policies 12.2.1.1 and 12.2.1.2 which define land use designations {the three are contained under a section heading of Natural Resource Management Areas (NMRA) and include the designations of Environmental System Corridor (~~ECS~~ ESC), Forestry Resource (FR), and Agricultural Resource (AR)} that cover the Farmton territory in Volusia County. He also links these designations to a limitation on the extension of urban services and the prevention of sprawl. This focus on the basic policy statements related to the ECS, FR and AR designations stops far short of describing what the full provisions of the Future Land Use Element are as they apply to such a large property as Farmton.

First, the provisions of the Environmental System Corridor (ESC), Forestry Resource (FR) and Agricultural Resource (AR) categories of the land use element do not prohibit the establishment of a water service territory as regulated by the Public Service Commission.

Second, as I stated in my response to Mr. Scott's testimony, the establishment of a

water service territory is not, in and of itself, a "land use" or "development" as defined by the Volusia County Comprehensive Plan or State Statute.

Third, the provisions related to the Future Land Use Categories cited by Mr. Thomson are not as simplistic as limiting use to a residential density not to exceed 1 dwelling unit per 25 acres in the Environmental System Corridor (ESC) category, a density not to exceed 1 per 20 acres in the Forestry Resource (FR) category, and a density not to exceed 1 per 10 acres in the Agricultural Resource (AR) category. When applied to the proposed Farmton territory, these low-density designations alone permit the development of a very significant number of residential units, as follows:

Designation	Farmton Land Area	Allowable Density	Allowable Units
ESC	~~19,325~~ 18,082 ac	1 du / 25ac	~~773~~ 723
FR	~~21,148~~ 20,554 ac	1 du / 20ac	~~1,057~~ 1,028
AR	2,342 ac	1 du / 10ac	234
			~~2,064~~ 1,984

Total residential units allowed on Farmton = ~~2,064~~ 1,984

In the same section of the of the Future Land Use Element, B. Future Land Use Categories, sub-section 17 Planned Unit Developments, provides for the use of Planned Unit Developments (PUD) within all land use designations in the Plan. The second paragraph of sub-section 17 states: "New PUD's, from the time of the effective date of the Comprehensive Plan, must be consistent with the Future Land Use Designations." The third paragraph of sub-section17 states: "The overall density of a PUD s determined by totaling the acreage under each land us designation. This overall density may not be exceeded." Thus, Farmton could develop a PUD totaling ~~2,064~~ 1,984 residential units at some location on its property, or multiple PUD's totaling ~~2,064~~ 1,984 units.

The next sub- section, 18 Future Land Use/Zoning Matrix (provided as Exhibit HML – 4), "shows each Future Land Use Category with corresponding zoning classifications." The matrix clearly shows that RPUD (Residential PUD) is consistent with the ESC, FR and AR land use categories.

In referring to the Zoning Code (County of Volusia Code, 1996), Article VII, Establishment of Classifications, establishes the conditions of PUD Planned Unit Development beginning on page CDB:94. The opening Purpose and Intent statement reads, in part:

> "The purpose and intent of the PUD Planned Unit Development Classification is to provide for integrated developments, which are consistent with the comprehensive plan, so as to promote a mixture of housing types and economical and orderly development consisting of a single or a mixture of compatible land uses. Further, it is intended that a proposed development be sensitive to existing and adjacent and future land uses as depicted on the future land use map of the comprehensive plan, the natural environment and the impact upon supporting public infrastructure through such mechanisms as, but not limited to, the appropriate establishment of buffer areas between land uses, limitations upon the types of permissible uses and structures which are permitted in the development."

On page CDB:95 the code further states:

> "The permitted principal uses and structures shall be those agreed upon by the county council and are dependent upon

which sub-classification is requested."

The Residential PUD (RPUD) is appropriate according to the Matrix cited above, and is defined on page CDB:95 as permitting:

> "The permitted uses within a RPUD may be those found in any of the residential classifications of this ordinance, provided that said uses are listed in the development agreement and have been approved by the county council."

The zoning code defines several residential classifications between pages CDB:43 and CDB:58. A review of these classifications reveals that several uses in addition to single family residential units are permitted, including: Cluster and zero lot line subdivisions; Communications towers; Essential utility services; fire stations; Home occupations, Parks and recreation areas accessory to residential areas; Public schools, Publicly owned parks and recreational areas; Two-family dwellings, and Single family dwellings. The residential classification also contains"Permitted Special Exceptions" which can potentially be included in a PUD and which encompass a variety of uses including: Bed and breakfast homestay; Day care center; Garage apartments; Group homes; Houses of worship and cemeteries; Multi-family standard or manufactured dwellings (with standards); Nursing homes, boarding houses approved and licensed by the appropriate state agency; Public uses not listed as a permitted use; and Schools, parochial and private.

In addition to the RPUD zoning classification, the Consistency Matrix also identifies the following zoning classifications as being consistent with the three land use designations:

ESC – Conservation, Resource Corridor, Public Use

FR – Forestry Resource, Public Use, Conservation, Resource Corridor

AR – A-1 (Prime Agriculture), Public Use, Conservation, Resource Corridor

These zoning classifications permit a variety of uses including the following which are urban in character and for which potable water service would be important:

Conservation: Essential utility services; Fire stations, Public uses, Publicly and privately owned parks and recreational areas; Publicly owned or regulated water supply wells.

Resource Corridor: Essential utility services; Fire stations; Home occupations; Publicly owned park and recreational areas, Single family standard or manufactured dwellings.

Public Use: Agricultural centers and associated fairgrounds; Airports and landing fields; Materials recovery facility; Contractors shop, storage and equipment yard; Fire stations; General offices; Group homes; Heliports and helipads; Laboratories; Law enforcement facilities; Libraries; Medical and dental clinics; Medical examiner facilities; Museums; Plant facilities for essential utility services; Potable water treatment plant; Public parks and recreational areas; Public schools; Publicly owned or regulated water supply wells; Recycling collection centers, transfer stations and processing stations; Solid waste transfer stations; Treatment centers; Wastewater treatment plant.

Forestry Resource: Essential utility services; Fire stations; Fish, hunting or nonprofit organization camps; Home occupations.

AR – A-1 (Prime Agriculture): essential utility services, fire stations, home occupations, public schools, publicly owned park and recreational areas, single family standard, manufactured or mobile home dwelling.

Furthermore, the Forestry Resources category, in the language provided in Mr. Thomson's Exhibit JT-3, provides an opportunity for, and actually encourages, the

"clustering" of development. To quote the language that is found on page 1-4 of the Plan immediately following the sentence stating the limitation of "a density not to exceed 1 per 20 acres":

> "In order to protect residential development from normal silviculture activities, clustering of residential units may be appropriate (refer to Policy 1.2.3.3). The clustering of units will provide opportunities to:
>
> - retain open space
> - provide buffers to the ESC or as a secondary corridor connection
> - preserve the rural character; and
> - maintain significant areas for silviculture and agriculture production"
>
> "The manner in which the site is developed shall be consistent with the policies .. Conservation and FLU elements and with the LDR's. Increased density in the range of 1du/20ac to 1du/5 ac may be allowed if part of an existing development or project is developed as a cluster subdivision under Policy 1.2.3.3. ..."

Proceeding to Policy 1.2.3.3, which is found on pages 1-30 and 1-31, it reads: "this policy allows for development options for large tracts of agricultural lands, as opposed to traditional large lot subdivision (over 10 acres per lot) wherein the agricultural value of the property is lost. Land owners may utilize the Planned Development Cluster concept to allow significant agricultural operation to continue while still allowing development." On page 1-31, Planned Development Cluster Guidelines are defined with several provisions including:

" A Planned Development Cluster occurring on lands inside Natural Resource

Management Area, Rural Areas and Agricultural Resource Areas may not exceed a net density equal to the density assigned to the applicable land use designation unless the development is consistent with the goals, objectives and policies of the Volusia County Comprehensive Plan and such planned development meets the following criteria:

1. … involves at least 500 acres
2. … has no more than 400 residential units
3. … gross density does not exceed .. applicable .. [such as the 1du/5acre exception that may be provided in Forestry Resources ..]
4. ... residential lots no smaller than one acre, **unless central utilities are provided**
5. … may provide for central water and wastewater utilities to supply resident's potable water and sewerage needs.
6. … provides for protection of all wetlands..
7. ... provides for clustering or residential units so as to retain 75% or more of parcel as open space or in a land use compatible with or permissible under the parcels preexisting land use designation(s) (provided that the residential dwelling unit development rights assigned to the area of the parcel external to the cluster area shall be permanently severed, and all residential .. rights shall be transferred to the cluster area of the parcel; dev of residential units ... prohibited outside the cluster area.)
8. … provides for protection of identified endangered species
9. ... the planned development is developed through the Planned Unit Development (PUD) process"

To summarize, it is my opinion that, contrary to strongly limiting uses that would not

require a central potable water service, the Future Land Use Element designations – ESC, FR and AR -- provide the ability for Farmton to develop a planned residential development residential community of approximately ~~2,064~~ 1,984 units and a wide variety of other supporting and related uses. Given these provisions, I can foresee Farmton using the PUD and other provisions of the Plan to develop a sizeable community on Maytown Road – perhaps recapturing the historic Maytown name that was once a thriving railroad community – that would very definitely require a central potable water system.

Furthermore, in my opinion, Policy 1.2.3.3 not only provides for residential developments that would need or benefit from central water services, the Policy actually permits lots smaller than one acre if **central utilities are provided**. Even with the provision limiting size to a maximum of 400 residential units, two or more such cluster developments could be developed on Farmton's lands under the current provisions of the Comprehensive Plan, including a provision that would allow a water utility such as that being sought by Farmton. Additionally, as in the case of Brevard's Plan, the inclusion of these clustering and planned unit development provisions is consistent with the tools the Chapter 163 F.S. and Rule 9J-5 encourage jurisdictions to use in their plans to combat sprawl.

Thus, it is my opinion, that development that would require and could be supported by central water service is permitted in the Volusia County Comprehensive Plan upon Farmton's lands.

Fourth, in response to Mr. Thomson's assertions about sprawl, as the exhibit provided by Mr. Thomson states that the Environmental System Corridor (ESC) category provides a residential density not to exceed 1 dwelling unit per 25 acres, the Forestry Resource (FR) category a density not to exceed 1 per 20 acres, and the

Agricultural Resource (AR) category a density not to exceed 1 per 10 acres. With Farmton having ~~19,353~~ 18,082 acres in its proposed certificated territory classified as ESC, ~~21,149~~ 20,554 in FR and 2,342 in AR, it is theoretically possible to develop ~~2,064~~ 1,954 single-family residential units on this land. As I stated in my opinion concerning the Brevard County Plan, such large lots are often the worst type of urban sprawl and actually destroy the rural character that such provisions claim to protect. In fact, the Florida Department of Community Affairs, in its Technical Memo, (Volume 5, Number 6, Special Issue, July 1990) titled "Planning for Rural Areas; Issues, Strategies and Techniques", (which I will refer to later in greater detail)(Exhibit HML - 6) acknowledged this point is stating:

> "It (fixed density controls) can also result in the conversion of rural landscapes into large-lot development patterns, which fail to halt urbanization and needlessly consumes agricultural lands. Widespread patterns of large lot development – whether one-, two-, five-, or ten-acre tracts – place at risk the very character of the rural areas that is so important to retain." (page 1)

Fifth, Mr. Thomson's opinion includes a statement that "the County has not considered any changes to its Plan to establish urban land uses in this area to justify the creation of a utility." Again, as I expanded upon in my response to Mr. Scott's testimony, this reference identifies a right that all land owners have under Florida's Growth Management statues and rules, the right to seek an amendment to the Comprehensive Plan.

Sixth, the fact that Farmton is the owner of a very large tract of currently rural land provides a very special land management opportunity that has been recognized by the

State of Florida. During the process through which the Florida Department of Community Affairs (DCA) established the current 9J-5 rules related to Urban Sprawl, the Department published what amounted to policy statements in Technical Memoranda related to planning in rural areas. In the first, Technical Memo, Volume 5, Number 2, March 1990, (Exhibit HML - 5) then Secretary Tom Pelham, under the heading of "The Truth about Growth Management in Rural Areas", used his regular newsletter column to explain that DCA looks at more than very low densities in rural areas as the Department's means of evaluating a plan's ability to control sprawl. That issue also contains two other items related to rural area planning: 1. A request for input on a future Technical Memo on Rural Planning Techniques; and 2. An article on page 3 entitled "The Growth Management Act Gives Communities Much Flexibility for Planning their Rural Areas". This second article and the subsequent Technical Memo (Volume 5, Number 6, Special Issue, July 1990) (Exhibit HML - 6) titled "Planning for Rural Areas; Issues, Strategies and Techniques", discusses the need for innovation and creativity in responding to rural planning and development. The Memo identifies the existence of the ownership of large tracts as a growth management advantage:

> "In some parts of rural Florida, a few landowners control substantial quantities of land. Local governments typically have greater flexibility in planning for rural lands owned by very few owners since these owners have a greater ability to undertake innovative approaches within the boundaries of their lands." (Page 2)

Farmton's ownership, and proposed water utility involves just such a large tract and represents an opportunity to manage a land and water resource in order to preserve

the rural, environmental and agricultural resources as desired by Volusia County (and Brevard County) while providing a sound basis for such innovate development as "rural villages or new towns" (page 4, DCA Technical Memo).

The strategic location of Farmton's lands between the growth centers of Daytona Beach and Orlando and the existence of Maytown Road (and other established farm roads and an abandoned railroad right-of-way) provide longer-term potential for just such development to be pursued. In fact, there is historic precedent for such a community at the site of Maytown, which was once a thriving rural community built around a railway station. The Cluster Development and PUD provisions of the Volusia Plan (and the PUD provisions of the Brevard LDR's as discussed earlier) provide some recognition that opportunities as defined in DCA's Technical Memos exist here.

Farmton's request for the creation of a utility is not the Company's first effort at positioning its lands for long-term management. The Company has established the "Farmton Mitigation Bank" which is approved by the St. Johns River Water Management District and U.S. Army Corps of Engineers for the selling of wetland "mitigation credits" to land developers in a broad geographical area. The resulting preservation of environmentally sensitive areas is consistent with the Goals of Volusia's (and Brevard's) Comprehensive Plan as well as consistent with the rural land planning strategy that DCA lays out in its Technical Memos and later actions. Thus, in my opinion, Farmton's request is not only consistent with the Comprehensive Plans but also consistent with the State's policies that recognize the significance of prudent management of large rural land (and water) resources.

Q. Mr. Thomson's Testimony also expresses the opinion that the application filed by Farmton for a water service territory and certificate is in conflict with the water and

sewer provisions of the comprehensive plan of Volusia County? What is your opinion concerning Mr. Thomson's opinion on the water and sewer extension provision of the Plan?

A. First, I want to refer back to my opinion on a similar position taken by Mr. Scott of Brevard County. Therein, I cited the fact that Florida's Planning Statute, Chapter 163 Part II, does not enable local governments to regulate private utility certificated service areas through the comprehensive planning process. As I stated before, Chapter 163 at 163.3211, Conflict with other Statutes, specifically provides that: "Nothing in this act is intended to withdraw or diminish any legal powers or responsibilities of state agencies or change any requirement of existing law that local regulations comply with state standards or rules." The same provision is applicable in Volusia County.

Second, referring back to my identification of the Planned Development Cluster provision for lands inside Natural Resource Management Area, Rural Areas and Agricultural Resource Areas allowing residential developments of up to 400 units on residential lots no smaller than one acre, **unless central utilities are provided**, that provision would also appear to be contrary to Mr. Thomson's assertions on this topic. Since Comprehensive Plans are very complex documents, it is not surprising to find a sweeping condition in one element that does not encompass all of the minor provisions in the several other elements.

Third, Mr. Thomson's opinion includes reference to the limitations on the extension of potable water facilities within rural areas to limit the "negative impacts associated with sprawl". I addressed the issue of sprawl earlier and stated the opinion that the Planned Development Cluster is clearly a policy that is consistent with the State ~~off~~ of Florida's rules on combating sprawl.

Q. Have you reviewed the direct testimony which has been submitted in this case by Ms. Gloria Marwick, Director of the County of Volusia's Water Resources and Utilities Department?

A. Yes, I have as it relates to the question of consistency with the Comprehensive Plan and the elements of the Plan that I reviewed in relation to Ms. Marwick's testimony.

Q. What is your opinion concerning Ms. Marwick's opinion that the application filed by Farmton for a water service territory and certificate is in conflict with the comprehensive plan of Volusia County?

A. Ms. Marwick's testimony makes very general references to the Comprehensive Plan's Water Sub Element restraints on water system extensions related to public health or safety, existing agreements or land us plan amendments. As I have stated elsewhere in this testimony, Farmton believes that it is proceeding in proper order with the initial authority for certifying a water Service Territory being the Florida Public Service Commission.

Q. **Do you have** any further testimony in this regard at this time?

A. No, I do not.

MR. WHARTON: And we would tender the witness for cross.

COMMISSIONER DEASON: Mr. Knox.

CROSS EXAMINATION

BY MR. KNOX:

Q Mr. Landers, if I could get you to pick up the hand mike and walk up to the big map.

A Yes, sir.

Q I'd like to talk a little bit about the East Central Florida service area.

A Yes, sir.

Q Is that one of the large landowners you've worked with?

A Yes, sir.

Q This is an example of -- that you cited as not -- as where a certificated area did not lead to urban sprawl; is that correct?

A Yes, I did state that.

Q And let's look at that a little more carefully. That area is a little bit larger than what it shows on that map, isn't it?

A Yes. It extends on into parts of Brevard County and Osceola County.

Q And the areas west of the St. Johns River; correct?

A Yes, sir.

Q And the areas as far east in Orange County as it can get from Orlando, isn't it?

A It is some distance, yes.

Q There's an area right next to the green area showing on that map that's in white. Do you see that there?

A Well, there's a very large white area all around it.

Q I'm talking immediately to the east.

A Immediately to the east, yes.

Q Can you tell us what that is?

A The Tosohatchee State Reserve.

Q So that's that preserved area, isn't it?

A It is.

Q And where is I-95 in relation to that property?

A I'm sorry, sir?

Q I-95 --

A In relation to?

Q The green area for the East Central Florida service area.

A I-95 runs parallel to the coast and parallel to Farmton's eastern boundary, a mile or two east of the Farmton property.

Q Okay. Let's go down further where the ECFS area is.

A Yes, sir.

Q It's on the east side -- I-95 is on the east side of the St. Johns River, is it not?

A It is.

Q Would you guess maybe that's eight to ten miles from the ECFS property?

A Yes. But it also is connected by several major highways that go through the East Central Florida territory into the Orlando area. So major, major expressways and highways.

Q But nonetheless, it is about eight to ten miles from I-95. Would you agree with that?

A I'll agree with that subject to measurement.

Q Let's look at Farmton's property for a moment. That's only about a mile or two from I-95, isn't it?

A Yes, sir.

Q So on the east side of the St. Johns River; correct?

A Yes, sir.

Q Are you familiar with the Viera development regional impact?

A Yes, sir. Somewhat, not in detail.

Q If you go to that map and if you look down at the very bottom there, can you tell me what's the very last road you see that runs off of I-95 there?

A Well, there's Barnes Boulevard at the very south --

Q Okay. And that's the one I'm looking for.

A -- and the Merritt Island Causeway and King Street.

Q Do you see Barnes Boulevard? It runs into I-95.

A Yes, sir.

Q That's the northern boundary of the Viera DRI, isn't it?

A I could not have told you that, but I knew it was in that approximate area.

Q And the Viera DRI was originally part of the Duda-Cocoa Ranch, was it not?

A That is my understanding.

Q And that's a 38,000 acre ranch, isn't it?

A I don't know the size of it, sir. It's quite large.

Q And I-95 splits that ranch right in half -- well, not in half, but it splits the ranch, doesn't it?

A It does pass through the property. I don't know to what proportions it splits it.

Q So the Duda Ranch, which is east of St. Johns River, has 95 adjacent to it, has developed for all kinds of commercial, industrial, and residential development, hasn't it?

A Yes, sir, it has.

Q And it's provided central water, isn't it, by the City of Cocoa?

A I do not know who provides the central water.

Q Okay. Well, if you look at the service area map there that you've got in front of you.

A Yeah, the large green area says City of Cocoa. Yes, sir.

Q Okay. So central water was kind of important to the development of that development regional impact, would you not say?

A Of course, yes, sir.

MR. KNOX: Okay. I have no further questions.

COMMISSIONER DEASON: Mr. McNamara.

MR. McNAMARA: We have no questions.

COMMISSIONER DEASON: Mr. Bosch.

MR. BOSCH: No questions.

COMMISSIONER DEASON: Staff.

MS. FLEMING: We have no questions.

COMMISSIONER DEASON: Commissioners.

Redirect.

MR. WHARTON: None.

COMMISSIONER DEASON: Okay. And we have already addressed the exhibits. Thank you, Mr. Landers, you may be excused.

THE WITNESS: Thank you.

(Witness excused.)

MS. FLEMING: Excuse me, Commissioner.

COMMISSIONER DEASON: Yes.

MS. FLEMING: I just have a clarification. In our exhibit list, we had Mr. Landers with four rebuttal exhibits, and looking back, I notice that there's five. One of them is identified as HML-6. It wasn't in the prehearing statements or

the prehearing order, and I wasn't sure that is to be included as well.

MR. LANDERS: Ma'am, there has always been a reference throughout my testimony, both testimonies, to two Department of Community Affairs memoranda, and I believe that -- thank you for bringing that up. I believe at one point, and I'm not sure where it was, I saw only one reference to a technical memoranda, but I've always had two associated with my work and testimony.

COMMISSIONER DEASON: Mr. Wharton, do you wish to have HML-6 identified?

MR. WHARTON: I guess I am trying to figure out whether that -- whether those two memoranda, if everyone has the two memoranda could just be a composite exhibit, Exhibit 37, because there are two memoranda, and therefore, I don't think we need to change any of the numbers.

COMMISSIONER DEASON: So just to make it clear then that what was identified in the prehearing order as HML-6 will just become part of Exhibit 37. Is that your proposal?

MR. WHARTON: Yes.

COMMISSIONER DEASON: Is there any objection? Hearing no objection, then we will just incorporate and make it clear for purposes of the record that HML-6 is part of Composite 37.

MR. WHARTON: And just to be clear, Commissioner

Deason, that is technical memo, Volume 5, Number 2, March '90 and technical memo, Volume 5 -- I'm sorry, Volume 5, Number 2, March '90 is the first one. The second one is Volume 5, Number 6, July '90. And I believe those are just one behind another behind in the testimony. So those could be Composite 37.

COMMISSIONER DEASON: Yes, Composite 37, and the entire Composite 37 is admitted.

Now, before we proceed further with the schedule that remains for this docket, I know that we have a small complication herein that we're going to allow Mr. Knox and other parties if they see fit to file an objection to part of the summary given by Mr. Hartman, as I understand; correct? It was Mr. Hartman? Yes.

Just sitting here, it seems to me there may be a simpler way to address this that's a little more efficient. I'm going to throw it out and I want feedback. Technically the summaries are just supposed to be that, summary of information that has already been prefiled and has been inserted into the record. Therefore, the record should be complete without any reference to the summaries whatsoever. Summaries are just additional information -- not additional, it's just that, summaries, and it helps for the flow of the hearing. They serve a benefit.

It seems to me that instead of going through the

exercise of trying to review the transcript and having portions excluded, that we would just proceed with the understanding that for purposes of the brief and citation to the record it is the testimony itself which serves that purpose and not the summaries. There should not be anything in the summary in addition to what has been prefiled. Now, if you want to proceed with that, that would probably eliminate the need to file objections and responses to the objections and having the Prehearing Officer rule and issue an order. However, if the parties wish to proceed through that procedure, I'm willing to do so, but it seems to me that may be easier. I'm looking for feedback from the parties and from staff on that.

MR. KNOX: I'd be quite satisfied with that approach.

MR. McNAMARA: Titusville will be satisfied with that approach.

MR. BOSCH: That's fine.

MR. DETERDING: That's fine.

COMMISSIONER DEASON: Staff.

MS. FLEMING: Yes, that's fine.

COMMISSIONER DEASON: Very good. We've eliminated some workload here. So I would just ask the parties, as you're preparing your briefs in this matter, when you make a citation to the record, please be sure that you're not citing to passages that are summaries, but that you're citing to actual -- either cross-examination, responses to

cross-examination or to prefiled direct or rebuttal testimony, not to summaries. And I think that should clear the problem; is that fair?

MR. DETERDING: Yes.

COMMISSIONER DEASON: Very well. Okay. Staff, we have concluded all of the witnesses. What do we need to do next?

MR. WHARTON: Well, Commissioner Deason, we want more of everything. First, I want to talk about the time limit for the briefs, and I've also discussed with other counsel. Currently the order calls for transcripts to come out on July the 8th and the briefs to be on the 22nd. That is a 14-day period for briefing. There are 15 issues in this case and multiple parties. I think a couple of the issues such as comprehensive planning and need will -- may be 9- or 10- or 12-page sections in the brief and will need to be carefully researched in terms of past Commission orders and whatnot. The parties would ask for four --

COMMISSIONER DEASON: Let me interrupt just a moment while I'm thinking about it. Is there a limitation on the length of the brief contained in the prehearing order?

MR. WHARTON: There is, 40 pages. And that was the next subject I was going to ask for. The parties would ask for four weeks. Here, I don't believe that time is of the essence with regard to service, and there was a continuation of the

proceeding for a major time already. And everyone seems to be in agreement -- by "everyone," I mean us at this table here -- that we would appreciate four weeks for the briefs.

COMMISSIONER DEASON: When is this matter scheduled to come before the Commission for a vote?

MS. FLEMING: It's scheduled to come before the Commission on the September 21st agenda. I would like to point out that if the briefs are pushed back to whatever the parties are requesting, staff will need additional time to prepare the recommendation, and we will probably have the recommendation ready for the October 5th agenda.

MR. WHARTON: And I don't think that we object to that.

COMMISSIONER DEASON: So you're --

MR. WHARTON: That would make briefs due August the 5th as opposed to July 22nd

COMMISSIONER DEASON: Mr. Wharton, you're asking for additional -- how much time additional are you asking to --

MR. WHARTON: Two weeks. Four weeks instead of two.

COMMISSIONER DEASON: And then, staff, you're wanting two weeks then on the -- for you to prepare the recommendation, and it would be two weeks later for the agenda; correct?

MS. FLEMING: That's correct.

COMMISSIONER DEASON: Okay. Let me ask, are there other matters we need to address other than the briefing

schedule before we conclude the hearing?

MR. WHARTON: And possibly the length of the briefs

COMMISSIONER DEASON: Okay. The schedule and the length. Any other matters we need to address before we conclude the hearing?

MR. BOSCH: None from Volusia.

COMMISSIONER DEASON: And staff?

MS. FLEMING: We don't have any other matters.

COMMISSIONER DEASON: We're going to take a brief recess of five minutes, and we'll come back and we'll address the briefing schedule as well as the length of the briefs.

(Brief recess.)

COMMISSIONER DEASON: We'll go back on the record. During the break, we've inquired of the Court Reporter's Office, and they have agreed to expedite the filing of the transcripts. And under the new schedule, it's my understanding the transcript will now be filed by July the 1st, which is a week sooner than the original schedule. Then what I would propose, under the original schedule, briefs were due 7/22; I would set that due date at 7/29. That's one week later than the original schedule, but that gives all the parties two more week's time with the benefit of transcripts since the transcripts will be expedited by one week.

And then staff has agreed graciously to keep the same agenda date, which means they are going to have to file their

ecommendation sooner -- I mean, they're going to have to file t under the original -- the will file it under the original chedule. They will just have less time with the benefit of he briefs. But I've been informed that they can make that oncession or are willing to do so.

So, staff, correct me if I'm wrong, but I believe his is the revised schedule. Transcripts will be filed by uly the 1st, briefs will be due July the 29th, and we will eep the original schedule agenda date of 9/21; is that orrect?

MS. FLEMING: Yes, Commissioner, that's correct.

COMMISSIONER DEASON: Are there any questions on the chedule? Okay. Then a question comes up about length of the riefs. I would just note that there have already been three ssues that have been stipulated which is of some benefit, but I do understand that we do have some legal issues which also ave to be briefed in this matter. So the prehearing order alled for 40 pages.

Mr. Wharton, what do you propose? Don't make it too igh.

MR. WHARTON: I think 50 pages would be adequate.

COMMISSIONER DEASON: Is there any objection by any of the parties to 50 pages for the brief? Is that acceptable?

MR. BOSCH: I have no objection.

COMMISSIONER DEASON: Very well. Now, just because

it's set at 50 doesn't mean you have to file 50, okay? It will still get reviewed if it's only 40, and maybe get reviewed more thoroughly. Sometimes conciseness is a virtue.

So having said that, the brief limitation will be changed from 40 pages to 50 pages.

Anything further at this point?

MS. FLEMING: No, Commissioner, we have no further matters.

COMMISSIONER DEASON: Okay. I just want to take a brief opportunity to acknowledge the very -- what I consider the professionalism that has been displayed here by all the participants, the city, the counties, the applicant, and our staff. We've covered a great deal of material in what was scheduled to be a three-day hearing in two days, and I think that shows that we have -- the parties have been prepared and have undertaken this matter in a very professional and courteous and expeditious way, and I just want you to know that the Commissioners appreciate that.

MR. WHARTON: Thank you, Commissioner.

COMMISSIONER DEASON: Hearing nothing further, this hearing is adjourned.

(Hearing concluded at 2:20 p.m.)

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STATE OF FLORIDA)

CERTIFICATE OF REPORTER

COUNTY OF LEON)

I, TRICIA DeMARTE, RPR, Official Commission Reporter, do hereby certify that the foregoing proceeding was heard at the time and place herein stated.

IT IS FURTHER CERTIFIED that I stenographically reported the said proceedings; that the same has been transcribed under my direct supervision; and that this transcript constitutes a true transcription of my notes of said proceedings.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorneys or counsel connected with the action, nor am I financially interested in the action.

DATED THIS 30th DAY OF JUNE, 2004.

Tricia DeMarte

TRICIA DeMARTE, RPR
FPSC Official Commission Reporter
(850) 413-6736

Comprehensive Stipulated Exhibits for Entry into Hearing Record			
Hearing I.D. #	**Witness**	**I.D. # As Filed**	**Exhibit Description**
Staff			
1		Exhibit List-Stip-1	Comprehensive Stipulated Exhibit List
2		Stip-2	Late-Filed deposition Exhibit No. 8 to Gerald C. Hartman
			Late-Filed deposition Exhibit No. 9 to Gerald C. Hartman
			Farmton's response to staff's first request for production of documents (No. 4)
Testimony Exhibit List			
FARMTON			
3	Gerald C. Hartman	(GCH-1)	Application for Original Water Certificate in Volusia and Brevard Counties
4	Gerald C. Hartman	(GCH-2)	Resume
5	Howard M. Landers	(HML-1)	Resume
6	Charles W. Drake	(CWD-1)	Resume
7	Tara L. Hollis	(TLH-1)	Order No. PSC-02-0898-PAA-WS
8	Tara L. Hollis	(TLH-2)	Resume
CITY OF TITUSVILLE			
9	Raynetta Curry Grant	(RCG-1)	Resume
10	Raynetta Curry Grant	(RCG-2)	City of Titusville Consumer Confidence Report
11	Raynetta Curry Grant	(RCG-3)	St. Johns River Water Management District, District Water Supply Plan (2000)
12	Raynetta Curry Grant	(RCG-4)	Correspondence Between City of Titusville and Representatives of Miami Corporation
13	Henry Thomas	(HT-1)	Resume
BREVARD COUNTY			
14	Richard H. Martens	(RHM-1)	Brevard County Comprehensive Plan, Chapter 6, Potable Water Element.

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 021256-WU EXHIBIT NO. 1
COMPANY/ FPSC Staff Stip.
WITNESS Comprehensive Exhibit List

Comprehensive Stipulated Exhibits for Entry into Hearing Record			
Hearing I.D. #	**Witness**	**I.D. # As Filed**	**Exhibit Description**
15	Richard H. Martens	(RHM-2)	Brevard County Ordinance No. 03
16	Richard H. Martens	(RHM-3)	Copy of Minutes from the July 22, 2003 Meeting of the Brevard County Board of County Commissioners.
17	Richard H. Martens	(RHM-4)	Graphic of Existing County Water Distribution and Supply Lines Connected to the North Brevard Water System.
18	Richard H. Martens	(RHM-5)	Graphics of Water Treatment Capacity of the Plant, Plant Flows, Average Annual Daily Flows from the Plant and Projected Average Annual Daily Flows; Graphics of Total Residential Customers, Projected Residential Customers, Total Equivalent Resident Connections, ERC's, Projected ERC's, Both of Which Are Based upon 250 Gallons per Day of Consumption per Residential Unit, as well as the Concurrency Capacity of the Mims Water Treatment Plant and North Brevard Water System Data
19	Richard H. Martens	(RHM-6)	Map 1, Potable Water Treatment Plants, and Map 2, the Existing Potable Water Customers and Future Service Areas
20	Richard H. Martens	(RHM-7)	Graphic and Calculations of the Number of Years Before the Mims Plant Will Require Expansion.
21	Mel W. Scott	(MWS-1)	Excerpts from text of Future Land Use Element of the Brevard County Comprehensive Plan.
22	Mel W. Scott	(MWS-2)	Future Land Use Map covering area identified in the Farmton Application.
23	Mel W. Scott	(MWS-3)	Brevard County Comprehensive Plan.
VOLUSIA COUNTY			
24	John Thomson	(JT-1)	Chapter 1, Future Land Use Element
25	John Thomson	(JT-2)	Future Land Use, Farmton Water Resources LLC map

Comprehensive Stipulated Exhibits for Entry into Hearing Record			
Hearing I.D. #	**Witness**	**I.D. # As Filed**	**Exhibit Description**
26	John Thomson	(JT-3)	Excerpts of the Volusia Comprehensive Plan, Future Land Use Categories
27	John Thomson	(JT-4)	Future Land Use Element Policies
28	John Thomson	(JT-5)	Chapter 7, Potable Water Sub-Element
STAFF			
29	Richard H. Burklew	(RHB-1)	Resume
FARMTON REBUTTAL			
30	Gerald C. Hartman	(GCH-R1)	Service areas and locations of major facilities within the areas.
31	Gerald C. Hartman	(GCH-R2)	FPSC certification public interest example.
32	Gerald C. Hartman	(GCH-R3)	Chapters 373.016 and 403.021, Florida Statutes.
33	Gerald C. Hartman	(GCH-R4)	Revised Farmton resources requested certification area and legal description.
34	Howard M. Landers	(HML-2)	Consistency of zoning classifications with future land use map series, Chapter 62 Code of Ordinances, November 12, 2002.
35	Howard M. Landers	(HML-3)	Gerald Hartman, FPSC certification public interest example.
36	Howard M. Landers	(HML-4)	Matrix for consistent zoning classification with future land use categories.
37	Howard M. Landers	(HML-5) + (HML-6)	Florida Department of Community Affairs Technical Memo.

EXHIBIT NO. _____

DESCRIPTION:

STAFF COMPOSITE EXHIBIT OF STIPULATED DOCUMENTS STIP-2

**LATE-FILED EXHIBIT NO. 8 TO GERALD C. HARTMAN DEPOSITION;
LATE-FILED EXHIBIT NO. 9 TO GERALD C. HARTMAN DEPOSITION;
FARMTON'S RESPONSE TO STAFF'S FIRST REQUEST FOR PRODUCTION OF DOCUMENTS (NO. 4)**

PROFFERING PARTY: STAFF

**DOCKET NO. 021256-WU
FARMTON WATER RESOURCES LLC**

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO 2
COMPANY/ FPSC Staff
WITNESS: Stip-2
DATE 06/22-23/04

FARMTON WATER RESOURCES LLC

Gerald C. Hartman Deposition

Revised Fire Protection Rate Calculation and Tariff

Late-Filed Exhibit No. 8

FARMTON WATER RESOURCES LLC
NON-TAXABLE ENTITY
RATE CALCULATION
FIRE PROTECTION

SUPPORT TABLE D-5

Account No.	Description	Test Year 2009	Base Facility Charge	Gallonage Charge	Base Facility Cost	Base Facility Charge	Gallonage Cost	Gallonage Charge
Operation and Maintenance Expenses								
601	Salaries and Wages - Employees	$ -	100%	0%	$ -	$ -	$ -	$ -
603	Salaries and Wages - Other	-	100%	0%	-	-	-	-
604	Employees Pensions and Benefits	-	100%	0%	-	-	-	-
610	Purchased Water	-	0%	100%	-	-	-	-
615	Purchased Power	-	0%	100%	-	-	-	-
616	Fuel for Power Production	-	0%	100%	-	-	-	-
618	Chemicals	-	0%	100%	-	-	-	-
620	Materials and Supplies	-	100%	0%	-	-	-	-
630	Contractual Services	3,600	100%	0%	3,600	25.00	-	-
640	Rents	-	100%	0%	-	-	-	-
650	Transportation Expense	-	100%	0%	-	-	-	-
655	Insurance Expense	-	100%	0%	-	-	-	-
665	Regulatory Expense	-	100%	0%	-	-	-	-
670	Bad Debt Expense	-	100%	0%	-	-	-	-
675	Miscellaneous Expense	360	100%	0%	360	2.50	-	-
Total Operation and Maintenance Expenses		$ 3,960			$ 3,960	$ 27.50	$ -	$ -
Depreciation and Amortization								
403	Depreciation Expense	$ 1,285	100%	0%	$ 1,285	$ 8.92	$ -	$ -
407	Amortization Expense - Other	(1,285)	100%	0%	(1,285)	(8.92)	-	-
Total Depreciation and Amortization		$ -			$ -	$ -	$ -	$ -
Taxes Other Than Income Taxes								
408.10	Utility Regulatory Assessment Fees	$ 188	100%	0%	$ 188	$ 1.30	$ -	$ -
408.11	Property Taxes	-	100%	0%	-	-	-	-
408.12	Payroll Taxes	-	100%	0%	-	-	-	-
408.13	Other Taxes and Licenses	-	100%	0%	-	-	-	-
408.20	Other Income and Deductions	-	100%	0%	-	-	-	-
Total Taxes Other Than Income Taxes		$ 188			$ 188	$ 1.30	$ -	$ -
Income Taxes								
409	Federal, State, and Local Income Taxes	$ -	100%	0%	$ -	$ -	$ -	$ -
Total Income Taxes		$ -			$ -	$ -	$ -	$ -
Return on Investment		$ 45	100%	0%	$ 45	$ 0.31	$ -	$ -
Total Revenue Requirement		$ 4,192			$ 4,192	$ 29.11	$ -	$ -
Less: Miscellaneous Revenues		$ -	100%	0%	$ -	$ -	$ -	$ -
Total Revenues for Rate Setting		$ 4,192			$ 4,192	$ 29.11	$ -	$ -
Number of Wells		12						
Factored Gallons (In Thousands)		0						

02

ORIGINAL SHEET NO. 14.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

FIRE PROTECTION SERVICE

RATE SCHEDULE FPS

AVAILABILITY - Available throughout the area served by the Company.

APPLICABILITY - For raw water service rendered for all fire protection applications within the Utility's certificated service territory.

LIMITATIONS - Subject to all of the Rules and Regulations of this Tariff and General Rules and Regulations of the Commission.

BILLING PERIOD - Monthly

RATE -

Flat Base Charge

$ 29.11 Per Fire Protection Well

TERMS OF PAYMENT - Bills are due and payable when rendered and become delinquent if not paid within twenty (20) days. After five (5) working days written notice, service may then be discontinued.

EFFECTIVE DATE -

TYPE OF FILING - Original Certificate

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

FARMTON WATER RESOURCES LLC

Gerald C. Hartman Deposition

Revised Bulk Raw Water Supply Rate Calculation and Tariff

Late-Filed Exhibit No. 9

ORIGINAL SHEET NO. 15.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

BULK RAW WATER SERVICE

RATE SCHEDULE BRWS

AVAILABILITY - Available for all requests for bulk raw water purchased for treatment and resale.

APPLICABILITY - Available for all requests for bulk raw water purchased for treatment and resale or for end user.

LIMITATIONS - Subject to all of the Rules and Regulations of this Tariff and General Rules and Regulations of the Commission.

BILLING PERIOD - Monthly

RATE -

Base charge annually per 0.5 MGD of capacity	$54,047.80
Take or pay gallonage charge based upon demand capacity	$ 0.3043 X committed capacity
Gallonage charge per 1,000 gallons used above commitment:	$ 0.3043

TERMS OF PAYMENT - Bills are due and payable when rendered and become delinquent if not paid within twenty (20) days. After five (5) working days written notice, service may then be discontinued.

EARL UNDERHILL
ISSUING OFFICER

05

MANAGER
TITLE

FARMTON WATER RESOURCES LLC
NON-TAXABLE ENTITY
RATE CALCULATION
BULK RAW WATER SUPPLY

SUPPORT TABLE D-6

Account No.	Description	Test Year 2009	Base Facility Charge	Gallonage Charge	Base Facility Cost	Base Facility Charge	Gallonage Cost	Gallonage Charge
Operation and Maintenance Expenses								
601	Salaries and Wages - Employees	$ -	0%	100%	$ -	$ -	$ -	$ -
603	Salaries and Wages - Other	-	0%	100%	-	-	-	-
604	Employees Pensions and Benefits	-	0%	100%	-	-	-	-
610	Purchased Water	-	0%	100%	-	-	-	-
615	Purchased Power	129,600	0%	100%	-	-	129,600	0.1403
616	Fuel for Power Production	-	0%	100%	-	-	-	-
618	Chemicals	-	0%	100%	-	-	-	-
620	Materials and Supplies	-	0%	100%	-	-	-	-
630	Contractual Services	30,600	50%	50%	15,300	6,120.00	15,300	0.0166
640	Rents	92,300	0%	100%	-	-	92,300	0.1000
650	Transportation Expense	-	0%	100%	-	-	-	-
655	Insurance Expense	-	0%	100%	-	-	-	-
665	Regulatory Expense	-	100%	0%	-	-	-	-
670	Bad Debt Expense	-	0%	100%	-	-	-	-
675	Miscellaneous Expense	25,250	25%	75%	6,313	2,525.00	18,938	0.0205
Total Operation and Maintenance Expenses		$ 277,750			$ 21,613	$ 8,645.00	$ 256,138	$ 0.2774
Depreciation and Amortization								
403	Depreciation Expense	$ 222,514	100%	0%	$ 222,514	$ 89,005.42	$ -	$ -
407	Amortization Expense - Other	(133,508)	100%	0%	(133,508)	(53,403.25)	-	-
Total Depreciation and Amortization		$ 89,005			$ 89,005	$ 35,602.17	$ -	$ -
Taxes Other Than Income Taxes								
408.10	Utility Regulatory Assessment Fees	$ 24,803	0%	100%	$ -	$ -	$ 24,803	$ 0.0269
408.11	Property Taxes	-	0%	100%	-	-	-	-
408.12	Payroll Taxes	-	0%	100%	-	-	-	-
408.13	Other Taxes and Licenses	-	0%	100%	-	-	-	-
408.20	Other Income and Deductions	-	0%	100%	-	-	-	-
Total Taxes Other Than Income Taxes		$ 24,803			$ -	$ -	$ 24,803	$ 0.0269
Income Taxes								
409	Federal, State, and Local Income Taxes	$ -	0%	100%	$ -	$ -	$ -	$ -
Total Income Taxes		$ -			$ -	$ -	$ -	$ -
Return on Investment		$ 159,621	100%	0%	$ 159,621	$ 63,848.44	$ -	$ -
Total Revenue Requirement		$ 551,180			$ 270,239	$ 108,095.61	$ 280,941	$ 0.3043
Less: Miscellaneous Revenues		$ -	0%	100%	$ -	$ -	$ -	$ -
Total Revenues for Rate Setting		$ 551,180			$ 270,239	$ 108,095.61	$ 280,941	$ 0.3043
Total Charges per 0.5 MGD Capacity		**0.5**				**$ 54,047.8028**		**$ 55,534.7500**
Take-or-Pay Capacity (MGD)		2.500						
Factored Gallons (In Thousands)		923,450						

06

FARMTON WATER RESOURCES LLC
NON-TAXABLE ENTITY
OPERATING REVENUE CALCULATION
BULK RAW WATER SUPPLY

SUPPORT TABLE D-6A

Description	2002	2003	2004	2005	2006	2007	2008	Test Year 2009
Total Gallonage Requirements (MGD)	1.160	1.250	1.340	1.700	1.900	2.075	2.400	2.530
Take-Or-Pay Gallonage (MGD)	1.000	1.000	1.000	1.500	1.500	2.000	2.000	2.500
Billed Gallonage (MGD)	0.160	0.250	0.340	0.200	0.400	0.075	0.400	0.030
Take-or-Pay Rate								
Fixed Costs $ 54,047.8028 per 0.5 MGD	$ 108,096	$ 108,096	$ 108,096	$ 162,143	$ 162,143	$ 216,191	$ 216,191	$ 270,239
Gallonage $ 55,534.7500 per 0.5 MGD	111,070	111,070	111,070	166,604	166,604	222,139	222,139	277,674
Total Take-or-Pay Rate	**$ 219,165**	**$ 219,165**	**$ 219,165**	**$ 328,748**	**$ 328,748**	**$ 438,330**	**$ 438,330**	**$ 547,913**
Additional Gallonage	17,771	27,767	37,764	22,214	44,428	8,330	44,428	3,332
Total Revenues	$ 236,936	$ 246,932	$ 256,929	$ 350,962	$ 373,175	$ 446,660	$ 482,758	$ 551,245
Gallonage rate per 1,000 gallons	**$ 0.3043**							
Thousand Gallons Per Year	423,400	456,250	489,100	620,500	693,500	757,375	876,000	923,450
Average Cost Per 1,000 Gallons	$ 0.5596	$ 0.5412	$ 0.5253	$ 0.5656	$ 0.5381	$ 0.5897	$ 0.5511	$ 0.5969

07

Revised 05/06/04

Updated Balance Sheet for Farmton Management

Request for Production No. 4

FARMTON MANAGEMENT, LLC

STATEMENT OF ASSETS, LIABILITIES AND MEMBER'S CAPITAL

MARCH 31, 2004

ASSETS

Cash and Cash Equivalents	$ 1,017,090
Mitigation Credits	198,217
Investment in Farmton Water Resources, LLC	32,610
Total Assets	$ 1,247,917

LIABILITIES & MEMBER'S CAPITAL

Member's Capital	$ 1,247,917
Total Liabilities & Member's Capital	$ 1,247,917

FARMTON MANAGEMENT LLC
INCOME STATEMENT JANUARY 1, 2003-DECEMBER 31, 2003

Total assets January 1, 2003				
Checking account	$	1,040,000.00		
Investment in Farmton Water Resources LLC	$	10,000.00		
Total			$	1,050,000.00
Receipts:				
Mitigation Credits (at cost)	$	198,216.72		
Additional investment in Farmton Water	$	22,280.00		
Total			$	220,496.72
Disbursements:				
Franchise Tax	$	100.00		
Dsitribution to Farmton Water	$	22,280.00		
Total			$	22,380.00
Assets December 31, 2003			$	1,248,116.72

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Application of Farmton Water Resources, LLC to operate a water utility in Volusia and Brevard Counties, Florida	)	DOCKET NO.

APPLICATION FOR ORIGINAL WATER CERTIFICATE

Applicant, Farmton Water Resources, LLC (hereinafter "the Utility", "the Applicant" or "FWR"), by and through its undersigned attorneys, and pursuant to Sections 367.031 and 367.045, Florida Statutes, and Rule 25-30.033, Florida Administrative Code, files this Application for a certificate to operate a water utility in Volusia and Brevard Counties and in support thereof states:

I.

The Applicant's name and address is:

Farmton Water Resources, LLC
1625 Maytown Road
Osteen, Florida 32764

II.

The name and address of the person to contact concerning this Application is:

F. Marshall Deterding
Rose, Sundstrom & Bentley, LLP
2548 Blairstone Pines Drive
Tallahassee, Florida 32301
Phone: (850) 877-6555
Fax: (850) 656-4029

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO 3
COMPANY/ FARMTON
WITNESS. Gerald C. Hartman (GCH-1)
DATE: 06/22-23/04

III.

Farmton Water Resources, LLC is a Limited Liability Corporation incorporated in Delaware on February 26, 2002 and registered to do business in Florida on March 20, 2002.

IV.

Because the Applicant is a Limited Liability Corporation, it has no corporate officers and directors. However, the name and address of the Managing Member is:

Farmton Management, LLC
410 North Michigan Avenue
Chicago, IL 60011

V.

The Applicant has not made an election under Internal Revenue Code Section 1362 to be an S Corporation.

VI.

The Applicant has the financial and technical ability to provide water service to the area applied for herein. Prior to the formation of the Utility, the related party landowner owned the existing facilities which will now be utilized by the Utility in providing service to the territory applied for herein. The Utility will continue to employ operations, maintenance and technical advisory personnel necessary to ensure continued efficient provision of water service to the various customers of the Utility, and to meet the future needs and expanding needs anticipated for water services within the proposed territory.

VII.

The sole member/owner of Applicant is Farmton Management, LLC which owns interest in the Applicant and whose address is:

Farmton Management, LLC
410 North Michigan Avenue, Rm. 590
Chicago, IL 60011

VIII.

The Applicant has the technical ability to provide the water service to the proposed territory as applied for herein. The Applicant can provide all types of water service as applied for herein and expansion of that service as and when needed in the most efficient and effective manner. All of the water facilities currently owned and operated by a related party will begin being operated by the Utility before or immediately upon approval and certification of FWR by the Florida Public Service Commission (hereinafter "the Commission" or "the PSC"). Ownership or other rights to beneficial use of any facilities, lands, or land rights needed by the Utility in order to provide water service throughout the territory in a most efficient manner possible, will be provided by the related party landowner as and when needed in order to ensure the needs for water services are met in accordance with the Utility's obligations under Florida Statutes, Rules of the Commission, the Utility's tariff, and good Utility and water management practices.

The related party landowner currently operates all existing Utility facilities in question and has the appropriate certificates and licenses to operate those existing supplied facilities. That entity has in the past employed operation maintenance and technical advisory personnel necessary to ensure the efficient provision of potable and non-potable quality water service to the various customers presently served. The Utility will enter into an agree-

ment with the landowner so that the Utility will obtain the long term right to use the necessary properties for Utility purposes. A copy of this 99 year Lease Agreement is attached hereto as **Exhibit "C"**. This Agreement will be executed as soon as PSC approval of this Application is received or before that time if FWR begins operation of the water facilities before PSC final approval. The Utility will employ, either through direct employment or through contractual arrangements, those same personnel and hire additional qualified persons as needed in order to continue to provide the same high quality of service as additional need for such services arise.

IX.

There is currently a need for both potable and non-potable water service within the proposed service territory applied for herein. That service consists of existing residential, and fire protection services. The needs for these various services are throughout the service territory as depicted in the maps including Figure 1-3 of **Exhibit "A"**. The Utility has not inquired from other Utilities within the area who might be able to provide service to this territory. Because of the existing facilities which are being utilized by the landowner presently and will be utilized by the Utility company immediately upon, if not before, certification by the Commission, any attempts to obtain service from any outside source would dramatically increase the cost of providing such service and could quite possibly result in a decrease of the

quality of service provided. In addition, the cost of running existing water mains to the existing systems within the territory, or to the existing locations where the need for service presently exists, from any other Utility with the ability to provide the quantity needed within the service territory would be extraordinarily high and extremely inefficient given the availability of facilities and water sources already in place within the service territory for that purpose.

In addition to the immediate needs for service as outlined in Exhibit "A" hereof, there has been a request for the provision of potable water to several campsites to be developed by a hunt club which leases property within the service territory. These potable water services will be constructed in the near future to provide this service to the 260 member families of the Miami Tract Hunt Club, Inc. as requested by the Hunt Club in their letter of February 6, 2002 (attached hereto) as **Exhibit "D"**.

X.

Through funding and the financial support of its Managing Member, Farmton Management, LLC, the Utility will have ample financial backing to ensure the safe, efficient and sufficient provision of non-potable water service to the territory applied for herein and the expansion as needed of water sources and facilities in the proposed service area to meet all future needs. Attached hereto as **Exhibit "E"**, is a recent balance sheet for the Utility's Managing Member showing that the company has ample capital re-

sources to support the initial funding of the financial needs of the Utility and all future needs as they become known. Also attached as part of **Exhibit "E"** is an affidavit from the Managing Member ensuring its financial commitment to the Utility company for all future capital requirements. The Managing Member and the Utility have access to all resources needed to fund the capital and long-term financial needs of the Utility.

XI.

The related landowner has for over 75 years owned the property and overseen the water resources within the property which is to be the service territory of FWR. The related landowner has vast experience in water management through its silva cultural/agricultural oversight and has been a leader in water conservation measures and innovative resource management techniques for use of non-potable water. Mr. Earl Underhill who will participate actively in the management of the Utility, has participated in numerous water conservation and water management groups and continues to do so to this date on behalf of the landowner. In the future, Mr. Underhill will continue to be actively involved in water resource issues on behalf of the Utility and/or the property owner. FWR will immediately provide both potable and non-potable water service to the existing locations and continue to plan toward the provision of the potable and non-potable water service to all such needs within its proposed service territory. Certification of the Utility by the Commission will allow the Applicant to utilize

the lowest quality water that is fit for the purpose intended in accordance with the state water policy and to properly plan for and manage the water resources of the area for the benefit of all needs within the proposed territory and bulk needs outside that territory.

XII.

There is an existing need for both potable and non-potable water throughout the proposed service territory applied for herein. The service consists not only of a need for service to existing users, but also for fire flow needs and any future residential and commercial customers which may develop and require potable and/or non-potable water in the future. In addition as noted elsewhere in this Application, there are plans for expansion of hunting camps leased by over 260 families that are in need of immediately improvement of potable water facilities to service those lessees. The existing need for both potable and non-potable water services exist throughout the service territory applied herein as is evident from a review of the maps contained in Figure 1-3, 2-1 and 2-2 of **Exhibit "A"**. In order to ensure the orderly planning and growth of development within the proposed service territory and ensure the most efficient use of precious water resources, the Commission should grant the requested certificate immediately to enable FWR to plan for and to meet those needs in the public interest.

XIII.

There are no other Utilities within the area who are currently able to provide the potable and non-potable services proposed by Applicant, FWR, or who could potentially provide such service. The Applicant has reviewed local plants and facilities and found no other existing entity in a position to provide such service. FWR is in a unique position to coordinate the orderly growth of such services as and when needed and has a greater variety and quantity of available and contiguous sources of supply than any other alternative provider could possibly have based upon this close-working relationship with the related party landowner.

XIV.

The provision of water service in the proposed service territory, including use of existing and proposed facilities as outlined in this Application, will be consistent with the water sections of the local Comprehensive Plans for both Volusia and Brevard Counties as approved by the Department of Community Affairs.

XV.

The parent company of the Applicant is currently providing water services to its own properties at no cost. The Applicant plans to begin providing service to all customers within its service territory after obtaining control of all water facilities owned by the landowner within the very near future and will begin providing that service for compensation immediately after certification and rate approval by the Commission. Until such time as the

Commission grants certification and approval of appropriate rates and charges, the Applicant may or may not need to begin providing that service pending final approval by the PSC.

XVI.

Attached hereto as **Exhibit "B"** is a statement and table concerning the number of equivalent residential connections proposed to be served by FWR by meter size and customer class.

XVII.

Also included in **Exhibit "B"** is a description of the type of customers that Farmton Water Resources anticipates providing service to.

XVIII.

Attached hereto as **Exhibit "C"** is a copy of a 99 year lease which provides for continuance use of the land and treatment facilities currently owned by the Utility's related party and from whom the Utility company will lease those facilities and property.

XVIV.

Attached hereto as **Exhibit "F"** are the original and two copies of the sample tariff containing all rates, classifications, charges, rules and regulations consistent with Rule 25-9, Florida Administrative Code, which the Applicant herein intends to utilize in providing water service.

XX.

Under Attachment "A" of **Exhibit "A"** is a description of the territory proposed for inclusion in the Utility's certificated service area using township range and section references. A second description using metes and bounds is included as Exhibit "H to the application. These are in compliance with Rule 25-30.033(1) and 25-30.030(2), F.A.C.

XXI.

Attached hereto as **Exhibit "G"** is a copy of a map showing the township range and section references with the proposed service territory plotted thereon. Because the proposed territory described herein encompasses many square miles, it is not reasonably possible to utilize a map of a scale of 1" = 200 ft., or 1" = 400 ft. as proposed under Subsection (n) of Rule 25-30.033, Florida Administrative Code. A map of that scale under these circumstances would not be feasible or readily usable to the Commission in evaluating this Application. Attached as **Exhibit "G"** is a map utilizing much smaller scales (i.e. 1" = 2500). The Applicant believes Exhibit "G" complies with the provisions and intent of Rule 25-30.033(n), F.A.C. To the extent the Commission disagrees with that interpretation, the Applicant requests a waiver of the specific provisions of Rule 25-30.033(n), to the extent that these maps are inconsistent with the Commission's interpretation of that Rule Subsection.

XXII.

Attached hereto as Table 2-1 of **Exhibit "A"**, are statements regarding the separate capacities of the proposed lines and treatment facilities in terms of ERCs and gallons per day to service the known and anticipated development in the various classes of service. The description of the existing potable water facilities outlining the location, type of treatment, and a drawing of the typical water treatment facility is contained within Section 3 of **Exhibit "A"** hereof. A similar explanation of existing and proposed non-potable fire protection water facilities and proposed bulk raw water facilities are included in Sections 4 and 5 of **Exhibit "A"** respectively. Since the Utility is requesting only a water certificate, there will be no wastewater treatment or effluent disposal and as a result, the requirements of Rule 25-30.033(1)(q), Florida Administrative Code are inapplicable.

XXIII.

The Utility is just beginning operation and has not yet received its first dollar of revenue and will not receive such revenue until such time as the Florida Public Service Commission approves the appropriate rates and charges for the Utility or it is necessary for the Utility to begin charging for such services in advance of such approval. Therefore, no detailed balance sheet or statement of financial condition or operating statement of the Applicant are available. However, included as part of **Exhibit "E"** is information concerning all of the assets of the Utility to be

utilized in the provision of the various types of water service and operation of maintenance expenses anticipated to be incurred in such operation. Those lists of assets and O & M expenses are prepared in accordance with the provisions of Rule 25-30.115, Florida Administrative Code. As such, Applicant believes that these exhibits comply with the requirements of Rule 25-30.032(1)(r) and (s).

XXIV.

Farmton Management, LLC the sole member and manager of the Utility, is the entity which has provided and will continue to provide funding to the Utility as and when needed to ensure that all needs for capital improvements are met in a timely manner and to ensure the continued provision of safe and efficient potable and non-potable water service in the future within the proposed service territory. Attached hereto as **Exhibit "E"** is a balance sheet for Farmton Management, LLC and an affidavit of the Managing Member Representative of Farmton Management, LLC, assuring the Commission that Farmton Management, LLC will fund the capital needs and any operating deficits of the Utility on an as and when needed basis.

XXV.

Attached as part of Attachment "B" of **Exhibit "A"** is a cost study including customer projections supporting the proposed rates and charges and service availability charges.

XXVI.

Attached hereto as support tables B-4, Pages 1 and 2 of Attachment "B" of **Exhibit "A"** are the projected costs of the proposed systems by NARUC account numbers. The related capacity of each system and ERCs in gallons per day is reflected on Table 2-1 for potable and bulk raw water systems and in Section 4.1 of 4.2 for the fire protection system.

XXVII.

Attached hereto as support tables C-1, C-2, and C-3 of Attachment "B" of **Exhibit "A"** are the projected operating expenses of the proposed systems by NARUC account numbers when 80% of design capacity of the system is being utilized.

XXVIII.

The schedules showing the projected capital structure, including the methods of financing the construction operation of the Utility until the Utility reaches 80% of design capacity of the system is attached hereto as support schedule 3 of Attachment "B" - of **Exhibit "A".** To the extent the financing of a construction of operations or operations is beyond the resources of the Utility, Farmton Management, LLC the sole member and Managing Member of the Applicant herein, will provide all additional funding as and when needed in order to finance such construction operation of the Utility until it reaches that 80% of design capacity level.

XXIX.

Attached hereto as **Exhibit "I"** is an affidavit showing that the Utility has provided notice in accordance with the requirements of Rule 25-30.030, Florida Administrative Code, to all those entitled to such notice. A publication notice in compliance with Rule 25-30.030(7), Florida Administrative Code is due to be published on December 24, 2002. Proof of publication will be provided to the Commission as **Exhibit "J"** immediately after it is received from the newspaper utilized for this purpose. A copy of the appropriate notice has also been provided by regular mail or personal service to each of the customers of the system to be certified. An affidavit of such compliance is attached hereto as **Exhibit "K".**

XXX.

In accordance with the requirements of Section 367.045(1)(d), Florida Statutes and Rule 25-30.033 and 25-30.020, Florida Administrative Code, enclosed is a check for the filing fee in the amount of $3,000, which is intended to satisfy the requirements of those rules and statutory sections for a system intended to serve more than 4,000 ERCs.

XXXI.

The Applicant herein requests that the Florida Public Service Commission grant the waiver of Rule 25-30.033(1)(n) to the extent such waiver is deemed necessary as requested in Paragraph XXI hereof, and issue a certificate to Farmton Water Resources, LLC to

provide water service to the territory requested in Volusia and Brevard Counties. In addition, Applicant requests that the Commission in its order granting such a certificate, authorize a collection of the rates proposed herein and implementation of the tariffs as included herein.

Respectfully submitted this 20th day of December, 2002, by:

ROSE, SUNDSTROM & BENTLEY, LLP
2548 Blairstone Pines Drive
Tallahassee, Florida 32301
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F. MARSHALL DETERDING

miami\certificate.app

ENGINEERING AND FINANCIAL REPORT
IN SUPPORT OF AN APPLICATION FOR CERTIFICATION

Before The

FLORIDA PUBLIC SERVICE COMMISSION

PREPARED FOR:

FARMTON WATER RESOURCES, LLC

PREPARED BY:

HARTMAN & ASSOCIATES, INC.
201 E. PINE STREET, SUITE 1000
ORLANDO, FLORIDA 32801

DECEMBER 2002

HAI # 01-036.00

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A Legal Description - Proposed Service Area for Farmton Water Resources, LLC November 2001

B Schedules Supporting Proposed Rates and Charges for Farmton Water Resources, LLC, November 2002

SECTION 1

SECTION 1
INTRODUCTION

1.1 PURPOSE

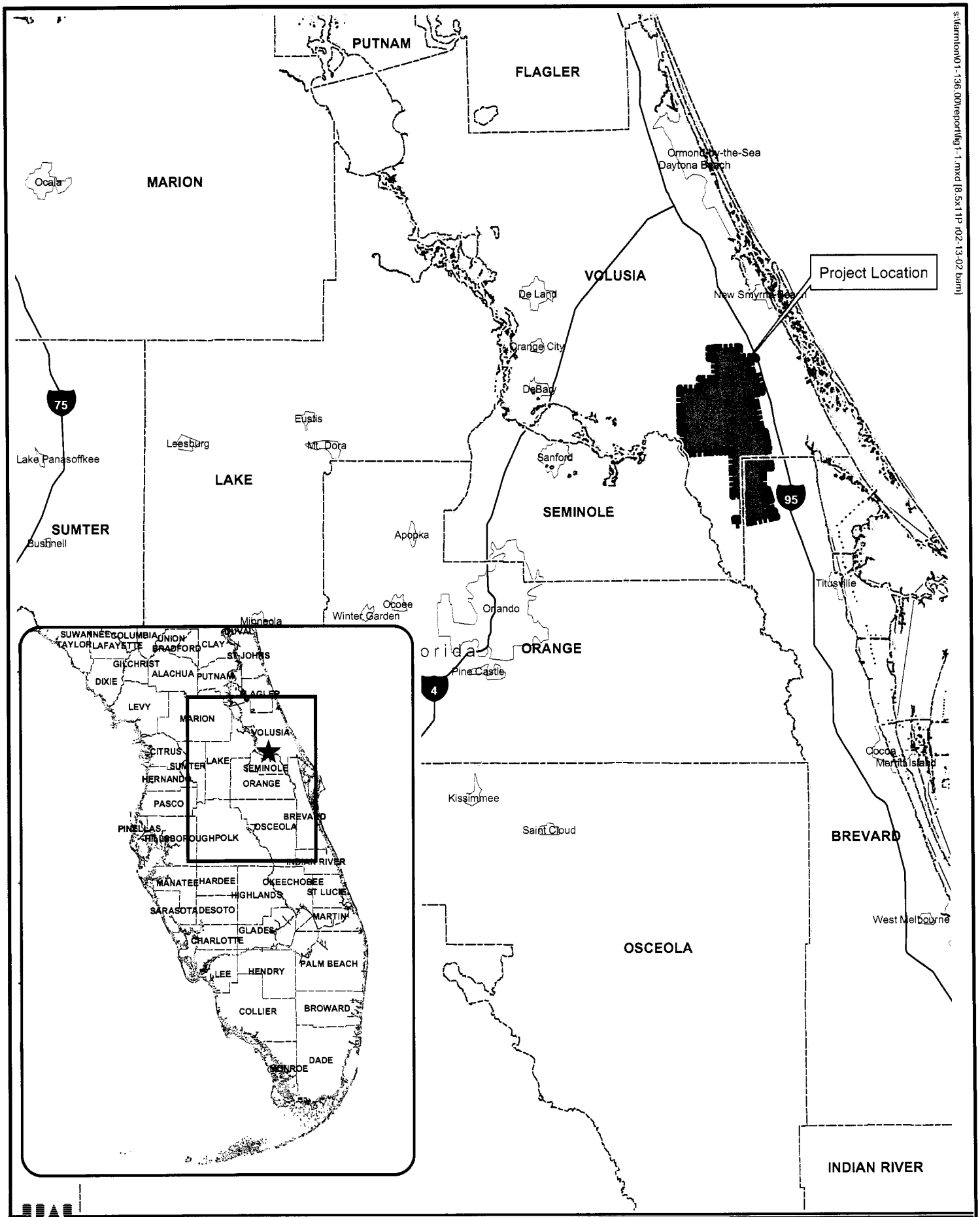
The purpose of this document is to provide the engineering and financial information necessary to complete the Florida Public Service Commission (FPSC) Application for an Initial Certificate of Authorization for Farmton Water Resources, LLC (FWR), a subsidiary of Farmton Management, LLC, establishing the service area and initial rates and charges. The service area is described later in this section and consists primarily of retail potable water, fire protection, and bulk raw water customers. Several existing and proposed water needs exist within the proposed service area. The creation of the proposed utility is integral in planning for and ensuring the efficient and economical supply of water for the various needs of the proposed service area while protecting the environment. The general project property location is shown in Figure 1-1.

1.2 SCOPE

The scope of this document and the information contained herein is defined by the Florida Statutes, (F.S.) and Florida Administrative Code (F.A.C.) associated with the regulation of investor-owned water systems within the State of Florida. Specifically, Chapter 367, F.S. and Chapters 25-9 and 25-30 of the F.A.C. define the specific requirements necessary for the establishment of the service area and initial rates and charges.

1.3 OVERVIEW

FWR was formed primarily to provide water to retail potable, fire protection, and bulk raw water customers. The existing and proposed retail potable water and fire protection will be provided to customers within the proposed service area. The bulk raw water will be provided to utilities outside the proposed service area. The proposed service area boundaries are generally contiguous with the property boundaries of Miami Corporation with the exception of an area within Miami Corporation's property that has already been claimed as the service area of the City of Edgewater. The proposed service area is comprised of approximately 53,000 acres within the counties of Volusia and Brevard and is reflected on Figure 1-2.

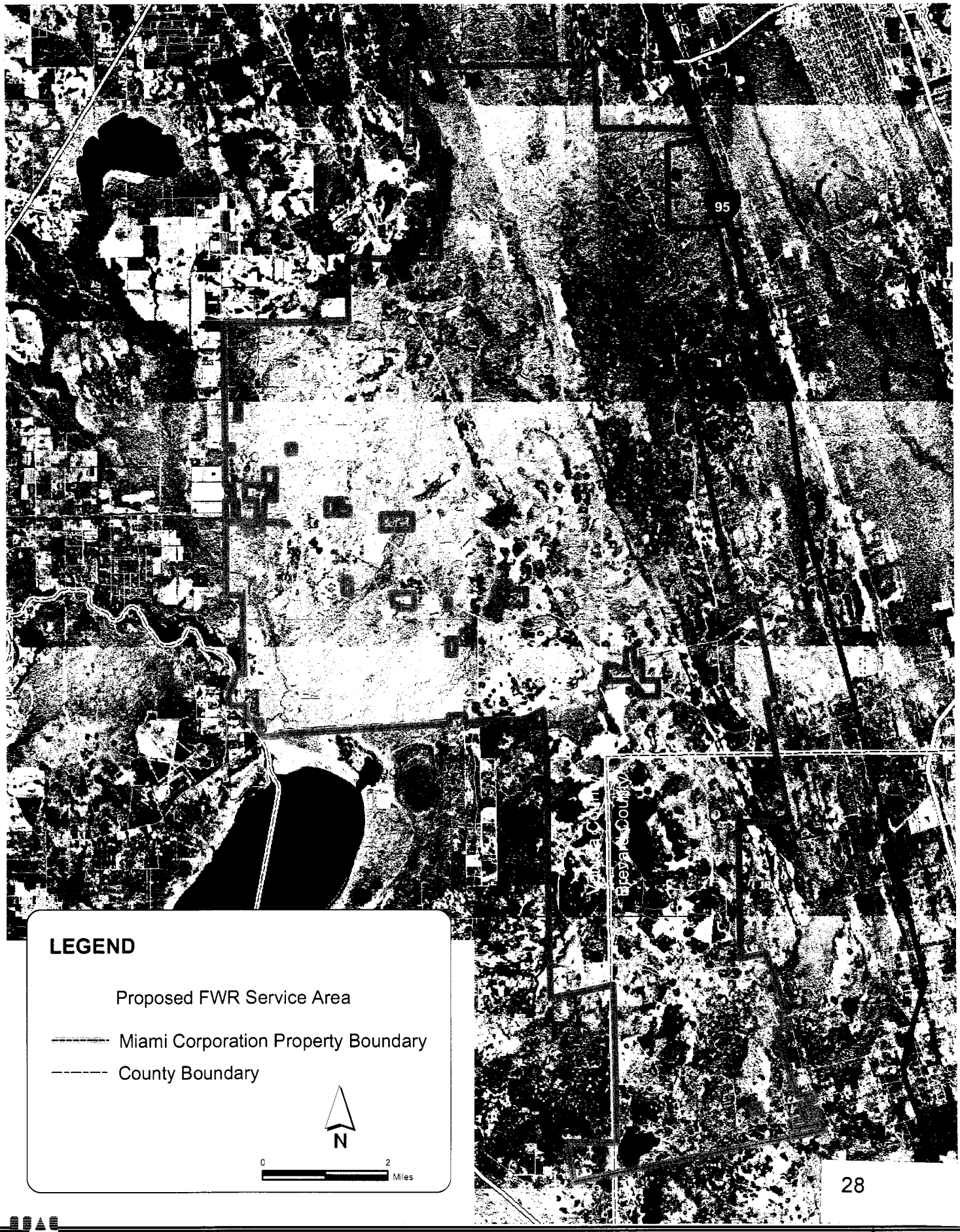


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PROJECT LOCATION
FARMTON WATER RESOURCES LLC
VOLUSIA/BREVARD COUNTY, FLORIDA

FIGURE
1-1



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PROPOSED SERVICE AREA BOUNDARY
FARMTON WATER RESOURCES LLC
VOLUSIA/BREVARD COUNTY, FLORIDA

FIGURE
1-2

The existing and proposed retail potable service is and will be provided to customers across the proposed service area and includes commercial uses such as corporate headquarters, single-family homes and recreational buildings. The fire protection service will be provided across the Miami Corporation property. The bulk raw water will be needed to supply non-potable water outside of the proposed service area. To the extent that entities outside of the service area do not wish to be included in the service area at this time, the planning and development of FWR water resources will place FWR in the position to provide bulk raw water for their use in the future. The customers are discussed in greater detail in Section 2.

1.4 PROPOSED SERVICE AREA

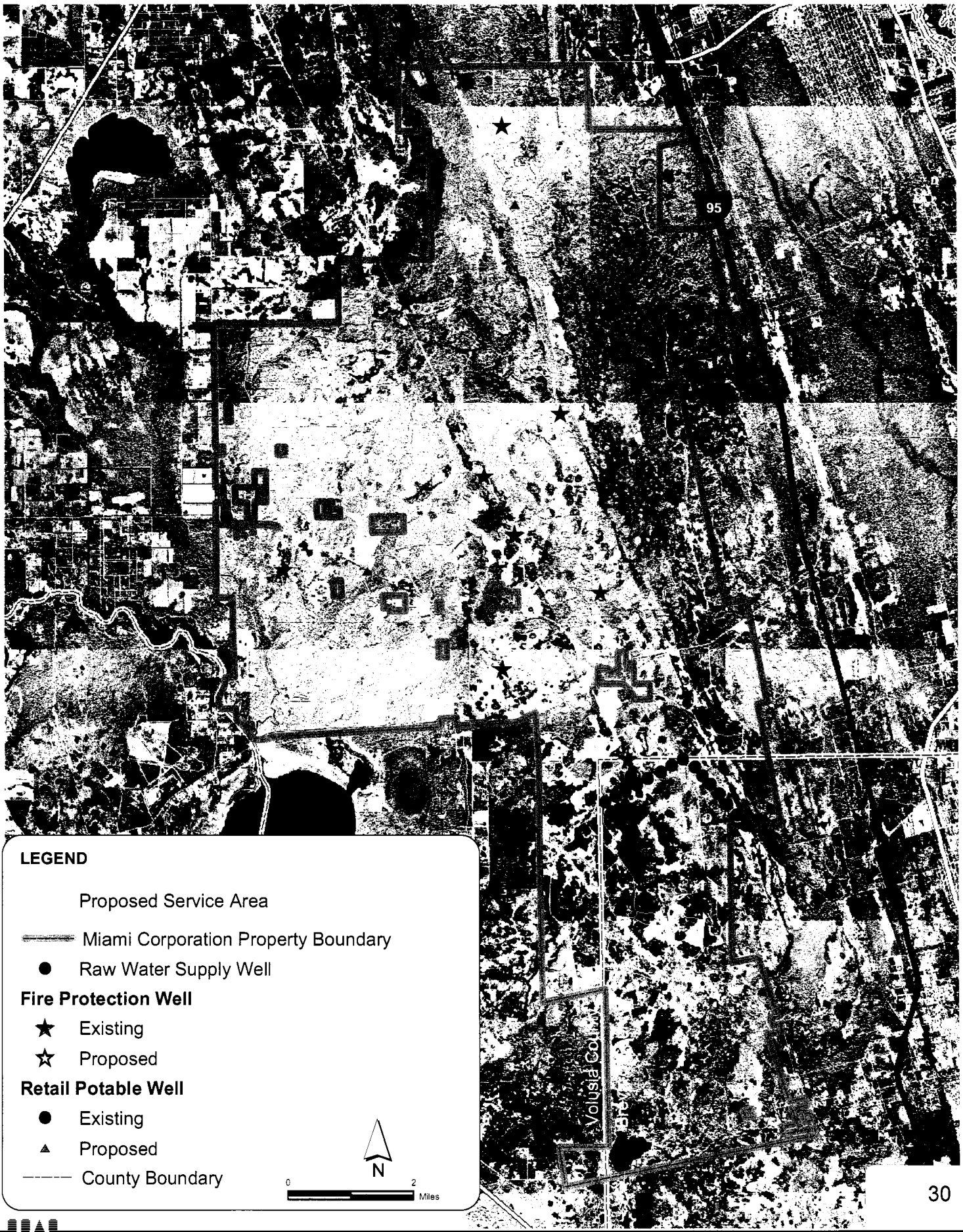
As indicated above, the proposed service area consists of approximately 53,000 acres and is indicated on Figures 1-1 and 1-2. The area to the northeast, which is excluded from the service area, is currently within the City of Edgewater service area. The legal description of the proposed service area is included as "Attachment A" at the end of this report.

1.5 PHASING APPROACH

For planning purposes, the construction of the capital facilities necessary to provide the proposed water services is broken into two phases. Phase I extends from 2002 to 2006 and the Phase II extends from 2007 to 2011. Figure 1-3 indicates the location of the existing and proposed facilities.

It is anticipated, for rate-setting purposes, that all capital facilities necessary to provide retail potable water supply will be constructed in Phase I. The proposed retail potable water improvements consist of the development and construction of potable water wells and associated equipment to enable FWR to provide dependable potable water service. The costs associated with the provision of retail potable service are discussed in Section 3.

No additional retail customers, beyond Phase I, have been identified at this time. However, we anticipate that in the long-term, the area will become developed. FWR is seeking this Application in part for long-range planning purposes to allow it to be prepared to provide that service as and when needed to any residential, commercial or industrial development in the area. Additional customers beyond Phase I will be served on an as needed basis. The following sections provide details regarding the retail potable water wells.



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EXISTING AND PROPOSED FACILITIES
FARMTON WATER RESOURCES LLC
VOLUSIA/BREVARD COUNTY, FLORIDA

FIGURE
1-3

The facilities necessary for the provision of the fire protection water supply will be constructed during Phase I and will consist of the development and construction of 10 fire protection wells. The wells will be strategically located throughout the service area to enhance the fire fighting capabilities of Miami Corporation. Additional wells beyond the initial 10 are not proposed at this time. Section 4 provides details regarding the fire protection wells.

During Phase I, the construction of capital facilities necessary to provide bulk raw water supply will consist of the development and construction of seven bulk raw water supply wells and the associated equipment and water transmission mains. Eight additional water supply wells will be constructed during Phase II. Section 5 provides details regarding the bulk raw water supply wells.

1.6 RATES AND CHARGES

The proposed initial rates and charges were developed in accordance with FPSC requirements and Florida Statutes and are discussed in Section 6. The proposed rates and charges have been calculated utilizing the customer and demand projections as contained in Section 2 and the engineering estimates found in Sections 3 through 5.

SECTION 2

SECTION 2
CUSTOMER PROFILE

2.1 TYPES OF SERVICES TO BE PROVIDED

As indicated in the previous section, FWR will be providing three types of water service. The types of water service are retail potable, fire protection, and bulk raw water service for neighboring utilities outside of the proposed service area.

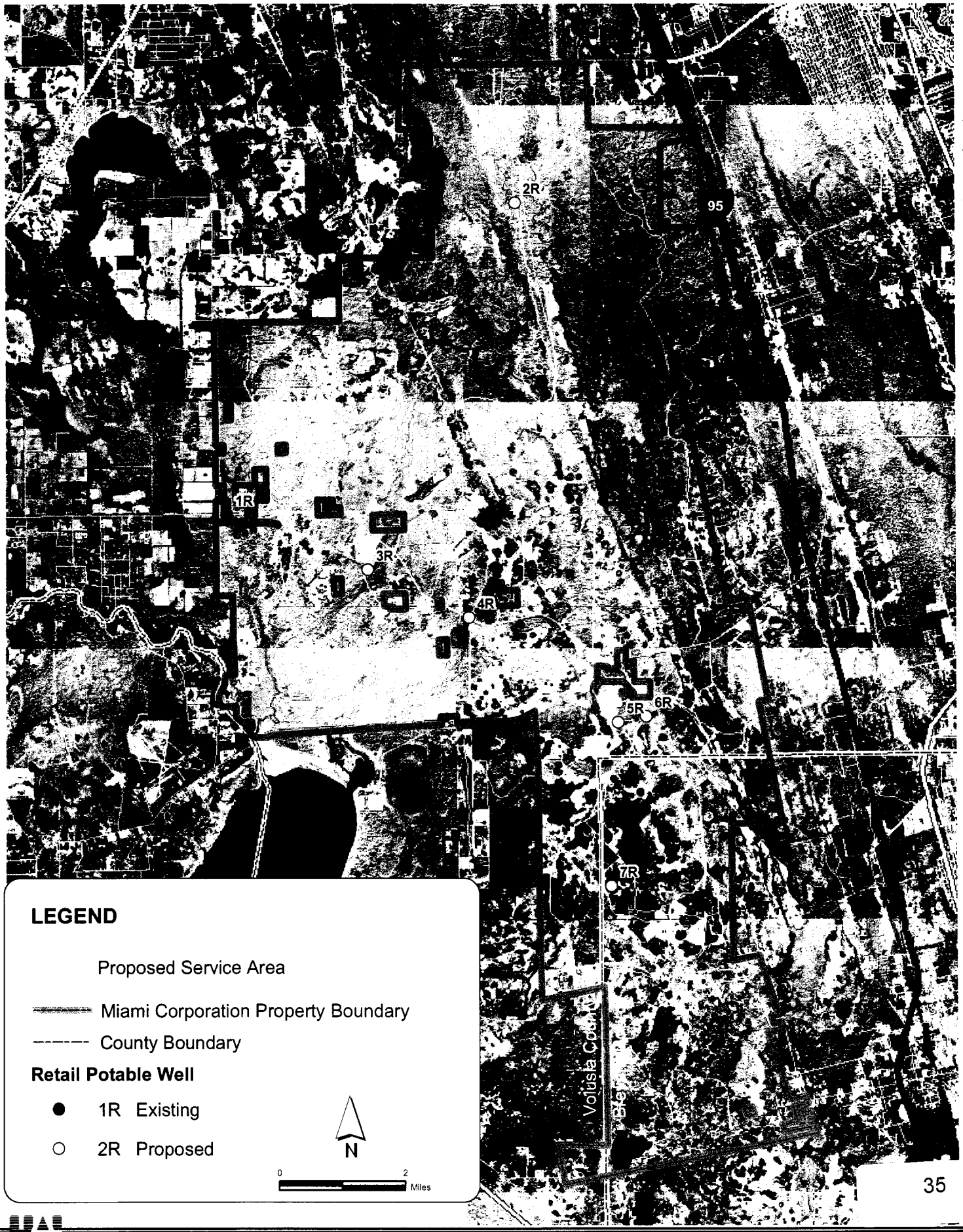
The retail potable water service will consist of small treatment facilities that will pump raw water from 4-inch wells and disinfect the water with chlorine before delivering to the customers. Flow meters will be added to these facilities to provide an accurate account of water sold. The retail potable water treatment facilities will be located near the proposed customers as shown in Figure 2-1. One existing well will be used for future retail service (label 1R) and 6 will be constructed (labels 2R – 7R).

The fire protection water service will consist of supplying additional well capacity to assist in fire protection within the service area. The additional fire protection capacity will be provided by several water supply wells located within the service area as shown in Figure 2-2. The wells are labeled 1F – 12F. Two (2) of these currently exist, and ten (10) will be constructed.

The bulk raw water service will consist of pumping water from wells and delivering it to the entity(s) in need of such water for treatment to potable drinking water standards. It is anticipated that nearby water utilities will be in need of additional bulk raw water. Water supply forecasts from the St. Johns River Water Management District (SJRWMD) indicate that resources may be stressed and alternative water supplies may be needed. Expansion will be provided for this system as additional capacity is needed. Figure 2-3 shows the proposed raw water supply well locations at the end of Phase II. The proposed bulk raw water wells are labeled 1B - 15B.

2.2 DATE OF INITIAL SERVICE

It is anticipated that the retail potable and fire protection water services will begin operation immediately after final approval by the FPSC of the service area and initial rates and construction of the necessary infrastructure. Further, it is anticipated that bulk raw service will

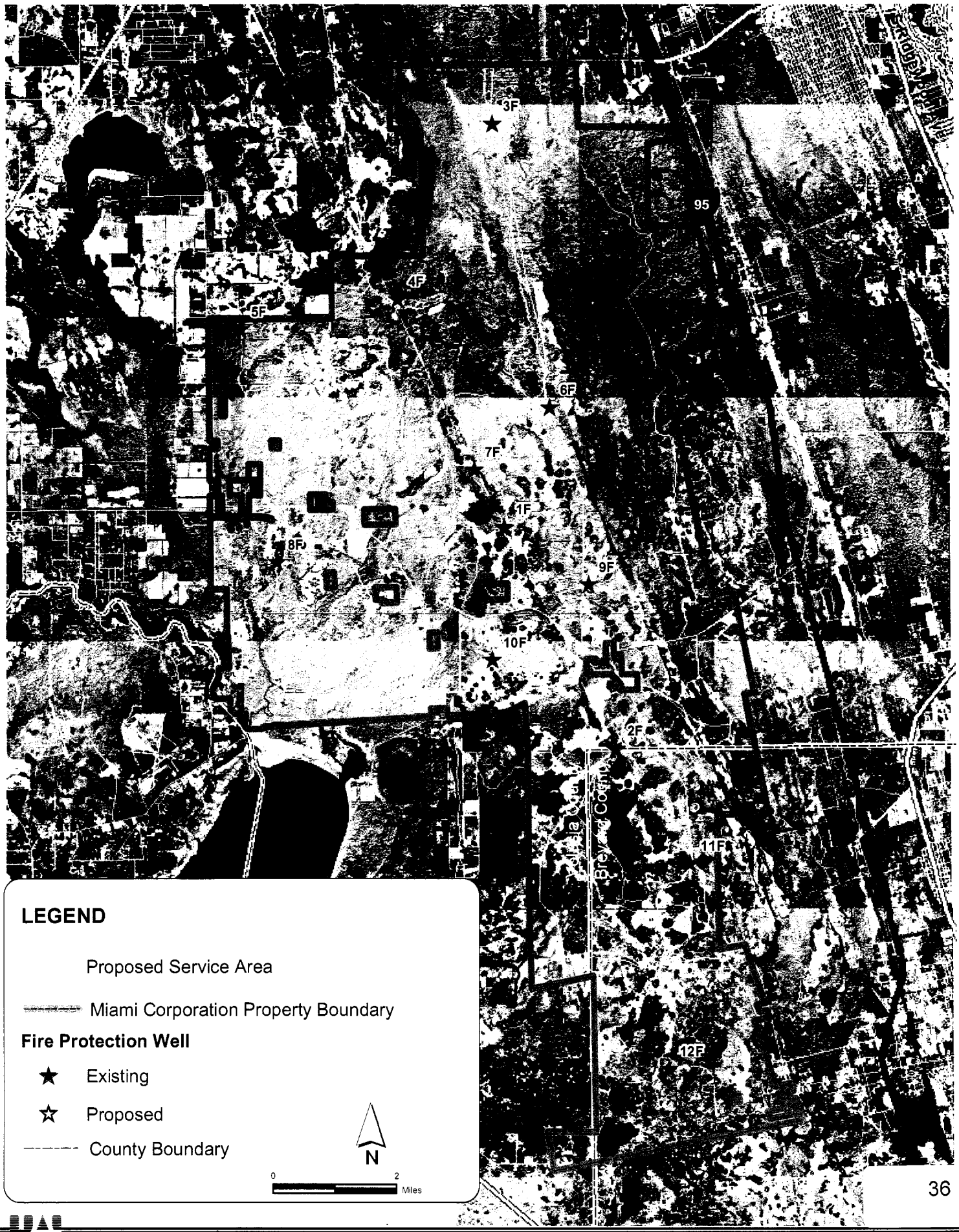


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EXISTING AND PROPOSED RETAIL POTABLE FACILITIES
FARMTON WATER RESOURCES LLC
VOLUSIA/BREVARD COUNTY, FLORIDA

FIGURE
2-1

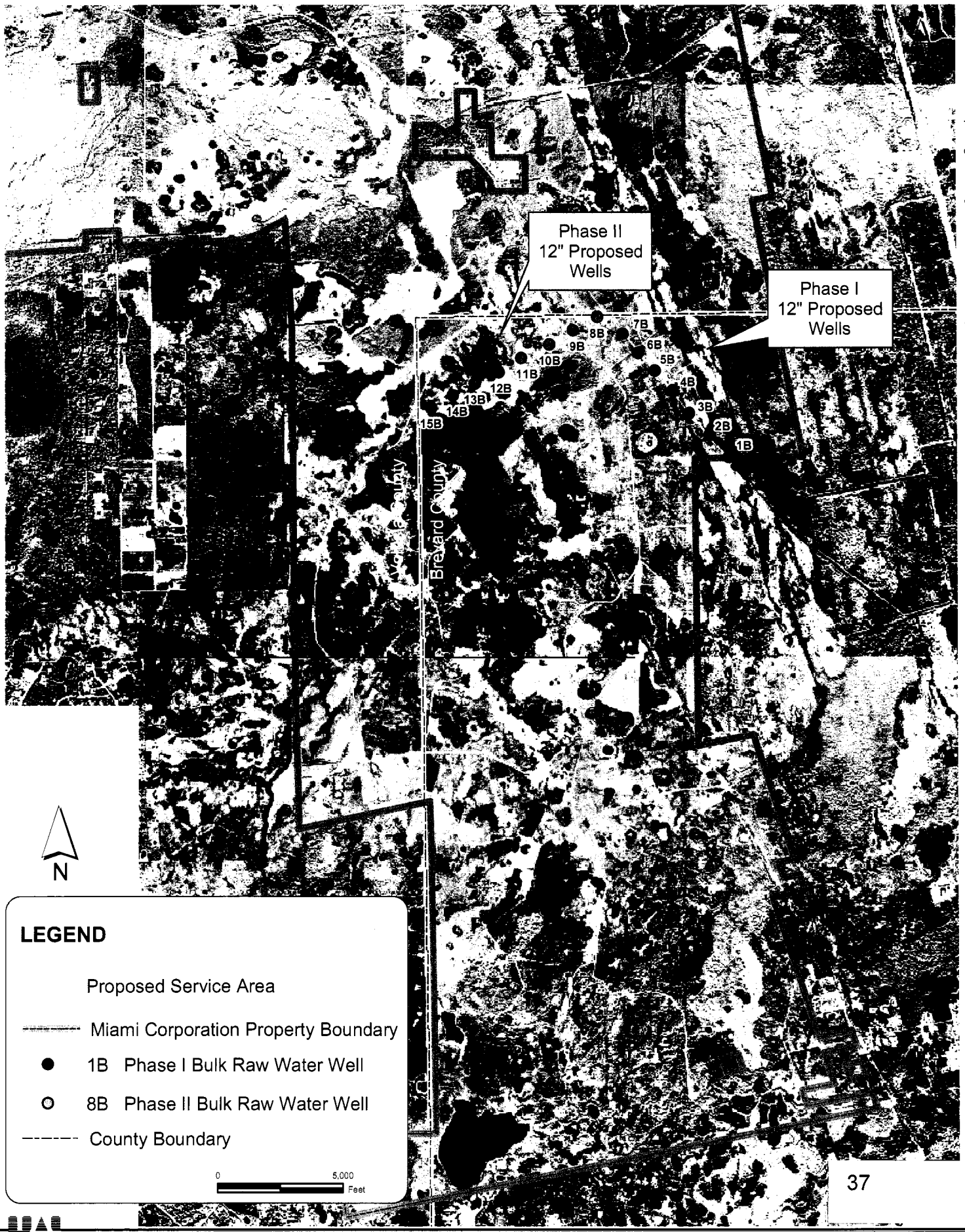


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EXISTING AND PROPOSED FIRE PROTECTION WELLS
FARMTON WATER RESOURCES LLC
VOLUSIA/BREVARD COUNTY, FLORIDA

FIGURE
2-2



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PROPOSED RAW WATER SUPPLY WELLS
FARMTON WATER RESOURCES LLC
VOLUSIA/BREVARD COUNTY, FLORIDA

FIGURE
2-3

begin after FPSC approval and successful negotiations with other utilities in need of raw water. However, until such time as the FPSC grants certification and approval of appropriate rates and charges, FWR may or may not provide that service at no cost pending final approval by the FPSC. Additional facilities will be constructed when the need for additional water supply is realized.

2.3 CUSTOMER DEMANDS

Currently, there is an existing 4-inch potable water well within the proposed service area. The existing well serves Miami Corp. Headquarters and an adjacent residential unit. Other existing units that require potable water service include a game and wildlife check station, two (2) hunting camps, and the Clark Cattle House. Two (2) additional hunting camps will be constructed and served during Phase I. In order to serve the existing and proposed retail potable customers, 6 new wells will need to be constructed. Therefore, retail potable service will initially be provided by a total of seven (7) wells, 1 existing and 6 newly constructed. However, we anticipate that in the long-term, the area will become developed. The Utility is seeking this Application in part for long-range planning purposes to allow it to be prepared to provide that service as and when needed within any residential, commercial or industrial development in the area.

It should be noted that Miami Corporation has received a formal request for retail services by the Miami Tract Hunt Club, Inc. This club will be utilizing the retail potable water facilities at the two (2) existing hunting camps and the two (2) proposed hunting camps. The letter request indicates that the club has 260 member families. Demand for these 260 member families has been estimated based on an average of 2.5 persons per family with usage of 50 gpd per person. Annual demand was then calculated based on the member families needing service approximately six months out of the year. In order to calculate Equivalent Residential Connections (ERCs), the projected daily demand was correlated to an ERC based on 350 gpd/ERC.

It is also anticipated that nearby water utilities will be in need of bulk raw water. Based upon water supply analyses of the SJRWMD, up to 2.75 MGD AADF may be needed over the 10 year planning horizon to supply to other utilities. As such, the preliminary estimates of the number and size of wells needed, well spacing, and average pumping rates have been made in order to develop cost estimates and initial rates and charges. It is estimated that facilities will be

constructed to provide a Phase I bulk raw water capacity of approximately 2.25 MGD AADF and a Phase II bulk raw water capacity of approximately 2.75 MGD AADF. The estimated demands were correlated to ERC based on a demand of 350 gallons per day (gpd) per ERC. Table 2-1 shows the projected demands and estimated ERCs.

TABLE 2-1

Estimated Retail and Bulk Water Demands

Phase	Year	Retail Potable Water Demand		Bulk Raw Water Demand	
		GPD [1]	ERC [2]	GPD [1]	ERC [2]
I	2002	17,300	49	1,160,000	3,314
I	2003	17,300	49	1,250,000	3,571
I	2004	33,550	96	1,340,000	3,829
I	2005	33,550	96	1,700,000	4,857
I	2006	33,550	96	1,900,000	5,429
II	2007	33,550	96	2,075,000	5,929
II	2008	33,550	96	2,400,000	6,857
II	2009	33,550	96	2,530,000	7,229
II	2010	33,550	96	2,650,000	7,571
II	2011	33,550	96	2,750,000	7,857

Notes: (1) Average Annual Daily Flow.

(2) ERCs are based upon 350 GPD/ERC.

SECTION 3

SECTION 3
EXISTING AND PROPOSED RETAIL POTABLE WATER FACILITIES

3.1 EXISTING AND PROPOSED RETAIL POTABLE WATER FACILITIES

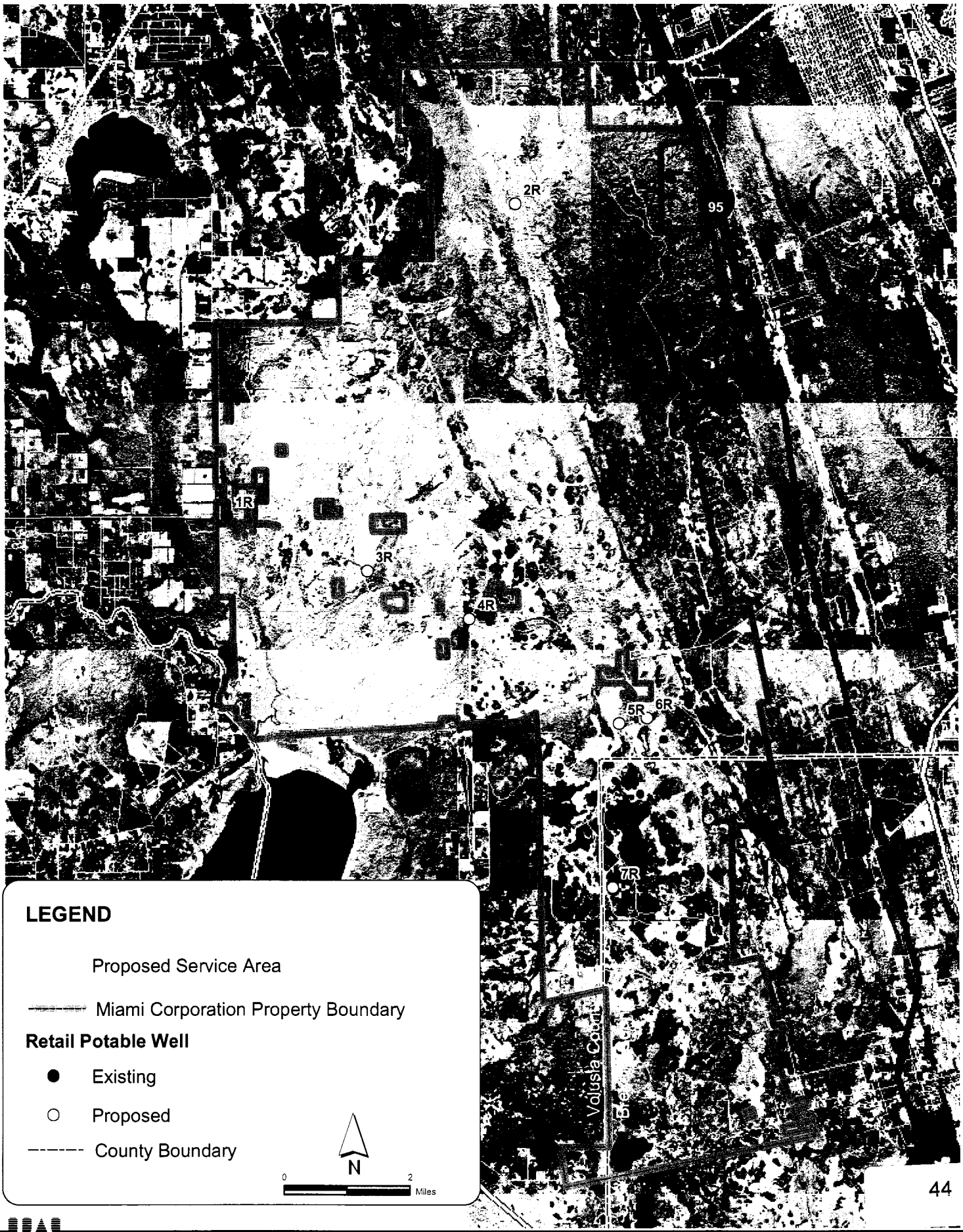
Currently there is one potable water supply well within the proposed service area, at Miami Corporation headquarters, which serves the Miami Corporation headquarters and an adjacent house. This well will be leased to FWR once the utility is authorized by the FPSC or just prior to the time the Utility begins providing service for compensation, if before the FPSC's final approval. FWR will upgrade the well and pumping system as needed at that time. There are other water wells at several hunting camps and at the Clark Cattle House. However, the condition of the wells is suspect at this time and they are not considered viable as potable water wells. FWR has planned the construction of potable water treatment facilities to accommodate customer needs. As discussed in the previous section, the existing locations that require potable water service include Miami Corporation Headquarters and an adjacent house, which are served by an existing well. The game and wildlife check station, four (4) hunting camps, and the Clark Cattle House will each require a new well. This requires that six (6) new wells to be constructed.

Figure 3-1 shows the location of the existing and projected retail potable water customers within the proposed service area.

The customers within the FWR service area will be serviced by newly constructed potable water treatment facilities located near each customer unit. One of the first steps after approval by the FPSC is to construct several new potable water treatment facilities and initiate the sale of retail potable water to these customers.

The proposed facilities will provide a location near each customer for water quality control, maintenance and the treatment of potable water. Figure 3-2 shows the general profile of the typical potable water supply treatment facilities.

A potable water supply facility will be designed to provide safe and reliable potable water service to the customers within the proposed service area. Raw water for each facility will be pumped

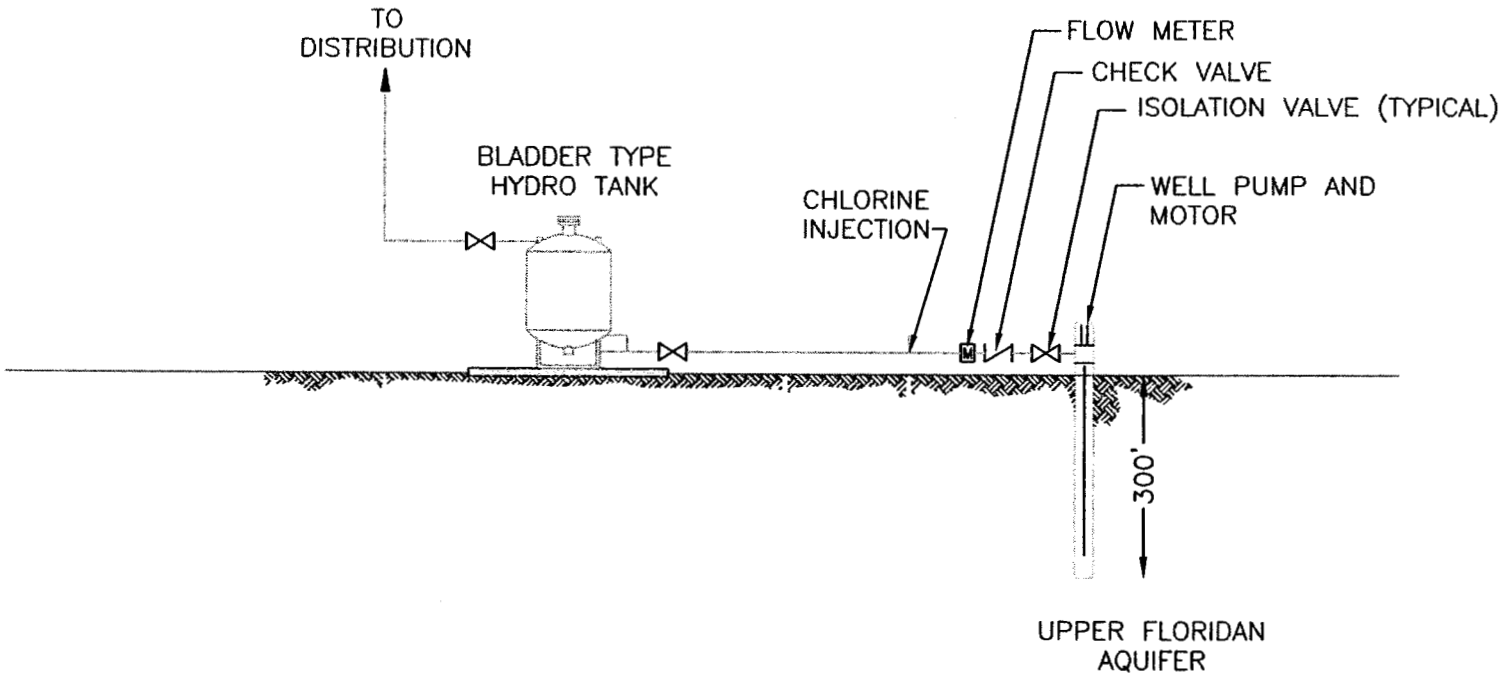


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EXISTING AND PROPOSED RETAIL POTABLE FACILITIES
FARMTON WATER RESOURCES LLC
VOLUSIA/BREVARD COUNTY, FLORIDA

FIGURE
3-1



E:\New Server\WordProc\2001\01-038.00\Reports\Mount Corp\FIG 3-2.dwg

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201 EAST PINE STREET - SUITE 1000 - ORLANDO, FL 32801
TELEPHONE (407) 839-3955 - FAX (407) 839-3790
ENGINEERING BUSINESS No. 5814

TYPICAL RETAIL POTABLE WATER SUPPLY
WATER TREATMENT SCHEMATIC
FARMTON WATER RESOURCES LLC
VOLUSIA / BREVARD COUNTY, FLORIDA

FIGURE
3-2

from the Upper Floridan aquifer through a 4-inch well. A 100-gallon bladder type hydropneumatic tank will be utilized at each location along with chlorination for disinfection. These facilities should be sufficient to provide service for the projected planning period. As the need for additional capacity is realized, FWR will construct the necessary facilities to meet such demands.

Each retail user will be metered with a 5/8" meter to determine usage for billing purposes.

3.2 ESTIMATED CAPITAL COSTS

It is estimated that the capital cost for the initial construction of the 6 proposed retail potable water wells and associated equipment is $43,250. Each potable water treatment plant will include the construction of a new well, a 100-gallon bladder type hydropneumatic tank, chlorination, transmission and distribution piping, and customer meters. The initial capital costs associated with the new retail potable water treatment facilities are presented in Table 3-1.

3.3 ESTIMATED OPERATION AND MAINTENANCE COSTS

The primary costs that are typically associated with the operation and maintenance of a retail potable water facility are:

- Power
- Chemical
- Labor

Due to the low horsepower requirements of the well pumps, the power costs are minimal. Likewise, chemical (chlorine) costs will be minimal (less than one dollar per day). It is presumed that maintenance services will be contracted out by FWR to a third party maintenance provider. The primary maintenance will be periodic inspection and repair of the wells and chlorinators and site maintenance (mowing). Once again, due to the small size of the wells and number of customers, permitting and water quality analysis costs will be minimal. A royalty payment is included in the FWR O&M Costs. This payment is intended to compensate the landowner, Miami Corporation, for the use of the land and the lost opportunity to the landowner as a result of FWR utilizing the property for utility purposes. In addition, a portion of the royalty payment is intended to compensate Miami Corporation for the use of existing facilities leased to FWR. A separate lease agreement will address the specific terms and conditions associated with

the royalty payment. The royalty payment has been calculated in terms of demand and is applied to every 1,000 gallons of water consumed. The royalty payment has been calculated at $0.10 per 1,000 gallons. Table 3-2 presents the estimated O&M costs for the retail potable water facilities.

Table 3-1
FARMTON WATER RESOURCES LLC
Estimated Capital Cost
Retail Water Supply

NARUC Account Number	Description	Quantity	Unit	Unit Cost	Total Total Cost
307.1	4" well, pump, motor and controls	6	EA	$ 2,500	$ 15,000
330.4	100-Gallon Bladder Type Hydropneumatic Tank	6	EA	500	3,000
320.3	Chlorinators	6	EA	200	1,200
311.2	Sitework	6	EA	500	3,000
311.2	Electrical (Site & Transmission)	1	LS	10,000	10,000
311.2	Yard Piping	6	EA	100	600
334.4	5/8" X 3/4"	6	EA	300	1,800
	Subtotal				$ 34,600
	Engineering & Permitting @ 25%				8,650
	TOTAL RETAIL SUPPLY				**$ 43,250**

Table 3-2
FARMTON WATER RESOURCES LLC
Estimated O&M Costs
Retail Water Supply

Year	Purchased Power	Contractual Services (Contract Operations)	Contractual Services (Lab Services)	Rent (Royalty Payment)	Total
2002	$ 60	$ 5,200	$ 2,500	$ 330	$ 8,090
2003	60	5,200	-	330	5,590
2004	90	5,200	2,500	630	8,420
2005	90	5,200	-	630	5,920
2006	90	5,200	-	630	5,920
2007	90	5,200	2,500	630	8,420
2008	90	5,200	-	630	5,920
2009	90	5,200	-	630	5,920
2010	90	5,200	2,500	630	8,420
2011	90	5,200	-	630	5,920

SECTION 4

SECTION 4
EXISTING AND PROPOSED FIRE PROTECTION WATER FACILITIES

4.1 EXISTING AND PROPOSED FIRE PROTECTION FACILITIES

There are currently two fire protection wells within the proposed service area. These wells are owned by Miami Corporation and as with the existing potable well, Miami Corporation will lease the fire protection wells to FWR once FWR is authorized by FPSC or just prior to the time the Utility begins providing service for compensation, if before the FPSC's final approval.

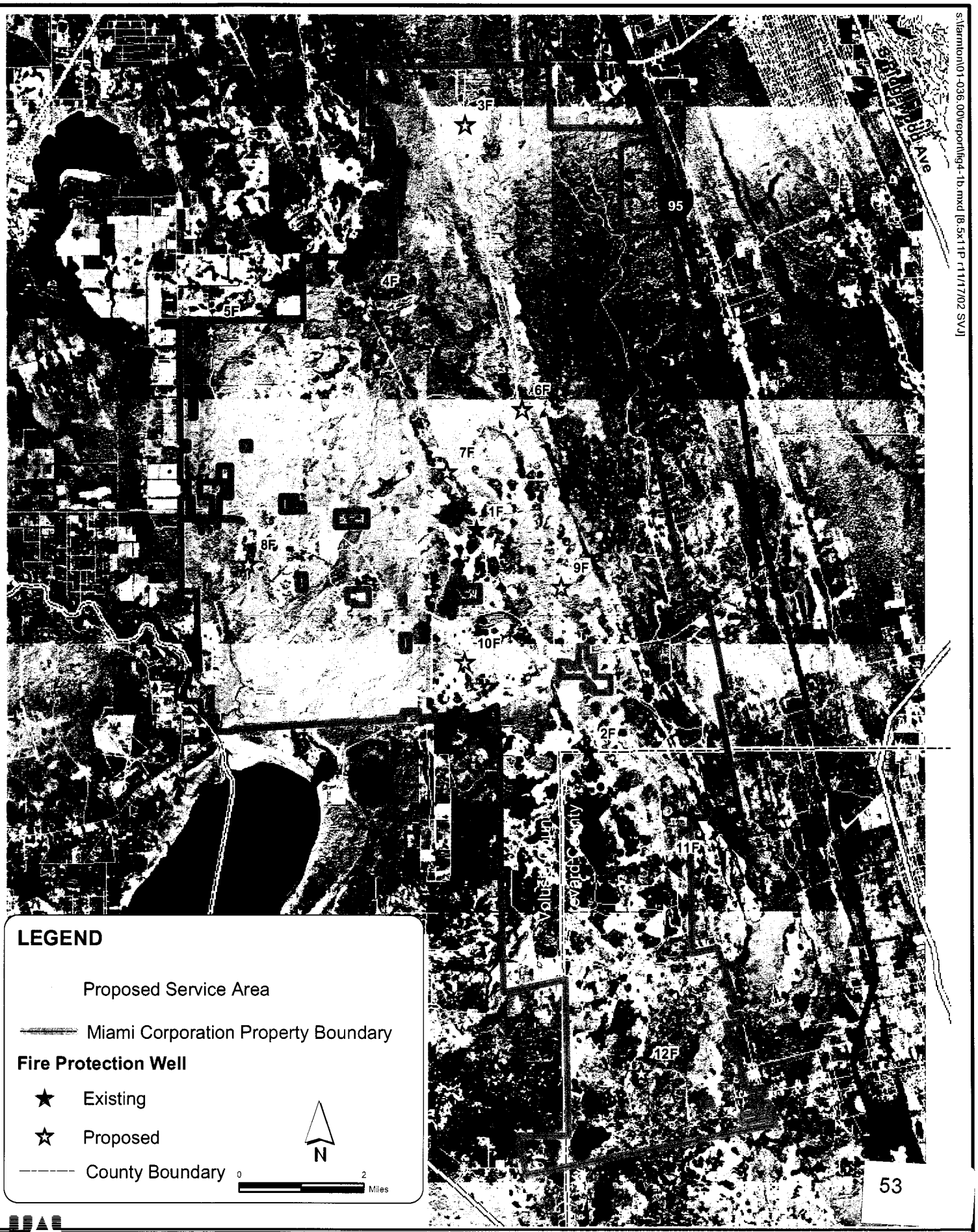
The existing wells include two 4-inch fire protection wells which are approximately 200 feet in depth and are utilized in the event of a forest fire. The wells do not have permanently installed pumps or power. In the event of fire, a portable pump and generator is transported to the well nearest the fire and a suction line is attached to the well to fill a tanker truck. In addition to two (2) existing fire protection wells, it is anticipated that ten (10) four-inch fire protection wells will be constructed for future use. Figure 4-1 shows the existing and proposed fire protection well locations. Figure 4-2 is a schematic diagram of a typical fire protection well.

4.2 ESTIMATED CAPITAL COSTS

It is estimated that the cost for the initial construction of the ten (10) proposed fire protection wells including the necessary permitting and engineering fees is estimated at approximately $25,000. The initial construction costs associated with the fire protection facilities are listed in Table 4-1.

4.3 ESTIMATED OPERATION AND MAINTENANCE COSTS

Due to the highly variable use of the fire protection wells and the fact that Miami Corporation will provide the portable pump and generator needed for fire fighting, the O&M costs are primarily for well site maintenance. It is estimated that maintenance will be required quarterly. The total estimated annual O&M cost is $300/well for a total of $3,600/year.



LEGEND

Proposed Service Area

Miami Corporation Property Boundary

Fire Protection Well

★ Existing

☆ Proposed

County Boundary

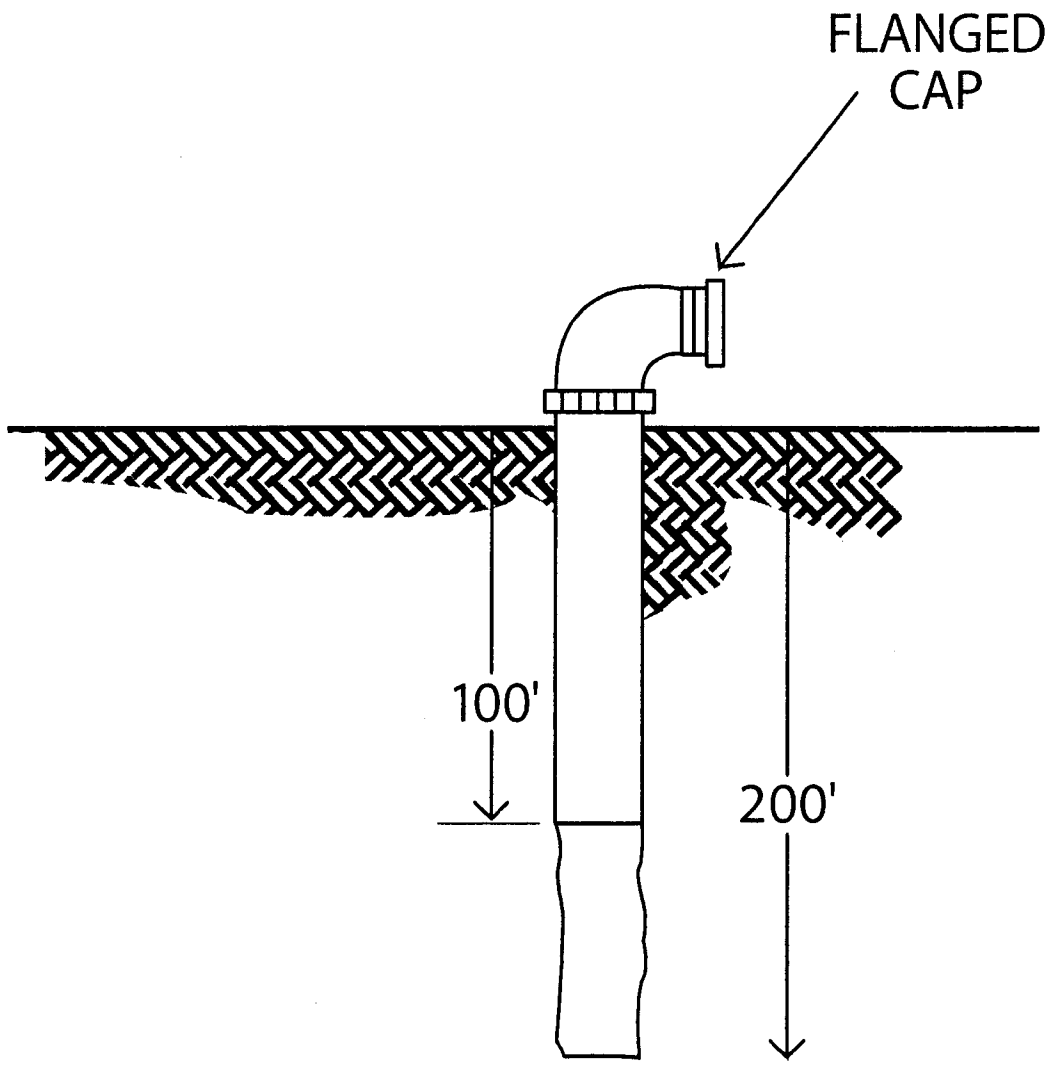
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EXISTING AND PROPOSED FIRE PROTECTION WELLS
FARMTON WATER RESOURCES LLC
VOLUSIA/BREVARD COUNTY, FLORIDA

FIGURE
4-1

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TYPICAL FIRE PROTECTION WATER SUPPLY WELL SCHEMATIC
FARMTON WATER RESOURCES LLC
VOLUSIA / BREVARD COUNTY

HARTMAN & ASSOCIATES, INC.
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201 EAST PINE STREET - SUITE 1000 - ORLANDO, FL 32801
TELEPHONE (407) 839-3955 - FAX (407) 839-3990

FIGURE
4 - 2

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Table 4-1
FARMTON WATER RESOURCES LLC
Capital Cost
Fire Protection Water Supply

NARUC Account Number	Description	Quantity	Unit	Unit Cost	Total Cost
307.1	4" well	10	EA	$2,000	$ 20,000
	Subtotal				20,000
	Engineering & Permitting @ 25%				$ 5,000
	TOTAL FIRE PROTECTION				**$ 25,000**

SECTION 5

SECTION 5
PROPOSED BULK RAW WATER FACILITIES

5.1 PROPOSED BULK RAW WATER FACILITIES

FWR is proposing to provide bulk raw water to neighboring utilities. The proposed bulk water supply wells and pumping facilities will provide enough water to make up for water supply deficits estimated by the St. Johns River Water Management District and the utilities. The Phase I bulk raw water facilities will provide water to meet a projected total demand of approximately 2.25 MGD AADF and the Phase II bulk raw water facilities will provide water to meet a projected total demand of approximately 2.75 MGD AADF.

The required facilities to meet these demands will be constructed immediately following FPSC authorization and successful negotiations with neighboring utilities.

It is estimated that seven wells will be constructed initially and ultimately fifteen (15) 12-inch wells will be required to meet the 2.75 MGD AADF demand over the 10-year planning period. By establishing a bulk raw water rate at this time, the utility will be given the opportunity to begin long-range planning for the development of future water needs both inside and outside the proposed service area. In this way, such services, including bulk raw water service, will be available when needed and at the most economical and efficient price. The total number of wells and well capacities are estimated. The SJRWMD has final jurisdiction over withdrawal rates and locations so the estimated and proposed withdrawal rates presented in this application may change during the water use permitting process. We have assumed, based upon meetings with the SJRWMD, that wetland impacts may occur if the pumping of groundwater is concentrated in a small area. For that reason we have spaced the proposed wells on 1,000 foot centers and designed them to pump 350 gallons per minute, or 0.500 million gallons per day. The SJRWMD may require additional aquifer testing in order to better estimate potential wetland impacts. The testing and subsequent review by the SJRWMD may result in relocating some of the proposed production wells, and/or adjusting pumping rates, and the total number of wells. Assuming for firm pumping capacity, as required by the FDEP, 20% of the proposed fifteen (15) wells are out of service, the firm pumping capacity would be 6.0 MGD. This is 2.18 times the average day demand of 2.75 MGD. The firm pumping capacity of 6.0 MGD is anticipated to be the maximum daily demand of the neighboring utilities.

This raw water supply will be pumped from the proposed wellfield located in the southeast region of the service area near the Brevard County/Volusia County line where it will be metered and delivered to bulk customers. It is proposed to provide 1,000 feet spacing between the wells. The proposed location of the wellfield is shown in Figure 5-1. Withdrawals will be through 12" diameter wells approximately 300 feet deep completed into the Upper Floridan aquifer. A typical bulk raw water well is shown in Figure 5-2.

5.2 ESTIMATED CAPITAL COSTS

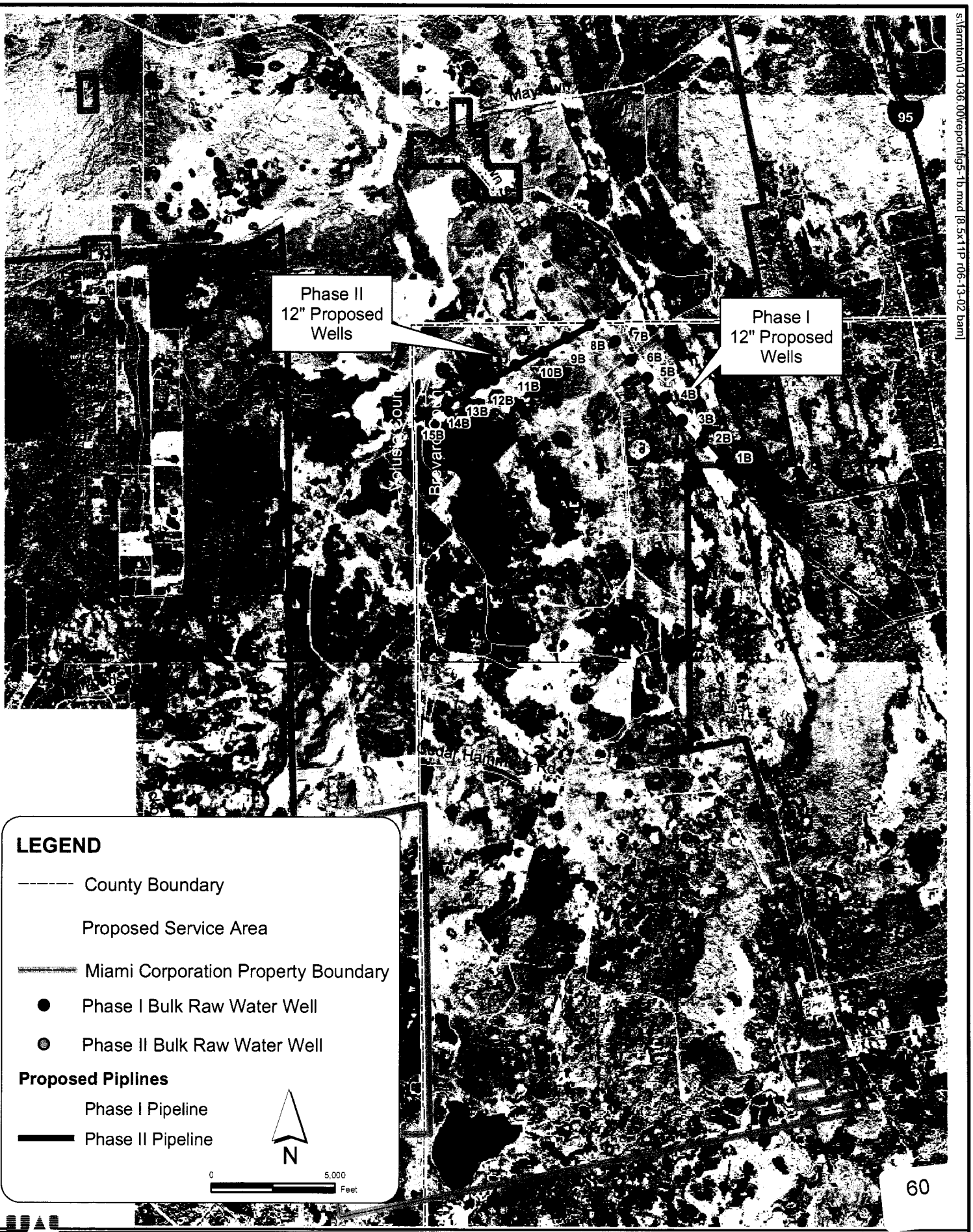
It is estimated that the Phase I capital cost of the proposed bulk raw water operation including the necessary permitting and engineering fees is approximately $2,913,600. The Phase I and II bulk raw water facilities will include the construction of fifteen (15) new wells, associated facilities and a wholesale meter for a total estimated cost of $5,274,000. The estimated capital costs associated with the bulk raw water facilities are listed in Table 5-1.

5.3 ESTIMATED OPERATION AND MAINTENANCE COSTS

The costs that are typically associated with the operation and maintenance (O&M) of bulk raw water pumping facilities are:

- Power
- Labor
- Permitting/Water Quality Analysis

Chemical costs are not applicable as the raw water will not be chlorinated. It is presumed that maintenance services will be contracted out by FWR to a third party maintenance provider licensed to provide such services. The primary maintenance will be periodic inspection and repair of the wells and controls and site maintenance (mowing). A royalty payment is included in the FWR O&M Costs. This payment is intended to compensate the landowner, Miami Corporation, for the use of the land and the lost opportunity to the landowner as a result of FWR utilizing the property for utility purposes. In addition, a portion of the royalty payment is intended to compensate Miami Corporation for the use of existing facilities leased to FWR. A separate lease agreement will address the specific terms and conditions associated with the royalty payment. The royalty payment has been calculated in terms of demand and is applied to every 1,000 gallons of water consumed. The royalty payment has been calculated at $0.10 per 1,000 gallons. The estimated O&M costs are presented in Table 5-2.

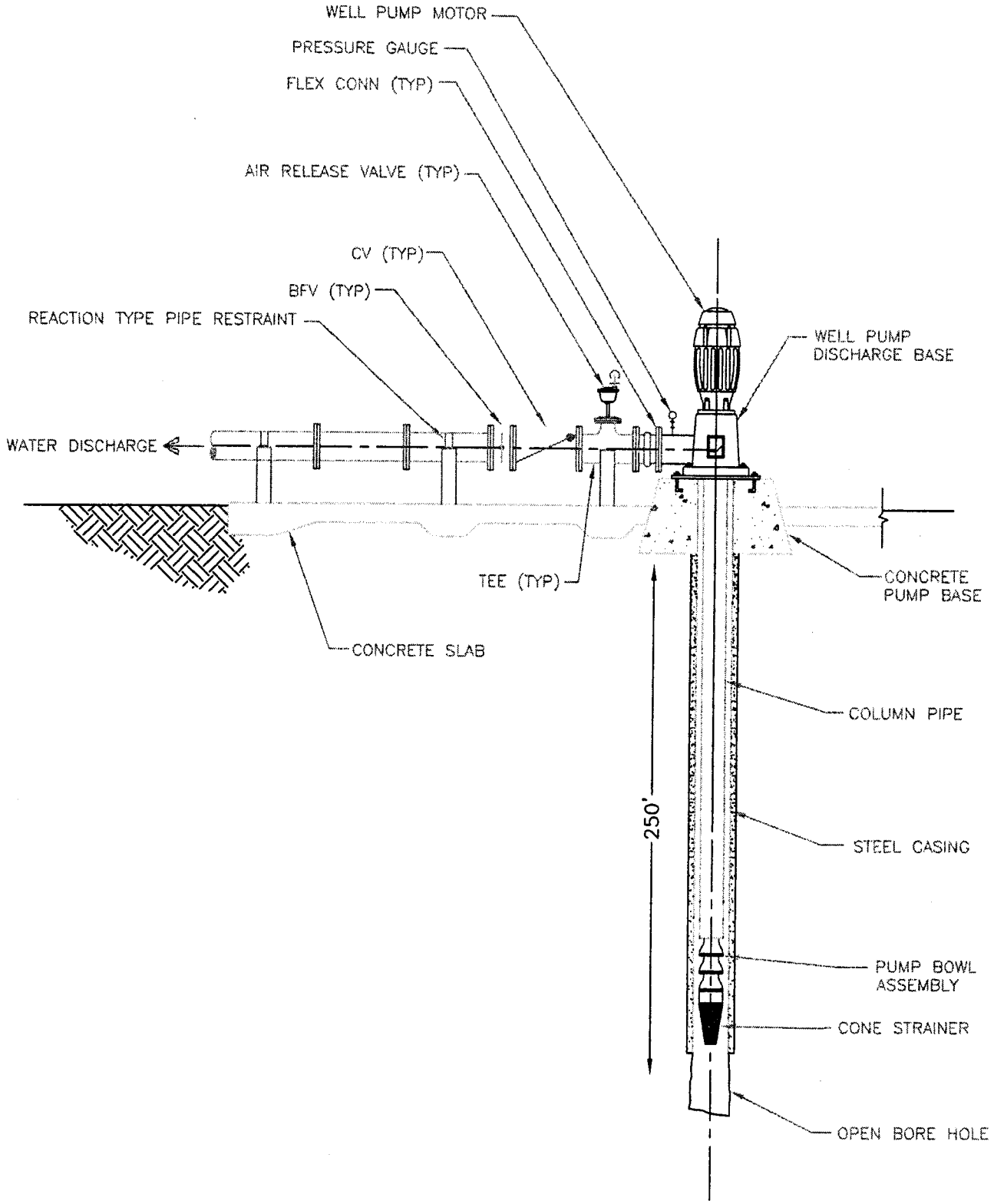


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PROPOSED RAW WATER SUPPLY WELLS
FARMTON WATER RESOURCES LLC
VOLUSIA/BREVARD COUNTY, FLORIDA

FIGURE
5-1



E:\New Server\WordProc\2001\01-036.00\Reports\Miami Corp\FIG 5-2.dwg

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TYPICAL WELL
PUMP AND MOTOR
FARMTON WATER RESOURCES LLC
VOLUSIA / BREVARD COUNTY, FLORIDA

FIGURE
5-2

Table 5-1
FARMTON WATER RESOURCES LLC
Capital Cost
Bulk Raw Water Supply

NARUC Account Number	Description	Quantity	Unit	Unit Cost	Total Cost
	Phase I				
307.1	12" well, pump, motor and controls	7	EA	$ 150,000	$ 1,050,000
304.2	Well and Control Building (400 s.f.)	7	EA	10,000	70,000
311.2	Sitework	7	EA	2,000	14,000
311.2	Electrical (Site)	7	EA	10,000	70,000
311.2	Electrical (Transmission)	1	LS	200,000	200,000
311.2	Yard Piping, Valves	7	EA	2,000	14,000
331.4	24" PVC Pipe to Service Area Boundary (ft)	8,000	FT	120	960,000
331.4	Telemetry	1	LS	50,000	50,000
	Subtotal				$ 2,428,000
	Engineering & Permitting @ 20%				485,600
	Total Phase I				**$ 2,913,600**
	Phase II				
307.1	12" well, pump, motor and controls	8	EA	$ 150,000	$ 1,200,000
304.2	Well and Control Building (400 s.f.)	8	EA	10,000	80,000
311.2	Sitework	8	EA	2,000	16,000
311.2	Electrical (site)	8	EA	10,000	80,000
311.2	Yard Piping, Valves	8	EA	2,000	16,000
331.4	16" PVC Transmission Pipe (ft)	7,000	FT	75	525,000
331.4	Telemetry	1	LS	50,000	50,000
	Subtotal				$ 1,967,000
	Engineering & Permitting @ 20%				393,400
	Total Phase II				**$ 2,360,400**
	TOTAL ALL PHASES				**$ 5,274,000**

Table 5-2
FARMTON WATER RESOURCES LLC
Estimated O&M Costs
Bulk Raw Water Supply

Year	Purchased Power	Contractual Services (Contract Operations)	Contractual Services (Lab Services)	Rent (Royalty Payment)	Total
2002	$ 40,300	$ 10,400	$ 7,000	$ 42,300	$ 100,000
2003	48,600	10,400	7,000	45,600	111,600
2004	57,300	10,400	7,000	48,900	123,600
2005	65,300	10,400	7,000	62,100	144,800
2006	73,700	15,600	7,000	69,400	165,700
2007	106,600	15,600	15,000	75,700	212,900
2008	117,900	15,600	15,000	87,600	236,100
2009	129,600	15,600	15,000	92,300	252,500
2010	140,900	15,600	15,000	96,700	268,200
2011	152,700	20,800	15,000	100,400	288,900

SECTION 6

SECTION 6
FINANCIAL INFORMATION AND RATE DESIGN

6.1 SYSTEM FINANCIAL REQUIREMENTS

The potable retail, fire protection, and bulk raw water rates discussed in this section were developed on a cost of service basis and in accordance with FPSC rules and Florida Statutes wherein associated costs are equitably recovered from each customer pursuant to the level of service enjoyed by that customer.

6.1.1 Test Year

As previously mentioned, the system is being built in phases from 2002 through 2011. Phase I (2002 – 2006), will include the initial start-up of the utility. One existing retail well and 2 existing fire protection wells will be leased to FWR from their current owner. Also, additional retail and fire protection, as well as the initial bulk raw water wells and lines will be constructed during this phase. In Phase II, 8 additional bulk raw water wells will be constructed. When a utility is being built in phases, it is standard practice to set rates based on the Utility operating at 80% of design capacity of the first phase. However, since Phase I involves additional costs for start-up inefficiencies and capital costs for lines that will be used for demand in additional phases, the resulting rates would be inflated and not indicative of the services that are being received. Therefore, we feel that it would be more appropriate to incorporate the total design capacity of Phases I and II and determine the Test Year based on 80% of the design capacity of these two phases. Based on this assumption, the Test Year for this project is 2009.

6.1.2 Financial Requirements

System financial requirements consist of capital, operating, maintenance, depreciation, and monetary needs necessary to provide, maintain, and continue quality services to meet the goals of the utility with regard to operations. Funding of capital requirements is generally provided from sources other than direct user rates and charges, such as impact fees, service availability charges, debt obligations, or contributions. However, capital needs not funded from these sources can be recovered through user rates and charges.

Financial requirements can generally be separated into three primary categories: 1) Operating and Maintenance Expenses (O&M), 2) Depreciation and Amortization, and 3) Other Expenses. As previously mentioned, O&M expenses of this Utility will consist of purchased power, rents, contractual services for operating and maintaining the system, and other miscellaneous costs. Depreciation and amortization expenses will be based on the useful lives of the assets of a Class C Water Utility pursuant to Rule 25-30.115 of the Florida Administrative Code. Other expenses will include such items as regulatory assessment fees, state and federal taxes, and return on investment.

6.1.3 Return on Investment

In addition, since FWR is a private utility, it will be able to receive a rate of return based on its cost of equity and debt. With regard to the cost of equity capital, annually, the Florida Public Service Commission issues an order establishing the authorized range of return on common equity of water and wastewater utilities pursuant to Section 367.081(4)(f) of the Florida Statutes. The most recent order (PSC-02-0898-PAA-WS), issued July 5, 2002 and consummating order (PSC-02-1252-CO-WS) issued September 11, 2002, established the following leverage formula:

Return on Common Equity = 9.65% + 0.582/Equity Ratio

Based on this formula, the range of return on common equity goes from 10.23% at 100% equity to 11.10% at 40% or less equity.

If FWR has a need for debt financing, its parent company, Farmton Management LLC, has the resources necessary to loan funds to FWR. It is anticipated that the terms of any loan will include repayment over a 30-year period. In determining the interest rate in this transaction, we set the interest rate equal to prime plus 2 percent.

Based on these results, any funds needed in the initial start-up will be at the prime rate as of November 2002 plus 2 percent. Any additional funds needed after the current year are projected based on the 10-year average of the prime rate plus 2 percent.

In formulating the financial requirements and resulting rates, certain assumptions were made regarding the levels of Contributions in Aid of Construction (CIAC) for the various rate classes and the level of equity contribution for the entire Utility. Table 6-1 below, portrays the levels of CIAC and equity contribution.

Table 6-1
CIAC and Equity Contribution

Contributions in Aid of Construction (CIAC)			Equity Contribution	
Retail	Fire Protection	Bulk Raw Water	Debt	Equity
75%	100%	60%	60%	40%

The primary differences in the financial requirements used for ratemaking are the amounts of depreciation, amortization, and the amount of the allowed return on investment. Table 6-2 summarizes the Test Year financial requirements. Detailed information on the financial requirements for each type of service can be found on Support Tables B-5, B-7, C-1, C-2, C-3, D-1, D-2, and D-3.

Table 6-2
Test Year 2009 Projected Financial Requirements

	Retail	Fire Protection	Bulk Raw Water
O&M	$ 6,512	$ 3,960	$ 277,750
Depreciation/Amortization	591	0	89,006
Other Expenses [1]	435	188	44,618
Return on Investment	685	45	159,621
Total Financial Requirements	$ 8,223	$ 4,193	$ 570,995
Allowed Return on Investment (%)	9.000 %	9.000 %	9.000 %

Note: (1) Includes regulatory assessment fees and federal and state taxes.

6.2 RATE DESIGN

6.2.1 Cost of Service Allocations

Utility ratemaking cost of service method requires that there be a reasonable relationship between the costs of services and the benefits received by the customer. It is important to recognize that service/benefits are varied and to a large extent not always evident to the customers of the utility. Customers generally associate services/benefits with the metered usage of water; however, more importantly and costly are the underlying infrastructure capacity and readiness to serve. Most of these services/benefits have associated capital costs and fixed O&M expenses. Although some of the capital costs will be provided upon initial connection to the utility, others require funding through user rates and charges.

Once the net financial requirements were determined for the Test Year, they were reallocated according to various cost of service principles in order to design the proposed monthly retail, fire protection, and bulk raw water rates. Specifically, the financial requirements were allocated to a base charge and a gallonage charge. In general, it can be construed that fixed costs such as meter reading, billing, customer service, and certain capital related costs and operating expenses should be recovered through a monthly base charge, whereas certain other fixed and variable expenses and capital expenses are recovered through a gallonage charge. Summarized below in Table 6-3 are the results of these allocations.

Table 6-3
Test Year 2009 Financial Requirements Per Rate Element

Rate Component	Retail	Fire Protection	Bulk Raw Water
Minimum Base Facility Charge	$ 4,114	$ 4,192	$ 270,239
Gallonage Charge	4,109	0	300,755
Total	$ 8,223	$ 4,192	$ 570,994

6.2.2 Retail Water Rate Design

The Test Year financial requirements for retail water service were allocated to a base charge and gallonage charge as shown on Table 6-3 and detailed on Support Table D-4. In order to develop the monthly base charge and gallonage charge for retail water service, the Test Year rate

determinants need to be identified. As previously mentioned, 96 retail ERCs are anticipated in the Test Year. It is anticipated that these connections will use approximately 6,315,000 gallons annually. To calculate the monthly base charge, the amount allocated to the charge was divided by the number of ERCs to arrive at the rate of $3.58 per month as shown in Support Table D-4. To determine the gallonage charge per thousand gallons of usage, the same method was applied, taking the financial requirements allocated to the gallonage charge and dividing it by the gallonage determinant in thousands of gallons, resulting in a rate of $0.65 per thousand gallons as shown on Support Table D-4.

6.2.3 Fire Protection Rate Design

In determining the fire protection rate, it is projected that the wells will serve the landowner, Miami Corporation. Since the wells will only be used in the event of a fire, no gallonage has been assumed. Therefore all financial requirements for the Test Year have been allocated to the monthly base charge resulting in a charge of $349.35 per month shown on Support Table D-5.

6.2.4 Bulk Raw Water Rate Design

The bulk raw water rates have been designed in a manner that is slightly different than that used for the retail and fire protection rates. In order to determine the base charge or fixed charge, the amount allocated to fixed costs ($270,239) was divided by the total design capacity of the wells at the end of Phase II, which results in an annual rate of $85,790.16 per MGD of available capacity. In order to calculate the annual gallonage rate, the gallonage determinant for the Test Year was developed. Based on the anticipated flows during the Test Year, the annual gallonage determinant has been set at 923,450,000 gallons. The annual gallonage rate was then calculated by dividing the amount allocated to the annual gallonage charge ($300,755), by the annual gallonage determinant in thousands of gallons (923,450) to arrive at a charge of $0.33 per thousand gallons, as shown on Support Table D-6. It should be noted, that these rates were developed assuming 60% CIAC. The schedules provided in the appendices document this methodology. Since providing these services requires a large capital outlay, it is anticipated that a "take-or-pay" agreement will be utilized for those customers requiring bulk raw water service. The take-or-pay amounts and additional gallonage charge is shown on Table 6-4. In order to not penalize the customer, the take-or-pay rates have been designed based on the following minimum annual usage:

Year	Available Capacity	Minimum Annual Usage
2002	2.25 MGD	1.0 MGD
2003	2.25 MGD	1.0 MGD
2004	2.25 MGD	1.0 MGD
2005	2.25 MGD	1.5 MGD
2006	2.25 MGD	1.5 MGD
2007	3.15 MGD	2.0 MGD
2008	3.15 MGD	2.0 MGD
2009 (1)	3.15 MGD	2.5 MGD
2010	3.15 MGD	2.5 MGD
2011	3.15 MGD	2.5 MGD

Note: (1) Test Year

The annual fixed rate of $85,790.16 per MGD of available capacity and annual gallonage rate of $0.33 per thousand gallons were then applied to the take-or-pay annual constraints shown above, to arrive at the annual take-or-pay charges shown on Table 6-4 and detailed on Support Table D-6A. Any gallonage over the take-or-pay amount will be charged the gallonage rate ($0.33 per thousand gallons) developed on Support Schedule D-6. This combination of fixed and gallonage costs results in an effective rate per thousand gallons ranging from $0.78 to $0.62 for the current period through the Test Year.

Table 6-4 summarizes the proposed retail, fire protection, and bulk raw water rates for the Utility.

Table 6-4
Proposed Monthly Retail, Fire Protection, and Bulk Raw Water Rates

Retail

Monthly Base Facility Charge	$	3.58
Gallonage Charge (per thousand gallons)	$	0.65

Fire Protection

Monthly Base Facility Charge	$	349.35

Bulk Raw Water

Take-or-Pay Charge

Year	Annual Minimum Gallonage (In Thousands)	Annual Charge	
2002	365,000	$	311,903
2003	365,000	$	311,903
2004	365,000	$	311,903
2005	547,500	$	371,341
2006	547,500	$	371,341
2007	730,000	$	507,990
2008	730,000	$	507,990
2009	912,500	$	567,428

Additional Gallonage Charge (per thousand gallons)	$	0.33

6.3 PROJECTIONS OF FINANCIAL REQUIREMENTS AND REVENUES

Based on the anticipated customers, flows, capital requirements, and the rates developed previously, schedules showing anticipated net operating income and rate base for Years 2002 through 2009 are provided in Support Tables A-1, A-2, A-3, B-1, B-2, and B-3. In addition, Schedules 1 and 2 summarize the Rate Base and Net Operating Income for all three types of service for the Test Year.

6.4 CONCLUSIONS

The revenues, expenses, costs, and criteria associated with rate making are representative of averages, which were developed primarily from historic and projected data. In formulating the rates and expenses for FWR, HAI utilized prior knowledge of startup utilities and their costs, together with the development of assumptions based on prudent engineering, financial, and ratemaking relationships in the development of the proposed rates herein. Some of the assumptions will inevitably change or not materialize and unanticipated events may occur which could significantly change the results shown herein. These factors include regulatory actions by the SJRWMD.

ATTACHMENT A

ATTACHMENT "A"

LEGAL DESCRIPTION

PROPOSED SERVICE AREA

FOR

FARMTON WATER RESOURCES, LLC

NOVEMBER 2002

Block 1; Block 2 except Lot 12; Block 3 except Lot 10; And Block 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 107 in Section 6.

Lots 1 to 10 inclusive, and Lots 14, 15, and 16 of Block 1; Block 2; Lots 4, 5, 6, 9, 10, 12, 13, 14, 15, 16 of Block 3; and Lots 2, 3, 5, 8, 11, 12, 13, 14, 15, and 16 of Block 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 108 in Section 7.

Blocks 1, 2 and 3; And Lots 1 to 10 inclusive and Lots 13 and 15 of Block 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 108 in Section 8.

Blocks 1, 2, 3 and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 108 in Section 9.

All of Sections 10, 11, 12, 13 and 14.

Blocks 1, 2, 3, and 4 of the Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 108 in Section 15.

Lots 9 to 16 inclusive of Block 1; Blocks 2, 3, and 4 of The Florida Homeland Company according to the Plat thereof, as recorded in Map Book 4, Page 106 in Section 16.

Blocks 1, 2, 3, and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 108 in Section 17.

Blocks 3 and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 108 in Section 18.

Blocks 1, 2, 3, 4 and 5; Block 6 except Lots 16, 17, and 18; Block 7 except Lots 38, 39, and 40; Blocks 8, 9, 10, 11, 12 and 13; Block 14 except Lot 14; Block 15; Block 16 except Lots 1 and 2; Blocks 17 to 25 inclusive; Block 26 except Lot 4; Block 27 except Lot 15; Blocks 28 to 60 inclusive of Farmton (formerly Celery City), according to the Plat thereof, as recorded in Map Book 5, Page 44 in Section 18.

Unnamed Lot(s) lying between Orange Avenue and the right of way of Florida East Coast Railway and North of Blocks 2, 3, 4, and 5; Unnamed Lot(s) lying between Orange Avenue and the right of way of Florida East Coast Railway and North of Blocks 8, 9, and 10; Unnamed Lot(s) North of the right of way of the Florida East Coast Railway and East of 5th Street; All that Lot lying North of the right of way of Florida East Coast Railway right of way and between 5th Street and 7th Street; All that Lot lying North of the right of way of the Florida East Coast Railway and West of 7th Street of Farmton (formerly Celery City), according to the Plat thereof, as recorded in Map Book 5, page 44 in Section 18.

The Northeast 1/4; The Southeast 1/4; The North 1/2 of the Northwest 1/4; The Southeast 1/4 of the Northwest 1/4; and the East 1/2 of the Southwest 1/4 in Section 19.

Block 1 except Lots I and 2; and Blocks 2, 3 and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 108 in Section 20.

The Northwest 1/4; The Southwest 1/4; The Southeast 1/4; The North 1/2 of the Northeast 1/4; The South four (4) chains of the East 3/8 of the Southwest 1/4 of the Northeast 1/4; and the West 5/8 of the Southwest 1/4 of the Northeast 1/4 of Section 21.

Block 1 except the West 1/2 of Lot 10; and Blocks 2, 3 and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 106 in Section 22.

The East 1/2 of the Northeast 1/4; The Northwest 1/4 of the Northeast 1/4; The Southeast 1/4 The Northeast 1/4 of the Northwest 1/4, except the East 12 chains of the South 10 chains; The Southwest 1/4; The West 1/2 of the Northwest 1/4 in Section 23.

Section 24 less and except railroad right of way and road right of way.

Section 25 less and except railroad right of way and road right of way.

All of Section 26.

Block 1 except Lots 7 and 8; and Block 2, 3, and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 106 in Section 27.

All of Sections 28 and 29.

The East 1/2; The East 1/2 of the Northwest 1/4; And all that part of the Southwest 1/4 lying in Volusia County, Florida, in Section 30.

All of that part of the Northeast 1/4 lying North of the abandoned right of way of the Florida East Coast Railroad; The Northeast 1/4 of the Northwest 1/4; And the South 13.67 chains of the Southeast 1/4 of the Northwest 1/4 lying north and east of the river in Section 31.

All of that part Sections 32 and 33 lying North of the right of way of the Florida East Coast Railroad.

All of that part of the East 1/2 of the Northeast 1/4 lying North of the right of way of the Florida East Coast Railway Company; The Northwest 1/4 of the Northeast 1/4-, and all that part of the Northwest 1/4 lying North of the right of way of the Florida East Coast Railway Company in Section 34.

All of that part of Section 35 lying North of the right of way of the Florida East Coast Railway Company.

All of Section 36.

Together with the following lands lying in Township 20 South, Range 33 East, Volusia County, Florida, more particularly described as follows:

All of Sections 1, 12, and 13.

All of Fractional Section 24.

Together with all of that portion of Bernard Sequi Grant in Section 37, Township 21 South, Range 33 East, Volusia County, Florida.

Together with the following lands lying in Township 18 South, Range 34 East, Volusia County, Florida, more particularly described as follows:

BEGIN at the Northwest comer of Section 17, Township 18 South, Range 34 East, thence SOUTH, on the West line of said Section 17, a distance of, 1407.60 feet to a point; Thence North 79 degrees 47 minutes East, a distance of, 2794.30 feet to a point; Thence NORTH, a distance of, 912.00 feet to the North line of said Section 17; Thence WEST, a distance of 2751.00 feet more or less to the POINT OF BEGINNING.

All of Sections 18 and 19.

All that part of Section 20 lying South of a line beginning at the Northwest corner of the Sibbald Grant and running thence West parallel to the North line of said Section 20 to the West line of said Section 20.

All fractional Section 29.

All of Sections 30 and 3 1.

All of fractional Section 32 (being all of Section 32, except that portion in the Sibbald Grant and that portion in the John Lowe Grant).

That part of Lots 62 and 167 lying West of 1-95 right of way of the Assessor's Subdivision of the Charles Sibbald Grant in Sections 42, 43, and 44, Township 18 South, Range 34 East, according to the Plat thereof, as recorded in Map Book 3, Page 151 of the Public Records of Volusia County, Florida.

That part of Lots 13B, 14B, and 15B lying West of the 1-95 right of way of the Assessor's Subdivision of the Charles Sibbald Grant in Sections 43 and 44, Township 18 South, Range 34 East, according to the Plat thereof, as recorded in Map Book 3, Page 151 of the Public Records of Volusia County, Florida, less and except Borrow Pit No. 11 and the Haul Access.

Together with the following lands lying in Township 19 South, Range 34 East, Volusia County, Florida, more particularly described as follows:

Government Lots 1, 2, 3, and 4, in Section 5.

All of section 6.

All of Block 1, 2, 3, and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 106 in Section 7.

All of fractional Section 8 and 17.

Blocks 1, 2, 3, and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 106 in Section 18.

All of Section 19.

All of fractional Section 20.

All of fractional Section 21 except railroad right of way and Maytown Road right of way.
All of fractional Section 28 except railroad right of way and Maytown Road right of way.

All of Section 29 except railroad right of way and Maytown Road right of way.

The Northeast 1/4; The North 1/2 of the Southeast 1/4; The Southeast 1/4 of the Southeast 1/4; The Southeast 1/4 of the Southwest 1/4 (less and except the East 72 feet of the Southeast 1/4 of the Southwest 1/4 and less and except that part of Southeast 1/4 of Southwest 1/4 lying Northeast of the right of way of the Florida East Coast Railway Company); The Southwest 1/4 of the Southwest 1/4; The North 1/2 of the Northwest 1/4; The East 1/2 of the Southeast 1/4 of the Northwest 1/4 (less and except a triangular strip of land sold to the Florida East Coast Railway Company in the East 1/2 of the Southeast 1/4 of the Northwest 1/4, located in the wye of said railroad); The Southwest 1/4 of the Northwest 1/4; and That part of land in the North 1/2 of the Southwest 1/4 lying North of the Florida East Coast Railway Company right of way in Section 30.

All of Section 31 except Florida East Coast Railway right of way.

All of Blocks 1, 2, 3, and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, page 106 in Section 32.

All of fractional Section 33.

Less and excepting from all of the above described lands, all railroad rights of way of the Florida East Coast Railway Company.

Together with the following lands lying in Township 20 South, Range 34 East, Brevard County, Florida, more particularly described as follows:

All of fractional Section 4.

All of Sections 5, 6, 7, 8, 17, and 18.

All of fractional Sections 19 and 20.

Together with the following lands lying in Township 20 South, Range 34 East and Township 21 South, Range 34 East, Brevard County, Florida, more particularly described as follows:

All of Sections 6, 7, 8, 10, 11, 12, 25, 26, and 27, Indian River Park, according to the Plat thereof, as recorded in Plat Book 2, Page 33 of the Public Records of Brevard County, Florida.

Lots 2 to 8 inclusive of Block 1; Blocks 2 and 3; Lots 3 to 6 inclusive of Block 4; Lots 3 to 6 inclusive of Block 5; Blocks 6 and 7; and Lots 3 to 6 inclusive of Block 8 in Section 13, Indian River Park, according to the Plat thereof, as recorded in Plat Book 2, Page 33 of the Public Records of Brevard County, Florida.

Lots 3 to 6 inclusive of Block 1; Block 2; Block 3 except Lot 5; Lots 3 to 8 inclusive of Block 4; Lots 3 to 6 inclusive and Lot 8 of Block 5; Blocks 6 and 7; and Lots 5 to 8 inclusive of Block 8 in Section 24, Indian River Park, according to the Plat thereof, as recorded in Plat Book 2, Page 33 of the Public Records of Brevard County, Florida.

ATTACHMENT B

ATTACHMENT "B"

SCHEDULES SUPPORTING

PROPOSED RATES AND CHARGES

FOR

FARMTON WATER RESOURCES, LLC

DECEMBER 2002

LIST OF SCHEDULES AND SUPPORT TABLES

SCHEDULE	DESCRIPTION
1	Schedule of Rate Base – Test Year 2009
2	Schedule of Net Operating Income – Test Year 2009
3	Schedule of Capital Structure – Test Year 2009

SUPPORT TABLE	
A-1	Operating Income – Retail Water Supply
A-2	Operating Income – Fire Protection
A-3	Operating Income – Bulk Raw Water Supply
B-1	Rate Base – Retail Water Supply
B-2	Rate Base – Fire Protection Supply
B-3	Rate Base – Bulk Raw Water Supply
B-4	Plant in Service
B-5	Depreciation
B-6	Contributed Plant in Service
B-7	Amortization
B-8	Net Plant to Net CIAC Ratios
C-1	Operations and Maintenance Requirements – Retail Water Supply
C-1A	Operations and Maintenance Assumptions – Retail Water Supply
C-2	Operations and Maintenance Requirements – Fire Protection
C-3	Operations and Maintenance Requirements – Bulk Raw Water Supply
C-3A	Operations and Maintenance Assumptions – Bulk Raw Water Supply
D-1	Revenue Requirement Calculation – Retail Water Supply
D-2	Revenue Requirement Calculation – Fire Protection
D-3	Revenue Requirement Calculation – Bulk Raw Water
D-4	Rate Calculation – Retail Water Supply
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D-6	Rate Calculation – Bulk Raw Water Supply
D-6A	Operating Revenue Calculation – Bulk Raw Water
D-7	Customer Growth and Flow Assumptions
E-1	Capital Expenditures – Retail Water Supply
E-2	Capital Expenditures – Fire Protection
E-3	Capital Expenditures – Bulk Raw Water

FARMTON WATER RESOURCES LLC
SCHEDULE OF RATE BASE
TEST YEAR 2009

SCHEDULE 1

Description	Residential	Fire Protection	Bulk Raw Water	Total
Utility Plant In Service	$ 45,650	$ 26,400	$ 5,520,300	$ 5,592,350
Accumulated Depreciation	$ (18,441)	$ (9,655)	$ (1,173,178)	$ (1,201,274)
Contributions in Aid of Construction	$ (34,238)	$ (26,400)	$ (3,312,180)	$ (3,372,818)
Accumulated Amortization of CIAC	$ 13,831	$ 9,655	$ 703,907	$ 727,393
Less: Non Used & Useful Adjustment	$ -	$ -	$ -	$ -
Working Capital Allowance	$ 814	$ 495	$ 34,719	$ 36,028
Total Rate Base	$ 7,617	$ 495	$ 1,773,568	$ 1,781,679

FARMTON WATER RESOURCES LLC
SCHEDULE OF NET OPERATING INCOME
TEST YEAR 2009

SCHEDULE 2

Description	Residential	Fire Protection	Bulk Raw Water	Total
OPERATING REVENUES	$ 8,224	$ 4,192	$ 570,994	$ 583,409
Operation & Maintenance	$ 6,512	$ 3,960	$ 277,750	$ 288,222
Depreciation	2,362	1,285	222,514	226,161
CIAC Amortization	(1,771)	(1,285)	(133,508)	(136,565)
Taxes Other Than Income	370	188	25,695	89,596 26,252
Provisions for Income Taxes	65	-	18,923	18,988
TOTAL OPERATING EXPENSES	$ 7,538	$ 4,148	$ 411,373	$ 423,058
NET OPERATING INCOME	$ 685	$ 45	$ 159,621	$ 160,351
RATE BASE	$ 7,617	$ 495	$ 1,773,568	$ 1,781,679
RATE OF RETURN	9.000%	9.000%	9.000%	9.000%

FARMTON WATER RESOURCES LLC
SCHEDULE OF CAPITAL STRUCTURE

SCHEDULE 3

	Balance	Weight	Cost Rate [1][2]	Weighted Cost
Equity	$ 712,672	40.00%	11.10%	4.440%
Debt	1,069,008	60.00%	7.60%	4.560%
Total	$ 1,781,679	100.00%		9.000%

Note:

(1) Per FPSC Order # PSC-02-0898-PAA-WS, issued July 5,2002, Return on Equity = 9.65% + 0.582/Equity Ratio, and the Allowable Range of Retun = 10.23% @ 100% Equity to 11.10% @ 40% Equity.

(2) For related party debt, cost is equal to the prime rate plus 2%. This rate was determined utilizing the current and 10-year average of the prime rate.

	Balance	Weight	Cost Rate	Weighted Cost
Retail	$ 4,570	0.43%	6.75%	0.029%
Fire Protection	297	0.03%	6.75%	0.002%
Bulk				
Phase I	744,898	69.68%	6.75%	4.703%
Phase II	319,242	29.86%	9.60%	2.868%
Total	$ 1,069,008	100.00%		7.602%

FARMTON WATER RESOURCES LLC
OPERATING INCOME - RETAIL
TEST YEAR 2009

SUPPORT TABLE A-1

Description	2002	2003	2004	2005	2006	2007	2008	2009
OPERATING REVENUES	$ 4,300	$ 4,300	$ 8,222	$ 8,222	$ 8,222	$ 8,222	$ 8,222	$ 8,224
Operation & Maintenance	$ 8,899	$ 6,149	$ 9,262	$ 6,512	$ 6,512	$ 9,262	$ 6,512	$ 6,512
Depreciation	1,265	2,469	2,469	2,469	2,469	2,469	2,469	2,362
CIAC Amortization	(948)	(1,852)	(1,852)	(1,852)	(1,852)	(1,852)	(1,852)	(1,771)
Taxes Other Than Income - Reg Fees	194	194	370	370	370	370	370	370
Provisions for Income Taxes	-	-	-	58	59	-	60	65
TOTAL OPERATING EXPENSES	$ 9,409	$ 6,960	$ 10,249	$ 7,557	$ 7,558	$ 10,249	$ 7,560	$ 7,538
NET OPERATING INCOME	$ (5,108)	$ (2,660)	$ (2,027)	$ 665	$ 664	$ (2,027)	$ 663	$ 685
RATE BASE	$ 12,208	$ 11,247	$ 11,019	$ 10,059	$ 9,442	$ 9,168	$ 8,208	$ 7,617
ALLOWED RATE OF RETURN	9.000%	9.000%	9.000%	9.000%	9.000%	9.000%	9.000%	9.000%
CALCULATED RATE OF RETURN	-41.845%	-23.647%	-18.394%	6.611%	7.036%	-22.107%	8.075%	9.000%

FARMTON WATER RESOURCES LLC
OPERATING INCOME - FIRE PROTECTION
TEST YEAR 2009

SUPPORT TABLE A-2

Description	2002	2003	2004	2005	2006	2007	2008	2009
OPERATING REVENUES	$ 4,192	$ 4,192	$ 4,192	$ 4,192	$ 4,192	$ 4,192	$ 4,192	$ 4,192
Operation & Maintenance	$ 3,960	$ 3,960	$ 3,960	$ 3,960	$ 3,960	$ 3,960	$ 3,960	$ 3,960
Depreciation	660	1,285	1,285	1,285	1,285	1,285	1,285	1,285
CIAC Amortization	(660)	(1,285)	(1,285)	(1,285)	(1,285)	(1,285)	(1,285)	(1,285)
Taxes Other Than Income - Reg Fees	188	188	188	188	188	188	188	188
Provisions for Income Taxes	-	-	-	-	-	-	-	-
TOTAL OPERATING EXPENSES	$ 4,148	$ 4,148	$ 4,148	$ 4,148	$ 4,148	$ 4,148	$ 4,148	$ 4,148
NET OPERATING INCOME	$ 45	$ 45	$ 45	$ 45	$ 45	$ 45	$ 45	$ 45
RATE BASE	$ 495	$ 495	$ 495	$ 495	$ 495	$ 495	$ 495	$ 495
ALLOWED RATE OF RETURN	9.000%	9.000%	9.000%	9.000%	9.000%	9.000%	9.000%	9.000%
CALCULATED RATE OF RETURN	9.000%	9.000%	9.000%	9.000%	9.000%	9.000%	9.000%	9.000%

FARMTON WATER RESOURCES LLC
OPERATING INCOME - BULK RAW WATER
TEST YEAR 2009

SUPPORT TABLE A-3

Description	2002	2003	2004	2005	2006	2007	2008	2009
OPERATING REVENUES	$ 330,923	$ 341,622	$ 352,321	$ 395,116	$ 418,891	$ 516,905	$ 555,540	$ 570,994
Operation & Maintenance	$ 110,000	$ 122,760	$ 135,960	$ 159,280	$ 182,270	$ 234,190	$ 259,710	$ 277,750
Depreciation	64,460	122,763	122,763	122,763	122,763	172,638	222,514	222,514
CIAC Amortization	(38,676)	(73,658)	(73,658)	(73,658)	(73,658)	(103,583)	(133,508)	(133,508)
Taxes Other Than Income - Reg Fees	14,892	15,373	15,854	17,780	18,850	23,261	24,999	25,695
Provisions for Income Taxes	20,410	19,022	18,895	19,899	19,925	19,438	19,038	18,923
TOTAL OPERATING EXPENSES	$ 171,086	$ 206,260	$ 219,814	$ 246,065	$ 270,151	$ 345,944	$ 392,753	$ 411,373
NET OPERATING INCOME	$ 159,838	$ 135,362	$ 132,507	$ 149,051	$ 148,740	$ 170,961	$ 162,787	$ 159,621
RATE BASE	$ 1,251,926	$ 1,204,416	$ 1,156,961	$ 1,110,771	$ 1,064,539	$ 1,946,134	$ 1,860,319	$ 1,773,568
ALLOWED RATE OF RETURN	9.000%	9.000%	9.000%	9.000%	9.000%	9.000%	9.000%	9.000%
CALCULATED RATE OF RETURN	12.767%	11.239%	11.453%	13.419%	13.972%	8.785%	8.750%	9.000%

FARMTON WATER RESOURCES LLC
RATE BASE
RETAIL WATER SUPPLY

SUPPORT TABLE B-1

Description	2002	2003	2004	2005	2006	2007	2008	2009
Utility Plant In Service	$ 45,650	$ 45,650	$ 45,650	$ 45,650	$ 45,650	$ 45,650	$ 45,650	$ 45,650
Accumulated Depreciation	$ (1,265)	$ (3,734)	$ (6,203)	$ (8,672)	$ (11,141)	$ (13,610)	$ (16,079)	$ (18,441)
Contributions in Aid of Construction	$ (34,238)	$ (34,238)	$ (34,238)	$ (34,238)	$ (34,238)	$ (34,238)	$ (34,238)	$ (34,238)
Accumulated Amortization of CIAC	$ 948	$ 2,800	$ 4,652	$ 6,504	$ 8,356	$ 10,208	$ 12,060	$ 13,831
Less: Non Used & Useful Adjustment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Working Capital Allowance	$ 1,112	$ 769	$ 1,158	$ 814	$ 814	$ 1,158	$ 814	$ 814
Total Rate Base	$ 12,208	$ 11,247	$ 11,019	$ 10,059	$ 9,442	$ 9,168	$ 8,208	$ 7,617

FARMTON WATER RESOURCES LLC
RATE BASE
FIRE PROTECTION SUPPLY

SUPPORT TABLE B-2

Description	2002	2003	2004	2005	2006	2007	2008	2009
Utility Plant In Service	$ 26,400	$ 26,400	$ 26,400	$ 26,400	$ 26,400	$ 26,400	$ 26,400	$ 26,400
Accumulated Depreciation	$ (660)	$ (1,945)	$ (3,230)	$ (4,515)	$ (5,800)	$ (7,085)	$ (8,370)	$ (9,655)
Contributions in Aid of Construction	$ (26,400)	$ (26,400)	$ (26,400)	$ (26,400)	$ (26,400)	$ (26,400)	$ (26,400)	$ (26,400)
Accumulated Amortization of CIAC	$ 660	$ 1,945	$ 3,230	$ 4,515	$ 5,800	$ 7,085	$ 8,370	$ 9,655
Less: Non Used & Useful Adjustment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Working Capital Allowance	$ 495	$ 495	$ 495	$ 495	$ 495	$ 495	$ 495	$ 495
Total Rate Base	$ 495	$ 495	$ 495	$ 495	$ 495	$ 495	$ 495	$ 495

FARMTON WATER RESOURCES LLC
OPERATING INCOME
BULK RAW WATER SUPPLY

SUPPORT TABLE B-3

Description	2002	2003	2004	2005	2006	2007	2008	2009
Utility Plant In Service	$ 3,159,900	$ 3,159,900	$ 3,159,900	$ 3,159,900	$ 3,159,900	$ 5,520,300	$ 5,520,300	$ 5,520,300
Accumulated Depreciation	$ (64,460)	$ (187,223)	$ (309,986)	$ (432,749)	$ (555,513)	$ (728,151)	$ (950,664)	$ (1,173,178)
Contributions in Aid of Construction	$ (1,895,940)	$ (1,895,940)	$ (1,895,940)	$ (1,895,940)	$ (1,895,940)	$ (3,312,180)	$ (3,312,180)	$ (3,312,180)
Accumulated Amortization of CIAC	$ 38,676	$ 112,334	$ 185,992	$ 259,650	$ 333,308	$ 436,891	$ 570,399	$ 703,907
Less: Non Used & Useful Adjustment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Working Capital Allowance	$ 13,750	$ 15,345	$ 16,995	$ 19,910	$ 22,784	$ 29,274	$ 32,464	$ 34,719
Total Rate Base	$ 1,251,926	$ 1,204,416	$ 1,156,961	$ 1,110,771	$ 1,064,539	$ 1,946,134	$ 1,860,319	$ 1,773,568

FARMTON WATER RESOURCES LLC
PLANT IN SERVICE

SUPPORT TABLE B-4

	Description	2002	2003	2004	2005	2006	2007	2008	2009
RETAIL ANNUAL ADDITIONS									
303.1	Land & Land Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
307.1	Wells & Springs	18,750	-	-	-	-	-	-	-
304.2	Structures & Improvements	-	-	-	-	-	-	-	-
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	17,000	-	-	-	-	-	-	-
320.3	Water Treatment Equipment	1,500	-	-	-	-	-	-	-
330.4	Distribution Reservoirs & Stand Pipes	3,750	-	-	-	-	-	-	-
331.4	Transmission & Distribution Mains	-	-	-	-	-	-	-	-
334.4	Meters & Meter Installations	2,250	-	-	-	-	-	-	-
301.5	Organization Expense	2,400	-	-	-	-	-	-	-
341.5	Transportation Equipment	-	-	-	-	-	-	-	-
TOTAL		$ 45,650	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RETAIL ANNUAL BALANCES									
303.1	Land & Land Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
307.1	Wells & Springs	18,750	18,750	18,750	18,750	18,750	18,750	18,750	18,750
304.2	Structures & Improvements	-	-	-	-	-	-	-	-
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000
320.3	Water Treatment Equipment	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
330.4	Distribution Reservoirs & Stand Pipes	3,750	3,750	3,750	3,750	3,750	3,750	3,750	3,750
331.4	Transmission & Distribution Mains	-	-	-	-	-	-	-	-
334.4	Meters & Meter Installations	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250
301.5	Organization Expense	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400
341.5	Transportation Equipment	-	-	-	-	-	-	-	-
TOTAL		$ 45,650	$ 45,650	$ 45,650	$ 45,650	$ 45,650	$ 45,650	$ 45,650	$ 45,650
FIRE PROTECTION ANNUAL ADDITIONS									
307.1	Wells & Springs	$ 25,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
301.5	Organization Expense	1,400	-	-	-	-	-	-	-
TOTAL		$ 26,400	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FIRE PROTECTION ANNUAL BALANCES									
307.1	Wells & Springs	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000
301.5	Organization Expense	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
TOTAL		$ 26,400	$ 26,400	$ 26,400	$ 26,400	$ 26,400	$ 26,400	$ 26,400	$ 26,400

FARMTON WATER RESOURCES LLC
PLANT IN SERVICE

SUPPORT TABLE B-4

	Description	2002	2003	2004	2005	2006	2007	2008	2009
BULK RAW WATER ANNUAL ADDITIONS									
303.1	Land & Land Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
307.1	Wells & Springs	1,260,000	-	-	-	-	1,440,000	-	-
304.2	Structures & Improvements	84,000	-	-	-	-	96,000	-	-
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	357,600	-	-	-	-	134,400	-	-
331.4	Transmission & Distribution Mains	1,212,000	-	-	-	-	690,000	-	-
301.5	Organization Expense	246,300	-	-	-	-	-	-	-
TOTAL		$ 3,159,900	$ -	$ -	$ -	$ -	$ 2,360,400	$ -	$ -
BULK RAW WATER ANNUAL BALANCES									
303.1	Land & Land Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
307.1	Wells & Springs	1,260,000	1,260,000	1,260,000	1,260,000	1,260,000	2,700,000	2,700,000	2,700,000
304.2	Structures & Improvements	84,000	84,000	84,000	84,000	84,000	180,000	180,000	180,000
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	357,600	357,600	357,600	357,600	357,600	492,000	492,000	492,000
331.4	Transmission & Distribution Mains	1,212,000	1,212,000	1,212,000	1,212,000	1,212,000	1,902,000	1,902,000	1,902,000
301.5	Organization Expense	246,300	246,300	246,300	246,300	246,300	246,300	246,300	246,300
TOTAL		$ 3,159,900	$ 3,159,900	$ 3,159,900	$ 3,159,900	$ 3,159,900	$ 5,520,300	$ 5,520,300	$ 5,520,300

FARMTON WATER RESOURCES LLC
DEPRECIATION

SUPPORT TABLE B-5

	Description	2002	2003	2004	2005	2006	2007	2008	2009
RETAIL ANNUAL EXPENSE									
307.1	Wells & Springs	$ 469	$ 938	$ 938	$ 938	$ 938	$ 938	$ 938	$ 938
304.2	Structures & Improvements	-	-	-	-	-	-	-	-
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	500	1,000	1,000	1,000	1,000	1,000	1,000	1,000
320.3	Water Treatment Equipment	107	214	214	214	214	214	214	107
330.4	Distribution Reservoirs & Stand Pipes	63	125	125	125	125	125	125	125
331.4	Transmission & Distribution Mains	-	-	-	-	-	-	-	-
334.4	Meters & Meter Installations	66	132	132	132	132	132	132	132
301.5	Organization Expense	60	60	60	60	60	60	60	60
341.5	Transportation Equipment	-	-	-	-	-	-	-	-
TOTAL		$ 1,265	$ 2,469	$ 2,469	$ 2,469	$ 2,469	$ 2,469	$ 2,469	$ 2,362
RETAIL ACCUMULATED DEPRECIATION									
307.1	Wells & Springs	$ 469	$ 1,406	$ 2,344	$ 3,281	$ 4,219	$ 5,156	$ 6,094	$ 7,031
304.2	Structures & Improvements	-	-	-	-	-	-	-	-
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	500	1,500	2,500	3,500	4,500	5,500	6,500	7,500
320.3	Water Treatment Equipment	107	321	536	750	964	1,179	1,393	1,500
330.4	Distribution Reservoirs & Stand Pipes	63	188	313	438	563	688	813	938
331.4	Transmission & Distribution Mains	-	-	-	-	-	-	-	-
334.4	Meters & Meter Installations	66	199	331	463	596	728	860	993
301.5	Organization Expense	60	120	180	240	300	360	420	480
341.5	Transportation Equipment	-	-	-	-	-	-	-	-
TOTAL		$ 1,265	$ 3,734	$ 6,203	$ 8,672	$ 11,141	$ 13,610	$ 16,079	$ 18,441
FIRE PROTECTION ANNUAL EXPENSE									
307.1	Wells & Springs	$ 625	$ 1,250	$ 1,250	$ 1,250	$ 1,250	$ 1,250	$ 1,250	$ 1,250
301.5	Organization Expense	35	35	35	35	35	35	35	35
TOTAL		$ 660	$ 1,285	$ 1,285	$ 1,285	$ 1,285	$ 1,285	$ 1,285	$ 1,285
FIRE PROTECTION ACCUMULATED DEPRECIATION									
307.1	Wells & Springs	$ 625	$ 1,875	$ 3,125	$ 4,375	$ 5,625	$ 6,875	$ 8,125	$ 9,375
301.5	Organization Expense	35	70	105	140	175	210	245	280
TOTAL		$ 660	$ 1,945	$ 3,230	$ 4,515	$ 5,800	$ 7,085	$ 8,370	$ 9,655

FARMTON WATER RESOURCES LLC
DEPRECIATION

SUPPORT TABLE B-5

	Description	2002	2003	2004	2005	2006	2007	2008	2009
BULK RAW WATER ANNUAL EXPENSE									
307.1	Wells & Springs	$ 31,500	$ 63,000	$ 63,000	$ 63,000	$ 63,000	$ 99,000	$ 135,000	$ 135,000
304.2	Structures & Improvements	1,135	2,270	2,270	2,270	2,270	3,568	4,865	4,865
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	10,518	21,035	21,035	21,035	21,035	24,988	28,941	28,941
331.4	Transmission & Distribution Mains	15,150	30,300	30,300	30,300	30,300	38,925	47,550	47,550
301.5	Organization Expense	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158
TOTAL		$ 64,460	$ 122,763	$ 122,763	$ 122,763	$ 122,763	$ 172,638	$ 222,514	$ 222,514
BULK RAW WATER ACCUMULATED DEPRECIATION									
307.1	Wells & Springs	$ 31,500	$ 94,500	$ 157,500	$ 220,500	$ 283,500	$ 382,500	$ 517,500	$ 652,500
304.2	Structures & Improvements	1,135	3,405	5,676	7,946	10,216	13,784	18,649	23,514
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	10,518	31,553	52,588	73,624	94,659	119,647	148,588	177,529
331.4	Transmission & Distribution Mains	15,150	45,450	75,750	106,050	136,350	175,275	222,825	270,375
301.5	Organization Expense	6,158	12,315	18,473	24,630	30,788	36,945	43,103	49,260
TOTAL		$ 64,460	$ 187,223	$ 309,986	$ 432,749	$ 555,513	$ 728,151	$ 950,664	$ 1,173,178

FARMTON WATER RESOURCES LLC
CONTRIBUTED PLANT IN SERVICE

SUPPORT TABLE B-6

	Description	2002	2003	2004	2005	2006	2007	2008	2009
RETAIL ANNUAL ADDITIONS									
303.1	Land & Land Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
307.1	Wells & Springs	14,063	-	-	-	-	-	-	-
304.2	Structures & Improvements	-	-	-	-	-	-	-	-
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	12,750	-	-	-	-	-	-	-
320.3	Water Treatment Equipment	1,125	-	-	-	-	-	-	-
330.4	Distribution Reservoirs & Stand Pipes	2,813	-	-	-	-	-	-	-
331.4	Transmission & Distribution Mains	-	-	-	-	-	-	-	-
334.4	Meters & Meter Installations	1,688	-	-	-	-	-	-	-
301.5	Organization Expense	1,800	-	-	-	-	-	-	-
341.5	Transportation Equipment	-	-	-	-	-	-	-	-
TOTAL		$ 34,238	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RETAIL ANNUAL BALANCES									
303.1	Land & Land Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
307.1	Wells & Springs	14,063	14,063	14,063	14,063	14,063	14,063	14,063	14,063
304.2	Structures & Improvements	-	-	-	-	-	-	-	-
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	12,750	12,750	12,750	12,750	12,750	12,750	12,750	12,750
320.3	Water Treatment Equipment	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125
330.4	Distribution Reservoirs & Stand Pipes	2,813	2,813	2,813	2,813	2,813	2,813	2,813	2,813
331.4	Transmission & Distribution Mains	-	-	-	-	-	-	-	-
334.4	Meters & Meter Installations	1,688	1,688	1,688	1,688	1,688	1,688	1,688	1,688
301.5	Organization Expense	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
341.5	Transportation Equipment	-	-	-	-	-	-	-	-
TOTAL		$ 34,238	$ 34,238	$ 34,238	$ 34,238	$ 34,238	$ 34,238	$ 34,238	$ 34,238
FIRE PROTECTION ANNUAL ADDITIONS									
307.1	Wells & Springs	$ 25,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
301.5	Organization Expense	1,400	-	-	-	-	-	-	-
TOTAL		$ 26,400	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FIRE PROTECTION ANNUAL BALANCES									
307.1	Wells & Springs	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000
301.5	Organization Expense	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
TOTAL		$ 26,400	$ 26,400	$ 26,400	$ 26,400	$ 26,400	$ 26,400	$ 26,400	$ 26,400

FARMTON WATER RESOURCES LLC
CONTRIBUTED PLANT IN SERVICE

SUPPORT TABLE B-6

	Description	2002	2003	2004	2005	2006	2007	2008	2009
BULK RAW WATER ANNUAL ADDITIONS									
303.1	Land & Land Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
307.1	Wells & Springs	756,000	-	-	-	-	864,000	-	-
304.2	Structures & Improvements	50,400	-	-	-	-	57,600	-	-
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	214,560	-	-	-	-	80,640	-	-
331.4	Transmission & Distribution Mains	727,200	-	-	-	-	414,000		-
301.5	Organization Expense	147,780	-	-	-	-	-	-	-
TOTAL		$ 1,895,940	$ -	$ -	$ -	$ -	$ 1,416,240	$ -	$ -
BULK RAW WATER ANNUAL BALANCES									
303.1	Land & Land Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
307.1	Wells & Springs	756,000	756,000	756,000	756,000	756,000	1,620,000	1,620,000	1,620,000
304.2	Structures & Improvements	50,400	50,400	50,400	50,400	50,400	108,000	108,000	108,000
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	214,560	214,560	214,560	214,560	214,560	295,200	295,200	295,200
331.4	Transmission & Distribution Mains	727,200	727,200	727,200	727,200	727,200	1,141,200	1,141,200	1,141,200
301.5	Organization Expense	147,780	147,780	147,780	147,780	147,780	147,780	147,780	147,780
TOTAL		$ 1,895,940	$ 1,895,940	$ 1,895,940	$ 1,895,940	$ 1,895,940	$ 3,312,180	$ 3,312,180	$ 3,312,180

FARMTON WATER RESOURCES LLC
AMORTIZATION

SUPPORT TABLE B-7

Description		2002	2003	2004	2005	2006	2007	2008	2009
RETAIL ANNUAL EXPENSE									
307.1	Wells & Springs	$ 352	$ 703	$ 703	$ 703	$ 703	$ 703	$ 703	$ 703
304.2	Structures & Improvements	-	-	-	-	-	-	-	-
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	375	750	750	750	750	750	750	750
320.3	Water Treatment Equipment	80	161	161	161	161	161	161	80
330.4	Distribution Reservoirs & Stand Pipes	47	94	94	94	94	94	94	94
331.4	Transmission & Distribution Mains	-	-	-	-	-	-	-	-
334.4	Meters & Meter Installations	50	99	99	99	99	99	99	99
301.5	Organization Expense	45	45	45	45	45	45	45	45
341.5	Transportation Equipment	-	-	-	-	-	-	-	-
TOTAL		$ 948	$ 1,852	$ 1,852	$ 1,852	$ 1,852	$ 1,852	$ 1,852	$ 1,771
RETAIL ACCUMULATED AMORTIZATION									
307.1	Wells & Springs	$ 352	$ 1,055	$ 1,758	$ 2,461	$ 3,164	$ 3,867	$ 4,570	$ 5,273
304.2	Structures & Improvements	-	-	-	-	-	-	-	-
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	375	1,125	1,875	2,625	3,375	4,125	4,875	5,625
320.3	Water Treatment Equipment	80	241	402	563	723	884	1,045	1,125
330.4	Distribution Reservoirs & Stand Pipes	47	141	234	328	422	516	609	703
331.4	Transmission & Distribution Mains	-	-	-	-	-	-	-	-
334.4	Meters & Meter Installations	50	149	248	347	447	546	645	744
301.5	Organization Expense	45	90	135	180	225	270	315	360
341.5	Transportation Equipment	-	-	-	-	-	-	-	-
TOTAL		$ 948	$ 2,800	$ 4,652	$ 6,504	$ 8,356	$ 10,208	$ 12,060	$ 13,831
FIRE PROTECTION ANNUAL EXPENSE									
307.1	Wells & Springs	$ 625	$ 1,250	$ 1,250	$ 1,250	$ 1,250	$ 1,250	$ 1,250	$ 1,250
301.5	Organization Expense	35	35	35	35	35	35	35	35
TOTAL		$ 660	$ 1,285	$ 1,285	$ 1,285	$ 1,285	$ 1,285	$ 1,285	$ 1,285
FIRE PROTECTION ACCUMULATED AMORTIZATION									
307.1	Wells & Springs	$ 625	$ 1,875	$ 3,125	$ 4,375	$ 5,625	$ 6,875	$ 8,125	$ 9,375
301.5	Organization Expense	35	70	105	140	175	210	245	280
TOTAL		$ 660	$ 1,945	$ 3,230	$ 4,515	$ 5,800	$ 7,085	$ 8,370	$ 9,655

FARMTON WATER RESOURCES LLC
AMORTIZATION

SUPPORT TABLE B-7

	Description	2002	2003	2004	2005	2006	2007	2008	2009
BULK RAW WATER ANNUAL EXPENSE									
307.1	Wells & Springs	$ 18,900	$ 37,800	$ 37,800	$ 37,800	$ 37,800	$ 59,400	$ 81,000	$ 81,000
304.2	Structures & Improvements	681	1,362	1,362	1,362	1,362	2,141	2,919	2,919
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	6,311	12,621	12,621	12,621	12,621	14,993	17,365	17,365
331.4	Transmission & Distribution Mains	9,090	18,180	18,180	18,180	18,180	23,355	28,530	28,530
301.5	Organization Expense	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695
TOTAL		$ 38,676	$ 73,658	$ 73,658	$ 73,658	$ 73,658	$ 103,583	$ 133,508	$ 133,508
BULK RAW WATER ACCUMULATED AMORTIZATION									
307.1	Wells & Springs	$ 18,900	$ 56,700	$ 94,500	$ 132,300	$ 170,100	$ 229,500	$ 310,500	$ 391,500
304.2	Structures & Improvements	681	2,043	3,405	4,768	6,130	8,270	11,189	14,108
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	6,311	18,932	31,553	44,174	56,795	71,788	89,153	106,518
331.4	Transmission & Distribution Mains	9,090	27,270	45,450	63,630	81,810	105,165	133,695	162,225
301.5	Organization Expense	3,695	7,389	11,084	14,778	18,473	22,167	25,862	29,556
TOTAL		$ 38,676	$ 112,334	$ 185,992	$ 259,650	$ 333,308	$ 436,891	$ 570,399	$ 703,907

FARMTON WATER RESOURCES LLC
NET PLANT TO NET CIAC RATIOS

SUPPORT TABLE B-8

Description	2002	2003	2004	2005	2006	2007	2008	2009
RETAIL								
Net Plant	$ 44,385	$ 41,916	$ 39,447	$ 36,978	$ 34,509	$ 32,040	$ 29,571	$ 27,209
Net CIAC	$ 33,290	$ 31,438	$ 29,586	$ 27,734	$ 25,882	$ 24,030	$ 22,178	$ 20,407
NET CIAC as % of Net Plant	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%
FIRE PROTECTION								
Net Plant	$ 25,740	$ 24,455	$ 23,170	$ 21,885	$ 20,600	$ 19,315	$ 18,030	$ 16,745
Net CIAC	$ 25,740	$ 24,455	$ 23,170	$ 21,885	$ 20,600	$ 19,315	$ 18,030	$ 16,745
NET CIAC as % of Net Plant	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
BULK RAW WATER								
Net Plant	$ 3,095,440	$ 2,972,677	$ 2,849,914	$ 2,727,151	$ 2,604,387	$ 4,792,149	$ 4,569,636	$ 4,347,122
Net CIAC	$ 1,857,264	$ 1,783,606	$ 1,709,948	$ 1,636,290	$ 1,562,632	$ 2,875,289	$ 2,741,781	$ 2,608,273
NET CIAC as % of Net Plant	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%

FARMTON WATER RESOURCES LLC
OPERATIONS AND MAINTENANCE REQUIREMENTS
RETAIL WATER SUPPLY

SUPPORT TABLE C-1

Account No.	Description	2002	2003	2004	2005	2006	2007	2008	2009
Operation and Maintenance Expenses									
601	Salaries and Wages - Employees	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
603	Salaries and Wages - Other	-	-	-	-	-	-	-	-
604	Employees Pensions and Benefits	-	-	-	-	-	-	-	-
610	Purchased Water	-	-	-	-	-	-	-	-
615	Purchased Power	60	60	90	90	90	90	90	90
616	Fuel for Power Production	-	-	-	-	-	-	-	-
618	Chemicals	-	-	-	-	-	-	-	-
620	Materials and Supplies	-	-	-	-	-	-	-	-
630	Contractual Services	7,700	5,200	7,700	5,200	5,200	7,700	5,200	5,200
640	Rents	330	330	630	630	630	630	630	630
650	Transportation Expense	-	-	-	-	-	-	-	-
655	Insurance Expense	-	-	-	-	-	-	-	-
665	Regulatory Expense	-	-	-	-	-	-	-	-
670	Bad Debt Expense	-	-	-	-	-	-	-	-
675	Misc. Expense (10% of Other O&M)	809	559	842	592	592	842	592	592
Total Operation and Maintenance Expenses		$ 8,899	$ 6,149	$ 9,262	$ 6,512	$ 6,512	$ 9,262	$ 6,512	$ 6,512

FARMTON WATER RESOURCES LLC
OPERATIONS AND MAINTENANCE REQUIREMENTS - ASSUMPTIONS
RETAIL WATER SUPPLY

SUPPORT TABLE C-1A

POWER COSTS

	2002	2003	2004	2005	2006	2007	2008	2009
Average Flow (GPD)	2,100	2,100	2,800	2,800	2,800	2,800	2,800	2,800
Average Pump Rate (gpm)	40	40	60	60	60	60	60	60
Average Operation (Hrs./day)	1	1	1	1	1	1	1	1
Estimated Pressure (ft.)	200	200	200	200	200	200	200	200
Average Power (HP)	3	3	5	5	5	5	5	5
Calculated Power (kwh/day)	3	3	3	3	3	3	3	3
Calculated Cost per year [1]	$ 60	$ 60	$ 90	$ 90	$ 90	$ 90	$ 90	$ 90

Note: (1) Based on $0.07 per kwh.

CONTRACTUAL SERVICES

	2002	2003	2004	2005	2006	2007	2008	2009
Operation Service (hr/wk)	2	2	2	2	2	2	2	2
Operation Service Costs per year [1]	$ 5,200	$ 5,200	$ 5,200	$ 5,200	$ 5,200	$ 5,200	$ 5,200	$ 5,200
Lab Service Costs per year	2,500	-	2,500	-	-	2,500	-	-
Total Contractual Services	$ 7,700	$ 5,200	$ 7,700	$ 5,200	$ 5,200	$ 7,700	$ 5,200	$ 5,200

Note: (1) Operating Services costs based on $50.00 per hour.

RENTS

	2002	2003	2004	2005	2006	2007	2008	2009
Gallons per year (in thousands)	3,349	3,349	6,315	6,315	6,315	6,315	6,315	6,315
Cost per 1,000 gallons [1]	$ 0.10	$ 0.10	$ 0.10	$ 0.10	$ 0.10	$ 0.10	$ 0.10	$ 0.10
Total Rents (rounded)	$ 330	$ 330	$ 630	$ 630	$ 630	$ 630	$ 630	$ 630

Note: (1) Based on the amount of acreage and the opportunity cost of not being able to use that acreage.

TOTAL O&M EXPENSE	$ 8,090	$ 5,590	$ 8,420	$ 5,920	$ 5,920	$ 8,420	$ 5,920	$ 5,920

FARMTON WATER RESOURCES LLC
OPERATIONS AND MAINTENANCE REQUIREMENTS
FIRE PROTECTION

SUPPORT TABLE C-2

Account No.	Description	2002	2003	2004	2005	2006	2007	2008	2009
Operation and Maintenance Expenses									
601	Salaries and Wages - Employees	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
603	Salaries and Wages - Other	-	-	-	-	-	-	-	-
604	Employees Pensions and Benefits	-	-	-	-	-	-	-	-
610	Purchased Water	-	-	-	-	-	-	-	-
615	Purchased Power	-	-	-	-	-	-	-	-
616	Fuel for Power Production	-	-	-	-	-	-	-	-
618	Chemicals	-	-	-	-	-	-	-	-
620	Materials and Supplies	-	-	-	-	-	-	-	-
630	Contractual Services	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,600
640	Rents	-	-	-	-	-	-	-	-
650	Transportation Expense	-	-	-	-	-	-	-	-
655	Insurance Expense	-	-	-	-	-	-	-	-
665	Regulatory Expense	-	-	-	-	-	-	-	-
670	Bad Debt Expense	-	-	-	-	-	-	-	-
675	Misc. Expense (10% of Other O&M)	360	360	360	360	360	360	360	360
Total Operation and Maintenance Expenses		$ 3,960	$ 3,960	$ 3,960	$ 3,960	$ 3,960	$ 3,960	$ 3,960	$ 3,960

FARMTON WATER RESOURCES LLC
OPERATIONS AND MAINTENANCE REQUIREMENTS
BULK RAW WATER SUPPLY

SUPPORT TABLE C-3

Account No.	Description	2002	2003	2004	2005	2006	2007	2008	2009
Operation and Maintenance Expenses									
601	Salaries and Wages - Employees	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
603	Salaries and Wages - Other	-	-	-	-	-	-	-	-
604	Employees Pensions and Benefits	-	-	-	-	-	-	-	-
610	Purchased Water	-	-	-	-	-	-	-	-
615	Purchased Power	40,300	48,600	57,300	65,300	73,700	106,600	117,900	129,600
616	Fuel for Power Production	-	-	-	-	-	-	-	-
618	Chemicals	-	-	-	-	-	-	-	-
620	Materials and Supplies	-	-	-	-	-	-	-	-
630	Contractual Services	17,400	17,400	17,400	17,400	22,600	30,600	30,600	30,600
640	Rents	42,300	45,600	48,900	62,100	69,400	75,700	87,600	92,300
650	Transportation Expense	-	-	-	-	-	-	-	-
655	Insurance Expense	-	-	-	-	-	-	-	-
665	Regulatory Expense	-	-	-	-	-	-	-	-
670	Bad Debt Expense	-	-	-	-	-	-	-	-
675	Misc. Expense (10% of Other O&M)	10,000	11,160	12,360	14,480	16,570	21,290	23,610	25,250
Total Operation and Maintenance Expenses		$ 110,000	$ 122,760	$ 135,960	$ 159,280	$ 182,270	$ 234,190	$ 259,710	$ 277,750

FARMTON WATER RESOURCES LLC
OPERATIONS AND MAINTENANCE REQUIREMENTS - ASSUMPTIONS
BULK RAW WATER SUPPLY

SUPPORT TABLE C-3A

POWER COSTS

	2002	2003	2004	2005	2006	2007	2008	2009
Average Flow (MGD)	1.16	1.40	1.65	1.88	2.12	2.36	2.61	2.87
Average Pump Rate (gpm)	2,000	2,000	2,000	2,000	2,000	2,500	3,000	3,000
Average Operation (Hrs./day)	10	12	14	16	18	16	15	16
Estimated Pressure (ft.)	250	250	250	250	250	325	325	325
Average Power (HP)	180	180	180	180	180	293	352	352
Calculated Power (kwh/day)	1,299	1,568	1,848	2,105	2,374	3,436	3,800	4,178
Calculated cost per day [1]	$ 110.42	$ 133.26	$ 157.06	$ 178.95	$ 201.79	$ 292.03	$ 322.96	$ 355.14
Calculated Cost per year [1]	$ 40,300	$ 48,600	$ 57,300	$ 65,300	$ 73,700	$ 106,600	$ 117,900	$ 129,600

Note: (1) Based on $0.085 per kwh.

CONTRACTUAL SERVICES

	2002	2003	2004	2005	2006	2007	2008	2009
Operation Service (hr/wk)	4	4	4	4	6	6	6	6
Operation Service Costs per year [1]	$ 10,400	$ 10,400	$ 10,400	$ 10,400	$ 15,600	$ 15,600	$ 15,600	$ 15,600
Lab Service Costs per year [2]	7,000	7,000	7,000	7,000	7,000	15,000	15,000	15,000
Total Contractual Services	$ 17,400	$ 17,400	$ 17,400	$ 17,400	$ 22,600	$ 30,600	$ 30,600	$ 30,600

Note: (1) Operating Services costs based on $50.00 per hour.
Note: (2) Lab costs based on $1,000.00 per well per year.

RENTS

	2002	2003	2004	2005	2006	2007	2008	2009
Gallons per year (in thousands)	423,400	456,250	489,100	620,500	693,500	757,375	876,000	923,450
Cost per 1,000 gallons [1]	$ 0.10	$ 0.10	$ 0.10	$ 0.10	$ 0.10	$ 0.10	$ 0.10	$ 0.10
Total Rents (rounded)	$ 42,300	$ 45,600	$ 48,900	$ 62,100	$ 69,400	$ 75,700	$ 87,600	$ 92,300

Note: (1) Based on the amount of acreage and the opportunity cost of not being able to use that acreage.

TOTAL O&M Expense	$ 100,000	$ 111,600	$ 123,600	$ 144,800	$ 165,700	$ 212,900	$ 236,100	$ 252,500

FARMTON WATER RESOURCES LLC
REVENUE REQUIREMENT CALCULATION
RETAIL WATER SUPPLY

SUPPORT TABLE D-1

Description	2002	2003	2004	2005	2006	2007	2008	2009
OPERATING REVENUES	$ 4,300	$ 4,300	$ 8,222	$ 8,222	$ 8,222	$ 8,222	$ 8,222	$ 8,224
TOTAL O&M EXPENSES	$ 8,899	$ 6,149	$ 9,262	$ 6,512	$ 6,512	$ 9,262	$ 6,512	$ 6,512
NET DEPRECIATION EXPENSE	316	617	617	617	617	617	617	590
TAXES OTHER THAN INCOME	-	-	-	-	-	-	-	-
NOI BEFORE INCOME TAXES	$ (4,915)	$ (2,466)	$ (1,657)	$ 1,093	$ 1,093	$ (1,657)	$ 1,093	$ 1,121
INTEREST EXPENSE	(348)	(344)	(340)	(335)	(331)	(326)	(320)	(315)
TAXABLE NOI	$ (5,263)	$ (2,810)	$ (1,996)	$ 758	$ 763	$ (1,982)	$ 773	$ 806
RESTATEMENT OF OPERATING INCOME								
OPERATING REVENUES	$ 4,300	$ 4,300	$ 8,222	$ 8,222	$ 8,222	$ 8,222	$ 8,222	$ 8,224
TOTAL O&M EXPENSE	$ 8,899	$ 6,149	$ 9,262	$ 6,512	$ 6,512	$ 9,262	$ 6,512	$ 6,512
NET DEPRECIATION EXPENSE	316	617	617	617	617	617	617	590
TAXES OTHER THAN INCOME	-	-	-	-	-	-	-	-
REG FEES	194	194	370	370	370	370	370	370
INCOME TAX	-	-	-	58	59	-	60	65
SUBTOTAL	$ 9,409	$ 6,960	$ 10,249	$ 7,557	$ 7,558	$ 10,249	$ 7,560	$ 7,538
CALCULATED NOI AFTER TAXES	$ (5,108)	$ (2,660)	$ (2,027)	$ 665	$ 664	$ (2,027)	$ 663	$ 685
ALLOWABLE NOI AFTER TAXES	$ 1,099	$ 1,012	$ 992	$ 905	$ 850	$ 825	$ 739	$ 685
GROSS NOI DEFICIENCY	$ -	$ -	$ -	$ 388	$ 393	$ -	$ 403	$ 436
STATE EXEMPTION	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500
STATE TAXABLE INCOME	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
STATE INCOME TAX RATE	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%
STATE INCOME TAX	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FEDERAL TAXABLE INCOME	$ -	$ -	$ -	$ 388	$ 393	$ -	$ 403	$ 436
FEDERAL INCOME TAX								
0 - 50,000 15.00%	$ -	$ -	$ -	$ 58	$ 59	$ -	$ 60	$ 65
50,000 - 75,000 25.00%	-	-	-	-	-	-	-	-
75,000 - 100,000 34.00%	-	-	-	-	-	-	-	-
100,000 - 335,000 39.00%	-	-	-	-	-	-	-	-
335,000 - + 34.00%	-	-	-	-	-	-	-	-
FEDERAL INCOME TAX	$ -	$ -	$ -	$ 58	$ 59	$ -	$ 60	$ 65
STATE INCOME TAX	-	-	-	-	-	-	-	-
TOTAL INCOME TAX	$ -	$ -	$ -	$ 58	$ 59	$ -	$ 60	$ 65

FARMTON WATER RESOURCES LLC
REVENUE REQUIREMENT CALCULATION
FIRE PROTECTION SUPPLY

SUPPORT TABLE D-2

Description	2002	2003	2004	2005	2006	2007	2008	2009
OPERATING REVENUES	$ 4,192	$ 4,192	$ 4,192	$ 4,192	$ 4,192	$ 4,192	$ 4,192	$ 4,192
TOTAL O&M EXPENSES	$ 3,960	$ 3,960	$ 3,960	$ 3,960	$ 3,960	$ 3,960	$ 3,960	$ 3,960
NET DEPRECIATION EXPENSE	-	-	-	-	-	-	-	-
TAXES OTHER THAN INCOME	-	-	-	-	-	-	-	-
NOI BEFORE INCOME TAXES	$ 232	$ 232	$ 232	$ 232	$ 232	$ 232	$ 232	$ 232
INTEREST EXPENSE	(23)	(22)	(22)	(22)	(21)	(21)	(21)	(20)
TAXABLE NOI	$ 210	$ 210	$ 210	$ 210	$ 211	$ 211	$ 211	$ 212
RESTATEMENT OF OPERATING INCOME								
OPERATING REVENUES	$ 4,192	$ 4,192	$ 4,192	$ 4,192	$ 4,192	$ 4,192	$ 4,192	$ 4,192
TOTAL O&M EXPENSE	$ 3,960	$ 3,960	$ 3,960	$ 3,960	$ 3,960	$ 3,960	$ 3,960	$ 3,960
NET DEPRECIATION EXPENSE	-	-	-	-	-	-	-	-
TAXES OTHER THAN INCOME	-	-	-	-	-	-	-	-
REG FEES	188	188	188	188	188	188	188	188
INCOME TAX	-	-	-	-	-	-	-	-
SUBTOTAL	$ 4,148	$ 4,148	$ 4,148	$ 4,148	$ 4,148	$ 4,148	$ 4,148	$ 4,148
CALCULATED NOI AFTER TAXES	$ 45	$ 45	$ 45	$ 45	$ 45	$ 45	$ 45	$ 45
ALLOWABLE NOI AFTER TAXES	$ 45	$ 45	$ 45	$ 45	$ 45	$ 45	$ 45	$ 45
GROSS NOI DEFICIENCY								
STATE EXEMPTION	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500
STATE TAXABLE INCOME								
STATE INCOME TAX RATE	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%
STATE INCOME TAX	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FEDERAL TAXABLE INCOME	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
FEDERAL INCOME TAX								
0 - 50,000 15.00%	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50,000 - 75,000 25.00%								
75,000 - 100,000 34.00%								
100,000 - 335,000 39.00%								
335,000 - + 34.00%								
FEDERAL INCOME TAX	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
STATE INCOME TAX	-	-	-	-	-	-	-	-
TOTAL INCOME TAX	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

FARMTON WATER RESOURCES LLC
REVENUE REQUIREMENT CALCULATION
BULK RAW WATER SUPPLY

SUPPORT TABLE D-3

Description	2002	2003	2004	2005	2006	2007	2008	2009
OPERATING REVENUES	$ 330,923	$ 341,622	$ 352,321	$ 395,116	$ 418,891	$ 516,905	$ 555,540	$ 570,994
TOTAL O&M EXPENSES	$ 110,000	$ 122,760	$ 135,960	$ 159,280	$ 182,270	$ 234,190	$ 259,710	$ 277,750
NET DEPRECIATION EXPENSE	25,784	49,105	49,105	49,105	49,105	69,055	89,005	89,005
TAXES OTHER THAN INCOME	-	-	-	-	-	-	-	-
NOI BEFORE INCOME TAXES	$ 195,139	$ 169,757	$ 167,256	$ 186,731	$ 187,516	$ 213,660	$ 206,825	$ 204,238
INTEREST EXPENSE	(56,659)	(56,032)	(55,362)	(54,647)	(53,884)	(84,474)	(83,173)	(81,997)
TAXABLE NOI	$ 138,480	$ 113,725	$ 111,893	$ 132,083	$ 133,632	$ 129,186	$ 123,652	$ 122,241
RESTATEMENT OF OPERATING INCOME								
OPERATING REVENUES	$ 330,923	$ 341,622	$ 352,321	$ 395,116	$ 418,891	$ 516,905	$ 555,540	$ 570,994
TOTAL O&M EXPENSE	$ 110,000	$ 122,760	$ 135,960	$ 159,280	$ 182,270	$ 234,190	$ 259,710	$ 277,750
NET DEPRECIATION EXPENSE	25,784	49,105	49,105	49,105	49,105	69,055	89,005	89,005
TAXES OTHER THAN INCOME	-	-	-	-	-	-	-	-
REG FEES	14,892	15,373	15,854	17,780	18,850	23,261	24,999	25,695
INCOME TAX	20,410	19,022	18,895	19,899	19,925	19,438	19,038	18,923
SUBTOTAL	$ 171,086	$ 206,260	$ 219,814	$ 246,065	$ 270,151	$ 345,944	$ 392,753	$ 411,373
CALCULATED NOI AFTER TAXES	$ 159,838	$ 135,362	$ 132,507	$ 149,051	$ 148,740	$ 170,961	$ 162,787	$ 159,621
ALLOWABLE NOI AFTER TAXES	$ 112,673	$ 108,397	$ 104,126	$ 99,969	$ 95,808	$ 175,152	$ 167,429	$ 159,621
GROSS NOI DEFICIENCY	$ 123,588	$ 98,352	$ 96,039	$ 114,303	$ 114,781	$ 105,926	$ 98,652	$ 96,546
STATE EXEMPTION	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500
STATE TAXABLE INCOME	$ 121,088	$ 95,852	$ 93,539	$ 111,803	$ 112,281	$ 103,426	$ 96,152	$ 94,046
STATE INCOME TAX RATE	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%
STATE INCOME TAX	$ 6,660	$ 5,272	$ 5,145	$ 6,149	$ 6,175	$ 5,688	$ 5,288	$ 5,173
FEDERAL TAXABLE INCOME	$ 116,928	$ 93,080	$ 90,894	$ 108,154	$ 108,606	$ 100,237	$ 93,364	$ 91,374
FEDERAL INCOME TAX								
0 - 50,000 15.00%	$ 7,500	$ 7,500	$ 7,500	$ 7,500	$ 7,500	$ 7,500	$ 7,500	$ 7,500
50,000 - 75,000 25.00%	6,250	6,250	6,250	6,250	6,250	6,250	6,250	6,250
75,000 - 100,000 34.00%	-	-	-	-	-	-	-	-
100,000 - 335,000 39.00%	-	-	-	-	-	-	-	-
335,000 - + 34.00%	-	-	-	-	-	-	-	-
FEDERAL INCOME TAX	$ 13,750	$ 13,750	$ 13,750	$ 13,750	$ 13,750	$ 13,750	$ 13,750	$ 13,750
STATE INCOME TAX	6,660	5,272	5,145	6,149	6,175	5,688	5,288	5,173
TOTAL INCOME TAX	$ 20,410	$ 19,022	$ 18,895	$ 19,899	$ 19,925	$ 19,438	$ 19,038	$ 18,923

FARMTON WATER RESOURCES LLC
RATE CALCULATION
RETAIL WATER SUPPLY

SUPPORT TABLE D-4

Account No.	Description	Test Year 2009	Base Facility Charge	Gallonage Charge	Base Facility Cost	Base Facility Charge	Gallonage Cost	Gallonage Charge
Operation and Maintenance Expenses								
601	Salaries and Wages - Employees	$ -	50%	50%	$ -	$ -	$ -	$ -
603	Salaries and Wages - Other	-	50%	50%	-	-	-	-
604	Employees Pensions and Benefits	-	50%	50%	-	-	-	-
610	Purchased Water	-	0%	100%	-	-	-	-
615	Purchased Power	90	0%	100%	-	-	90	0.01
616	Fuel for Power Production	-	0%	100%	-	-	-	-
618	Chemicals	-	0%	100%	-	-	-	-
620	Materials and Supplies	-	40%	60%	-	-	-	-
630	Contractual Services	5,200	50%	50%	2,600	2.26	2,600	0.41
640	Rents	630	100%	0%	630	0.55	-	-
650	Transportation Expense	-	30%	70%	-	-	-	-
655	Insurance Expense	-	100%	0%	-	-	-	-
665	Regulatory Expense	-	50%	50%	-	-	-	-
670	Bad Debt Expense	-	50%	50%	-	-	-	-
675	Miscellaneous Expense	592	40%	60%	237	0.21	355	0.06
Total Operation and Maintenance Expenses		$ 6,512			$ 3,467	$ 3.02	$ 3,045	$ 0.48
Depreciation and Amortization								
403	Depreciation Expense	$ 2,362	75%	25%	$ 1,771	$ 1.54	$ 590	$ 0.09
407	Amortization Expense - Other	(1,771)	75%	25%	(1,329)	(1.16)	(443)	(0.07)
Total Depreciation and Amortization		$ 590			$ 443	$ 0.38	$ 148	$ 0.02
Taxes Other Than Income Taxes								
408.10	Utility Regulatory Assessment Fees	$ 370	35%	65%	$ 130	$ 0.11	$ 241	$ 0.04
408.11	Property Taxes	-	100%	0%	-	-	-	-
408.12	Payroll Taxes	-	100%	0%	-	-	-	-
408.13	Other Taxes and Licenses	-	100%	0%	-	-	-	-
408.20	Other Income and Deductions	-	100%	0%	-	-	-	-
Total Taxes Other Than Income Taxes		$ 370			$ 130	$ 0.11	$ 241	$ 0.04
Income Taxes								
409	Federal, State, and Local Income Taxes	$ 65	10%	90%	$ 7	$ 0.01	$ 59	$ 0.01
Total Income Taxes		$ 65			$ 7	$ 0.01	$ 59	$ 0.01
Return on Investment		$ 685	10%	90%	$ 69	$ 0.06	$ 617	$ 0.10
Total Revenue Requirement		$ 8,224			$ 4,114	$ 3.58	$ 4,109	$ 0.65
Less: Miscellaneous Revenues		$ -	100%	0%	$ -	$ -	$ -	$ -
Total Revenues for Rate Setting		$ 8,224			$ 4,114	$ 3.58	$ 4,109	$ 0.65
Factored ERCs		96						
Factored Gallons (In Thousands)		6,315						

FARMTON WATER RESOURCES LLC
RATE CALCULATION
FIRE PROTECTION

SUPPORT TABLE D-5

Account No.	Description	Test Year 2009	Base Facility Charge	Gallonage Charge	Base Facility Cost	Base Facility Charge	Gallonage Cost	Gallonage Charge
Operation and Maintenance Expenses								
601	Salaries and Wages - Employees	$ -	100%	0%	$ -	$ -	$ -	$ -
603	Salaries and Wages - Other	-	100%	0%	-	-	-	-
604	Employees Pensions and Benefits	-	100%	0%	-	-	-	-
610	Purchased Water	-	0%	100%	-	-	-	-
615	Purchased Power	-	0%	100%	-	-	-	-
616	Fuel for Power Production	-	0%	100%	-	-	-	-
618	Chemicals	-	0%	100%	-	-	-	-
620	Materials and Supplies	-	100%	0%	-	-	-	-
630	Contractual Services	3,600	100%	0%	3,600	300.00	-	-
640	Rents	-	100%	0%	-	-	-	-
650	Transportation Expense	-	100%	0%	-	-	-	-
655	Insurance Expense	-	100%	0%	-	-	-	-
665	Regulatory Expense	-	100%	0%	-	-	-	-
670	Bad Debt Expense	-	100%	0%	-	-	-	-
675	Miscellaneous Expense	360	100%	0%	360	30.00	-	-
Total Operation and Maintenance Expenses		$ 3,960			$ 3,960	$ 330.00	$ -	$ -
Depreciation and Amortization								
403	Depreciation Expense	$ 1,285	100%	0%	$ 1,285	$ 107.08	$ -	$ -
407	Amortization Expense - Other	(1,285)	100%	0%	(1,285)	(107.08)	-	-
Total Depreciation and Amortization		$ -			$ -	$ -	$ -	$ -
Taxes Other Than Income Taxes								
408.10	Utility Regulatory Assessment Fees	$ 188	100%	0%	$ 188	$ 15.64	$ -	$ -
408.11	Property Taxes	-	100%	0%	-	-	-	-
408.12	Payroll Taxes	-	100%	0%	-	-	-	-
408.13	Other Taxes and Licenses	-	100%	0%	-	-	-	-
408.20	Other Income and Deductions	-	100%	0%	-	-	-	-
Total Taxes Other Than Income Taxes		$ 188			$ 188	$ 15.64	$ -	$ -
Income Taxes								
409	Federal, State, and Local Income Taxes	$ -	100%	0%	$ -	$ -	$ -	$ -
Total Income Taxes		$ -			$ -	$ -	$ -	$ -
Return on Investment		$ 45	100%	0%	$ 45	$ 3.71	$ -	$ -
Total Revenue Requirement		$ 4,192			$ 4,192	$ 349.35	$ -	$ -
Less: Miscellaneous Revenues		$ -	100%	0%	$ -	$ -	$ -	$ -
Total Revenues for Rate Setting		$ 4,192			$ 4,192	$ 349.35	$ -	$ -
Fectored ERCs		1						
Factored Gallons (In Thousands)		0						

FARMTON WATER RESOURCES LLC
RATE CALCULATION
BULK RAW WATER SUPPLY

SUPPORT TABLE D-6

Account No.	Description	Test Year 2009	Base Facility Charge	Gallonage Charge	Base Facility Cost	Base Facility Charge	Gallonage Cost	Gallonage Charge
Operation and Maintenance Expenses								
601	Salaries and Wages - Employees	$ -	0%	100%	$ -	$ -	$ -	$ -
603	Salaries and Wages - Other	-	0%	100%	-	-	-	-
604	Employees Pensions and Benefits	-	0%	100%	-	-	-	-
610	Purchased Water	-	0%	100%	-	-	-	-
615	Purchased Power	129,600	0%	100%	-	-	129,600	0.14
616	Fuel for Power Production	-	0%	100%	-	-	-	-
618	Chemicals	-	0%	100%	-	-	-	-
620	Materials and Supplies	-	0%	100%	-	-	-	-
630	Contractual Services	30,600	50%	50%	15,300	4,857.14	15,300	0.02
640	Rents	92,300	0%	100%	-	-	92,300	0.10
650	Transportation Expense	-	0%	100%	-	-	-	-
655	Insurance Expense	-	0%	100%	-	-	-	-
665	Regulatory Expense	-	100%	0%	-	-	-	-
670	Bad Debt Expense	-	0%	100%	-	-	-	-
675	Miscellaneous Expense	25,250	25%	75%	6,313	2,003.97	18,938	0.02
Total Operation and Maintenance Expenses		$ 277,750			$ 21,613	$ 6,861.11	$ 256,138	$ 0.28
Depreciation and Amortization								
403	Depreciation Expense	$ 222,514	100%	0%	$ 222,514	$ 70,639.22	$ -	$ -
407	Amortization Expense - Other	(133,508)	100%	0%	(133,508)	(42,383.53)	-	-
Total Depreciation and Amortization		$ 89,005			$ 89,005	$ 28,255.69	$ -	$ -
Taxes Other Than Income Taxes								
408.10	Utility Regulatory Assessment Fees	$ 25,695	0%	100%	$ -	$ -	$ 25,695	$ 0.03
408.11	Property Taxes	-	0%	100%	-	-	-	-
408.12	Payroll Taxes	-	0%	100%	-	-	-	-
408.13	Other Taxes and Licenses	-	0%	100%	-	-	-	-
408.20	Other Income and Deductions	-	0%	100%	-	-	-	-
Total Taxes Other Than Income Taxes		$ 25,695			$ -	$ -	$ 25,695	$ 0.03
Income Taxes								
409	Federal, State, and Local Income Taxes	$ 18,923	0%	100%	$ -	$ -	$ 18,923	$ 0.02
Total Income Taxes		$ 18,923			$ -	$ -	$ 18,923	$ 0.02
Return on Investment		$ 159,621	100%	0%	$ 159,621	$ 50,673.36	$ -	$ -
Total Revenue Requirement		$ 570,994			$ 270,239	$ 85,790.16	$ 300,755	$ 0.33
Less: Miscellaneous Revenues		$ -	0%	100%	$ -	$ -	$ -	$ -
Total Revenues for Rate Setting		$ 570,994			$ 270,239	$ 85,790.16	$ 300,755	$ 0.33
Avalable Capacity		3.150						
Factored Gallons (In Thousands)		923,450						

FARMTON WATER RESOURCES LLC
OPERATING REVENUE CALCULATION
BULK RAW WATER SUPPLY

SUPPORT TABLE D-6A

Description	2002	2003	2004	2005	2006	2007	2008	Test Year 2009
Total Gallonage Requirements (MGD)	1.160	1.250	1.340	1.700	1.900	2.075	2.400	2.530
Take-Or-Pay Gallonage (MGD)	1.000	1.000	1.000	1.500	1.500	2.000	2.000	2.500
Billed Gallonage (MGD)	0.160	0.250	0.340	0.200	0.400	0.075	0.400	0.030
Capacity (MGD)	2.250	2.250	2.250	2.250	2.250	3.150	3.150	3.150
Take-or-Pay Rate								
Fixed Costs	$ 193,028	$ 193,028	$ 193,028	$ 193,028	$ 193,028	$ 270,239	$ 270,239	$ 270,239
Gallonage	118,875	118,875	118,875	178,313	178,313	237,751	237,751	297,189
Total Take-or-Pay Rate	**$ 311,903**	**$ 311,903**	**$ 311,903**	**$ 371,341**	**$ 371,341**	**$ 507,990**	**$ 507,990**	**$ 567,428**
Additional Gallonage	19,020	29,719	40,418	23,775	47,550	8,916	47,550	3,566
Total Revenues	$ 330,923	$ 341,622	$ 352,321	$ 395,116	$ 418,891	$ 516,905	$ 555,540	$ 570,994
Gallonage rate per 1,000 gallons	**$ 0.33**							
Thousand Gallons Per Year	423,400	456,250	489,100	620,500	693,500	757,375	876,000	923,450
Average Cost Per 1,000 Gallons	$ 0.78	$ 0.75	$ 0.72	$ 0.64	$ 0.60	$ 0.68	$ 0.63	$ 0.62

FARMTON WATER RESOURCES LLC
CUSTOMER GROWTH AND FLOW ASSUMPTIONS

SUPPORT TABLE D-7

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
CUSTOMERS (ERCs)										
Retail										
Added	49	-	46	-	-	-	-	-	-	-
Total	49	49	96	96	96	96	96	96	96	96
Fire Protection										
Added	1	-	-	-	-	-	-	-	-	-
Total	1	1	1	1	1	1	1	1	1	1
Bulk Raw Water										
Added	1	-	-	-	-	-	-	-	-	-
Total	1	1	1	1	1	1	1	1	1	1
PROJECTED FLOW (1,000 gal)										
Retail										
Gallons per Day (in 1,000 gallons)	17.30	17.30	33.55	33.55	33.55	33.55	33.55	33.55	33.55	33.55
Gallons per Year (in thousand gallons)	3,349	3,349	6,315	6,315	6,315	6,315	6,315	6,315	6,315	6,315
Fire Protection										
Gallons per Day (in 1,000 gallons)	-	-	-	-	-	-	-	-	-	-
Gallons per Year (in thousand gallons)	-	-	-	-	-	-	-	-	-	-
Bulk Raw Water										
Gallons per Day (in 1,000 gallons)	1,160	1,250	1,340	1,700	1,900	2,075	2,400	2,530	2,650	2,750
Gallons per Year (in thousand gallons)	423,400	456,250	489,100	620,500	693,500	757,375	876,000	923,450	967,250	1,003,750
	3314.285714	3571.42857	3828.57143	4857.14286	5428.57143	5928.57143	6857.14286	7228.57143	7571.42857	7857.14286
Total Flows										
Retail	3,349	3,349	6,315	6,315	6,315	6,315	6,315	6,315	6,315	6,315
Bulk Raw Water	423,400	456,250	489,100	620,500	693,500	757,375	876,000	923,450	967,250	1,003,750
Total Flows	426,749	459,599	495,415	626,815	699,815	763,690	882,315	929,765	973,565	1,010,065
Total Capacity (end of Phase 2)										
Retail	12,775	12,775	12,775	12,775	12,775	12,775	12,775	12,775	12,775	12,775
Bulk Raw Water	1,149,750	1,149,750	1,149,750	1,149,750	1,149,750	1,149,750	1,149,750	1,149,750	1,149,750	1,149,750
Total Capacity	1,162,525	1,162,525	1,162,525	1,162,525	1,162,525	1,162,525	1,162,525	1,162,525	1,162,525	1,162,525
% Buildout	0.37	0.40	0.43	0.54	0.60	0.66	0.76	0.80	0.84	0.87

12/11/02

FARMTON WATER RESOURCES LLC
CAPITAL EXPENDITURES
BULK RAW WATER SUPPLY

SUPPORT TABLE E-3

	Description & Quantity	In Service Year	Cost	Depreciation Life	CIAC	Funded By CIAC
303.1	**Land & Land Rights**					
36	Plant/Well sites (acre)	2002	$ -	N/A	60.00%	$ -
36	Plant/Well sites (acre)	2007	-	N/A	60.00%	-
307.1	**Wells & Springs**					
7	12" well, pump, motor and controls	2002	1,260,000	20	60.00%	$ 756,000
8	12" well, pump, motor and controls	2007	1,440,000	20	60.00%	864,000
304.2	**Structures & Improvements**					
7	Well and Control Building (400 s.f.)	2002	84,000	37	60.00%	50,400
8	Well and Control Building (400 s.f.)	2007	96,000	37	60.00%	57,600
310.2	**Power Generation**					
0	Generator (120 kw)	2002	-	17	60.00%	-
311.2	**Pumping Equipment**					
7	Sitework	2002	16,800	17	60.00%	10,080
7	Electrical (Site)	2002	84,000	17	60.00%	50,400
1	Electrical (Transmission)	2002	240,000	17	60.00%	144,000
7	Yard Piping, Valves	2002	16,800	17	60.00%	10,080
8	Sitework	2007	19,200	17	60.00%	11,520
8	Electrical (site)	2007	96,000	17	60.00%	57,600
8	Yard Piping, Valves	2007	19,200	17	60.00%	11,520
331.4	**Transmission & Distribution Mains**					
8,000	24" PVC Pipe to Service Area Boundary (ft)	2002	1,152,000	40	60.00%	691,200
1	Telemetry	2002	60,000	40	60.00%	36,000
7,000	16" PVC Transmission Pipe (ft)	2007	630,000	40	60.00%	378,000
1	Telemetry	2007	60,000	40	60.00%	36,000
301.5	**General Plant**					
1	Organization Costs	2002	246,300	40	60.00%	147,780
TOTAL BULK RAW WATER SUPPLY			$ 5,520,300			$ 3,312,180
			$ 5,274,000			
Allocation to CIAC			$ 3,312,180			
Investment			2,208,120			
			$ 5,520,300			

Exhibit "B"
Farmton Water Resources LLC
Estimated Equivalent Residential Connections (ERCs)
Test Year 2009

Customer Class	Meter Size	Number of ERCs
Retail Potable:		
Residential	5/8"	2
General Service [1]	5/8"	94
Fire Protection:	N/A [2]	N/A [2]
Bulk Raw Water:	12.0"	7,229

Note: (1) Includes service to Miami Tract Hunt Club, Inc., which has 260 member families.

(2) A total of twelve (12) wells are proposed. Since these wells will only be used in the event of a fire, these wells will not have permanently installed pumps, power, or meters.

LEASE AGREEMENT

THIS LEASE is made and entered into this __ day of _____, 2002, by and between "Miami Corporation", a Delaware corporation (hereinafter referred to as ("Owner"), and "Farmton Water Resources LLC", a Delaware limited liability corporation (hereinafter referred to as ("Service Company").

Owner hereby leases to Service Company, and Service Company hereby hires from Owner, the real property and Well Site Production Facilities described below, upon terms and subject to the conditions set forth herein.

1. DEFINITIONS.

The following definitions of terms used in this Lease shall apply unless the context indicates a different meaning:

A. "Well Site Production Facilities" - All well casings, pumps, and water supply, transmission, and distribution pipes and equipment, and other appurtenant and associated facilities.

B. "Point of Delivery" - The point where the water leaves the meter connected to customer's piping.

C. "Property" - The land described in Exhibit "A".

D. "Well Sites" - The sites upon which Well Site Production Facilities are currently located as shown on Exhibit "B" attached hereto, and such additional Well Sites permitted pursuant to this Lease.

2. TERM.

This Lease shall be effective for a period of ninety-nine (99) years, beginning immediately after certification of the Service Company by the Florida Public Service Commission, and ending ninety-nine (99) years thereafter, unless sooner terminated as provided herein.

3. ROYALTY PAYMENTS.

Service Company shall pay to Owner a monthly royalty of $_____ per thousand gallons of water withdrawn from each well site and $5,000 per year for maintenance building site, plus sales tax, all as compensation for the Service Company's right to utilize owners property and the impact of Service Company's right to utilize and withdraw water from Owner's property and the impact of such uses on Owner's other properties. Royalty payments shall be paid on or before the first of each month. At least ninety (90) days but not earlier



than one hundred twenty (120) days prior to the end of the third year of this Lease, and within the same period prior to the end of each succeeding 3-year period, Service Company and Owner shall renegotiate the periodic royalty to be paid over the next 3-year period. The purpose of renegotiating the periodic royalty is to reflect the increase in the fair value of the property, the rights to withdraw water, and Well Site Production Facilities over the last 3-year period. If Service Company and Owner are unable to agree on the amount of increase in the periodic royalty to be paid over the subject 3-year period, then at least forty-five (45) days but not earlier than ninety (90) days prior to the commencement of the subject 3-year period, Service Company and Owner shall agree upon a qualified appraiser who will calculate the increase in the periodic royalty to be paid over the subject 3-year period. If the parties are unable to agree upon an appraiser to be used, then Service Company and Owner shall select a qualified appraiser of its choice and make the calculations, and the average of the two appraisers shall be binding on the parties. Calculations by the appraiser or appraisers shall in either case be made and delivered to Service Company and Owner at least fifteen (15) days prior to the commencement of the subject 3-year period. Neither the calculations of the appraiser or appraisers nor anything contained herein shall operate to reduce the periodic royalty below the amount of the periodic royalty in effect at the time the negotiations or calculations are conducted as set forth herein or below the then existing periodic royalty plus inflation using the compounded index percentage approved for regulated water and wastewater utilities by the Florida Public Service Commission for each intervening year since that last royalty amount was set.

In addition to renegotiating the periodic royalty every 3 years as set forth above, any time that, in Owner's reasonable opinion, the impact of any local, regional, state, or federal rule, ordinance, law, or policy directly or indirectly affects Owner's use of the Property or its other lands not subject to this Lease by further restricting or requiring changes in land or water uses near Well Sites, or as a result of withdrawals or activities related to withdrawals, Service Company and Owner shall renegotiate the periodic royalty. The purpose of this renegotiation shall be to reflect the diminution in value of the affected Property or other lands of Owner. At anytime that Owner reasonably deems such diminution in value to have occurred, Owner shall notify Service Company in writing and, within forty-five (45) days thereof, Owner and Service Company shall renegotiate the periodic royalty to compensate Owner for the diminution in value. If Owner and Service Company are unable to agree on a renegotiated periodic royalty, then Service Company and Owner shall agree upon a qualified appraiser who will calculate such compensation. If the parties are unable to agree upon a qualified appraiser to be used, the Owner and Service Company shall each select a qualified appraiser of its choice to make the necessary calculations, and the average of the two appraisers shall be binding on the parties.

4. DESCRIPTION OF LEASED PREMISES.

The premises subject to the Lease shall initially consist of the ___ non-potable and ___ potable Well Sites as outlined on Exhibit "B". Each Well Site shall be approximately 2,500 square feet or other size as needed, in a square configuration, with the Well Site Production Facilities approximately in the center of the sites. In addition, the proposed maintenance building site shall consist of approximately 2-3 acres. All portions of said Well Sites heretofore and currently used for residential or commercial facilities or purposes shall be excluded from said 2,500 square foot sites and shall not be included in the premises subject to this Lease. In the event any governmental entity or authority shall now or hereafter require a larger Well Site than 2,500 square feet, all additional or relocated Well Sites acquired pursuant to Sections 5 and 8, respectively, shall conform to the requirements of said governmental entity or authority. Owner and Service Company anticipate that this Lease may be amended in the future to include the service, operation, and lease of additional wells, surface water, or other sites, and/or Well Production Facilities pursuant to this Lease and will negotiate the terms under which those wells, surface water, or other sites, and any Well Production Facilities will be included in the Lease and the Agreement at that time.

5. ADDITIONAL WELL SITES & SURFACE WATER WITHDRAWAL SITES.

In the event that Service Company shall need additional Well Sites, and/or Well Production Facilities, Surface Water Withdrawal Sites or Water Storage Sites for the purpose of supplying Owner or third parties with water, Owner agrees to negotiate with Service Company for the lease of parcels of the Property for use as additional Well Sites, and/or Well Production Facilities, Surface Water Withdrawal Sites or Water Storage Sites. Upon such time as Service Company and Owner shall agree upon the location and other pertinent matters related to such additional Well Sites, and/or Well Production Facilities, Surface Water Withdrawal Sites, or Water Storage Sites the same shall become subject to this Lease and Service Company and Owner shall each respectively have rights and privileges set forth herein upon execution by Service Company and Owner of an appropriate Addendum to Lease so providing. Owner shall not be obligated to negotiate water rights to the detriment of its agriculture or other operatives.

6. WARRANTY OF TITLE.

Owner represents that it has good and marketable title to the Well Sites, subject only to real estate taxes not yet due and payable, matters of public record, and such other matters that do not materially interfere with Service Company's intended uses. Service Company may at any time undertake to examine title to any of the Well Sites. In the event that such examination of title shall result in the determination that there are title defects that are contrary to the status of title as above stated, Service Company may so notify Owner, specifying in writing such defects. Owner shall use diligent effort to remove or cure such defects in title within said time. In the event that Owner shall be unable to remove or cure

such title defects within the specified time, Service Company shall have the option of either waiving said title defects or canceling this Lease as to the Well Site to which title defects are applicable and receiving a prorata refund of any royalties paid in advance. In the event that uncured title defects shall adversely affect the Well Sites to the extent or degree that it materially interferes with Service Company's ability to perform its obligations under the terms of this Lease, Service Company shall be entitled to cancel this Lease and receive a prorata refund of any advance royalties paid on any of the Well Sites.

7. USE OF WELL SITES.

The Well Sites shall be used for the sole purpose of withdrawing water and supplying it to Owner or third parties in accordance with the provisions of the Agreement or third party agreements.

8. UNPRODUCTIVE WELL SITES.

If any Well Site becomes unproductive, upon written notice of the same to Owner, the unproductive Well Site shall no longer be subject to the terms of this Lease, and the periodic royalty shall be reduced prorata accordingly. In such event, the well shall be plugged at Service Company's expense in accordance with applicable Water Management District requirements and other applicable statutes, ordinances, or regulations. If Owner and Service Company cannot agree upon the amount of the reductions of the periodic royalty, the amount of the reductions shall be determined by a qualified appraiser selected by agreement of the parties. If the parties cannot agree on an appraiser, Owner and Service Company, at their own expense, shall each select an appraiser of its choice to calculate the reductions, and the average of the two calculations shall be binding upon the parties.

If Owner shall reasonably determine that for Owner's beneficial use of the Property and Well Site (whether an existing Well Site or on a Well Site hereafter leased) must be relocated, Owner will provide a substitute Well Site located as closely as reasonably possible to the one removed, and Owner shall bear the expense of such relocation, including cost of plugging. The periodic royalty shall be renegotiated based upon the costs of such relocation efforts.

Upon the abandonment of any Well Site, or the removal from any Well Site, Service Company shall clean up the Well Site and leave the same in neat and presentable condition.

9. PERMITS.

Prior to constructing or operating any Well Site Production Facility or servicing any customer, Service Company shall obtain, at its sole expense, unless specifically provided otherwise in the Agreement, all necessary permits, certificates, and approvals necessary to construct and operate Well Site Production Facilities, withdraw water from Well Sites, transmit water to the Property and collect Tariffs for water supplied to customer and any other person or entity, as may be required by any governmental entity, including, without limitation, the applicable water management districts, Public Service Commission, county governments, U.S. Army Corp of Engineers, and the Department of Environmental Protection. The owner has the right to approve, prior to filing, the identity of the applicant and the form and substance of any such permit application.

10. INSTALLATION OF WELL SITE PRODUCTION FACILITIES.

If any Well Site, whether initially subject to this Lease or hereafter leased, does not have complete and operable Well Site Production Facilities in place at the time of execution of this Lease or at the time such Well Site becomes subject to this Lease, then Service Company, at Service Company's expense, shall install the Well Site Production Facilities or replace the missing or defective parts necessary to eliminate the deficiency as soon as reasonably possible after the date of this Lease or after the date of acquisition in the case of a Well Site hereafter acquired.

11. MAINTENANCE AND REPAIR.

As of the effective date of this Lease (in case of existing Well Sites and Well Site Production Facilities), and after the initial installation as set forth in Section 10 above (in the case of those facilities covered by Section 10), Service Company shall be responsible for the continuous operation and maintenance of the Well Sites and Well Site Production Facilities during the term of this Lease, unless otherwise agreed in writing by Service Company and Owner. Service Company's responsibilities shall include replacement of any component parts of the Well Site Production Facilities when such becomes necessary due to destruction, wear and tear or otherwise. Service Company shall also keep the Well Sites in a neat, clean and presentable condition. Owner agrees to assign any and all warranties and/or maintenance bonds and the right to enforce the same to Service Company and to provide Service Company with any existing operation/maintenance and parts manuals with respect to the Well Site Production Facilities. Customer's pipes, apparatus and equipment on customer's side of the Point of Delivery shall be selected, installed, used and maintained in accordance with good practices in the industry and in full compliance with all applicable laws and governmental regulations. Service Company shall, at all reasonable times and hours, have the right to inspect Customer's internal lines and facilities. Customer shall bear the responsibility for the maintenance and replacement of any pipes or related transmission equipment on Customer's side of the Point of Delivery.

12. ELECTRICAL POWER.

Service Company represents that electrical power for the proposed operations on all Well Sites requiring electricity is available from the appropriate power companies having authority to serve the Well Sites or, if not, acquiring electric power from such companies or alternative source shall be the responsibility of Service Company. Owner shall reasonably cooperate with Service Company in assisting Service Company to obtain electrical power from the closest power source of the appropriate power company to each Well Site, including additional Well Sites hereafter acquired, so as to service the operations of Service Company at each Well Site. Owner shall have the right to approve the location of poles, transistors, electrical lines, or other necessary installations, and Owner shall not unreasonably withhold such approval. Owner shall have the right to require underground installation of utilities. Service Company shall bear all expenses incurred in connection with the installation and continued service by the appropriate power company or other source of electric power. Service Company shall reimburse Owner for any attorney's fees incurred by Owner in connection with the preparation, review, or negotiation of documents or for consultations in relation to obtaining and maintaining electrical power for the proposed operations at each Well Site, including but not limited to the placement of poles, transistors, electrical lines and other necessary installations.

13. INGRESS AND EGRESS.

Owner hereby grants Service Company nonexclusive ingress and egress to the Well Sites during the period of time this Lease remains in force and subject to the limitations of this Section. Service Company's nonexclusive right of ingress and egress may be exercised only during the times and solely for the purposes set forth in this Lease. If county or state roads provide reasonable means of ingress and egress to the Well Sites, Service Company shall use such county or state roads. In the event that ingress and egress is available only upon roads other than county or state roads, Service Company shall so notify Owner, and Owner shall specify existing roads or ways for ingress and egress to be used by Service Company. Owner shall make reasonable efforts to specify roads or ways located so as to permit Service Company to exercise and enjoy the privileges created by this Lease without undue interference, but Owner shall have no affirmative obligations to improve, maintain, or repair any such road for use by Service Company. In specifying roads for ingress and egress, Owner shall from time to time instruct Service Company as to specific gates to be used and procedures for locking and unlocking gates. Service Company agrees to comply with such instructions of Owner. Service Company shall be solely responsible for security on all gates used by Service Company for ingress and egress. Any roads or accessways used by Service Company shall be used by Service Company at its own risk and shall be maintained by Service Company so as to permit continued safe vehicular passage and shall be left in a condition at least as good as originally found by Service Company at the commencement of this Lease. Owner agrees that, in the event Owner leases additional Well Sites to Service Company, Owner shall grant to Service Company such additional easements as may be necessary to provide ingress and egress to such additional Well Sites.

14. LOCKS, GATES, FENCES.

Service Company shall place no new locks on Owner's gates without the prior consent of Owner. If Owner permits Service Company to place locks on its gates, the locks shall be clearly identified to Owner and placed so that they will not prohibit access by others who have locks on the gates. Service Company shall give keys only to authorized employees.

Service Company agrees that it shall immediately close and securely fasten gates or gaps in fences that are opened by Service Company or observed open, whether or not such were opened by someone else. No new gaps or gates shall be made in any fence without the prior consent of Owner.

Service Company shall in no way tamper with, alter, or modify any of Owner's existing fences or cattle or wildlife control equipment or devises without the prior consent of Owner. In the event any fences require repair due to the negligence or other activities of Service Company, Owner shall make such repairs and Service Company shall indemnify Owner for the costs of such repair.

15. PROHIBITED ACTIVITIES.

Service Company shall not take or remove, kill, or otherwise molest any livestock or wildlife on any of Owner's lands, nor shall the Service Company take, remove, disturb, or otherwise molest any standing timber on owner's lands without the prior consent of owner. Service Company covenants that Service Company will hold Owner harmless from all damage caused by Service Company or its agents or employees to such livestock, wildlife, or timber and to promptly notify and reimburse Owner for any such damage. No hunting or fishing shall be permitted on any of Owner's lands by Service Company, its agents, or employees. Service Company shall at no time have dogs or guns or firearms on any of Owner's lands. Service Company will at no time cause any fires to be set on any of Owner's lands, except for the purposes of disposing of debris and only with the prior written consent of Owner. If Owner grants consent, Service Company shall be solely responsible for obtaining the necessary and required permits and for all expenses related thereto. If any employees, agents, or subcontractors of Service Company shall violate the provisions of this paragraph, Owner shall be entitled to require that such person or persons be prohibited from subsequently coming onto Owner's lands. Should Service Company fail to exercise reasonable measures to prevent such person or persons from subsequently coming onto Owner's lands, such act shall be deemed a default hereunder.

16. INSPECTION BY OWNER.

Owner or Owner's agent may at any time enter upon any Well Site to view the condition thereof and to observe Service Company's operations thereon.

17. REAL ESTATE, PERSONAL PROPERTY AND INTANGIBLE TAXES.

Service Company shall pay all real estate, personal property, and intangible taxes, and all increases in real estate taxes on the Well Sites and Well Production Facilities accruing during the time that this Lease remains in force, including any increases resulting from the construction of any additions or improvements or the installation of any equipment on the Well Sites (which in order to do, Service Company shall first obtain the written consent of Owner, except for those installations expressly permitted by Owner under this Lease or in the Agreement), whether actual payment of such taxes is made during the term of this Lease or thereafter. If this Lease begins other than on the first day of the tax year, or if this Lease ends other than on the last day of the tax year, then the parties shall make appropriate adjustments or prorations. Additionally, Owner and Service Company acknowledge and agree that the taxes imposed upon the Property and/or Well Production Facilities and other taxes shall be computed and based on the most recently available valuations, millages, assessments, and other information (including information included in a "cut-out" customarily prepared by the county) provided by the county in which the Property is located.

18. OTHER TAXES.

Service Company shall pay all sales taxes, if any, license taxes, and any and all other taxes, except income taxes of Owner, with respect to Service Company's operations hereunder.

19. INSURANCE.

Service Company shall obtain insurance for both liability and property and Well Production Facilities at all times during the term of this Lease, and in amounts sufficient to cover all reasonable damage or claims to the property or by third persons and shall specifically name the Owner as co-insured with Service Company. Service Company shall obtain such insurance at its sole cost and expense and shall be fully responsible for all payments and renewals related to such policies.

20. HOLD HARMLESS, ATTORNEY'S FEES.

A. Indemnity to Owner.

Service Company shall indemnify and defend Owner and hold Owner harmless from and against every claim or demand with respect to bodily injury, death, property damage, nuisance, or other loss or damage of any kind, including attorney's fees and costs incurred by Owner, arising out of Service Company's negligence in the use or

occupancy or operation of any Well Site, Well Site Production Facility, or any Service Company's activities on or about any Well Site. Service Company's duty to indemnify shall include indemnification from and against any fine, penalty, liability, or cost arising out of Service Company's violation of any law, ordinance, or governmental regulation applicable to Service Company's use or occupancy of any Well Site or Service Company's activities on or about any Well Site, or other of Owner's lands.

B. Indemnity to Service Company.

Owner shall indemnify and defend Service Company and hold Service Company harmless from and against every claim or demand with respect to bodily injury, death, property damage, nuisance, or other loss or damage of any kind, including attorney's fees and costs incurred by Service Company, arising out of Owner's negligence in discharging its duties under the lease of any Well Site, Well Site Production Facility, or Owner's activities on or about any Well Site. Owner's duty to indemnify shall also include indemnification from and against any fine, penalty, liability, or cost arising out of Owner's violation of any law, ordinance, or governmental regulation applicable to Owner's use or occupancy of any Well Site or Owner's activities on or about any Well Site.

C. "Costs and Attorney's Fees.

In the event Service Company or Owner brings an action to enforce this Lease by Court proceedings or otherwise, then the prevailing party shall be entitled to recover from the other party all costs incurred, together with reasonable attorney's fees at all levels, including appeals.

21. DEFAULT.

The occurrence of one or more of the following is an event of default by Service Company: the failure of Service Company to perform any obligation for the payment of money within 15 days after the time within which the payment is to be made as provided in the section of this Lease creating the obligation; the failure of Service Company to perform and comply with any obligation imposed upon Service Company by this Lease, other than the payment of money, and the failure continues beyond a reasonable period of time for curing such failure to perform, after written notice thereof from Owner to Service Company, except that any breach by Service Company of the obligations set forth in Section 15 shall be deemed a default hereunder without any notice, grace, or curative period; proceedings under the Bankruptcy Act for bankruptcy are filed by or against Service Company, and if filed against Service Company, have not been dismissed within thirty (30) days after the filing; assignment of Service Company's property for the benefit of creditors is made; a receiver, conservator, or similar officer is appointed by a court of competent jurisdiction to take charge of all or a substantial part of Service Company's property, and within thirty (30) days after appointment the officer is not discharged and possession of the property is not

restored to Service Company; Service Company's interest in the Well Sites and Well Site Production Facilities, or under this Lease or the Agreement is the subject of taking or levy under execution, attachment, or other process of law and the action is not canceled or discharged within thirty (30) days after its occurrence; Service Company abandons the Property; or Service Company defaults under this Agreement.

If Owner shall default in any of its obligations hereunder, Service Company shall give written notice thereof to Owner, and Owner shall have a reasonable period of time after receipt of such notice in which to cure such default. Any default of Owner under the Agreement shall be deemed a default hereunder.

Owner and Service Company shall have the right to terminate this Lease for any default of the other; provided that where curative periods are applicable, Owner and Service Company may only terminate if the default remains uncured through the expiration of such curative periods.

22. ASSIGNABILITY.

Service Company may not assign, pledge, or encumber Service Company's rights hereunder. Any assignment, pledge or encumbrance of Service Company's stock shall be deemed a prohibited assignment hereunder and a default under the terms of this Lease.

23. RECORDING.

Neither Owner nor Service Company shall record this Lease without prior written consent of the other, which consent shall not be unreasonably withheld.

24. ADDRESSES, NOTICES; TIME.

Notices hereunder shall be given by manual delivery, telegraph, or mail addressed as provided below. For the purpose of this Lease, the addresses of the parties are:

Owner:

Service Company:

Notice given by telegraph shall be deemed received when filed for transmission with an authorized dispatching office of the telegraph company in the United States, charges

prepaid. Notice given by certified mail shall be deemed received when deposited in the United States mails, postage prepaid. Notice given otherwise shall be deemed received when received at the address to which sent or when actually received by the party to whom addressed. Either party may change its address by giving written notice to the other, but the change shall not become effective until the notice is actually received by the other party. Payments due Owner hereunder shall be made to Owner at Owner's address set forth above (or at a changed address as provided above). If the last day for giving any notice or performing any act hereunder falls on a Saturday, Sunday, or a day on which the United States post offices are not open for the regular transaction of business, the time shall be extended to the next day that is not a Saturday, Sunday, or post office holiday.

25. BINDING EFFECT OF LEASE.

This Lease shall be binding upon and shall inure to the benefit of Owner, Service Company, and their respective assigns and successors by merger, consolidation, conveyance, or otherwise, subject to the limiting terms of this Lease.

26. DOCUMENTATION.

Service Company and Owner agree that each shall execute such other documentation as may reasonably be required from time to time to effectuate the intent of this Lease.

27. INTERPRETATION.

It is agreed by and between the parties hereto that all words, terms and conditions contained herein are to be read in concert, each with the other, and that a provision contained under one heading may be considered to be equally applicable under another in the interpretation of this Lease.

28. EFFECTIVE DATE.

This Lease shall become effective and binding upon Owner and Service Company at the time of execution by both parties.

29. STRICT COMPLIANCE.

Failure to insist upon strict compliance of any of the terms, covenants, or conditions hereof shall not be deemed a waiver of such terms, covenants, or conditions, nor shall any waiver or relinquishment of any right or power hereunder at any one time be deemed a waiver or relinquishment of such right or power at any other time or times.

30. CONFLICT WITH THE AGREEMENT.

In the event of any conflict between the terms of this Lease and terms of the Agreement, the terms of the Agreement shall control.

IN WITNESS WHEREOF, Owner and Service Company have caused this Lease, with the named Exhibits attached, to be duly executed in several counterparts, each of which shall be considered an original executed copy for all purposes.

Signed, Sealed and Delivered in the Presence of:

Miami Corporation

_____

By:_____
"Owner"

_____

Farmton Water Resources LLC

_____

By:_____
"Service Company"

_____

miami\3lease.agr

Miami Tract Hunt Club Inc
1721 Royal Palm Drive
Edgewater, Florida 32132
February 6, 2002

Mr. Earl Underhill
Miami Corporation
1625 Maytown Road
Osteen, Florida 32764

Dear Earl:

As we discussed, we at the Miami Tract Hunt Club are planning to develop several hunting camp sites which would need potable water service for our 260 member families. I would propose four sites be located at the areas noted on the attached map. As I understand, it is the intent to provide water services throughout the property owned by the Miami Corporation through a separate regulated utility. I understand we would be required to pay a reasonable fee for that potable water service, and that such fees and charges would be determined by the Florida Public Service Commission.

Please let me know as soon as such services can be made available, so that we can commence with our plans for development of the hunting camp sites.

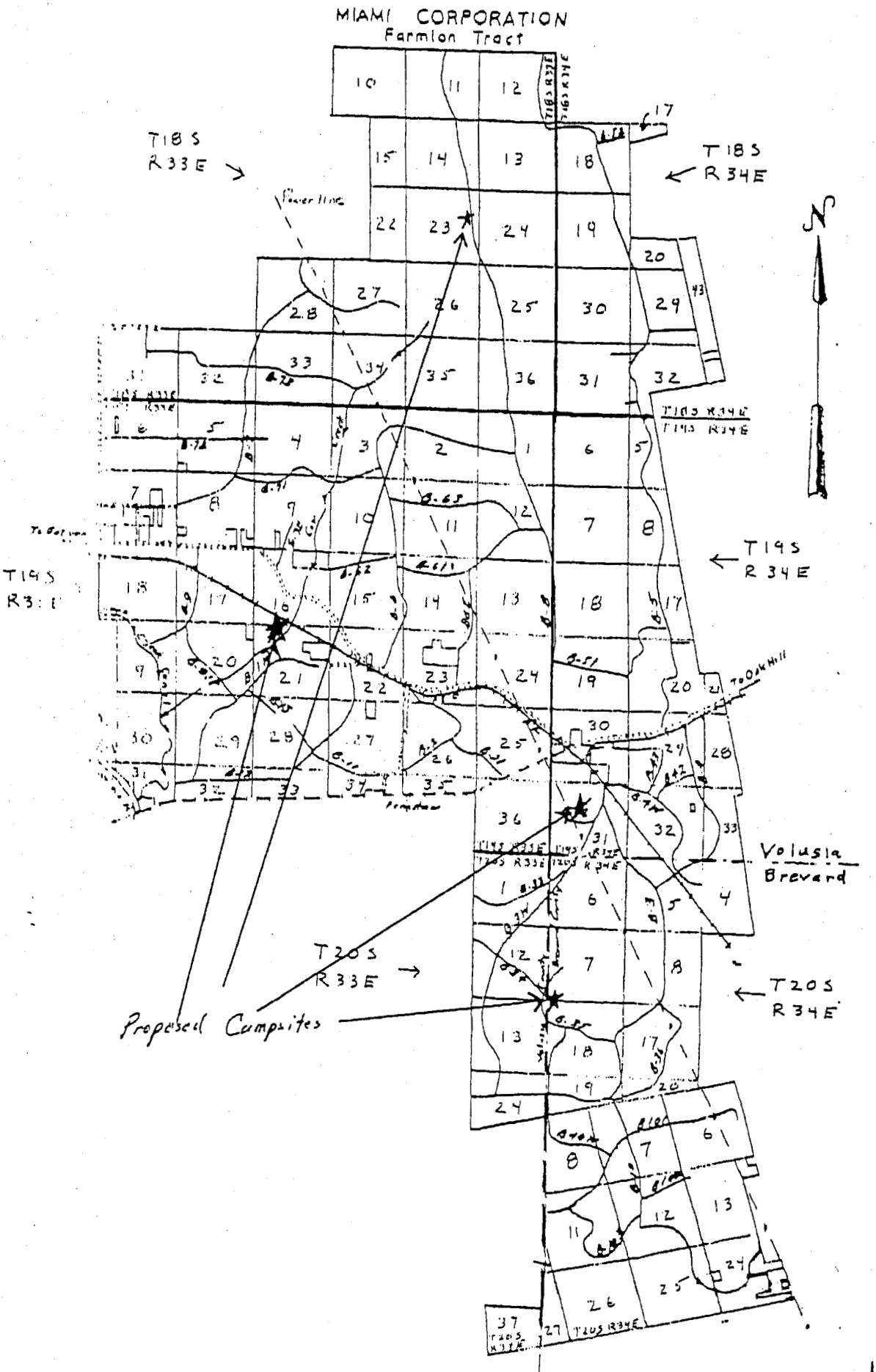
Sincerely,

Mike Thomas, President
Miami Tract Hunt Club Inc.

Encl



R and B/99


MIAMI CORPORATION
Farmlon Tract
T18S R33E
T18S R34E
T19S R33E
T19S R34E
T20S R33E
T20S R34E
Power line
Proposed Campsites
Volusia
Brevard
TOOKHILL

FARMTON MANAGEMENT, LLC

STATEMENT OF ASSETS, LIABILITIES AND MEMBER'S CAPITAL

DECEMBER 17, 2002

ASSETS	
CASH & CASH EQUIVALENTS	$ 1,040,000
INVESTMENT IN FARMTON WATER RESOURCES, LLC	10,000
TOTAL ASSETS	$ 1,050,000
LIABILITIES & MEMBER'S CAPITAL	
MEMBER'S CAPITAL	$ 1,050,000
TOTAL LIABILITIES & MEMBER'S CAPITAL	$ 1,050,000



AFFIDAVIT

I, Charles E. Schroeder, am the President of Farmton Management, LLC. In that capacity, I am filing this Affidavit in order to assure the Florida Public Service Commission that Farmton Management, LLC will provide or assist Farmton Water Resources, LLC on securing necessary funding to meet all reasonable capital needs and any operating deficits of the Utility, which may arise as the result of the Utility's operation of a certificated water Utility in its PSC certificated service territory. Such funding will be provided on an as and when needed basis.

BY: _____
Charles E. Schroeder, President
Farmton Management, LLC

STATE OF ILLINOIS)
) ss.
COUNTY OF COOK)

The foregoing instrument was acknowledged before me this 16 day of December, 2002, by Charles E. Schroeder, who is personally known to me.

"OFFICIAL SEAL"
BARBRA GOERING
Notary Public, State of Illinois
My Commission Expires 5/1/03

_____
Notary Public
State of Illinois
My Commission Expires:

WATER TARIFF

FARMTON WATER RESOURCES, LLC
NAME OF COMPANY

FILED WITH

FLORIDA PUBLIC SERVICE COMMISSION

ORIGINAL SHEET NO. 1.0

WATER TARIFF

FARMTON WATER RESOURCES, LLC
NAME OF COMPANY

1625 Maytown Road, Osteen, Florida 32764
(ADDRESS OF COMPANY)

407/322-5693
(Business & Emergency Telephone Numbers)

FILED WITH

FLORIDA PUBLIC SERVICE COMMISSION

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 2.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

TABLE OF CONTENTS

	Sheet Number
Communities Served Listing	4.0
Description of Territory Served	3.1
Index of	
Rates and Charges Schedules	11.0
Rules and Regulations	6.0
Service Availability Policy	28.0
Standard Forms	20.0
Technical Terms and Abbreviations	5.0
Territory Authority	3.0

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 3.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

TERRITORY AUTHORITY

CERTIFICATE NUMBER -

COUNTY - Volusia and Brevard

COMMISSION ORDER(s) APPROVING TERRITORY SERVED -

Order Number	Date Issued	Docket Number	Filing Type
			ORIGINAL CERTIFICATE

(Continued to Sheet No. 3.1)

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

NAME OF COMPANY FARMTON WATER RESOURCES, LLC
WATER TARIFF
(Continued from Sheet No. 3.0)

DESCRIPTION OF TERRITORY SERVED

Township 18 South, Range 33 East, Volusia County, Florida

All of Sections 10, 11, 12, 13, and 14
The East ½ of Sections 15 and 22
All of Sections 23, 24, 25, 26, 27, 28, 31, 32, 33, 34, 35 and 36

Township 19 South, Range 33 East, Volusia County, Florida

All of Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29
Section 30 and the North ½ of Section 31, lying East of the St. Johns River
Sections 32, 33, 34 and 35 lying northerly of the railroad right-of-way
All of Section 36

Township 20 South, Range 33 East, Volusia County, Florida

All of Sections 1, 12, 13 and 24

Township 19 South, Range 34 East, Volusia County, Florida

All of sections 5, 6, 7, 8, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, and 33

Township 20 South, Range 34 East, Brevard County, Florida

All of Sections 4, 5, 6, 7, 8, 17, 18, 19 and 20

Together With:
Township 20 South, Range 34 East and Township 21 South, Range 34 East and Township 21 South, Range 33 East, Brevard County, Florida

All of Sections 6, 7, 8, 10, 11, 12, 13, 24, 25, 26, 27 and a portion of Section 37 of the plat of Indian River Park subdivision of the Bernardo Sequi Grant recorded in Plat Book 2, Page 33 of the Public Records of Brevard County, Florida being more particularly described as follows:

Beginning at the southeast corner of Section 20, Township 20 South, Range 34 East thence N78°15'40"E, a distance of 2,203.90 feet; thence S18°04'14"E, a distance of 5,203.03 feet; thence S78°28'51"W, a distance of 650.12 feet; thence S18°04'14"E, a distance of 650.06 feet; thence N78°28'51"E, a distance of 650.12 feet; thence S18°04'14"E, a distance of 650.06 feet; thence S78°28'51"W, a distance of 1,300.24 feet; thence S18°04'14"E, a distance of 5,850.53 feet; thence N78°28'51"E, a distance of 1,300.24 feet; thence S18°04'14"E, a distance of 650.06 feet; thence S78°28'51"W, a distance of 1,300.24 feet; thence S18°04'14"E, a distance of 1,300.12 feet; thence S78°28'51"W, a distance of 1,300.24 feet; thence S18°04'14"E, a distance of 650.06 feet; thence N78°28'51"E, a distance of 2,600.48 feet; thence S18°04'14"E, a distance of 650.06 feet; thence S78°28'51"W, a distance of 21,437.63 feet; thence N09°25'57"W, a distance of 3,351.19 feet; thence S89°42'37"E, a distance of 4,129.52 feet; thence N00°57'50"W, a distance of 5,354.01 feet; thence N01°00'59"W, a distance of 5,235.95 feet; thence N01°22'29"W a distance of 2,576.62 feet; thence N78°15'40"E, a distance of 10,900.37 feet to the point of beginning.

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 4.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

COMMUNITIES SERVED LISTING

County Name	Development Name	Rate Schedule(s) Available	Sheet No.
Seminole		All	
Volusia		All	
Brevard		All	

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

TECHNICAL TERMS AND ABBREVIATIONS

1.0 "BFC" - The abbreviation for "Base Facility Charge" which is the minimum amount the Company may charge its Customers and is separate from the amount the Company bills its Customers for water consumption.

2.0 "CERTIFICATE" - A document issued by the Commission authorizing the Company to provide water service in a specific territory.

3.0 "COMMISSION" - The shortened name for the Florida Public Service Commission.

4.0 "COMMUNITIES SERVED" - The group of Customers who receive water service from the Company and whose service location is within a specific area or locality that is uniquely separate from another.

5.0 "COMPANY" - The shortened name for the full name of the utility which is Farmton Water Resources, LLC.

6.0 "CUSTOMER" - Any person, firm or corporation who has entered into an agreement to receive water service from the Company and who is liable for the payment of that water service.

7.0 "CUSTOMER'S INSTALLATION" - All pipes, shut-offs, valves, fixtures and appliances or apparatus of every kind and nature used in connection with or forming a part of the installation for rendering water service to the Customer's side of the Service Connection whether such installation is owned by the Customer or used by the Customer under lease or other agreement.

8.0 "MAIN" - A pipe, conduit, or other facility used to convey water service to individual service lines or through other mains.

9.0 "RATE" - Amount which the Company may charge for water service which is applied to the Customer's actual consumption.

10.0 "RATE SCHEDULE" - The rate(s) or charge(s) for a particular classification of service plus the several provisions necessary for billing, including all special terms and conditions under which service shall be furnished at such rate or charge.

11.0 "SERVICE" - As mentioned in this tariff and in agreement with Customers, "Service" shall be construed to include, in addition to all water service required by the Customer, the readiness and ability on the part of the Company to furnish water service to the Customer. Service shall conform to the standards set forth in Section 367.111 of the Florida Statutes.

(Continued to Sheet No. 5.1)

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

(Continued from Sheet No. 5.0)

12.0 "SERVICE CONNECTION" - The point where the Company's pipes or meters are connected with the pipes of the Customer.

13.0 "SERVICE LINES" - The pipes between the Company's Mains and the Service Connection and which includes all of the pipes, fittings and valves necessary to make the connection to the Customer's premises, excluding the meter.

14.0 "TERRITORY" - The geographical area described, if necessary, by metes and bounds but, in all cases, with township, range and section in a Certificate, which may be within or without the boundaries of an incorporated municipality and may include areas in more than one county.

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 6.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

INDEX OF RULES AND REGULATIONS

	Sheet Number:	Rule Number:
Access to Premises	9.0	14.0
Adjustment of Bills	10.0	22.0
Adjustment of Bills for Meter Error	10.0	23.0
All Water Through Meter	10.0	21.0
Applications	7.0	3.0
Applications by Agents	7.0	4.0
Change of Customer's Installation	8.0	11.0
Continuity of Service	8.0	9.0
Customer Billing	9.0	16.0
Delinquent Bills	7.0	8.0
Extensions	7.0	6.0
Filing of Contracts	10.0	25.0
General Information	7.0	1.0
Inspection of Customer's Installation	9.0	13.0
Limitation of Use	8.0	10.0
Meter Accuracy Requirements	10.0	24.0
Meters	10.0	20.0
Payment of Water and Wastewater Service Bills Concurrently	10.0	18.0

(Continued to Sheet No. 6.1)

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

(Continued from Sheet No. 6.0)

	Sheet Number:	Rule Number:
Policy Dispute	7.0	2.0
Protection of Company's Property	8.0	12.0
Refusal or Discontinuance of Service	7.0	5.0
Right-of-way or Easements	9.0	15.0
Termination of Service	9.0	17.0
Type and Maintenance	7.0	7.0
Unauthorized Connections - Water	10.0	19.0

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

RULES AND REGULATIONS

1.0 GENERAL INFORMATION - These Rules and Regulations are a part of the rate schedules and applications and contracts of the Company and, in the absence of specific written agreement to the contrary, apply without modifications or change to each and every Customer to whom the Company renders water service.

The Company shall provide water service to all Customers requiring such service within its Certificated territory pursuant to Chapter 25-30, Florida Administrative Code and Chapter 367, Florida Statutes.

2.0 POLICY DISPUTE - Any dispute between the Company and the Customer or prospective Customer regarding the meaning or application of any provision of this tariff shall upon written request by either party be resolved by the Florida Public Service Commission.

3.0 APPLICATION - In accordance with Rule 25-30.310, Florida Administrative Code, a signed application is required prior to the initiation of service. The Company shall provide each Applicant with a copy of the brochure entitled "Your Water and Wastewater Service," prepared by the Florida Public Service Commission.

4.0 APPLICATIONS BY AGENTS - Applications for water service requested by firms, partnerships, associations, corporations, and others shall be rendered only by duly authorized parties or agents.

5.0 REFUSAL OR DISCONTINUANCE OF SERVICE - The Company may refuse or discontinue water service rendered under application made by any member or agent of a household, organization, or business in accordance with Rule 25-30.320, Florida Administrative Code.

6.0 EXTENSIONS - Extensions will be made to the Company's facilities in compliance with Commission Rules and Orders and the Company's tariff.

7.0 TYPE AND MAINTENANCE - In accordance with Rule 25-30.545, Florida Administrative Code, the Customer's pipes, apparatus and equipment shall be selected, installed, used and maintained in accordance with standard practice and shall conform with the Rules and Regulations of the Company and shall comply with all laws and governmental regulations applicable to same. The Company shall not be responsible for the maintenance and operation of the Customer's pipes and facilities. The Customer expressly agrees not to utilize any appliance or device which is not properly constructed, controlled and protected or which may adversely affect the water service. The Company reserves the right to discontinue or withhold water service to such apparatus or device.

8.0 DELINQUENT BILLS - When it has been determined that a Customer is delinquent in paying any bill, water service may be discontinued after the Company has mailed or presented a written notice to the Customer in accordance with Rule 25-30.320, Florida Administrative Code.

(Continued on Sheet No. 8.0)

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

(Continued from Sheet No. 7.0)

9.0 CONTINUITY OF SERVICE - In accordance with Rule 25-30.250, Florida Administrative Code, the Company will at all times use reasonable diligence to provide continuous water service and, having used reasonable diligence, shall not be liable to the Customer for failure or interruption of continuous water service.

If at any time the Company shall interrupt or discontinue its service, all Customers affected by said interruption or discontinuance shall be given not less than 24 hours written notice.

10.0 LIMITATION OF USE - Water service purchased from the Company shall be used by the Customer only for the purposes specified in the application for water service. Water service shall be rendered to the Customer for the Customer's own use and shall not sell or otherwise dispose of such water service supplied by the Company.

In no case shall a Customer, except with the written consent of the Company, extend his lines across a street, alley, lane, court, property line, avenue, or other way in order to furnish water service to the adjacent property through one meter even though such adjacent property may be owned by him. In case of such unauthorized extension, sale, or disposition of service, the Customer's water service will be subject to discontinuance until such unauthorized extension, remetering, sale or disposition of service is discontinued and full payment is made to the Company for water service rendered by the Company (calculated on proper classification and rate schedules) and until reimbursement is made in full to the Company for all extra expenses incurred for clerical work, testing, and inspections. (This shall not be construed as prohibiting a Customer from remetering.)

11.0 CHANGE OF CUSTOMER'S INSTALLATION - No changes or increases in the Customer's installation, which will materially affect the proper operation of the pipes, mains, or stations of the Company, shall be made without written consent of the Company. The Customer shall be liable for any charge resulting from a violation of this Rule.

12.0 PROTECTION OF COMPANY'S PROPERTY - The Customer shall exercise reasonable diligence to protect the Company's property. If the Customer is found to have tampered with any Company property or refuses to correct any problems reported by the Company, service may be discontinued in accordance with Rule 25-30.320, Florida Administrative Code. In the event of any loss or damage to property of the Company caused by or arising out of carelessness, neglect, or misuse by the Customer, the cost of making good such loss or repairing such damage shall be paid by the Customer.

(Continued on Sheet No. 9.0)

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF
(Continued from Sheet No. 9.0)

18.0 PAYMENT OF WATER AND WASTEWATER SERVICE BILLS CONCURRENTLY - In accordance with Rule 25-30.320(2)(g), Florida Administrative Code, when both water and wastewater service are provided by the Company, payment of any water service bill rendered by the Company to a Customer shall not be accepted by the Company without the simultaneous or concurrent payment of any wastewater service bill rendered by the Company.

19.0 UNAUTHORIZED CONNECTIONS - WATER - Any unauthorized connections to the Customer's water service shall be subject to immediate discontinuance without notice, in accordance with Rule 25-30.320, Florida Administrative Code.

20.0 METERS - All water meters shall be furnished by and remain the property of the Company and shall be accessible and subject to its control, in accordance with Rule 25-30.230, Florida Administrative Code.

21.0 ALL WATER THROUGH METER - That portion of the Customer's installation for water service shall be so arranged to ensure that all water service shall pass through the meter. No temporary pipes, nipples or spaces are permitted and under no circumstances are connections allowed which may permit water to by-pass the meter or metering equipment.

22.0 ADJUSTMENT OF BILLS - When a Customer has been undercharged as a result of incorrect application of the rate schedule, incorrect reading of the meter, incorrect connection of the meter, or other similar reasons, the amount may be billed to the Customer as the case may be pursuant to Rule 25-30.350, Florida Administrative Code.

23.0 ADJUSTMENT OF BILLS FOR METER ERROR - When meter tests are made by the Commission or by the Company, the accuracy of registration of the meter and its performance shall conform with Rule 25-30.262, Florida Administrative Code and any adjustment of a bill due to a meter found to be in error as a result of any meter test performed whether for unauthorized use or for a meter found to be fast, slow, non-registering, or partially registering, shall conform with Rule 25-30.340, Florida Administrative Code.

24.0 METER ACCURACY REQUIREMENTS - All meters used by the Company should conform to the provisions of Rule 25-30.262, Florida Administrative Code.

25.0 FILING OF CONTRACTS - Whenever a Developer Agreement or Contract, Guaranteed Revenue Contract, or Special Contract or Agreement is entered into by the Company for the sale of its product or services in a manner not specifically covered by its Rules and Regulations or approved Rate Schedules, a copy of such contracts or agreements shall be filed with the Commission prior to its execution in accordance with Rule 25-9.034 and Rule 25-30.550, Florida Administrative Code. If such contracts or agreements are approved by the Commission, a conformed copy shall be placed on file with the Commission within 30 days of execution.

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

(Continued from Sheet No. 8.0)

13.0 INSPECTION OF CUSTOMER'S INSTALLATION - All Customer's water service installations or changes shall be inspected upon completion by a competent authority to ensure that the Customer's piping, equipment, and devices have been installed in accordance with accepted standard practice and local laws and governmental regulations. Where municipal or other governmental inspection is required by local rules and ordinances, the Company cannot render water service until such inspection has been made and a formal notice of approval from the inspecting authority has been received by the Company.

Not withstanding the above, the Company reserves the right to inspect the Customer's installation prior to rendering water service, and from time to time thereafter, but assumes no responsibility whatsoever for any portion thereof.

14.0 ACCESS TO PREMISES - In accordance with Rule 25-30.320(2)(f), Florida Administrative Code, the Customer shall provide the duly authorized agents of the Company access at all reasonable hours to its property. If reasonable access is not provided, service may be discontinued pursuant to the above rule.

15.0 RIGHT-OF-WAY OR EASEMENTS - The Customer shall grant or cause to be granted to the Company, and without cost to the Company, all rights, easements, permits, and privileges which are necessary for the rendering of water service.

16.0 CUSTOMER BILLING - Bills for water service will be rendered - Monthly, Bimonthly, or Quarterly - as stated in the rate schedule.

In accordance with Rule 25-30.335, Florida Administrative Code, the Company may not consider a Customer delinquent in paying his or her bill until the twenty-first day after the Company has mailed or presented the bill for payment.

A municipal or county franchise tax levied upon a water or wastewater public Company shall not be incorporated into the rate for water or wastewater service but shall be shown as a separate item on the Company's bills to its Customers in such municipality or county.

If a Company utilizes the base facility and usage charge rate structure and does not have a Commission authorized vacation rate, the Company shall bill the Customer the base facility charge regardless of whether there is any usage.

17.0 TERMINATION OF SERVICE - When a Customer wishes to terminate service on any premises where water service is supplied by the Company, the Company may require reasonable notice in accordance with Rule 25-30.325, Florida Administrative Code.

(Continued on Sheet No. 10.0)

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 11.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

INDEX OF RATES AND CHARGES SCHEDULES

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Customer Deposits	16.0
Bulk Raw Water, BRWS	15.0
Fire Protection, FPS	14.0
General Service, GS	12.0
Meter Test Deposit	17.0
Miscellaneous Service Charges	18.0
Residential Service, RS	13.0
Service Availability Fees and Charges	19.0

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

GENERAL SERVICE

RATE SCHEDULE GS

AVAILABILITY - Available throughout the area served by the Company.

APPLICABILITY - For water service to all customers for which no other schedule applies.

LIMITATIONS - Subject to all of the Rules and Regulations of this Tariff and General Rules and Regulations of the Commission.

BILLING PERIOD - Monthly

RATE -

Meter Size	Base Facility Charge
5/8"	$ 3.58
3/4"	5.37
1"	8.95
1 1/2"	17.90
2"	28.64
3"	53.70
Gallonage charge per 1,000 Gallons	$ 0.65

TERMS OF PAYMENT - Bills are due and payable when rendered and become delinquent if not paid within twenty (20) days. After five (5) working days written notice, service may then be discontinued.

EFFECTIVE DATE -

TYPE OF FILING - Original Certificate

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 14.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

FIRE PROTECTION SERVICE

RATE SCHEDULE FPS

AVAILABILITY - Available throughout the area served by the Company.

APPLICABILITY - For raw water service rendered for all fire protection applications within the Utility's certificated service territory.

LIMITATIONS - Subject to all of the Rules and Regulations of this Tariff and General Rules and Regulations of the Commission.

BILLING PERIOD - Monthly

RATE -

Flat Base Charge Per Month
$ 349.35

TERMS OF PAYMENT - Bills are due and payable when rendered and become delinquent if not paid within twenty (20) days. After five (5) working days written notice, service may then be discontinued.

EFFECTIVE DATE -

TYPE OF FILING - Original Certificate

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

RESIDENTIAL SERVICE

RATE SCHEDULE RS

AVAILABILITY - Available throughout the area served by the company.

APPLICABILITY - For water service for all purposes in private residences and individually metered apartment units.

LIMITATIONS - Subject to all of the Rules and Regulations of this Tariff and General Rules and Regulations of the Commission.

BILLING PERIOD - Monthly

RATE -

Meter Size	Base Facility Charge
5/8"	$ 3.58
3/4"	5.37
1"	8.95
1 1/2"	17.90
2"	28.64
3"	53.70
Gallonage charge per 1,000 Gallons	$ 0.65

TERMS OF PAYMENT - Bills are due and payable when rendered and become delinquent if not paid within twenty (20) days. After five (5) working days written notice, service may then be discontinued.

EFFECTIVE DATE -

TYPE OF FILING - Original Certificate

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 15.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

BULK RAW WATER SERVICE

RATE SCHEDULE BRWS

AVAILABILITY - Available for all requests for bulk raw water purchased for treatment and resale.

APPLICABILITY - Available for all requests for bulk raw water purchased for treatment and resale.

LIMITATIONS - Subject to all of the Rules and Regulations of this Tariff and General Rules and Regulations of the Commission.

BILLING PERIOD - Monthly

RATE -

Base charge annually per 1 MGD of commitment

Take or pay base annual charge per 1 MGD of commitment and up to 1 MGD of usage	$317,903
Gallonage charge per 1,000 gallons used above commitment:	$ 0.33

TERMS OF PAYMENT - Bills are due and payable when rendered and become delinquent if not paid within twenty (20) days. After five (5) working days written notice, service may then be discontinued.

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

CUSTOMER DEPOSITS

ESTABLISHMENT OF CREDIT - Before rendering water service, the Company may require an Applicant for service to satisfactorily establish credit, but such establishment of credit shall not relieve the Customer from complying with the Company's rules for prompt payment. Credit will be deemed so established if the Customer complies with the requirements of Rule 25-30.311, Florida Administrative Code.

AMOUNT OF DEPOSIT - The amount of initial deposit shall be the following according to meter size:

	Residential	General Service
5/8" x 3/4"	N/A	N/A
1"	N/A	N/A
1 1/2"	N/A	N/A
Over 2"	N/A	N/A

ADDITIONAL DEPOSIT - Under Rule 25-30.311(7), Florida Administrative Code, the Company may require a new deposit, where previously waived or returned, or an additional deposit in order to secure payment of current bills provided.

INTEREST ON DEPOSIT - The Company shall pay interest on Customer deposits pursuant to Rules 25-30.311(4) and (4a). The Company will pay or credit accrued interest to the Customers account during the month of _____ each year.

REFUND OF DEPOSIT - After a residential Customer has established a satisfactory payment record and has had continuous service for a period of 23 months, the Company shall refund the Customer's deposit provided the Customer has met the requirements of Rule 25-30.311(5), Florida Administrative Code. The Company may hold the deposit of a non-residential Customer after a continuous service period of 23 months and shall pay interest on the non-residential Customer's deposit pursuant to Rules 25-30.311(4) and (5), Florida Administrative Code.

Nothing in this rule shall prohibit the Company from refunding a Customer's deposit in less than 23 months.

EFFECTIVE DATE -

TYPE OF FILING -

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 17.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

METER TEST DEPOSITS

METER BENCH TEST REQUEST - If any Customer requests a bench test of his or her water meter, in accordance with Rule 25-30.266, Florida Administrative Code, the Company may require a deposit to defray the cost of testing; such deposit shall not exceed the schedule of fees found in Rule 25-30.266, Florida Administrative Code.

METER SIZE	FEE
5/8" x 3/4"	$20.00
1" and 1 1/2"	$25.00
2" and over	Actual Cost

REFUND OF METER BENCH TEST DEPOSIT - The Company may refund the meter bench test deposit in accordance with Rule 25-30.266, Florida Administrative Code.

METER FIELD TEST REQUEST - A Customer may request a no-charge field test of the accuracy of a meter in accordance with Rule 25-30.266, Florida Administrative Code.

EFFECTIVE DATE -

TYPE OF FILING -

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

MISCELLANEOUS SERVICE CHARGES

The Company may charge the following miscellaneous service charges in accordance with the terms stated herein. If both water and wastewater services are provided, only a single charge is appropriate unless circumstances beyond the control of the Company requires multiple actions.

INITIAL CONNECTION - This charge may be levied for service initiation at a location where service did not exist previously.

NORMAL RECONNECTION - This charge may be levied for transfer of service to a new Customer account at a previously served location or reconnection of service subsequent to a Customer requested disconnection.

VIOLATION RECONNECTION - This charge may be levied prior to reconnection of an existing Customer after disconnection of service for cause according to Rule 25-30.320(2), Florida Administrative Code, including a delinquency in bill payment.

PREMISES VISIT CHARGE (IN LIEU OF DISCONNECTION) - This charge may be levied when a service representative visits a premises for the purpose of discontinuing service for nonpayment of a due and collectible bill and does not discontinue service because the Customer pays the service representative or otherwise makes satisfactory arrangements to pay the bill.

Schedule of Miscellaneous Service Charges

Initial Connection Fee	$ 15.00
Normal Reconnection Fee	$ 15.00
Violation Reconnection Fee	$ Actual Cost (1)
Premises Visit Fee (in lieu of disconnection)	$ 10.00

EFFECTIVE DATE -

TYPE OF FILING -

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 19.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC
WATER TARIFF

SERVICE AVAILABILITY SCHEDULE OF FEES AND CHARGES

Description	Amount	Refer to Service Availability Policy Sheet No./Rule No.
Back-Flow Preventor Installation Fee		
5/8" x 3/4"	$	
1"	$	
1 1/2"	$	
2"	$	
Over 2"	$[1]	
Customer Connection (Tap-in) Charge		
5/8" x 3/4" metered service	$	
1" metered service	$	
1 1/2" metered service	$	
2" metered service	$	
Over 2" metered service	$[1]	
Guaranteed Revenue Charge		
With Prepayment of Service Availability Charges:		
Residential-per ERC/month (__GPD)	$	
All others-per gallon/month	$	
Without Prepayment of Service Availability Charges:		
Residential-per ERC/month (__GPD)	$	
All others-per gallon/month	$	
Inspection Fee	$[1]	
Main Extension Charge		
Residential-per ERC (__GPD)	$	
All others-per gallon	$	
or		
Residential-per lot (__foot frontage)	$	
All others-per front foot	$	
Meter Installation Fee		
5/8" x 3/4"	$	
1"	$	
1 1/2"	$	
2"	$	
Over 2"	$[1]	
Plan Review Charge	$[1]	
Plant Capacity Charge		
Residential-per ERC (__GPD)	$	
All others-per gallon	$	
System Capacity Charge		
Residential-per ERC (__GPD)	$	
All others-per gallon	$	

[1]Actual Cost is equal to the total cost incurred for services rendered by a Customer.

EFFECTIVE DATE -
TYPE OF FILING -

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 20.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

INDEX OF STANDARD FORMS

Description	Sheet No.
APPLICATION FOR METER INSTALLATION	24.0
APPLICATION FOR WATER SERVICE	22.0
COPY OF CUSTOMER'S BILL	25.0
CUSTOMER'S GUARANTEE DEPOSIT RECEIPT	21.0

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 21.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

CUSTOMER'S GUARANTEE DEPOSIT RECEIPT

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 22.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

APPLICATION FOR WATER SERVICE

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

Sample Application Form

Name _____ Telephone Number _____

Billing Address _____

_____

City State Zip

Service Address _____

_____

City State Zip

Date service should begin _____

Service requested: Water ____Wastewater ____Both ____

By signing this agreement, the Customer agrees to the following:

1. The Company shall not be responsible for the maintenance and operation of the Customer's pipes and facilities. The Customer agrees not to utilize any appliance or device which is not properly constructed, controlled and protected or which may adversely affect the water service; the Company reserves the right to discontinue or withhold water service to such apparatus or device.

2. The Company may refuse or discontinue water service rendered under application made by any member or agent of a household, organization, or business for any of the reasons contained in Rule 25-30.320, Florida Administrative Code. Any unauthorized connections to the Customer's water service shall be subject to immediate discontinuance without notice, in accordance with Rule 25-30.320, Florida Administrative Code.

3. The Customer agrees to abide by all existing Company Rules and Regulations as contained in the tariff.

4. Bills for water service will be rendered - Monthly, Bimonthly, or Quarterly - as stated in the rate schedule. Bills must be paid within 20 days of mailing bills. If payment is not made after five working days written notice, service may be discontinued.

5. When a Customer wishes to terminate service on any premises where water and/or wastewater service is supplied by the Company, the Company may require (oral, written) notice within ___ days prior to the date the Customer desires to terminate service.

_____
Signature

_____
Date

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 24.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

APPLICATION FOR METER INSTALLATION

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 25.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

COPY OF CUSTOMER'S BILL

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 26.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

INDEX OF SERVICE AVAILABILITY

Description	Sheet Number	Rule Number
Acceptance of Facilities		
Availability		
Construction of Oversized Facilities		
Customer Connection (Tap-in)		
Customer Installation (Customer Maintained Lines)		
Cost Records and "As-Built" Plans		
Design by Independent Engineers		
Developer Agreements		
Easements and Rights-of-Way		
Extensions Outside Certificated Territory		
General Information		
Inspections		
Obligations of Developer		
Obligations of Company		
Off-Site Facilities		
On-Site Facilities		
Refundable Advances		
Schedule of Fees and Charges	Go to Sheet No. 19.0	
System Design and Construction		
Table of Daily Flows		
Transfer of Contributed Property - Bills of Sale		

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

166

ORIGINAL SHEET NO. 27.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

INDEX OF SERVICE AVAILABILITY

Description	Sheet Number
Schedule of Fees and Charges	Go to Sheet No. 19.0
Service Availability Policy	28.0

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 28.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

SERVICE AVAILABILITY POLICY

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

STATE OF FLORIDA



OFFICE OF COMMISSION CLERK
ANN COLE
COMMISSION CLERK

Public Service Commission

* *

Docket No. : 021256-WS

Docket Title: Application for certificate to provide water service in Volusia and Brevard Counties by Farmton Water Resources LLC.

DN 04834-04: FARMTON (DETERDING) - LETTER DATED 4/26/04 WITH ATTACHED 5TH REVISE EXHIBIT G AND H TO APPLICATION.
[MAP IS NOT IN PDF FORMAT]

[CLK NOTE: MAP PORTION OF EXHIBIT CAN BE FOUND IN MAPS MICROFILM.]

ORIGINAL

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JOHN R. JENKINS, P.A.
STEVEN T. MINDLIN, P.A.
DAREN L. SHIPPY
WILLIAM E. SUNDSTROM, P.A.
DIANE D. TREMOR, P.A.
JOHN L. WHARTON

ROBERT M. C. ROSE, *OF COUNSEL*
WAYNE L. SCHIEFELBEIN, *OF COUNSEL*

MARTIN S. FRIEDMAN, P.A.
VALERIE L. LORD, *OF COUNSEL*
(LICENSED IN TEXAS ONLY)

April 26, 2004
VIA HAND DELIVERY

Ms. Blanca Bayo
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Ct Rpr

RECEIVED-FPSC
04 APR 26 AM 9:18
COMMISSION
CLERK

Re: Farmton Water Resources, LLC; Docket No. 021256-WU
Application for Original Certificate
Our File No. 36029.01

Dear Ms. Bayo:

On April 20, 2004 I submitted to you Fourth Revised Exhibits G and H to the Application of Farmton Water Resources LLC for Original Certificate. Since the submission of those exhibits, we have determined that both the legal description and the maps contained errors. As such, I am submitting herewith Fifth Revised Exhibit G and H in order to correct those errors that were brought to our attention last week. These exhibits now accurately reflect the proposed service territory of Farmton Water Resources, LLC as restrictively amended in the above-referenced case. These exhibits should replace those in the original application and all revised versions thereof submitted since that application was filed.

Should you or any members of your staff have any questions in this regard, please let me know.

AUS
CAF
CMP
COM 3+1 Ct. Rpr
CTR
ECR
GCL 2
OPC
MMS
SEC 1
OTH +cover Ltr.

RECEIVED & FILED
FPSC-BUREAU OF RECORDS

Sincerely,

ROSE, SUNDSTROM & BENTLEY

F. Marshall Deterding
For The Firm

FMD/tms
cc: Jennifer A. Rodan, Esq. (without attachments)
Stanley Rieger
Edward P. de la Parte, Jr. Esq.
William J. Bosch, III, Esq.
Scott L. Knox, Esq.
Frank Roberts, City Manager

DOCUMENT NUMBER-DATE
04834 APR 26 04
FPSC-COMMISSION CLERK

EXHIBIT
H
(Revised)

LEGAL DESCRIPTION:

TOWNSHIP 18 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY. FLORIDA

ALL OF SECTIONS 13 AND 14
THE EAST 1/2 OF SECTIONS 15 AND 22
ALL OF SECTIONS 23, 24, 25, 26, 27, 28, 31, 32, 33, 34, 35 AND 36.

TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA

ALL OF SECTIONS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29

LESS AND EXCEPT THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF SECTION 5

LESS AND EXCEPT THE EAST ¼ OF THE SOUTHWEST ¼ OF THE NORTHWEST ¼; AND THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF SECTION 6

LESS AND EXCEPT THE WEST ½ OF THE NORTHWEST ¼ OF THE SOUTHWEST ¼; AND THE WEST ½ OF THE EAST ½ OF THE SOUTHWEST ¼ OF THE SOUTHWEST ¼; AND THE EAST ¾ OF THE NORTHEAST ¼ OF THE SOUTHWEST ¼; AND THE WEST ½ OF THW SOUTHWEST ¼ OF THE SOUTHEAST ¼; AND THE WEST ¾ OF THE NORTHWEST ¼ OF THE SOUTHEAST ¼; AND THE WEST ¼ OF THE NORTHEAST ¼ OF THE SOUTHEAST ¼; AND THE WEST ¼ OF THE SOUTHEAST ¼ OF THE NORTHEAST ¼; AND THE EAST ½ OF THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 7

LESS AND EXCEPT THE EAST ½ OF THE SOUTHWEST ¼ OF THE SOUTHEAST ¼; AND THE EAST ½ OF THE WEST ½ OF THE SOUTHEAST ¼ OF THE SOUTHEAST ¼; AND THE SOUTHEAST ¼ OF THE SOUTHEAST ¼ OF THE SOUTHEAST ¼ OF SECTION 8

LESS AND EXCEPT THE NORTH ½ OF THE NORTHEAST ¼ OF SECTION 16

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 1,486.51 FEET; THENCE RUN S.01°21'39"E., FOR A DISTANCE OF 515.09 FEET TO THE POINT OF BEGINNING; THENCE RUN S.89°33'37"E., FOR A DISTANCE OF 521.14 FEET; THENCE RUN S.00°32'06"W., FOR A DISTANCE OF 150.63 FEET; THENCE RUN S.89°20'51"W., FOR A DISTANCE OF 515.94 FEET; THENCE RUN N.01°21'39"W., FOR A DISTANCE OF 160.55 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 1,487.87 FEET; THENCE RUN S.00°44'27"E., FOR A DISTANCE OF 253.23 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°51'24"E., FOR A DISTANCE OF 50.00 FEET; THENCE RUN S.00°44'47"E., FOR A DISTANCE OF 100.76 FEET; THENCE RUN S.88°59'51"W., FOR A DISTANCE OF 50.01 FEET; THENCE RUN N.00°44'27"W., FOR A DISTANCE OF 101.51 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF

DOCUMENT NUMBER-DATE
04834 APR 26 04
FPSC-COMMISSION CLERK

1,643.36 FEET; THENCE RUN S.00°52'09"E., FOR A DISTANCE OF 1,185.77 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°16'13"E., FOR A DISTANCE OF 49.07 FEET; THENCE RUN S.00°40'06"E., FOR A DISTANCE OF 99.13 FEET; THENCE RUN S.89°33'32"W., FOR A DISTANCE OF 48.72 FEET; THENCE RUN N.00°52'09"W., FOR A DISTANCE OF 98.89 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 1,704.56 FEET; THENCE RUN S.00°20'35"E., FOR A DISTANCE OF 1,482.69 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°18'56"E., FOR A DISTANCE OF 52.32 FEET; THENCE RUN S.01°22'15"E., FOR A DISTANCE OF 99.28 FEET; THENCE RUN S.89°28'14"W., FOR A DISTANCE OF 54.10 FEET; THENCE RUN N.00°20'35"W., FOR A DISTANCE OF 99.13 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 1,916.36 FEET; THENCE RUN S.00°55'35"E., FOR A DISTANCE OF 883.67 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°29'23"E., FOR A DISTANCE OF 70.19 FEET; THENCE RUN S.00°50'18"E., FOR A DISTANCE OF 100.39 FEET; THENCE RUN S.89°23'11"W., FOR A DISTANCE OF 70.04 FEET; THENCE RUN N.00°55'35"W., FOR A DISTANCE OF 100.51 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 2,099.62 FEET; THENCE RUN S.01°01'27"E., FOR A DISTANCE OF 763.77 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°29'50"E., FOR A DISTANCE OF 71.22 FEET; THENCE RUN S.01°01'23"E., FOR A DISTANCE OF 105.02 FEET; THENCE RUN S.89°35'52"W., FOR A DISTANCE OF 71.22 FEET; THENCE RUN N.01°01'27"W., FOR A DISTANCE OF 104.89 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 2,343.64 FEET; THENCE RUN S.01°14'33"E., FOR A DISTANCE OF 1,359.09 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°11'54"E., FOR A DISTANCE OF 53.60 FEET; THENCE RUN S.00°38'10"E., FOR A DISTANCE OF 104.13 FEET; THENCE RUN S.89°35'27"W., FOR A DISTANCE OF 52.50 FEET; THENCE RUN N.01°14'33"W., FOR A DISTANCE OF 103.77 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 3,011.48 FEET; THENCE RUN S.01°14'00"E., FOR A DISTANCE OF 1,059.93 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°11'46"E., FOR A DISTANCE OF 98.01 FEET; THENCE RUN S.00°53'04"E., FOR A DISTANCE OF 105.26 FEET; THENCE RUN S.89°37'56"W., FOR A DISTANCE OF 97.38 FEET; THENCE RUN N.01°14'00"W., FOR A DISTANCE OF 104.52 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THE WEST ½ OF THE SOUTHWEST ¼; AND THE SOUTHWEST ¼ OF THE NORTHWEST ¼ OF SECTION 19

LESS AND EXCEPT THE EAST ½ OF THE NORTHEAST ¼ OF THE NORTHEAST ¼ OF SECTION 20

LESS AND EXCEPT A PORTION OF SECTION 21, MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHEAST CORNER OF SECTION 21, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA; THENCE RUN S.01°54'33"E., ALONG THE EAST LINE OF SAID SECTION 21 FOR A DISTANCE OF 996.18 FEET; THENCE RUN S.01°54'21"E., FOR A DISTANCE OF 364.58 FEET TO THE POINT OF BEGINNING; THENCE RUN S.01°54'36"E., FOR A DISTANCE OF 1,325.86 FEET; THENCE DEPARTING SAID EAST LINE, RUN S.89°30'18"W., FOR A DISTANCE OF 1,316.67 FEET; THENCE RUN N.02°18'23"W., FOR A DISTANCE OF 266.34 FEET; THENCE RUN S.89°42'43"W., FOR A DISTANCE OF 497.23 FEET; THENCE RUN N.01°57'48"W., FOR A DISTANCE OF 1,047.99 FEET; THENCE RUN N.89°11'44"E., FOR A DISTANCE OF 1,816.46 FEET TO A POINT IN THE AFOREMENTIONED EAST LINE AND THE POINT OF BEGINNING.

LESS AND EXCEPT THE WEST ½ OF THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 22

LESS AND EXCEPT THE EAST 12 CHAINS OF THE SOUTH 10 CHAINS OF THE NORTHEAST ¼ OF THE NORTHWEST ¼; AND THE SOUTHEAST ¼ OF THE NORTHWEST ¼; AND THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 23

LESS AND EXCEPT THE WEST ½ OF THE NORTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 27

TOGETHER WITH THE EAST ½; THE EAST ½ OF THE NORTHWEST ¼; AND ALL THAT PART OF THE SOUTHWEST ¼ OF SECTION 30, LYING EAST OF THE ST. JOHNS RIVER

TOGETHER WITH ALL OF THAT PART OF THE NORTHEAST ¼ LYING NORTH OF THE ABANDONED FLORIDA EAST COAST RAILROAD; THE NORTHEAST ¼ OF THE NORTHWEST ¼; AND THE SOUTH 13.67 CHAINS OF THE SOUTHEAST ¼ OF THE NORTHWEST ¼ LYING NORTH AND EAST OF THE RIVER IN SECTION 31

TOGETHER WITH ALL OF SECTIONS 32, 33, 34 AND 35 LYING NORTH OF THE ABANDONED FLORIDA EAST COAST RAILROAD RIGHT-OF-WAY

LESS AND EXCEPT THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 34 LYING NORTH OF THE ABANDONED FLORIDA EAST COAST RAILROAD RIGHT-OF-WAY

ALL OF SECTION 36.

TOWNSHIP 20 SOUTH, RANGE 33 EAST VOLUSIA COUNTY, FLORIDA

ALL OF SECTIONS 1, 12, 13 AND 24

TOWNSHIP 19 SOUTH, RANGE 34 EAST, VOLUSIA COUNTY, FLORIDA

ALL OF SECTIONS 5, 6, 7, 8, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, AND 33

LESS AND EXCEPT THE WEST ½ OF THE SOUTHEAST ¼ OF THE NORTHWEST ¼; AND THAT PART OF THE SOUTHEAST ¼ OF THE SOUTHEAST ¼ OF THE NORTHWEST ¼ LYING WITHIN THE RAILROAD RIGHT-OF-WAY; AND THAT PART OF THE SOUTHEAST ¼

OF THE SOUTHWEST ¼ LYING NORTH OF THE SOUTHERLY RAILROAD RIGHT-OF-WAY LINE; AND THE SOUTHWEST ¼ OF THE SOUTHEAST ¼ OF SECTION 30

TOWNSHIP 20 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA

ALL OF SECTION 4, 5, 6, 7, 8, 17, 18, 19 AND 20

TOWNSHIP 20 SOUTH, RANGE 34 EAST AND TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA; AND TOWNSHIP 21 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA

ALL OF SECTIONS 6, 7, 8, 10, 11, 12, 25, 26, 27; A PORTION OF SECTION 13 AND 24 VOLUSIA COUNTY AND A PORTION OF SECTION 37 OF THE PLAT OF INDIAN RIVER PARK SUBDIVISION OF THE BERNARDO SEQUI GRANT RECORDED IN PLAT BOOK 2, PAGE 33 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS.

BEGINNING AT THE SOUTHEAST CORNER OF SECTION 20, TOWNSHIP 20 SOUTH, RANGE 34 EAST THENCE N78°15'40"E, A DISTANCE OF 2,203.90 FEET; THENCE S18°04'14"E, A DISTANCE OF 5,203.03 FEET; THENCE S78°28'51"W, A DISTANCE OF 650.12 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE N78°28'51"E, A DISTANCE OF 650.12 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE S78°28'51"W, A DISTANCE OF 1,300.24 FEET; THENCE S18°04'14"E, A DISTANCE OF 5,850.53 FEET; THENCE N78°28'51"E, A DISTANCE OF 1,300.24 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE S78°28'51"W, A DISTANCE OF 1,300.24 FEET; THENCE S18°04'14"E, A DISTANCE OF 1,300.12 FEET; THENCE S78°28'51"W, A DISTANCE OF 1,300.24 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE N78°28'51"E, A DISTANCE OF 2,600.48 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE S78°28'51"W, A DISTANCE OF 21,437.63 FEET TO THE SOUTHWEST CORNER OF SECTION 37, TOWNSHIP 21 SOUTH, RANGE 33 EAST; THENCE N09°25'57"W, A DISTANCE OF 3,351.19 FEET; THENCE S89°42'37"E, A DISTANCE OF 4,129.52 FEET; THENCE N00°57'50"W, A DISTANCE OF 5,354.01 FEET; THENCE N01°00'59"W, A DISTANCE OF 5,235.95 FEET; THENCE N01°22'29"W, A DISTANCE OF 2,576.62 FEET; THENCE N78°15'40"E, A DISTANCE OF 10,900.37 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF THE NORTHWEST ¼ OF SECTION 24.

AFFIDAVIT OF MAILING

STATE OF FLORIDA

COUNTY OF LEON

Before me, the undersigned authority, authorized to administer oaths and take acknowledgments, personally appeared TONYA M. SIMPSON who, after being duly sworn on oath, did depose on oath and say that she is the secretary of F. Marshall Deterding, attorney for Farmton Water Resources, LLC and that on December 20, 2002 she did send by regular mail, a copy of the notice attached hereto to each of the utilities, governmental bodies, agencies, or municipalities, in accordance with the list provided by the Florida Public Service Commission, which is also attached hereto. The territory is not within one mile of Orange County and as such the persons within the Orange County portion of that list have not been noticed.

FURTHER AFFIANT SAYETH NAUGHT.

Tonya M. Simpson

Sworn to and subscribed before me this 20th day of December, 2002, by Tonya M. Simpson who is personally known to me.

Print Name
NOTARY PUBLIC
My Commission Expires:

Bronwyn Moderau
MY COMMISSION EXPIRES
April 13, 2006
#DD104716
Bonded thru
Troy Fain-Insurance
NOTARY PUBLIC, STATE OF FLORIDA

EXHIBIT
I

171

LIST OF WATER AND WASTEWATER UTILITIES IN VOLUSIA COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER
VOLUSIA COUNTY	
FLORIDA WATER SERVICES CORPORATION (WS548) P. O. BOX 609520 ORLANDO, FL 32860-9520	CARLYN KOWALSKY (407) 598-4297
NORTH PENINSULA UTILITIES CORPORATION (SU615) P. O. BOX 2803 ORMOND BEACH, FL 32175-2803	ROBERT HILLMAN (904) 441-7528 OR -6286
PLANTATION BAY UTILITY CO. (WS479) 100 PLANTATION BAY DRIVE ORMOND BEACH, FL 32174	DOUG ROSS (386) 437-9185
TERRA MAR VILLAGE UTILITIES, INC. (WS748) 4383 SOUTH U.S. 1 EDGEWATER, FL 32141-7346	FRANK J. UDDO (386) 345-3662
TYMBER CREEK UTILITIES (WS246) 1951 WEST GRANADA BLVD. ORMOND BEACH, FL 32174-6740	STEVE P. SHIRAH (386) 677-5702

LIST OF WATER AND WASTEWATER UTILITIES IN VOLUSIA COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME — MANAGER

GOVERNMENTAL AGENCIES

COUNTY MANAGER/CLERK, VOLUSIA COUNTY
123 WEST INDIANA AVENUE
DELAND, FL 32720-4612

DEP CENTRAL DISTRICT
3319 MAGUIRE BLVD., SUITE 232
ORLANDO, FL 32803-3767

EAST CENTRAL FLORIDA PLANNING COUNCIL
1011 WYMORE ROAD, SUITE 105
WINTER PARK, FL 32789

MAYOR, CITY OF DAYTONA BEACH
P. O. BOX 2451
DAYTONA BEACH, FL 32115-2451

MAYOR, CITY OF DAYTONA BEACH SHORES
3050 SOUTH ATLANTIC AVENUE
DAYTONA BEACH SHORES, FL 32118-6159

MAYOR, CITY OF DELAND
P. O. BOX 449
DELAND, FL 32721-0449

MAYOR, CITY OF DELTONA
DELTONA MUNICIPAL COMPLEX
2345 PROVIDENCE BLVD.
DELTONA, FL 32725-1806

MAYOR, CITY OF EDGEWATER
P. O. BOX 100
EDGEWATER, FL 32132-0100

LIST OF WATER AND WASTEWATER UTILITIES IN VOLUSIA COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER
MAYOR, CITY OF HOLLY HILL 1065 RIDGEWOOD AVENUE HOLLY HILL, FL 32117-2898	
MAYOR, CITY OF LAKE HELEN P. O. BOX 39 LAKE HELEN, FL 32744-0039	
MAYOR, CITY OF NEW SMYRNA BEACH 210 SAMS AVENUE NEW SMYRNA BEACH, FL 32168-7040	
MAYOR, CITY OF OAK HILL 234 SOUTH U.S. HIGHWAY 1 OAK HILL, FL 32759-9647	
MAYOR, CITY OF ORMOND BEACH P. O. BOX 277 ORMOND BEACH, FL 32175-0277	
MAYOR, CITY OF PORT ORANGE 1000 CITY CENTER CIRCLE PORT ORANGE, FL 32119-9619	
MAYOR, CITY OF SOUTH DAYTONA P. O. BOX 214960 SOUTH DAYTONA, FL 32121	
MAYOR, TOWN OF ORANGE CITY 205 EAST GRAVES AVENUE ORANGE CITY, FL 32763-5213	
MAYOR, TOWN OF PIERSON P. O. BOX 527 PIERSON, FL 32180-0527	

LIST OF WATER AND WASTEWATER UTILITIES IN VOLUSIA COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER
MAYOR, TOWN OF PONCE INLET 4680 SOUTH PENINSULA DRIVE PONCE INLET, FL 32019	
ST.JOHNS RIVER WTR MANAGEMENT DISTRICT P.O. BOX 1429 PALATKA, FL 32178-1429	

STATE OFFICIALS

STATE OF FLORIDA PUBLIC COUNSEL
C/O THE HOUSE OF REPRESENTATIVES
THE CAPITOL
TALLAHASSEE, FL 32399-1300

DIVISION OF THE COMMISSION CLERK AND ADMINISTRATIVE SERVICES
FLORIDA PUBLIC SERVICE COMMISSION
2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FL 32399-0850

LIST OF WATER AND WASTEWATER UTILITIES IN SEMINOLE COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER
SEMINOLE COUNTY	
ALAFAYA UTILITIES, INC. (SU445) % UTILITIES, INC. OF FLORIDA 200 WEATHERSFIELD AVENUE ALTAMONTE SPRINGS, FL 32714-4099	DONALD RASMUSSEN (407) 869-1919
CWS COMMUNITIES LP D/B/A PALM VALLEY (WS832) 3700 PALM VALLEY CIRCLE OVIEDO, FL 32765-4904	SANDRA SEYFFART (407) 365-6651
FLORIDA WATER SERVICES CORPORATION (WS230) P. O. BOX 609520 ORLANDO, FL 32860-9520	CARLYN KOWALSKY (407) 598-4297
SANLANDO UTILITIES CORPORATION (WS397) % UTILITIES, INC. 2335 SANDERS ROAD NORTHBROOK, IL 60062-6196	CARL WENZ (847) 498-6440
UTILITIES, INC. OF FLORIDA (WS251) 200 WEATHERSFIELD AVENUE ALTAMONTE SPRINGS, FL 32714-4099	DONALD RASMUSSEN (407) 869-1919
UTILITIES, INC. OF LONGWOOD (SU761) 200 WEATHERSFIELD AVENUE ALTAMONTE SPRINGS, FL 32714-4099	CARL J. WENZ (847) 498-6440

LIST OF WATER AND WASTEWATER UTILITIES IN SEMINOLE COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME — MANAGER

GOVERNMENTAL AGENCIES

CITY MANAGER, CITY OF CASSELBERRY
95 TRIPLET LAKE DRIVE
CASSELBERRY, FL 32707-3399

CLERK, BOARD OF COUNTY COMMISSIONERS, SEMINOLE COUNTY
P. O. DRAWER C
SANFORD, FL 32772-0659

DEP CENTRAL DISTRICT
3319 MAGUIRE BLVD., SUITE 232
ORLANDO, FL 32803-3767

EAST CENTRAL FLORIDA PLANNING COUNCIL
1011 WYMORE ROAD, SUITE 105
WINTER PARK, FL 32789

MAYOR, CITY OF ALTAMONTE SPRINGS
225 NEWBURYPORT AVENUE
ALTAMONTE SPRINGS, FL 32701-3642

MAYOR, CITY OF LAKE MARY
P. O. BOX 950700
LAKE MARY, FL 32746-0700

MAYOR, CITY OF LONGWOOD
175 WEST WARREN AVENUE
LONGWOOD, FL 32750-4107

MAYOR, CITY OF OVIEDO
400 ALEXANDRIA BLVD.
OVIEDO, FL 32765-6770

MAYOR, CITY OF SANFORD
P. O. BOX 1788
SANFORD, FL 32772-1788

LIST OF WATER AND WASTEWATER UTILITIES IN SEMINOLE COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER
MAYOR, CITY OF WINTER SPRINGS 1126 EAST S. R. 434 WINTER SPRINGS, FL 32708-2715	
ST.JOHNS RIVER WTR MANAGEMENT DISTRICT P.O. BOX 1429 PALATKA, FL 32178-1429	
STATE OFFICIALS	
STATE OF FLORIDA PUBLIC COUNSEL C/O THE HOUSE OF REPRESENTATIVES THE CAPITOL TALLAHASSEE, FL 32399-1300	
DIVISION OF THE COMMISSION CLERK AND ADMINISTRATIVE SERVICES FLORIDA PUBLIC SERVICE COMMISSION 2540 SHUMARD OAK BOULEVARD TALLAHASSEE, FL 32399-0850	

LIST OF WATER AND WASTEWATER UTILITIES IN BREVARD COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER
BREVARD COUNTY	
BURKIM ENTERPRISES, INC. (WS842) 2340 N.E. DIXIE HIGHWAY JENSEN BEACH, FL 34957-5952	KEITH A. BURGE (772) 334-4557
COLONY PARK UTILITIES, INC. (SU288) 1447 NEWFOUND HARBOR DRIVE MERRITT ISLAND, FL 32952-2854	LENORE WARREN (407) 453-1400
EAST CENTRAL FLORIDA SERVICES, INC. (WU643) 4550 DEER PARK ROAD ST. CLOUD, FL 34773	JAMES B. PAYNE (407) 957-6744
FLORIDA WATER SERVICES CORPORATION (WU561) P. O. BOX 609520 ORLANDO, FL 32860-9520	CARLYN KOWALSKY (407) 598-4297
NORTHGATE PROPERTIES, INC. (WS172) 3277 FIRST AVENUE MIMS, FL 32754-3134	LESTER GROOMS (386) 428-0094
PINE LAKE MOBILE HOME ESTATES, INC. (SU698) 2505 EBER BLVD. MELBOURNE, FL 32904-8848	MARY DARRELL (407) 723-2754 OR -2125
SAN SEBASTIAN WATER, LLC (WU388) 7900 FOX CREEK TRAIL FRANKTOWN, CO 80116-9670	WILLIAM F. MCCAIN (561) 770-1093
SERVICE MANAGEMENT SYSTEMS, INC. (WS571) 235 HAMMOCK SHORE DRIVE MELBOURNE BEACH, FL 32951-3941	JAMES BATES (321) 723-2522

LIST OF WATER AND WASTEWATER UTILITIES IN BREVARD COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER

GOVERNMENTAL AGENCIES

CLERK, BOARD OF COUNTY COMMISSIONERS, BREVARD COUNTY
P. O. BOX 999
TITUSVILLE, FL 32781-0999

DEP CENTRAL DISTRICT
3319 MAGUIRE BLVD., SUITE 232
ORLANDO, FL 32803-3767

EAST CENTRAL FLORIDA PLANNING COUNCIL
1011 WYMORE ROAD, SUITE 105
WINTER PARK, FL 32789

MAYOR, CITY OF CAPE CANAVERAL
P. O. BOX 326
CAPE CANAVERAL, FL 32920-0326

MAYOR, CITY OF COCOA
P. O. BOX 1750
COCOA, FL 32923-1750

MAYOR, CITY OF COCOA BEACH
UTILITIES DIRECTOR
P. O. BOX 322430
COCOA BEACH, FL 32932-2430

MAYOR, CITY OF INDIAN HARBOUR BEACH
2055 SOUTH PATRICK DRIVE
INDIAN HARBOUR BEACH, FL 32937-4447

MAYOR, CITY OF MELBOURNE
900 EAST STRAWBRIDGE AVENUE
MELBOURNE, FL 32901-4739

LIST OF WATER AND WASTEWATER UTILITIES IN BREVARD COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER
MAYOR, CITY OF PALM BAY 120 MALABAR ROAD, S.E. PALM BAY, FL 32907-3009	
MAYOR, CITY OF ROCKLEDGE P. O. BOX 488 ROCKLEDGE, FL 32955	
MAYOR, CITY OF SATELLITE BEACH 565 CASSIA BLVD. SATELLITE BEACH, FL 32937-3197	
MAYOR, CITY OF TITUSVILLE P. O. BOX 2806 TITUSVILLE, FL 32781-2806	
MAYOR, CITY OF WEST MELBOURNE 2285 MINTON ROAD WEST MELBOURNE, FL 32904-4916	
MAYOR, TOWN OF INDIALANTIC 216 FIFTH AVENUE INDIALANTIC, FL 32903-3199	
MAYOR, TOWN OF MALABAR 2725 MALABAR ROAD MALABAR, FL 32950-1427	
MAYOR, TOWN OF MELBOURNE BEACH 507 OCEAN AVENUE MELBOURNE BEACH, FL 32951-2523	
MAYOR, TOWN OF MELBOURNE VILLAGE 555 HAMMOCK ROAD MELBOURNE VILLAGE, FL 32904-2513	

LIST OF WATER AND WASTEWATER UTILITIES IN BREVARD COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER

MAYOR, TOWN OF PALM SHORES
151 PALM CIRCLE
PALM SHORES, FL 32940-7209

ST.JOHNS RIVER WTR.MANAGEMENT DISTRICT
P.O. BOX 1429
PALATKA, FL 32178-1429

STATE OFFICIALS

STATE OF FLORIDA PUBLIC COUNSEL
C/O THE HOUSE OF REPRESENTATIVES
THE CAPITOL
TALLAHASSEE, FL 32399-1300

DIVISION OF THE COMMISSION CLERK AND ADMINISTRATIVE SERVICES
FLORIDA PUBLIC SERVICE COMMISSION
2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FL 32399-0850

Original Certificate Notice

AFFIDAVIT

I, Tonya Simpson, assistant to F. Marshall Deterding, attorney for Farmton Water Resources, LLC, do hereby certify and swear that I have mailed the Notice to all the customers of the Utility and property owners within the territory affected by the proposed extension on this 20th day of December, 2002, in accordance with the requirements of PSC Rule 25-30.030, Florida Administrative Code.

Tonya Simpson

Tonya Simpson

STATE OF FLORIDA)
COUNTY OF Leon)

The foregoing instrument was acknowledged before me this 20th day of December, 2002 by Larry DeLucenay, who is personally known to me.

Bronwyn Moderau

Print Name Bronwyn Moderau
Notary Public
State of Florida at Large
My Commission Expires:

Bronwyn Moderau
MY COMMISSION EXPIRES
April 13, 2006
#DD104716
Bonded thru
Troy Fain-Insurance
NOTARY PUBLIC, STATE OF FLORIDA

EXHIBIT
K

EXHIBIT GCH-1

Farmton Water Resources, LLC

Docket No. 021256-WU

Application for Original Water Certificate in Volusia and Brevard Counties

STATE OF FLORIDA

COMMISSIONERS:
LILA A. JABER, CHAIRMAN
J. TERRY DEASON
BRAULIO L. BAEZ
RUDOLPH "RUDY" BRADLEY
CHARLES M. DAVIDSON

TIMOTHY DEVLIN, DIRECTOR
DIVISION OF ECONOMIC REGULATION
(850) 413-6900

Public Service Commission

February 13, 2003

F. Marshall Deterding
Rose, Sundstrom & Bentley, LLP
2548 Blairstone Pines Drive
Tallahassee, Florida 32301

Re: Docket No. 021256-WU, Application for certificate to provide water service in Volusia and Brevard Counties by Farmton Water Resources, LLC.

Dear Mr. Deterding:

Staff has reviewed the above referenced application for Farmton Water Resources, LLC (Farmton or utility) and found it deficient with respect to the requirements of Section 367.045(1)(e), Florida Statutes, and Rule 25-30.030(8), Florida Administrative Code. Rule 25-30.030(8), Florida Administrative Code, requires that both "a copy of the notice(s) and the list of entities receiving the notice" accompany the affidavit of notice required by Section 367.045(1)(e), Florida Statutes.

1. **Notice to governments and utilities.** Exhibit I to the application contained the affidavit of notice to governments and utilities in Volusia, Seminole, and Brevard Counties pursuant to Rule 25-30.030(5), Florida Administrative Code. However, the affidavit was not accompanied by a copy of the notice given. Subsequent to the filing of the application, an affidavit of an amended notice to governments and utilities was filed on January 24, 2003. While that affidavit was accompanied by a copy of the amended notice, it was not accompanied by a list of entities in Volusia, Seminole, and Brevard Counties. Instead it was accompanied by a list of entities in Orange County which the affidavit indicated was not going to be noticed.

   Please file a revised affidavit for Exhibit I which is accompanied by both a copy of the amended notice and a list of all entities receiving the amended notice.

2. **Notice to Customers.** Exhibit K to the application contained the affidavit of the notice to customers and property owners pursuant to Rule 25-30.030(6), Florida Administrative Code. Subsequent to the filing of the application, an affidavit of an amended notice to customers and property owners was filed on January 24, 2003. Neither affidavit was

DOCUMENT NUMBER-DATE
01506 FEB 13 03
FPSC-COMMISSION CLERK

accompanied by a copy of the notice nor a list of the customers and property owners receiving the notice.

Please file a revised affidavit for Exhibit K which is accompanied by both a copy of the amended notice and a list of entities receiving the notice.

3. **Newspaper Publication**. Exhibit J to the application was to be a late-filed affidavit of the newspaper publication of the notice pursuant to Rule 25-30.030(7), Florida Administrative Code. While it is staff's understanding the notice was placed in separate newspapers for the respective counties, the Commission has not received the late-filed affidavits of the newspaper publications.

Please file the late-filed Exhibit J which includes affidavits from the newspapers in which the notice published.

In addition, the legal description and representation of the territory proposed to be served by Farmton in Exhibits A, F, G, and H of the application are inconsistent. These inconsistencies will need to be resolved in order for staff to complete its evaluation of the utility's application. Specifically, the legal description of the proposed territory and the territory map must match exactly with respect to any excluded areas and to any portions of sections not included.

Further, there are a number of errors and omissions in the utility's proposed tariff which will need to be corrected. Specifically, items in the model tariff that are not applicable for Farmton should be so noted, a sample bill must be included, the utility's proposed service availability charges and policy must be detailed on the respective tariff pages, and the indices should accurately reflect the contents and tariff page numbers.

Please provide a response to the deficiencies as well as the territory description and tariff corrections by March 13, 2003. An original and seven copies of any information and one copy of any revised map should be filed directly with:

The Director, Division of the Commission Clerk and Administrative Services
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

If you have any questions or need any clarification with regard to the information requested, please contact a member of my staff, Ms. Patricia Brady, at (850) 413-6686 or pbrady@psc.state.fl.us or Commission legal counsel, Ms. Jennifer Rodan, at (850) 413-6189 orjrodan@psc.state.fl.us.

Sincerely,

Patti Daniel
Supervisor of Certification

PD:PB
cc: Division of Economic Regulation (Brady, Rieger, Kaproth)
Office of the General Counsel (Holley, Rodan)
Division of the Commission Clerk and Administrative Services (docket and security file)

LAW OFFICES
ROSE, SUNDSTROM & BENTLEY, LLP
2548 BLAIRSTONE PINES DRIVE
TALLAHASSEE, FLORIDA 32301

(850) 877-6555
Fax (850) 656-4029
www.rsbattorneys.com

CENTRAL FLORIDA OFFICE
600 S. NORTH LAKE BLVD., SUITE 160
ALTAMONTE SPRINGS, FLORIDA 32701
(407) 830-6331
FAX (407) 830-8522

CHRIS H. BENTLEY, P.A.
ROBERT C. BRANNAN
DAVID F. CHESTER
F. MARSHALL DETERDING
MARTIN S. FRIEDMAN, P.A.
JOHN R. JENKINS, P.A.
STEVEN T. MINDLIN, P.A.
DAREN L. SHIPPY
WILLIAM E. SUNDSTROM, P.A.
DIANE D. TREMOR, P.A.
JOHN L. WHARTON

ROBERT M. C. ROSE, *OF COUNSEL*
WAYNE L. SCHIEFELBEIN, *OF COUNSEL*
VALERIE L. LORD, *OF COUNSEL*
(LICENSED IN TEXAS ONLY)

ORIGINAL

March 14, 2003
VIA HAND DELIVERY

FPSC
2003 MAR 14 PM 4:54
COMMISSION
CLERK

Ms. Blanca Bayo
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Farmton Water Resources, LLC; Docket No. 021256-WU
Application for Original Certificate
Our File No. 36029.01

Dear Ms. Bayo:

Outlined below in accordance with the Commission staff's February 13, 2003 letter, are our responses to the issues raised therein. I have also attached various documents in order to comply with those requests. For ease of interpretation, I have restated the issues or questions raised by the staff before each response.

1. **Notice to governments and utilities. Exhibit I to the application contained the affidavit of notice to governments and utilities in Volusia, Seminole, and Brevard Counties pursuant to Rule 25-30.030(5), Florida Administrative Code. However, the affidavit was not accompanied by a copy of the notice given. Subsequent to the filing of the application, an affidavit of an amended notice to governments and utilities was filed on January 24, 2003. While that affidavit was accompanied by a copy of the amended notice, it was not accompanied by a list of entities in Volusia, Seminole, and Brevard Counties. Instead, it was accompanied by a list of entities in Orange County which the affidavit indicated was not going to be noticed.**

Please file a revised affidavit for Exhibit I which is accompanied by both a copy of the amended notice and a list of all entities receiving the amended notice.

Response - Attached hereto is revised Exhibit "I" which includes an affidavit, a copy of the notice, and a list of those persons noticed under the provisions of Rule 25-30.030(5), Florida Administrative Code.

AUS ___
CAF ___
CMP ___
COM 3
CTR ___
ECR BRADY
GCL HOLLEY
OPC ___
MMS ___
SEC 1
OTH ___

*ORIG TARIFFS FORWARDED TO ECR/BRADY

RECEIVED & FILED
FPSC-BUREAU OF RECORDS

02515 MAR 14 8
FPSC-COMMISSION CLERK

2. **Notice to Customers. Exhibit K to the application contained the affidavit of the notice to customers and property owners pursuant to Rule 25-30.030(6), Florida Administrative Code. Subsequent to the filing of the application, an affidavit of an amended notice to customers and property owners was filed on January 24, 2003. Neither affidavit was accompanied by a copy of the notice nor a list of the customers and property owners receiving the notice.**

   Please file a revised affidavit for Exhibit K which is accompanied by both a copy of the amended notice and a list of entities receiving the notice.

   Response - Attached is a copy of a revised Exhibit K, including an affidavit of noticing, a list of the property owners noticed and a copy of the notice sent to those property owners as per your request.

3. **Newspaper Publication. Exhibit J to the application was to be a late-filed affidavit of the newspaper publication of the notice pursuant to Rule 25-30.030(7), Florida Administrative Code. While it is staff's understanding the notice was placed in separate newspapers for the respective counties, the Commission has not received the late-filed affidavits of the newspaper publications.**

   Please file the late-filed Exhibit J which includes affidavits from the newspapers in which the notice was published.

   Response - Attached hereto as Late-Filed Exhibit "J" are the affidavits from the newspapers for the three counties noticed (Brevard, Volusia and Seminole), including a copy of the notice.

   In addition, the legal description and representation of the territory proposed to be served by Farmton in Exhibits A, F, G, and H of the application are inconsistent. These inconsistencies will need to be resolved in order for staff to complete its evaluation of the utility's application. Specifically, the legal description of the proposed territory and the territory map must match exactly with respect to any excluded areas and to any portions of sections not included.

   Response - Exhibit "A" included a legal description as Attachment "A" thereto. While that legal description is intended to describe the outer boundaries of the proposed territory, it includes references to plats and other recorded documents and as such, does not comply with the rule. This is the reason why Exhibit "H" was supplied in order to be an accurate description of the proposed territory in accordance with the rule. Exhibit "H" should be utilized for all purposes in order to comply

with the rule and statute, and has been utilized for noticing.

However, by this letter we are hereby requesting a restrictive amendment to the territory outlined in our original application (Exhibit "H" and "G"). Specifically, Exhibit "H" did not describe any of the out parcels within the proposed territory that are not proposed for service. We have prepared a revised Exhibit "H" which we have attached seven copies of to this letter, which should replace that previously filed with the Commission. This description includes the same outer boundary description as the original Exhibit "H," but also excludes the out parcels which are shown on the new map included as revised Exhibit "G." I am also attaching seven copies of revised Exhibit "G," the map of the territory, which correctly corresponds in all respects with the description outlined in revised Exhibit "H."

I am also attaching two copies of the revised Exhibit "F" (tariffs) to reflect this restrictive amendment and the lesser territory as described in Exhibit "H."

We have attempted to correct the errors in the indices of the tariff as well, and exclude or note the inapplicable provisions of the tariff for Farmton.

We are currently working on the proposed service availability charges and policy for inclusion in the revised tariff and will submit those in the near future.

If you have any further questions in this regard or if you need any further information, please do not hesitate to contact me.

Sincerely,
ROSE, SUNDSTROM & BENTLEY

F. Marshall Deterding
For The Firm

FMD/tms
cc: Division of Economic Regulation (Brady, Rieger, Kaproth)
Office of the General Counsel (Holley, Rodan)
Patti Daniel
Ms. Barbara Goering
Mr. Earl Underhill
Mr. Glenn Storch
Mr. Chuck Drake
Mr. George Flint

miami\2bayo.ltr

AFFIDAVIT OF MAILING

STATE OF FLORIDA

COUNTY OF LEON

Before me, the undersigned authority, authorized to administer oaths and take acknowledgments, personally appeared TONYA M. SIMPSON who, after being duly sworn on oath, did depose on oath and say that she is the secretary of F. Marshall Deterding, attorney for Farmton Water Resources, LLC and that on January 24, 2003 she did send by regular mail, a copy of the **amended** notice attached hereto to each of the utilities, governmental bodies, agencies, or municipalities, in accordance with the list provided by the Florida Public Service Commission, which is also attached hereto. The territory is not within one mile of Orange County and as such the persons within the Orange County portion of that list have not been noticed.

FURTHER AFFIANT SAYETH NAUGHT.

Tonya M. Simpson

Tonya M. Simpson

Sworn to and subscribed before me this 24th day of January, 2003, by Tonya M. Simpson who is personally known to me.

Print Name
NOTARY PUBLIC
My Commission Expires:

Marie Elena Bramblett
MY COMMISSION # CC809784 EXPIRES
March 30, 2003
BONDED THRU TROY FAIN INSURANCE, INC

RECEIVED & FILED
FPSC-BUREAU OF RECORDS

EXHIBIT

RECEIVED
03 JAN 24 PM 4:18
COMMISSION
CLERK

ENDED NOTICE OF APPLICATION FOR
INITIAL CERTIFICATE OF AUTHORIZATION FOR WATER CERTIFICATE
January 24, 2003

Farmton Water Resources, LLC, 1625 Maytown Road Osteen, Florida 32764, pursuant to Section 367.045, Florida Statutes, hereby notices its intent to apply to the Florida Public Service Commission for a certificate to provide water service to all or part of the following described property in Volusia and Brevard Counties, Florida:

Township 18 South, Range 33 East, Volusia County, Florida

All of Sections 10, 11, 12, 13, and 14

The East ½ of Sections 15 and 22

All of Sections 23, 24, 25, 26, 27, 28, 31, 32, 33, 34, 35 and 36

Township 19 South, Range 33 East, Volusia County, Florida

All of Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29

Section 30 and the North ½ of Section 31, lying East of the St. Johns River

Sections 32, 33, 34 and 35 lying northerly of the railroad right-of-way

All of Section 36

Township 20 South, Range 33 East, Volusia County, Florida

All of Sections 1, 12, 13 and 24

Township 19 South, Range 34 East, Volusia County, Florida

All of sections 5, 6, 7, 8, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, and 33

Township 20 South, Range 34 East, Brevard County, Florida

All of Sections 4, 5, 6, 7, 8, 17, 18, 19 and 20

Together With:

Township 20 South, Range 34 East and Township 21 South, Range 34 East and Township 21 South, Range 33 East, Brevard County, Florida

All of Sections 6, 7, 8, 10, 11, 12, 13, 24, 25, 26, 27 and a portion of Section 37 of the plat of Indian River Park subdivision of the Bernardo Sequi Grant recorded in Plat Book 2, Page 33 of the Public Records of Brevard County, Florida being more particularly described as follows:

Beginning at the southeast corner of Section 20, Township 20 South, Range 34 East thence N78°15'40"E, a distance of 2,203.90 feet; thence S18°04'14"E, a distance of 5,203.03 feet; thence S78°28'51"W, a distance of 650.12 feet; thence S18°04'14"E, a distance of 650.06 feet; thence N78°28'51"E, a distance of 650.12 feet; thence S18°04'14"E, a distance of 650.06 feet; thence S78°28'51"W, a distance of 1,300.24 feet; thence S18°04'14"E, a distance of 5,850.53 feet; thence N78°28'51"E, a distance of 1,300.24 feet; thence S18°04'14"E, a distance of 650.06 feet; thence S78°28'51"W, a distance of 1,300.24 feet; thence S18°04'14"E, a distance of 1,300.12 feet; thence S78°28'51"W, a distance of 1,300.24 feet; thence S18°04'14"E, a distance of 650.06 feet; thence N78°28'51"E, a distance of 2,600.48 feet; thence S18°04'14"E, a distance of 650.06 feet; thence S78°28'51"W, a distance of 21,437.63 feet; thence N09°25'57"W, a distance of 3,351.19 feet; thence S89°42'37"E, a distance of 4,129.52 feet; thence N00°57'50"W, a distance of 5,354.01 feet; thence N01°00'59"W, a distance of 5,235.95 feet; thence N01°22'29"W a distance of 2,576.62 feet; thence N78°15'40"E, a distance of 10,900.37 feet to the point of beginning.

Any objection to the said application must be made in writing and filed with the Director, Division of the Commission Clerk and Administrative Services, Florida Public Service Commission, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, within thirty (30) days from the date of the mailed notice or published notice, whichever is later. At the same time, a copy of said objection should be mailed to the applicant whose address is set forth below. The objection must state the grounds for the objection with particularity.

F. Marshall Deterding, Esquire
Rose, Sundstrom & Bentley
2548 Blairstone Pines Drive
Tallahassee, Florida 32301

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LIST OF WATER AND WASTEWATER UTILITIES IN VOLUSIA COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER
VOLUSIA COUNTY	
FLORIDA WATER SERVICES CORPORATION (WS548) P. O. BOX 609520 ORLANDO, FL 32860-9520	CARLYN KOWALSKY (407) 598-4297
NORTH PENINSULA UTILITIES CORPORATION (SU615) P. O. BOX 2803 ORMOND BEACH, FL 32175-2803	ROBERT HILLMAN (904) 441-7528 OR -6286
PLANTATION BAY UTILITY CO. (WS479) 100 PLANTATION BAY DRIVE ORMOND BEACH, FL 32174	DOUG ROSS (386) 437-9185
TERRA MAR VILLAGE UTILITIES, INC. (WS748) 4383 SOUTH U.S. 1 EDGEWATER, FL 32141-7346	FRANK J. UDDO (386) 345-3662
TYMBER CREEK UTILITIES (WS246) 1951 WEST GRANADA BLVD. ORMOND BEACH, FL 32174-6740	STEVE P. SHIRAH (386) 677-5702

LIST OF WATER AND WASTEWATER UTILITIES IN VOLUSIA COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER

GOVERNMENTAL AGENCIES

COUNTY MANAGER/CLERK, VOLUSIA COUNTY
123 WEST INDIANA AVENUE
DELAND, FL 32720-4612

DEP CENTRAL DISTRICT
3319 MAGUIRE BLVD., SUITE 232
ORLANDO, FL 32803-3767

EAST CENTRAL FLORIDA PLANNING COUNCIL
1011 WYMORE ROAD, SUITE 105
WINTER PARK, FL 32789

MAYOR, CITY OF DAYTONA BEACH
P. O. BOX 2451
DAYTONA BEACH, FL 32115-2451

MAYOR, CITY OF DAYTONA BEACH SHORES
3050 SOUTH ATLANTIC AVENUE
DAYTONA BEACH SHORES, FL 32118-6159

MAYOR, CITY OF DELAND
P. O. BOX 449
DELAND, FL 32721-0449

MAYOR, CITY OF DELTONA
DELTONA MUNICIPAL COMPLEX
2345 PROVIDENCE BLVD.
DELTONA, FL 32725-1806

MAYOR, CITY OF EDGEWATER
P. O. BOX 100
EDGEWATER, FL 32132-0100

LIST OF WATER AND WASTEWATER UTILITIES IN VOLUSIA COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER
MAYOR, CITY OF HOLLY HILL 1065 RIDGEWOOD AVENUE HOLLY HILL, FL 32117-2898	
MAYOR, CITY OF LAKE HELEN P. O. BOX 39 LAKE HELEN, FL 32744-0039	
MAYOR, CITY OF NEW SMYRNA BEACH 210 SAMS AVENUE NEW SMYRNA BEACH, FL 32168-7040	
MAYOR, CITY OF OAK HILL 234 SOUTH U.S. HIGHWAY 1 OAK HILL, FL 32759-9647	
MAYOR, CITY OF ORMOND BEACH P. O. BOX 277 ORMOND BEACH, FL 32175-0277	
MAYOR, CITY OF PORT ORANGE 1000 CITY CENTER CIRCLE PORT ORANGE, FL 32119-9619	
MAYOR, CITY OF SOUTH DAYTONA P. O. BOX 214960 SOUTH DAYTONA, FL 32121	
MAYOR, TOWN OF ORANGE CITY 205 EAST GRAVES AVENUE ORANGE CITY, FL 32763-5213	
MAYOR, TOWN OF PIERSON P. O. BOX 527 PIERSON, FL 32180-0527	

LIST OF WATER AND WASTEWATER UTILITIES IN VOLUSIA COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER

MAYOR, TOWN OF PONCE INLET
4680 SOUTH PENINSULA DRIVE
PONCE INLET, FL 32019

ST.JOHNS RIVER WTR MANAGEMENT DISTRICT
P.O. BOX 1429
PALATKA, FL 32178-1429

STATE OFFICIALS

STATE OF FLORIDA PUBLIC COUNSEL
C/O THE HOUSE OF REPRESENTATIVES
THE CAPITOL
TALLAHASSEE, FL 32399-1300

DIVISION OF THE COMMISSION CLERK AND ADMINISTRATIVE SERVICES
FLORIDA PUBLIC SERVICE COMMISSION
2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FL 32399-0850

LIST OF WATER AND WASTEWATER UTILITIES IN SEMINOLE COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER
SEMINOLE COUNTY	
ALAFAYA UTILITIES, INC. (SU445) % UTILITIES, INC. OF FLORIDA 200 WEATHERSFIELD AVENUE ALTAMONTE SPRINGS, FL 32714-4099	DONALD RASMUSSEN (407) 869-1919
CWS COMMUNITIES LP D/B/A PALM VALLEY (WS832) 3700 PALM VALLEY CIRCLE OVIEDO, FL 32765-4904	SANDRA SEYFFART (407) 365-6651
FLORIDA WATER SERVICES CORPORATION (WS230) P. O. BOX 609520 ORLANDO, FL 32860-9520	CARLYN KOWALSKY (407) 598-4297
SANLANDO UTILITIES CORPORATION (WS397) % UTILITIES, INC. 2335 SANDERS ROAD NORTHBROOK, IL 60062-6196	CARL WENZ (847) 498-6440
UTILITIES, INC. OF FLORIDA (WS251) 200 WEATHERSFIELD AVENUE ALTAMONTE SPRINGS, FL 32714-4099	DONALD RASMUSSEN (407) 869-1919
UTILITIES, INC OF LONGWOOD (SU761) 200 WEATHERSFIELD AVENUE ALTAMONTE SPRINGS, FL 32714-4099	CARL J. WENZ (847) 498-6440

LIST OF WATER AND WASTEWATER UTILITIES IN SEMINOLE COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER

GOVERNMENTAL AGENCIES

CITY MANAGER, CITY OF CASSELBERRY
95 TRIPLET LAKE DRIVE
CASSELBERRY, FL 32707-3399

CLERK, BOARD OF COUNTY COMMISSIONERS, SEMINOLE COUNTY
P. O. DRAWER C
SANFORD, FL 32772-0659

DEP CENTRAL DISTRICT
3319 MAGUIRE BLVD., SUITE 232
ORLANDO, FL 32803-3767

EAST CENTRAL FLORIDA PLANNING COUNCIL
1011 WYMORE ROAD, SUITE 105
WINTER PARK, FL 32789

MAYOR, CITY OF ALTAMONTE SPRINGS
225 NEWBURYPORT AVENUE
ALTAMONTE SPRINGS, FL 32701-3642

MAYOR, CITY OF LAKE MARY
P. O. BOX 950700
LAKE MARY, FL 32746-0700

MAYOR, CITY OF LONGWOOD
175 WEST WARREN AVENUE
LONGWOOD, FL 32750-4107

MAYOR, CITY OF OVIEDO
400 ALEXANDRIA BLVD.
OVIEDO, FL 32765-6770

MAYOR, CITY OF SANFORD
P. O BOX 1788
SANFORD, FL 32772-1788

LIST OF WATER AND WASTEWATER UTILITIES IN SEMINOLE COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER

MAYOR, CITY OF WINTER SPRINGS
1126 EAST S. R. 434
WINTER SPRINGS, FL 32708-2715

ST.JOHNS RIVER WTR MANAGEMENT DISTRICT
P.O. BOX 1429
PALATKA, FL 32178-1429

STATE OFFICIALS

STATE OF FLORIDA PUBLIC COUNSEL
C/O THE HOUSE OF REPRESENTATIVES
THE CAPITOL
TALLAHASSEE, FL 32399-1300

DIVISION OF THE COMMISSION CLERK AND ADMINISTRATIVE SERVICES
FLORIDA PUBLIC SERVICE COMMISSION
2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FL 32399-0850

LIST OF WATER AND WASTEWATER UTILITIES IN BREVARD COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER
BREVARD COUNTY	
BURKIM ENTERPRISES, INC. (WS842) 2340 N.E. DIXIE HIGHWAY JENSEN BEACH, FL 34957-5952	KEITH A. BURGE (772) 334-4557
COLONY PARK UTILITIES, INC. (SU288) 1447 NEWFOUND HARBOR DRIVE MERRITT ISLAND, FL 32952-2854	LENORE WARREN (407) 453-1400
EAST CENTRAL FLORIDA SERVICES, INC. (WU643) 4550 DEER PARK ROAD ST. CLOUD, FL 34773	JAMES B. PAYNE (407) 957-6744
FLORIDA WATER SERVICES CORPORATION (WU561) P. O. BOX 609520 ORLANDO, FL 32860-9520	CARLYN KOWALSKY (407) 598-4297
NORTHGATE PROPERTIES, INC. (WS172) 3277 FIRST AVENUE MIMS, FL 32754-3134	LESTER GROOMS (386) 428-0094
PINE LAKE MOBILE HOME ESTATES, INC (SU698) 2505 EBER BLVD. MELBOURNE, FL 32904-8848	MARY DARRELL (407) 723-2754 OR -2125
SAN SEBASTIAN WATER, LLC (WU388) 7900 FOX CREEK TRAIL FRANKTOWN, CO 80116-9670	WILLIAM F. MCCAIN (561) 770-1093
SERVICE MANAGEMENT SYSTEMS, INC. (WS571) 235 HAMMOCK SHORE DRIVE MELBOURNE BEACH, FL 32951-3941	JAMES BATES (321) 723-2522

LIST OF WATER AND WASTEWATER UTILITIES IN BREVARD COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME — MANAGER

GOVERNMENTAL AGENCIES

CLERK, BOARD OF COUNTY COMMISSIONERS, BREVARD COUNTY
P. O. BOX 999
TITUSVILLE, FL 32781-0999

DEP CENTRAL DISTRICT
3319 MAGUIRE BLVD., SUITE 232
ORLANDO, FL 32803-3767

EAST CENTRAL FLORIDA PLANNING COUNCIL
1011 WYMORE ROAD, SUITE 105
WINTER PARK, FL 32789

MAYOR, CITY OF CAPE CANAVERAL
P. O. BOX 326
CAPE CANAVERAL, FL 32920-0326

MAYOR, CITY OF COCOA
P. O. BOX 1750
COCOA, FL 32923-1750

MAYOR, CITY OF COCOA BEACH
UTILITIES DIRECTOR
P. O BOX 322430
COCOA BEACH, FL 32932-2430

MAYOR, CITY OF INDIAN HARBOUR BEACH
2055 SOUTH PATRICK DRIVE
INDIAN HARBOUR BEACH, FL 32937-4447

MAYOR, CITY OF MELBOURNE
900 EAST STRAWBRIDGE AVENUE
MELBOURNE, FL 32901-4739

LIST OF WATER AND WASTEWATER UTILITIES IN BREVARD COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER
MAYOR, CITY OF PALM BAY 120 MALABAR ROAD, S.E. PALM BAY, FL 32907-3009	
MAYOR, CITY OF ROCKLEDGE P. O. BOX 488 ROCKLEDGE, FL 32955	
MAYOR, CITY OF SATELLITE BEACH 565 CASSIA BLVD SATELLITE BEACH, FL 32937-3197	
MAYOR, CITY OF TITUSVILLE P. O. BOX 2806 TITUSVILLE, FL 32781-2806	
MAYOR, CITY OF WEST MELBOURNE 2285 MINTON ROAD WEST MELBOURNE, FL 32904-4916	
MAYOR, TOWN OF INDIALANTIC 216 FIFTH AVENUE INDIALANTIC, FL 32903-3199	
MAYOR, TOWN OF MALABAR 2725 MALABAR ROAD MALABAR, FL 32950-1427	
MAYOR, TOWN OF MELBOURNE BEACH 507 OCEAN AVENUE MELBOURNE BEACH, FL 32951-2523	
MAYOR, TOWN OF MELBOURNE VILLAGE 555 HAMMOCK ROAD MELBOURNE VILLAGE, FL 32904-2513	

LIST OF WATER AND WASTEWATER UTILITIES IN BREVARD COUNTY

(VALID FOR 60 DAYS)
12/16/2002-02/13/2003

UTILITY NAME	MANAGER

MAYOR, TOWN OF PALM SHORES
151 PALM CIRCLE
PALM SHORES, FL 32940-7209

ST.JOHNS RIVER WTR.MANAGEMENT DISTRICT
P.O. BOX 1429
PALATKA, FL 32178-1429

STATE OFFICIALS

STATE OF FLORIDA PUBLIC COUNSEL
C/O THE HOUSE OF REPRESENTATIVES
THE CAPITOL
TALLAHASSEE, FL 32399-1300

DIVISION OF THE COMMISSION CLERK AND ADMINISTRATIVE SERVICES
FLORIDA PUBLIC SERVICE COMMISSION
2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FL 32399-0850

Original Certificate Notice

AFFIDAVIT

I, Tonya Simpson, assistant to F. Marshall Deterding, attorney for Farmton Water Resources, LLC, do hereby certify and swear that I have mailed the **Amended** Notice to all the customers of the Utility and property owners within the territory affected by the proposed extension on this 24th day of January, 2003, in accordance with the requirements of PSC Rule 25-30.030, Florida Administrative Code.

Tonya Simpson

RECEIVED-FPSC
03 JAN 24 PM 4:18
COMMISSION
CLERK

STATE OF FLORIDA)
COUNTY OF Leon)

The foregoing instrument was acknowledged before me this 24th day of January, 2003 by Tonya Simpson, who is personally known to me.

Marie Elena Bramblett
Print Name
Notary Public
State of Florida at Large
My Commission Expires:

Marie Elena Bramblett
MY COMMISSION # CC809784 EXPIRES
March 30, 2003
BONDED THRU TROY FAIN INSURANCE, INC

RECEIVED & FILED
FPSC-BUREAU OF RECORDS

EXHIBIT K

IENDED NOTICE OF APPLICATION FOR
INITIAL CE.. .FICATE OF AUTHORIZATION FOR WAT... CERTIFICATE
January 24, 2003

Farmton Water Resources, LLC, 1625 Maytown Road Osteen, Florida 32764, pursuant to Section 367.045, Florida Statutes, hereby notices its intent to apply to the Florida Public Service Commission for a certificate to provide water service to all or part of the following described property in Volusia and Brevard Counties, Florida:

Township 18 South, Range 33 East, Volusia County, Florida

All of Sections 10, 11, 12, 13, and 14

The East ½ of Sections 15 and 22

All of Sections 23, 24, 25, 26, 27, 28, 31, 32, 33, 34, 35 and 36

Township 19 South, Range 33 East, Volusia County, Florida

All of Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29

Section 30 and the North ½ of Section 31, lying East of the St. Johns River

Sections 32, 33, 34 and 35 lying northerly of the railroad right-of-way

All of Section 36

Township 20 South, Range 33 East, Volusia County, Florida

All of Sections 1, 12, 13 and 24

Township 19 South, Range 34 East, Volusia County, Florida

All of sections 5, 6, 7, 8, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, and 33

Township 20 South, Range 34 East, Brevard County, Florida

All of Sections 4, 5, 6, 7, 8, 17, 18, 19 and 20

Together With:

Township 20 South, Range 34 East and Township 21 South, Range 34 East and Township 21 South, Range 33 East, Brevard County, Florida

All of Sections 6, 7, 8, 10, 11, 12, 13, 24, 25, 26, 27 and a portion of Section 37 of the plat of Indian River Park subdivision of the Bernardo Sequi Grant recorded in Plat Book 2, Page 33 of the Public Records of Brevard County, Florida being more particularly described as follows:

Beginning at the southeast corner of Section 20, Township 20 South, Range 34 East thence N78°15'40"E, a distance of 2,203.90 feet; thence S18°04'14"E, a distance of 5,203.03 feet; thence S78°28'51"W, a distance of 650.12 feet; thence S18°04'14"E, a distance of 650.06 feet; thence N78°28'51"E, a distance of 650.12 feet; thence S18°04'14"E, a distance of 650.06 feet; thence S78°28'51"W, a distance of 1,300.24 feet; thence S18°04'14"E, a distance of 5,850.53 feet; thence N78°28'51"E, a distance of 1,300.24 feet; thence S18°04'14"E, a distance of 650.06 feet; thence S78°28'51"W, a distance of 1,300.24 feet; thence S18°04'14"E, a distance of 1,300.12 feet; thence S78°28'51"W, a distance of 1,300.24 feet; thence S18°04'14"E, a distance of 650.06 feet; thence N78°28'51"E, a distance of 2,600.48 feet; thence S18°04'14"E, a distance of 650.06 feet; thence S78°28'51"W, a distance of 21,437.63 feet; thence N09°25'57"W, a distance of 3,351.19 feet; thence S89°42'37"E, a distance of 4,129.52 feet; thence N00°57'50"W, a distance of 5,354.01 feet; thence N01°00'59"W, a distance of 5,235.95 feet; thence N01°22'29"W a distance of 2,576.62 feet; thence N78°15'40"E, a distance of 10,900.37 feet to the point of beginning.

Any objection to the said application must be made in writing and filed with the Director, Division of the Commission Clerk and Administrative Services, Florida Public Service Commission, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, within thirty (30) days from the date of the mailed notice or published notice, whichever is later. At the same time, a copy of said objection should be mailed to the applicant whose address is set forth below. The objection must state the grounds for the objection with particularity.

F. Marshall Deterding, Esquire
Rose, Sundstrom & Bentley
2548 Blairstone Pines Drive
Tallah-

204

Customers Noticed

Mr. Earl Underhill
Miami Corporation
1625 Maytown Road
Osteen, Florida 32764

FEC RR CO
1 Malaga Street
St. Augustine, FL 32084

Orlando Sentinel

Published Daily

State of Florida } S.S.
COUNTY OF ORANGE

Before the undersigned authority personally appeared DEBORAH TONEY, who on oath says that he/she is the Legal Advertising Representative of Orlando Sentinel, a daily newspaper published at COCOA in BREVARD County, Florida; that the attached copy of advertisement, being a AMENDED NOTICE OF in the matter of WATER CERTIFICATE

in the BREVARD Court, was published in said newspaper in the issue; of 01/30/03

Affiant further says that the said Orlando Sentinel is a newspaper published at COCOA, in said BREVARD County, Florida, and that the said newspaper has heretofore been continuously published in said BREVARD County, Florida, each Week Day and has been entered as second-class mail matter at the post office in COCOA in said BREVARD County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he/she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

The foregoing instrument was acknowledged before me this 30 day of JAN., 2003, by DEBORAH TONEY, who is personally known to me and who did take an oath.

(SEAL)

LINDA L. BRIDGEWATER
My Comm Exp 5/29/05
No. DD 229633
[1] Personally Known [ ] Other I.D.

AMENDED NOTICE OF APPLICATION FOR AN INITIAL CERTIFICATE OF AUTHORIZATION FOR WATER CERTIFICATE
January 24, 2003

Farmton Water Resources, LLC, 7625 Maytown Road Osteen, Florida 32764, pursuant to Section 367.045, Florida Statutes, hereby notices its intent to apply to the Florida Public Service Commission for a certificate to provide water service to all or part of the following described property in Volusia and Brevard Counties, Florida:

Township 18 South, Range 33 East, Volusia County, Florida
All of Sections 10, 11, 12, 13, and 14
The East 1/2 of Sections 15 and 22
All of Sections 23, 24, 25, 26, 27, 28, 31, 32, 33, 34, 35 and 36
Township 19 South, Range 33 East, Volusia County, Florida
All of Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29
Section 30 and the North 1/2 of Section 31, lying East of the St. Johns River
Sections 32, 33, 34 and 35 lying northerly of the railroad right-of-way
All of Section 36
Township 20 South, Range 33 East, Volusia County, Florida
All of Sections 1, 12, 13 and 24
Township 19 South, Range 34 East, Volusia County, Florida
All of sections 5, 6, 7, 8, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, and 33
Township 20 South, Range 34 East, Brevard County, Florida
All of Sections 4, 5, 6, 7, 8, 17, 18, 19 and 20
Together With:
Township 20 South, Range 34 East and Township 21 South, Range 34 East and Township 21 South, Range 33 East, Brevard County, Florida:

All of Sections 6, 7, 8, 10, 11, 12, 13, 24, 25, 26, 27 and a portion of Section 37 of the plat of Indian River Park subdivision of the Bernardo Sequi Grant recorded in Plat Book 2, Page 39 of the Public Records of Brevard County, Florida being more particularly described as follows:

Beginning at the southeast corner of Section 20, Township 20 South, Range 34 East thence N78°15'40" E, a distance of 2,203.90 feet; thence S 18°04'14" E, a distance of 5,203.03 feet; thence S78°28'51" W, a distance of 650.12 feet; thence S 18°04'14" E, a distance of 650.06 feet; thence N 78°28'51" E, a distance of 650.12 feet; thence S 18°04'14" E, a distance of 650.06 feet; thence S 78°28'51" W, a distance of 1,300.24 feet; thence S 18°04'14" E, a distance of 5,850.53 feet; thence N 78°28'51" E, a distance of 1,300.24 feet; thence S 18°04'14" E, a distance of 650.06 feet; thence S 78°28'51" W, a distance of 1,300.24 feet; thence S 18°04'14" E, a distance of 1,300.12 feet; thence S78°28'51"W, A distance of 1,300.24 feet; thence S 18°04'14" E, a distance of 650.06 feet; thence N 78°28'51" E, a distance of 2,600.48 feet; thence S18°04'14" E, a distance of 650.06 feet; thence S78°28'51"W, a distance of 21,437.63 feet; thence N 09°25'57"W, a distance of 3,361.19 feet; thence S89°42'37" E, a distance of 4,129.52 feet; thence N 00°57'50" W, a distance of 5,354.01 feet; thence N 01°00'59" W, a distance of 5,235.95 feet; thence N 01°22'29" W a distance of 2,576.62 feet; thence N 78°15'40" E, a distance of 10,900.37 feet to the point of beginning.

Any objection to the said application must be made in writing and filed with the Director, Division of the Commission Clerk and Administrative Services, Florida Public Service Commission, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, within thirty (30) days from the date of the mailed notice or published notice, whichever is later. At the same time, a copy of said objection should be mailed to the applicant whose address is set forth below. The objection must state the grounds for the objection with particularity.

F. Marshall Deterding, Esquire
Rose, Sundstrom & Bentley
2548 Blairstone Pines Drive
Tallahassee, Florida 32301
BRE4868287 JAN.30,2003

206

Orlando Sentinel

Published Daily

State of Florida } S.S.
COUNTY OF ORANGE

Before the undersigned authority personally appeared DEBORAH M. TONEY, who on oath says that he/she is the Legal Advertising Representative of Orlando Sentinel, a daily newspaper published at DELAND in VOLUSIA County, Florida; that the attached copy of advertisement, being a AMENDED NOTICE in the matter of WATER CERTIFICATE in the VOLUSIA Court, was published in said newspaper in the issue; of 02/02/03

Affiant further says that the said Orlando Sentinel is a newspaper published at DELAND, in said VOLUSIA County, Florida, and that the said newspaper has heretofore been continuously published in said VOLUSIA County, Florida, each Week Day and has been entered as second-class mail matter at the post office in DELAND in said VOLUSIA County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he/she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

The foregoing instrument was acknowledged before me this 27 day of FEB., 20 03, by DEBORAH TONEY, who is personally known to me and who did take an oath.

(SEAL)

BEVERLY C. SIMMONS
My Comm Exp 3/1[illegible]05
No [illegible] 11
[ ] Personally Known Other I.D.

AMENDED NOTICE OF APPLICATION FOR AN INITIAL CERTIFICATE OF AUTHORIZATION FOR WATER CERTIFICATE
January 24, 2003

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All of Sections 10, 11, 12, 13, and 14
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All of Sections 23, 24, 25, 26, 27, 28, 31, 32, 33, 34, 35 and 36
Township 19 South, Range 33 East, Volusia County, Florida
All of Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29
Section 30 and the North 1/2 of Section 31 lying East of the St. Johns River
Sections 32, 33, 34 and 35 lying northerly of the railroad right-of-way
All of Section 36
Township 20 South, Range 33 East, Volusia County, Florida
All of Sections 1, 12, 13 and 24
Township 19 South, Range 34 East, Volusia County, Florida
All of sections 5, 6, 7, 8, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, and 33
Township 20 South, Range 34 East, Brevard County, Florida
All of Sections 4, 5, 6, 7, 8, 17, 18, 19 and 20
Together With:
Township 20 South, Range 34 East and Township 21 South, Range 34 East and Township 21 South, Range 33 East, Brevard County, Florida
All of Sections 6, 7, 8, 10, 11, 12, 13, 24, 25, 26, 27 and a portion of Section 37 of the plat of Indian River Park subdivision of the Bernardo Sequi Grant recorded in Plat Book 2, Page 33 of the Public Records of Brevard County, Florida being more particularly described as follows:

Beginning at the southeast corner of Section 20, Township 20 South, Range 34 East thence N78°15'40" E, a distance of 2,203.90 feet) thence S 18°04'14" E, a distance of 5,203.03 feet; thence S78° 28'51" W, a distance of 650.12 feet; thence S 18°04'14" E, a distance of 650.06 feet; thence N 78°28'51" E, a distance of 650.12 feet; thence S 18°04'14" E, a distance of 650.06 feet; thence S 78°28'51" W, a distance of 1,300.24 feet; thence S 18°04'14" E, a distance of 5,850.53 feet; thence N 78°28'51" E, a distance of 1,300.24 feet; thence S 18°04'14" E, a distance of 650.06 feet; thence S 78°28'51" W, a distance of 1,300.24 feet; thence S 18°04'14" E, a distance of 1,300.12 feet; thence S 78°28'51" W, a distance of 1,300.24 feet; thence S 18°04'14" E, a distance of 650.06 feet; thence N 78°28'51" E, a distance of 2,600.48 feet; thence S18 °04'14" E, a distance of 650.06 feet; thence

S78°28'51" W, a distance of 21,437.63 feet) thence N 09°25'57" W, a distance of 3,351.19 feet; thence S89°42'37" E, a distance of 4,129.52 feet; thence N 00°57'50" W, a distance of 5,354.01 feet; thence N 01°00'59" W, a distance of 5,235.95 feet; thence N 01°22'29" W a distance of 2,576.62 feet; thence N 78°15'40" E, a distance of 10,900.37 feet to the point of beginning.

Any objection to the said application must be made in writing and filed with the Director, Division of the Commission Clerk and Administrative Services, Florida Public Service Commission, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, within thirty (30) days from the date of the mailed notice or published notice, whichever is later. At the same time, a copy of said objection should be mailed to the applicant whose address is set forth below. The objection must state the grounds for the objection with particularity.

F. Marshall Deterding, Esquire
Rose, Sundstrom & Bentley
2548 Blairstone Pines Drive
Tallahassee, Florida 32301
VOL 4868293 FEB. 2, 2003

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Orlando Sentinel

Published Daily

State of Florida } S.S.
COUNTY OF ORANGE

Before the undersigned authority personally appeared DEBORAH TONEY, who on oath says that he/she is the Legal Advertising Representative of Orlando Sentinel, a daily newspaper published at ALTAMONTE SPRINGS in SEMINOLE County, Florida; that the attached copy of advertisement, being a AMENDED NOTICE OF in the matter of WATER CERTIFICATE

in the SEMINOLE Court, was published in said newspaper in the issue; of 01/30/03

Affiant further says that the said Orlando Sentinel is a newspaper published at ALTAMONTE SPRINGS, in said SEMINOLE County, Florida, and that the said newspaper has heretofore been continuously published in said SEMINOLE County, Florida, each Week Day and has been entered as second-class mail matter at the post office in ALTAMONTE SPRINGS in said SEMINOLE County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he/she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

The foregoing instrument was acknowledged before me this 30 day of JAN., 2003, by DEBORAH TONEY, who is personally known to me and who did take an oath.

Linda L. Bridgewater

(SEAL)

LINDA L. BRIDGEWATER
My Comm Exp. 5/29/05
No DD 029633
[X] Personally Known [ ] Other I.D.

AMENDED NOTICE OF APPLICATION FOR AN INITIAL CERTIFICATE OF AUTHORIZATION FOR WATER CERTIFICATE
January 24, 2003

Farmton Water Resources, LLC, 1625 Maytown Road Osteen, Florida 32764, pursuant to Section 367.045, Florida Statutes, hereby notices its intent to apply to the Florida Public Service Commission for a certificate to provide water service to all or part of the following described property in Volusia and Brevard Counties, Florida:

Township 18 South, Range 33 East, Volusia County, Florida
All of Sections 10, 11, 12, 13, and 14
The East 1/2 of Sections 15 and 22
All of Sections 23, 24, 25, 26, 27, 28, 31, 32, 33, 34, 35 and 36
Township 19 South, Range 33 East, Volusia County, Florida
All of Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29
Section 30 and the North 1/2 of Section 31, lying East of the St. Johns River
Sections 32, 33, 34 and 35 lying northerly of the railroad right-of-way
All of Section 36
Township 20 South, Range 33 East, Volusia County, Florida
All of Sections 1, 12, 13 and 24
Township 19 South, Range 34 East, Volusia County, Florida
All of sections 5, 6, 7, 8, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, and 33
Township 20 South, Range 34 East, Brevard County, Florida
All of Sections 4, 5, 6, 7, 8, 17, 18, 19 and 20
Together With:

Township 20 South, Range 34 East and Township 21 South, Range 34 East and Township 21 South, Range 33 East, Brevard County, Florida:

All of Sections 6, 7, 8, 10, 11, 12, 13, 24, 25, 26, 27, and a portion of Section 37 of the plat of Indian River Park subdivision of the Bernardo Segui Grant recorded in Plat Book 2, Page 38 of the Public Records of Brevard County, Florida being more particularly described as follows:

Beginning at the southeast corner of Section 20, Township 20 South, Range 34 East, thence, N78°15'40" E, a distance of 2,203.90 feet; thence S 18°04'14"E, a distance of 5,203.03 feet; thence S78° 28'51" W, a distance of 650.12 feet; thence S 18°04'14" E, a distance of 650.06 feet; thence N 78°28'51" E, a distance of 650.12 feet; thence S 18°04'14" E, a distance of 650.06 feet; thence S 78°28'51" W, a distance of 1,300.24 feet; thence S 18°04'14" E, a distance of 5,850.53 feet; thence N 78°28'51" E, a distance of 1,300.24 feet; thence S 18°04'14" E, a distance of 650.06 feet; thence S 78°28'51" W, a distance of 1,300.24 feet; thence S 18°04'14" E, a distance of 1,300.12 feet; thence S 78°28'51" W, a distance of 1,300.24 feet; thence S 18°04'14" E, a distance of 650.06 feet; thence N 78°28'51" E, a distance of 2,600.48 feet; thence S18°04'14" E, a distance of 650.06 feet; thence S78°28'51" W, a distance of 21,497.63 feet; thence N 09°25'57" W, a distance of 3,351.19 feet; thence S89°42'37" E, a distance of 4,129.52 feet; thence N 00°57'50" W, a distance of 5,354.01 feet; thence N 01°00'59" W, a distance of 5,235.95 feet; thence N 01°22'29" W a distance of 2,576.62 feet; thence N 78°15'40" E, a distance of 10,900.37 feet to the point of beginning.

Any objection to the said application must be made in writing and filed with the Director, Division of the Commission Clerk and Administrative Services, Florida Public Service Commission, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, within thirty (30) days from the date of the mailed notice or published notice, whichever is later. At the same time, a copy of said objection should be mailed to the applicant whose address is set forth below. The objection must state the grounds for the objection with particularity.

F. Marshall Deterding, Esquire
Rose, Sundstrom & Bentley
2548 Blairstone Pines Drive
Tallahassee, Florida 32301
CSE4866280 JAN.30,2003

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LEGAL DESCRIPTION:

TOWNSHIP 18 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY. FLORIDA

ALL OF SECTIONS 10, 11, 12, 13 AND 14
THE EAST 1/2 OF SECTIONS 15 AND 22
ALL OF SECTIONS 23, 24, 25, 26, 27, 28, 31, 32, 33, 34, 35 AND 36.

TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA

ALL OF SECTIONS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29

LESS AND EXCEPT THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF SECTION 5

LESS AND EXCEPT THE EAST ¼ OF THE SOUTHWEST ¼ OF THE NORTHWEST ¼; AND THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF SECTION 6

LESS AND EXCEPT THE WEST ½ OF THE NORTHWEST ¼ OF THE SOUTHWEST ¼; AND THE WEST ½ OF THE EAST ½ OF THE SOUTHWEST ¼ OF THE SOUTHWEST ¼; AND THE EAST ¾ OF THE NORTHEAST ¼ OF THE SOUTHWEST ¼; AND THE WEST ½ OF THW SOUTHWEST ¼ OF THE SOUTHEAST ¼; AND THE WEST ¾ OF THE NORTHWEST ¼ OF THE SOUTHEAST ¼; AND THE WEST ¼ OF THE NORTHEAST ¼ OF THE SOUTHEAST ¼; AND THE WEST ¼ OF THE SOUTHEAST ¼ OF THE NORTHEAST ¼; AND THE EAST ½ OF THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 7

LESS AND EXCEPT THE EAST ½ OF THE SOUTHWEST ¼ OF THE SOUTHEAST ¼; AND THE EAST ½ OF THE WEST ½ OF THE SOUTHEAST ¼ OF THE SOUTHEAST ¼; AND THE SOUTHEAST ¼ OF THE SOUTHEAST ¼ OF THE SOUTHEAST ¼ OF SECTION 8

LESS AND EXCEPT THE NORTH ½ OF THE NORTHEAST ¼ OF SECTION 16

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 1,486.51 FEET; THENCE RUN S.01°21'39"E., FOR A DISTANCE OF 515.09 FEET TO THE POINT OF BEGINNING; THENCE RUN S.89°33'37"E., FOR A DISTANCE OF 521.14 FEET; THENCE RUN S.00°32'06"W., FOR A DISTANCE OF 150.63 FEET; THENCE RUN S.89°20'51"W., FOR A DISTANCE OF 515.94 FEET; THENCE RUN N.01°21'39"W., FOR A DISTANCE OF 160.55 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 1,487.87 FEET; THENCE RUN S.00°44'27"E., FOR A DISTANCE OF 253.23 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°51'24"E., FOR A DISTANCE OF 50.00 FEET; THENCE RUN S.00°44'47"E., FOR A DISTANCE OF 100.76 FEET; THENCE RUN S.88°59'51"W., FOR A DISTANCE OF 50.01 FEET; THENCE RUN N.00°44'27"W., FOR A DISTANCE OF 101.51 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF

1,643.36 FEET; THENCE RUN S.00°52'09"E., FOR A DISTANCE OF 1,185.77 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°16'13"E., FOR A DISTANCE OF 49.07 FEET; THENCE RUN S.00°40'06"E., FOR A DISTANCE OF 99.13 FEET; THENCE RUN S.89°33'32"W., FOR A DISTANCE OF 48.72 FEET; THENCE RUN N.00°52'09"W., FOR A DISTANCE OF 98.89 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 1,704.56 FEET; THENCE RUN S.00°20'35"E., FOR A DISTANCE OF 1,482.69 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°18'56"E., FOR A DISTANCE OF 52.32 FEET; THENCE RUN S.01°22'15"E., FOR A DISTANCE OF 99.28 FEET; THENCE RUN S.89°28'14"W., FOR A DISTANCE OF 54.10 FEET; THENCE RUN N.00°20'35"W., FOR A DISTANCE OF 99.13 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 1,916.36 FEET; THENCE RUN S.00°55'35"E., FOR A DISTANCE OF 883.67 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°29'23"E., FOR A DISTANCE OF 70.19 FEET; THENCE RUN S.00°50'18"E., FOR A DISTANCE OF 100.39 FEET; THENCE RUN S.89°23'11"W., FOR A DISTANCE OF 70.04 FEET; THENCE RUN N.00°55'35"W., FOR A DISTANCE OF 100.51 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 2,099.62 FEET; THENCE RUN S.01°01'27"E., FOR A DISTANCE OF 763.77 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°29'50"E., FOR A DISTANCE OF 71.22 FEET; THENCE RUN S.01°01'23"E., FOR A DISTANCE OF 105.02 FEET; THENCE RUN S.89°35'52"W., FOR A DISTANCE OF 71.22 FEET; THENCE RUN N.01°01'27"W., FOR A DISTANCE OF 104.89 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 2,343.64 FEET; THENCE RUN S.01°14'33"E., FOR A DISTANCE OF 1,359.09 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°11'54"E., FOR A DISTANCE OF 53.60 FEET; THENCE RUN S.00°38'10"E., FOR A DISTANCE OF 104.13 FEET; THENCE RUN S.89°35'27"W., FOR A DISTANCE OF 52.50 FEET; THENCE RUN N.01°14'33"W., FOR A DISTANCE OF 103.77 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 3,011.48 FEET; THENCE RUN S.01°14'00"E., FOR A DISTANCE OF 1,059.93 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°11'46"E., FOR A DISTANCE OF 98.01 FEET; THENCE RUN S.00°53'04"E., FOR A DISTANCE OF 105.26 FEET; THENCE RUN S.89°37'56"W., FOR A DISTANCE OF 97.38 FEET; THENCE RUN N.01°14'00"W., FOR A DISTANCE OF 104.52 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THE WEST ½ OF THE SOUTHWEST ¼; AND THE SOUTHWEST ¼ OF THE NORTHWEST ¼ OF SECTION 19'

LESS AND EXCEPT THE EAST ½ OF THE NORTHEAST ¼ OF THE NORTHEAST ¼ OF SECTION 20

LESS AND EXCEPT A PORTION OF SECTION 21, MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHEAST CORNER OF SECTION 21, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA; THENCE RUN S.01°54'33"E., ALONG THE EAST LINE OF SAID SECTION 21 FOR A DISTANCE OF 996.18 FEET; THENCE RUN S.01°54'21"E., FOR A DISTANCE OF 364.58 FEET TO THE POINT OF BEGINNING; THENCE RUN S.01°54'36"E., FOR A DISTANCE OF 1,325.86 FEET; THENCE DEPARTING SAID EAST LINE, RUN S.89°30'18"W., FOR A DISTANCE OF 1,316.67 FEET; THENCE RUN N.02°18'23"W., FOR A DISTANCE OF 266.34 FEET; THENCE RUN S.89°42'43"W., FOR A DISTANCE OF 497.23 FEET; THENCE RUN N.01°57'48"W., FOR A DISTANCE OF 1,047.99 FEET; THENCE RUN N.89°11'44"E., FOR A DISTANCE OF 1,816.46 FEET TO A POINT IN THE AFOREMENTIONED EAST LINE AND THE POINT OF BEGINNING.

LESS AND EXCEPT THE WEST ½ OF THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 22

LESS AND EXCEPT THE EAST 12 CHAINS OF THE SOUTH 10 CHAINS OF THE NORTHEAST ¼ OF THE NORTHWEST ¼; AND THE SOUTHEAST ¼ OF THE NORTHWEST ¼; AND THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 23

LESS AND EXCEPT THE WEST ½ OF THE NORTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 27

TOGETHER WITH THE EAST ½; THE EAST ½ OF THE NORTHWEST ¼; AND ALL THAT PART OF THE SOUTHWEST ¼ OF SECTION 30, LYING EAST OF THE ST. JOHNS RIVER

TOGETHER WITH ALL OF THAT PART OF THE NORTHEAST ¼ LYING NORTH OF THE ABANDONED FLORIDA EAST COAST RAILROAD; THE NORTHEAST ¼ OF THE NORTHWEST ¼; AND THE SOUTH 13.67 CHAINS OF THE SOUTHEAST ¼ OF THE NORTHWEST ¼ LYING NORTH AND EAST OF THE RIVER IN SECTION 31

TOGETHER WITH ALL OF SECTIONS 32, 33, 34 AND 35 LYING NORTH OF THE ABANDONED FLORIDA EAST COAST RAILROAD RIGHT-OF-WAY

LESS AND EXCEPT THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 34 LYING NORTH OF THE ABANDONED FLORIDA EAST COAST RAILROAD RIGHT-OF-WAY

ALL OF SECTION 36.

TOWNSHIP 20 SOUTH, RANGE 33 EAST VOLUSIA COUNTY, FLORIDA

ALL OF SECTIONS 1, 12, 13 AND 24

TOWNSHIP 19 SOUTH, RANGE 34 EAST, VOLUSIA COUNTY, FLORIDA

ALL OF SECTIONS 5, 6, 7, 8, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, AND 33

LESS AND EXCEPT THE WEST ½ OF THE SOUTHEAST ¼ OF THE NORTHWEST ¼; AND THAT PART OF THE SOUTHEAST ¼ OF THE SOUTHEAST ¼ OF THE NORTHWEST ¼ LYING WITHIN THE RAILROAD RIGHT-OF-WAY; AND THAT PART OF THE SOUTHEAST ¼

OF THE SOUTHWEST ¼ LYING NORTH OF THE SOUTHERLY RAILROAD RIGHT-OF-WAY LINE; AND THE SOUTHWEST ¼ OF THE SOUTHEAST ¼ OF SECTION 30

TOWNSHIP 20 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA

ALL OF SECTION 4, 5, 6, 7, 8, 17, 18, 19 AND 20

TOWNSHIP 20 SOUTH, RANGE 34 EAST AND TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA; AND TOWNSHIP 21 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA

ALL OF SECTIONS 6, 7, 8, 10, 11, 12, 25, 26, 27; A PORTION OF SECTION 13 AND 24 VOLUSIA COUNTY AND A PORTION OF SECTION 37 OF THE PLAT OF INDIAN RIVER PARK SUBDIVISION OF THE BERNARDO SEQUI GRANT RECORDED IN PLAT BOOK 2, PAGE 33 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS.

BEGINNING AT THE SOUTHEAST CORNER OF SECTION 20, TOWNSHIP 20 SOUTH, RANGE 34 EAST THENCE N78°15'40"E, A DISTANCE OF 2,203.90 FEET; THENCE S18°04'14"E, A DISTANCE OF 5,203.03 FEET; THENCE S78°28'51"W, A DISTANCE OF 650.12 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE N78°28'51"E, A DISTANCE OF 650.12 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE S78°28'51"W, A DISTANCE OF 1,300.24 FEET; THENCE S18°04'14"E, A DISTANCE OF 5,850.53 FEET; THENCE N78°28'51"E, A DISTANCE OF 1,300.24 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE S78°28'51"W, A DISTANCE OF 1,300.24 FEET; THENCE S18°04'14"E, A DISTANCE OF 1,300.12 FEET; THENCE S78°28'51"W, A DISTANCE OF 1,300.24 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE N78°28'51"E, A DISTANCE OF 2,600.48 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE S78°28'51"W, A DISTANCE OF 21,437.63 FEET TO THE SOUTHWEST CORNER OF SECTION 37, TOWNSHIP 21 SOUTH, RANGE 33 EAST; THENCE N09°25'57"W, A DISTANCE OF 3,351.19 FEET; THENCE S89°42'37"E, A DISTANCE OF 4,129.52 FEET; THENCE N00°57'50"W, A DISTANCE OF 5,354.01 FEET; THENCE N01°00'59"W, A DISTANCE OF 5,235.95 FEET; THENCE N01°22'29"W, A DISTANCE OF 2,576.62 FEET; THENCE N78°15'40"E, A DISTANCE OF 10,900.37 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF THE NORTHWEST ¼ OF SECTION 24.

NAME OF COMPANY FARMTON WATER RESOURCES, LLC
WATER TARIFF
(Continued from Sheet No. 3.0)

TOWNSHIP 18 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY. FLORIDA

ALL OF SECTIONS 10, 11, 12, 13 AND 14
THE EAST 1/2 OF SECTIONS 15 AND 22
ALL OF SECTIONS 23, 24, 25, 26, 27, 28, 31, 32, 33, 34, 35 AND 36.

TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA

ALL OF SECTIONS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29

LESS AND EXCEPT THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF SECTION 5

LESS AND EXCEPT THE EAST ½ OF THE SOUTHWEST ¼ OF THE NORTHWEST ¼; AND THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF SECTION 6

LESS AND EXCEPT THE WEST ½ OF THE NORTHWEST ¼ OF THE SOUTHWEST ¼; AND THE WEST ½ OF THE EAST ½ OF THE SOUTHWEST ¼ OF THE SOUTHWEST ¼; AND THE EAST ½ OF THE NORTHEAST ¼ OF THE SOUTHWEST ¼; AND THE WEST ½ OF THW SOUTHWEST ¼ OF THE SOUTHEAST ¼; AND THE WEST ½ OF THE NORTHWEST ¼ OF THE SOUTHEAST ¼; AND THE WEST ½ OF THE NORTHEAST ¼ OF THE SOUTHEAST ¼; AND THE WEST ½ OF THE SOUTHEAST ¼ OF THE NORTHEAST ¼; AND THE EAST ½ OF THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 7

LESS AND EXCEPT THE EAST ½ OF THE SOUTHWEST ¼ OF THE SOUTHEAST ¼; AND THE EAST ½ OF THE WEST ½ OF THE SOUTHEAST ¼ OF THE SOUTHEAST ¼; AND THE SOUTHEAST ¼ OF THE SOUTHEAST ¼ OF THE SOUTHEAST ¼ OF SECTION 8

LESS AND EXCEPT THE NORTH ½ OF THE NORTHEAST ¼ OF SECTION 16

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 1,486.51 FEET; THENCE RUN S.01°21'39"E., FOR A DISTANCE OF 515.09 FEET TO THE POINT OF BEGINNING; THENCE RUN S.89°33'37"E., FOR A DISTANCE OF 521.14 FEET; THENCE RUN S.00°32'06"W., FOR A DISTANCE OF 150.63 FEET; THENCE RUN S.89°20'51"W., FOR A DISTANCE OF 515.94 FEET; THENCE RUN N.01°21'39"W., FOR A DISTANCE OF 160.55 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 1,487.87 FEET; THENCE RUN S.00°44'27"E., FOR A DISTANCE OF 253.23 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°51'24"E., FOR A DISTANCE OF 50.00 FEET; THENCE RUN S.00°44'47"E., FOR A DISTANCE OF 100.76 FEET; THENCE RUN S.88°59'51"W., FOR A DISTANCE OF 50.01 FEET; THENCE RUN N.00°44'27"W., FOR A DISTANCE OF 101.51 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

1,643.36 FEET; THENCE RUN S.00°52'09"E., FOR A DISTANCE OF 1,185.77 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°16'13"E., FOR A DISTANCE OF 49.07 FEET; THENCE RUN S.00°40'06"E., FOR A DISTANCE OF 99.13 FEET; THENCE RUN S.89°33'32"W., FOR A DISTANCE OF 48.72 FEET; THENCE RUN N.00°52'09"W., FOR A DISTANCE OF 98.89 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 1,704.56 FEET; THENCE RUN S.00°20'35"E., FOR A DISTANCE OF 1,482.69 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°18'56"E., FOR A DISTANCE OF 52.32 FEET; THENCE RUN S.01°22'15"E., FOR A DISTANCE OF 99.28 FEET; THENCE RUN S.89°28'14"W., FOR A DISTANCE OF 54.10 FEET; THENCE RUN N.00°20'35"W., FOR A DISTANCE OF 99.13 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 1,916.36 FEET; THENCE RUN S.00°55'35"E., FOR A DISTANCE OF 883.67 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°29'23"E., FOR A DISTANCE OF 70.19 FEET; THENCE RUN S.00°50'18"E., FOR A DISTANCE OF 100.39 FEET; THENCE RUN S.89°23'11"W., FOR A DISTANCE OF 70.04 FEET; THENCE RUN N.00°55'35"W., FOR A DISTANCE OF 100.51 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 2,099.62 FEET; THENCE RUN S.01°01'27"E., FOR A DISTANCE OF 763.77 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°29'50"E., FOR A DISTANCE OF 71.22 FEET; THENCE RUN S.01°01'23"E., FOR A DISTANCE OF 105.02 FEET; THENCE RUN S.89°35'52"W., FOR A DISTANCE OF 71.22 FEET; THENCE RUN N.01°01'27"W., FOR A DISTANCE OF 104.89 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 2,343.64 FEET; THENCE RUN S.01°14'33"E., FOR A DISTANCE OF 1,359.09 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°11'54"E., FOR A DISTANCE OF 53.60 FEET; THENCE RUN S.00°38'10"E., FOR A DISTANCE OF 104.13 FEET; THENCE RUN S.89°35'27"W., FOR A DISTANCE OF 52.50 FEET; THENCE RUN N.01°14'33"W., FOR A DISTANCE OF 103.77 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 3,011.48 FEET; THENCE RUN S.01°14'00"E., FOR A DISTANCE OF 1,059.93 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°11'46"E., FOR A DISTANCE OF 98.01 FEET; THENCE RUN S.00°53'04"E., FOR A DISTANCE OF 105.26 FEET; THENCE RUN S.89°37'56"W., FOR A DISTANCE OF 97.38 FEET; THENCE RUN N.01°14'00"W., FOR A DISTANCE OF 104.52 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THE WEST ½ OF THE SOUTHWEST ¼; AND THE SOUTHWEST ¼ OF THE NORTHWEST ¼ OF SECTION 19

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

LESS AND EXCEPT THE EAST ½ OF THE NORTHEAST ¼ OF THE NORTHEAST ¼ OF SECTION 20

LESS AND EXCEPT A PORTION OF SECTION 21, MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHEAST CORNER OF SECTION 21, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA; THENCE RUN S.01°54'33"E., ALONG THE EAST LINE OF SAID SECTION 21 FOR A DISTANCE OF 996.18 FEET; THENCE RUN S.01°54'21"E., FOR A DISTANCE OF 364.58 FEET TO THE POINT OF BEGINNING; THENCE RUN S.01°54'36"E., FOR A DISTANCE OF 1,325.86 FEET; THENCE DEPARTING SAID EAST LINE, RUN S.89°30'18"W., FOR A DISTANCE OF 1,316.67 FEET; THENCE RUN N.02°18'23"W., FOR A DISTANCE OF 266.34 FEET; THENCE RUN S.89°42'43"W., FOR A DISTANCE OF 497.23 FEET; THENCE RUN N.01°57'48"W., FOR A DISTANCE OF 1,047.99 FEET; THENCE RUN N.89°11'44"E., FOR A DISTANCE OF 1,816.46 FEET TO A POINT IN THE AFOREMENTIONED EAST LINE AND THE POINT OF BEGINNING.

LESS AND EXCEPT THE WEST ½ OF THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 22

LESS AND EXCEPT THE EAST 12 CHAINS OF THE SOUTH 10 CHAINS OF THE NORTHEAST ¼ OF THE NORTHWEST ¼; AND THE SOUTHEAST ¼ OF THE NORTHWEST ¼; AND THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 23

LESS AND EXCEPT THE WEST ½ OF THE NORTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 27

TOGETHER WITH THE EAST ½; THE EAST ½ OF THE NORTHWEST ¼; AND ALL THAT PART OF THE SOUTHWEST ¼ OF SECTION 30, LYING EAST OF THE ST. JOHNS RIVER

TOGETHER WITH ALL OF THAT PART OF THE NORTHEAST ¼ LYING NORTH OF THE ABANDONED FLORIDA EAST COAST RAILROAD; THE NORTHEAST ¼ OF THE NORTHWEST ¼; AND THE SOUTH 13.67 CHAINS OF THE SOUTHEAST ¼ OF THE NORTHWEST ¼ LYING NORTH AND EAST OF THE RIVER IN SECTION 31

TOGETHER WITH ALL OF SECTIONS 32, 33, 34 AND 35 LYING NORTH OF THE ABANDONED FLORIDA EAST COAST RAILROAD RIGHT-OF-WAY

LESS AND EXCEPT THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 34 LYING NORTH OF THE ABANDONED FLORIDA EAST COAST RAILROAD RIGHT-OF-WAY

ALL OF SECTION 36.

TOWNSHIP 20 SOUTH, RANGE 33 EAST VOLUSIA COUNTY, FLORIDA

ALL OF SECTIONS 1, 12, 13 AND 24

TOWNSHIP 19 SOUTH, RANGE 34 EAST, VOLUSIA COUNTY, FLORIDA

ALL OF SECTIONS 6, 6, 7, 8, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, AND 33

LESS AND EXCEPT THE WEST ½ OF THE SOUTHEAST ¼ OF THE NORTHWEST ¼; AND THAT PART OF THE SOUTHEAST ¼ OF THE SOUTHEAST ¼ OF THE NORTHWEST ¼ LYING WITHIN THE RAILROAD RIGHT-OF-WAY; AND THAT PART OF THE SOUTHEAST ¼

OF THE SOUTHWEST ¼ LYING NORTH OF THE SOUTHERLY RAILROAD RIGHT-OF-WAY LINE; AND THE SOUTHWEST ¼ OF THE SOUTHEAST ¼ OF SECTION 30

TOWNSHIP 20 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA

ALL OF SECTION 4, 5, 6, 7, 8, 17, 18, 19 AND 20

TOWNSHIP 20 SOUTH, RANGE 34 EAST AND TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA; AND TOWNSHIP 21 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA

ALL OF SECTIONS 6, 7, 8, 10, 11, 12, 25, 26, 27; A PORTION OF SECTION 13 AND 24 VOLUSIA COUNTY AND A PORTION OF SECTION 37 OF THE PLAT OF INDIAN RIVER PARK SUBDIVISION OF THE BERNARDO SEQUI GRANT RECORDED IN PLAT BOOK 2, PAGE 33 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS.

BEGINNING AT THE SOUTHEAST CORNER OF SECTION 20, TOWNSHIP 20 SOUTH, RANGE 34 EAST THENCE N78°15'40"E, A DISTANCE OF 2,203.90 FEET; THENCE S18°04'14"E, A DISTANCE OF 5,203.03 FEET; THENCE S78°28'51"W, A DISTANCE OF 650.12 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE N78°28'51"E, A DISTANCE OF 650.12 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE S78°28'51"W, A DISTANCE OF 1,300.24 FEET; THENCE S18°04'14"E, A DISTANCE OF 5,850.53 FEET; THENCE N78°28'51"E, A DISTANCE OF 1,300.24 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE S78°28'51"W, A DISTANCE OF 1,300.24 FEET; THENCE S18°04'14"E, A DISTANCE OF 1,300.12 FEET; THENCE S78°28'51"W, A DISTANCE OF 1,300.24 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE N78°28'51"E, A DISTANCE OF 2,600.48 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE S78°28'51"W, A DISTANCE OF 21,437.63 FEET TO THE SOUTHWEST CORNER OF SECTION 37, TOWNSHIP 21 SOUTH, RANGE 33 EAST; THENCE N09°25'57"W, A DISTANCE OF 3,351.19 FEET; THENCE S89°42'37"E, A DISTANCE OF 4,129.52 FEET; THENCE N00°57'50"W, A DISTANCE OF 5,354.01 FEET; THENCE N01°00'59"W, A DISTANCE OF 5,235.95 FEET; THENCE N01°22'29"W, A DISTANCE OF 2,576.62 FEET; THENCE N78°15'40"E, A DISTANCE OF 10,900.37 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF THE NORTHWEST ¼ OF SECTION 24.

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 25.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

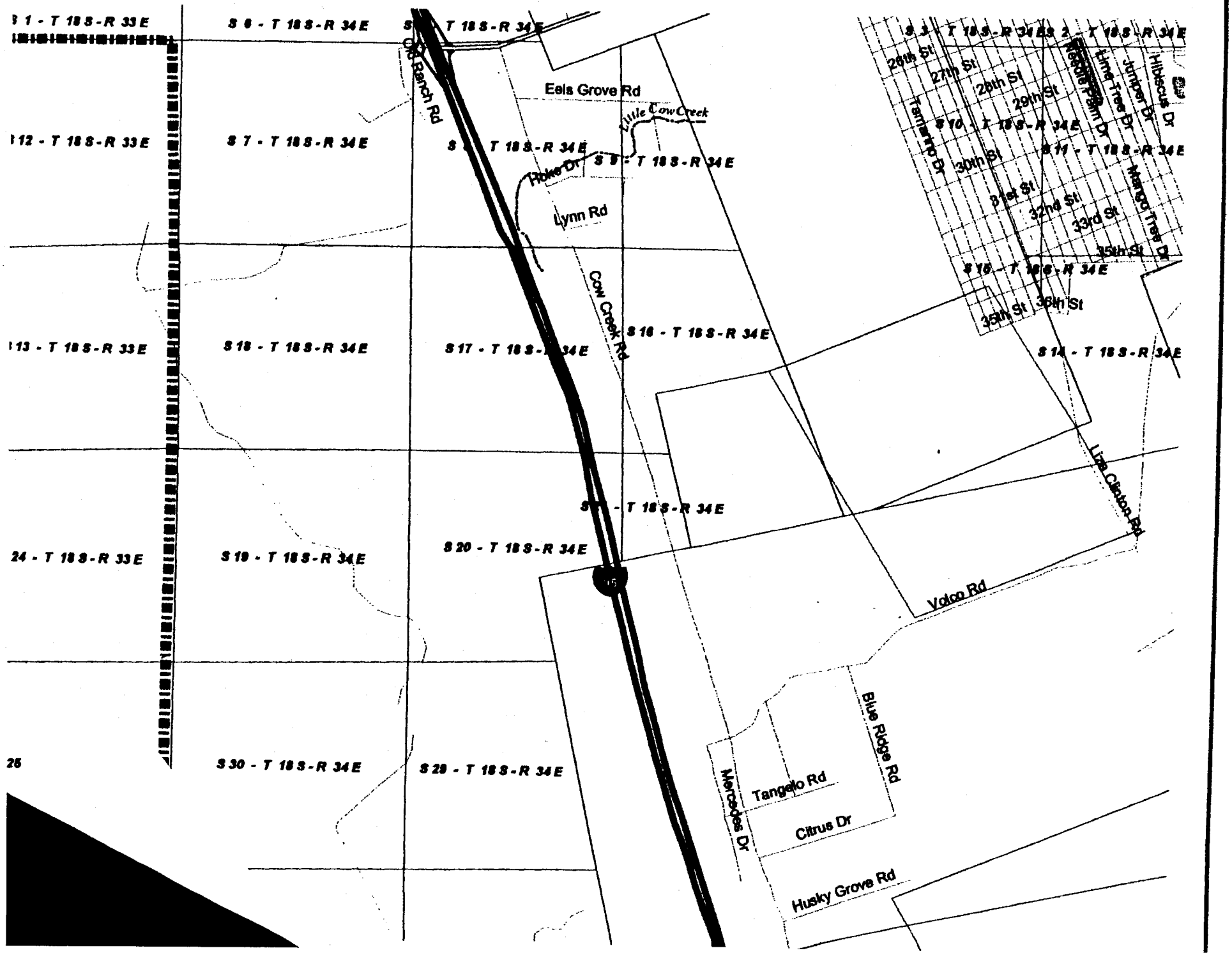
COPY OF CUSTOMER'S BILL

Farmton Water Resources, LLC
1625 Maytown Road
Osteen, Florida 32764

SERVICE FROM TO					
ACCT					
CURRENT	PREVIOUS	CONSUMPTION	AMOUNT		
				RETURN THIS STUB WITH YOUR REMITTANCE TO	
				ACCT NO.	TOTAL DUE
BILLING DATE	PREVIOUS BALANCE			BILLING DATE	DATE DUE
DUE DATE	TOTAL DUE				

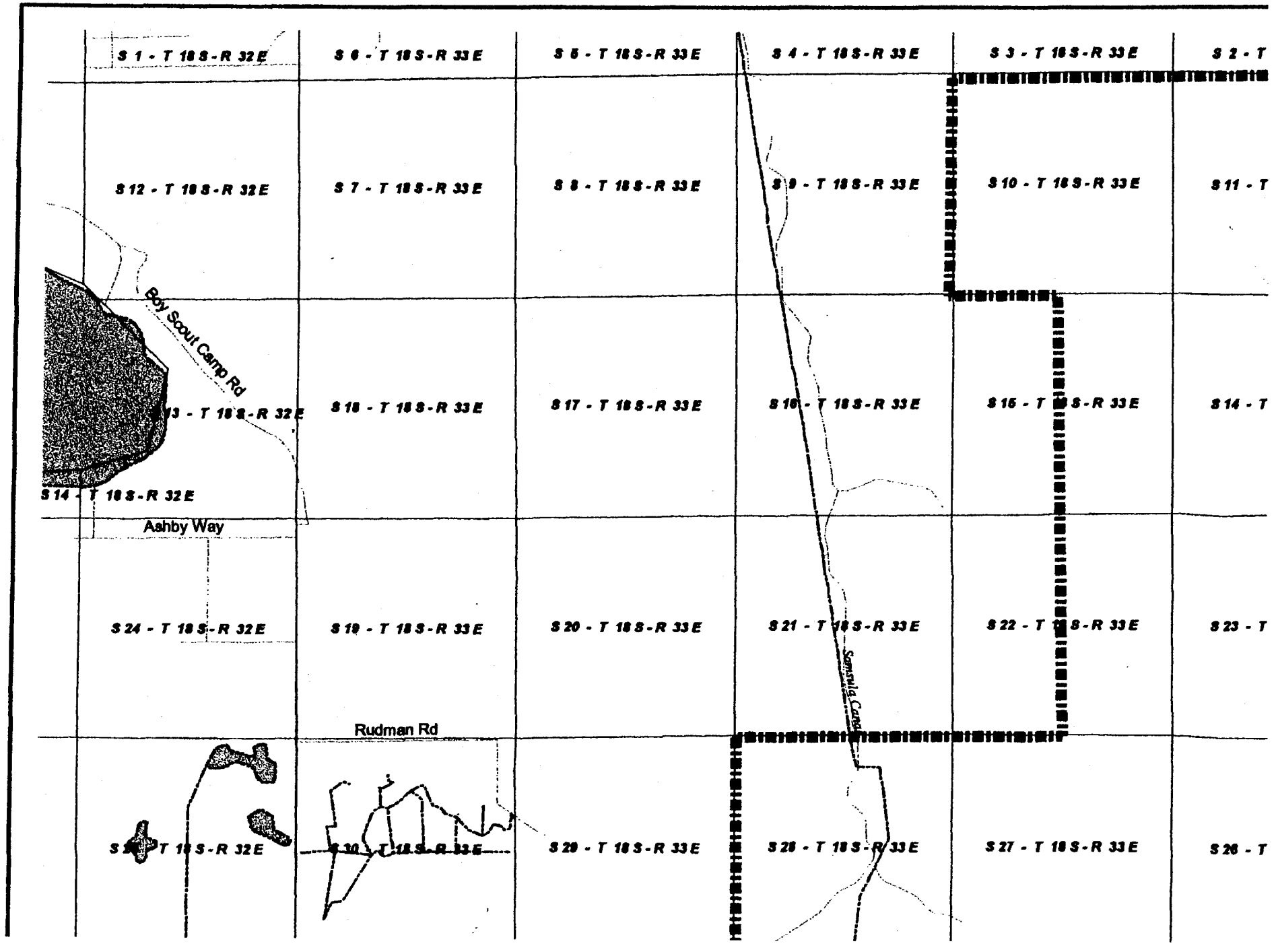
EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE



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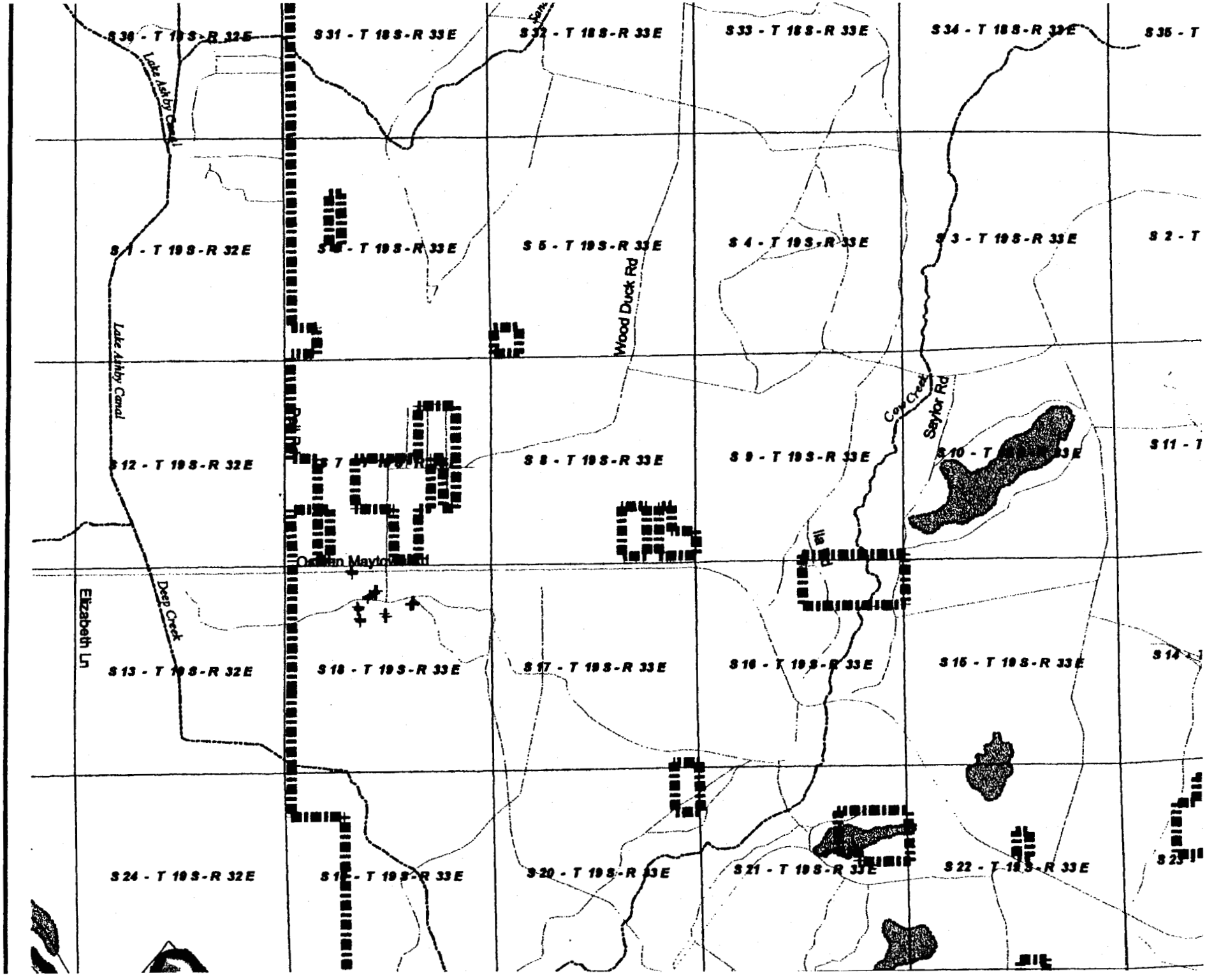
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S 5 - T 18 S - R 33 E
S 4 - T 18 S - R 33 E
S 3 - T 18 S - R 33 E
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S 12 - T 18 S - R 32 E
S 7 - T 18 S - R 33 E
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S 9 - T 18 S - R 33 E
S 10 - T 18 S - R 33 E
S 11 - T
Boy Scout Camp Rd
S 13 - T 18 S - R 32 E
S 18 - T 18 S - R 33 E
S 17 - T 18 S - R 33 E
S 16 - T 18 S - R 33 E
S 15 - T 18 S - R 33 E
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Ashby Way
S 24 - T 18 S - R 32 E
S 19 - T 18 S - R 33 E
S 20 - T 18 S - R 33 E
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S 22 - T 18 S - R 33 E
S 23 - T
Rudman Rd
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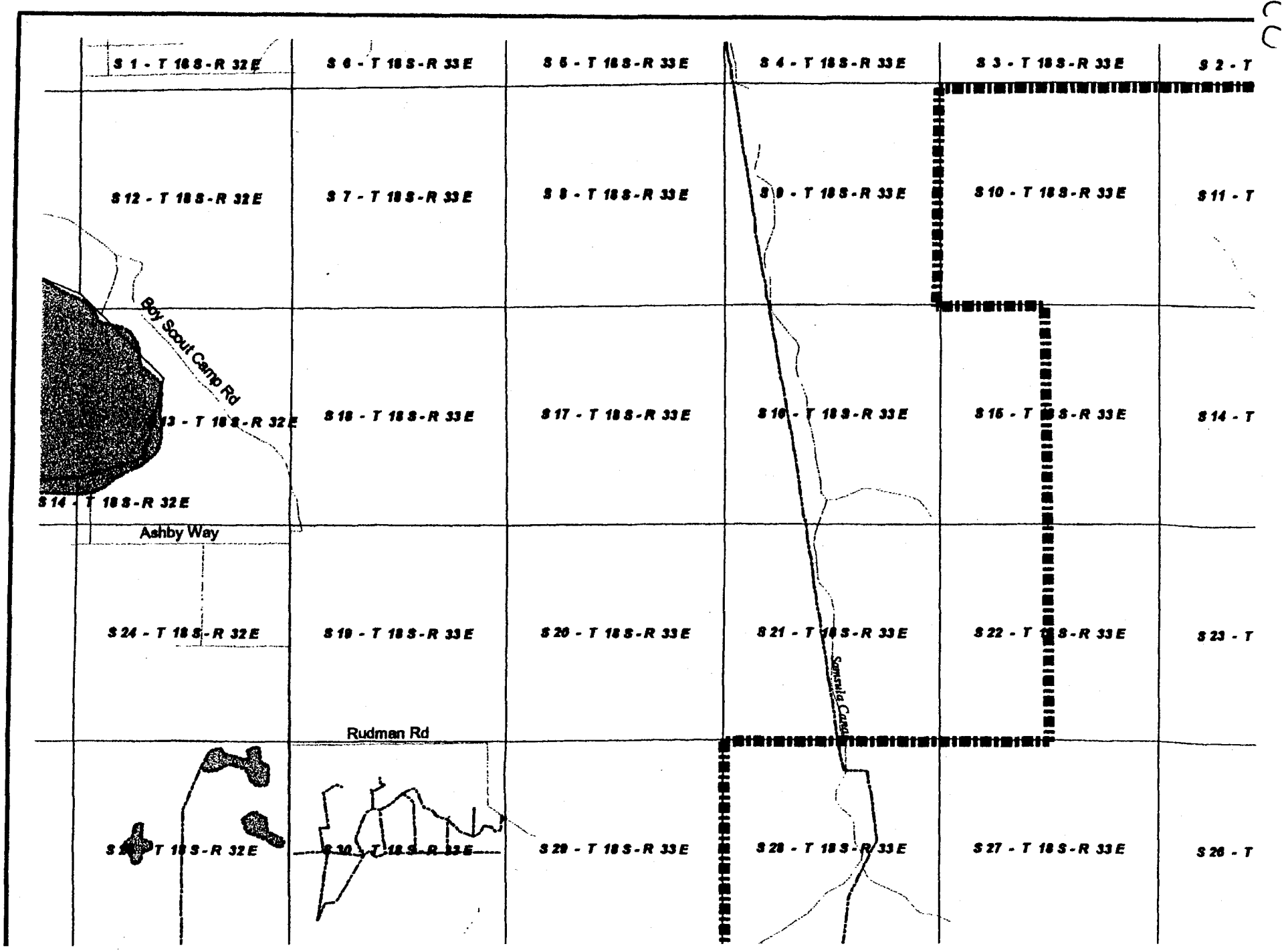
219

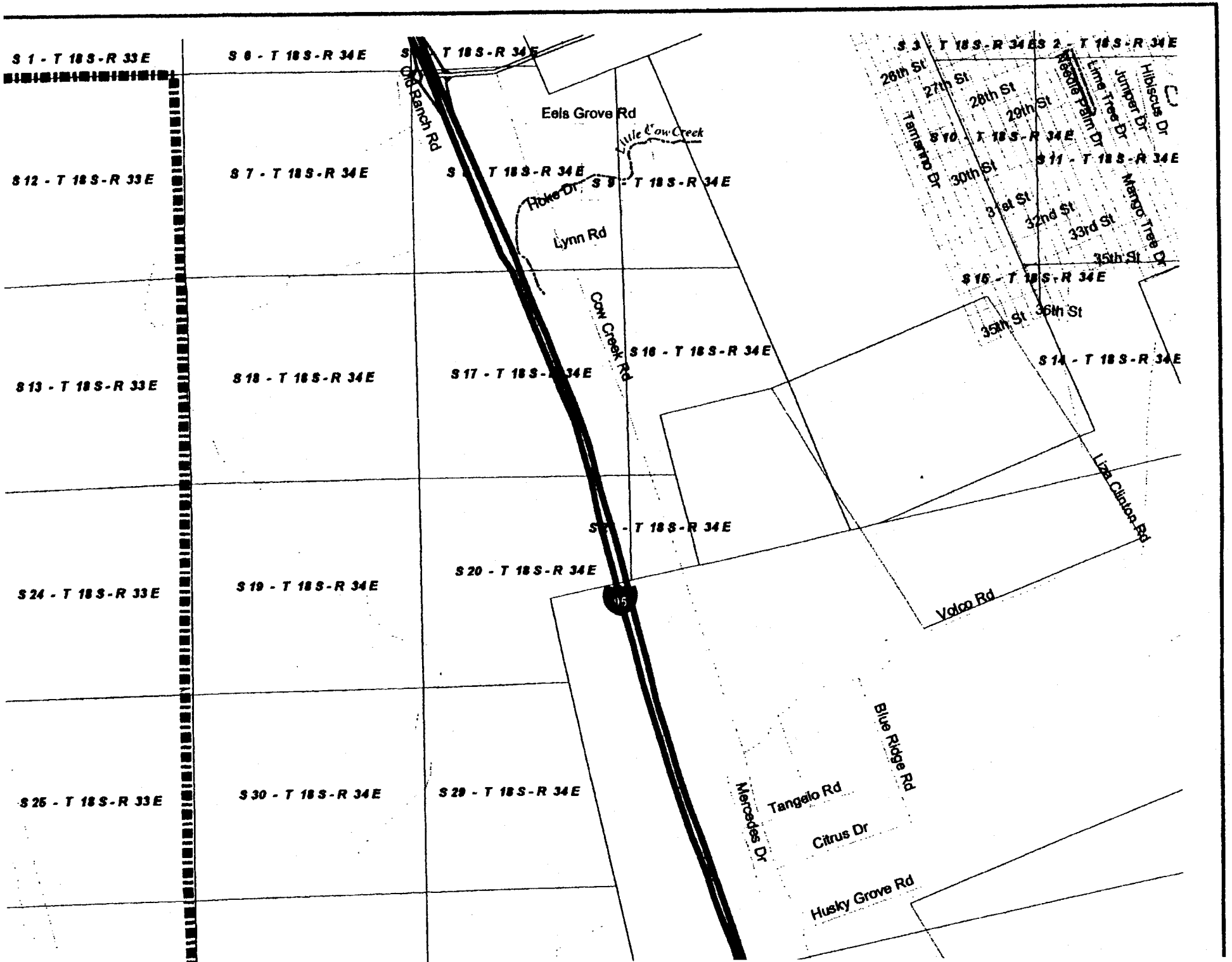

S 26 - T 19 S - R 32 E
S 25 - T 19 S - R 32 E
S 30 - T 19 S - R 33 E
S 29 - T 19 S - R 33 E
St Johns River
St Johns River
St Johns River
S 36 - T 19 S - R 32 E
Ritchie Rd
S 31 - T 19 S - R 33 E
S 32 - T 19 S - R 33 E
S 33 - T 19 S - R 33 E
S 34 - T 19 S - R 33 E
S 35 -
Lake Harney Rd
Osceola Fish Camp Rd
E Osceola Rd
S 6 - T 20 S - R 33 E
S 1 - T 20 S - R 32 E
Canvasback Trl
Settlers Loop
S 12 -
S 11 - T 20 S - R 32 E
S 9 - T 20 S - R 33 E
20 S - R 33 E
S 11
S 13 - T 20 S
Winona Dr
Gopher Slough Rd
S 17 - T 20 S - R
T 20 S - R 33 E
S 16 - T 20 S - R 33 E
Lake Harney Woods Blvd

S 24 - T 20 S - R 33 E
S 13 - T 20 S - R 33 E
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S 8 - T 20 S - R 34 E
S 6 - T 20 S - R 34 E
S 31 - T 19 S - R 34 E
S 32 - T 19 S - R 34 E
S 33 - T 19 S - R
Maytown Spur
S 20 - T 20 S - R 34 E
S 16 - T 20 S - R 34 E
S 9 - T 20 S - R 34 E
S 5 - T 20 S - R 34 E
S 4 - T 20 S - R 34 E
S 15 - T 20 S - R 34 E
Stuckey Rd


S 36 - T 18 S - R 32 E
S 31 - T 18 S - R 33 E
S 32 - T 18 S - R 33 E
S 33 - T 18 S - R 33 E
S 34 - T 18 S - R 33 E
S 35 - T
Lake Ashby Canal
S 1 - T 19 S - R 32 E
S 6 - T 19 S - R 33 E
S 5 - T 19 S - R 33 E
S 4 - T 19 S - R 33 E
S 3 - T 19 S - R 33 E
S 2 - T
Wood Duck Rd
Lake Ashby Canal
Cow Creek
Saylor Rd
S 12 - T 19 S - R 32 E
S 8 - T 19 S - R 33 E
S 9 - T 19 S - R 33 E
S 10 - T
S 11 - T
Ila Rd
Elizabeth Ln
Deep Creek
S 13 - T 19 S - R 32 E
S 18 - T 19 S - R 33 E
S 17 - T 19 S - R 33 E
S 16 - T 19 S - R 33 E
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S 24 - T 19 S - R 32 E
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S 23

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S 29 - T 19 S - R 34 E
Maytown Rd


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Boy Scout Camp Rd
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Ashby Way
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Rudman Rd
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STEVEN T. MINDLIN, P.A.
DAREN L. SHIPPY
WILLIAM E. SUNDSTROM, P.A.
DIANE D. TREMOR, P.A.
JOHN L. WHARTON

ROBERT M. C. ROSE, *OF COUNSEL*
WAYNE L. SCHIEFELBEIN, *OF COUNSEL*

MARTIN S. FRIEDMAN, P.A.
VALERIE L. LORD, *OF COUNSEL*
(LICENSED IN TEXAS ONLY)

April 4, 2003
VIA HAND DELIVERY

Ms. Blanca Bayo
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Farmton Water Resources, LLC; Docket No. 021256-WU
Application for Original Certificate
Our File No. 36029.01

Dear Ms. Bayo:

As a follow up to my letter of March 14, 2003, I am attaching hereto the original and seven copies of revised tariff sheets in order to further define the Utility's proposed service availability charges and policy, requested by the staff in their letter of February 13, 2003.

I am also enclosing one copy of a new map marked at Third Revised Exhibit "G" in the bottom right hand corner. This should replace all previous versions of Exhibit "G" filed with the Commission, as two additional errors that existed on all previous versions of the map have been noted and have now been corrected on this third revised version. For ease of identification, only those copies of the map that say "Third Revised Exhibit G" in the bottom right hand corner should be utilized for future purposes with regard to this docket. I have provided two copies of this map to Stan Rieger, the staff engineer assigned to this case.

With the revision of these tariff sheets and maps, I believe we have provided everything requested by the staff in their February 13, 2003 letter. If there is anything further that is needed, please contact me at your earliest convenience and we will be happy to provide any needed additional information.

Sincerely,
ROSE, SUNDSTROM & BENTLEY

F. Marshall Deterding
For The Firm

FMD/tms
cc: Division of Economic Regulation (Daniel, Brady, Rieger, Kaproth)
Office of the General Counsel (Holley, Rodan)
Ms. Barbara Goering
Mr. Earl Underhill
Mr. Glenn Storch
Mr. Chuck Drake
Mr. George Flint

DOCUMENT NUMBER-DATE
03190 APR-4 8
FPSC-COMMISSION CLERK

ORIGINAL SHEET NO. 26.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

INDEX OF SERVICE AVAILABILITY

Description	Sheet Number	Rule Number
Schedule of Fees and Charges	Go to Sheet No. 19.0	
Service Availability Policy	28.0	

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

227

NAME OF COMPANY FARMTON WATER RESOURCES, LLC

WATER TARIFF

SERVICE AVAILABILITY POLICY

Retail Water Supply - The Company will be responsible for the construction and ownership of all facilities, including all wells and treatment facilities and distribution facilities up to the point of delivery of service to the customer. The Company will charge a system capacity charge to recover a portion of the cost of such investment.

Fire Protection - The Company will be responsible for the construction and ownership of all facilities, including all wells and treatment facilities and distribution facilities up to the point of delivery of service to the customer. The Company will charge a system capacity charge to recover a portion of the cost of such investment.

Bulk Raw Water Supply - The Company will be responsible for the construction and ownership of all facilities, including all wells and treatment facilities and distribution facilities up to the point of delivery of service to the customer. The Company will charge a system capacity charge to recover a portion of the cost of such investment. The point of delivery for bulk raw water supply is intended to be at the boundary of the service territory of the service company with the customer responsible for construction and ownership of all facilities beyond that point of delivery, and the service company responsible for construction and ownership of all facilities up to that point of delivery.

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

ORIGINAL SHEET NO. 19.0

NAME OF COMPANY FARMTON WATER RESOURCES, LLC
WATER TARIFF

SERVICE AVAILABILITY SCHEDULE OF FEES AND CHARGES

Description	Amount	Refer to Service Availability Policy Sheet No./Rule No.
Back-Flow Preventor Installation Fee		
5/8" x 3/4"	$	
1"	$	
1 1/2"	$	
2"	$	
Over 2"	$	
Customer Connection (Tap-in) Charge		
5/8" x 3/4" metered service	$	
1" metered service	$	
1 1/2" metered service	$	
2" metered service	$	
Over 2" metered service	$	
Guaranteed Revenue Charge		
With Prepayment of Service Availability Charges:		
Residential-per ERC/month (__GPD)	$	
All others-per gallon/month	$	
Without Prepayment of Service Availability Charges:		
Residential-per ERC/month (__GPD)	$	
All others-per gallon/month	$	
Inspection Fee	$	
Main Extension Charge		
Residential-per ERC (__GPD)	$	
All others-per gallon	$	
or		
Residential-per lot (__foot frontage)	$	
All others-per front foot	$	
Meter Installation Fee		
5/8" x 3/4"	$	
1"	$	
1 1/2"	$	
2"	$	
Over 2"	$	
Plan Review Charge	$	
Plant Capacity Charge		
Residential-per ERC (__GPD)	$	
All others-per gallon	$	
System Capacity Charge		
Residential-per ERC (350 GPD)	$ 356.65	
Fire protection - per well	$ 2,640.00	
Bulk raw water - per ERC (350 GPD)	$ 421.51	
Per Gallon -	$ 1.20443	

EFFECTIVE DATE -
TYPE OF FILING -

EARL UNDERHILL
ISSUING OFFICER

MANAGER
TITLE

EXHIBIT GCH-2

GERALD C. HARTMAN, P.E.

RESUMÉ

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO. 4
COMPANY/ FARMTON
WITNESS. Gerald C. Hartman (GCH-2)
DATE: 06/22-23/04



gch@consulthai.com / http://www.consulthai.com

GERALD C. HARTMAN, P.E., DEE
PRESIDENT

EDUCATION
B.S., Duke University, 1975
M.S., Duke University, 1976

PROFESSIONAL REGISTRATION

Alabama -	No. 19422
Arizona -	No. 28939
Colorado -	No. 31200
Florida -	No. 27703
Georgia -	No. 17597
Illinois -	No. 062-053100
Indiana -	No. 10100292
Kentucky -	No. 22463
Louisiana -	No. 30816
Maine -	No. 10395
Maryland -	No. 12410
Mississippi -	No. 12717
New Hampshire -	No. 10820
New Mexico -	No. 15990
North Carolina -	No. 15264
Pennsylvania -	No. 38216
South Carolina	No. 15389
Tennessee -	No. 105550
Virginia -	No. 131184
Wisconsin -	No. 32971

NCEES P.E. No. 2048, National

PROFESSIONAL AFFILIATIONS
Diplomate - American Academy of Environmental Engineers
American Society of Civil Engineers
National Society of Professional Engineers
Florida Engineering Society
American Water Works Association
Florida Pollution Control Association
American Water Resources Association
Water Environment Federation
Florida Water and Pollution Control Operators Association
American Society of Appraisers Candidate
Florida Waterworks Association
American Concrete Institute (ACI)
Water Management Institute

QUALIFICATIONS SUMMARY
Mr. Hartman is highly qualified in environmental engineering with special expertise in pumping system analysis/station design; hydraulic analysis; pipeline design; wastewater collection, treatment, effluent reuse/utilization/disposal; facility planning; rate charge and fee studies; funding and grants, utility management and finance as well as a wide variety of utility agreements and damage issues. Mr. Hartman has extensive experience in the past 25-years as a technical expert in the areas of water resources and engineering; wastewater pollution control and engineering; sludges and sludge management; reclaimed water and use; solid waste matters; rates, charges and fees; utility tax and franchise fees; financing and bond validation; utility management; service area issues and certification; permitting issues; utility acquisitions and valuation/appraisals; technical and financial aspects of contract damages for water, wastewater, reclaimed water, power plant facilities; and water, wastewater, reclaimed water and power transmission and distribution projects.

ENGINEERING

Design
Mr. Hartman has participated in the design of water and wastewater facilities throughout Florida totaling more than $1 billion in value. He has been involved in the design of odor control systems for wastewater plants; sludge dewatering, PSRP and PFRP facilities; and numerous wastewater treatment plants varying

from extended aeration through advanced biological nutrient removal pumping/lift stations for collection/transmission systems. He served as the engineer in charge of numerous wastewater reuse systems; more than 30 golf course reuse systems and numerous golf course sales; numerous percolation pond system/rapid infiltration basin systems; spray irrigation systems; wetlands application systems; surface discharge systems; agricultural reuse systems; forest irrigation systems; as well as power plant reuse systems. Mr. Hartman has participated in numerous water supply projects; wells; ASR; MIT; aeration, ozone, lime softening, resin, membrane and coagulation/sedimentation water treatment plants; storage; high-service pumping; transmission and distribution projects from 0.5 MGD to 200 MGD. He has been involved in service area delineations, major customer agreements, wholesale sewer agreements, regionalization projects and many privatization assignments.

Planning

Mr. Hartman has been involved in over 50 water and wastewater master plans, numerous interlocal negotiations and agreements, over 100 capital improvement programs, and numerous capital construction fund plans. He represented the American Society of Civil Engineers in the State Comprehensive Plan as a Policy Advisory Committee Member on the utility element, and participated in the preparation of Comprehensive Plans, Chapter 9J5, for more than 20 communities. He has been involved in service and service area agreements, issues and certification proceedings.

Financial

Mr. Hartman has been involved in over 50 capital charge, impact fee, and installation charge studies involving water, wastewater and fire service for various Florida entities. He has participated in over 100 user rate adjustment reports. Mr. Hartman assisted in the development of over 50 revenue bond issues, 20 short-term bank loan systems, 4 general obligation bonds, numerous construction grant programs and capacity sale programs, and privatization review/administration programs. He has been involved in over 200 utility acquisition/utility evaluations for acquisition, and is a qualified expert witness with regard to utility negotiation, arbitration and condemnation cases. Mr. Hartman has assisted in over $3 billion in utility infrastructure financings, grants, loans, and customer accommodation programs.

Analyses

Mr. Hartman has participated in over 50 computer-assisted hydraulic analyses of water and wastewater transmission systems including extended period simulations as well as hydraulic transient analyses. He was involved in many pilot water process investigations and process optimization projects, wastewater treatment investigations, sludge pilot testing programs, effluent disposal pilot programs and investigations, several energy efficiency analyses, several odor control studies, and other process evaluations for operations. Mr. Hartman participated in numerous value engineering investigations. Many regionalization projects and privatization procurement projects oriented toward obtaining the most cost-effective alternatives for regional and private programs. He participated in both sanitary sludge management and disposal studies and co-authored the book entitled "Sludge Management and Disposal for the Practicing Engineer." He also participated in numerous lime sludge thickening, management, and utilization/disposal investigations. He has been involved in biosolids management and effluent utilization projects. He has permitted regional sludge stabilization and land application projects. Mr. Hartman has served as an expert regarding several sludge systems including ATAd, Micronair and N-Viro as well as others.

Expert Testimony Summary

Mr. Hartman has extensive experience in the past 25-years as a technical expert in the areas of water resources and engineering; wastewater pollution control and engineering; sludges and sludge management; reclaimed water and use; solid waste matters; rates, charges and fees; financing and bond validation; utility service areas, utility management; utility acquisitions and valuation/appraisals;

technical and financial aspects of contract damages for water, wastewater, reclaimed water, power plant facilities; water, wastewater, reclaimed water and variety of permitting, franchise, certification projects.

Since 1978, Mr. Hartman has been involved in hundreds of cases as a technical expert on engineering, scientific, valuation, and damages aspects of the dispute. Mr. Hartman has participated in cases in Alabama, Arizona, Colorado, Florida, Georgia, Maryland, Mississippi, North Carolina, Pennsylvania, South Carolina, Virginia, and Wisconsin. Mr. Hartman has been a technical expert for cities, counties, states, authorities, investor-owned utilities, corporations, and individuals. Mr. Hartman has experience with city, county, authority, district, cooperative, and corporate counsels for their respective entities. Those legal firms having experience with Mr. Hartman include:

- Abel, Band et al;
- Akerman, Senterfitt, et al;
- Allen, Vaughn, Cobb and Hood;
- Annis, Mitchell et al;
- Antonello, Feggers and Cea;
- Ard, Shirley and Hartman;
- Bedell, Dittmar, DeVault, Pillans & Coxe P.A.;
- Billings, Cochran, Heath, Lyles and Mauro;
- Bogin, Munns and Munns;
- Brigham, Moore, et al;
- Broad and Cassels;
- Brownless, S.;
- Gerald T. Buhr, P.A.;
- Bryant, Miller and Olive;
- Carey, O'Malley, Whitaker and Manson;
- Cobb, Cole and Bell;
- Conception, Degrandy and Sexton;
- Dean – Mead, Family of P.A.'s;
- Dean, Ringers, Morgan and Lawton;
- de la Parte, Gilbert & Bates;
- Fixel and Maguire;
- Foerster, Isaac and Yerkes;
- Foley and Lardner;
- Forman, Kreihl and Montgomery;
- Fowler, White, et al;
- Gatlin, Scheifelbein and Cowdry, P.A.;
- Barry S. Goodman;
- Graham & James;
- Gray, Harris and Robinson;
- Greenberg, Traurig et al;
- Hale and Door;
- Harvey L. Walner & Associates, Ltd.;
- Richard G. Hathaway;
- Herzfield and Rubin;
- Hill, Ward & Henderson, P.A.;
- Hogan and Hartson, LLP;
- Holland & Knight, P.A.;
- Hopping, Boyd, Green & Sams;
- Humphrey and Knott, P.A.;
- Jones, Foster, Johnston and Stubbs;
- Jose B. Alvarez, Esquire;
- Karns, Mateer, Harbert and Bates;
- Kievitt, Kelly and Odom;
- Kilpatrick and Cody;
- Kilpatrick & Stockton, LLP;
- Lowndes, Drosdick, Doster et al;
- Magnolia Management Corporation
- McDermott, Will and Emery;
- McWhirter, Reeves, et al;
- Minot and Minot;
- Moran & Shams, P.A.;
- Morrison, Morrison and Mills;
- Nabors, Giblin and Nickerson, P.A.;
- Oertel, Hoffman, Fernandez & Cole, P.A.;
- Owens and Rigio;
- Phears and Moldovan;
- Reinman & Wattwood, P.A.;
- Rose, Sundstrom and Bentley;
- Ruden, McClosky et al;
- Rutledge, Ecenia, Purnell & Hoffman, P.A.;
- Sinkler and Boyd, P.A.;
- Smith, Williams and Stephens;
- Spencer and Spencer;
- Squires, Sanders and Dempsey;
- Steele & Hanson
- Storch, Hanson & Morris;
- Stump, Storey & Callahan, P.A.
- N.F. Tasmoutales;
- Wackeen, Cornett and Googe;
- Weiner, A.;
- Welbaum & McLennon, P.A.;
- Wilson, Leavitt and Small;
- Others

PUBLICATIONS/PRESENTATIONS

Mr. Hartman has presented several training sessions and seminars throughout the Southeast for the American Water Works Association, the American Society of Civil Engineers, the Water Pollution Association, the Water and Pollution Control Operators Association, and other entities. He has presented and/or published more than 50 papers on water, wastewater and solid waste utility systems topics. He has co-authored one book and contributed to another.

Exhibit HML-1

RESUME

HOWARD M. LANDERS, AICP
URBAN PLANNING CONSULTANT

326 Settlers Land
Charlotte, NC 28202
Phone 704-370-6278
Hml326@bellsouth.net

July 2003

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO. 5
COMPANY/ FARMTON
WITNESS. Howard M. Landers (HML-1)
DATE 06/22-23/04

General:

With thirty-six years of planning and management experience, Mr. Landers has been employed in the private, public and non-profit sectors, has served a broad array of clients, and has worked on a variety of project types. Mr. Landers has developed particular skills in the organization and management of multi-disciplined teams for the execution of complex planning and urban development projects.

Personal:

Born September 9, 1942, Charleston, West Virginia
Married with two children.

Education:

Kanawha County Schools, Kanawha County, West Virginia, Diploma, June, 1960.

Virginia Polytechnic Institute, Blacksburg, Virginia
Bachelor of Architecture, with honors, June, 1965.
First year of Masters program in Urban and Regional Planning.
Tau Sigma Delta Architectural Honorary.
Phi Kappa Phi Honorary.
Phi Kappa Phi Medal - First Honors College of Architecture, 1965.
American Institute of Architects - Rubberoid Corporation Scholarship, 1964-1965.
West Virginia Chapter American Institute of Architects, Scholarship 1963-1964.
VPI - Thompson Memorial Scholarships, 1961-1964.
Association of Collegiate Schools of Architecture European Student Exchange Program Fellow, Summer, 1964.
Virginia Brick Association Design Competition Winner - 1963.
Student Assistant to Dean of Architecture in Analyzing and Programming VPI Growth and Development - 1964-1965.
Vice President, Tech Festival Association - 1963-1964.
Student Chapter American Institute of Architects - 1960-1965. - Secretary - 1963-1964.
Student Planning Association, 1964-1965.

Florida State University, Tallahassee, Florida
Doctoral Studies in Planning, 1969-1971.
Master of Science - Urban and Regional Planning, June, 1966.
Thesis - "Social Implications of a Constellation of Interdependent Cities (New Towns)" 1966.
Graduate Assistant - 1965-1966.
- Library Development
- Taught course in Planning Techniques with David Godschalk.

University of Colorado - Denver Center
Urban Sociology Seminar - 1968.

Garrison Real Estate School, Littleton, Colorado – State of Colorado Real Estate License

Professional Affiliations:

- American Planning Association, Charter Member, October 1978 - Present.
- American Institute of Certified Planners, Charter Member, October 1978 – Present.
- American Institute of Planners, Member, 1971-1978; Associate Member, 1965-1971.
- American Society of Planning Officials, 1965-1978.
- Urban Land Institute, Associate Member, 1980 – Present (Full Member 1983-1997)
- Florida Planning and Zoning Association, 1973 – 2000.
- International Associate, Royal Town Planning Institute (Great Britain), 1992 – Present.

Employment History – Summary:

HOWARD M. LANDERS, AICP, URBAN PLANNING CONSULTANT
Charlotte, North Carolina
- Owner, March 2003 to Present

HDR Engineering, Inc. of the Carolinas
Charlotte, North Carolina
- Senior Planning Consultant, June 2002 to March 2003
- Regional Planning Manager, May 2000 to June 2002

Landers-Atkins Planners, Inc.
Jacksonville, Florida
- Founding Partner and President, September 1983 to May 2000.

Reynolds, Smith and Hills, Architects-Engineers-Planners
Jacksonville, Florida
- Vice President - Planning Operations, 1978 to 1983.
- Associate Vice President - Manager Planning Division, 1978.
- Head, Department of Community and Regional Planning, May 1977 to 1978.
- Project Manager, July 1973 to May 1977.

Jacksonville Department of Housing and Urban Development
Jacksonville, Florida
- Director, Community Renewal Program, June 1971 to July 1973.

Florida State University, Department of Urban and Regional Planning
Tallahassee, Florida
- Research Associate (Teaching), September 1969 to June 1971.

Metro Denver Fair Housing Center, Inc.
Denver, Colorado
- Director of Planning and Research, September 1968 to September 1969.

Planning Office, City and County of Denver, Colorado
- Planner II, Comprehensive Planning Division, August 1967 to September, 1968.

Harman, O'Donnell & Henninger Associates, Inc., Urban Planners
Denver, Colorado
- Design Planner, July 1966 to August, 1967.

Florida State University, Department of Urban and Regional Planning
- Graduate Assistant - Teaching and Library Development, September 1965 to June 1966.

Hillsborough County - Tampa Planning Commission
Tampa, Florida
- Planning Intern, Comprehensive Planning Division, Summer 1965.

Edward E. McClure, Architect
Blacksburg, Virginia and Tallahassee, Florida
- Designer, December 1964 to October 1965.

Kent County Architectural Office
Maidstone, England
- Student Intern, Summer 1964.

A Detailed Statement On Each Position Follows

Professional Experience:

HOWARD M. LANDERS, AICP, URBAN PLANNING CONSULTANT
326 Settlers Lane
Charlotte, North Carolina 28202-5001

Owner, March 2003 to Present: Providing consultant services in urban and land development planning, and public involvement.

Major Clients and Projects:

- Summer Beach Golf and Beach Resort, Master Plan, Nassau County, Florida, DRI/ADA approval and amendments, Rezoning approval and amendments, Site Development Planning, Nassau County Beach Access System Plan, Summer Beach Ltd., continual service from 1984 to 2003.
- Yulee Area Areawide DRI/ADA, Planning Support Studies, Rayland Company, Nassau County, FL
- Expert Witness on Comprehensive Planning, Farmton Water Resources, LLC, Florida Public Service Commission Water Certificate, retained by Rose, Sundstrom & Bentley, LLP
- Planned Unit Development Amendment and DRI Notice of Proposed Change, Bank of America Office Park PUD and DRI, Jacksonville, FL, The Sembler Company
- General Planning Consultant for Management Support Services related to the City of Charlotte Center City Transportation and Land Use Master Plan, City of Charlotte, Department of Transportation
- Hampton Lakes Planned Unit Development (PUD) Application, LandMar Group, LLC, Nassau County, FL
- Amelia Island Parkway Property, City of Fernandina Beach Rezoning and Future Land Use Plan Amendment, Summer Beach, Ltd.
- DRI Annual Status Report and VPAC Annual Report, Bank of America Office Park, Jacksonville, FL

Professional Experience:

HDR Engineering, Inc. of the Carolinas
128 South Tryon Street, Suite 1400
Charlotte, North Carolina 28202-5001

- Senior Planning Consultant, June 2002 to Present: Responsible for project management and execution, marketing and staff development.
- Regional Planning Manager, May 2000 to June 2002: Responsible for establishing and directing the development of a Planning Group for the Carolinas program including staff development and marketing. Responsible for project management and execution.

Major Clients and Projects:

- Southeast Corridor Major Investment Study, Land Use and Urban Design Analysis and Planning, Charlotte Area Transit System and Charlotte-Mecklenburg Planning Commission, Charlotte, North Carolina
- West Corridor Major Investment Study, Land Use and Urban Design Analysis and Planning, Charlotte Area Transit System and Charlotte-Mecklenburg Planning Commission, Charlotte, North Carolina
- Alachua West, Master Plan, Comprehensive Plan Amendment, DRI/ADA and Zoning, WACO Properties, Inc., Alachua, FL
- Streetcar for Winston-Salem, Conceptual Planning Study for Streetcar System for Downtown and Adjacent Areas, City of Winston-Salem, NC
- Connectivity Studies for Four Inner City Neighborhoods, Department of Transportation, City of Charlotte, NC
- Enhancement Master Plan, Spartanburg Area Transportation Planning Agency, Spartanburg County, SC
- County Administrative Complex Master Plan, Caldwell County, NC
- Dixie-Berryhill Vision Plan, Charlotte-Mecklenburg Planning Commission, Charlotte, North Carolina
- Vance Road Corridor Alignment Study, City of Huntersville, NC
- Beatties Ford Road Preservation Plan, City of Huntersville, NC
- Yulee Area Areawide DRI Planning Support Studies, Rayland Company, Nassau County, FL
- Inheritance Village at Wilkinson, Redevelopment of Queensgate, Neighboring Concepts, Inc., Charlotte, NC
- Truman Annex, Redevelopment Master Plan, Development of Regional Impact approval, rezoning, comprehensive plan amendment, community impact assessment, annexation, Truman Annex Company, Key West, Florida – Continuing service from 1987 through 2001 to client and successor interests.
- Summer Beach Golf and Beach Resort, Master Plan, Nassau County, Florida, DRI/ADA approval and amendments, Rezoning approval and amendments, Site Development Planning, Nassau County Beach Access System Plan, Summer Beach Ltd., continual service from 1984 to 2003.
- Downtown Master Plan and City-Wide Structure Plan, City of Florence, SC
- Cape Fear River Vision Plan, City of Fayetteville, NC
- Deep Creek Road Neighborhood Redevelopment Plan, City of Fayetteville, NC
- Bonnie Doone Neighborhood Redevelopment Plan, City of Fayetteville, NC
- Tar River Greenway – Greene Street Bridge Relocation Plan, City of Greenville, NC
- Calico Woods, Amendment to Nassau County, FL, Future Land Use Map, SEDA Construction Company
- Little Sugar Creek Greenway Master Plan, Mecklenburg County, NC
- Freedom Park – Little Sugar Creek Greenway Trail Redevelopment, Mecklenburg County, NC

Papers and Presentations:

- Landers, Howard M., "A Walk Home For Lunch, Living and Working in Uptown Charlotte", South Carolina Chapter American Planning Association Annual Conference, November 2001.
- Landers, Howard M., "Living and Working in Uptown Charlotte: The Elements of a Walkable Community", South Carolina Community Builders Conference, November 14, 2002.

Professional Experience:

Landers-Atkins Planners, Inc.
201 North Hogan Street, Suite 400
Jacksonville, Florida 32202

Founding Partner and President: September, 1983 to 2000

As a founding partner of the firm, Howard Landers maintained involvement in a wide variety of project types and services. He was responsible for projects in the areas of community planning, land planning, land use approvals, urban design, recreational facilities planning, and military facilities planning. Mr. Landers served as project manager or team leader on several large-scale, multi-disciplinary teams that are so frequently required by today's complex urban development areas. Mr. Landers was project manager and principle planner for the private redevelopment of Naval Station Truman Annex as an expansion of the historic district of Key West since 1987. He served the U.S. National Park Service for ten years in planning the Gulf Islands National Seashore - the National Park Service's largest consulting assignment. In managing several large scale projects that were defined under Florida law as "Developments of Regional Impact", Mr. Landers' emphasis was on issue identification and resolution in order to meet the client's schedule and development objectives.

Major Clients and Projects:

- **URBAN REDEVELOPMENT PLANNING / URBAN DESIGN**

- Truman Annex, Redevelopment Master Plan, Development of Regional Impact approval, rezoning, comprehensive plan amendment, community impact assessment, annexation, Truman Annex Company, Key West, Florida – Continuing service from 1987 through 2000 to client and successor interests.
- Truman Annex Design Guidelines, Truman Annex Company, Key West, Florida
- LaVilla/Brooklyn Redevelopment Master Plan and Design Guide, City of Jacksonville, Florida – Three years of service as City's project manager for a team of planners, engineers, environmental scientists, real estate agents, appraisers, relocation specialists, and City staff.
- MidTown Jacksonville Redevelopment Strategy, Confidential Client
- Grand Oasis Recreational Vehicle Park, Key Largo, Florida
- Bahama Village Community Redevelopment Plan Update, Key West, Florida
- Bayshore/Gateway Community Redevelopment Plan, Collier County, Florida
- Jacksonville Convention Center at Union Station, Master Plan
- Hemming Plaza Redevelopment Area Master Plan, Jacksonville, Florida
- SWD Downtown Property Design Study, Jacksonville, Florida
- Florida East Coast Railway Company Downtown Design Study, Jacksonville, Florida
- Soutel Drive Corridor Master Plan, Jacksonville Transportation Authority, Jacksonville, Florida
- Nemours Foundation/Florida East Coast Railway Southbank Property Urban Design Study, Jacksonville, Florida
- Hemming Plaza Redevelopment Area Master Plan, Jacksonville, Florida
- Florida East Coast Railway Company Downtown Design Study, Jacksonville, Florida

- **COMMUNITY PLANNING AND DEVELOPMENT**

- Historic Springfield Overlay Zoning Study, Jacksonville, Florida
- South Walton County Comprehensive Plan 2020, Southwood Properties
- Dolphin Point Condominium Compatibility and Consistency Analysis, Resorts Design, Fort Walton Beach, Florida
- Skinner Properties, Two Amendments to Jacksonville Comprehensive Plan, A.C. Skinner Family, Jacksonville, Florida
- Jacksonville Community Renewal Program, Executive Director
- Mixed-Use Development Zoning Category, Nassau County Zoning Ordinance
- City of Port St. Joe, Comprehensive Plan, 1990.
- City of Destin, Florida, Harbor Management Plan.

Professional Experience:
Landers-Atkins Planners, Inc. - Continued

- City of Chattahoochee, Comprehensive Plan, 1991.
- City of Panama City, Comprehensive Plan Evaluation and Appraisal Report, 1985.

❑ **ENVIRONMENTAL PLANNING**

- White Oak Plantation Limited Development Overlay Comprehensive Plan Policy Amendment, Howard Gilman Foundation, Nassau County, Florida
- White Oak Plantation Resource Management Plan, Howard Gilman Foundation, Nassau County, Florida
- White Oak Plantation Compost Facility Development Plan, Howard Gilman Foundation, Nassau County, Florida
- North Key Largo Habitat Conservation Plan, Monroe County, Florida
- Destin Harbor Management Plan, Destin, Florida
- Green Valley Mixed Use Development Plan and Wetlands Mitigation Bank, ScanAmerican Corporation, Polk County, Florida

❑ **RECREATIONAL FACILITIES PLANNING**

- Boy Scouts of America Sea Base Master Plan, Summerland Key, Florida
- Continuing Services Contract – City of Jacksonville, Florida
    - Ortega Stream Valley Park and Preserve Master Plan and Construction Documents
    - Julington Creek Headwaters Park and Preserve – Northern Component Master Plan
    - Julington Creek Headwaters Park and Preserve – Southern Component Master Plan
    - Hemming Plaza and Federal Building Plaza Improvement and Integration Conceptual Plans
    - Prototype Regional Park Conceptual Plan
    - Prototype Community Park Conceptual Plan
    - Prototype Elementary School and Park Joint Use Conceptual Plan
    - Prototype Middle School and Park Joint Use Conceptual Plan
    - Prototype High School and Regional Park Joint Use Conceptual Plan
    - Sisters Creek Marina Park and Jacksonville Kingfish Tournament Facility Master Plan and Construction Plans
    - 103rd Street Go Kart Park Master Plan and Construction Plans
    - San Mateo Little League Park Master Plan
    - Mayport Community Recreational Facilities and Trails Master Plan
    - Little Jettys Park Master Plan
    - Ray Greene Park Master Plan – Joint Planning with an Elementary School, a Middle School, and a Branch Library
    - Rondette Lake Park Master Plan
    - Recreational Facility Design Standards
- General Services Contract – City Of Tallahassee, Florida
    - Southside Park Master Plan and Construction Plans
    - Messer Park Expansion Master Plan and Construction Plans
- General Services Contract – City Of Panama City, Florida
    - Comprehensive Plan including Recreation and Open Space Element
    - Urban Parks and Recreation Recovery Plan
    - Moody Harris Park and Community Center Master Plan
- Amelia Island Beach Access Plan, Nassau County, Florida
- Hampton Roads Area Navy Recreation Complex Study Update, U S Navy, Williamsburg, Virginia

❑ **LAND DEVELOPMENT PLANNING AND REGULATORY APPROVALS**

- Alachua West, Master Plan, Comprehensive Plan Amendment, DRI and Zoning, WACO Properties, Inc., Alachua, FL
- Southwood Plantation, Master plan and DRI, St. Joe Company, Tallahassee, Florida

Professional Experience:

Landers-Atkins Planners, Inc. - Continued

- Summer Beach Golf and Beach Resort, Master Plan, Nassau County, Florida, DRI/ADA approval and amendments, Rezoning approval and amendments, Site Development Planning, Nassau County Beach Access System Plan, Stokes-O'Steen Communities, continual service from 1984 to 2000.
- Tidewater Beach and Golf Resort, Master Plan and DRI, Okaloosa and Walton County
- Villages at Maclay, Master Plan and DRI, Nassau County, Florida
- Westland Park, Master Plan and DRI, Jacksonville, Florida
- Plantation Park, Master Plan and DRI, Nassau County, Florida
- West Florida Regional Development Strategy, St. Joe Company
- Assorted Development Related Research Assignments, St. Joe Company
- Curitiba, Brazil: A Reader, Prepared for St. Joe Company
- Bank of America (NationsBank, Barnett Bank0 Office Park, Ten years of continual service involving amendments to DRI and PUD Zoning and Annual Monitoring Reports, Jacksonville, Florida
- Amelia National Golf Course Community, Master Plan and PUD Zoning, Summer Beach Development Group Limited, Nassau County, Florida
- Flora Parke Residential Community, Master Plan and PUD Zoning, SEDA Development Company, Nassau County, Florida
- Osprey Village Retirement Community, Master Plan and Rezoning, Aaron Enterprises, Amelia Island Plantation, Florida
- Wildewood Downs Retirement Community, Master Plan and Rezoning, Aaron Enterprises, Columbia, South Carolina
- Augusta Hills, Retirement Community, Master Plan and Rezoning, Aaron Enterprises, Augusta, Georgia
- Pointe West Lakes Retirement Community, Master Plan and Rezoning, Aaron Enterprises, Vero Beach, Florida
- Myrtle Beach Lakes Retirement Community, Master Plan and Rezoning, Aaron Enterprises, Myrtle Beach, Florida
- Morgan's Point (Naval Annex Bermuda) Redevelopment Plan, East-West Partners, Bermuda
- Roosevelt Annex Master Plan, Singh Development Company, Key West, Florida
- Villages at Hawk's Cay Master Plan, Singh Development Company, Key West, Florida
- Amelia Island Plantation Expansion Development Plan and DRI/PUD Amendments, Amelia Island Company, Nassau County, Florida
- Monarch Ranch Conceptual Development Plan, Monarch Trust, Sumter County, Florida
- Nassau Outlet Center, Master Plan, PUD Zoning and Amendment to Nassau County Comprehensive Plan, Fisher Development Company, Nassau County, Florida
- Plummer Creek, Master Plan, PUD Zoning, Development Agreement and Amendment to Nassau County Comprehensive Plan, Nassau Partners, Nassau County, Florida
- Nassau Center Master Plan and Draft DRI/ADA, Rayland Company, Nassau County, Florida
- Sunland Campus Master Plan and DRI, State of Florida DMS, Tallahassee, Florida.
- Stokes-O'Steen Communities, Johns Creek Master Plan, St. Johns County.
- Westland Park, Master Plan and DRI, Jacksonville, Florida
- SWD Corporate Headquarters Site Selection Study, Jacksonville, Florida
- Koger Executive Office Center, Master Plan, Birmingham, Alabama

❑ **MILITARY FACILITIES PLANNING**

- Master Plan and Requirements Study, Naval Air Station and Naval Complex, Jacksonville
- Base Exterior Architectural Plan, Naval Air Station, Sigonella, Sicily, Italy
- Base Exterior Architectural Plan, Naval Complex, Charleston, South Carolina
- Naval Air Rework Facility Site Location Study, Norfolk, Virginia
- Airwing Base Master Plan, Doha, Qatar
- Installation Design Guide, U.S. Army Military Community, Bad Kreuznach, West Germany
- Master Plan Update, Naval Complex Bermuda

Professional Experience:
Landers-Atkins Planners, Inc. - Continued

- Hampton Roads Area Navy Recreation Complex Study Update, Williamsburg, Virginia
- Master Plan, Naval Air Station, Cecil Field, Jacksonville, Florida

❑ **EXPERT WITNESS**

- *Price Turner Associates* vs Florida Department of Transportation
- *Southside Estates Baptist church* vs Florida Department of Transportation
- *Lost Tree Village Corporation* vs City of Vero Beach, Town of Indian River Shores and Florida Department of Community Affairs
- *Guardian Lutheran Church* vs Florida Department of Transportation
- Florida Department of Community Affairs vs *Lee County*
- Florida Department of Community Affairs vs *St. Lucie County and Charboneau*
- Save Crystal Beach vs *City of Destin and Summerchase*
- *Florida Department of Transportation* vs Kingswood
- *Century Ambulance* vs Florida Department of Transportation
- *Peterson/Standard Concrete* vs Florida Department of Transportation
- Florida Department of Transportation Expert Witness General Contract – Thomasville Road
- Florida Department of Transportation Expert Witness General Contract – Burgess Road
- Florida Department of the Attorney General Expert Witness General Contract – Tallahassee DOT Projects
- East Central Florida Services, Inc., Petition to Florida Public Service Commission for a Water Service Territory

Papers and Presentations:

- Landers, Howard M., White Oak Plantation: Planning and Management of a Private Environmental Resource, Florida Chapter American Society of Landscape Architects, Annual Conference, Amelia Island, Florida, July 27, 1996.

- Apgar, Robert C. and Howard M. Landers, Environmental Planning Protection Policy: The Florida Experience, World Congress on Land Policy 1986, London, July 6-11, 1986.
  - Also published in Urban Law and Policy 8 (1987), pp. 369-380, North-Holland.

- Apgar, Robert C. and Howard M. Landers, "Reflections on the Florida Experience in Land Use Regulation," Florida Environmental and Urban Issues, Vol. XIV, No. 3, April 1987.
  - Also published under Special Topics Contributors in The Florida Chamber's Environmental Network.

- Landers, Howard M., Moderator, Design and Redevelopment, Florida Association of Housing and Redevelopment Officials, Annual Conference, Jacksonville, August 13, 1987.

- Landers, Howard M., Moderator, Planning for Federal Installations, Florida Chapter American Planning Association Annual Conference, Hollywood, November 5, 1987.

- Landers, Howard M., and Robert C. Apgar, Truman Annex: Preserving an Historic Setting/Expanding Upon Old Town Key West, 4th International Conference on Making Cities Livable, Charleston, S.C., March 8-12, 1988.

- Landers, Howard M., "Mobile Workshop: Naval Complex Jacksonville - Impact of a Major Military Facility on Community Planning," Florida Planning and Zoning Association, Annual Conference, October 13, 1988. (Paper, Worship Moderator, Tour Guide)

Papers and Presentations:
Landers-Atkins Planners, Inc. - Continued

- Landers, Howard M. and Robert C. Apgar, Truman Annex: Preserving An Historic Setting/Expending Upon Old Town Key West, American Society of Civil Engineers Conference, Orlando, Florida, March 6, 1990.

- Landers, Howard M., Truman Annex: Redevelopment Planning in a Highly Regulated Environment, Florida Chapter American Planning Association, 1988 Annual Conference, St. Petersburg, October 1988.
  1) Organizer and Moderator of Topic Panel including Pritam Singh, Art Mosley, Bob Apgar and Fred Bosselman
  2) Truman Annex: Master Planning, Design Guidelines and Approval Processing, Panel presentation.

- Landers, Howard M., Florida Growth Management Legislation: Development and Practice, Clemson University, College of Architecture, Department of Planning Studies, September 16, 1988.

- Landers Howard M., Planning Practice in the Private Sector, Clemson University, College of Architecture, Department of Planning Studies, September 16, 1988.

- Landers, Howard M., Southwood Plantation: Provision of Infrastructural Services, Florida State University, Department of Urban of Regional Planning, March, 1989.

- Landers, Howard M., Municipal Solid Waste Composting: The Key to Landfill Life, Florida State University, Department of Urban and Regional Planning, March, 1990.

- Landers, Howard M., Urban Sprawl: The Case for Central City Actions - Portland Oregon, The Florida Chamber, Growth Management Summer School, July 8-10, 1991.

- Landers, Howard M., Non-Transportation Levels of Service: Solid Waste and Drainage, The Florida Chamber, Growth Management Summer School, July 8-10, 1991.

- Landers, Howard M., Urban Sprawl: The Case for Central City Actions - Portland Oregon, The Florida Chamber, Growth Management Short Course, March 13-15, 1991.

- Landers, Howard M., Non-Transportation Levels of Service: Solid Waste and Drainage, The Florida Chamber, Growth Management Short Course, March 13-15, 1991.

- Landers, Howard M., Composting of Municipal Solid Waste, The Florida Chamber, Solid and Hazardous Waste Management Short Course, October 17-19, 1990.

- Landers, Howard M., Composting of Municipal Solid Waste, The Florida Chamber, Solid and Hazardous Waste Management Short Course, November 1989.

- Landers, Howard M., Planning for Livable Communities, Truman Annex, Earth Stewardship Conference, Marineland, Florida, January 27, 1995.

- Landers, Howard M., Cities of the Future, Northeast Florida Water Issues Conference - 1995, Jacksonville, Florida, May 11, 1995.

- Landers, Howard M., Great Cities of the World: Model for Planning, Graduation Convocation, Florida State University, Department of Urban and Regional Planning, 1999.

Project Awards:

- Loretto/Arnold Nature Park, Outstanding Public Development Award, Florida Planning and Zoning Association, 1997.

Project Awards:
Landers-Atkins Planners, Inc. - Continued

- Loretto/Arnold Nature Park, Environmental/Natural Resources Award, Florida Planning and Zoning Association, Northeast Chapter, 1997.

- Truman Annex Redevelopment, Outstanding Private Development Award, Florida Planning and Zoning Association, 1996.

- Redevelopment Plan for LaVilla-Brooklyn, Award of Merit, Florida Chapter American Planning Association, 1995.
- Redevelopment Plan for LaVilla-Brooklyn, Florida Planning and Zoning Association, Northeast Chapter, 1995.

- Truman Annex Master Plan and Design Guidelines, Florida Design Arts Award, 1994.

- Truman Annex Master Plan, Award of Excellence, Florida Chapter American Planning Association, 1990.

- Truman Annex Design Guidelines, and Master Plan and Development Approval Program, Award of Excellence, American Planning Association, Florida Chapter, Gold Coast Section, 1988.

- Master Plan Naval Complex Jacksonville, Best Public Development Award, Florida Planning and Zoning Association, 1988.

Community Service:

Jacksonville Chamber of Commerce:
- Member Board of Directors, Central Jacksonville, Inc., 1984 to 1991.
- Member Government Affairs Task Force, 1989 to 1991.

Professional Experience:

Reynolds, Smith and Hills, Architects-Engineers-Planners, Incorporated
Jacksonville, Florida 32201

Vice President, Planning, 1978 to 1983: Responsible for management of planning operations of all offices, for direction of marketing program, and for management of major projects.

Associate Vice President/Manager Planning Division, 1978: Responsible for management of Planning Division, Jacksonville Office and for management of major projects.

Head, Department of Community and Regional Planning, Planning Division, May, 1977 to 1978:Responsible for the conceptualization, development, management and marketing of services including comprehensive planning and management, environmental planning, and intergovernmental grants assistance.

Project Manager, Planning Division, July, 1973 to May, 1977: Responsible for management of planning projects, including: contract management; work scheduling and monitoring; organization of staff team of planners, engineers and architects; achievement of design and work quality, communications with clients; cost control; and coordination of other consultants. Also responsible for promotional and marketing efforts.

Major Clients and Projects:

- National Park Service – Denver Service Center, Gulf Islands National Seashore, Florida and Mississippi. Nine years of service as Project Manager and Principal Planner for services including preparation of an Interpretive Prospectus for the Seashore and services on five primary sites as follows:
  - Santa Rosa Island, Master Plan and Environmental Assessment Report, and Comprehensive Development Plans, Construction Documents for East Day Use Area
  - Naval Live Oak Reservation, Master Plan and Environmental Assessment Report
  - Fort Pickens, Master Plan and Environmental Assessment Report
  - Davis Bayou, Master Plan, Environmental Assessment Report, Comprehensive Development Plans, Construction Documents
  - Ship Island, Master Plan and Environmental Assessment Report
- Ministry of Finance (Planning and Development), Republic of Trinidad and Tobago. Phase I, Urban Development Program, Technical and Financial Feasibility Analysis. Projects in East Port-of-Spain, Trinidad, A 3.5 Square Mile Urban Area with a population of 70,000, and Lower Scarborough, Tobago, Mid-City Governmental and Commercial Area. On an Inter-American Development Bank Grant.
- Pinellas County (Florida) Transportation Authority, Pinellas Parkway Location Study. Developed computer-assisted process for locating a 30-mile urban expressway.
- Broward County, Florida. Fort Lauderdale/Hollywood International Airport. Management of the preparation of all environmental permits for a $100± million improvement program, including Environmental Impact Assessment Report (NEPA) and Development of Regional Impact Application.
- Community Development Block Grant Program, Panama City, Florida
- Tallahassee and Leon County Housing Study (LGCPA and CDBG)
- Ocala Housing Study (LGCPA and CDBG)
- City of Panama City. Preparation of complete Comprehensive Plan under the requirements of the Florida Local Government Comprehensive Planning Act. Assistance in local grant pursuit.
- Wilson Financial Master Plan, Jacksonville Convention Center at Union Station.
- Tallahassee/Leon County Planning Department. Housing Plan, Brunswick-Glynn County Joint Planning Department. Comprehensive Plan, St. Simons Island and Sea Island, Georgia.
- Kingdom of Saudi Arabia. Establishment of the Planning Office and Staff for the City and Region of Tabuk.
- Tree Tops Park, Master Plan and Design Studies, Broward County, Florida.
- Red Reef Oceanfront Park, Master Plan and Design, Boca Raton, Florida.
- Palm Beach County, South County Regional Park Master Plan.

Professional Experience:
Reynolds, Smith and Hills - Continued

- Al Swaidi Community Park, Riyadh, Saudi Arabia.
- Dahl Al Hamman Environmental Park, Doha, Qatar.
- Master Plan and Development Strategy, Marineland of Florida.
- Northwest Florida Planning and Advisory Council. Management of a general service contract for technical assistance on all aspects of the Council's program and provision of technical assistance on planning activities. Management of specific planning projects. Inter-governmental grant assistance.
- Area Planning Board of Palm Beach County (Florida). Preparation of a Housing Unit Allocation Model and Plan.
- Leadership Housing, Inc., North Broward Tract. Broward County Florida. Master Plan for 3960 acre community; Development of Regional Impact Application; Management of Detailed engineering analysis of drainage, sewage disposal, water supply and roadways; Cost estimates.
- Security Management Company, Jacksonville, Florida. Site development plan for 268 acre residential site; Preliminary engineering of drainage, roadways and utilities; Cost analysis.
- Security Management Company, Hampton, Georgia. Site analysis of 770-acre site.
- National Park Service, Ocmulgee National Monument, Macon, Georgia. Feasibility analysis of converting existing Visitor Center to solar energy for heating and cooling.
- U.S. Army Corps of Engineers. Turnkey Proposal for 750 family housing units at Fort Stewart, Georgia. Preparation of site development plan.
- Episcopal Diocese of Florida, Center for Spiritual Renewal. Program Development, Concept Plan and Feasibility Analysis of a 684 acre site in central Florida.

Papers and Presentations:

- "Pinellas Parkway Computer Analysis System," to the Jacksonville Planners Group, March,1974.
- "Surface Mining, Reclamation and Land Use Planning," a research prospectus, February, 1975.
- "Planning, Land Development Opportunities and the Surface Mining Industry in West Virginia," to the West Virginia Surface Mining and Reclamation Association, March, 1975.
- "Gulf Island National Seashore: A case Study of the planning and Design Process of the National Park Service," Georgia State University Real Estate Conference, April, 1975.
- "The Housing Element of the Florida Local Government Comprehensive Planning Act," A workshop of the Florida Chapter, American Institute of Planners, May, 1975.

Project Awards and Publications:

- Pinellas Parkway Location Study, Honor Award, Florida Chapter American Society of Landscape Architects, 1975.
- Pinellas Parkway Location Study, Article in Environmental Design Fall, 1975.
- City of Panama City Comprehensive Plan, Honor Award, Florida Chapter American Planning Association.
- Red Reef Oceanfront Park, City of Boca Raton, Honor Award, Florida Chapter American Planning Association.
- Jacksonville Convention Center at Union Station
  - Unbuilt Design Award, Florida American Institute of Architects.
  - Merit Award, Florida Chapter, American Planning Association.

Professional Experience:

Consolidated City of Jacksonville
Department of Housing and Urban Development and Mayor's Office
Jacksonville, Florida 32202

Director, Community Renewal Program June, 1971 to July, 1973

Responsible for the full direction of the Community Renewal Program including: Development and execution of a work program for planning renewal, neighborhood improvement, housing development, and housing management; hiring and direction of a staff of twelve professionals, two secretaries, and interns; liaison with City departments and related agencies; management of three consulting firms; management of a total budget of $660,000; and design of the Experimental Housing Allowance Program.

Responsible to Herbert L. Underwood, Director of the Department of Housing and Urban Development; to Lex Hester, Chief Administrative Assistant, Mayor's Office; and to a Policy Coordinating Committee.

Related Responsibilities:

- Major's Office of Intergovernmental Affairs
- Board of Directors, Greater Jacksonville Economic Opportunity.
- Member, Manpower Area Planning Council.

Independent Activities and Papers:

- With Dr. Merl Coon, "Institutional Racism and Social Change," American Institute of Planners Convention, San Francisco October 25, 1971.

- "OEO Incentive Grant for a Jacksonville Housing Opportunities Center," for Greater Jacksonville Economic Opportunity, Inc., April 14, 1972.

- Special Faculty, Jacksonville University, taught course "Housing Our Urban Population," Fall 1971.

- Technical Advisor to the Coalition of Leadership for Community Advancement, November, 1971 to November, 1972.

- Technical Advisor to the Jacksonville Housing Opportunities Center.

Professional Experience:

Florida State University
Department of Urban and Regional Planning
Tallahassee, Florida 32306

Research Associate (Teaching), September, 1969 to June, 1971

Courses Taught:

- UPL 535 Housing and Redevelopment Seminar Fall 1969, Winter 1971.
- UPL 536 Urban Housing: Planning and Development of Social Opportunity, Winter 1970, Fall 1970, Spring 1971.
- UPL 537 Urban Housing: Design and Production, Spring 1970, Spring 1971.
- UPL 538 Housing in the Developing World, Winter 1971, Taught with Dr. Robert E. Mitchell.
- UPL 507 Planning Methods, Fall 1970 Lab Instructor, with Dr. Andrew Dzurik.
- Directed Individual Studies in selected housing topics.
- Short Courses in Urban Planning: Summer 1970, Social Planning, Housing, Health Planning with Dr. Merl Coon.

Papers:

- "Housing and 1978: Implications for the Design Professionals," The Walulla Colloquium: The Urban Design Process, April 3, 1970.
- "Theoretical Issues in the Housing Market," Housing: A Short Course in Urban Planning, August 12, 1970.
- "The Neighborhood Development Program: Round Table," American Society of Planning Officials National Conference, New York, March, 1970.
- "Housing Action: Imperatives for Local Initiative" Presented at the Legislature Seminar of the State Council of Florida Chapters, National Association of Social Workers, Tallahassee, November 15, 1970.
- "Housing in Tallahassee: Challenges to the Social Worker," Presented at the Northwest Florida Chapter, National Association of Social Workers, Tallahassee, January 21, 1971.

Proposals:

- "Proposal for the Establishment of a Program in Urban and Planning at Florida A&M University" with James E. Frank and Donald Carrigan, May 13, 1970.
- "A Housing Opportunities Center: A Demonstration of University Involvement in Community Service, Training and Research", Submitted to OEO, May, 1970.
- "Turnkey III: Proposal for Performance of Homeownership Training Services," Miami Housing Authority, December 30, 1970, with James P. Doyle.

Professional Experience:

Metro Denver Fair Housing Center, Inc.
1525 Josephine Street
Denver, Colorado 80206

Director of Planning and Research, September 1968 - September 1969.

Responsible to the Executive Director, Robinson G. Lapp, for planning and research leading to formulation of center policy and specific programs and actions.

Responsible for supervising secretarial and part-time research staff and for Directing special project teams composed of members of the 45 person staff.

Major Studies and Papers:

- "A Proposal for the Creation of Financial Capacities for Housing Development within the Existing Structure of Metro Denver Fair Housing Center, Inc."
- Denver Model Cities Program:
  - "Housing Finance and Development Project"
  - "Housing Action and Counseling Project"
  - Technical Advisor on Housing - Resident's Planning Committee
- "A Housing Action Plan" - Araphoe County, Colorado
- "The Mathematics of Desegregation: Denver 1975: The Magnitude of Potential Goals"
- "Preliminary Evaluation of C. H. O. I. C. E. for Denver"
- "Low-Income Housing: Dispersion versus Concentration"
- "Urban Renewal Open Land Projects for Relocation Housing"
- "The Park Hill Neighborhoods: A Strategy for Continued Development of an Integrated Community."
- "Park Hill: An Analysis of Housing Sales Prices in an Integrated Community.
- "State Legislation for Housing Development; Proposals for Colorado; Review of Other States."
- "Proposed Housing Element: State of Colorado Comprehensive Planning Assistance Program."
- "Population and Ethnic Distribution in Metropolitan Denver: A Summary of Available Information."
- "Housing Production and the Future of the Housing Industry," Presented to the 1969 Construction Specifications Institute Regional Conference, Colorado Springs, Colorado, January 24, 1969.
- "Housing, Race and Poverty: New Planning for the New Denver," Presented to Colorado Chapter American Institute of Planners, February 20, 1969.
- "Housing and Planning in Metropolitan Denver," A series of Seminars at the Department of Urban and Regional Planning, Florida State University, April 21, 22, 1969.

Other Responsibilities:

- Director of Center Library
- Preparation of Slide Lectures on the Center

Professional Experience:

Denver Planning Office
1445 Cleveland Place
Denver, Colorado 80202

Planner II - Comprehensive Planning Division, August 1967 to September 1968.

Responsible to Louis R. LaPerriere, Division Head, and on special projects directly to the Director, James D. Braman, Jr. Directed technical and clerical staff in preparation of reports. Chaired technical committees of the Model Cities Program.

Major Responsibilities:

- Analysis of Denver's capital improvement needs through 1985 and preparation of report to City Council.
- Model Cities Program:
  - Chairman of technical committee on New Technologies
  - Co-Chairman of technical committee on Urban Design
  - Technical Advisor to the Residents' Physical Planning Committee
- Neighborhood Planning:
  - Staff planner for neighborhood organizations in the Cherry Creek, Park Hill, and West Washington Park Neighborhoods.
- Miniparks: An analysis of their potential utilization in selected neighborhoods of Denver.

Public Education:

- Development and presentation of slide shows on the process and specific aspects of planning in Denver.

Publications:

- "Capital Improvements Financing: Denver 1985," May 1968.
- "Miniparks: Denver, Colorado," September 1968.

Professional Experience:

Harman, O'Donnell & Henninger Associates, Inc.
Urban Planners
Detroit Street and Second Avenue
Denver, Colorado 80206

Design Planner, July 1966 to August 1967.

Major Projects and Papers:

- "Development Standards," A background paper prepared for the Department of Housing and Urban Development's study of research needs in urban development and urban environment, 1966.
- "Land Economics in Suburban Development," Prepared for a Conference on Soil, Water and Suburbia sponsored by the Secretary of HUD and the Secretary of Agriculture, May 1967. Published in Soil and Suburbia, Washington, D.C.: U.S. Government Printing Office, 1967.
- "Vail Associates - Potential Growth Analysis Vail, Colorado," 1967.
- "Analysis of Potential Development: Waterville Valley, New Hampshire," 1967.
- "The Ski Resort Complex: Considerations in Program Planning," prepared for the Ski Area Management Clinic, Stratton, Vermont, June 1967.

Design Projects:

- "Master Plan: Vail Colorado."
- "Waterville Valley, New Hampshire: Master Plan."
- "Box Hill Development Plan," Bel Aire, Maryland.
- "Motel and Residential Development Plan," for a site in Albuquerque, New Mexico.
- "Suburban Core: Centerville, Virginia."
- "Preliminary Site Studies: KLZ Properties" Denver, Colorado.
- "South-Hampden Shopping Center: Preliminary Design and Site Analysis" Denver, Colorado.

Zoning Analysis:

- "Planned Unit Development Resolution: Arapahoe County, Colorado – Annotated Outline," 1967.
- "Planned Unit Residential Development: Research Notes," 1966-1967.

Pre-Professional Experience:

Florida State University, Department of Urban and Regional Planning
Graduate Assistant - Teaching and Library Development
September, 1965 to June, 1966.

Hillsborough County - Tampa Planning Commission
Tampa, Florida
Planning Intern, Comprehensive Planning Division
Summer, 1965
Analysis of Hillsborough County's public school and recreational facilities.

Edward E. McClure, Architect
2302 Cline Street, Tallahassee, Florida
Designer, December, 1964 to October, 1965
Design, preparation of working drawings, and supervision of construction on two large residences.
Design of a 100 lot subdivision.

Kent County Council Architect
Maidstone, Kent, England
Student Intern, Schools Division
Summer, 1964
Design of elementary school addition
General drafting.

Zando, Martin & Milstead Architects and Engineers
Charleston, West Virginia
Draftsman, Summer 1963, Christmas Breaks 1963 and 1964.
General drafting on working drawings, School of Forestry, West Virginia University.
Model Building on State of West Virginia Office Building

Baker Masonry Service
Charleston, West Virginia
Apprentice Brick Mason
Summers and Christmas Breaks of 1960, 1961,and 1962.

Major Studies and Papers - Graduate Studies:

Florida State University; 1969 - 1971:

"Advocacy Planning, Institution Formation, Housing, and Social Change," (UPL 533 Dr. Coon and Mr. Doyle).

"Housing Markets and Low-Income Families," (ECS 401 Dr. Tuckman).

"The Metropolitan Council of The Twin Cities Area: A Case Study," (UPL 581 Mr. RuBino).

University of Colorado; 1968:

"Riots: Urbanism in the 1960's"

Florida State University; 1965-1966:

Thesis "Social Implications of a Metropolitan Constellation of Interdependent Cities (New Towns)," 1966.

"The Nature of Feudal Society," an analysis of Gideon Sjoberg's The Preindustrial City: Past and Present, (Soc. 505 Dr. Allen).

"Local Government As a Generator of Form in the Metropolitan Community," (Gov 507 Dr. Piccard).

"Social Organization and Stratification: Ecological Perspective," (Soc 555 Dr. Rhodes).

"Urban Design" -- A series of papers on major theories and practitioners, (URPL Mr. Godschalk).

Entry: Boston - Copley Square Design Competition (URPL Mr. Godschalk).

Virginia Polytechnic Institute; 1964 -1965:

"A Plan for Silver Spring, Maryland."

"Southern Appalachia: An Urban Approach."

"Montgomery, County, Virginia: Land Use Patterns 1985."

"Central Business District Renewal: Lynchburg, Virginia."

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EXHIBIT CWD-1

Charles W. Drake, P.G.

RESUMÉ

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO. 6
COMPANY/ FARMTON
WITNESS: Charles W. Drake (CWD-1)
DATE: 06/22-23/04

cwd@consulthai.com / http://www.consulthai.com

CHARLES W. DRAKE, P.G.
VICE PRESIDENT

EDUCATION
B.S., Geology, University of Florida, 1982

PROFESSIONAL REGISTRATION
Professional Geologist No. 37, Florida
Professional Geologist No. 440, Alabama
Professional Geologist No. 1618, North Carolina

PROFESSIONAL AFFILIATIONS
Assn of Groundwater Scientists and Engineers
American Water Resources Association

QUALIFICATIONS SUMMARY

Mr. Drake's experience includes the design, permitting and coordination of mechanical integrity tests; design and analysis of aquifer performance tests; groundwater flow and solute transport simulations; the design of wells (open hole and screened) and wellfields; and obtaining consumptive use permits for public supply wellfields, golf course irrigation and other uses. Using analytical and numerical methods, Mr. Drake has designed effluent disposal ponds, retention ponds and in infiltration galleries, and estimated the impact of drainage ditches on groundwater flow, wetlands and water bodies. He instructs a session on Wetlands Hydrology for the Florida Chamber of Commerce and Permitting Summer School.

In additional to his wide range of hydrologic and hydrogeologic experience, Mr. Drake is a qualified expert witness in hydrogeology, well construction, groundwater flow and solute transport modeling, water use permitting, and water resource planning. He is also a "Wells and Wellfield Management" instructor for the Florida Water Pollution Control Operators Association.

EXPERIENCE

Mr. Drake has a wide range of experience related to groundwater resources and hydrogeology and hydrology. His areas of expertise are water use permitting, water well design, permitting, construction, and testing groundwater flow and solute transport modeling, reuse of reclaimed water, wetlands hydrology, and the interaction of groundwater and surface water. A brief summary of representative projects is as follows:

Expert Witness

Mr. Drake has provided expert witness services on projects ranging from wellfields that have impacted wetlands and surface water bodies, to the pumping of water into lakes that has caused significant flooding, to evaluating the rise in surface water bodies due to man-made conditions and natural conditions, to using groundwater flow models to determining whether an area meets the hydrologic wetland criteria. He has evaluated the design and effective capacity of effluent disposal ponds and worked successfully with the FDEP and attorneys to properly rate the pond capacity.

Mr. Drake has testified in civil court and in numerous Department of Administrative Hearings on hydrologic and hydrogeologic issues.

Mr. Drake has provided hydrologic expert witness testimony on several litigation cases:

- Charlotte County vs. CMI and Southwest Florida Water Management District, 1992.

- Osceola County vs. St. Johns River Water Management District and South Brevard Water Authority, 1991.
- Andrews Land and Timber, 2000
- Deseret Ranches vs. City of Cocoa, 1988
- City of St. Cloud vs. South Florida Water Management District, 1987.
- C.V. Reit vs. Deltona Utilities.
- C-Red vs. St. Johns River Water Management District
- Rollins vs. St. Johns River Water Management District
- Walton County vs. Northwest Florida Water Management District, WRP, Inc.

Mr. Drake has provided expert witness services in many other cases where testimony was not required. These include:

- Collier Condemnation, 1994.
- Lawson vs. Orlando Expressway Authority, 1994.
- Eberhart, 1994.
- Pillsbury et al. vs. Gate Maritime Petroleum, 1993.
- Uddo vs. Orange County, 1992.
- Bal Bay Realty vs. Orange County, 1988.
- Greco vs. West Coast Regional Water Supply Authority, 1988.
- Charles Knight vs. West Coast Regional Water Supply Authority, 1987.
- Lithia-Pinecrest Property Owners vs. West Coast Regional Water Supply Authority, 1987.
- Chinelli vs. Volusia County and FDOT
- Florida Turnpike Authority vs. Schmidt

Water Use Permitting

1982-1985 Hydrogeologist at St. John's River Water Management District reviewing/evaluating all types of water use permit applications.

From 1985 on Mr. Drake has obtained permits for:

- City of Edgewater (2) 5 MGD
- City of Lakeland (3) 33 MGD
- City of Port St. Lucie (2) 10 MGD
- City of Tampa 88 MGD
- Venice Gardens Utilities 6 MGD
- City of Naples (2) 22 MGD
- Arnold Palmer's Bay Hill Club 0.75 MGD
- City of Plant City 11 MGD

Water Well Design, Permitting, Construction, and Testing associated with the water use permits above, Mr. Drake has completed construction projects for:

- City of Edgewater, 4 wells, 300 feet deep
- City of Lakeland, 5 wells, 800 feet deep
- Palm Bay, 9 wells, 100 feet deep
- UCNSB, 1 well, 900 feet deep
- University of South Florida, 2 wells, 300 feet deep
- City of Lake City, 350 feet deep
- City of Melbourne, 850 feet deep

Groundwater Flow and Mass Transport Modeling

- City of Lakeland wellfields and groundwater protection
- City of Edgewater wellfields
- Farmton Tree Farm wellfields
- UCNSB wellfields
- Venice Gardens wellfield
- Morris Bridge wellfield
- Lake City wellfield
- City of Naples wellfields
- Palm Coast drainage facilities

Reuse of Reclaimed Water

- Tiger Point Golf Course
- Hidden creek Golf Course
- Alafaya Utilities Rapid Rate
- Deltona Hills Golf Course
- Glen Abbey Golf Course
- Prima Vista Utilities

Golf Course Water Supply Due Diligence/Environmental Site Assessment

- Stonebrook
- Summer Haven
- Bevico
- St. James Place

Prior to his association with HAI, Mr. Drake served as department manager of hydrogeology at Dyer, Riddle, Mills & Precourt Inc. (1985-90). From 1982-85, he was a hydrogeologist in the permitting division of the St. Johns River Water Management District, where he reviewed applications for public supply, irrigation and other types of water use. He also was a hydrogeologist with Universal Engineering in Orlando, where he performed subsurface investigations for the design of effluent disposal ponds.

PUBLICATIONS

"Prevention of Saltwater Intrusion Through Artificial Recharge of Groundwater in East Orange County, Florida," Focus Conference on Southeastern Groundwater Issues, NWWA, 1986.

WORKSHOPS/SEMINARS

- Groundwater Flow Modeling hydrology seminar (course instructor) - Layne-Atlantic Inc., 1994.
- Wells and Wellfield Management (course instructor) - Florida Water Pollution Control Operators Association, 1992-94.
- Water Resources Section - Florida Bar Association, 1991.
- Transport and Fate of Contaminants, NWWA, 1991.
- Design and Analysis of Aquifer Performance Tests, NWWA, 1988.
- Southeast Conference on Groundwater Issues, NWWA, 1986.
- Pesticides in Groundwater, NWWA, 1985.
- Wetlands Hydrology (course instructor) Florida Chamber of Commerce.

EXHIBIT TLH-1

Florida Public Service Commission

Order No. PSC-02-0898-PAA-WS

Issued July 5, 2002

In re: Water and wastewater annual reestablishment of authorized range of return on common equity for water and wastewater utilities pursuant to Section 367.081(4), F.S.

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 021256-WU EXHIBIT NO 7
COMPANY/ FARMTON
WITNESS: Tara L. Hollis (TLH-1)
DATE 06/22-23/04

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Water and wastewater industry annual reestablishment of authorized range of return on common equity for water and wastewater utilities pursuant to Section 367.081(4)(f), F.S.	DOCKET NO. 020006-WS ORDER NO. PSC-02-0898-PAA-WS ISSUED: July 5, 2002

The following Commissioners participated in the disposition of this matter:

LILA A. JABER, Chairman
J. TERRY DEASON
BRAULIO L. BAEZ
MICHAEL A. PALECKI
RUDOLPH "RUDY" BRADLEY

NOTICE OF PROPOSED AGENCY ACTION
ORDER ESTABLISHING AUTHORIZED RANGE OF RETURNS ON COMMON EQUITY FOR WATER AND WASTEWATER UTILITIES

BY THE COMMISSION:

NOTICE is hereby given by the Florida Public Service Commission that the action discussed herein is preliminary in nature and will become final unless a person whose interests are substantially affected files a petition for a formal proceeding, pursuant to Rule 25-22.029, Florida Administrative Code.

Section 367.081(4)(f), Florida Statutes, authorizes this Commission to establish, not less than once each year, a leverage formula to calculate a reasonable range of returns on equity for water and wastewater (WAW) utilities. In Docket No. 010006-WS, the Commission established the current leverage formula by Order No. PSC-01-2514-FOF-WS, issued on December 24, 2001. This Order utilizes the same leverage formula methodology, with updated financial data, as that set forth in Order No. PSC-01-2514-FOF-WS,

DOCUMENT NUMBER-DATE
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FPSC-COMMISSION CLERK

using returns on equity from financial models based on an index of natural gas utilities. Accordingly, we approve the following leverage formula:

Return on Common Equity = 9.65% + 0.582/Equity Ratio

Where the Equity Ratio = Common Equity / (Common Equity + Preferred Equity + Long-Term and Short-Term Debt)

Range: 10.23% @ 100% equity to 11.10% @ 40% equity

We note that the leverage formula depends on the four basic assumptions listed below:

1) Business risk is similar for all WAW utilities.
2) The cost of equity is an exponential function of the equity ratio.
3) The marginal weighted average cost of investor capital is constant over the equity ratio range of 40% to 100%.
4) The cost rate at an assumed Moody's Baa3 bond rating, plus a 50 basis point private placement premium and a 50 basis point small utility premium, represents the average marginal cost of debt to a Florida WAW utility over an equity ratio range of 40% to 100%.

The leverage formula is assumed to be appropriate for the average Florida WAW utility.

The leverage formula relies on two return on equity (ROE) models and several adjustments for differences in risk and debt cost in order to conform the results of the models to the average Florida WAW utility. Both models include a four percent adjustment for flotation costs. The models are as follows:

- A Discounted Cash Flow (DCF) model applied to an index of natural gas utilities (NG) that have publicly traded stock and are followed by the Value Line Investment Survey (Value Line). The DCF model is an annual model and uses prospective growth rates.

- A Capital Asset Pricing Model (CAPM) using a market return for companies followed by Value Line, the average yield on the

Treasury's long-term bonds projected by the Blue Chip Financial Forecasts, and the average beta of the index of NG utilities. The market return is adjusted to assume a quarterly model by adding 20 basis points to the result.

The indicated returns of the above models are averaged and the resulting estimate is adjusted in the following manner:

- A bond yield differential of 40 basis points to reflect the difference in yields between an A/A2 rated bond, which is the average bond rating for the NG utility index, and a BBB-/Baa3 rated bond. Florida WAW utilities are assumed to be comparable to WAW companies with the lowest investment grade bond rating, which is Baa3. This adjustment compensates for the difference between the credit quality of "A" rated debt and the credit quality of the minimum investment grade rating.

- A private placement premium of 50 basis points is added to reflect the difference in yields on publicly traded debt and privately placed debt, which is illiquid. Investors require a premium for the lack of liquidity of privately placed debt.

- A small utility premium of 50 basis points is added to reflect that the average Florida WAW utility is too small to qualify for privately placed debt.

After the above adjustments are made, the resulting cost of equity estimate is included in the average capital structure for the NG utilities. The cost of equity is determined at a 40% equity ratio and the leverage formula is derived. The leverage formula derived using the current methodology with updated financial data is presented in Attachment 1.

As set forth in Section 367.081 (4)(f), Florida Statutes, the Commission shall use the current leverage formula for any utility "which otherwise would have no established rate of return on equity." In addition, we are utilizing the current leverage formula to reestablish the authorized ROE for all WAW utilities that currently have authorized ROEs. This update would not be done annually, only when there have been significant changes in the capital markets. We believe this action to be cost effective and

appropriate in order to avoid a piecemeal approach in updating authorized ROEs.

Pursuant to Section 367.011(2), Florida Statutes, the Commission has "exclusive jurisdiction over each utility with respect to its authority, service, and rates." Additionally, as set forth in Section 367.081(2)(a), Florida Statutes, the Commission can "either upon request or upon its own motion, fix rates." A utility's ROE is one factor that is used in determining rates. As a result, we have the authority to use the leverage formula set forth in this Order to reestablish the ROE for all WAW utilities that currently have an authorized ROE. Updating the ROEs of the WAW utilities will not change the rates currently charged to ratepayers.

Many WAW utilities currently have authorized ROEs that are outside the range of returns indicated by the leverage formula. Capital market conditions change continuously, and reestablishing the authorized ROE for all WAW utilities that currently have authorized ROEs reflects current capital market conditions. A utility's authorized ROE and range can affect excess earnings reviews (earnings surveillance), index and pass-through applications, and interim rates. Updating the WAW utilities' ROEs will bring many outdated ROEs in line with the current economic returns expected by today's investors. In addition, using an ROE based on current expected returns will limit the chance of overstating or understating the true economic cost to the utilities when the ROE is used for purposes other than setting rates.

The Commission regulates approximately 200 WAW utilities. Only 47% of these utilities have authorized ROEs. The leverage formula authorized by this Order will lower the ROE of an estimated 34% of the utilities with authorized ROEs. In addition, it will raise the ROE of an estimated 38% of utilities with authorized ROEs and leave 28% of the utilities with authorized ROEs unchanged. We note that this Commission adopted a similar approach for the gas industry. See Order No. PSC-93-1820-FOF-GU, issued December 22, 1993, in Docket No. 931098-GU; Order No. PSC-94-0249-FOF-GU, issued March 7, 1994, in Docket No. 931100-GU; and Order No. PSC-93-1772-FOF-GU, issued December 10, 1993, in Docket No. 931099-GU. This action was taken to reflect significant changes in capital market

conditions and to bring those utilities' ROEs more in line with current market conditions.

For WAW utilities that have authorized ROEs, we hereby reestablish the authorized ROEs using the water and wastewater leverage formula authorized by this Order. The appropriate equity ratio for determining the new authorized ROE shall be the equity ratio that this Commission used to determine the utility's last authorized ROE. The appropriate range for the new authorized ROE is the ROE plus or minus 100 basis points.

Based on the foregoing, it is

ORDERED by the Florida Public Service Commission that the leverage formula methodology, summarized herein and in Attachment 1, used to calculate a range of returns on equity for water and wastewater utilities is hereby approved. It is further

ORDERED that Attachment 1 is herein incorporated by reference. It is further

ORDERED that returns on common equity are hereby capped at 11.10 percent for all water and wastewater utilities with equity ratios of less than 40 percent in order to discourage imprudent financial risk. It is further

ORDERED that the leverage formula methodology approved in this Order shall be applied to all water and wastewater utilities that currently have an authorized return on equity. It is further

ORDERED that the provisions of this Order, issued as proposed agency action, shall become final and effective upon the issuance of a Consummating Order unless an appropriate petition, in the form provided by Rule 28-106.201, Florida Administrative Code, is received by the Director, Division of the Commission Clerk and Administrative Services, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, by the close of business on the date set forth in the "Notice of Further Proceedings" attached hereto. It is further

ORDERED that in the event this Order becomes final, this docket shall remain open to allow our staff to monitor the movement in capital costs and to readdress the reasonableness of the leverage formula as conditions warrant.

By ORDER of the Florida Public Service Commission this 5th day of July, 2002.

BLANCA S. BAYÓ, Director
Division of the Commission Clerk
and Administrative Services

(S E A L)

AEV

NOTICE OF FURTHER PROCEEDINGS OR JUDICIAL REVIEW

The Florida Public Service Commission is required by Section 120.569(1), Florida Statutes, to notify parties of any administrative hearing that is available under Section 120.57, Florida Statutes, as well as the procedures and time limits that apply. This notice should not be construed to mean all requests for an administrative hearing will be granted or result in the relief sought.

Mediation may be available on a case-by-case basis. If mediation is conducted, it does not affect a substantially interested person's right to a hearing.

The action proposed herein is preliminary in nature. Any person whose substantial interests are affected by the action proposed by this order may file a petition for a formal proceeding, in the form provided by Rule 28-106.201, Florida Administrative Code. This petition must be received by the Director, Division of the Commission Clerk and Administrative Services, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, by the close of business on July 26, 2002.

In the absence of such a petition, this order shall become final and effective upon the issuance of a Consummating Order.

Any objection or protest filed in this/these docket(s) before the issuance date of this order is considered abandoned unless it satisfies the foregoing conditions and is renewed within the specified protest period.

Attachment 1
Page 1 of 6

SUMMARY OF RESULTS

Leverage Formula Update

	Updated Results	Currently in Effect
(A) CAPM ROE for Natural Gas Index	8.93%	9.08%
(B) DCF ROE for Natural Gas Index	10.13%	10.81%
AVERAGE	9.53%	9.95%
Bond Yield Differential	.40%	.25%
Private Placement Premium	.50%	.50%
Small-Utility Risk Premium	.50%	.50%
Adjustment to Reflect Required Equity Return at a 40% Equity Ratio	.17%	.15%
Cost of Equity for Average Florida WAW Utility at a 40% Equity Ratio	11.10%	11.34%

2001 Leverage Formula (Currently in Effect)

Return on Common Equity = 9.10% + .896/ER

Range of Returns on Equity = 10.00% - 11.34%

2002 Leverage Formula (Recommended)

Return on Common Equity = 9.65% + .582/ER

Range of Returns on Equity = 10.23% - 11.10%

Marginal Cost of Investor Capital
Average Water and Wastewater Utility

Capital Component	Ratio	Marginal Cost Rate	Weighted Marginal Cost Rate
Common Equity	45.46%	10.93%	4.97%
Total Debt	54.54%	9.65% *	5.26%
	100.00%		10.23%

A 40% equity ratio is the floor for calculating the required return on common equity. The return on equity at a 40% equity ratio is 9.65% + 0.582/.40 = 11.10%

Marginal Cost of Investor Capital
Average Water & Wastewater Utility at 40% Equity Ratio

Capital Component	Ratio	Marginal Cost Rate	Weighted Marginal Cost Rate
Common Equity	40.00%	11.10%	4.44%
Total Debt	60.00%	9.65% *	5.79%
	100.00%		10.23%

Where: ER = Equity Ratio = Common Equity/(Common Equity + Preferred Equity + Long-Term Debt + Short-Term Debt)

* Assumed Baa3 rate for April 2002 plus a 50 basis point private placement premium and a 50 basis point small utility risk premium.

Source: Moody's Credit Perspectives

Attachment 1
Page 3 of 6

INUAL DISCOUNTED CASH FLOW MODEL

EX MOODY'S NATURAL GAS INDEX

VALUE LINE ISSUE Ed 3 - MARCH 22, 2002

MPANY	DIV0	DIV1	DIV2	DIV3	DIV4	EPS4	ROE4	GR1-4	GR4+	APRIL HI-PR	APRIL LO-PR	APRIL AVER-PR
L RESOURCES	1 08	1 08	1 11	1 13	1 16	2 10	12 50	1 0241	1.0560	24 340	22 800	23 570
MOS ENERGY	1 18	1 21	1 25	1 30	1 35	2 20	14 00	1 0372	1 0541	24 550	23 440	23 995
SCADE NATURAL GAS	0 96	0 96	0 97	0 97	0 98	2 00	15 00	1 0069	1 0765	22 500	20 200	21 350
LEDE GAS	1 36	1 38	1 40	1 43	1 45	2 25	12 00	1 0166	1 0427	24 880	23 300	24 090
OR, INC.	1 84	1 94	2 04	2 14	2 24	4 40	21 50	1 0491	1 1055	49 000	44 990	46 995
RTHWEST NATURAL GAS	1 26	1 28	1 30	1 33	1 35	2 50	11 00	1 0179	1 0506	30 300	27 600	28 950
DMONT NATURAL GAS	1 60	1 68	1 73	1 77	1 82	2 90	12 50	1 0270	1 0466	37 950	35 000	36 475
UTHWEST GAS	0 82	0 82	0 84	0 86	0 88	1 95	8 00	1 0238	1 0439	24 990	22 600	23 795
L HOLDINGS	1 28	1 30	1 32	1 33	1 35	2 65	12 50	1 0127	1 0613	27 950	26 250	27 100
ERAGE	1 2644	1 2944	1 3278	1 3622	1 3978 1 4812	2 55	13 2222	1 0239	1 0597			28 480

S&P STOCK GUIDE MAY 2002 with April Stock Prices

ck Price w/four Percent Flotation Costs **27.3408** Annual **10.13%** ROE

1 1550	1 0742	1 0005	0 9321	0 8757	22 3033
27 3408					

27.34 = April 2002 average stock price with a 4% flotation cost.

).13% = Cost of equity required to match the current stock price with the expected cash flows.

ources:
. Stock Prices - S&P Stock Guide, May 2002 Edition.
. DPS, EPS, ROE - Value Line Edition 3, March 22, 2002.

Capital Asset Pricing Model Cost of Equity for Water and Wastewater Industry

CAPM analysis formula

K = RF + Beta(MR - RF)

K = Investor's required rate of return

RF = Risk-free rate (Blue Chip forecast for Long-term Treasury bond)

Beta = Measure of industry-specific risk (Average for water utilities followed by Value Line)

MR = Market return (Value Line Investment Survey For Windows, May 2002)

8.93% = 6.00% + .59(10.64% - 6.00%)+ .20%

Note: We calculated the market return using an annual DCF model for a large number of dividend paying stocks followed by Value Line. For April 2002 stock prices, the result was 10.44%. We have added 20 basis points to allow for the quarterly compounding of dividends. The resulting market return is 10.64%. We have also added 20 basis points to the CAPM result to allow for a four-percent flotation cost.

BOND YIELD DIFFERENTIALS
Public Utility Long Term Bond Yield Averages
Source Moody's Credit Perspectives

UPDATED 05/20/2002

120 Month Average -		0 1982		0 1982		0 0472		0 0472		0 0472		0 0989		0 0989		0 0989		0 0989	
MONTH/YEAR	Aaa	SPREAD	Aa1	SPREAD	Aa2	SPREAD	Aa3	SPREAD	A1	SPREAD	A2	SPREAD	A3	SPREAD	Baa1	SPREAD	Baa2	SPREAD	Baa3
Apr-2002		3 69	3 69	3 69	7 38	0 06	7 44	0 06	7 51	0 06	7 57	0 23	7 80	0 23	8 02	0 23	8 25	0 23	8 48
Mar-2002		3 71	3 71	3 71	7 42	0 11	7 53	0 11	7 65	0 11	7 76	0 19	7 95	0 19	8 13	0 19	8 32	0 19	8 51
Feb-2002		3 57	3 57	3 57	7 14	0 13	7 27	0 13	7 41	0 13	7 54	0 21	7 75	0 21	7 97	0 21	8 18	0 21	8 39
Jan-2002		3 64	3 64	3 64	7 28	0 13	7 41	0 13	7 53	0 13	7 66	0 16	7 82	0 16	7 97	0 16	8 13	0 16	8 29
Dec-2001	7 53	0 00	7 53	0 00	7 53	0 10	7 63	0 10	7 73	0 10	7 83	0 15	7 98	0 15	8 12	0 15	8 27	0 15	8 42
Nov-2001	7 45	0 00	7 45	0 00	7 45	0 04	7 49	0 04	7 53	0 04	7 57	0 13	7 70	0 13	7 83	0 13	7 96	0 13	8 09
Oct-2001	7 45	0 01	7 46	0 01	7 47	0 05	7 52	0 05	7 58	0 05	7 63	0 13	7 76	0 13	7 89	0 13	8 02	0 13	8 15
Sep-2001	7 52	0 02	7 54	0 02	7 55	0 07	7 62	0 07	7 68	0 07	7 75	0 12	7 87	0 12	8 00	0 12	8 12	0 12	8 24
Aug-2001	7 36	0 01	7 38	0 01	7 39	0 07	7 46	0 07	7 52	0 07	7 59	0 12	7 71	0 12	7 83	0 12	7 95	0 12	8 07
Jul-2001	7 46	0 04	7 51	0 04	7 55	0 08	7 63	0 08	7 70	0 08	7 78	0 09	7 87	0 09	7 96	0 09	8 05	0 09	8 14
Jun-2001	7 50	0 06	7 56	0 06	7 62	0 08	7 70	0 08	7 77	0 08	7 85	0 06	7 91	0 06	7 96	0 06	8 02	0 06	8 08
May-2001	7 61	0 09	7 70	0 09	7 79	0 07	7 86	0 07	7 92	0 07	7 99	0 04	8 03	0 04	8 07	0 04	8 11	0 04	8 15
Apr-2001	7 53	0 09	7 63	0 09	7 72	0 07	7 79	0 07	7 87	0 07	7 94	0 04	7 98	0 04	8 02	0 04	8 06	0 04	8 10
Mar-2001	7 31	0 10	7 41	0 10	7 51	0 06	7 57	0 06	7 62	0 06	7 68	0 06	7 74	0 06	7 79	0 06	7 85	0 06	7 91
Feb-2001	7 46	0 08	7 54	0 08	7 62	0 04	7 66	0 04	7 70	0 04	7 74	0 07	7 81	0 07	7 87	0 07	7 94	0 07	8 01
Jan-2001	7 53	0 10	7 63	0 10	7 73	0 02	7 75	0 02	7 78	0 02	7 80	0 06	7 86	0 06	7 93	0 06	7 99	0 06	8 05
Dec-2000	7 51	0 14	7 65	0 14	7 79	0 02	7 81	0 02	7 82	0 02	7 84	0 06	7 90	0 06	7 95	0 06	8 01	0 06	8 07
Nov-2000	7 71	0 16	7 87	0 16	8 03	0 03	8 06	0 03	8 08	0 03	8 11	0 05	8 16	0 05	8 20	0 05	8 25	0 05	8 30
Oct-2000	7 80	0 14	7 94	0 14	8 08	0 02	8 10	0 02	8 12	0 02	8 14	0 05	8 19	0 05	8 24	0 05	8 29	0 05	8 34
Sep-2000	7 95	0 08	8 03	0 08	8 11	0 04	8 15	0 04	8 19	0 04	8 23	0 03	8 26	0 03	8 29	0 03	8 32	0 03	8 35
Aug-2000	7 89	0 03	7 92	0 03	7 95	0 06	8 01	0 06	8 07	0 06	8 13	0 04	8 17	0 04	8 21	0 04	8 25	0 04	8 29
Jul-2000	8 00	0 05	8 05	0 05	8 10	0 05	8 15	0 05	8 20	0 05	8 25	0 03	8 28	0 03	8 30	0 03	8 33	0 03	8 36
Jun-2000	7 96	0 07	8 03	0 07	8 10	0 09	8 19	0 09	8 27	0 09	8 36	0 04	8 40	0 04	8 43	0 04	8 47	0 04	8 51
May-2000	8 22	0 11	8 33	0 11	8 44	0 09	8 53	0 09	8 61	0 09	8 70	0 05	8 75	0 05	8 81	0 05	8 86	0 05	8 91
Apr-2000	7 95	0 11	8 06	0 11	8 17	0 06	8 23	0 06	8 29	0 06	8 35	0 02	8 37	0 02	8 38	0 02	8 40	0 02	8 42
Mar-2000	7 87	0 06	7 93	0 06	7 99	0 10	8 09	0 10	8 18	0 10	8 28	0 04	8 32	0 04	8 36	0 04	8 40	0 04	8 44
Feb-2000	7 82	0 09	7 91	0 09	7 99	0 09	8 08	0 09	8 16	0 09	8 25	0 03	8 28	0 03	8 30	0 03	8 33	0 03	8 36
Jan-2000	7 95	0 11	8 06	0 11	8 17	0 06	8 23	0 06	8 29	0 06	8 35	0 02	8 37	0 02	8 38	0 02	8 40	0 02	8 42
Dec-1999	7 74	0 13	7 87	0 13	8 00	0 05	8 05	0 05	8 09	0 05	8 14	0 05	8 19	0 05	8 23	0 05	8 28	0 05	8 33
Nov-1999	7 56	0 13	7 69	0 13	7 82	0 04	7 86	0 04	7 90	0 04	7 94	0 06	8 00	0 06	8 06	0 06	8 12	0 06	8 18
Oct-1999	7 73	0 11	7 85	0 11	7 96	0 03	7 99	0 03	8 03	0 03	8 06	0 09	8 15	0 09	8 23	0 09	8 32	0 09	8 41
Sep-1999	7 55	0 14	7 69	0 14	7 82	0 04	7 86	0 04	7 89	0 04	7 93	0 09	8 02	0 09	8 10	0 09	8 19	0 09	8 28
Aug-1999	7 54	0 14	7 68	0 14	7 82	0 03	7 85	0 03	7 88	0 03	7 91	0 08	7 99	0 08	8 08	0 08	8 16	0 08	8 24
Jul-1999	7 34	0 14	7 48	0 14	7 62	0 03	7 65	0 03	7 68	0 03	7 71	0 09	7 80	0 09	7 88	0 09	7 97	0 09	8 06
Jun-1999	7 37	0 15	7 52	0 15	7 67	0 02	7 69	0 02	7 72	0 02	7 74	0 10	7 84	0 10	7 93	0 10	8 03	0 10	8 13
May-1999	7 09	0 15	7 24	0 15	7 38	0 03	7 41	0 03	7 44	0 03	7 47	0 09	7 56	0 09	7 65	0 09	7 74	0 09	7 83
Apr-1999	6 80	0 16	6 96	0 16	7 11	0 04	7 15	0 04	7 18	0 04	7 22	0 10	7 32	0 10	7 41	0 10	7 51	0 10	7 61
Mar-1999	6 78	0 17	6 95	0 17	7 11	0 05	7 16	0 05	7 21	0 05	7 26	0 10	7 36	0 10	7 45	0 10	7 55	0 10	7 65
Feb-1999	6 56	0 19	6 75	0 19	6 94	0 05	6 99	0 05	7 04	0 05	7 09	0 11	7 20	0 11	7 30	0 11	7 41	0 11	7 52
Jan-1999	6 41	0 21	6 62	0 21	6 82	0 05	6 87	0 05	6 92	0 05	6 97	0 11	7 08	0 11	7 19	0 11	7 30	0 11	7 41

Source: Moody's Credit Perspectives, May 20, 2002

12/31/01 Equity Ratios of Natural Gas Utilities

Value Line Listed Gas Utilities	Bond Rating	% of Gas Rev.	V/L Market Capital (billions)	Equity Ratio	Value Line Beta
AGL RESOURCES	A-	76%	1.30	35%	0.60
ATMOS ENERGY	A-	96%	0.95	46%	0.55
CASCADE NATURAL GAS	BBB+	100%	0.23	44%	0.55
LACLEDE GAS	A+	93%	0.45	43%	0.55
NICOR, INC.	AA	83%	2.00	53%	0.60
NORTHWEST NAT. GAS	A	98%	0.68	49%	0.60
PIEDMONT NAT. GAS	A	86%	1.10	52%	0.60
SOUTHWEST GAS CORP.	BBB-	86%	0.78	36%	0.65
WGL HOLDINGS	AA-	100%	1.30	52%	0.60
Average:	A			45.46%	0.59

Source:
Value Line Edition 3, March 22, 2002.
Utilities Filed March 31, 2002 S.E.C. 10Q
C.A. Turner Utilities Report May 2002

EXHIBIT TLH-2

Tara L. Hollis, M.B.A., C.P.A.

RESUMÉ

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO 8
COMPANY/ FARMTON
WITNESS: Tara L. Hollis (TLH-2)
DATE: 06/22-23/04



tlh@consulthai.com / http://www.consulthai.com

TARA L. HOLLIS, M.B.A., C.P.A.
ASSOCIATE

EDUCATION

M.B.A., University of Central Florida, 1998.
B.S.B.A., Accounting, University of Central Florida, 1996.

PROFESSIONAL REGISTRATION

C.P.A., November 1997, Florida, No. AC-0031100

PROFESSIONAL AFFILIATIONS

American Institute of Certified Public Accountants
Florida Institute of Certified Public Accountants
Florida Government Finance Officers Association

QUALIFICATIONS SUMMARY

Ms. Hollis's responsibilities include the preparation of rate and cost of service studies, feasibility and financial reports, and debt structuring analysis for the issuance of utility indebtedness for major capital improvement programs. Ms. Hollis has an extensive range of experience in financial analysis including such areas as budget analyses, customer and usage analyses, development of revenue requirements, cost of service allocations, and sensitivity analyses related to the implementation of conservation efforts. Included in these broad areas of financial analyses are detailed analyses pertaining to the sufficient recovery of revenue such as utility rates and rate design alternatives, the determination of specialized user fees and charges, service availability and impact fees, and various miscellaneous service charges. In addition, Ms. Hollis has extensive experience related to reviewing and analyzing compliance with bond covenant requirements and contractual obligations. She has assisted in the development of numerous bond documents including engineering reports and official statements for the issuance of municipal debt instruments. Additionally, Ms. Hollis creates computerized dynamic spreadsheet models for use in valuing and analyzing future sales, profitability and financial performance ratios of utility systems and to determine fund needs for capital expansion programs.

EXPERIENCE

- Development of extensive and dynamic computer models for water, wastewater and reclaimed water rate studies, feasibility studies, forecasts, and valuations including the City of Lauderhill, the City of Sanibel, the City of Clermont, the City of Palm Bay, the City of Tamarac, the City of Apopka, the City of Orlando, the City of Port St. Lucie, the City of Orange City, and Kings Point Utilities.

- Development of retail and bulk rates; impact fees; capital funding plans; and user rates and charges including the preparation of water, wastewater and reclaimed water user rate studies for public utilities. Recent clients include the City of Lauderhill, the City of Orange City, the City of Sanibel, the City of Apopka, the City of Fort Walton Beach, the City of North Lauderdale, the City of Port St. Lucie, the City of Orlando, the City of Palm Bay, the City of Naples, the City of Miami Springs, the City of Tamarac, and St. Johns County.

- Water conservation rate analysis, structuring and enactment. Clients have included the City of Lauderhill, the City of Apopka, the City of Orange City, the City of Fort Walton Beach, and St. Johns County.

- Miscellaneous service charges for a variety of customer request services including customer deposits, water meter installation charges, water and wastewater taps, turn-on charges, and the initiation of service charges. Clients have included the City of Lauderhill, the City of Orange City, and the City of Fort Walton Beach.

- Development of presentation workshops and accompanying briefing documents for utility rate study and cost of service clients to foster client and audience understanding of the analysis conducted. Recent clients include the Cities of Apopka, Fort Walton Beach, Orange City, Sanibel, Tamarac, and St. Johns County.

- Assistance and documentation for revenue and other special forms of tax-exempt bond financing including detailed projections and reports to support the issuance of long-term indebtedness. Clients include the City of Clermont, the City of Palm Bay, the City of Port St. Lucie, the City of Apopka, the City of North Miami Beach, and Marion County.

- Preparation of Bond Resolutions, Official Statement, Certificates of Compliance, Additional Bonds Test certificates, and other related documents in support of long-term indebtedness. Recent clients include the City of Clermont, the City of Palm Bay, the City of Port St. Lucie, and the City of Apopka.

- Assistance with litigation, negotiations, and expert witness services including Kings Point Utilities, Okeelanta LP, Osceola LP, and the Cities of Casselberry and Winter Park.

- Conducting valuation studies using various techniques including the income approach and comparable sales approach for water, wastewater, and electric utility systems, and developing detailed financial forecasts and cash flow models to be used in damages calculations.

- Preparation of Utility Annual Reports and review of compliance issues as required by the Bonds Resolutions. Clients include the City of Cape Coral, the City of Tamarac, and Clay County Utility Authority.

- Preparation of initial operating budgets, rates and service area certification for investor-owned utilities including Farmton Water Resources LLC, St. Johns Service Company and North Beach Utilities, Inc.

- Water and Sewer Utility Rate Escrow reconciliation for investor owned utilities including Ocean City Utilities.

- Preparation of detailed reports explaining water, wastewater, and reclaimed water systems and related terms and rates and charges, for clients including the City of North Miami Beach.

- Special assessment programs for water and wastewater improvement projects including the City of Palm Bay.

- Assistance in the preparation of governmental operating budgets.

- Audits and reviews of not-for-profit organizations and their compliance with federal and state funding requirements.

Exhibit Grant 1.

Resume of Raynetta Curry Grant

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO. 9
COMPANY/ CITY OF Titusville
WITNESS: Raynette C. Grant Resume (RCG-1)
DATE: 6/22-23/04

RAYNETTA CURRY GRANT, P.E., DEE
1950 Jordan Street
Titusville, Florida 32780

SUMMARY:

Extensive administrative experience that includes: 1) executive management of a water/wastewater and stormwater utility; 2) engineering management of design, construction and rehabilitation projects for water, wastewater, stormwater and support facilities; 3) development and implementation of water research programs and corresponding budgets; and 4) supervision of technical and support staff.

EXPERIENCE:

Water Resources Department; Titusville, Florida **May, 1999 to Present**
Director

Directs the water/wastewater and stormwater utility of Titusville, Florida. Responsible for overall organization and direction of administrative and operational divisions including water production, water distribution, water reclamation, wastewater collection, stormwater management, laboratory services and engineering. Develops, analyzes and monitors $50 million operational and capital budget. Provides overall strategic long-range planning. Formulates and directs department policies and work performance to ensure effective and efficient operations.

Water Environment Research Foundation **1991 to 1999**
Research Program Director

Directed water research programs valued at over $20 million related to municipal wastewater collection, treatment and disposal. Established long-range planning initiatives set priorities and determined program budgets. Reported on research program to 13 member Board of Directors. Supervised project managers and support staff and directed all aspects of research and engineering projects. Examples of specific projects included assessing innovative materials and techniques for new and replacement sewers, re-engineering wastewater treatment facilities, developing predictive tools for measuring sewer degradation, developing business process systems for water and wastewater utilities and benchmarking the operations and maintenance of wastewater treatment plants and collection systems. Provided technical guidance in the development of proposals for federal and state grant applications. Established and maintained liaisons with government agencies, municipal water and wastewater utilities, and commercial firms to coordinate activities and create partnerships.

Fairfax County Department of Public Works **1988 to 1991**
Engineer II

Managed design of capital improvement and development projects for storm drainage, stormwater management and flood control systems. Negotiated and administered Architect/Engineer design contracts and determined scope of services. Reviewed engineering designs and assured conformance with county standards. Provided engineering support during project construction. Conducted all aspects of in-house design projects including establishing design parameters by applying hydrologic and hydraulic models, developing erosion and sediment control plans, and assessing water quality impacts. Coordinated and conducted public meetings with developers, citizen groups, elected officials and individual property owners.

Washington Suburban Sanitary Commission **1984 to 1988**

Project Manager

Matrix management of 15-person team engaged in design contracts of water and wastewater treatment plants, pumping stations, stormwater management facilities, and support facilities. Directly managed Architect/Engineer consultant teams for planning, design and construction of capital improvement projects. Successfully negotiated design contracts within program cost. Managed in-house review of complex civil/electrical/mechanical shop drawings and achieved timely returns to included problem resolution and minimization of change order costs. Communicated complex technical concepts of projects to non-technical community representatives, elected officials and the public.

Planning Manager

Conducted planning analyses of water and wastewater systems based on county growth and development projections. Provided technical review during planning and design stages of Development Authorization Process. Reviewed existing zoning requirements and proposed land use changes. Coordinated with local planning entities for the development of engineering, economic and environmental studies required for facility planning analyses.

Civil Engineer

Supervised utility maintenance crews engaged in repair and inspection of water, sewer, and storm drainage systems. Managed rehabilitation and construction contracts for water distribution systems and sanitary sewer systems. Developed cost estimates for water and sewer projects. Inspected contractor quality and progress. Reviewed project plans for functional design and conformance to Commission standards.

EDUCATION:

Master of Science, Environmental Engineering
Howard University, Washington, D.C.

Bachelor of Science, Civil Engineering
Howard University, Washington, D.C.

LICENSURE:

Registered Professional Engineer, State of Virginia VA/020128

Registered Professional Engineer, State of Florida FL/55159

Diplomate, American Academy of Environmental Engineers; Specialty Certification in Water Supply/Wastewater Engineering

PROFESSIONAL AFFILIATIONS:

Water Environment Federation, American Society of Civil Engineers, American Academy of Environmental Engineers, Toastmasters International, American Water Works Association

Exhibit Grant 2.

City of Titusville Consumer Confidence Report

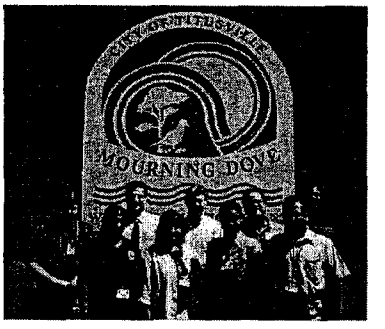
FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO 10
COMPANY/ City of Titusville
WITNESS: Bayhette C. Grant (RCG-2)
DATE 06/22-23/04

City of Titusville, Florida

The WATER WE DRINK (2002)

Providing you and your family with reliable high quality water and professional services is the primary goal of the City of Titusville Water Resources Department. Through our annual drinking water quality report, The Water We Drink (2002), we are able to provide you, our drinking water consumers, information about the quality of the drinking water you received from the Water Resources Department during the 2002 calendar year. This report also gives us the opportunity to let you know some basic facts about our water system, as well as some of our current projects and programs.

We are proud to announce that as shown in the Water Quality Test Results table in this report, ***Titusville's drinking water meets or exceeds all federal and state requirements.***



Water Resources Management Team

Whether it is through long-range source planning, state-of-the-art treatment, or efficient delivery systems, each division in the Water Resources Department is dedicated to meeting your water needs.

Raynetta Curry Grant, P.E., DEE
Water Resources Director

FOCUS ON QUALITY

Water quality is continually monitored during each stage of the water treatment process and throughout the distribution system in order to insure that Titusville's water consumers receive only the highest quality water possible. Every producing well undergoes eleven different water quality tests on a quarterly basis. Each day, in addition to the water quality monitoring that is required and described in this report, approximately 225 analyses are performed at the Mourning Dove Water Treatment Plant. Tests are performed on the raw water entering the plant, the water during treatment, and the finished water before its entry into the distribution system. Once in the distribution system, 187 water quality tests are performed each month.

The City of Titusville routinely monitors for contaminants in your drinking water in accordance with Federal and State laws, rules, and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1, 2002 to December 31, 2002. As authorized and approved by the Environmental Protection Agency (EPA), the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Therefore, some of our data (e.g., for organic contaminants), though representative, is more than one year old.

Water Sources and Treatment

Titusville's primary source of water is Florida's surficial aquifer. Approximately 4.25 million gallons of water per day (MGD) are drawn from the City's two well fields. This raw groundwater is pumped to the Mourning Dove Water facility where it is treated to drinking water quality standards. The treatment process includes lime softening (to reduce hardness), chloramination (for disinfection), and fluoridation (for dental health). The final step of the treatment process is a sand filtration system that filters out any remaining impurities so that our customers receive high quality, great tasting water.





The Mourning Dove facility operates 24-hours-a-day seven-days-a-week in order to meet your water needs. It also serves as the administrative center for the Water Resources Department.

To augment its water supply, the City of Titusville purchases treated water from the City of Cocoa. During 2002, an average of 0.629 million gallons of water a day was received from Cocoa. Cocoa draws its water from wells in the Floridan Aquifer and the intermediate aquifer, as well as from surface water at the Taylor Creek Reservoir.

Protecting and Managing Today's Water Resources

The City of Titusville recognizes the need to protect and manage the City's current water sources by maximizing the yield and quality of existing sources. System improvements, such as increased well maintenance and rehabilitation and innovative well field management techniques have significantly increased the yield from current wellfields. In addition, stormwater improvements, proactive conservation efforts, and a broader reclaimed water program are being developed to promote aquifer recharge and extend current drinking water supplies.

One recently completed project that expanded the use of reclaimed water and offset the amount of potable (drinking) water used was the Highway 50 Landscape and Reuse Project. This project not only included landscaping for the medians along Highway 50 from Barna Avenue east to U.S. 1, it also included the installation of reuse lines to support the landscaping from Barna east to the railroad. Reuse stub-outs along the route were included in the project so that reclaimed water could be provided to those properties that have wells that impact the City's wellfield. By eliminating competitive uses, an adequate water supply can be provided to all users.

Meeting Tomorrow's Challenges

In addition to efficiently and effectively using current water resources, Titusville recognizes the need to develop new sources. In January 2003, the City brought on line four wells in the Parkland Wetland in northwest Titusville. These four wells provide a combined total of 821,000 gallons of water per day. The City is also currently exploring the option of locating a well field in northwest Brevard County. This well field would draw from the Upper Floridan Aquifer and would provide quality raw water that would be consistent with Titusville's current treatment process. It is anticipated that this source would supply an adequate quantity of water to meet Titusville's needs through 2020.

EPA Statement on Water Sources and Contaminants

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

(A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

(B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

(C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

(D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

(E) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.



In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Immuno-Compromised Persons

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791

Security

The Water Resources Department is committed to protecting the water supply and the well being of its water consumers. We continually review and upgrade our procedures and facilities to insure the safety of your water from the time it is pumped from the ground until its delivery to your home. Citizens can play a vital role in keeping our community and water facilities safe by reporting any suspicious activities to the Water Resources Department at 383-5650 or the City of Titusville Police Department at 264-7800.

Cocoa Results

The City of Cocoa's water quality test results are included in this report since Titusville purchases water from Cocoa. Due to its use of surface water, Cocoa monitors turbidity (a measure of the cloudiness of the water). Turbidity is usually monitored as an indicator of the effectiveness of a system's filtration system. High turbidity can hinder the effectiveness of disinfectants. In addition, a microbial organism found in surface water throughout the United States is *Cryptosporidium*. For further information on Cocoa's water quality, contact the City of Cocoa at (321) 639-7602.

Water Quality Test Results

As shown in the table on the following two pages, the water that Titusville Water Resources delivers to your home surpasses all federal and state requirements for drinking water. Below is a list of definitions and abbreviations to assist you as you review the information presented.

Maximum Contaminant Level or MCL	The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
Maximum Contaminant Level Goal or MCLG	The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
Action Level (AL)	The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.
Treatment Technique (TT)	A required process intended to reduce the level of a contaminant in drinking water.
Maximum Residual Disinfectant Level or MRDL	The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Maximum Residual Disinfectant Level Goal or MRDLG	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
N/A	Not applicable.
Parts per million (ppm) or Milligrams per liter (mg/l)	One part by weight of analyte to 1 million parts by weight of the water sample.
Parts per billion (ppb) or Micrograms per liter (µg/l)	One part by weight of analyte to 1 billion parts by weight of the water sample.
Parts per trillion (ppt) or Nanograms per liter (nanograms/l)	One part by weight of analyte to 1 trillion parts by weight of the water sample.
Picocurie per liter (pCi/l)	Measure of the radioactivity in water.
Millirem per year (mrem/yr)	Measure of radiation absorbed by the body.
Nephelometric Turbidity Unit (NTU)	Measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Water Quality Test Results

Contaminant and Unit of Measurement	Dates of Sampling (Mo./Yr.)	MCL Violation Y/N	Highest Single Measurement	Lowest Monthly Percentage of Samples Meeting Regulatory Limits	MCLG	MCL	Likely Source of Contamination
Turbidity (NTU) Cocoa	01/02 through 12/02	N	0.40	100%	N/A	TT	Soil runoff

Contaminant and Unit of Measurement	Dates of Sampling (Mo./Yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Radiological Contaminants							
Beta/photon emitters (mrem/yr) Cocoa	01/02 through 10/02	N	3.625 (Average)	2.1 – 4.7	0	4	Decay of natural and man-made deposits
Alpha emitters (pCi/l) Cocoa	11/01 through 08/02	N	1.875 (Average)	0.6 – 3.6	0	15	Erosion of natural deposits
Strontium-90 (pCi/l) Cocoa	01/02 through 10/02	N	.5 (Average)	0 – 19.7	0	8	Decay of natural and man-made deposits
Tritium (pCi/l) Cocoa	01/ 02 through 10/02	N	1 (Average)	0 – 4	0	20,000	Decay of natural and man-made deposits
Inorganic Contaminants							
Antimony (ppb) Titusville	01/02	N	4.0	N/A	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (ppb) Cocoa	05/02	N	1.0	N/A	N/A	50	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm) Titusville Cocoa	01/02 05/02	N N	0.17 0.0067	N/A N/A	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (ppb) Cocoa	05/02	N	1.8	N/A	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride (ppm) Titusville Cocoa	01/02 05/02	N N	0.18 0.875	N/A N/A	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen) (ppm) Titusville Cocoa	01/02 11/01 through 08/02	N N	0.48 0.228 (Average)	N/A 0.13 - 0.427	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

(Test Results Continued on Next Page)

WATER QUALITY TEST RESULTS

Contaminant and Unit of Measurement	Dates of Sampling (Mo./Yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
INORGANIC CONTAMINANTS (CONT'D.)							
Nitrite (as Nitrogen) (ppm) Titusville	01/02	N	0.017	N/A	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium (ppb) Cocoa	05/02	N	5.8	N/A	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium (ppm) Titusville Cocoa	01/02 05/02	N N	63.8 67.7	N/A N/A	N/A	160	Salt water intrusion, leaching from soil
SYNTHETIC ORGANIC CONTAMINANTS INCLUDING PESTICIDES AND HERBICIDES							
Dibromochloropropane (DBCP) (nanograms/l) Cocoa	11/01 through 08/02	N	15 (Average)	0 – 60	0	200	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
VOLATILE ORGANIC CONTAMINANTS							
Dichloromethane (ppb) Cocoa	11/01 through 08/02	N	0.225 (Average)	0 – 0.9	0	5	Discharge from pharmaceutical and chemical factories
Contaminant and Unit of Measurement	Dates of Sampling (Mo./Yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
STAGE 1 DISINFECTANT/DISINFECTION BY-PRODUCT (D/DBP) PARAMETERS							
Haloacetic Acids (five) (HAA5) (ppb) Cocoa	02/02, 08/02, 10/02	N	19.0 (Average)	9.6 - 27.0	N/A	MCL = 60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb) Titusville	01/02 through 10/02	N	22.86 (Average)	2.2 – 89.0	N/A	MCL=100	By-product of drinking water disinfection
Contaminant and Unit of Measurement	Dates of Sampling (Mo./Yr.)	AL Violation Y/N	90th Percentile Result	No. of Sampling Sites Exceeding the AL	MCLG	AL	Likely Source of Contamination
LEAD AND COPPER (TAP WATER)							
Copper (tap water) (ppm) Titusville	07/01 through 09/01	N	0.058	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb) Titusville	07/01 through 09/01	N	<0.003	0	0	15	Corrosion of household plumbing systems; erosion of natural deposits

Conservation & You

The City of Titusville Water Resources Conservation Office is responsible for planning, coordinating, and implementing education and public relations programs relating to conserving and preserving our precious water resources. Through programs such as facility tours, group presentations, storm drain marking, and Florida Friendly landscape education, Titusville strives to educate and inform its water consumers of methods to reduce pollution and conserve water.

New Conservation Programs in 2003

The Toilet Retrofit Rebate Program, which began in April of 2003, offers rebates to customers who change out high-volume toilets with ultra low-flow toilets. During 2003, this rebate program met with such an overwhelming response from consumers that requests for rebates quickly outpaced funding available. The Conservation Office hopes to continue to offer this program on an annual basis.

The Showerhead Exchange Program offers free new low-flow showerheads to Titusville water customers bringing in old high-volume showerheads. The first day of the Showerhead Exchange Program resulted in over 300 showerheads being exchanged. In response to such an enthusiastic positive reception, the Conservation Office has made the Showerhead Exchange Program available on a year-round basis.



Florida Native Plant Mural - Mourning Dove Water Treatment Plant

Make Every Drop Count!

INDOORS

- Repair leaking faucets and toilets. A faucet leaking one drop per second can waste up to 2,700 gallons of water per year. The average leaky toilet can waste about 73,000 gallons of water per year.
- Select the correct water level on your washing machine so you use the minimum amount of water per load. Wash only full loads.
- Turn off the water when brushing your teeth or shaving.
- Dispose of tissues, insects, and other waste in the trash, not the toilet.
- Install water saving showerheads and toilets.

OUTDOORS

- Follow irrigation restrictions by limiting watering to two days per week and never water between 10 a.m. and 4 p.m.. Odd addresses may irrigate on Wednesday and Saturday. Even addresses may irrigate on Thursday and Sunday.
- Plant low maintenance Florida native plants and groundcovers. They require little water, no fertilizers, have few pests and disease, and tolerate poor soils.
- Group plants with like watering needs together and use drip irrigation on shrubs and beds.
- Reset timers after power outages and check for broken or misdirected sprinklers.
- Mulch!
- Use a hose equipped with an automatic shutoff nozzle for washing your car or irrigating by hand.
- Turn off sprinklers when it's raining or windy. Florida law requires automatic rain shut-off devices on irrigation systems.

For further information about Conservation programs or events, contact the Conservation Office at (321) 383-5669.

City of Titusville
Water Resources Department
2836 Garden Street
Titusville, FL 32796

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Saving Water Is Everybody's Business!

Contact Us

For technical questions regarding this report, contact Rudy Khan, Water Production Superintendent at 383-5651. For general questions, contact Maureen Phillips, Community Programs Coordinator at 383-5669.

Additional Contact Numbers

Water Conservation/Tours	383-5669
Water Bills	383-5791
Water Quality	383-5662
Nuisance Flooding	383-5798
Reclaimed Water Availability	383-5667

Water Resources is a department of the City of Titusville. Titusville operates under a Council-Manager form of government. The City Council is an elected body whose duties include enacting local legislation and establishing policies. City Council meets on the second and fourth Tuesday of every month at 6:30 p.m. in the Council Chamber at City Hall, 555 S. Washington Avenue, Titusville, FL. Meetings are broadcast live on Channel 1 or 99, the local government access cable channel. For an overview of the City and its departments, please visit our Website at www.titusville.com.

Managing Today's Resources
Water Resources
Meeting Tomorrow's Challenges

Special Publication SJ2000-SP1

District Water Supply Plan

Edited by
Barbara A. Vergara, P.G.

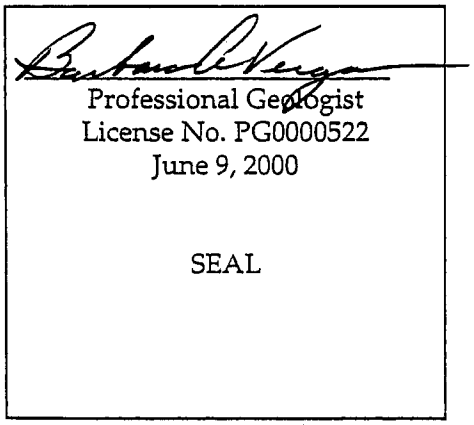


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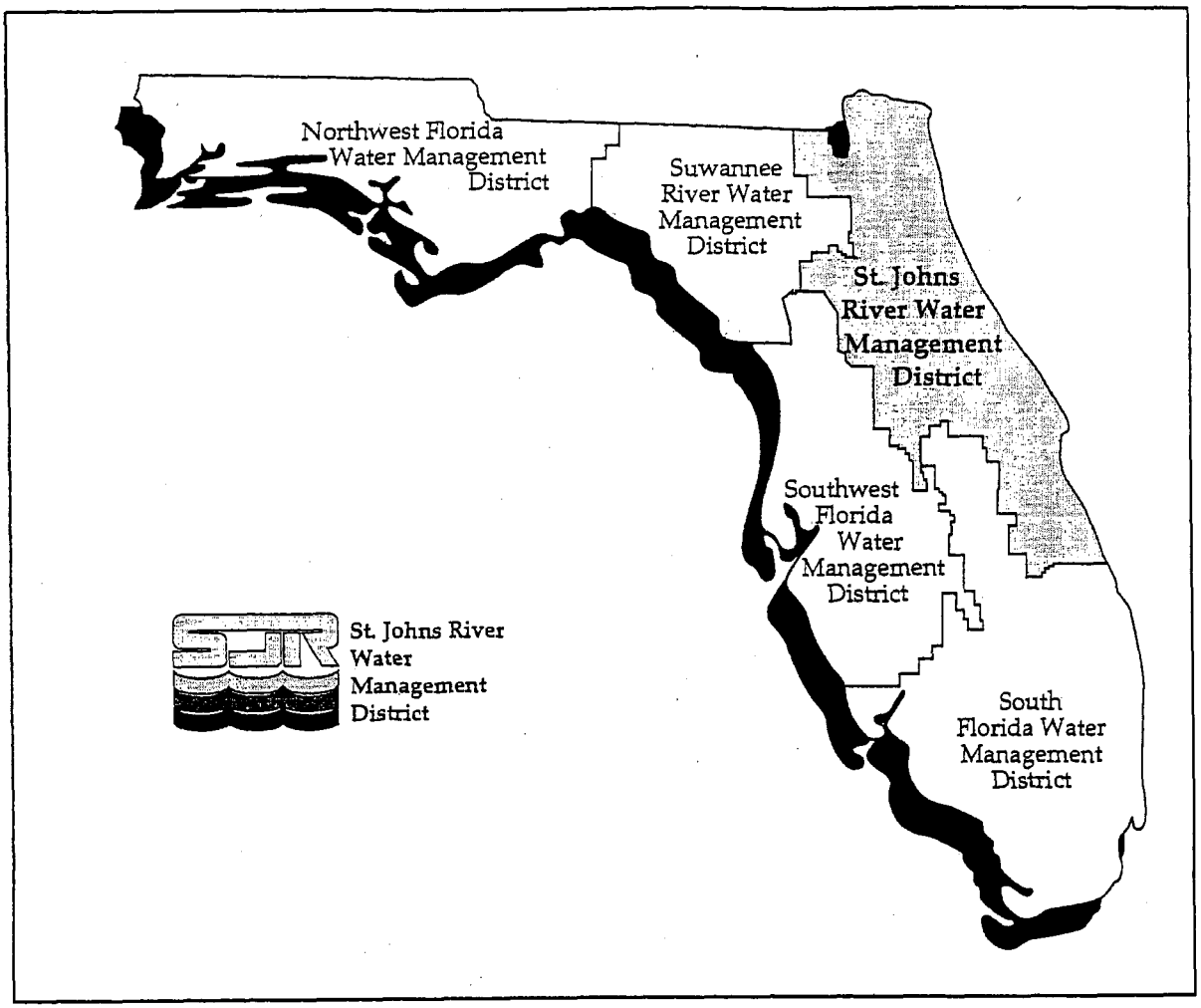
St. Johns River Water Management District
Palatka, Florida

2000

Exhibit Grant 3.

St. Johns River Water Management District, District Water Supply Plan (2000)

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 021256-WU EXHIBIT NO. 11
COMPANY/ City of Titusville
WITNESS. Raynetta C. Grant (RCG-3)
DATE: 06/22-23/04



The St. Johns River Water Management District (SJRWMD) was created by the Florida Legislature in 1972 to be one of five water management districts in Florida. It includes all or part of 19 counties in northeast Florida. The mission of SJRWMD is to manage water resources to ensure their continued availability while maximizing environmental and economic benefits. It accomplishes its mission through regulation; applied research; assistance to federal, state, and local governments; operation and maintenance of water control works; and land acquisition and management.

Special Publications are published to disseminate information collected by SJRWMD in pursuit of its mission. Copies of this report can be obtained from:

Library
St.Johns River Water Management District
P.O. Box 1429
Palatka, FL 32178-1429

Phone: (904) 329 4132

ABSTRACT

Located in northeastern Florida, the St. Johns River Water Management District (SJRWMD) covers approximately 12,400 square miles (about 8 million acres), or about 21 percent of the state's total area. SJRWMD includes all or part of 19 counties, numerous cities and towns, and the major urban centers of Jacksonville and Orlando, with a total population of almost 3.5 million people. This population is projected to increase by about 50 percent, to nearly 5.2 million, by 2020.

Total water demand for SJRWMD is projected to increase from about 1.37 billion gallons per day in 1995 to about 1.85 billion gallons per day in 2020, based on water use projections provided by water users. The projected increase of approximately 480 million gallons per day represents a total districtwide growth of 35 percent. Public supply increases account for about 85 percent of the total projected increase.

For the last decade, SJRWMD's water supply planning and assessment investigations have documented that the rate of withdrawal of groundwater in certain areas of SJRWMD is approaching the rate that cannot be sustained without causing unacceptable adverse impacts to the water resources and related natural systems. Water supply planning results to date show that at some locations these sustainable rates will likely be approached in the foreseeable future, well within the current 20-year planning horizon.

This *District Water Supply Plan* (DWSP) addresses current and future water demands, traditional and alternative water sources, and water supply infrastructure improvements required to meet 2020 water supply needs while sustaining water quality, wetland and aquatic systems, and existing legal uses. The planning process has been ongoing for many years. The process has several distinct elements, including water supply assessments conducted in 1994 and 1998, alternative water supply strategies investigations conducted from 1995 through 1998, the *Water 2020* planning process conducted from 1997 through 1999, and this DWSP.

DWSP is designed to meet the requirements of the water supply planning provisions of Section 373.0361, *Florida Statutes*. DWSP is based on a 20-year planning horizon extending through 2020 and includes the following components:

- A water supply development component which includes a list of water supply source options, estimated costs, and funding sources

- A water resource development component which includes a funding strategy
- A minimum flows and levels component for priority surface waters and groundwater

Approximately 40 percent of SJRWMD has been identified as priority water resource caution areas. These are areas where existing and reasonably anticipated sources of water and conservation efforts may not be adequate (1) to supply water for all existing legal uses and anticipated future needs and (2) to sustain the water resources and related natural systems. Priority water resource caution areas are the focus of DWSP. Based on the priority water resource caution areas, six work group areas were delineated to facilitate the water supply planning process:

- Work Group Area I—east-central Florida, including all of Orange, Lake, and Seminole counties and parts of Marion, Polk, Osceola and Sumter counties
- Work Group Area IA—Brevard County
- Work Group Area II—Volusia County, southeastern Putnam County and southern Flagler County
- Work Group Area III—east-central Flagler County
- Work Group Area IV—western St. Johns County and eastern Putnam County
- Work Group Area V—northern St. Johns County and southern Duval County

This DWSP identifies water supply source options and projects for each work group area that will meet future water supply needs while sustaining water quality, wetland and aquatic systems, and existing legal uses. For portions of SJRWMD not included in a work group area, existing water supply sources and water supply development plans are considered reasonably adequate to meet projected needs while sustaining water quality, wetland and aquatic systems, and existing legal uses. In Work Group Areas I and II, where projected public supply growth is the greatest, alternative water supplies, including significant quantities of surface water, will probably be needed in addition to traditional groundwater supplies to meet future needs. The estimated cost (in 1996 dollars) of required water supply treatment and transport facilities for each work group area is summarized in Table A-1. The capital cost of required facilities for all work group areas is expected to total in the range of $1.3 billion to $1.7 billion.

Table A-1. Conceptual planning-level cost estimates for water supply facility needs by 2020

Work Group Area	Capital Cost ($ millions)	Unit Cost ($/1,000 gallons)
I—East-central Florida	1,025 to 1,323	1.39 to 1.79
IA—Brevard County	85 to 88	1.11 to 1.16
II—Volusia County, southeastern Putnam County, and southern Flagler County	136 to 145	1.27 to 1.34
III—East-central Flagler County	28	1.82
IV—Western St. Johns County and eastern Putnam County	Very small	Not applicable
V—Northern St. Johns County and southern Duval County	59 to 102	0.95
Total	1,333 to 1,686	

Water supply system improvements and expansions are primarily the responsibility of the water supply utilities and water users. In addition to the needed water supply improvements, DWSP identifies a number of water resource development projects designed to reduce the current level of uncertainty associated with DWSP and to facilitate plan implementation. The water resource development projects are primarily the responsibility of SJRWMD and are listed as follows:

- Abandoned artesian well plugging program
- Adaptive management project
- Aquifer protection program
- Aquifer storage recovery feasibility testing
- Central Florida artificial recharge demonstration program
- Cooperative well retrofit project
- Demineralization concentrate management project
- Facilitation of regional decision-making process
- Feasibility of seawater demineralization projects
- Hydrologic data collection and analysis
- Investigation of areas where domestic self-supply wells are sensitive to water level fluctuation
- Regional aquifer management project
- Surface water in-stream monitoring and treatability studies

- Wetland augmentation demonstration program

This DWSP is the beginning of an integrated water resource allocation and water supply decision-making process. In significant portions of the priority water resource caution areas, alternative water supply sources will probably have to be developed to meet future needs while sustaining water quality, wetland and aquatic systems, and existing legal uses. Groundwater alone probably cannot meet all future water supply needs. Development of alternative sources of supply will require cooperation among the water supply utilities and among the utilities, SJRWMD, and the Florida Department of Environmental Protection.

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INTRODUCTION

PLANNING MANDATES

The St. Johns River Water Management District's (SJRWMD) District Water Supply Plan (DWSP) is designed to meet the requirements of the water supply planning provisions of Section 373.0361, *Florida Statutes (FS)* (Appendix A). DWSP is based on a 20-year planning horizon extending through 2020 and includes the following components:

- A water supply development component
- A water resource development component
- A minimum flows and levels component

Subsection 373.0361(1), *FS*, requires SJRWMD to initiate water supply planning for each water supply planning region where priority water resource caution areas are identified (Figure 1). *Priority water resource caution areas* are areas where existing and reasonably anticipated sources of water and conservation efforts may not be adequate (1) to supply water for all existing legal uses and reasonably anticipated future needs and (2) to sustain the water resources and related natural systems. SJRWMD's *Water Supply Assessment: 1998* (Vergara 1998) includes a detailed description of the identification of priority water resource caution areas.

These priority water resource caution areas should not be confused with the water resource caution area pursuant to the requirements of Subsection 62-40.416(5), *Florida Administrative Code (F.A.C.)*. This subsection requires the water management districts (WMDs) to designate water resource caution areas as regions where reuse would be required if economically, environmentally, and technically feasible. Prior to the implementation of Subsection 62-40.416(5), *F.A.C.*, SJRWMD's Consumptive Use Permitting Rule required reuse throughout SJRWMD, where available and feasible. Therefore, when implementing Florida Department of Environmental Protection's (DEP) Subsection 62-40.416(5) requirement, SJRWMD designated its entire jurisdictional area a water conservation area (40C-23.001, *F.A.C.*). SJRWMD later changed the water conservation area designation to a water resource caution area designation to conform to statewide nomenclature.

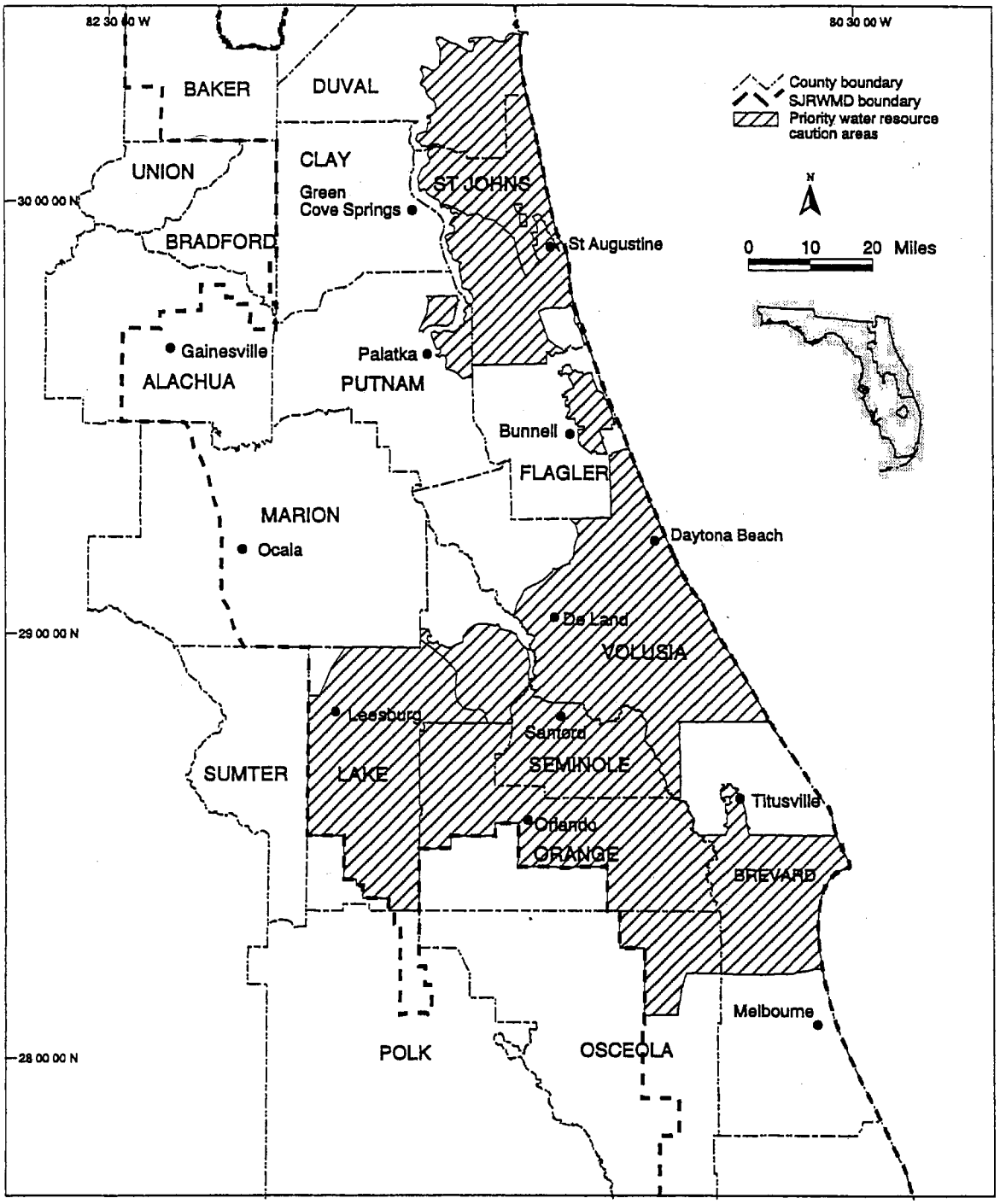


Figure 1. Priority water resource caution areas in the St. Johns River Water Management Distict

SJRWMD's Water Supply Management Program

SJRWMD has developed a Water Supply Management Program which is designed to perform the work necessary to meet the water supply planning, implementation, and regulatory requirements of Chapter 373, *FS*. This program is managed within the SJRWMD Department of Resource Management. However, many SJRWMD departments and offices contribute to this program.

In addition to significant staff resources, SJRWMD uses the services of consultants to accomplish portions of the program. To date, consultants have been involved in planning activities which include investigation of alternative water supply strategies, facilitation of water supply planning work group activities, and assistance in the preparation of reports. Since 1995, this consultant activity has accounted for about two-thirds of SJRWMD's water supply management program activities and costs.

About 90 percent of program-related work that is performed by SJRWMD staff, including program management, is performed within the Department of Resource Management. The department director supervises the division directors who are responsible for this work. This concentrated oversight provides a framework for efficient coordination and decision making.

SJRWMD's Water Supply Management Program includes significant intergovernmental, water supplier, and public coordination. The success of this coordination is critical to the success of the program. The water supply planning process structure, which is described in the Methods section of this document, was designed to encourage the participation of local governments, water suppliers, other interested and potentially affected parties, and the public. This process structure has contributed significantly to successful program coordination. Proposed actions concerning this coordination effort are included in the Recommendations section of this document.

Description of Planning Region

The Florida Legislature, in response to the need to protect and preserve the state's water resources, passed the Florida Water Resources Act of 1972, codified as Chapter 373, *FS*. This legislation established a statewide system of five WMDs and provided them with specific authorities and responsibilities. SJRWMD is one of these five WMDs.

Because SJRWMD has identified its entire jurisdictional area as one water supply planning region, DWSP encompasses the entire district. The plan focuses considerable attention on the identified priority water resource caution areas. DWSP identifies sustainable *water supply options* that will meet the projected reasonable-beneficial needs of all water users in SJRWMD through 2020.

SJRWMD focused its water supply planning efforts within six water supply planning *work group areas*: Work Group Areas I, IA, II, III, IV, and V (Figure 2). These work group areas include priority water resource caution areas and surrounding areas which are considered closely associated hydrologically and culturally.

DESCRIPTION OF SJRWMD

Location

Located in northeastern Florida, SJRWMD covers approximately 12,400 square miles (approximately 8 million acres), or about 21 percent of the state's total area (Figure 3). Nine percent of SJRWMD's area is water. SJRWMD's jurisdictional area is bounded by the following:

- On the north by the Florida/Georgia state line
- On the south by its boundary with the South Florida Water Management District (SFWMD)
- On the west by its boundary with the Southwest Florida Water Management District (SWFWMD) and the Suwannee River Water Management District
- On the east by the Atlantic Ocean

The most prominent natural feature of SJRWMD is the St. Johns River. The St. Johns River flows northward about 300 miles from its headwaters in Indian River County through Lakes Washington, Monroe, and George, and other lakes, to Jacksonville and the Atlantic Ocean. Because of the river's very low gradient, tidal effects normally extend into and beyond Lake George, over a hundred miles from the river's mouth.

The SJRWMD area includes all or part of 19 counties, numerous cities and towns, and the major urban centers of Jacksonville and Orlando, with a total population of almost 3.5 million people. This population is projected to increase by about 50 percent, to nearly 5.2 million, by 2020.

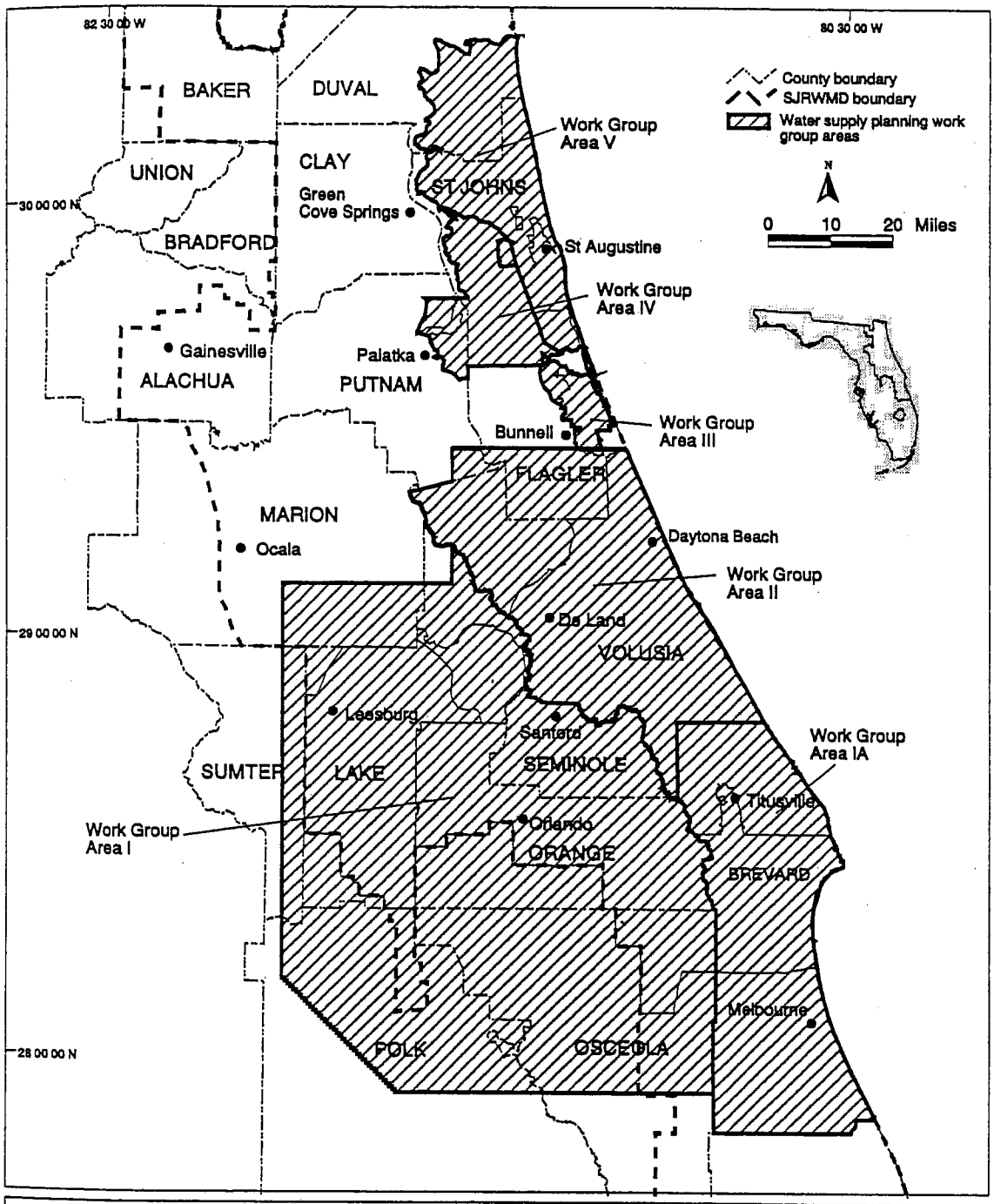


Figure 2. St. Johns River Water Management District water supply planning work group areas

Cultural Features

Tourism contributes significantly to the SJRWMD area economy. Area attractions include beaches such as Daytona Beach and Cocoa Beach along the Atlantic coast; commercial attractions such as Silver Springs; historical sites such as St. Augustine; and Kennedy Space Center. Though the Disney World complex and other attractions exist just south of SJRWMD's boundary with SFWMD, they generate substantial economic activity and water use in SJRWMD.

Four major interstate highway systems (I-4, I-10, I-75, and I-95) serve the SJRWMD area. Development, particularly along the I-4 corridor between Orlando and Daytona Beach, has been significant and is projected to continue to contribute to population growth.

Agriculture

SJRWMD's primary agricultural specialties consist of citrus, vegetables, and dairy and beef cattle. Pasture for beef and dairy production occupies the greatest amount of SJRWMD agricultural land. Although citrus acreage has declined in recent years, it remains the most prominent single crop type in SJRWMD. Cabbage, potatoes, and other vegetables are grown in the northern and central portions of SJRWMD. Ornamental fern crops occupy only a small part of SJRWMD's agricultural land but contribute significantly to the agricultural economy of the area. Of the various water use categories in SJWRMD, the agricultural self-supply category has historically had the highest use. However, agricultural acreage and associated water use are projected to experience slight decreases through 2020, and public supply water use is expected to surpass agricultural self-supply use.

Approximately half of the state's pulp and paper mills are located in SJRWMD. These are found in the northern part of SJRWMD, which encompasses large expanses of pine forest. Although there are only five such facilities, each uses an amount of water comparable to that consumed by a small to medium size city.

SJRWMD Water Resources (modified from Vergara 1998)

Both ground and surface water systems furnish water supplies in SJRWMD. Though these systems contain abundant water, the nature of these systems and their relationship to one another must be carefully considered when planning the development of water supplies.

Groundwater Resources

Three aquifer systems supply groundwater in SJRWMD: the surficial, the intermediate, and the Floridan (Figure 4).

The Southeastern Geological Society (1986) described the hydrogeologic nature of these aquifer systems as follows:

Surficial Aquifer System

System Components. The surficial aquifer system consists primarily of sand and sandy clay. It extends from land surface downward to the top of the confining unit of the intermediate aquifer system, where present, or to the top of the confining unit of the Floridan aquifer system. The surficial aquifer system contains the water table, which is the top of the saturated zone within the aquifer. Water within the surficial aquifer system occurs mainly under unconfined conditions, but beds of low permeability cause semiconfined or locally confined conditions to prevail in its deeper parts.

Water Quality. Water quality in the surficial aquifer system is generally good. Based on a review of U.S. Geological Survey (USGS) and SJRWMD data, chloride, sulfate, and total dissolved solids (TDS) concentrations generally occur below the secondary drinking water standards of 250, 250, and 500 milligrams per liter (mg/L), respectively (Subsection 62-550.320(1), *F.A.C.)*. Iron concentrations, however, are generally high and in many places exceed the secondary drinking water standard of 0.3 mg/L (Subsection 62-550.320(1), *F.A.C.)*. In coastal areas such as the barrier islands, this aquifer system is prone to saltwater intrusion.

Water Use. The surficial aquifer system serves as a source of water for public supply in St. Johns, Flagler, Brevard, and Indian River counties. It is also used as a source of water for domestic self-supply, mainly along the coastal portions of SJRWMD but also in inland areas scattered throughout SJRWMD.

Intermediate Aquifer System

System Components. The intermediate aquifer system consists of thin water-bearing zones of sand, shell, and limestone, which lie within or between less permeable units of clayey sand to clay. At the top of this aquifer system, poorly yielding to non-water-yielding strata occur. This strata, referred to as an upper confining unit, coincides with the base of the surficial aquifer system. This unit lies immediately above the Floridan aquifer system and is geologically referred to as the Hawthorn Group. In other places, one or more low-to-moderate yielding aquifers may be

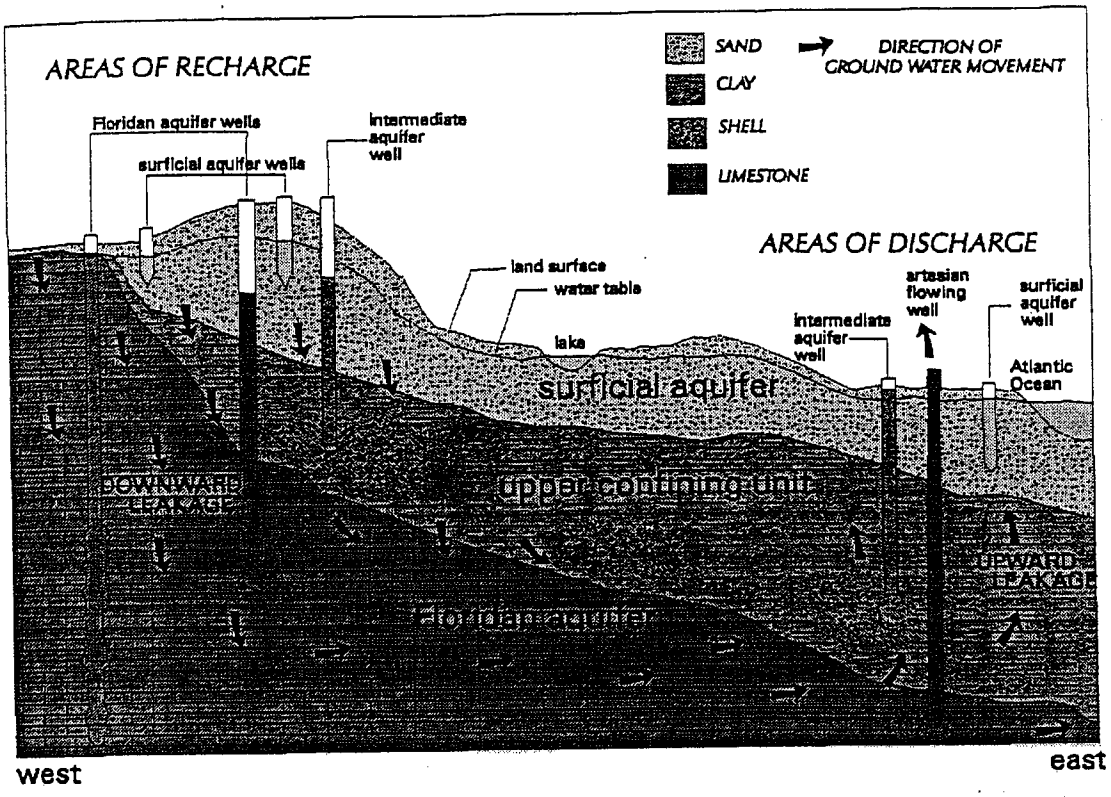


Figure 4. Generalized east-west hydrogeologic cross section for the St. Johns River Water Management District

interlayered with relatively impermeable confining beds. The aquifers within this aquifer system contain water under confined conditions. Within the intermediate aquifer system, confining units are generally more extensive than water-bearing units.

Water Quality. The available USGS and SJRMWD data suggest water quality in the intermediate aquifer system is generally good in the northern part of SJRWMD where chloride, sulfate, and TDS concentrations are below the secondary drinking water standards. Water quality in the southern part of SJRWMD approaches or exceeds the secondary drinking water standards for chloride and TDS concentrations.

Water Use. The intermediate aquifer system is used as a water source for domestic self-supply in Duval, Clay, and Orange counties.

Floridan Aquifer System

System Components. The Floridan aquifer system is one of the world's most productive aquifers. The rocks, primarily limestone and dolomite, that comprise the Floridan aquifer system underlie the entire state, although this aquifer system does not contain potable water at all locations. Water in the Floridan aquifer system occurs under confined conditions throughout most of SJRWMD. Unconfined conditions occur in parts of Alachua and Marion counties.

The Floridan aquifer system is subregionally divided on the basis of the vertical occurrence of two zones of relatively high permeability (Miller 1986). These zones are called the Upper and Lower Floridan aquifers. A less permeable limestone and dolomitic limestone sequence generally separates the Upper and Lower Floridan aquifers. This layer is referred to as the middle semiconfining unit. Throughout much of Baker, Union, Bradford, western Alachua, and northwestern Marion counties, the middle semiconfining unit is missing and the Lower Floridan aquifer does not occur (Miller 1986).

Water Quality. USGS and SJRWMD data indicate that water quality in the Upper Floridan aquifer varies, depending on its location in SJRWMD. Water quality in this aquifer is generally good in the northern and western portions of SJRWMD where chloride, sulfate, and TDS concentrations are below the secondary drinking water standards. Chloride and TDS concentrations in the Upper Floridan aquifer generally exceed the secondary drinking water standards in the following areas:

- Brevard and Indian River counties
- Southern St. Johns County and most of central and northern Flagler County
- Areas bordering the St. Johns River south of Clay County
- Eastern Volusia County

Sulfate concentrations also often exceed the secondary drinking water standards.

USGS and SJRWMD data indicate that water quality in the Lower Floridan aquifer also varies depending on its location in SJRWMD. Water quality in this aquifer is generally good in the northern and western portions of SJRWMD where chloride and TDS concentrations are below the secondary drinking water standards. However, chloride

concentrations in the Lower Floridan aquifer generally exceed the secondary drinking water standards throughout the following areas:

- All of Flagler, Brevard, and Indian River counties
- Eastern Nassau and Volusia counties
- Areas bordering the St. Johns River in Putnam, Marion, Lake, Volusia, Seminole, Orange, and Osceola counties (Sprinkle 1989)

TDS concentrations in the Lower Floridan aquifer generally exceed the secondary drinking water standards throughout these areas:

- All of St. Johns, Flagler, Brevard, and Indian River counties
- Most of Nassau and Duval counties
- Eastern Clay and Volusia counties
- Areas bordering the St. Johns River in Putnam, Marion, Lake, Volusia, Seminole, Orange, and Osceola counties (Sprinkle 1989)

Water Use. The Upper Floridan aquifer is the primary source of water for public supply water use in SJRWMD, primarily in the northern and central portions of SJRWMD where the aquifer contains water that generally meets primary and secondary drinking water standards. The Upper Floridan aquifer also serves as a source of water for public supply in the southern portion of SJRWMD where water withdrawn from the aquifer is treated by *reverse osmosis*. Since the Floridan aquifer system in the southern portion of SJRWMD generally contains water that exceeds secondary drinking water standards for chloride, sulfate, and TDS, this portion of the aquifer generally supplies water for irrigation.

Portions of the Lower Floridan aquifer furnish water for public supply in Duval, central and western Orange, and southern and southwestern Seminole counties.

Surface Water Resources

Streams, lakes, canals, and other surface water bodies in SJRWMD provide water for various consumptive and nonconsumptive uses. Although aquifers usually contain relatively high-quality water and likely will remain the most widely used freshwater supply sources in SJRWMD, pressure to develop surface water sources could increase as groundwater becomes less available.

Surface Water Quality Issues

Water quality can limit surface water availability for certain uses if it is not economically or ecologically feasible to treat the water to the level required for those intended uses. Natural systems requirements, treatment and storage costs, and distribution facilities can limit the amount of water developed from surface water sources.

SJRWMD surface water quality varies both spatially and temporally as a result of the natural processes and human activities that affect the chemical and microbiological character of water bodies. The different intended water uses determine the relationship between water quality and water availability. For example, some industries can use water containing TDS concentrations of 35,000 mg/L (equivalent to seawater), whereas a maximum of 500 mg/L is recommended for public supply (Prasifka 1988).

Surface waters tend to contain silts and suspended sediments, algae, dissolved organic matter from topsoil, and chemical and microbiological contaminants from municipal wastewater discharges, stormwater runoff, and industrial and agricultural activities. In addition, the quality of surface water may vary seasonally with variation in flow rates or water levels. SJRWMD surface water is generally a lower quality water than SJRWMD groundwater.

Salinity is one of the most important water quality considerations in SJRWMD. In the coastal rivers of SJRWMD and the tidal reaches of the St. Johns, St. Marys, and Nassau rivers, the influx of seawater limits potential water uses to recreation and power plant cooling. Chloride concentrations generally decrease upstream from the mouths of these rivers as tidal influence diminishes.

In addition to tidal influence, inflows of brackish groundwater affect the spatial distribution of chloride concentrations in the St. Johns River. During low-flow periods when there is little dilution from freshwater inflows, higher TDS concentrations occur in the tidally influenced lower reach of the river and in portions of the upper reach. In the upper reach of the St. Johns River, the inflow of Floridan aquifer groundwater by diffuse upward leakage and possible spring discharge (Tibbals 1990) contributes to elevated TDS concentrations in the river. These high TDS concentrations are of particular concern when considering the use of the St. Johns River as a source of supply for agricultural irrigation and public supply.

In addition to the TDS concentrations, elevated bromide concentrations in the St. Johns River are a concern when considering the use of the river as a source for public supply systems. Raw water with elevated concentrations of bromide may require more expensive treatment in order for the treated water to meet U.S. Environmental Protection Agency (EPA) drinking water standards and regulations. The process of *ozonation*, used for disinfection purposes in the water treatment process, may produce unacceptably elevated concentrations of bromate.

Traditionally, surface water has not been used extensively for public supply in SJRWMD and additional water quality monitoring and treatability testing need to be completed before any new surface water source is developed for public supply. If additional monitoring and testing indicate that a particular water source cannot be treated to meet all applicable water quality standards and rules, that source will not be developed as a public supply.

Surface Water From Streams

USGS publishes *Water Resources for Northeast Florida* on a water year basis (October through September) for all active surface water gauges. These reports are the most comprehensive sets of surface water stage and discharge data available for SJRWMD water bodies.

Streamflow Characteristics. Monthly stream discharges generally reflect the seasonal distribution of annual rainfall. The highest average monthly discharges throughout SJRWMD tend to occur in August, September, and October, when summer thunderstorms are common and tropical storms are likely to occur. Streams in SJRWMD usually exhibit at least two high- and low-flow seasons over the course of the year.

The high-flow period in March and April affects the northern area of SJRWMD more than the southern area. The lowest average monthly discharges tend to occur during the late fall to early winter months (November and December) and the late spring to early summer months (May and June). Some of the highest demands for surface water occur during these low-flow periods. High irrigation water demands often occur during May, June, and December. December begins the season for frost-and-freeze protection.

USGS discharge data indicate very few sites in SJRWMD where substantial quantities of water are likely to be available year-round. Except for a few streams with very stable base flows stemming from constant groundwater discharge, most streams in SJRWMD would require

artificial storage for an assured water supply. For example, Lake Washington, which is a natural water body with a dam to improve its water storage, is located within the St. Johns River near Melbourne. The City of Melbourne receives its water supplies from Lake Washington (about 12 million gallons per day [mgd]), even though flow occasionally ceases in the St. Johns River.

Source Development Feasibility. Streams with high flows generally offer greater potential for meeting projected needs. The feasibility of developing potential water supply sites should be assessed based on the quantity of water to be withdrawn, the associated impacts on the water resources and related natural systems, and the cost of treatment, storage, and distribution facilities.

SJRWMD assessed the feasibility of withdrawing surface water from the St. Johns River, from the upper Ocklawaha River Basin in Lake County (from the Apopka-Beauclair Lock and Dam and from the confluence of the Palatlakaha River with Lake Harris, downstream to SR 40) (Figures 5 and 6), and from the lower Ocklawaha River Basin (from SR 40 downstream to the St. Johns River) just upstream of its confluence with the St. Johns River. Preliminary assessment results indicate that developing water supplies of up to 351 mgd from the St. Johns River, up to 14 mgd from the upper Ocklawaha River Basin, and up to 107 mgd from the lower Ocklawaha River Basin is technically, environmentally, and economically feasible (CH2M HILL 1996a, 1996b, 1997b, 1997e; Hall 1990). These quantities are planning-level estimates that could change, based on the establishment of minimum flows and levels (MFLs).

SJRWMD is in the process of developing MFLs for these surface water systems and plans to complete adoption of MFLs for the St. Johns River and the upper Ocklawaha River by 2001, well before the anticipated development of these water supply sources. As a result, potential water supply sources identified in this plan are not anticipated to be developed until an MFL is adopted for that particular surface water source and an evaluation of the impacts of the proposed withdrawal on the adopted MFL is completed. If water supplies are ultimately obtained from any of these identified sources, the withdrawals will be limited so as to not cause the surface water system to fall below the adopted MFLs.

Stormwater Retention/Detention Facilities

Typically, constructed stormwater drainage and retention/detention systems capture storm water throughout the developed areas of SJRWMD. Water from these systems can be directly used to meet many

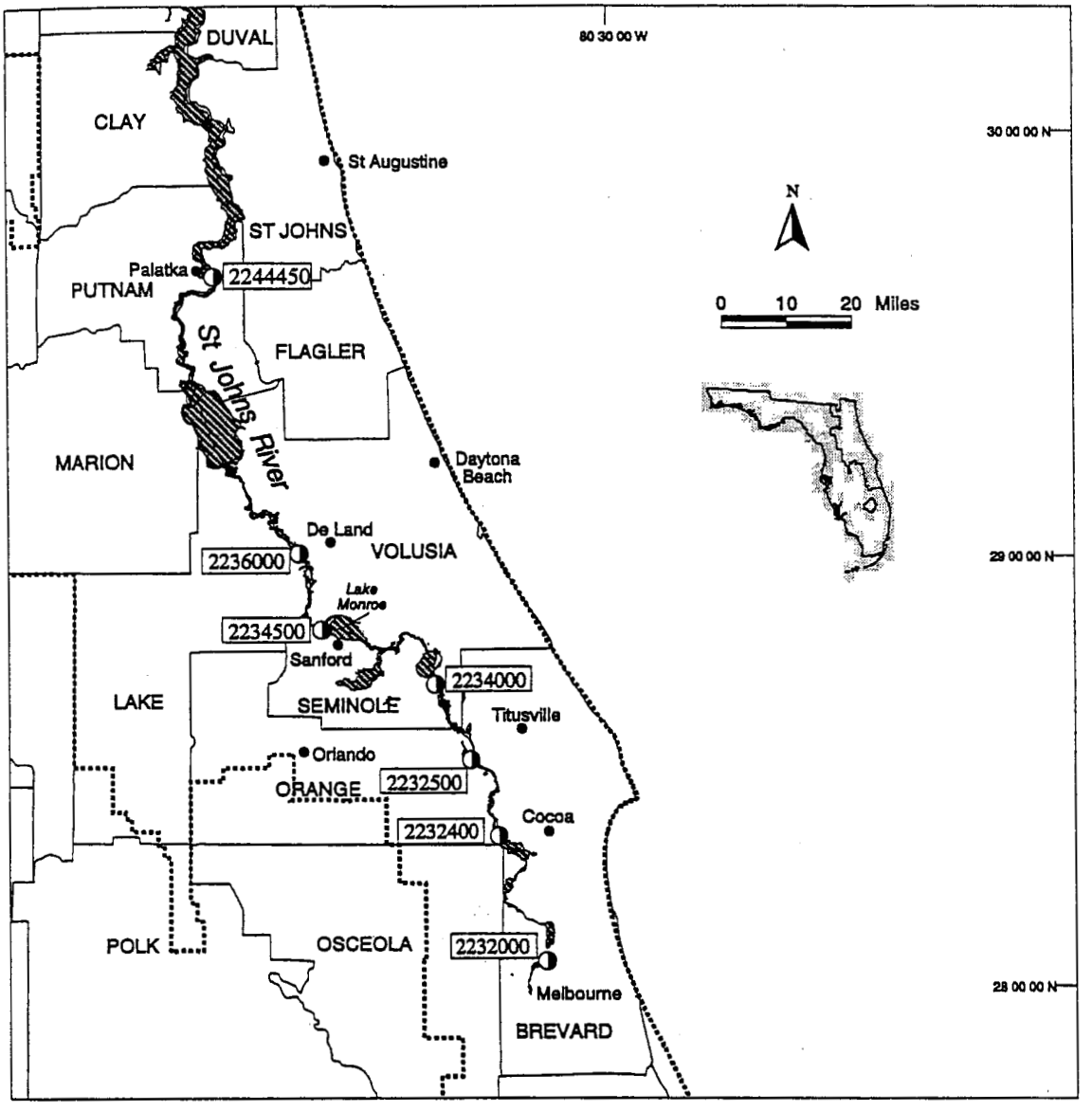


Figure 5. Stream reach of the St. Johns River evaluated for surface water supply potential

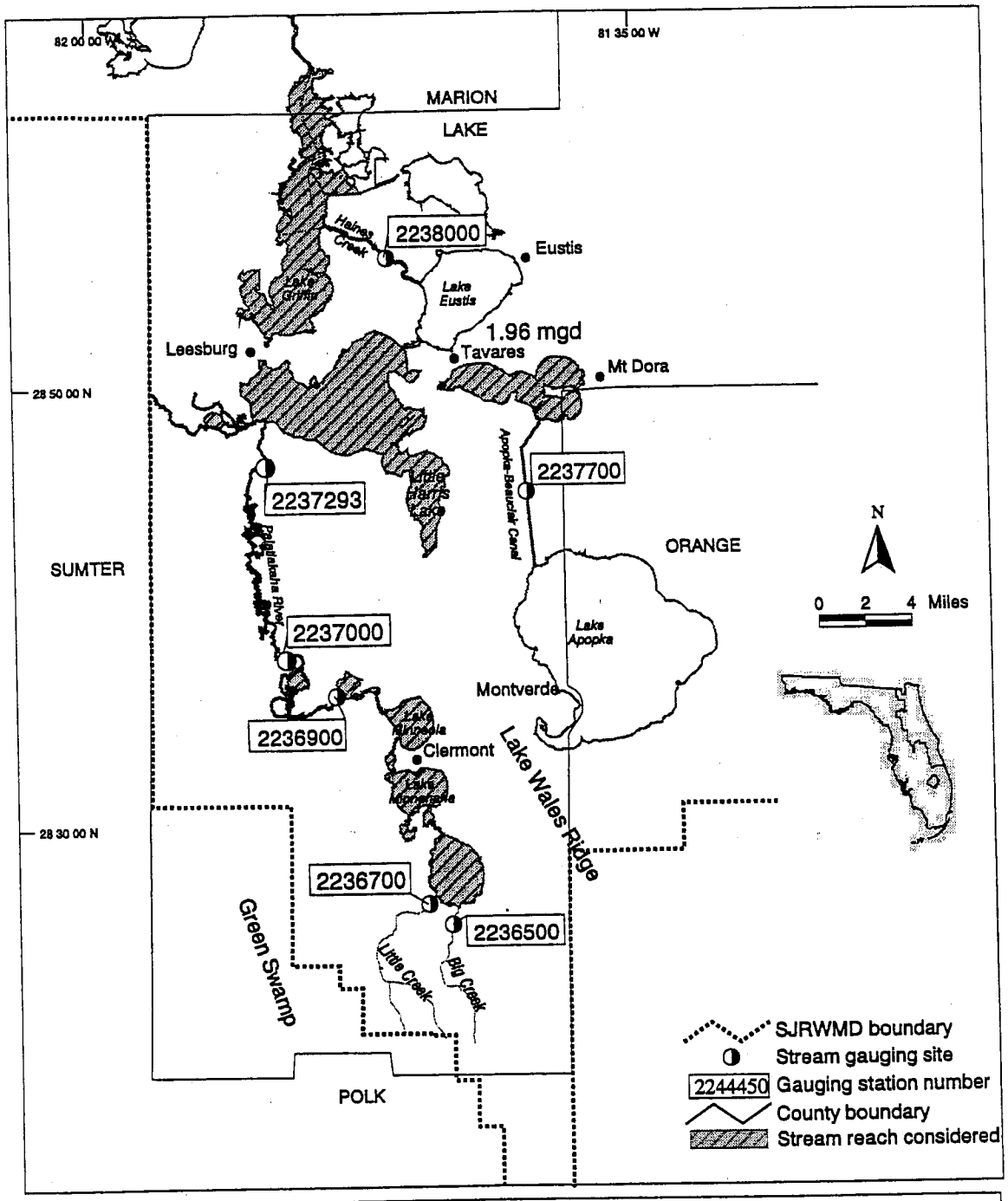


Figure 6. Lake County stream reaches evaluated for surface water supply potential

nonpotable water needs. Storm water usually serves as a source of golf course irrigation water. SJRWMD has not performed a comprehensive assessment of the water available from these facilities.

Water Availability From Lakes

Most of the larger lakes in SJRWMD are part of the Ocklawaha River or St. Johns River systems and the water quality and stage fluctuations of these lakes resemble those rivers of which they are a part. Major lakes in the upper Ocklawaha River chain of lakes include the following:

- Harris
- Eustis
- Griffin
- Dora

Major lakes of the St. Johns River system include the following:

- George
- Harney
- Monroe
- Jesup
- Poinsett
- Washington
- Crescent

Other major lakes, including Newnans, Lochloosa, and Orange, are located in the lower Ocklawaha River Basin.

SJRWMD has been engaged in the process of setting minimum lake levels pursuant to the provisions of Sections 373.042 and 373.0421, *FS*. These minimum lake levels may restrict the amount of water available from lakes. MFLs established to date are included in Chapter 40C-8, *F.A.C.* (Appendix B). SJRWMD's current MFL priority water body list and schedule (Appendix C) identifies the water bodies for which SJRWMD will develop MFLs through 2002.

METHODS

WATER 2020 PROCESS STRUCTURE

SJRWMD focused its water supply planning efforts within water supply planning work group areas. These work group areas include priority water resource caution areas and surrounding areas considered closely associated hydrologically and culturally. SJRWMD identified six water supply planning work group areas: Work Group Areas I, IA, II, III, IV, and V (Figure 2).

Water supply planning in these work group areas has been accomplished through SJRWMD's *Water 2020* Project. The *Water 2020* process has been a cooperative public process designed to maximize the participation and input of local governments, government-owned and privately owned utilities, self-suppliers, and other interested and potentially affected parties, pursuant to the requirements of Subsection 373.0361(1), *FS*. SJRWMD's Water Utility Advisory Board and Agricultural Advisory Committee contributed significantly to the active involvement of public water suppliers and agricultural self-suppliers, respectively, in the *Water 2020* process.

SJRWMD developed a general *Water 2020* process structure for all six of its *Water 2020* work groups to follow (Figure 7). This structure was designed to

- Ensure that planning was conducted in an open public process
- Use the best information available
- Provide consistency among work groups in the methods and procedures used to identify sustainable water supply options
- Facilitate coordination and cooperation with local governments, government-owned and privately owned utilities, self-suppliers, and other interested and potentially affected parties
- Identify water source options, available quantities, estimated costs, and potential funding sources for water supply development, including traditional and alternative sources, from which local government, government-owned and privately owned utilities, self-suppliers, and others may choose, which will exceed identified needs through 2020

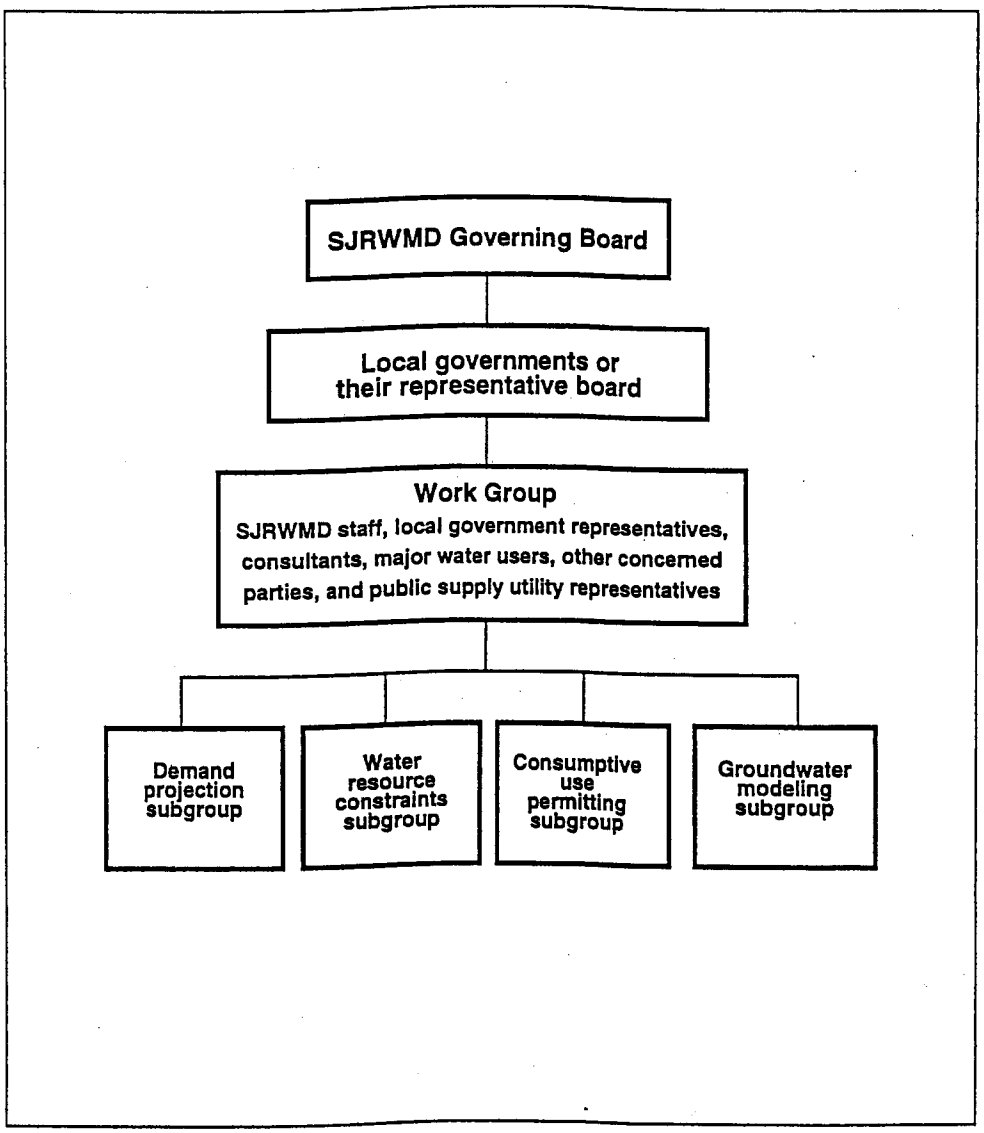


Figure ES-4. General planning process organization for *Water 2020* work groups

The *Water 2020* process was fully funded by SJRWMD, and the work groups were the focal points. All information produced in association with the *Water 2020* process was presented to and considered by the appropriate work group. An SJRWMD water resource consultant or SJRWMD staff member facilitated the activities of the work groups in Work Group Areas I, IA, III, IV, and V. In Work Group Area II, the Volusian Water Alliance's water resource consultant acted as facilitator. The *Water 2020* facilitators, by work group area, are

- Bill Dunn, Ph.D., CH2M HILL—Work Group Area I
- Ron Wycoff, P.E., CH2M HILL—Work Group Area IA
- Jo Ann Jackson, P.E., and Bob Morrell, P.E., PBSJ—Work Group Area II
- Ed Copeland, P.E., HDR—Work Group Area III
- SJRWMD staff—Work Group Area IV
- Ed Copeland, P.E., HDR—Work Group Area V

Each work group except the Area II and Area IV work groups has developed a draft work group plan or a conceptual water supply plan reflective of the work group's activities and has identified alternative water supply solutions for the work group area. These work group plans provided a substantial amount of information that was utilized by SJRWMD in the development of this DWSP. However, the work group plans are not approved by the SJRWMD Governing Board, and as such, they do not represent an official position of SJRWMD. DWSP, as approved by the SJRWMD Governing Board, is the only document that constitutes the SJRWMD water supply plan prepared in response to the requirements of 373.0361, *FS*.

For Area II, the work group identified source options but has not developed a draft or conceptual work group plan. For Area IV, the work group developed an approach to avoid unacceptable impacts but did not develop a written work group plan.

For issues requiring considerable focused attention, the work groups developed subgroups to the work groups. Each of these subgroups consisted of work group members who had a particular interest in the subgroup subjects. An SJRWMD water resource consultant or an SJRWMD staff member chaired each subgroup. The following subgroups were active in the work group process:

- Demand Projection
- Water Resource Constraints
- Consumptive Use Permitting

- Groundwater Modeling

Each work group except the Area IV work group had a Demand Projection Subgroup. Each of these subgroups discussed, reviewed, and eventually agreed on water supply demand projections proposed for use in the *Water 2020* process for its respective work group area.

The Water Resource Constraints Subgroup reviewed and discussed the *water resource constraints* proposed for use as the basis of determining the acceptability of projected water resource impacts. Because the water resource constraints are the same in all *Water 2020* work group areas, membership in this subgroup consisted of members from all *Water 2020* work groups. Bill Dunn, CH2M HILL, chaired this subgroup. This subgroup produced a handbook which describes its recommended constraints (CH2M HILL 1998d).

The Consumptive Use Permitting Subgroup identified and addressed issues concerning the relationship between SJRWMD's consumptive use permitting program and DWSP. Because all work group areas shared an interest in the relationship between permitting and planning, membership in this subgroup consisted of members from all *Water 2020* work groups. Hal Wilkening, director, Department of Resource Management, SJRWMD, chaired this subgroup. The Consumptive Use Permitting Subgroup did not develop final recommendations or produce a subgroup report. However, many of the concepts discussed by the subgroup are included in the consumptive use permitting process discussion in the recommendations section of this DWSP.

Groundwater Modeling Subgroups for Work Group Areas I, II, III, and V were established to identify and address issues concerning the SJRWMD groundwater models used in the water supply planning process. Regional groundwater flow models (Figure 8), as well as local-scale models, were applied in work group water supply plan development. Regional models include the east-central Florida groundwater flow model and the north-central Florida groundwater flow model used in Work Group Area I, the Volusia groundwater flow model used in Work Group Area II, and the northeast Florida groundwater flow model applied in Work Group Area V. Local-scale groundwater flow models were applied in Work Group Areas III, IV, and V. The groundwater modeling subgroups reviewed each of these models.

These modeling subgroups, chaired by Charles Tibbals, water resources consultant, identified the need for additional hydrologic analysis and peer review of the models. This additional analysis and peer review was

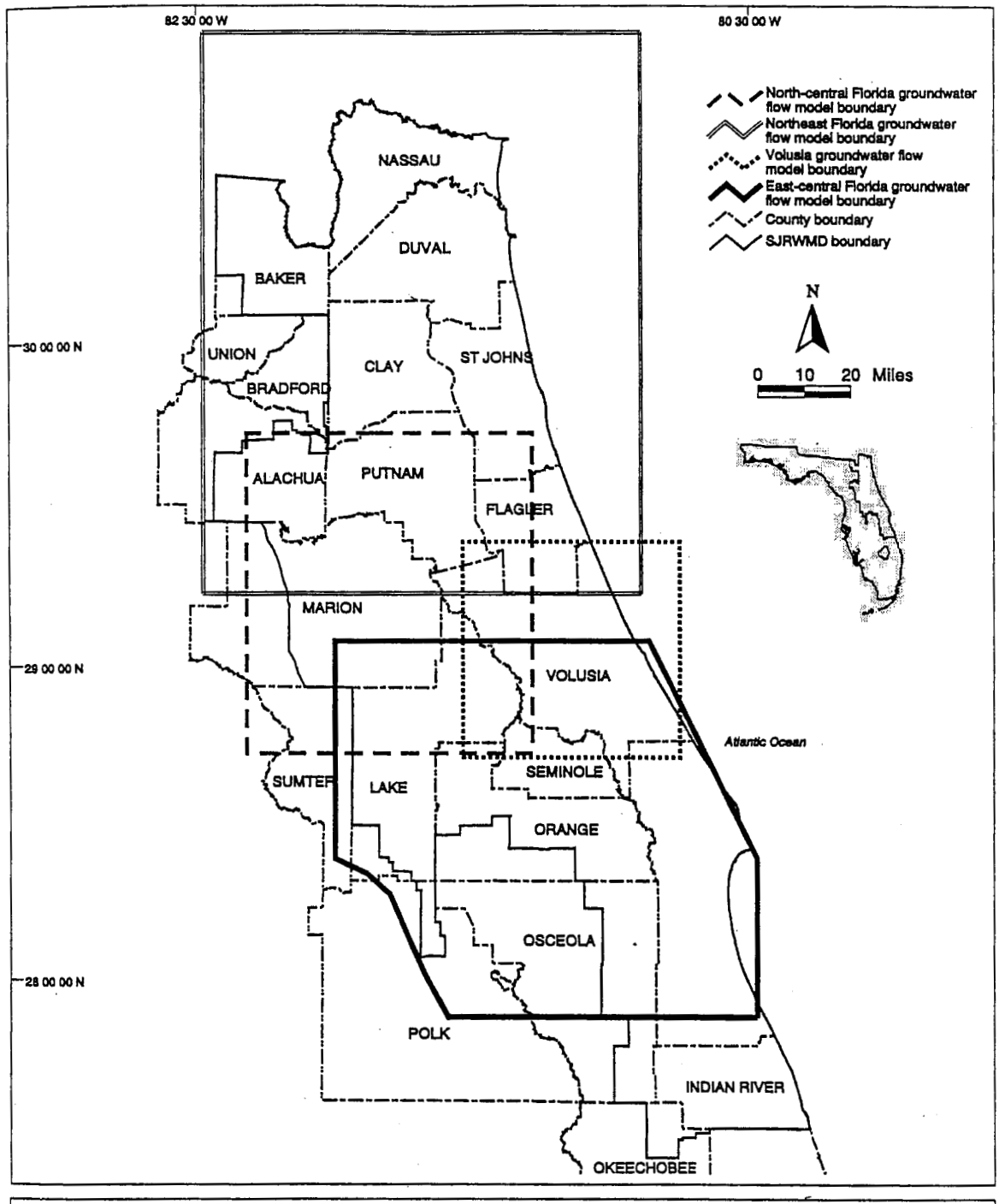


Figure 8. St. Johns River Water Management District regional groundwater flow model boundaries

performed as part of the *Water 2020* process. The activities of the subgroup, including a summary of the additional hydrologic analysis and peer review, are summarized in *Water 2020 Groundwater Modeling Subgroups Report* (Tibbals 1999).

SJRWMD staff and the assigned facilitators generally provided coordination among the subgroups. However, the dependence of the City of Cocoa's public supply system on groundwater withdrawn in Orange County and on surface water withdrawn from the Taylor Creek Reservoir in Orange County strongly links Work Group Areas I and IA. The City of Cocoa's public supply *service area* is located in Work Group Area IA, but its withdrawals occur in Orange County in Work Group Area I. In recognition of the relationship between these work groups, Work Group IA assigned one of its members to serve as a liaison with Work Group I. Carl Larrabee, Utilities Director, City of Cocoa, served in this liaison position.

SJRWMD considers the success of the *Water 2020* process to be largely dependent on the acceptability of SJRWMD's DWSP by local governments. Local governments control the majority of the public water supply systems in SJRWMD and, therefore, must be willing to make the financial commitments necessary to implement DWSP in order for it to be successful. In addition, these local governments make growth management decisions for their respective jurisdictions. Based on the provisions of Section 373.0395, *FS*, the Legislature intends that future growth and development planning reflect the limitations of the available groundwater and other available water supplies. Therefore, the availability of water should be an important consideration in growth management decisions. Developing a water supply plan that local governments and other major water suppliers do not support or are unwilling to implement would represent a failed effort—a scenario unacceptable to SJRWMD.

SJRWMD sought active participation of local government elected officials and staff members in the work group process and through the work group plan and the DWSP review processes. This effort to involve local government officials and staff began in November 1997 with a workshop to initiate the *Water 2020* process. Henry Dean, Executive Director, SJRWMD, notified each local government elected official and key staff members of the scheduled workshop and initiation of the *Water 2020* process. These officials and key staff were also informed of all work group meetings and provided with copies of draft work group plans.

Active participation by elected local government officials in work group meetings was generally limited. Primarily, local government staff members served as the fundamental link between the work group process and local government elected officials. Concern by the work groups that this link was not strong enough prompted SJRWMD to present the results of the *Water 2020* process to selected local government bodies and to receive the direct input of those bodies. This local government presentation process was carried out from April through August 1999. During this period, SJRWMD made presentations to 20 local government bodies and two private utility governing bodies.

Special links between elected local government officials already existed in Work Group Areas IA and II. The Brevard Water Supply Board (BWSB), representing all local governments in Brevard County, acted as the link between the Area IA work group and the local governments in Brevard County. The Volusian Water Alliance (VWA) represents local governments in Volusia County and was the primary link between the Area II work group and local governments in Volusia County.

The *Water 2020* process in Work Group Area IA was carried out cooperatively with BWSB. BWSB consists of one representative from the governing body of each municipality in Brevard County and a representative of the Brevard County Board of County Commissioners. BWSB was formed voluntarily in 1995 by the participating governments for the purpose of discussing water supply issues in Brevard County. Prior to the commencement of the SJRWMD/BWSB cooperative planning process, the governing body of each municipality and the Brevard County Board of County Commissioners adopted resolutions supporting the *Water 2020* process. The activities of *Water 2020* Work Group IA were regularly reported to BWSB.

VWA, representing local governments in Volusia County, acted as the link between the Area II work group and the local governments in Volusia County. The *Water 2020* process in Work Group Area II was carried out cooperatively with VWA based on the provisions of a formal agreement between SJRWMD and VWA. Based on the provisions of this agreement, SJRWMD provided funding to VWA to support the cost of consultant services and staff. VWA membership consists of Volusia County and all 16 cities in the county. The county's representation includes a representative of agriculture/fern and may include a representative of the largest nongovernment public supply utility. VWA was formed by interlocal agreement in 1996 to develop

- Regional water supply plans
- A coordinated countywide plan and an aquiferwide plan based on coordination of the regional plans and the standards of SJRWMD
- An operational system capable of meeting the purposes of VWA

VWA is also responsive to any other water-related purposes which are permitted by law and which are approved by a majority of its members.

The activities of Work Group Area II were regularly reported to VWA.

The work group planning process resulted in future water demand projections, future water supply deficit estimates, recommended water supply source options, and one or more recommended viable water supply alternatives. To develop a water supply plan for each work group area, each work group applied the most relevant methods and tools to its respective work group area. Although exact methods and procedures varied for each work group, all shared basic criteria.

A major objective of the planning process involved providing a consistent method for comparing water supply options and alternatives. A consistent set of alternative water supply evaluations, as well as cost estimating and economic evaluation criteria, helped reach that objective.

Water Supply Demands and Deficits

Demand Projections

SJRWMD staff developed future water supply demand projections in consultation with major water suppliers. Water supply demands for the year 2020 were estimated for the following use categories:

- Public supply
- Domestic self-supply and small public supply systems
- Commercial/industrial/institutional self-supply
- Thermoelectric power generation self-supply
- Agricultural self-supply
- Recreational self-supply

The SJRWMD *Water Supply Assessment: 1998* presents current water supply needs projections for these categories (Vergara 1998) as well as the methods applied to develop the projections. These projections address both long-term average demands and expected demands during a *1-in-10-year drought*. The county water supply data included in that assessment

helped determine the future water supply demand projections used in DWSP.

Deficit Identification

A water supply *deficit* exists when proposed water supply sources or facilities are not able to meet projected demands. Water supply deficits can be of two types: source deficits and facility deficits.

A *source deficit* is the difference between the projected 2020 needs and the quantity of water the source can supply in a sustainable manner. SJRWMD used regional decision models to determine groundwater source deficits in Work Group Areas I and II. These regional models were used to identify maximum average annual groundwater withdrawals compatible with applicable water resource constraints. In Work Group Area IA, where local surficial aquifers provide most of the groundwater supply, it was assumed that these aquifers have been developed to their maximum potential and that additional demands will result in a source deficit requiring the development of alternative water supplies. In Work Group Areas III and V, local groundwater models, along with the applicable water resource constraints, were used to help determine the potential for groundwater source deficits. Work Group Area IV is a unique case involving interference with existing legal uses during peak demand periods and did not involve deficit identification.

A *facility deficit* is the amount of projected 2020 water supply needs that cannot be met by existing water supply facilities. Facility deficits depend on the existing capacity of the individual water supply system and the projected 2020 needs. The need to provide for peak day demand determines needed facility capacity and therefore often controls facility deficits.

Decision Modeling for Evaluating Water Supply Alternatives

Water supply options apply to individual service areas. A *water supply alternative*, as defined in the *Water 2020* planning process (see glossary), consists of any combination of water supply options that can meet the future needs of an entire work group area.

Economic decision models can be used in water resource planning to determine the most inexpensive water supply alternatives by incorporating water management constraints, water resource constraints, cost constraints, existing groundwater source withdrawal optimization estimates, political constraints, and alternative water sources. Appendix D

details the decision-modeling process. No one set of decision model outputs adequately addresses future water resource problems. However, a decision model may be rerun and refined as necessary to gain additional information and insight about the water supply problem, the simulation model, projected future water demands, and the solutions capable of meeting demands and constraints.

Model Types

In the *Water 2020* process, SJRWMD relied on two types of *decision models* to determine water supply alternatives for Work Group Areas I and II. The first model, referred to as the *groundwater optimization model,* maximizes use of existing and proposed groundwater supplies while meeting specified water resource protection constraints. This model does not address costs, instead, it defines the nature and extent of the water supply problem by identifying deficit amounts for each service area.

The second model, referred to as the *economic optimization model,* considers alternatives to existing and proposed wells and all associated costs, comparing a number of existing, proposed, and alternative source options to find combinations that meet water resource constraints and minimize the cost of meeting projected 2020 demands.

Both models rely on the widely used three-dimensional groundwater simulation model MODFLOW (McDonald and Harbaugh 1988, 1996), a saltwater upconing model (CH2M HILL 1998a), the General Algebraic Modeling System (GAMS) (Brook et al. 1996), and the CPLEX linear and mixed integer programming solvers (CPLEX Optimization 1996).

Model Objectives

The two main decision-modeling objectives are (1) to maximize the use of existing and proposed groundwater supplies and (2) to minimize the total cost of providing water for a regional area. These two objectives must work within constraints limiting water resource impacts in sensitive areas. Model objective functions may be revised to assist water supply managers in comparing or contrasting different water supply strategies.

Application of Water Resource Constraints

Need for Water Resource Constraints

The *Water 2020* program and DWSP focus on developing an economically and technically feasible water supply plan that will meet future water supply needs in a manner that sustains the water resources and related

natural systems. Sustainable sources must be able to supply the needed amounts of water, as defined by projected demands, without causing unacceptable adverse impacts to water quality, wetland and aquatic systems, and existing legal uses.

The water resource constraints define thresholds, for planning purposes, beyond which unacceptable adverse impacts to water quality, wetland and aquatic systems, and existing legal uses are expected to occur. For the planning process, a water resource constraint serves as a tool for two types of evaluations:

1. Application of constraints to analysis of a given withdrawal scenario (without optimization) identifies locations where future unacceptable impacts are expected to occur if that scenario were implemented.
2. Incorporation of constraints into the decision models prevents consideration of withdrawal scenarios that will exceed the constraint values and, therefore, will not be sustainable.

SJRWMD has routinely used water resource constraints for water supply assessment and planning. For instance, in the *1994 Needs and Sources Assessment: 1994* (Vergara 1994), the characterization of the extent and intensity of potential impacts to native vegetation due to lowered surficial water tables contributed to defining the water resource caution area boundaries.

The SJRWMD *Water Supply Assessment: 1998* (Vergara 1998) highlighted the priority water resource caution areas in which existing and anticipated water sources and conservation efforts appear inadequate to supply water for all existing legal uses and projected future needs through 2020 in a manner that sustains the water resources and related natural systems.

For DWSP, SJRWMD used four water resource constraints to identify and estimate source deficits and to identify sustainable withdrawal scenarios:

- Established MFLs
- Impacts to wetland and aquatic systems
- Impacts to groundwater quality
- Impacts to existing legal uses of water

The initial water resource constraint was that established by adopted MFLs. The development of other water resource constraints and the analyses associated with them occurred on a regional planning-level basis, using data that were available or were developed for the planning area as a whole. These analyses were not performed at the same level of detail as

that used when a proposed water use is reviewed in the context of SJRWMD's consumptive use permitting program. While DWSP water resource constraints and associated analyses are conceptually consistent with the consumptive use permitting environmental and existing legal uses protection criteria, they should not be interpreted as a final determination or application of the consumptive use permitting criteria.

Application of Water Resource Constraints in Work Group Areas I and II

An objective of SJRWMD's *Water 2020* process is to develop a framework of sustainable regional water supply solutions. Because of the water use complexities in Work Group Areas I and II, SJRWMD applied the water resource constraints in the planning process in those areas through the use of groundwater and economic optimization models.

Incorporation of Constraints Into the Decision-Modeling Process

The Water 2020 Constraints Handbook (CH2M HILL 1998d) discusses specific constraint values and application methods for sensitive wetlands, MFLs for spring discharges, and groundwater quality.

Sensitive Wetlands

Wetland *drawdown* constraints specific to selected, sensitive wetlands are incorporated into SJRWMD's optimization models. CH2M HILL (1998d) and Kinser and Minno (1995) defined, selected, and located these sensitive wetlands. For planning-level purposes, each type of wetland was assigned an associated maximum allowable long-term average drawdown limit beyond which an unacceptable adverse impact would most likely occur. The modeling process links each wetland spatially to a grid cell in the decision model. A *control point* refers to the specific grid cell representing a particular wetland. The current models contain surficial aquifer drawdown limits ranging from 0.35 to 0.85 foot.

The wetland constraints are defined in terms of long-term maximum drawdown values for planning-level purposes. Long-term average wetland drawdowns in excess of these values are expected to alter the dominant wetland vegetation and therefore cause unacceptable adverse impacts. However, maintaining long-term average drawdown limits within these values should provide adequate protection of the wetlands under the full range of hydrologic conditions, including periodic droughts such as the 1-in-10-year drought.

Wetlands are adapted to transient extreme conditions, including floods and droughts. Droughts will temporarily stress a wetland system but will

not cause a change in its dominant plant and animal populations as long as the natural long-term average hydrologic regime is maintained within acceptable limits. The wetland constraints identified in this DWSP should maintain the natural hydrologic regime within these acceptable limits. Therefore, groundwater withdrawal scenarios developed using the steady-state groundwater models and the long-term average wetland drawdown constraints developed for this planning process should provide water supplies during the 1-in-10-year drought while protecting the dominant assemblage of plant and animal species.

The technical basis for the wetland constraints is covered in detail in other publications (CH2M HILL 1997g, 1998c). Wetland drawdown criteria for Water 2020 were set based on a detailed review of published literature, reports and other available information related to wetland hydrology; the relationship between hydrology and ecological values; and the effect of hydrologic alteration under three broad categories:

- Characteristic hydrologic regime of major wetland types
- Effects of altered hydrologic regime on wetland structure and function
- Wetland hydrologic impact triggers

The review showed that wetland systems in Florida differ widely in their hydrologic regime characteristics; however, they can be arrayed along a hydrologic gradient, of deeply flooded to seasonally moist, based on the ranges of their respective hydrologic regime characteristics (depth, duration, frequency, and seasonality of flooding). Also within a given wetland type there is a range of variation in observed depth, duration, frequency, and seasonality of flooding. Using the hydrologic regime characteristics, the maximum allowable long-term average drawdown values were set for each wetland type for long-term steady-state conditions. The drawdown values were set at levels that prevent significant change in the dominant plant and animal species present in the wetland, thus preserving the type, nature, and function of the wetland. By definition, the criteria prevent a successional change in the biological community whereby dominant species are replaced by other species characteristic of a drier community type. These maximum allowable drawdown values were adopted as the wetland constraint values for *Water 2020* by the Water Resources Constraints Subgroup.

MFLs for Springs and Surface Water Bodies

MFL constraints protect sensitive springs and water bodies. MFLs are long-term hydrologic statistics used to define a threshold (i.e., the minimum acceptable) hydrologic regime which allows for consumptive

use while protecting the water resources and the ecology from significant harm. MFLs are composed of a water level or flow (how much), duration (how long), and return interval (how often). The actual water levels or flows of the water system will fluctuate above, among, and below the MFLs during extreme wet, normal rainfall, and extreme drought periods, respectively. For a planning-level analysis, MFLs can be represented in decision models by (1) the formal, established MFL values adopted by SJRWMD and (2) general screening levels or flows used to protect any water body of concern for which there is no presently established MFL.

For example, the east-central Florida groundwater flow model includes 23 springs. Only eight of these springs have established minimum flows. The spring discharge constraint on these springs is the established MFLs (Rao and Clapp 1996). The other 15 springs included in the model do not currently have an established minimum flow. For these springs, a minimum flow constraint limiting the flow decrease to a 15 percent reduction of the long-term median flow value was included in the analyses.

Most SJRWMD-adopted lake MFLs include three levels: (1) the minimum frequent high, (2) the minimum average, and (3) the minimum frequent low. For this planning-level analysis, the minimum average level is used as a water resource constraint. In addition, a minimum level of 0.5-foot reduction in the historic average level was used for other sensitive lakes identified by SJRWMD. This screening level constraint was comparable to the average reduction allowed on lakes with established MFLs. These lake-level constraints are applied in a manner similar to the wetland constraints previously discussed. That is, the long-term lake drawdown constraints are applied to the steady-state groundwater modeling of water supply withdrawals. For planning-level purposes, maintaining long-term lake drawdown limits within these values should provide adequate protection of the lake systems under the full range of hydrologic conditions, including periodic droughts such as the 1-in-10-year drought.

Water Quality

The groundwater quality constraint was developed to limit changes in groundwater quality that would occur as a result of increased withdrawals of fresh groundwater. These limits were set to prevent increased treatment costs for users resulting from water quality changes. This constraint is generally more limiting than a point at which unacceptable adverse impacts to the water resources and related natural systems would occur.

The decision-modeling process incorporated constraints that allow groundwater quality to increase in chloride concentration up to 250 mg/L in areas where the current concentration is lower than 250 mg/L. At locations where the chloride concentration already exceeds 250 mg/L, chloride concentrations are not allowed to increase in response to increased groundwater withdrawals.

Allowing wells currently producing water with chloride concentrations less than 250 mg/L to produce concentrations no greater than 250 mg/L provides some assurance that a certain type of interference related to water quality degradation with existing legal uses will not occur. Allowing wells currently producing chloride concentrations of 250 mg/L or greater to experience no increase in chloride concentration was included as a constraint to minimize additional degradation of groundwater quality in areas already experiencing marginal drinking water quality in the native groundwater.

This constraint had no significant impact in the decision-modeling process in Work Group Area I. However, in the modeling process, this constraint has proven to have a noticeable impact on existing wellfield production in coastal Volusia County. This has resulted in a renewed interest in the feasibility of developing brackish groundwater desalting facilities in the area, possibly in association with existing wellfields. Using the decision model to assess this feasibility requires relaxing the water quality constraint.

The groundwater quality constraint was not designed to address the development of brackish groundwater in association with desalting. To determine the feasibility of the development of brackish groundwater for desalting, SJRWMD has been guided by the information included in CH2M HILL 1997f, 1998a, and 1998b. These documents identify techniques that can be utilized to design brackish groundwater wellfields that will produce sustainable quantities of suitable quality groundwater, available treatment techniques, and associated costs. Application of these technologies is not addressed in the *Water 2020* Constraints Handbook (CH2M HILL 1998d).

DWSP allows for increases in salinity to support reasonable-beneficial uses provided unacceptable adverse impacts to water quality, wetland and aquatic systems, and existing legal uses will not occur. This guideline has been applied whether the existing condition of the groundwater withdrawn is fresh or brackish. The planning-level approach used to deal with groundwater quality changes in DWSP could be more stringent in

some cases than that resulting from a case-by-case determination made in the consumptive use permitting process. Conclusions reached in DWSP should not be interpreted as a final determination or application of SJRWMD's consumptive use permitting criteria.

Application of Water Resource Constraints in Work Group Areas IA, III, IV, and V

Water resource constraints were applied differently in the water supply planning process in Work Group Areas IA, III, IV, and V than in Work Group Areas I and II. The differences arise primarily because water use complexities in these work group areas are not as significant as in Work Group Areas I and II. Although groundwater models were used to project the magnitude of water level declines in all work group areas, groundwater and economic optimization models were linked to these groundwater models only in Work Group Areas I and II.

No additional significant fresh groundwater withdrawals have been identified as source options in Work Group Area IA. Therefore, no specific applications of water resource constraints in association with fresh groundwater withdrawals were necessary in this work group area. Brackish groundwater has been identified as a source option in this work group area, but because SJRWMD's recommendations concerning brackish groundwater development include recommended well spacings and withdrawal rates designed to avoid unacceptable adverse impacts to water quality, wetland and aquatic systems, and existing legal uses, no additional specific applications of the water resource constraints were performed.

In Work Group Areas III and V, the water resource constraints were applied by comparing model-projected groundwater level declines to the water resource constraints in an effort to identify areas where unacceptable adverse impacts to water quality, wetland and aquatic systems, and existing legal uses would occur. The results of this effort generally confirmed the conclusions reached in SJRWMD's *Water Supply Assessment: 1998* (Vergara 1998). These conclusions indicate that proposed increases in groundwater withdrawals are likely to cause unacceptable adverse impacts to some wetlands.

In Work Group Area IV, the only applicable water resource constraint was the interference with existing legal uses constraint. It was applied only to establish that interference with existing legal uses occurred during times of peak seasonal groundwater withdrawals associated with peak crop irrigation periods and low rainfall periods.

Alternative Development and Evaluation

For the smaller work group areas (IA, III, and V), options for each individual water supply utility were developed and evaluated by the work group. Any array of sustainable options is identified as a water supply alternative for that work group, and feasible alternatives are identified in DWSP.

Because of the large number of individual public water supply utilities (71 in Work Group Area I alone) and the hydrologic interaction of existing and proposed groundwater withdrawals, evaluating individual water supply options for each service area is not practical for Work Group Areas I and II. Therefore, DWSP focuses on developing and assessing a number of areawide water supply alternatives or scenarios for these work group areas. The areawide alternatives considered generally involve developing one or more water supply sources and applying optimization models to determine whether the alternative can feasibly meet DWSP goals. If the alternative proved feasible, the least costly combination of water supply facilities needed to implement the alternative was identified.

SJRWMD has concluded that public supply utilities can distribute the costs of regional water supply alternatives to their user base while remaining economically competitive. However, agricultural self-supply users have much less ability to do so. In addition, public supply accounts for the major portion of the projected water supply demand increases through 2020. Therefore, water supply alternatives evaluated to date using SJRWMD's optimization models have been evaluated primarily for public supply utilities. These evaluations have been performed for Work Group Areas I and II only. This should not be interpreted to mean that non-public supply water users should not participate financially in the development of alternative water supplies. However, it is likely that the greatest contributions of these users will be through participation in water conservation and reuse projects and not through the development of naturally occurring alternative sources.

Cost Estimates and Economic Criteria

Several water supply alternatives have been identified for Work Group Areas I and II. Conceptual, planning-level cost estimates have been developed for each feasible alternative identified, as well as a description of the advantages and disadvantages associated with each.

The conceptual, planning-level cost estimates for all work group areas use the same criteria in order to provide comparable cost estimates. The water

supply cost estimates allow a relative comparison of the total cost for each alternative considered. To ensure this internal comparability, the following cost-estimate and economic criteria were established:

- Construction cost
- Capital cost
- Operation and maintenance cost
- Equivalent annual cost
- Unit production cost

The glossary defines each of these cost parameters. These parameters, which are expressed in constant 1996 dollars, have served as the cost basis throughout SJRWMD's planning process. *Total capital costs* consist of the sum of *construction costs, nonconstruction capital costs, land costs,* and *land acquisition costs,* if applicable. Nonconstruction capital costs are calculated as 45 percent of the estimated construction costs. These costs incorporate permitting, administration, engineering design services during construction, construction contingencies, and other miscellaneous costs associated with constructing facilities. Land acquisition costs were calculated as 25 percent of the land costs.

Equivalent annual costs, which account for all expenditures, are an estimate of life-cycle costs and are a function of the total capital costs, the expected life of the constructed facilities, the time value of money, and annual *operation and maintenance costs*. These cost estimates aid in comparing alternatives with differing economic characteristics. For DWSP, the time value of money equals 7 percent per year.

The *unit production cost* equals the equivalent annual cost divided by the annual finished water production, expressed in dollars per 1,000 gallons. This final cost parameter provides the single most meaningful comparison of the relative cost of potential water supply alternatives.

Because these cost criteria were used in all economic calculations, the relative cost between alternatives is comparable. However, the unit production costs presented here are not necessarily directly comparable to unit production costs developed in other investigations. To be considered comparable, cost estimates must use the same economic criteria.

ESTABLISHMENT OF MINIMUM FLOWS AND LEVELS

BACKGROUND

SJRWMD has been engaged in a districtwide effort to develop MFLs for protecting priority surface water bodies, watercourses, associated wetlands, and aquifers from significant harm caused by water withdrawal. MFLs provide an effective tool to assist in sound water management decisions that prevent significant adverse impacts to the water resources or ecology of the area.

There are numerous SJRWMD initiatives associated with setting MFLs. These include the following:

- Developing districtwide lake and stream classification systems and databases
- Identifying priority water bodies for setting MFLs
- Setting minimum levels for priority aquifers and lakes, and MFLs for priority springs, streams, and rivers
- Performing applied research to support the development of MFLs
- Monitoring waters levels, hydrology, soils, and biological communities to verify that established MFLs are protecting the water resources

SJRWMD implements established MFLs primarily through its Water Supply Planning, Consumptive Use Permitting and Environmental Resource Permitting Programs.

Statutory and Regulatory Framework

The Florida Water Resources Act (Chapter 373, *FS*) and the Water Resource Implementation Rule (Chapter 62-40, *F.A.C.*, formerly the State Water Policy) provide the basis for establishing MFLs. Chapter ;373, *FS*, and Chapter 62-40, *F.A.C.*, explicitly include provisions for setting such flows and levels.

Florida Water Resources Act

Chapter 373, *FS*, requires the WMDs to establish minimum flows for both ground and surface waters and minimum levels for surface watercourses below which significant harm to the area's water resources or ecology would result. In addition, Chapter 373

- Mandates SJRWMD to set MFLs for the Wekiva River System by March 1, 1991—Subsection 373.415(3)
- Declares that a policy of the Legislature is the preservation of natural resources, fish, and wildlife—Paragraph 373.016(3)(g)
- Specifies that the WMDs must provide information concerning MFLs to local governments for development and revision of comprehensive plans—Subsection 373.0391(2)

Water Resource Implementation Rule

Chapter 62-40, *F.A.C.*, highlights the state's approach to water management (Rule 62-40.110, *F.A.C.*). WMD programs are required by Subsection 373.103(1), *FS*, to be consistent with Chapter 62-40, *F.A.C.*

Rule 62-40.310(4)(a), *F.A.C.*, directs the establishment of MFLs to protect water resources and the environmental values associated with marine, estuarine, freshwater, and wetlands ecology.

MFLs Program

The SJRWMD MFL program addresses all the requirements expressed in the previously referenced sections of the Florida Water Resources Act and the Water Resource Implementation Rule.

SJRWMD intends to continue the following efforts:

- Identify, prioritize, and schedule water bodies for setting MFLs
- Perform data collection and research needed to support establishing scientifically sound MFLs
- Perform more-detailed investigations and studies to established MFLs for priority water bodies
- Perform ongoing monitoring and periodic re-evaluation of MFLs
- Develop and refine groundwater and surface water models, including developing an interface between ground and surface water models where appropriate, to predict if water withdrawals will cause levels and flows to fall below established MFLs
- Provide information about MFLs to local governments for their comprehensive planning

Priority-Setting Process

In accordance with the requirements of Section 373.042, *FS*, SJRWMD has established a list of priority ground and surface waters for which MFLs will be set. This priority list is based upon the importance of waters to the region and the existence of or potential for significant harm to the water resources or ecology of the region. As part of determining the priority list, the following factors are considered:

- Whether the existing or projected demand for water in the area is sufficient to meaningfully affect flows and/or levels of the surface water or groundwater
- Whether any water supply development is planned in the area that may adversely affect regionally significant environmental resources
- Whether the system includes regionally significant environmental resources
- Whether the area is currently experiencing or is expected to experience stress resulting from chronic low groundwater or surface water levels or low surface water flows
- Whether historic hydrologic records (flows and/or levels) are available to allow statistical analysis and calibration of computer models when selecting particular water bodies in areas with many water bodies
- The proximity of MFLs already established for nearby water bodies

Establishment of Minimum Flows and Levels for the Region

SJRWMD's MFLs approach is designed to be applied to lakes, rivers, springs, isolated wetland systems, and aquifers. The approach assumes that alternative hydrologic regimes exist that are less than historic or optimal, but that will protect the structure and functions of aquatic and wetland resources from unacceptable harm. For instance, an historic condition could consist of an unaltered river or lake system with no withdrawal from local groundwater or surface water sources. A new hydrologic regime is associated with each increase in consumptive use, from very small withdrawals that have no measurable effect on the historic regime to very large withdrawals that markedly lower the long-term hydrologic regime. A threshold hydrologic regime exists that is lower than historic, but which protects the water resource and ecology of the system from unacceptable harm. Conceptually, the threshold regime,

resulting primarily from consumptive use withdrawals, will have lower highs and lower lows compared to the historic regime.

The purpose of MFLs is to define this threshold hydrologic regime and allow for consumptive use while protecting the water resources and ecology from unacceptable harm. Thus, MFLs do not represent historic, optimal, or necessarily desirable hydrologic conditions, but rather represent minimum acceptable hydrologic conditions.

Development of Surface Water MFLs

SJRWMD bases its guidelines for determining MFLs on a two-stage statistical classification approach. The first stage is a hydrologic classification based on soil and basin variables. The second stage incorporates an ecological refinement that addresses the biotic health of the water resource and related natural system.

Hydrologic Assessment. The first stage, a hydrologic classification based on soil and basin variables, provides the following:

- Information for water budget model development
- A mechanism for incorporating related information
- A set of lake classes for the second level ecological analysis

Ecological Refinement. The second stage of the classification incorporates an ecological refinement that addresses the biotic health of the water resource and related natural system. SJRWMD developed a multiple flows and levels approach, where the MFLs consist of hydrologic statistics for setting minimum stream flows and lake levels. Multiple minimum levels define the minimum hydrologic regime that will prevent significant harm.

Ecologically robust criteria that protect important system structures or ecosystem functions over the range of high, average, and low water events help determine MFLs. These MFLs assimilate a series of ecological thresholds used with output from hydrologic computer simulation models, to evaluate potential environmental impacts to the ecology of aquatic and wetland habitats over a long time frame (typically on the order of 30 years).

Surface Water Hydrologic Regime. The threshold hydrologic regime can be defined by a series of up to five MFLs:

- Minimum Infrequent High
- Minimum Frequent High
- Minimum Average

- Minimum Frequent Low
- Minimum Infrequent Low

MFLs are not points chosen from a hydrograph. Instead, the MFLs are long-term hydrologic statistics composed of a water level or flow (how much), duration (how long), and return interval (how often). Water budget flow data are needed for developing, and verifying, the long-term (30+ years) water budget models needed for implementing these MFLs. The actual water levels or flows of the water system will fluctuate above, among, and below the recommended MFLs during extreme wet, normal rainfall, and extreme drought periods, respectively.

Minimum Infrequent High

The Minimum Infrequent High flow or level involves inundating the riparian wetlands at a frequency sufficient to support important ecological processes such as floodplain maintenance functions and the transport of sediment, detritus, nutrients, and propagules. Flooding upland plant communities is not required.

Minimum Frequent High

The Minimum Frequent High flow or level must serve the needs of surface water biota that use the floodplain habitat for feeding, reproduction, and refugia. Flooding should be of sufficient magnitude, duration, and frequency to maintain the floodplain plant community structure and composition adapted to periodic inundation. This level and flow should occur annually or biannually for several weeks.

Minimum Average

The Minimum Average flow or level is considered the minimum that must be sustained for extended periods to maintain riparian hydric soils and to impede the encroachment of upland plant species into the wetland plant community. This MFL should not restrict typical recreational uses of the surface water.

Minimum Frequent Low

The Minimum Frequent Low flow or level is the minimum level that should occur during mild droughts. When this water level and flow does not occur too frequently or for too great a duration, there is no significant harm to lotic and floodplain communities because this level provides the drawdown condition required for regeneration by many floodplain plant species. This level may limit some recreational potential of the stream or lake.

Minimum Infrequent Low

The Minimum Infrequent Low flow or level is a very low and infrequent flow or level that may occur for short durations during more extreme droughts. Significant ecological impacts may occur rapidly if the water flow or level falls below the specified values or occur more frequently or for durations longer than specified. To prevent the system from deteriorating to a point from which it cannot recover, the duration and frequency of this level, as a result of man's activities, must be limited.

Implementation of Surface Water MFLs

The actual implementation of MFLs typically requires the use of hydrologic water budget computer models to generate long-term hydrologic statistics. Using these models in water supply planning and permitting, hydrologic statistics under proposed water withdrawal scenarios can be evaluated to determine if the proposed water level condition will fall below established MFLs.

Minimum Groundwater Levels

Minimum groundwater levels are typically not expressed as absolute water table levels or potentiometric heads at specific locations because of the dynamic nature of groundwater levels in response to recharge and withdrawal. Instead, such levels are defined by establishing impact thresholds (constraints) for listed criteria. This consideration is especially relevant when minimum groundwater levels are related to water supply planning.

An infinite combination of groundwater withdrawal points and quantities is possible. The various potential withdrawal scenarios may yield highly differing quantities of water before triggering a constraint. The same withdrawal quantities at different locations may result in different levels of drawdown, and the same levels of drawdown at different locations may impact the specified constraint to differing degrees. Furthermore, the degree of impact from withdrawals at one location may be affected by the occurrence or nonoccurrence of withdrawals at various other points. Therefore, it is not generally feasible to set definite minimum groundwater levels without specifying a particular withdrawal scenario. For this reason, the application of the water resource constraints rather than minimum groundwater levels is generally used in the water supply planning process. In a few cases, minimum groundwater levels have been established by rule as a consequence of minimum flows being established for springs or minimum levels being established for lakes.

SJRWMD assessed groundwater availability on the basis of how much water can be withdrawn without resulting in unacceptable adverse impacts to the water resources, including wetland and aquatic systems. This determination included any groundwater minimum levels adopted by rule, along with the other water resource constraints that address groundwater quality and other water resource impacts.

MFLs Reassessment Process

MFLs are established based on the data available at the time. SJRWMD plans to conduct periodic reassessment of the adopted MFLs based on consideration of the significance of particular MFLs in water supply planning and the relevance of new data that may come available. To that end, SJRWMD plans to

- Collect additional data
- Recalibrate models
- Develop and test criteria
- Compare projected scenarios with actual events

The processes used in this phase generally resemble those for setting initial MFLs. This phase may substantiate earlier work or modify previously set MFLs.

MFLs Established to Date

A complete list of established MFLs is provided in Appendix C. MFLs currently adopted by rule include

- Surface watercourses
  - Wekiva River at State Road 46
  - Blackwater Creek at State Road 44
- Surface waters
  - Sixty-seven lakes
  - Blue Cypress Water Management Area
- Aquifers
  - Eight springs in the Wekiva River Basin (minimum spring flow and a level in the aquifer at the springhead)

Proposed MFLs which are currently the subject of rulemaking include Lake Washington and the St. Johns River downstream of Lake Washington in Brevard County, Blue Spring in Volusia County, Taylor Creek downstream of Taylor Creek Reservoir in Osceola and Orange

counties, and 12 lakes and/or wetlands, eight of which are in priority water resource caution areas.

Water Supply Planning Constraints and MFLs

Sustainable sources must be able to supply the needed amounts of water, as defined by projected demands, without causing unacceptable adverse impacts to water quality, wetland and aquatic systems, and existing legal uses. Unacceptable adverse impacts were defined in this planning process as impacts which exceed water resource constraints. These constraints serve to limit withdrawals to a sustainable condition that is not expected to result in unacceptable adverse impacts. The initial water resource constraint used was that established by adopted MFLs. The development of other water resource constraints, and the analyses associated with them, occurred on a regional planning-level basis, using data that were available or developed for the planning area as a whole. This process was not performed at the same level of detail as that used when a proposed water use is reviewed in the context of SJRWMD's consumptive use permitting program. While DWSP water resource constraints and associated analyses are conceptually consistent with the consumptive use permitting environmental and existing legal uses protection criteria and the permit application review process, they should not be interpreted as a final determination or application of the consumptive use permitting criteria.

As discussed elsewhere in this plan, the SJRWMD water supply planning process defines unacceptable adverse impacts as the limits of water resource impacts beyond which unacceptable adverse impacts to water quality, wetland and aquatic systems, and existing legal uses would occur (as defined by a constraint or MFLs). SJRWMD used the following four water resource constraints:

- Established MFLs
- Impacts to wetland and aquatic systems
- Impacts to groundwater quality
- Impacts to existing legal uses of water

Recovery and Prevention Strategy

Subsection 373.0421(2), *FS*, requires that a recovery or prevention strategy be developed if the existing flow or level in a water body is below, or within 20 years is expected to fall below, established MFLs. When MFLs for a water body/system are not being met or are not expected to be met

in the future, SJRWMD will first examine the established MFLs in light of any newly obtained scientific data or other relevant information to determine whether the MFL should be reassessed. If no reassessment is necessary, a number of management tools are available to restore the water body/system to meet MFLs, including the following:

- Developing additional supplies
- Implementing structural controls and/or augmentation systems to raise levels or flows in water bodies
- Reducing consumptive use permit (CUP) allocations
- Requiring use of alternative water supply sources

SJRWMD focuses on prevention. SJRWMD's prevention strategy involves developing and implementing DWSP and considering potential impacts to MFLs in the permitting process. Water supply options identified in this DWSP have been evaluated on a regional planning-level basis for effects on established MFLs and were identified, in part, because implementing the options should not reduce flows or levels in any water body below established minimums. SJRWMD plans to prevent flows and levels from falling below established MFLs by implementing DWSP and continuing to conduct a more detailed, site-specific analysis in consumptive use permitting actions to confirm that MFLs are protected.

WATER SUPPLY DEVELOPMENT COMPONENT

This portion of DWSP has been prepared to meet the requirements of Paragraph 373.0361(2)(a), *FS*. This paragraph requires that DWSP include the following:

1. A quantification of the water supply needs for all existing and reasonably projected future uses within the planning horizon. The level-of-certainty planning goal associated with identifying the water supply needs of existing and future reasonable-beneficial uses shall be based upon meeting those needs for a 1-in-10-year drought event.
2. A list of water source options for water supply development, including traditional and alternative sources, from which local government, government-owned and privately owned utilities, self-suppliers, and others may choose, which will exceed the needs identified in subparagraph 1.
3. For each option listed in subparagraph 2, the estimated amount of water available for use and the estimated costs of and potential sources of funding for water supply development.
4. A list of water supply development projects that meet the criteria in s. 373.0831(4).

Based on the definition of water supply development included in Subsection 373.019(21), *FS*, SJRWMD considers a *water supply development project* one that contributes to the planning, design, construction, operation, and maintenance of public or private facilities for water collection, production, treatment, transmission, or distribution for sale, resale, or end use.

This section of DWSP focuses on future water supply needs and the water supply sources and facilities required to meet the projected needs through 2020. SJRWMD developed water supply needs estimates for a number of use categories including public supply and agricultural irrigation, the largest use categories within SJRWMD. Water supply needs for 2020 are summarized by county as well as by use category. The impact of the 1-in-10-year drought is also included.

SJRWMD anticipates the most significant growth in water supply needs relates to expected growth in public supply demands. This is particularly true in priority water resource caution areas (Figure 1). This section of DWSP identifies an array of traditional and alternative water supply source options associated with each work group area as well as estimated costs of the needed facilities and funding sources. Except where

specifically noted, DWSP does not identify water supply source options for water use categories other than public supply because existing and reasonably anticipated sources of water for those uses are considered adequate. DWSP may be amended in the future to identify water supply source options for other water use categories should those categories experience significant increases in water needs.

WATER SUPPLY NEEDS

Demand Projections

SJRWMD determined water supply needs based on the requirements of Subparagraph 373.036(2)(b)4a, *FS*, following guidelines and conventions developed by the Water Planning Coordination Group (WPCG). Existing legal uses of water for 1995, the base year, and anticipated reasonable-beneficial needs (demands) for 2020 have been estimated for the following water use categories:

- Public supply
- Domestic self-supply and small public-supply systems
- Commercial/industrial/institutional self-supply
- Thermoelectric power generation self-supply
- Agricultural self-supply
- Recreational self-supply

The SJRWMD goal in projecting water demands was to estimate projected needs mutually acceptable to water users and SJRWMD and those which appear to be reasonable based on the best information available. The methodology used to develop estimates of existing and projected demand is described in SJRWMD's *Water Supply Assessment: 1998* (Vergara 1998). Demand projections in all use categories are based on the assumption that current efforts to promote water conservation and the use of reclaimed water will continue through 2020.

SJRWMD developed demand projections for a 1-in-10-year drought for the public supply, domestic self-supply and small public supply systems, agricultural self-supply, and recreational self-supply categories. Drought events do not significantly impact demands in the remaining categories, because use in these categories is related primarily to processing and production needs.

Public suppliers were asked to provide their best estimates of projected demand, as well as estimates of their service area population in 2020. SJRWMD made its own demand projections based on estimates of

population growth within the service area boundaries of public suppliers. Suppliers were asked to review their projections if the difference between the two sets was greater than 20 percent. In many cases, suppliers submitted revised projections more consistent with the population-based projections. However, the user-based projections remain higher in total than the SJRWMD population-based projections.

The projections developed by each utility were used as the initial basis for projecting impacts to water resources and developing work group area water supply plans. SJRWMD is committed to a planning process that involves all major water users and seriously considers the water supply plans of these users.

Summary of SJRWMD Water Demand for 1995 and 2020

Total water demand for 1995 and 2020 for SJRWMD is projected to increase from 1,371 mgd in 1995 to 1,679 mgd (population-based projections) or 1,863 mgd (user-based projections) in 2020 (Table 1). This growth represents an increase of 22 percent, assuming SJRWMD's population-based rate of growth, or an increase of 36 percent using the user-based projections. Table 2 provides additional water use information relative to source (groundwater or surface water) and projected demand growth by county.

Public supply accounts for the major portion of the projected demand increase, accounting for about 80 percent of the increase in use under either demand projection scenario. Public supply demand is projected to increase by 52 percent based on the population-based demand projections (Table 3). The difference between the population-based projections and the user-based projections, 184 mgd, is well within the level of uncertainty inherent in demand projections.

Although this uncertainty in public supply demand projections is significant, its impact on the planning process relates primarily to the planning horizon. If the higher user-based estimates are used as the basis for planning and these estimates prove correct, then facilities identified in this DWSP will be needed by 2020 to fully meet projected water supply needs. If the higher user-based estimates are used and the lower population-based estimates prove correct, then all of the facilities identified in this report will not be fully needed until sometime beyond 2020.

If the lower population-based needs estimates are used to identify water supply alternatives, and the higher user-based needs estimates prove

Table 1. Total water use for 1995 and 2020 for the St. Johns River Water Management District (SJRWMD)*

County	1995 Actual Use Total (mgd)	2020 Demand Projections (mgd)			
		Average Rainfall Year		1-in-10-Year Drought	
		Population-Based Total	User-Based Total	Population-Based Total	User-Based Total
Alachua	35.34	51.37	55.40	54.46	57.65
Baker	4.63	5.42	5.80	5.77	5.99
Bradford	0.60	1.10	1.10	1.13	1.11
Brevard	194.18	184.55	190.89	196.45	195.91
Clay	21.65	31.45	32.98	32.99	34.45
Duval	144.12	179.99	202.73	188.37	212.17
Flagler	15.92	20.95	23.82	22.76	24.61
Indian River	259.66	269.60	281.25	324.78	283.00
Lake	108.19	156.11	191.13	175.35	195.66
Marion	35.05	50.70	54.95	54.20	57.44
Nassau	61.59	70.56	75.09	71.91	75.91
Okeechobee	14.25	13.42	13.42	16.17	13.43
Orange	155.64	227.35	258.88	243.67	271.61
Osceola	16.56	16.05	16.05	17.57	16.05
Polk	3.55	7.11	7.11	8.58	7.18
Putnam	82.73	109.00	110.44	113.63	111.11
Seminole	69.87	102.72	116.50	109.09	122.40
St. Johns	50.99	60.38	80.72	68.48	82.96
Volusia	96.64	121.22	144.26	132.39	150.44
SJRWMD Total	1,371.16	1,679.05	1,862.52	1,837.75	1,919.08

*Figures include only water withdrawn in SJRWMD.

correct, then the identified facilities will not be adequate to meet 2020 needs and additional sources of supply and facilities will need to be identified and built before 2020. To avoid this situation and to comply with the statutory directive to identify water supply sources that meet or exceed water supply demands, SJRWMD has chosen to use the higher user-based projections for its planning purposes at this time. SJRWMD plans to monitor the actual water use that occurs compared to the

Table 2. Total water demand for 1995 and 2020 for the St. Johns River Water Management District (SJRWMD) by source

County	1995 Actual Use (mgd)			2020 Demand Projections (mgd)												Percent Change 1995 to 2020 (Average year)	
				Average Year						1-in-10 Year Drought							
				Population-Based			User-Based			Population-Based			User-Based				
	Ground	Surface	Total	Ground	Surface	Total	Ground	Surface	Total	Ground	Surface	Total	Ground	Surface	Total	Population	User
Alachua	34.55	0.79	35.34	50.16	1.21	51.37	54.19	1.21	55.40	53.19	1.27	54.46	56.44	1.21	57.65	45	57
Baker	3.77	0.86	4.63	4.56	0.86	5.42	4.94	0.86	5.80	4.84	0.93	5.77	5.13	0.86	5.99	17	25
Bradford	0.60	0.00	0.60	1.10	0.00	1.10	1.10	0.00	1.10	1.13	0.00	1.13	1.11	0.00	1.11	83	83
Brevard	164.06	30.12	194.18	146.73	37.82	184.55	153.07	37.82	190.89	156.34	40.11	196.45	157.08	38.83	195.91	-5	-2
Clay	21.13	0.52	21.65	30.60	0.85	31.45	32.13	0.85	32.98	32.12	0.87	32.99	33.60	0.85	34.45	45	52
Duval	143.06	1.06	144.12	178.55	1.44	179.99	201.29	1.44	202.73	186.89	1.48	188.37	210.73	1.44	212.17	25	41
Flagler	14.70	1.22	15.92	18.15	2.80	20.95	21.02	2.80	23.82	19.88	2.88	22.76	21.81	2.80	24.61	32	50
Indian River	87.23	172.43	259.66	93.30	176.30	269.60	104.95	176.30	281.25	108.51	216.27	324.78	106.70	176.30	283.00	4	8
Lake	92.40	15.79	108.19	133.58	22.53	156.11	168.60	22.53	191.13	150.43	24.92	175.35	173.13	22.53	195.66	44	77
Marion	33.18	1.87	35.05	48.01	2.69	50.70	52.26	2.69	54.95	51.37	2.83	54.20	54.75	2.69	57.44	45	57
Nassau	56.87	4.72	61.59	64.24	6.32	70.56	68.77	6.32	75.09	65.49	6.42	71.91	69.59	6.32	75.91	15	22
Okeechobee	14.25	0.00	14.25	13.42	0.00	13.42	13.42	0.00	13.42	16.17	0.00	16.17	13.43	0.00	13.43	-6	-6
Orange	136.44	19.20	155.64	215.92	11.43	227.35	247.45	11.43	258.88	230.48	13.19	243.67	260.18	11.43	271.61	46	66
Osceola	6.57	9.99	16.56	6.06	9.99	16.05	6.06	9.99	16.05	6.98	10.59	17.57	6.06	9.99	16.05	-3	-3
Polk	3.31	0.24	3.55	6.54	0.57	7.11	6.54	0.57	7.11	7.88	0.70	8.58	6.61	0.57	7.18	100	100
Putnam	32.67	50.06	82.73	50.42	58.58	109.00	51.86	58.58	110.44	54.82	58.81	113.63	52.53	58.58	111.11	32	33
Seminole	68.30	1.57	69.87	100.35	2.37	102.72	114.13	2.37	116.50	106.64	2.45	109.09	120.03	2.37	122.40	47	67
St. Johns	48.73	2.26	50.99	56.32	4.06	60.38	76.66	4.06	80.72	64.32	4.16	68.48	78.90	4.06	82.96	18	58
Volusia	90.81	5.83	96.64	114.26	6.96	121.22	137.30	6.96	144.26	124.40	7.99	132.39	143.48	6.96	150.44	25	49
SJRWMD Total	1,052.63	318.53	1,371.16	1,332.27	346.78	1,679.05	1,515.74	346.78	1,862.52	1,441.88	395.87	1,837.75	1,571.29	347.79	1,919.08	22	36

Note: Figures include only water withdrawn in SJRWMD.

Table 3. Total water demand for 1995 and 2020 for the St. Johns River Water Management District by category of use

Category	1995 Actual Water Use (mgd)			2020 Water Use (mgd)									Percent Change 1995 to 2020*		Percent of Total 2020 Change*	
				Average Rainfall Year						1-in-10-Year Drought						
				Population-Based			User-Based			Population-Based						
	Ground	Surface	Total	Ground	Surface	Total	Ground	Surface	Total	Ground	Surface	Total	Average	1-in-10	Average	1-in-10
Public supply	444.61	12.15	456.76	677.45	16.81	694.26	860.92	16.81	877.73	718.12	17.82	735.94	52	61	77	60
Domestic and other small public supply	71.98	0.00	71.98	64.84	0.00	64.84	64.84	0.00	64.84	68.73	0.00	68.73	–10	–5	–2	–1
Agricultural irrigation	363.58	223.39	586.97	368.45	220.69	589.14	368.45	220.69	589.14	430.76	267.55	698.31	0	19	1	24
Recreational irrigation	68.78	30.35	99.13	107.77	48.67	156.44	107.77	48.67	156.44	110.51	49.89	160.40	58	62	19	13
Commercial/industrial /institutional	96.02	38.14	134.16	102.63	44.19	146.82	102.63	44.19	146.82	102.63	44.19	146.82	9	9	4	3
Thermoelectric power generation	7.66	14.50	22.16	11.13	16.42	27.55	11.13	16.42	27.55	11.13	16.42	27.55	24	24	2	1
Total	1,052.63	318.53	1,371.16	1,332.27	346.78	1,679.05	1,515.74	346.78	1,862.52	1,441.88	395.87	1,837.75	22	34	101	100

Note: Figures include only water withdrawn in the St. Johns River Water Management District.

*Based on population-based projection.

projections made in this DWSP and to revise the projections in future updates of DWSP. For example, if growth projections prove to be too high or additional levels of water conservation or reuse can be achieved on a regional scale, then demand projections can be reduced.

For the remaining use categories, demand shifts are minor (Table 3). The net change in agricultural irrigation demand is expected to be insignificant; changes in acreage and crops in specific locations are expected to balance one another out so that the net change is negligible. Conservation efforts in agriculture are anticipated to result in improved efficiencies at the farm level. However, at this time, no major changes are anticipated in technology that would substantially reduce irrigation needs.

Appendix E provides a detailed breakdown of existing and projected water supply needs, by use category, for each of the 19 counties located in SJRWMD. In addition, individual demand projections have been developed for public supply utilities projected to provide at least 0.25 mgd by 2020. These demand projections served as the basis for groundwater modeling and facilities planning in the work groups.

Traditional and Alternative Water Supply Source Options

Water supply options applicable to this DWSP include these naturally occurring sources:

- Fresh groundwater
- Brackish groundwater
- Surface water
- Seawater

In addition, a number of management techniques can enhance the source of supply, sustain the water resources and related natural systems, or otherwise optimize water supply yield. These techniques include the following:

- Artificial recharge
- Aquifer storage recovery
- Avoidance of the impacts of groundwater withdrawal through artificial hydration
- Water conservation
- Use of reclaimed water
- Water supply systems interconnections

Naturally Occurring Sources

Fresh Groundwater

Fresh groundwater occurs in all three of the aquifer systems in SJRWMD: the Floridan, the surficial, and the intermediate. However, the distribution of fresh groundwater in these aquifer systems is variable. These aquifer systems and this variability in their water quality are described in the Introduction section of this DWSP.

The availability of water for reasonable-beneficial use from these aquifer systems is controlled by the extent to which groundwater withdrawals from these aquifer systems will impact water quality, wetland and aquatic systems, and existing legal uses. The water resource constraints described in the Methods section of this DWSP represent the limits of such impacts that are acceptable to SJRWMD for water supply planning purposes.

The water supply potential of these aquifer systems has been addressed in the *Water 2020* process. Groundwater flow and water quality models and decision models have been used by SJRWMD and the work groups to assess the extent to which groundwater withdrawals, particularly from the Floridan aquifer, can occur in a sustainable manner. Evaluations using these models indicate that some additional fresh groundwater can be developed from the Floridan aquifer in much of SJRWMD. The quantity of additional fresh groundwater that can be developed is dependent on the locations of withdrawals and the rates of withdrawals at those locations. Within much of SJRWMD's priority water resource caution areas, fresh groundwater withdrawal is nearing sustainable limits and alternative sources and/or management techniques will be needed to fully meet future needs without incurring unacceptable impacts to water quality, wetlands and aquatic systems, and existing legal uses.

The availability of fresh groundwater in each work group area is addressed more fully in the work group sections of the Water Supply Development Component of this DWSP.

Brackish Groundwater

Brackish groundwater from the Floridan aquifer is an abundant potential water source in much of the coastal area of SJRWMD and currently meets a portion of the water supply needs for several municipalities, including the City of Melbourne located in Brevard County. However, brackish groundwater is considerably more expensive than fresh groundwater to treat because it requires desalting, and waste concentrate disposal often complicates implementation.

The potential for developing brackish groundwater resources for public supply purposes has been evaluated at a number of sites within the priority water resource caution areas, including potential withdrawal sites located in northern and southern Brevard County, eastern Orange and Seminole counties, north-central Volusia County, and north-central St. Johns County (CH2M HILL 1998a). Treatment requirements and costs have also been investigated for these sites (CH2M HILL 1997f, 1998b).

The results of these investigations indicate that substantial quantities of slightly to moderately brackish groundwater could be developed in the coastal areas. Any long-term withdrawal of significant quantities of brackish groundwater would result in some deterioration in water quality. However, the rate of change in water quality can be controlled by careful wellfield design and operation. Anticipated changes in water quality would not impact treatability. A low-pressure membrane process would be sufficient to treat these brackish groundwater resources.

Although there is abundant brackish groundwater available for development in SJRWMD, prospective developers of this source should consider two challenges that may be encountered in its development. These challenges are (1) impacts on groundwater levels and (2) desalting concentrate management.

Withdrawals of brackish groundwater will result in declines in Floridan aquifer and surficial aquifer water levels. Such declines would contribute to impacts to water resources and must be considered along with declines resulting from freshwater withdrawals in order to avoid unacceptable adverse impacts to the water resources and related natural systems.

Approximately 15 to 20 percent of water withdrawn for desalting would become a waste concentrate containing dissolved constituent concentrations approximately 4.5 to 6 times the raw water concentrations. Environmentally sound and permittable management of this waste concentrate presents an important challenge to the development of significant quantities of brackish groundwater within SJRWMD.

Brackish groundwater from the Floridan aquifer can be blended with freshwater from the intermediate or shallow aquifers, or other available sources, to meet both peak demand and *average day demand*. This technique is currently used by several public supply utilities in SJRWMD and can be expanded further to meet future demands.

Surface Water

Available in relative abundance, surface water is also a potential water supply source. Surface water is currently used in limited quantities to

meet both public supply and agricultural needs. Several surface water systems can potentially supply water to SJRWMD and have been considered in the development of this DWSP. These systems include the following:

- St. Johns River
- Ocklawaha River Basin
- C-1 Canal (in Brevard County)
- Taylor Creek Reservoir (in Osceola and Orange counties)

Estimated maximum potential water supply yield from these surface water sources is summarized in Table 4.

Table 4. Potential surface water supply yields from selected candidate withdrawal points

Candidate Water Supply Withdrawal Point	Estimated Maximum Potential Water Supply Yield (mgd)	Raw Water Quality
St. Johns River near Cocoa	108	Fresh to slightly brackish
St. Johns River near Titusville	143	Fresh to moderately brackish
St. Johns River at Sanford (Lake Monroe)	279	Fresh to moderately brackish
St. Johns River near De Land	351	Fresh to moderately brackish
Upper Ocklawaha River Basin	14	Fresh surface water
Lower Ocklawaha River Basin	107	Fresh, with large groundwater base flow
Taylor Creek Reservoir	20 to 25	Fresh surface water
C-1 Canal (Brevard County)	6 to 11	Fresh to slightly brackish

Note: Water supply yields for the St. Johns River sites are cumulative. The total estimated water supply yield for the St. Johns River upstream from De Land is 351 mgd. The total estimated potential surface water yield from all sources investigated is approximately 500 mgd.

St. Johns River. A previous alternative water supply strategies investigation (CH2M HILL 1996b) identified four possible withdrawal sites located on the St. Johns River (Table 4).

Though the St. Johns River can supply a large quantity of raw water, this water varies both in quantity and quality. The St. Johns River, like most rivers, is subject to floods and droughts. To accommodate these fluctuations, significant amounts of raw and/or finished water storage would be required to ensure a reliable water supply.

None of the St. Johns River candidate withdrawal points identified in the alternative water supply strategies investigation have established MFLs. Because MFLs have not been established for the St. Johns River, the surface water supply availability and yield analysis (CH2M HILL 1997b) included application of an interim withdrawal rule to account for withdrawal restrictions likely to be implemented as part of future MFL consideration. The interim withdrawal rule considers both low-flow maintenance and total maximum diversion rates. The preliminary analysis of water supply development potential was based on the assumption that withdrawal from the river would not be allowed during low-flow periods defined by the 95 percentile flow. This means that no river water withdrawal would be allowed when the river experienced low-flow conditions (5 percent of the time). Also, a maximum instantaneous withdrawal rate of 25 percent of the mean streamflow rate was assumed as the basis for setting a realistic upper limit on potential water supply withdrawal volume.

During low-flow periods, the St. Johns River water is also slightly to moderately brackish. Therefore, the diverted flow would require partial desalting and associated desalting concentrate management. Based on discussions to date with DEP staff, SJRWMD anticipates that desalting concentrate resulting from the treatment process would be discharged to the St. Johns River downstream of the point of withdrawal.

In addition, the need to control disinfection byproducts may increase membrane treatment requirements even further than required for salt removal. With ozone disinfection of brackish waters, bromate formation can be a major concern that could control the amount of diverted water needing membrane treatment, and, therefore, overall water supply development costs.

Surface water is generally more difficult to treat than groundwater because of the inherent flow and raw water quality variability. Given the partial desalting it requires (with associated desalting concentrate management) and the potential additional treatment to control unwanted disinfection byproducts, the St. Johns River is a more difficult and expensive water source than many other river systems.

The City of Melbourne currently obtains a portion of its water supply from Lake Washington, located on the main stem of the St. Johns River. This withdrawal point is considerably upstream from the four identified potential withdrawal points. Because the salinity of the St. Johns River generally tends to increase downstream, Lake Washington water is much less saline than downstream locations. Raw water withdrawn from Lake

Washington meets primary and secondary drinking water standards for dissolved salts and only requires conventional surface water treatment.

Ocklawaha River. Two candidate Ocklawaha River watershed surface water withdrawal sites were considered. The first is within the upper basin and was included in the alternative water supply strategies investigation (CH2M HILL 1996b). An estimate of potential yield was made based on long-term flow records available from Haines Creek, which connects Lake Eustis to Lake Griffin in northern Lake County. Although Haines Creek flow records were used in the preliminary water supply analysis, there is considerable flexibility in the location of the actual water supply withdrawal point. It could be located anywhere in the upper Ocklawaha River Basin in northern Lake County. A potential water supply yield of 14 mgd has been estimated for the upper Ocklawaha River Basin. Although limited in quantity, the raw water is always fresh and only conventional surface water treatment would be required. Desalting would not be required.

Determination of exact treatment requirements will require additional water quality monitoring and treatability testing. The upper Ocklawaha River Basin, as well as other SJRWMD surface waters including the middle St. Johns River, contain blue-green algae, which generates toxins under certain conditions. More needs to be known about the occurrence, distribution, and treatment requirements of these blue-green algae and associated toxins before the upper Ocklawaha River Basin or the middle St. Johns River are developed for public supply. If future treatability studies conclude that any candidate surface water source, including the upper Ocklawaha River Basin, cannot be treated to provide a safe public supply meeting all drinking water standards and rules, then this source will not be considered further for meeting future public supply needs.

SJRWMD plans to develop environmental restoration projects along the Ocklawaha River. The amount, duration, and/or frequency of water needed to meet project restoration goals may affect the amount, duration, and/or frequency of withdrawals from surface water sources for water supply. In most cases, water needs for restoration are still being analyzed and developed. When the SJRWMD Governing Board makes decisions on restoration project plans, it will consider environmental restoration needs and water supply needs and the preliminary estimate of available water supply may be revised.

The second Ocklawaha River site is located in the lower basin just upstream of the St. Johns River. Unique hydrologic factors make this

location favorable for surface water supply development. Inflow to the lower reaches of the Ocklawaha River Basin includes discharge from Silver Springs, located near Ocala, in Marion County. Silver Springs is the largest spring in SJRWMD, with a long-term average discharge of about 876 mgd. It accounts for about 93 percent of spring discharge in the Ocklawaha River watershed and about 60 percent of the total outflow from Rodman Reservoir, located just upstream of the St. Johns River.

The water quality of the lower Ocklawaha River is very good, due in large part to the substantial fresh groundwater contribution of Silver Springs. The water is always fresh and would require only conventional surface water treatment prior to transport and distribution. The combination of good raw water quality and significant base flow makes this an attractive candidate site for surface water supply development. Neither expensive membrane treatment nor raw or finished water storage facilities would be required.

The water supply potential of the lower Ocklawaha River Basin was investigated by Hall (1995). The analysis focused on the environmental impact of withdrawal both to Rodman Reservoir and to the downstream portion of the Ocklawaha River Basin. It was concluded that an environmentally safe water supply yield of at least 107 mgd could be developed. Hall concluded that this water supply yield is environmentally feasible with or without Rodman Reservoir.

The main disadvantage of the lower Ocklawaha River Basin potential withdrawal point is its location relative to areas with significant projected demand growth. Significant and costly finished water transport facilities would need to be constructed to meet identified public supply needs.

Taylor Creek Reservoir. Taylor Creek Reservoir is located in Osceola and Orange counties near the City of Cocoa's Dyal Water Treatment Plant. This reservoir contains freshwater, which is generally of better quality than in the St. Johns River. Taylor Creek Reservoir raw water is always freshwater. The City of Cocoa is currently developing the Taylor Creek Reservoir as a water supply source, and SJRWMD has issued a CUP for water supply withdrawal from Taylor Creek Reservoir. Ultimate potential water supply yield has not yet been established but is likely to be on the order of 20 to 25 mgd. Following adoption of an MFL for Taylor Creek, this analysis can be made.

C-1 Canal. The C-1 Canal watershed is wholly contained within Brevard County and is located near the City of Palm Bay. Currently, all C-1 Canal waters discharge to the Indian River Lagoon through Turkey Creek. An

ongoing SJRWMD re-diversion project will alter the current flow patterns and restore natural discharge patterns as much as practical. The re-diversion project will reintroduce flow into the St. Johns River and reduce freshwater discharge to the Indian River Lagoon.

The C-1 Canal re-diversion project provides an opportunity for developing a limited surface water supply. Investigation of the C-1 Canal as a potential public water supply source has been conducted at the conceptual planning level (CH2M HILL 1999a). This investigation found that a relatively small water supply (from 5.5 to 11 mgd) could be developed at the canal, and available water quality data indicate that the raw water is mostly fresh. However, this water exceeds the secondary drinking water standard for TDS from time to time. This source could be desalted to provide finished water that would meet all drinking water standards, or it could be treated without desalting and blended with an existing freshwater source.

Seawater

Seawater can meet public water supply needs. However, seawater is currently a relatively expensive water supply option compared to other water supply options that have been identified and investigated to meet projected needs in the priority water resource caution areas. Desalting of seawater to meet anticipated public water supply needs would generate a large waste concentrate stream. Environmentally and economically feasible concentrate management solutions will pose significant challenges to implementation of seawater desalting projects.

Because of the relative cost and availability of other less expensive options, seawater desalting is considered as a general option available to all water supply utilities but is not considered among the utility-specific options identified in this plan.

It is reasonable to assume that seawater will be developed as a water supply source within SJRWMD in the future. However, it is unlikely that significant quantities of seawater will need to be developed in SJRWMD before 2020. Seawater desalting technology is continually advancing, and the relative cost between seawater and other alternative public supply sources will likely narrow in the future. Coastal areas are more likely than inland areas to develop seawater resources. Special case situations, such as co-siting a seawater desalting plant with an electric power plant, may make this water supply source competitive with the development of other water supply sources. SJRWMD proposes to investigate the technical, environmental, and economic feasibility of co-siting seawater desalting

facilities with specific electric power plants in association with future water supply planning efforts. This investigation is identified in the Water Resource Development Component of this DWSP.

Management Techniques

Artificial Recharge

Artificial recharge is the replenishment of groundwater by means of spreading basins, recharge wells, or other induced infiltration techniques. Landscape and crop irrigation also induces some artificial recharge, although most applied irrigation water is lost to the atmosphere through evapotranspiration. Source water can be surface water, reclaimed water, or irrigation water.

Managed artificial recharge can be used to help offset aquifer potentiometric surface declines resulting from groundwater withdrawals, thereby effectively increasing available supply. Hydraulically, the most effective artificial recharge techniques are those that maximize emplacement of water in the pumped aquifer(s).

Artificial recharge is currently used in SJRWMD, and this use is expected to increase in the future. Rapid infiltration basins (RIBs) are often used, along with reclaimed water, to provide aquifer recharge. This DWSP accounts for increased uses of RIBs in proportion to increased wastewater production.

Aquifer recharge wells have been used for drainage and lake-level control in the Orlando area since 1905. These wells emplace surface water directly into the Floridan aquifer, thereby increasing available water supply. Current artificial recharge via recharge wells, in Work Group Area I, is estimated to be between 39 and 52 mgd (CH2M HILL 1997d). Therefore, existing recharge wells provide a significant quantity of artificial recharge.

It is technically possible to substantially increase artificial recharge in Work Group Area I by construction of additional artificial recharge wells. However, existing regulatory policy discourages the construction of new artificial recharge wells. Current policy will not permit the emplacement of additional water in the Floridan aquifer unless all primary and secondary drinking water standards are met at the wellhead, which means only drinking water can be emplaced. This criterion is economically infeasible to meet in urban drainage and lake-level control applications.

Increased artificial recharge, via new recharge wells, was not included as a factor in the decision-modeling process in Work Group Area I. However, an artificial recharge demonstration project is proposed to further investigate the potential for use of new recharge wells to increase available fresh groundwater supplies.

Aquifer Storage Recovery (ASR)

ASR systems store treated drinking water underground in a suitable aquifer when sufficient water production capacities are available. The aquifer stores this treated water for later withdrawal and distribution, when water supply demands exceed the water supply. Although not a direct water source, ASR can be used to help manage and develop water supplies.

ASR has two major potential applications for public water supply development: (1) to provide system reliability and (2) to help meet peak flow demands.

Some sources of supply, including many surface water supply options, can be intermittent and therefore inherently unreliable. In this case, an ASR system can be used to store large quantities of finished water for distribution and use during drought periods when allowable surface water flow diversions are inadequate to meet the water supply demands.

ASR can also be used to help manage peak flow conditions. Without significant finished water storage capabilities, water supply treatment plants must be designed to supply the peak demand. *Maximum day demands* are typically 30 to 80 percent greater than average day demands. ASR can reduce the required maximum treatment rate, which in turn reduces the treatment plant size and operation costs. Specifically, water treatment plants can accommodate peak demand by combining real-time treatment with ASR system withdrawal.

Avoidance of the Impacts of Groundwater Withdrawal Through Artificial Hydration

In many of the priority water resource caution areas, the potential impacts of groundwater withdrawal on wetlands are a major concern. In many cases, the possibility of dehydrating wetlands limits the quantity of freshwater that can be withdrawn from the Floridan aquifer.

Lower water levels impact wetlands. These impacts include changes in natural vegetation patterns. Groundwater withdrawals reduce the potentiometric surface of the aquifer, which can in turn lower surficial

aquifer water levels and water levels in nearby wetlands. Many wetland systems are sensitive to relatively small changes in long-term average water levels. To avoid adverse impacts to native wetland systems, groundwater withdrawal must be managed to avoid excessively dehydrating wetlands, on both a local and a regional scale.

Although this DWSP is primarily designed to prevent adverse impacts from occurring by limiting groundwater withdrawal quantities and utilizing management techniques such that unacceptable adverse impacts to wetlands do not occur, artificial hydration may be a potential additional tool to avoid adverse impacts.

The concept of wetland impact avoidance through artificial hydration techniques has been openly discussed by the work groups and is being investigated by SJRWMD through its Wetland Augmentation Demonstration Program as described in the Water Resource Development Component of this DWSP.

Water Conservation

Water conservation is considered a water supply option because reducing water supply needs contributes to the goal of assuring adequate future water supplies. As a water supply option, water conservation will be treated in SJRWMD's regional decision-making process in the same manner as other alternatives, including the consideration of cost versus benefits and technical feasibility. However, estimating potential savings from water conservation practices on a regional basis has many uncertainties. Potential water savings and the overall effectiveness of water conservation programs can be variable and can depend on a wide range of factors from local socio-economic conditions to the type of program incentives used during implementation. In addition, because a large percentage of water use by public supply utilities is for lawn and landscape irrigation (potentially as much as 40 to 50 percent of the annual average water use), many conservation programs and practices target this use. However, use of reclaimed water also results in a reduction of the quantity of potable water supply used for lawn and landscape irrigation. Therefore, the quantity of water savings potentially obtained through conservation and use of reclaimed water is not additive.

All SJRWMD CUP holders are required to implement comprehensive water conservation programs. However, specific increased quantities of water conservation were not considered in the development of water supply alternatives identified in this DWSP. Conservation options considered in this DWSP would supplement existing programs.

The water demand estimates for 2020 presented in this DWSP are based on the assumption that at least the existing level of conservation will be maintained in the future. Estimates of increased demand through 2020 would be about 10 percent higher if conservation were not a component of the plan. Additional water savings could probably be achieved through increased conservation efforts; however, the amount of savings is highly dependent on the extent of conservation already in place. Many users, such as agriculture, are already achieving high levels of conservation through management of their irrigation practices, and it appears unlikely that any significant additional conservation could be achieved by these users. The greatest potential for savings exists in public supply, because public supply has the greatest projected increase in demand by 2020 and the highest potential to achieve increased water savings through implementation of more extensive water conservation programs. Therefore, SJRWMD will focus a significant portion of its conservation efforts on public supply where commitment of staff time and funding have the greatest potential for further reducing water demand.

Several methods are available to public supply utilities to support water conservation programs. These methods include operational and consumer conservation practices, local water conservation ordinances, and conservation rate structures. SJRWMD investigated the potential water savings related to these methods (PBSJ 1998c, 1999a); the results of these investigations are summarized in Appendix F.

A report by PBSJ (1998c) summarized the results of utilizing SWFWMD's WATERRATE model to evaluate the impact of implementation of three water conservation rate structure types on water demand for eight representative utilities within SJRWMD. The study found that, while potential water savings from water conservation rate structure implementation can be significant, individual circumstances have a high degree of influence on the effectiveness of conservation rate implementation. The following conclusions were made:

- The water savings that can be potentially achieved with water conservation rate structures are dependent on a utility's current rate structure. For example, a utility that currently has a three-block inclining rate structure will see little to no additional savings by converting to a four-block structure. However, one that currently does not have a conservation rate structure could see more potential savings.

- Sewer usage rates can also interfere with the effects of conservation rates for water. Some utilities base sewer rates on water consumption up to a quantity at which it is assumed that no more of the water consumed will go into the sewer. At that point, the sewer fees become capped and the consumer is charged only for water. Under these circumstances, the combined consumer cost of water and sewer per unit for the lower volumes of water consumption may be higher than the per unit cost for just water after the sewer charge cap is reached. This situation was observed for one utility where it was estimated that implementation of a water conservation rate structure could actually result in an increase in water consumption.
- The greatest conservation effect can be achieved by reducing the fixed charge for utilities that currently have very high fixed charges.
- Conservation rates for the sample utilities tend, overall, to result in long-term water savings.
- Potential savings for the eight utilities analyzed ranged from a low of less than 0 percent (water use could actually increase with water conservation rate structure implementation) to nearly 18 percent.

PBSJ (1999a) evaluated the potential costs and effectiveness of operational conservation practices, consumer conservation programs, and local ordinances related to water consumption. The study included interviews with and data collection from Florida utilities and WMDs, with information available on the cost and effectiveness of existing conservation programs in the state. In addition, a nationwide literature review was conducted. A summary of the potential water savings that can be achieved by implementing various water conservation programs is presented in Table 5. The data summarized in Table 5 include some impressively high water savings. However, the water savings achieved under controlled experimental circumstances in specific locations should not be assumed to be possible, in general, under other conditions. For example, relatively little reduction in utility water loss can be achieved through leak detection and repair programs in many parts of SJRWMD because of the low average age of the piping systems. Likewise, the usefulness of plumbing retrofit programs for reducing water use is generally limited to older neighborhoods because newer homes were constructed with low-flow fixtures at the outset.

Costs for the various conservation programs and practices were developed using methodologies established in SJRWMD's alternative

Table 5. Potential water savings from water conservation programs

Conservation Type	Potential Water Savings
Utility leak detection and repair*	13%
Utility system water audits*	12%–33%
Monthly billing	Not available
Plumbing retrofit kit†	5%–20%
Plumbing retrofit toilet replacement/rebate†	20%–30%
Irrigation system retrofit	Not available
Consumer leak detection	Not available

Note: The savings presented in Table 5 represent the maximum potential savings that could be achieved based on no current conservation measures in place and for a utility customer base consisting primarily of residential domestic water use. These are potential savings based on data presented in the literature. Water savings are not necessarily additive. Actual savings will be utility-specific and dependent on conservation measures already in place.

*Savings based on percentage of average utility pumpage.
†Savings based on daily household consumption, not total for utility. Savings apply to residential domestic water use only.

water supply strategies investigation so that conservation measures could be compared to other alternative water supply strategies being evaluated (Table 6).

A study performed for the former West Coast Regional Water Supply Authority, now Tampa Bay Water, evaluated three scenarios of water conservation program implementation (Ayres Associates 1997). Scenario 1 was based upon utilities continuing with current levels of water conservation. This scenario was estimated to result in a potential range of water savings of approximately 9 to 17 percent compared to water demand projections based on no conservation. Scenario 2 assumed that a moderate conservation program would be implemented that includes voluntary and incentive approaches and was estimated to provide total water savings ranging from approximately 11 to 25 percent. Scenario 3 was based upon an aggressive program with regulatory and incentive approaches and was estimated to achieve savings ranging from 17 to 42 percent. The study concluded that the lower end of the ranges are most realistic and that significant levels of demand reduction can be achieved through conservation.

Based on the SJRWMD investigations performed during the water supply planning process and Ayres Associates 1997, it is estimated that public

Table 6. Cost effectiveness of operational and consumer conservation practices and programs

Conservation Type	Average ($/1,000 gallons saved)	Range ($/1,000 gallons saved)	Service Life (years)	Number of Sources Referenced
Operational Conservation Practices				
Utility system leak detection and repair	0.12	0.04–0.27	5	3
Utility system water audits*	0.07	0.03–0.11	5	5
Consumer Conservation Programs				
Plumbing retrofits				
Retrofit kits†	0.60	0.04–1.69	10	30
Toilet rebate/replacement	1.60	0.51–3.70	20	11

Note: Costs based on data found in literature times a factor of 1.45 to account for nonconstruction capital costs. All costs in 1996 dollars.

*Includes one or more of the following: meter testing, leak detection (not repair), and system inventory.

†Includes retrofit kit costs for programs with and without audits.

Source: PBSJ 1999a

water supply projections for 2020 would have been approximately 10 percent higher than those that were used in the SJRWMD models without consideration of continuing current levels of conservation. The estimates of the quantity of water saved by current conservation practices are shown in column D of Table 7.

The potential exists for saving more water through increased efficiency of use, and avoidance of line losses and consumer wastage. It is estimated that another 10 percent of the remaining increase in water use through 2020 may potentially be saved through additional water conservation practices. The difference between current water use projections and those same projections minus an additional 10 percent for increased water conservation is 35.75 mgd.

The cost of increased conservation is difficult to quantify. The average costs presented in Table 6 range from less than $0.10 per 1,000 gallons to $1.60 per 1,000 gallons saved. The low end of the costs represents utility leak detection and repair, which is a component that would be considered in the existing levels of conservation being achieved by utilities. While the projections of potential water savings that could be achieved through

Table 7. Potential water savings from water conservation (mgd)

Work Group Area	A 1995 Water Use	B 2020 Projected Water Use	C Increase in Water Use* 1995 to 2020 (B minus A)	D Estimated Water Savings From Conservation in 2020 Projections (10% of C)	E Potential Additional Water Savings With Increased Conservation in 2020 (10% of [C–D])
I*	288.06	558.22	270.16	27.02	24.31
IA	51.11	81.43	30.32	3.03	2.73
II	47.44	89.21	41.77	4.18	3.76
III	4.40	12.94	8.54	0.85	0.77
V	65.91	112.30	46.39	4.64	4.18
Total	456.92	854.10	397.18	39.72	35.75

*SJRWMD 1999

increased conservation appear significant, they do not eliminate the need for developing the facilities described in this DWSP. Increased conservation could, however, extend the need for these facilities sometime beyond 2020.

If the reduced projections are used to identify water supply alternatives and if the target level of water conservation is not achieved, then the identified facilities will not be adequate to meet 2020 needs and additional sources of supply and facilities would need to be identified and built before 2020. To avoid this situation, SJRWMD has chosen to base its future water supply needs on the assumption that present levels of water conservation will continue rather than assuming that yet unattained conservation levels will be reached. At worst, the sources and facilities identified in DWSP would not be fully needed in 2020 and additional time would be available for implementation.

Use of Reclaimed Water

Most utilities in SJRWMD practice some form of reuse. In 1995, it was estimated that over half of the 187.37 mgd of wastewater produced in Brevard, Lake, Orange, Seminole, and Volusia counties was reused (PBSJ 1998b). For the purpose of the DWSP, the only reuse which is considered is that which provides a water resource benefit. This would include reuse systems that result in the replacement of groundwater or potable water for nonpotable water uses or reuse systems that provide recharge to the Floridan aquifer. About 40 percent of the wastewater produced in 1995 in

these five counties (75 mgd) was utilized in a reuse application. SJRWMD's demand estimates used in the options analysis were generally based upon continuing these existing levels of reuse in 2020.

For Work Group Areas I and II, the groundwater models used to estimate deficits in fresh groundwater supply included increased recharge resulting from expansion of reclaimed water systems at the existing level. This increased recharge would have the effect of lowering the potential deficits by recharging the surficial aquifer and thus reducing potential impacts to wetlands. Tables 8 and 9 show the estimated amounts of increased recharge associated with land application of reclaimed water either from RIBs or irrigation forms of reuse in Work Group Areas I and II. The analysis did not distinguish between the application of reclaimed water using RIBs or septic tanks in high recharge areas in Work Group Area II because both would serve to recharge the surficial aquifer (Table 9).

Table 8. Recharge rates (mgd) used in the east-central Florida groundwater flow model (Work Group Area I) by method of land application of reclaimed water

County	1995		2020	
	Spray Irrigation	RIBs	Spray Irrigation	RIBs
Brevard	6.24	0.27	12.41	0.54
Lake	9.55	1.15	12.77	13.64
Orange	12.21	25.76	23.11	42.08
Osceola	3.26	6.53	6.98	13.06
Seminole	9.20	2.69	18.40	4.38
Volusia	1.76	0.00	3.66	0.00
Total	42.22	36.40	77.33	73.70

Note: RIB = rapid infiltration basin

Source: McGurk and Presley 1999

Because the current amount of reuse and the ability to implement additional reuse vary significantly among users, SJRWMD has not attempted to project specific additional reductions in potable water use resulting from increased use of reclaimed water to meet nonpotable water needs for individual utilities. A generalized analysis by work group area was performed in order to determine potential quantities of reclaimed water that may be available for additional reuse within the five work group areas by 2020 (Table 10).

Table 9. Recharge rates (mgd) used in the Volusia groundwater flow model (Work Group Area II) to account for land application of wastewater and reclaimed water

Utility/Facility	Type	1995	2020	Increase
Daytona Beach	Golf course irrigation	3.5	3.5	0
	Residential/public access reuse	1.5	3.5	2
De Land—Brandywine	Residential/public access reuse	0.12	0.12	0
De Land—Regional	Golf course irrigation	0.266	0.40	0.134
	RIBs and/or septic tanks	2.04	2.37	0.33
Edgewater	Residential/public access reuse	0.475	1.54	1.065
New Smyrna Beach	Golf course irrigation	0.6	0.6	0
	Residential/public access reuse	0.5	3.08	2.58
Port Orange	Golf course and residential/public access reuse	1.0	3.37	2.37
Holly Hill	Golf course and residential/public access reuse	0.5	0.64	0.14
Ormond Beach	Golf course irrigation	0.29	0.3	0.01
	Residential/public access reuse	2.21	2.41	0.2
Breakaway Trails	Residential/public access reuse	0.106	0.106	0
Tymber Creek	Residential/public access reuse	0.044	0.044	0
Seabridge	Residential/public access reuse	0.058	0.058	0
FWS—Deltona	Golf course irrigation	0.887	1.82	0.933
	RIBs and/or septic tanks	5.95	9.11	3.16
Lake Helen	RIBs and/or septic tanks	0.18	0.64	0.46
Orange City	RIBs and/or septic tanks	1.0	2.12	1.12
VC—Southwest	RIBs and/or septic tanks	0.58	7.73	7.15
	Golf course irrigation	0.4	0.6	0.2
VC—Four Townes	Residential/public access reuse	0.195	0	-0.195
VC—Hacienda	RIBs and/or septic tanks	0.032	0.144	0.112
VC—Indian Harbor	RIBs and/or septic tanks	0	0.144	0.144
VC—Lighthouse Point	RIBs and/or septic tanks	0	0.072	0.072
VC—Deltona North	RIBs and/or septic tanks	0.313	1.01	0.697
VC—Spruce Creek	RIBs and/or septic tanks	0.173	0.46	0.287
VC—Northeast	RIBs and/or septic tanks	0.14	0.56	0.42
VC—Ag. Center	RIBs and/or septic tanks	0.01	0.02	0.01
VC—Cassadaga	RIBs and/or septic tanks	0.01	0.04	0.03
Total		23.08	46.51	23.43

Note: FWS = Florida Water Services
RIB = rapid infiltration basin
VC = Volusia County

Source: Stan Williams, pers. comm. 1999

Table 10. Potential annual average reclaimed water supply in priority water resource caution area work group areas (mgd)

Work Group Area	A Total Existing Treated Wastewater, 1998	B Projected Percentage of Treated Wastewater Increase in 2020	C Projected Total 2020 Treated Wastewater (A times % increase)	D Existing Beneficial Reuse	E Projected 2020 Treated Wastewater Minus Existing Reuse (C minus D)	F Reusable Treated Wastewater in 2020 Without Mass Storage (50% of E)	G Additional Effective Replacement of Potable Water Use, 2020 (60% of F)
I	79.78	205	143.93	41.14	102.79	51.39	30.84
IA	37.61	175	57.91	11.59	46.33	23.16	13.90
II	35.12	188	58.10	13.96	44.15	22.07	13.24
III	4.44	294	11.47	2.30	9.18	4.59	2.75
V	41.44	170	61.99	2.35	59.64	29.82	17.89
Total	198.39		333.40	71.33	262.08	131.04	78.62

Note: Because of greater reliability, 1998 wastewater treatment and reuse data were used rather than the available 1995 data. Projections are prorated from 1998 to correspond to 1995-based projections.

The projected 2020 total treated wastewater produced (column C of Table 10) was assumed to increase in proportion to projected increases in public supply water use. Based on estimates developed by PBSJ (1998b), without large volumes of storage (such as ASR systems), only about 50 percent of the annual average reclaimed water produced can be dedicated to irrigation reuse systems in order to reliably meet seasonal variations in reclaimed water demands. This leaves approximately 131 mgd of reclaimed water that could be dedicated to potential future reuse projects to increase levels of reuse by 2020 in priority water resource caution areas.

Under current conditions, the quantity of reclaimed water used for irrigation is about twice the amount of potable water used for the same purpose; that is, two gallons of reclaimed water committed to reuse usually replace only one gallon of potable water committed to public supply use (PBSJ 1998b). This difference is a result of typical utility practice, which is the offering of reclaimed water at a rate significantly less than the rate for potable water as a strategy to get customers to connect; however, this practice generally results in overuse of reclaimed water (Appendix G). This ratio should improve in the future with greater use of metering, volume-based rates, and other conservation and efficiency measures. Therefore, one way to increase the use of reclaimed water by

2020 is to promote reuse conservation measures, allowing utilities to serve a larger reclaimed-water customer base with a given quantity of reclaimed water. In Table 10, a 60 percent replacement rate is assumed to account for this potential increase in conservation being employed in reclaimed water systems, that is, 6 gallons of potable water savings for each 10 gallons of reclaimed water use. Therefore, because there is the potential to reuse an additional 131 mgd of reclaimed water in 2020 in the five planning regions, approximately 79 mgd of effective replacement of potable water and groundwater used for nonpotable purposes could occur.

SJRWMD is examining ways to increase the amount of reclaimed water used by 2020. Two studies were developed during the water supply planning process that examined the cost effectiveness of using reclaimed water to offset potable water and groundwater use for urban and agricultural irrigation practices. PBSJ (1998b) estimated that approximately 25 percent of the public water supply utility-projected demand represents nonpotable water use that could potentially be offset by the use of reclaimed water. Unit costs were developed to allow reclaimed water sources to be reviewed as potential supplies to meet these demands. PBSJ presented an example 1-mgd project that would provide reclaimed water to a reuse system located 1 mile from the water reclamation facility. The estimated equivalent cost of the project was $2.62 per 1,000 gallons of water saved. Because the estimated costs are greater than estimated costs for developing other supplies (surface water, new groundwater sources, brackish groundwater) and the quantities of reclaimed water available are projected to be insufficient to significantly reduce regional water supply deficits, specific reuse options were not examined in SJRWMD's regional decision modeling efforts. However, at the local level, the consumptive use permitting program requires utilities and other permitted water users to implement increased reuse where feasible to reduce the impacts of groundwater withdrawals.

A report by PBSJ (1998a) evaluated the cost effectiveness of using reclaimed water for irrigating citrus groves and ferneries in Work Group Areas I and II as a regional water supply strategy. The equivalent unit cost for irrigating citrus groves in high recharge areas of Orange and Lake counties was estimated to range from $1.79 to $5.40 per 1,000 gallons of water saved. The estimated costs were highly variable, depending on the distance from the water reclamation facilities to nearby areas of citrus groves. As urbanization of these two counties continues, it is expected that the transmission distances to viable citrus irrigation sites will increase and result in future costs being more in line with the upper end of the range. Irrigation of ferneries in Volusia County was more cost-effective, with

estimated equivalent unit costs ranging from $1.39 to $1.84 per 1,000 gallons of water saved. However, the groundwater model and decision models for Volusia County do not project a deficit in the fern-growing region, so there would be little regional water supply benefit associated with serving the ferneries with reclaimed water for irrigation. While increased agricultural reuse is beneficial and may be practical on a local level, it was not determined to be an effective strategy to reduce the groundwater deficits on a regional basis and was not considered further in SJRWMD's decision-modeling process in Work Group Areas I and II.

Currently, SJRWMD is evaluating a more specific regional reuse alternative. SJRWMD is assessing the cost effectiveness of a regional reuse system that would involve interconnecting reclaimed water from the City of Orlando's Iron Bridge Regional Water Reclamation Facility with Orange County's Eastern Water Reclamation Facility to utilize excess reclaimed water for a regional reuse system. This assessment, being conducted for SJRWMD by PBSJ, is scheduled to be complete in early 2000. Currently, these water reclamation facilities have permitted surface water discharge capacity of over 50 mgd. In a regional reuse system, these discharges would remain in place to provide the needed seasonal wet weather disposal required for reuse systems relying on irrigation. Potential participants in the use of reclaimed water from the regional reuse system would include Seminole County, the Orlando Utilities Commission, Curtis Stanton Energy Center, the City of Oviedo, Alafaya Utilities, the University of Central Florida, Orange County Utilities Eastern Service Area, the City of Orlando Conserv I service area, and Park Manor Utilities. This project is identified as a proposed water supply project in the Water Supply Development Component of this DWSP.

Water Supply Systems Interconnections

A system interconnection is a water supply management technique that allows utilities with available supply to supplement a nearby service area. Liberal use of system interconnections would allow optimization of groundwater withdrawals, thus maximizing the quantity of fresh groundwater that can be developed regionally. In this manner, the need for developing alternative water supply sources, including brackish groundwater and surface water, would be minimized.

Interconnections typically require a water transmission main, ground storage reservoirs, and a pump station. Interconnecting water supply systems may require chemically adjusting the water if the two water supply systems produce significantly different finished water.

Interconnections can also be designed to supply emergency flows. As with ASR, system interconnections will not increase the total water supply but can help manage or optimize the available resource.

Role of Political Boundaries in Water Supply Planning

Political boundaries generally do not pose physical limitations to transfers of water for reasonable-beneficial use. However, transfers of water across political boundaries often raise political and legal concerns. Although Chapter 373, *FS*, does not prohibit transfers of water across political boundaries, it does specifically address transfers across WMD and county boundaries.

Transfers of Groundwater Across WMD Boundaries

Section 373.2295, *FS*, describes a process to be followed by Florida's WMDs when reviewing applications for consumptive uses of water which involve the withdrawal of groundwater from a point in one WMD for use outside the boundaries of that WMD. Such transfers of groundwater are referred to as *interdistrict transfers of groundwater*. As part of its CUP application review, the WMD within which the groundwater withdrawal is proposed is required to make a public interest determination and give other evidence on future needs of the areas. Included in a public interest determination would be consideration of projected populations as contained in the future land use elements of local comprehensive plans in areas where the water is proposed to be withdrawn and used. A CUP for the proposed withdrawal is to be issued if statutory and rule requirements are met and the needs of the areas within which the water is proposed to be withdrawn and used can be satisfied. The requirement to consider projected populations contained in the future land use elements of local comprehensive plans could result in inconsistencies in the magnitudes of water use projections and could restrict the development of water supply projects that are technically, environmentally, and economically feasible.

SJRWMD, in this DWSP, has not tried to specifically evaluate the feasibility of implementation of any of the identified water supply solutions based on the provisions of Section 373.2295, *FS*. Before any selected option can be permitted, the provisions of that section must be addressed. However, SJRWMD has performed limited analysis of the cost-related impact of developing water supplies with no transfer and use beyond WMD boundaries. This analysis is included in the east-central Florida (Work Group Area I) section of the Water Supply Development Component of this DWSP.

Transfers of Water Across County Boundaries

During its 1998 session, the Florida Legislature amended the consumptive use permitting provisions (Subsection 373.223(3), *FS*) to include several factors to be considered by Florida's WMDs when evaluating whether a potential transport and use of ground or surface water across county boundaries is consistent with the public interest. This amendment, commonly referred to as "local sources first," could impact the development of water supply projects that are technically, environmentally, and economically feasible. The amendment language is as follows:

(3) Except for the transport and use of water supplied by the Central and Southern Florida Flood Control Project, and anywhere in the state when the transport and use of water is supplied exclusively for bottled water as defined in s. 50003(1)(d), any water use permit applications pending as of April 1, 1998, with the Northwest Florida Water Management District and self-suppliers of water for which the proposed water source and area of use or application are located on contiguous private properties, when evaluating whether a potential transport and use of ground or surface water across county boundaries is consistent with the public interest, pursuant to paragraph (1)(c), the governing board or department shall consider:

(a) The proximity of the proposed water source to the area of use or application.

(b) All impoundments, streams, groundwater sources, or watercourses that are geographically closer to the area of use or application than the proposed source, and that are technically and economically feasible for the proposed transport and use.

(c) All economically and technically feasible alternatives to the proposed source, including, but not limited to, desalination, conservation, reuse of nonpotable reclaimed water and storm water, and aquifer storage and recovery.

(d) The potential environmental impacts that may result from the transport and use of water from the proposed source, and the potential environmental impacts that may result from use of the other water sources identified in paragraphs (b) and (c).

(e) Whether existing and reasonably anticipated sources of water and conservation efforts are adequate to supply water for existing legal uses and reasonably anticipated future needs of the water supply planning region in which the proposed water source is located.

(f) Consultations with local governments affected by the proposed transport and use.

(g) The value of the existing capital investment in water-related infrastructure made by the applicant.

Where districtwide water supply assessments and regional water supply plans have been prepared pursuant to ss. 373.036 and 373.0361, the governing board or the department shall use the applicable plans and assessments as the basis for its consideration of the applicable factors in this subsection.

SJRWMD, in this DWSP, has not tried to specifically evaluate the feasibility of implementation of any identified water supply solutions based on "local sources first" criteria. Before any selected option can be permitted, "local sources first" criteria must be addressed by the permit applicant. However, SJRWMD has performed limited analysis of the cost-related impacts of developing water supplies with no transfer and use beyond county boundaries. That analysis is included in the east-central Florida (Work Group Area I) section of the Water Supply Development Component of this DWSP.

Estimated Quantity of Water and Costs

For portions of SJRWMD not included in a work group area, existing water supply sources and water supply development plans are considered reasonably adequate to meet projected needs while sustaining wetland and aquatic systems. Freshwater from the Floridan aquifer currently meets most of these needs, and this traditional source of supply will continue to be adequate through 2020 in these areas.

Total average day water use in SJRWMD is expected to increase by about 491 mgd between 1995 and 2020, considering the user-based projections (Table 3). Of this total increase, about 421 mgd, or about 85 percent, results from expected increased public supply demand. Clearly, the challenge for meeting future water supply needs is to provide for the projected increase in public supply needs.

The focus of the *Water 2020* work groups, except in Work Group Area IV, was the development and evaluation of water supply source options and alternatives to meet projected increased public supply needs. General objectives and criteria were held constant in the water supply planning process so that water supply options developed in one work group area are comparable, on a cost and performance basis, to water supply options developed and evaluated by the other work groups.

The remainder of this section describes water supply options and alternatives for each work group area, including the least-cost environmentally feasible water supply alternative, where appropriate.

East-Central Florida (Work Group Area I)

East-central Florida, Work Group Area I, is the largest and most complex of the *Water 2020* work group areas. It includes all or parts of seven counties: Lake, Marion, Orange, Osceola, Polk, Seminole, and Sumter (Figure 2). In addition, because water supply withdrawals in Orange County provide a portion of the water supply needs in Brevard County, Work Group Area I is closely linked to Work Group Area IA.

Work Group Area I is a rapidly growing area which covers about 5,000 square miles, including the Orlando metropolitan area and environs, and is not wholly contained within SJRWMD. This work group area includes portions of both SFWMD and SWFWMD.

Consideration of this large and diverse area within a single work group was necessary because nearly all the water supply in this area is taken from a single source, the Floridan aquifer. There are more than 60 major public water supply utilities withdrawing water from more than 1,000 wells in Work Group Area I. Aquifer interactions among these withdrawals are complex, and the cumulative impacts of these withdrawals are a significant concern. Therefore, individual withdrawals cannot be considered in isolation. A regional analysis is necessary to adequately account for the number and magnitude of water withdrawals occurring from this single source of supply (CH2M HILL 2000).

SJRWMD has developed comprehensive groundwater flow models and decision models for Work Group Area I to assist in the resource evaluation, impacts analysis, and water supply plan development (Figure 9). The models incorporate areas beyond Work Group Area I in order to adequately simulate groundwater flow and adequately represent important boundary conditions. In addition to Work Group Area I, portions of Brevard County and Volusia County are included in the models.

The east-central Florida groundwater flow model accounts for water use in all, or portions of, nine counties (Table 11). The total projected increase in water use for the planning period within the east-central Florida model area is nearly 350 mgd, a 66 percent increase over 1995 use.

Water use data for each county are presented in greater detail in Table 12; public supply is the water use category projected to experience the greatest growth in Work Group Area I.

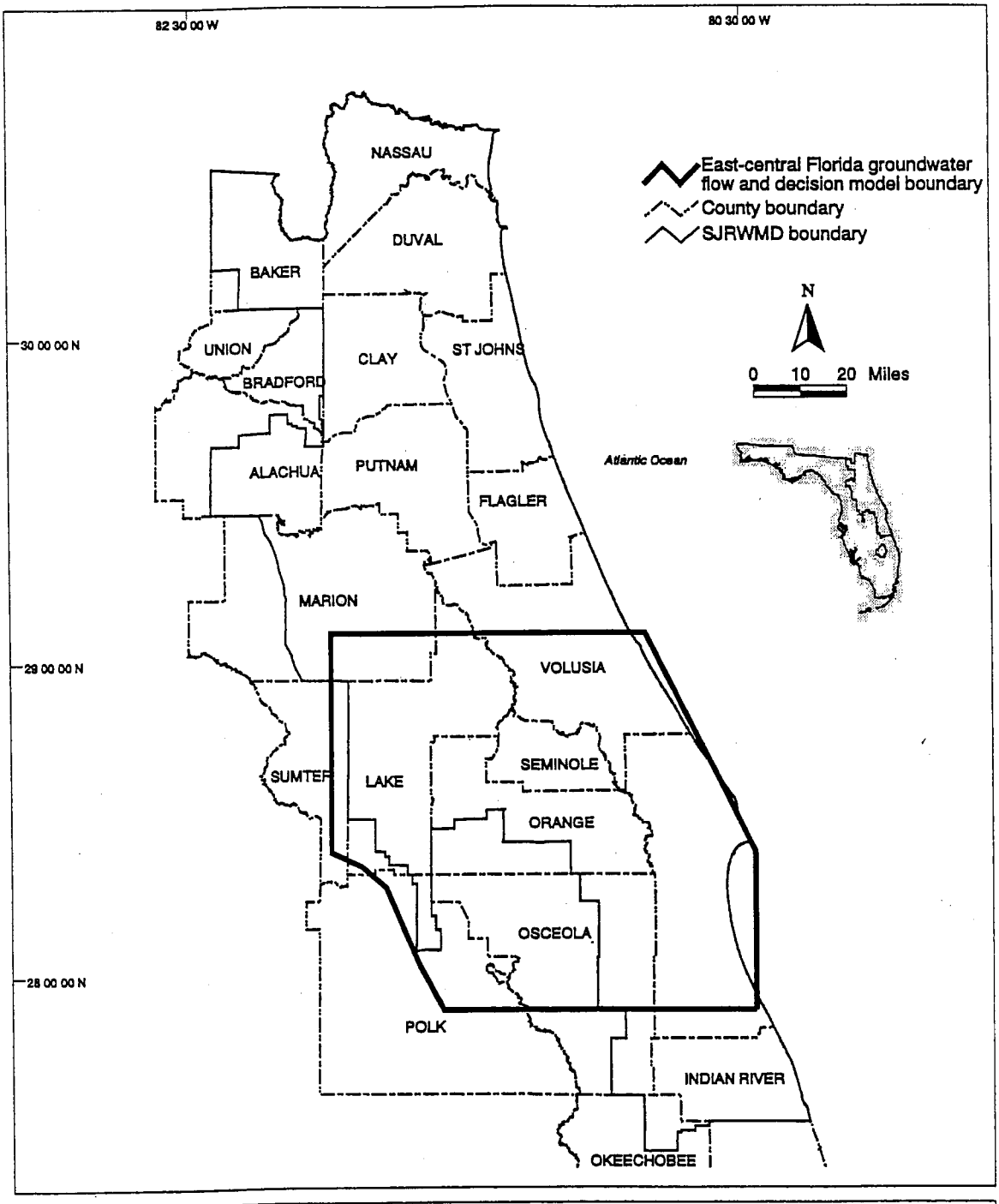


Figure 9. East-central Florida groundwater flow and decision model boundary

Table 11. Work Group Area I: East-central Florida groundwater flow model water use by county

County	1995 Actual Water Use	2020 Water Use	Percent Change
Brevard	14.07	28.81	105
Lake	86.67	151.65	75
Marion	7.66	13.65	78
Orange	201.68	352.50	75
Osceola	63.16	80.66	28
Polk	55.76	74.04	33
Seminole	61.09	102.82	68
Sumter	4.46	5.49	23
Volusia	33.02	65.71	99
Total	527.57	875.33	66

Note: Table includes water use in the total model area, including areas in the South Florida Water Management District, the Southwest Florida Water Management District, and the St. Johns River Water Management District.

Providing for the projected increase in water use in east-central Florida in a sustainable and affordable manner will be a significant challenge to SJRWMD, the water supply utilities, local governments, DEP, and all other interested and concerned parties. Application of the east-central Florida groundwater flow model indicates that current individual utility plans to increase withdrawals from the Floridan aquifer through 2020 will not be sustainable without causing unacceptable adverse impacts to water quality, wetland and aquatic systems, and existing legal uses. If all current plans are implemented, surficial aquifer drawdowns will result in regional dewatering of sensitive wetlands sufficient to result in unacceptable adverse impacts. These wetlands impacts will occur regionally, but the ridge region of Lake County, which provides much natural recharge to the Floridan aquifer, will be impacted the greatest.

DWSP is designed to prevent these and other unacceptable adverse impacts to the water resources and related natural systems, including excessive springflow reductions, saltwater intrusion, and impacts to existing legal uses. Many different Work Group Area I water supply development scenarios are possible. In each case, however, significant quantities of alternative water sources will need to be developed to meet 2020 needs. Several technical and environmentally acceptable water

Table 12. Work Group Area I: East-central Florida groundwater flow model water use by county, water management district, and use category

Water Management District	Category	1995 Actual Water Use	2020 Water Use	Percent Change
Brevard County				
SJRWMD	Public supply	3.92	16.19	313
	Agriculture	8.76	11.23	28
	Commercial/industrial	1.39	1.39	0
	Total	**14.07**	**28.81**	**105**
Lake County				
SJRWMD	Public supply	27.04	79.70	195
	Agriculture	27.95	39.05	40
	Commercial/industrial	30.60	31.96	4
	Total	**85.59**	**150.71**	**76**
SWFWMD	Agriculture	1.08	0.94	-13
Marion County				
SJRWMD	Public supply	2.97	7.75	161
	Agriculture	3.93	5.14	31
	Commercial/industrial	0.76	0.76	0
	Total	**7.66**	**13.65**	**78**
Orange County				
SFWMD	Public supply	49.47	107.75	118
	Agriculture	10.24	7.32	-29
	Commercial/industrial	2.16	2.16	0
	Total	**61.87**	**117.23**	**89**
SJRWMD	Public supply	125.93	220.41	75
	Agriculture	10.12	11.10	10
	Commercial/industrial	3.76	3.76	0
	Total	**139.81**	**235.27**	**68**
Osceola County				
SFWMD	Public supply	20.17	40.87	103
	Agriculture	41.22	38.87	-6
	Commercial/industrial	0.04	0.04	0
	Total	**61.43**	**79.78**	**30**
SJRWMD	Agriculture	1.73	0.88	-49

Table 12—*Continued*

Water Management District	Category	1995 Actual Water Use	2020 Water Use	Percent Change
Polk County				
SFWMD	Public supply	0.79	1.67	111
	Agriculture	11.60	11.75	1
	Total	**12.39**	**13.42**	**8**
SJRWMD	Public supply	1.66	1.02	-39
	Agriculture	2.60	5.01	93
	Total	**4.26**	**6.03**	**42**
SWFWMD	Public supply	8.90	15.40	73
	Agriculture	23.65	31.44	33
	Commercial/industrial	0.21	0.15	-29
	Mining	1.86	1.33	-28
	Recreation	4.49	6.27	40
	Total	**39.11**	**54.59**	**40**
Seminole County				
SJRWMD	Public supply	52.35	94.55	81
	Agriculture	8.33	7.48	-10
	Commercial/industrial	0.41	0.79	93
	Total	**61.09**	**102.82**	**68**
Sumter County				
SWFWMD	Public supply	1.31	2.26	73
	Agriculture	2.17	1.61	-26
	Recreation	0.98	1.62	65
	Total	**4.46**	**5.49**	**23**
Volusia County				
SJRWMD	Public supply	27.81	51.67	86
	Agriculture	4.61	4.15	-10
	Commercial/industrial	0.60	9.89	1548
	Total	**33.02**	**65.71**	**99**

Note: SJRWMD Orange County public supply includes all the Orlando Utilities Commission, including the South Florida Water Management District's portion.

The commercial/industrial category includes water used in thermoelectric power generation.

supply development scenarios have been identified by the Area I work group. Each of the scenarios is based on differing sets of available water sources and development constraints. Implementing any of these alternatives will require regional cooperation among major water supply utilities.

Two possible scenarios, which were identified using SJRWMD's economic optimization model, are described here to illustrate possible solutions. The actual implemented solution will likely not be exactly identical to either of the scenarios presented here and may, in fact, be different from these two scenarios. Development of the final water supply alternative will take the cooperative efforts of all concerned. SJRWMD's role in the next phase of the planning process will be to facilitate decision-making, to make planning tools available to the Work Group Area I water supply utilities, and to assist those utilities in selecting sustainable water supply options.

The first scenario represents the least restrictive solution. It provides for consideration of all available water supply sources, including

- Existing and proposed Floridan aquifer wells
- New fresh groundwater wellfields
- New brackish groundwater wellfields
- Surface water

This scenario is based on the calibrated groundwater model and optimizes the solution such that overall costs are minimized. It contains no restrictions on the transport of water between counties or between WMDs. Therefore, this solution should be among the least-expensive, feasible scenarios for meeting 2020 water supply needs in Work Group Area I.

Based on this least-cost scenario, the following alternative sources and average day quantities would be developed:

- Expansion of existing and proposed Floridan aquifer wellfields—131 mgd
- New fresh groundwater wellfields—25 mgd
- New brackish groundwater wellfields—4 mgd
- Surface water from the St. Johns River near Lake Monroe—118 mgd
- Surface water from the upper Ocklawaha River Basin—11 mgd

Under this scenario, a total of 158 mgd of the increased 2020 needs of 340 mgd, or about 46 percent, would be met from alternative sources. The

remaining increased needs would be met by existing facilities and by expanding existing and proposed Floridan aquifer wellfields. All water resource constraints would be met.

Estimated capital cost, in 1996 dollars, to implement this solution, including providing facilities capable of meeting 1-in-10-year drought needs, is $1.025 billion. Total unit production cost is estimated to be about $1.39 per 1,000 gallons. Expected production costs, including point-to-point transport costs, range from $0.79 per 1,000 gallons for expansion of existing Floridan aquifer wellfields, to $2.00 per 1,000 gallons for developing surface water from the St. Johns River near Lake Monroe.

The second scenario represents an extremely restrictive solution. It is based on conditions identical to the first, except that in this case, water from newly developed sources is not allowed to cross county or WMD boundaries. This scenario solves the regional problem, but the solution is restricted to new water supply sources located within a given county and WMD. This scenario hypothetically assumes the transport and use of water across county and district boundaries may be determined to be contrary to the public interest pursuant to Subsections 373.223(2), 373.223(3) and 373.229(5), *FS*. However, it should be stressed that such determinations were not made in DWSP and have not been made in the consumptive use permitting process to date.

Based on this scenario, the following alternative sources and average day quantities would be developed:

- Expansion of existing and proposed Floridan aquifer wellfields—67 mgd
- New fresh groundwater wellfields—34 mgd
- New brackish groundwater wellfields—none
- Surface water from the St. Johns River near De Land—18 mgd
- Surface water from the St. Johns River near Lake Monroe—55 mgd
- Surface water from the St. Johns River near Titusville—125 mgd
- Surface water from the upper Ocklawaha River Basin—9 mgd

Under this scenario, a total of 241 mgd of the increased 2020 needs of 340 mgd, or about 71 percent, would be met from alternative sources. The remaining increased needs would be met by existing facilities and by expanding existing and proposed Floridan aquifer wellfields. All water resource constraints would be met.

The estimated capital cost to implement this scenario, including providing facilities capable of meeting 1-in-10-year drought needs, is $1.353 billion. Total unit production cost is estimated to be about $1.79 per 1,000 gallons. Expected production costs, including point-to-point transport costs, range from $1.18 per 1,000 gallons for expansion of existing Floridan aquifer wellfields, to about $2.10 per 1,000 gallons for development of surface water from the St. Johns River near Titusville or from Lake Monroe.

These cost estimates are preliminary conceptual planning-level cost estimates. The cost of treating water obtained from the St. Johns River is based, in part, on partial desalting using membrane treatment to meet all primary and secondary drinking water standards for dissolved constituents.

Based on recent, more-detailed evaluations of St. Johns River raw water treatment requirements, preliminary indications are that treatment requirements may be more restrictive and costly than originally envisioned (CH2M HILL 1999b). Additional membrane treatment may be required to meet the federal Stage 1 Disinfectants Byproducts Rules adopted by EPA on November 30, 1998. Specifically, production of a finished water that meets the disinfection byproduct rule limit for bromate may control and increase the rate and duration of membrane treatment required. One significant problem and area of uncertainty is that there are very few bromide data available for St. Johns River water or SJRWMD brackish groundwater. Bromide has not historically been a constituent of concern. It is of concern only when ozone is used as the primary disinfection method and the controlled compound bromate is formed as a byproduct of that process. However, the few in-stream bromide data that are available are a cause for concern. Ultimately, more in-stream data and bench- and pilot-scale water treatment testing will be required to develop the most cost-effective treatment criteria for the slightly brackish St. Johns River.

Additional water conservation and reuse should continue to play a role in future water supply development in this work group area. In particular, water conservation rate structures should be investigated further for all public supply utilities that do not currently have such rate structures in place. Although the water savings of this option is expected to average less than 5 percent, implementing conservation rate structures is relatively inexpensive.

Brevard County (Work Group Area IA)

Work Group Area IA includes all of Brevard County. Brevard County has limited freshwater resources and has historically used a variety of sources

to meet water supply needs, including surficial aquifer water, surface water from the St. Johns River, brackish groundwater from the Floridan aquifer, and fresh groundwater from the intermediate and Floridan aquifers in Orange County.

Total water use in Brevard County is expected to remain relatively unchanged during the planning period. Total 1995 water use was 187 mgd. Projected 2020 countywide water supply needs total 185.5 mgd.

The public supply category is anticipated to experience the greatest increase in water supply needs. Public supply needs are expected to increase from about 51.1 mgd in 1995 to approximately 81.4 mgd in 2020, an increase of about 59 percent. The increase in public supply needs directly corresponds to anticipated population increases. The projected increase in public supply use is largely offset by the anticipated decrease in agricultural irrigation needs. By 2020, agricultural irrigation needs are expected to decrease by about 34.4 mgd, from 124.8 mgd in 1995 to 90.4 mgd in 2020. The expected reduction in agricultural water use directly relates to the expected decreases in irrigated acreage of pasture and citrus. Demands in other water use categories are not projected to increase significantly.

Table 13 summarizes the estimated 2020 needs for each major Brevard County public supply utility. This table identifies the actual 1995 use, projected average day 2020 needs, and projected 2020 needs which include the effects of a 1-in-10-year drought.

Table 13. Brevard County public supply average day water supply needs

Utility	Needs (mgd)		
	1995	2020	2020 Plus 1-in-10-Year Drought
Florida Cities Water Company (formerly Avatar)	0.47	0.81	0.86
City of Cocoa	24.21	39.17	41.52
City of Melbourne	15.89	24.00	25.44
North Brevard Utilities	0.70	1.24	1.31
City of Palm Bay	4.94	7.77	8.24
City of Titusville	4.90	8.44	8.95
Total	51.11	81.43	86.32

Several Brevard County public supply utilities currently withdraw freshwater from surficial aquifers along the Atlantic Coastal Ridge. Wellfield operational experience suggests that further significant development of these freshwater sources is unlikely to result in sustainable sources. Therefore, DWSP does not consider increased withdrawal from the Brevard County surficial aquifers, except for certain site-specific, small-scale increases. Also, it is assumed that withdrawals from the City of Cocoa Orange County wellfield are fixed at the currently permitted withdrawal amounts and will not increase above current permitted amounts in the future. This assumption should not be construed as a determination that the city's wellfield will in fact be permitted to operate at its currently permitted rate in the future or as a permitting evaluation of the withdrawal and use of water by the city, pursuant to Section 373.223, *FS*.

Brackish groundwater is relatively abundant in Brevard County, so source deficits for brackish groundwater are not anticipated. The St. Johns River is also an abundant water source, with a potential water supply yield far exceeding total 2020 public supply needs. The C-1 Canal also is a potential source of limited water supply. It is currently unused and could meet a portion of the total 2020 needs. Existing raw water withdrawal facilities, treatment plants, and transport systems cannot meet future public supply demands. In many cases, meeting these demands could involve developing water supply sources other than fresh groundwater, such as additional brackish groundwater and surface water.

Table 14 summarizes the estimated 2020 deficits by major Brevard County water supply utility. These deficit estimates include the impact of the 1-in-10-year drought and were used for the evaluation of utility-specific water supply options.

The Brevard County work group identified and reviewed many utility-specific water supply options. In July 1998, the work group identified water supply options and then estimated preliminary conceptual costs. In September 1998, the work group reviewed each option and its associated costs, adding several options to the initial list. Table 15 presents a matrix of the utility-specific options identified by the work group. Organized by utility, each option meets or exceeds the anticipated 2020 water needs for its respective service area.

All options identified in Table 15 are considered sustainable source options. There are, however, some clear differences among the options evaluated, including a wide range of anticipated costs.

Table 14. Brevard County water supply deficits for major public utilities

Utility	ADD Deficit	MDD Deficit
Florida Cities Water Company (formerly Avatar)	0.00	0.00
City of Cocoa	3.05	8.68
City of Melbourne	2.44	10.07
North Brevard Utilities	0.19	0.00
City of Palm Bay	2.24	3.21
City of Titusville	2.45	6.12
Total	10.37	28.08

Note: ADD = average day demand
MDD = maximum day demand

Table 15. Utility-specific water supply options identified for Work Group IA

Utility	Surface Water			Brackish Ground-water	Fresh Ground-water	System Interconnects
	St. Johns River	C-1 Canal	Taylor Creek Reservoir			
City of Cocoa	*		*	*		
City of Melbourne	*	*		*		
North Brevard Utilities					*	
City of Palm Bay		*		*		
City of Titusville	*			*		*

The least expensive countywide alternative includes the following utility-specific options:

- **City of Cocoa**—Continue with current plans to fully develop the Taylor Creek Reservoir.
- **City of Melbourne**—Expand and upgrade Lake Washington treatment facilities.

- **North Brevard Utilities**—Continue with current plans to complete wellfield expansion to fully utilize the existing treatment plant capacity.
- **City of Palm Bay**—Further investigate the C-1 Canal as a potential source of supply.
- **City of Titusville**—Expand peaking capacity of interconnect with the City of Cocoa by adding ASR capabilities to the existing water supply system.

The estimated capital and total unit production costs associated with these Work Group Area IA least-cost options are reported in Table 16.

Table 16. Estimated costs to meet 2020 public supply needs for major Brevard County public supply utilities

Utility	Estimated Capital Cost ($ millions)	Estimated Unit Production Cost ($/1,000 gallons)
City of Cocoa	10.9	0.77
City of Melbourne	58.3	1.37
North Brevard Utilities	1.9	0.59
City of Palm Bay	8.5 to 11.5	1.32 to 2.02
City of Titusville	5.5	2.31
Total	85.1 to 88.1	

In some cases, such as for the City of Cocoa and North Brevard Utilities, the least expensive alternative conforms exactly to existing water supply utility plans.

For the City of Melbourne, existing plans include expanding the surface water facilities and the brackish groundwater facilities. Information presented in the Work Group Area IA report suggests that it may be less expensive to expand only the surface water facility. However, there are some significant advantages associated with the city's current plans, including minimizing the city's dependence on one supply source. Either approach is viable.

For the City of Palm Bay, developing the C-1 Canal appears to be less expensive than either developing brackish groundwater or forming interconnects with the City of Melbourne. The hydrology of the C-1 Canal, as well as the ultimate water quality and treatability of this source, needs further investigation.

The least expensive and least capital-intensive option for the City of Titusville involves expanding usage of the existing interconnect with the City of Cocoa. This expansion could be accomplished by adding ASR to the existing Titusville system to meet peak demands without enlarging either the treatment or transport facilities. If ASR proved to be infeasible within the Titusville service area, then development of brackish groundwater could provide the needed additional supply.

The least costly alternative also minimizes desalting and concentrate production. Only the C-1 Canal, an option for the City of Palm Bay, may require partial desalting. All other less expensive options involve only freshwater.

Additional water conservation and reuse should also continue to play a role in future water supply development in Brevard County. In particular, water conservation rate structures should be investigated further for all public supply utilities except the City of Titusville, which has a comprehensive water conservation rate structure currently in place. Although the water savings of this option is expected to average less than 5 percent, implementing conservation rate structures is relatively inexpensive. A countywide water use savings of 3 percent could reduce the 2020 needs by about 2.4 mgd, and any reduction in future demand will tend to extend the useful life of existing facilities.

For the most part, funding water supply facilities expansion in Work Group Area IA is expected to come from local sources ultimately paid for by the end user.

Volusia County Area (Work Group Area II)

Work Group Area II includes all of Volusia County and a small portion of southern Flagler County and southeastern Putnam County (Figure 2). It is bounded to the east by the Atlantic Ocean and to the west by the St. Johns River.

The primary source of freshwater in that work group area is groundwater from the Floridan aquifer. The Floridan aquifer in the Volusia County area is often referred to as the Volusia-Floridan Sole Source Aquifer, because of its designation by EPA as a sole source aquifer. Other less extensively used sources of freshwater include groundwater from the surficial aquifer that is used for domestic self-supply and irrigation, surface water used for agricultural and recreational/golf irrigation, and reclaimed water used for nonpotable irrigation demands in public utility service areas and for recreational/golf facilities.

For this work group area, the public supply category is expected to experience the greatest increase in water supply needs. Public supply needs are expected to increase 88 percent, from 47.4 mgd in 1995 to approximately 89.2 mgd in 2020. The increase in public supply needs directly corresponds to anticipated population increases.

Water use for recreational purposes (primarily golf courses) is anticipated to increase from 7.63 mgd in 1995 to 10.91 mgd in 2020. Because of regulatory requirements to promote reuse of reclaimed water and storm water, all of the expected increase in this category is expected to be served by one of these reuse options.

Increases in water supply needs have also been projected for domestic self-supply, commercial/industrial, and thermoelectric power generation; however, these increases are small in comparison to increases in public supply. The combined increase for these categories is approximately 24 percent, from 11.0 mgd in 1995 to 13.7 mgd in 2020.

Agricultural water use is expected to decrease slightly over the planning period, from an estimated 24.5 mgd in 1995 to 21.6 mgd in 2020. The agricultural water use projections include water used for freeze protection, a significant portion of which is supplied from surface storage ponds to minimize the short-term impact of freeze protection withdrawals on Floridan aquifer water levels.

Overall, water use in the Volusia County work group area is expected to increase by approximately 50 percent during the planning period, with most of the increase attributable to public water supply. The total 1995 water use in the county was 90.7 mgd. Projected 2020 countywide water supply needs total 135.44 mgd.

Table 17 summarizes water supply needs for large public utilities (utilitywide 1995 water use greater than 0.24 mgd) in Volusia County. The table identifies actual 1995 use, projected average day 2020 needs, and projected 2020 needs including the effects of a 1-in-10-year drought.

Because of the large increase in public supply water use, the water supply plan for Work Group Area II focuses on meeting the public water supply needs. The projected increase in public water supply cannot be sustained from existing and utility-proposed sources without causing unacceptable adverse impacts to water quality, wetland and aquatic systems, and existing legal uses.

SJRWMD has developed comprehensive groundwater flow models and decision models for Work Group Area II to assist in the resource

Table 17. Volusia County public supply average day and 1-in-10-year drought water supply needs

Utility/ Service Center	1995 Water Use (mgd)	2020 Projected Water Use (mgd)	2020 Water Use Plus 1-in-10-Year Drought (mgd)
Daytona Beach	12.42	18.61	19.73
De Land	5.08	7.38	7.82
Edgewater	1.49	4.10	4.35
FWS Deltona	9.12	14.57	15.44
Holly Hill	1.16	1.70	1.80
Lake Helen	0.24	0.85	0.90
New Smyrna Beach	4.27	6.81	7.23
Orange City	1.33	2.82	2.99
Ormond Beach	4.90	7.23	7.66
Port Orange	5.28	8.98	9.52
VC Deltona North	0.34	1.35	1.43
VC Northeast	0.19	0.74	0.78
VC Southeast	0.12	0.48	0.51
VC Southwest	1.30	11.10	11.77
VC Ag Center	0.01	0.03	0.03
VC Cassadaga	0.01	0.05	0.05
VC Northwest	0.01	0.05	0.05
VC Spruce Creek	0.16	0.62	0.66
Total	47.44	87.46	92.73

Note: VC = Volusia County
FWS = Florida Water Services

evaluation, impacts analysis, and water supply plan development (Figure 10). The model area overlaps the east-central Florida groundwater flow model boundary to adequately simulate groundwater flow and adequately represent important boundary conditions. Total 1995 and projected 2020 water supply needs within the model boundary are summarized in Table 18.

Application of the Volusia groundwater flow model indicates that current individual utility plans to increase withdrawal from the Floridan aquifer, if implemented, will result in regional dewatering of wetlands sufficient to result in unacceptable adverse impacts. In addition, chloride concentrations would increase to unacceptable levels in some Floridan

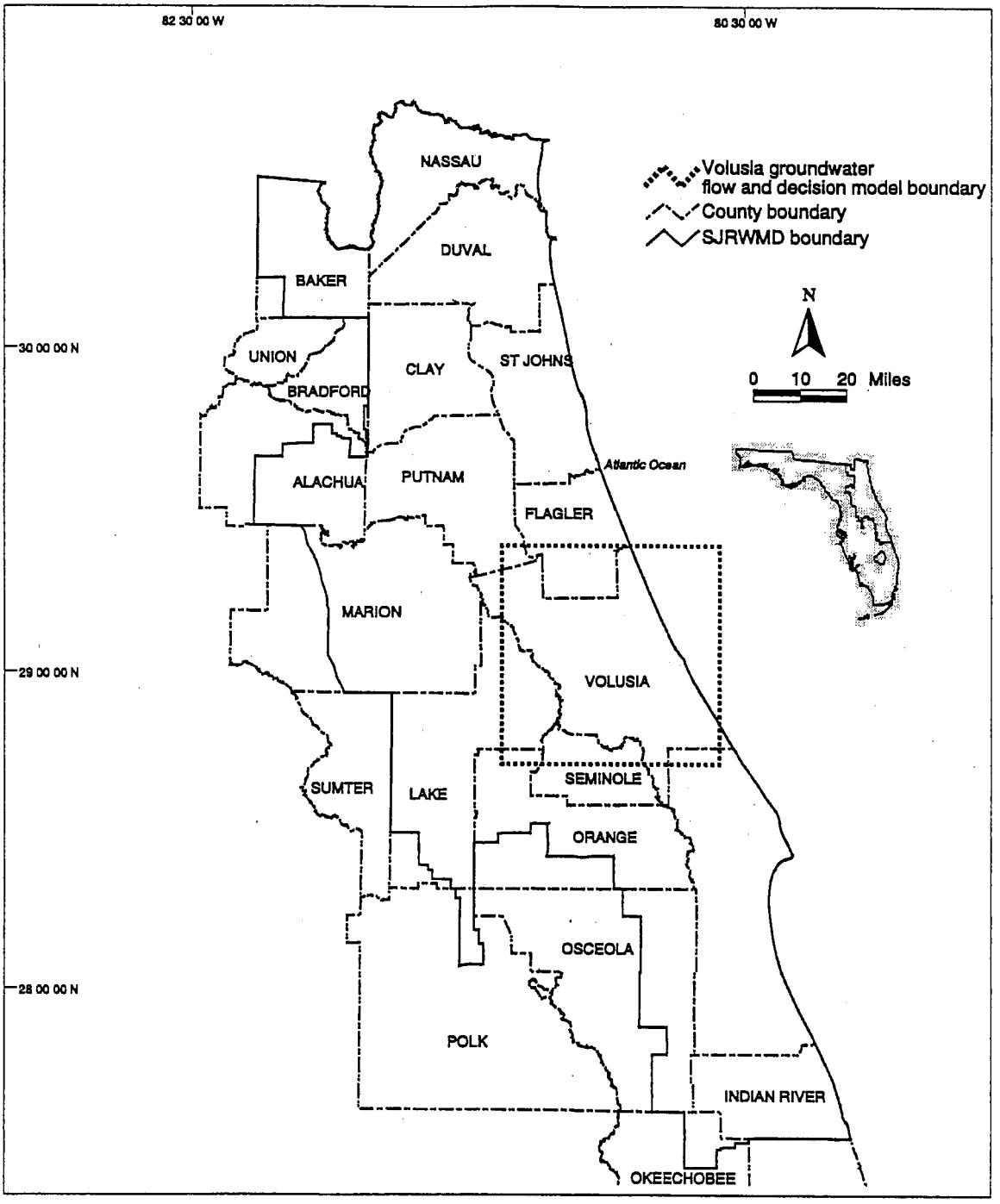


Figure 10. Volusia groundwater flow and decision model boundary

Table 18. Volusia groundwater flow model area demand projections

Category	1995 Actual Water Use	2020 Water Use	Percent Change
Public supply	59.68	112.50	89
Domestic self-supply	9.95	12.04	21
Agricultural irrigation	26.76	28.10	5
Commercial/industrial	1.07	1.75	64
Thermoelectric power generation	0.37	0.66	78

aquifer wells. Preliminary decision model results indicate that about 20 mgd of alternative water sources may need to be utilized by public supply utilities in Volusia County by 2020.

Alternative water supply sources investigated to meet the future public water supply needs in Work Group Area II included new fresh groundwater, brackish groundwater, surface water, and seawater. A number of management techniques have been identified that can enhance the supply source, sustain the water resources and related natural systems, or otherwise optimize water supply yield. These techniques include artificial recharge, aquifer storage recovery, conservation, reuse, water supply system interconnections and wetland augmentation.

Two scenarios are included here to describe possible solutions. The actual implemented solution will likely not be exactly identical to either of the two scenarios presented here. Development of the final water supply alternative will take the cooperative efforts of all concerned parties. SJRWMD's role in the next phase of the planning process will be to facilitate the decision-making to make the planning tools available to the Volusian Water Alliance and Work Group Area II utilities and to assist them in selecting sustainable water supply options.

The first scenario represents the least restrictive solution. It includes consideration of available water supply sources, including the following:

- Existing and proposed Floridan aquifer wells
- New fresh groundwater wellfields
- New brackish groundwater wellfields
- Surface water

The first scenario optimizes the solution such that overall costs are minimized. Based on this scenario, all environmental constraints would be

met and the following sources and average day quantities would be developed:

- Expansion of existing and proposed Floridan aquifer wellfields—24.3 mgd
- New fresh Floridan aquifer wellfields—10 mgd
- Surface water from the St. Johns River near Lake Monroe—8 mgd
- Surface water from the St. Johns River near De Land—0.72 mgd

Under this scenario, a total of 18.7 mgd of the increased 2020 needs of 43 mgd (within the model area), or about 43 percent, would be met from new Floridan aquifer wellfields and from surface water from the St. Johns River. The remaining increased needs, about 24.3 mgd, would be met by existing and proposed Floridan aquifer wellfields.

Estimated equivalent annual cost, in 1996 dollars, to implement this solution, including providing facilities capable of meeting 1-in-10-year drought needs, is $20 million. Total unit production cost is estimated to be about $1.27 per 1,000 gallons.

The second scenario is based on conditions identical to the first, except that in this case, water from the St. Johns River is utilized to meet deficits in western Volusia County and groundwater from the Floridan aquifer is used to meet deficits in eastern Volusia County. Based on this scenario, the following alternative sources and average day quantities would be developed:

- Expansion of existing and proposed Floridan aquifer wellfields—21.7 mgd
- New fresh groundwater wellfields—7.73 mgd
- Surface water from the St. Johns River near De Land—4.3 mgd
- Surface water from the St. Johns River near Lake Monroe—9.27 mgd

Under the second scenario, a total of 21.3 mgd of the increased 2020 needs of 43 mgd, or about 50 percent, would be met from alternative sources. The remaining increased needs would be met by existing and proposed Floridan aquifer wellfields, and water resource constraints would be met.

Estimated equivalent annual cost to implement the second solution, including providing facilities capable of meeting 1-in-10-year drought needs, is $21 million. Total unit production cost is estimated to be about $1.34 per 1,000 gallons.

These cost estimates are preliminary conceptual planning-level cost estimates. The cost of treatment of water obtained from the St. Johns River is based, in part, on partial desalting using membrane treatment to meet all primary and secondary drinking water standards for dissolved constituents. As discussed previously regarding Work Group Area I, treatment requirements may be more restrictive and costly than originally envisioned.

Preliminary evaluations of St. Johns River raw water treatment requirements indicate that treatment requirements may be more restrictive and costly than originally envisioned. Additional membrane treatment may be required to meet the federal Stage 1 Disinfectants Byproducts Rules adopted by EPA on November 30, 1998. Specifically, production of a finished water that meets the disinfection byproduct rule limit for bromate may control and increase the rate and duration of membrane treatment required. One significant problem and area of uncertainty is that there are very few bromide observations available to characterize St. Johns River water or SJRWMD brackish groundwater. Bromide has not historically been a constituent of concern. It is of concern only when ozone is used as the primary disinfection method and the controlled compound bromate is formed as a byproduct of that process. However, the few in-stream bromide data that are available are a cause for concern. Ultimately, more in-stream data and bench- and pilot-scale water treatment testing will be required to develop the most cost-effective treatment criteria for the slightly brackish St. Johns River.

Although the cost of developing the St. Johns River source is higher than the cost of developing additional fresh groundwater, the river offers an opportunity to develop significant quantities of water to support future growth beyond 2020, whereas fresh groundwater will likely not support this growth. In addition, the cost of developing the St. Johns River source to meet public supply needs in Volusia County could be reduced through a cooperative effort with public suppliers in Seminole, Orange, and Lake counties.

Additional water conservation and reuse should continue to play a role in future water supply development in this work group area. In particular, water conservation rate structures should be investigated further for all public supply utilities that do not currently have such rate structures in place. Although the water savings of this option is expected to average less than 5 percent, implementing conservation rate structures is relatively inexpensive.

East-Central Flagler County (Work Group Area III)

Work Group Area III is located in east-central Flagler County near the Atlantic coast (Figure 2). Existing and estimated future water demands in this work group area are rather modest, but freshwater resources are limited and developing adequate future water supplies will be a challenge. Currently, public supply is developed from fresh groundwater withdrawn from the intermediate and Upper Floridan aquifers.

Agricultural irrigation is currently the largest single use category in Flagler County. By 2020, however, agricultural needs are expected to decrease by about 1.37 mgd, or 15 percent, because of anticipated reductions in irrigated acreage. This decrease offsets a portion of the expected increase in public supply needs, which are anticipated to increase by about 8.5 mgd or 194 percent, raising the 1995 average day demand of 4.4 mgd to 12.9 mgd in 2020. Countywide, anticipated total freshwater use for the year 2020 (23.8 mgd) is approximately 50 percent greater than the total 1995 use (15.9 mgd). Demands in other water use categories are not projected to increase significantly.

Table 19 summarizes the estimated 2020 needs for each major Work Group Area III public supply utility. The three utilities listed in Table 13 are also the only major public supply utilities located in Flagler County. Table 19 identifies the actual 1995 use, projected average day 2020 needs, and projected 2020 needs including the effects of a 1-in-10-year drought.

Table 19. Flagler County public supply average day needs

Utility	Needs (mgd)		
	1995	2020	2020 Plus 1-in-10-Year Drought
City of Flagler Beach	0.49	1.16	1.23
City of Bunnell	0.25	1.50	1.59
Florida Water Services, Palm Coast	3.66	10.28	10.90
Total	4.40	12.94	13.72

Flagler County's 2020 public supply deficits include both source deficits and facility deficits. Existing raw water withdrawal facilities, treatment plants, and transport systems cannot meet future public supply demands. It is possible that meeting these future demands will also involve developing water supply sources other than fresh groundwater. Specifically, groundwater modeling and wellfield operational experience

suggest the Flagler County freshwater sources in the work group area—the intermediate and Floridan aquifers—may not be sufficient to meet all future needs. Fortunately, brackish groundwater is relatively abundant in Flagler County, so utilities can potentially develop this water supply source. Freshwater is also available in the Floridan aquifer in the southern portion of the county.

Projected water supply deficits in Flagler County stem from freshwater source deficits as well as from facility deficits. Existing treatment plants aren't large enough to accommodate additional groundwater withdrawal and cannot effectively treat additional brackish water. Table 20 summarizes the estimated 2020 deficits by major facility in Flagler County.

Table 20. Flagler County 2020 water supply deficits for major public supply utilities

Utility	ADD Deficit	MDD Deficit	Comments
City of Flagler Beach	0.23	1.21	Wellfield needs 0.71-mgd expansion; WTP needs 1.21-mgd expansion
City of Bunnell	0.99	1.50	Wellfield needs 1.1-mgd expansion; WTP needs 1.5-mgd expansion
Florida Water Services, Palm Coast	2.90	8.35	Wellfield needs 4.55-mgd expansion; WTP needs 8.35-mgd expansion
Total	4.12	11.06	

Note: ADD = average day demand
MDD = maximum day demand
WTP = water treatment plant

The Flagler County work group identified and reviewed several utility-specific water supply options (Table 21). To evaluate these options, total production costs, per 1,000 gallons, of the various supply and treatment options were estimated and compared, and the advantages and disadvantages of each were discussed. There are some clear differences among the options evaluated, including a wide range of expected costs (HDR 1999a).

Table 21. Utility-specific water supply options

Utility	Brackish Groundwater	Fresh Groundwater	System Interconnects
City of Flagler Beach		*	*
City of Bunnell		*	*
Florida Water Services, Palm Coast	*	*	*

The least expensive countywide alternative includes the following utility-specific options:

- **City of Flagler Beach**—Expand existing source.
- **City of Bunnell**—Expand existing source.
- **Florida Water Services, Palm Coast**—Continue with current plans to complete wellfield expansion to fully utilize existing treatment plant capacity.

The estimated capital and total unit production costs associated with these Work Group Area III least-cost options are reported in Table 22.

Table 22. Estimated costs to meet 2020 public supply needs for public supply utilities in Flagler County

Utility	Estimated Capital Cost ($ millions)	Estimated Unit Production Cost ($/1,000 gallons)
City of Flagler Beach	3.5	1.95
City of Bunnell	4.4	1.61
Florida Water Services, Palm Coast	20.5	1.84
Total	28.4	

Public supply utilities in Flagler County currently satisfy water supply needs from fresh groundwater and propose to continue to use this source in the future. However, public supply demands in Flagler County are projected to more than double by 2020. Fresh groundwater sources have

the capability to meet needs for several years, but may not be able to meet all the projected needs for 2020. The City of Flagler Beach and the City of

Bunnell, due to their relatively small projected 2020 needs (1.2 mgd and 1.5 mgd, respectively), can most likely meet future demand using fresh groundwater. Ongoing studies conducted jointly by SJRWMD and Florida Water Services, Palm Coast, will help determine whether or not the utility will need to develop alternative water sources to meet 2020 demands.

Current conservation efforts should continue, and utilities should explore new technology capable of reducing anticipated water supply costs. Utilities in this work group area should continue to research conservation and reuse options in cooperation with SJRWMD. For the first five-year update of DWSP, SJRWMD will develop a regional groundwater model to more accurately predict water supply capabilities and more fully evaluate the alternatives presented.

Brackish groundwater from the Floridan aquifer can be blended with freshwater from the intermediate or shallow aquifers, or other available sources, to meet both peak and average day demands. This technique is currently used by several public supply utilities in SJRWMD and can be expanded further to meet future demands. The Area III work group did not specifically evaluate this technique; however, it should be considered along with other utility-specific alternatives.

Southwestern St. Johns County and Eastern Putnam County (Work Group Area IV)

Work Group Area IV consists of a large portion of southwestern St. Johns County and the eastern portion of Putnam County (Figure 2). St. Johns County is located along the Atlantic coast and shares part of its western border with Putnam County. The size of Work Group Area IV is approximately 400 square miles.

Four existing or potential water supply sources exist in Work Group Area IV: the Floridan aquifer, the intermediate aquifer, the surficial aquifer and surface water. The Floridan aquifer is the primary source of water supply in Work Group Area IV. The remaining three water supply sources are used only minimally in Work Group Area IV. Major uses of the Floridan aquifer system in this area include agricultural irrigation (primarily potatoes), paper production, thermoelectric power generation, public water supply, and domestic self-supply. Water quality is generally within primary drinking water standards; however, the Floridan aquifer in the eastern portion of the work group area tends to exhibit high chloride and sulfate concentrations.

Work Group Area IV encompasses the premier potato farming area in Florida. Accordingly, potato irrigation demand represents a large portion of the total water demand in the work group area. The demand for irrigation water in this area peaks in the months of March through May, and is usually highest in April. As a result of this increased demand during a low rainfall period, water levels in the Floridan aquifer regionally can decline as much as 15 feet and in areas of concentrated withdrawals, levels can drop in excess of 25 feet in a 1-month period.

When these seasonal declines occur, other water users in the area may not be able to obtain adequate amounts of water to meet their needs due to lowered water levels in Floridan aquifer wells. The affected parties are typically domestic self-supply users. When problems occur, they typically fall into one of two categories: domestic systems that rely on free-flowing wells to supply an aerator but lose free-flow due to water level decline, or domestic systems that have pumps and piping not designed to pump water from the depths produced by the water level decline.

The water supply issue centers not on an insufficient water supply, but rather on the fact that certain domestic water supply installations are not designed to accommodate the seasonal fluctuations in water level resulting from potato irrigation pumpage. With the proper pump and piping, adequate water is available even during peak irrigation season declines.

This problem is best addressed by development of regulations focused on the pumping equipment associated with domestic well installations so that these installations will be constructed to avoid the impact of seasonal drawdowns. Because SJRWMD's regulatory jurisdiction under Part III of Chapter 373, *FS*, does not extend to pumping equipment, the pump regulations to address seasonal drawdowns should be enacted by local government. Resolution of the issue will require the cooperation of Putnam and St. Johns counties in promulgating well construction/pump ordinances.

The solution eliminates the impact of seasonal declines on existing legal domestic users and avoids the construction of new domestic well systems that are inadequate for producing water during the seasonal declines. The two-pronged solution developed by Work Group Area IV is as follows:

- **Eliminating the Impact of Seasonal Declines on Existing Legal Domestic Users**—The majority of the work group has agreed in concept to a cooperative effort to repair existing well systems when a flow loss occurs due to seasonal declines. Each loss-of-flow complaint

will be investigated to verify that flow loss is directly attributable to the decline and not to a well system construction, operation, or maintenance problem. If the loss of flow is clearly due to decline, the well system will be repaired and the cost will be shared by SJRWMD and participating area water users who contribute to the problem. This cooperative approach is appropriate, considering the large number of consumptive use permittees whose withdrawals contribute to the interference with existing legal uses. Specific details regarding the cost-share arrangement and other administrative details have yet to be finalized.

The funding needed to resolve this water supply issue is modest. A repair of this type typically involves adding a pump between the well and aerator and/or increasing the length of drop pipe in the well, estimated to cost between $400 and $500 per well. It is estimated that there are less than 50 wells in the work group area subject to loss of flow during seasonal water level declines. The estimated maximum capital cost to resolve the existing problem is $25,000.

- **Avoiding Construction of Inadequate New Domestic Well Systems**—SJRWMD has worked with St. Johns County and Putnam County to get county ordinances adopted to ensure that new domestic well installations are capable of producing water during the peak seasonal water level declines.

  Putnam County's well construction ordinance, as originally adopted, did not apply to all areas of the county subject to seasonal water level declines due to potato irrigation. SJRWMD worked with county staff to revise the ordinance to include all affected areas. The revised ordinance has been adopted by the Putnam County Board of County Commissioners.

  St. Johns County did not have a well construction ordinance in place to address this water supply issue. SJRWMD, supported by the Northeast Florida Growers Exchange, worked with county staff to impress the county commissioners with the need for this type of ordinance. SJRWMD provided the county with draft language for a well construction ordinance, and the ordinance has been adopted by the St. Johns County Commission.

Northern St. Johns County and Southern Duval County (Work Group Area V)

Work Group Area V includes northern and eastern St. Johns County and southern Duval County (Figure 2). It is a low-lying coastal area located

east of the St. Johns River, and it is currently experiencing very rapid growth. Public supply water is currently developed from the Floridan and surficial aquifers in St. Johns County and from the Floridan aquifer in Duval County.

In Work Group Area V, the greatest anticipated increase in water supply needs is in the public supply category. Public supply needs are expected to increase from about 65.9 mgd in 1995 to approximately 112.3 mgd in 2020, or about 46.4 mgd (70 percent). The increase in public supply needs results directly from population increases. During the same period, the total population for St. Johns and Duval counties is expected to increase by about 300,900—from 816,500 to 1,117,400.

By 2020, all other water supply needs categories are also expected to increase by about 11.2 mgd, except for domestic self-supply, which is projected to decrease by 4.3 mgd. Thus, the net change in these other use categories is an expected increase of 7 mgd (11 percent) by 2020. This increase means the total water use in the area of Work Group Area V is expected to rise during the planning period by about 53 mgd to a total water use of about 180 mgd.

The 2020 needs by major public supply utilities are summarized in Table 23. This table includes the actual 1995 use, projected average day 2020 needs, and projected 2020 needs including the effects of a 1-in-10-year drought.

For Work Group Area V, the ultimate sustainable source capacities are largely unknown. Therefore, deficits for the most part consist of facility deficits controlled by a water supply system's ability to meet the maximum day demand (MDD).

For some utilities, existing withdrawal and treatment facilities may be adequate to meet future public supply demands. In other cases, meeting future demands could involve developing additional facilities and possibly alternative water supply sources.

The public supply utilities in Work Group Area V currently withdraw fresh groundwater, mainly from the Floridan aquifer. Wellfield operational experience suggests that these fresh groundwater sources may be further developed on a limited basis. Therefore, DWSP considers increased withdrawal from the aquifer as an option in the work group area. However, the fresh groundwater source is not unlimited and the further development of this source within Work Group Area V must be carefully evaluated and monitored on a case-by-case basis.

Table 23. Work Group Area V public supply average day water supply needs

Utility	Needs (mgd)		
	1995	2020	2020 Plus 1-in-10-Year Drought
GDU Julington Creek	0.32	2.70	2.86
Intercoastal Utilities	1.08	6.09	6.46
North Beach Water System	0.22	1.20	1.27
City of St. Augustine	2.24	3.91	4.14
St. Joe Utilities	Not applicable	4.00	4.25
St. Johns County Utility	3.26	13.50	14.31
St. Johns Service Company	1.96	3.53	3.74
United Water Florida (St. Johns)	1.40	3.45*	3.66
Subtotal, St. Johns County	**10.48**	**38.38**	**40.69**
City of Atlantic Beach	3.15	4.35	4.61
Florida Water Services	1.83	3.26	3.46
City of Jacksonville Beach	2.90	3.80	4.03
JEA (City of Jacksonville)†	33.10	43.30	45.90
City of Neptune Beach	1.21	2.16	2.29
Regency Utilities	0.94	1.23	1.30
United Water Florida (Duval)	12.30	15.83	16.78
Subtotal, Duval County	**55.43**	**73.93**	**78.37**
Total	65.91	112.31	119.06

*Following completion of water use evaluations described in this DWSP, United Water Florida (St. Johns) requested revision of its 2020 projection to 18.12 mgd. This requested revision is not the basis of evaluations in this DWSP. Further investigation and refinement of projected water needs will be included in future revisions of DWSP.

†Supplies needs for only the portion of JEA service area within Work Group Area V. Percent of utility needs within Work Group Area V adapted from demand projection information presented in the Jacksonville Electric Authority Water Facilities Plan, August 1998.

Brackish groundwater is not abundant in the Duval County area of Work Group Area V, but it is abundant in St. Johns County; therefore, brackish groundwater is only a reliable alternative water source in the St. Johns County portion of Work Group Area V.

The St. Johns River is an abundant water source, but in the area of Work Group Area V, the water quality of the river is highly variable, and this source would require substantial treatment. It would be difficult and

relatively costly to utilize the St. Johns River as an alternative water source in Work Group Area V. However, the water quality in the lower Ocklawaha River is very good, and its potential water supply yield far exceeds total 2020 public supply needs.

Table 24 summarizes the estimated MDD facility deficits by major water supply utility. These deficit estimates represent the difference between the projected MDD needs for 2020 and the current facility's capacity. The reported deficits include the effects of a 1-in-10-year drought.

Table 24. Water supply facility deficits for major public supply utilities

Utility	MDD Deficit—mgd for 1-in-10-Year Drought
GDU Julington Creek	4.50
Intercoastal Utilities	7.40
North Beach Water System	1.52
City of St. Augustine	0.00
St. Joe Utilities*	Not applicable
St. Johns County Utility	15.59
St. Johns Service Company	0.73
United Water Florida (St. Johns)	6.21
City of Atlantic Beach	0.00
Florida Water Services	3.52
City of Jacksonville Beach	5.36
JEA (City of Jacksonville)†	17.92
City of Neptune Beach	1.12
Regency Utilities	0.65
United Water Florida (Duval)	7.67

Note: MDD = maximum day demand

*Facilities not yet permitted or constructed.
†For the JEA systems, the deficit consists of 2020 needs minus 1995 actual demand.

Water supply planning for Work Group Area V is characterized by uncertainty. The area is growing, and water supply needs will increase significantly. Fully adequate planning tools, including expanded regional

groundwater flow and water quality models, are not available to evaluate water resource management alternatives, such as the long-term consequences of increasing fresh groundwater withdrawals. SJRWMD is developing the information and tools needed for future water supply planning. These include improved groundwater flow and water quality models, additional wellfield monitoring and operational data, and continued wetland monitoring. This information will help mitigate the existing level of uncertainty and aid future water supply decision-making. Adaptive management will likely play a major role in future water supply development. Information in this DWSP concerning Work Group Area V is based largely on the collective judgment of the work group. Results and recommendations reported here may be updated as more information becomes available.

Future demand projections are also uncertain, especially for Work Group Area V, where increased population growth is both recent and rapid. Therefore, the exact rate and pattern of growth for this work group is subject to greater uncertainty than in areas with established growth patterns. If demand growth is faster than projected, then the water supply facilities discussed in this report will be needed sooner than presently expected. If growth is slower, then more time may be available to implement water supply plans.

Currently, there are no known regional adverse groundwater withdrawal impacts within Work Group Area V. Some local problems, including saltwater upconing and wetlands dehydration, currently occur or are suspected, but these impacts are not widespread. However, additional impacts will most likely occur without careful planning.

It is probable that Work Group Area V can increase fresh groundwater withdrawals beyond current levels, but the magnitude and optimal locations of the allowable increase are uncertain. Groundwater monitoring and model development are under way and will help to accurately estimate the optimal fresh groundwater withdrawal rates and locations.

This DWSP assumes utilities can increase fresh groundwater withdrawals, especially some of the utilities with smaller service areas with small 2020 deficits and limited alternatives. Future analysis, to be included in the first five-year update of this DWSP, will be needed to accurately estimate the magnitude of sustainable fresh groundwater withdrawal and decrease current planning uncertainty.

Table 25 presents a matrix of the utility-specific options identified by the work group. Organized by utility, nearly every listed option meets or

Table 25. Utility-specific water supply options identified by work group

Utility	Fresh Ground-water	Surface Water	Brackish Ground-water	Desalination	System Interconnects
GDU Julington Creek	*				
Intercoastal Utilities	*				
North Beach Water System	*				
City of St. Augustine	*				
St. Joe Utilities[1]					
St. Johns County Utility	*	*	*		*
St. Johns Service Company	*				
United Water Florida	*				
City of Atlantic Beach	*				*
Florida Water Services	*				
City of Jacksonville Beach	*				*
JEA (City of Jacksonville)	*	*		*	*
City of Neptune Beach	*				*
Regency Utilities	*				
United Water Florida	*				*

Note: In addition to the utility-specific options, this report discusses and evaluates selected work group areawide options. These options include additional water conservation and reuse strategies to reduce future demands and seawater desalting to meet increased demands.

[1]Not evaluated by work group.

exceeds the anticipated 2020 water supply needs for its respective service area. To evaluate these options, total production cost per 1,000 gallons of the various supply and treatment options was estimated, the costs were compared, and the advantages and disadvantages of each were discussed by the work group (HDR 1998b).

All of the water supply options in Table 25 are technically and economically feasible, and all are available to each utility. There are, however, some clear differences among the options evaluated, including a wide range of projected costs.

Additional water conservation and reuse should continue to play a role in future water supply development in this work group area. In particular, water conservation rate structures should be investigated further for all public supply utilities that do not currently have such rate structures in place. Although the water savings of this option is expected to average less than 5 percent, implementing conservation rate structures is relatively inexpensive.

Water Supply Utilities in St. Johns County

Seven major water supply utilities currently serve St. Johns County. However, just one utility, St. Johns County Utility, accounts for over half the 2020 average day demand (ADD) deficit (Table 24). The deficit for the remaining individual service areas is relatively small, and in many cases, expanding existing facilities appears to be the most feasible alternative likely to meet 2020 needs.

GDU Julington Creek. The recent CUP renewal quantities are very close to the 2020 needs. Upgrading and expanding the existing system to use additional fresh groundwater is the only logical option at this time.

Intercoastal Utilities. Intercoastal Utilities has existing facilities that will meet the 2020 ADD. Its deficit is based on the permitted wellfield capacity and facilities needs to meet the MDD. A decrease in the *system demand ratio*, possibly through additional water conversation or reuse activities, could lessen the MDD.

North Beach Water System. Compared to the total work group area 2020 needs, North Beach Water System needs are small. Upgrading and expanding the existing system to use additional brackish groundwater is the only logical option at this time.

City of St. Augustine. The City of St. Augustine currently has existing facility capacities to meet the 2020 needs. The existing source of supply has currently permitted withdrawal limits that are lower than 2020 needs. Preliminary results of a recently conducted wellfield stress test indicate that use of SJRWMD's groundwater model to predict declines in the elevation of the water table in the vicinity of the city's wellfield may result in overestimates of water table declines. If further evaluation of the current source indicates fresh groundwater availability (i.e., if wetland

impacts associated with wellfield pumping are less than projected or can be avoided or mitigated), then the existing system should be adequate to meet future needs.

St. Joe Utilities. St. Joe Utilities is located in northwest St. Johns County. It currently has no facilities in place, but it is projected to have an ADD of 4 mgd by 2020. The Floridan aquifer is the proposed water supply source. Studies to determine groundwater availability and proposed treatment techniques have yet to be performed.

St. Johns County Utility. The largest percentage of the 2020 public supply needs and deficits in St. Johns County occurs within the St. Johns County Utility service area. The projected needs are large enough to make developing alternative sources potentially attractive, both technically and financially. The options include developing additional fresh groundwater, developing a new wellfield with a *membrane softening* treatment system in the northern portion of the county, developing a brackish water source with reverse osmosis water treatment in the southern portion of the county, building an interconnection to an adjacent utility, and securing fresh surface water from the lower Ocklawaha River.

St. Johns Service Company. St. Johns Service Company has existing facilities that appear to be adequate to meet 2020 needs. Deficit estimates are based on permitted wellfield capacity. Upgrading and expanding the existing system to use additional fresh groundwater is the only logical option at this time. A decrease in the system demand ratio, possibly through additional water conversation or reuse activities, could lessen the MDD and more closely match the existing facility's capacity.

United Water Florida (St. Johns County). Compared to the total work group area 2020 needs, the United Water Florida needs are small. Upgrading and expanding the existing system to use additional fresh groundwater is the only logical option at this time. (Following completion of water use evaluations described in this DWSP, United Water Florida (St. Johns) requested revision of its 2020 projection to 18.12 mgd. This requested revision is not the basis of evaluations in this DWSP. Further investigation and refinement of projected water needs will be included in future revisions of DWSP.)

Water Supply Utilities in Duval County

As with St. Johns County, approximately 50 percent of the 2020 ADD increase in public supply need will occur within one major service area. That area is the portion of the JEA system, south and east of the St. Johns

River. The deficits for the remaining service areas individually are relatively small, and in most cases the current facilities are likely to meet 2020 needs using fresh groundwater. All alternative water supply sources will be more costly than the fresh groundwater option.

City of Atlantic Beach. The City of Atlantic Beach has existing facilities that will meet the 2020 needs. Its deficit is based on wellfield permitted capacity. If future inland groundwater withdrawals can be optimized to avoid impacting groundwater quality in Atlantic Beach public supply wells, then the existing system will meet future needs. It may be appropriate to interconnect the beach communities, including Atlantic Beach, beyond the existing emergency interconnections, to provide redundancy and flexibility for the water supply systems.

Florida Water Services. Compared to the total work group 2020 needs, the Florida Water Services area needs are small. Upgrading and expanding the existing system to use additional fresh groundwater is the only logical option at this time.

City of Jacksonville Beach. The City of Jacksonville Beach has existing facilities that will meet all 2020 needs. Its deficit is based on current wellfield permitted capacity. The city has submitted a CUP application for quantities to meet its needs through 2020. The application includes the proposed relocation of the city's existing wells. The main area of the city is almost built out, and if future inland groundwater withdrawals are optimized to avoid impact to the water quality of the City of Jacksonville Beach, then the proposed system upgrade should be adequate to meet 2020 needs. It may also be appropriate to interconnect the beach communities, including Jacksonville Beach, beyond the existing emergency interconnections, to provide redundancy and flexibility for the water supply systems.

JEA. The largest percentage of the 2020 needs and deficits in the Duval County portion of Work Group Area V occurs within JEA's service area. JEA is developing a plan to meet this need and issued a Phase 1 Water Facilities Plan in August 1998. This plan recommends the phase-out of certain facilities and the improvement or expansion of others. JEA appears to have most of the facilities required to meet its projected 2020 needs. However, the projected needs are large enough to make developing alternative sources potentially attractive, both technically and financially. Options include new wellfields in the north grid portion of the JEA system, an interconnection to the south grid to convey the new supply,

surface water supply from the lower Ocklawaha River, and seawater desalting.

Desalting seawater at the JEA electric power plants may have future potential if lower desalting costs can be realized by co-siting water treatment facilities with thermoelectric power generation facilities. The JEA Water Facilities Plan Phase 1 also discusses, in its demand projections, the potential of acquiring the private utilities within the south grid service area around the year 2005. Those purchases would impact the potential water supply options to be considered for those utilities and JEA.

City of Neptune Beach. The City of Neptune Beach has existing facilities that will meet all 2020 needs. Its deficit is based on its current wellfield permitted capacity. The main area of the city is almost built out, and compared to the total work group area 2020 needs, the City of Neptune Beach needs are small. If future inland groundwater withdrawals are optimized to avoid impact to the water quality of the City of Neptune Beach, then the existing system can meet future needs. It may be appropriate to interconnect the beach communities, including Neptune Beach, beyond the existing emergency interconnections, to provide redundancy and flexibility for the water supply systems.

Regency Utilities. Compared to the total countywide 2020 needs, the Regency Utilities needs are small. Upgrading and expanding the existing system to use additional fresh groundwater is the only logical option at this time.

United Water Florida (Duval County). United Water Florida has a relatively large current demand within the Duval County area of Work Group Area V. Its future needs will increase approximately 30 percent by 2020. If future inland groundwater withdrawals are optimized to avoid impacting the water quality of United Water Florida, then upgrading and expanding the existing system should be considered. If not, alternative sources, such as system interconnection with adjacent water systems, should be considered. A decrease in the system demand ratio, possibly through additional water conservation or reuse activities, could lessen the MDD.

Expected Cost of Water Supply Options

The estimated capital and total unit production costs associated with the Work Group Area V water supply options are reported in Table 26. Because of the uncertainty associated with this work group area, ranges of expected costs and unknowns are listed, as necessary.

Table 26. Estimated costs to meet 2020 public supply needs for northern St. Johns County and southern Duval County public supply utilities

Utility	Estimated Capital Cost ($ millions)	Estimated Unit Production Cost $/1,000 gallons
GDU Julington Creek	3.8	0.58
Intercoastal Utilities	3.2	0.40
North Beach Water System	4.7	2.72
City of St. Augustine*	—	—
St. Johns County Utility	29.1 to 34.6	1.73 to 1.86
St. Johns Service Company	0.7	0.68
United Water Florida (St. Johns)	4.8	0.53
Subtotal, St. Johns County	**46.3 to 51.8**	—
City of Atlantic Beach*	—	—
Florida Water Services	2.1	0.49
City of Jacksonville Beach	2.8	0.23
JEA (City of Jacksonville)	Up to 37.9	Up to 0.87
City of Neptune Beach	0.7	0.49
Regency Utilities	0.7	0.63
United Water Florida (Duval)	5.9	0.50
Subtotal, Duval County	**Up to 50.1**	—
Total	58.5 to 101.9	—

*Existing facilities are adequate.

Cost estimates for many of the smaller water supply utilities (e.g., GDU Julington Creek) are based on relatively small increased use of fresh groundwater. The Work Group Area V water supply options will incur modest capital investments and relatively low unit production costs. Estimated costs for the North Beach Water System include expansion of the existing membrane treatment system. The range of costs reported for the St. Johns County Utility options include membrane treatment at one of two potential wellfield locations.

By far the greatest cost uncertainty for Work Group Area V relates to future water supply development by JEA. If the 2020 deficit is met by construction of a Floridan aquifer wellfield north of the St. Johns River, with transport to the south grid service area, then new investment requirements will be substantial. However, if most or all of

the increased demand can be met by optimization of fresh groundwater withdrawals at locations south of the St. Johns River, then these costs could be substantially reduced. Investigations are ongoing to more accurately determine optimum withdrawal locations and additional facility requirements.

Future Outlook for Work Group Area V

Public supply needs of Work Group Area V are currently met by fresh groundwater. This use is expected to continue in the future, and some additional fresh groundwater resources will be available to meet these future needs. However, fresh groundwater is limited. The exact limits are currently unknown, and in most parts of Work Group Area V, fresh groundwater resource limits may be reached by 2020. As fresh groundwater resource limits are approached, each new wellfield or wellfield expansion strains resources and incurs financial risks. Utilities should evaluate these risks before planning to further develop fresh groundwater.

Although in some cases existing wellfield and treatment facilities can meet the future needs, installation of additional pumping, treatment, and transmission infrastructure will be needed to meet the 2020 demands. Additional investigation is necessary to evaluate what portion of the new infrastructure should tap alternative supplies available to meet future needs, in order to diversify and reduce risks. When DWSP is revised in five years, more information will be available to guide this decision and reduce the current level of uncertainty.

Water Supply Development Funding Sources

Subparagraph 373.0361(2)(a)3, *FS*, requires that SJRWMD identify potential sources of funding for water supply development for the identified source options. Although nontraditional funding sources such as a local option gross receipts tax on water could become available in the future, SJRWMD has identified only the more-traditional funding sources that are likely to be available. The potential funding sources identified are as follows:

- Water supply utility revenues from customer charges
- Local government ad valorem tax revenues
- Local government special assessments
- SJRWMD ad valorem tax revenues
- State of Florida general revenues

- Federal revenues
- Private investment

Water Supply Utility Revenues From Customer Charges

This source of revenue has historically been the primary and, in most instances, the sole source of funding for water supply development. The Florida Legislature has expressed its intent, based on the provisions of Paragraph 373.0831(2)(c), *FS*, that

1. local governments, regional water supply authorities, and government-owned and privately owned water utilities take the lead in securing funds for and implementing water supply development projects; and
2. generally, direct beneficiaries of water supply development projects should pay the costs of the projects from which they benefit, and water supply development projects should continue to be paid for through local funding sources.

Based on historic practice and this legislative guidance, SJRWMD anticipates that water supply utility revenues from customer charges will continue to be the primary funding source for water supply development projects. SJRWMD anticipates that customer charges will increase to support the cost of alternative water supply source development. In Work Group Area I, this increase could range from about $0.85 per 1,000 gallons, based on the environmentally feasible least-cost solution, to about $1.25 per 1,000 gallons, based on the more restrictive solution. These increased rates apply only to new nontraditional alternative supplies, which are a small portion of the total supply. Therefore, if the cost of new nontraditional alternative supplies were blended with the cost of existing supplies, the actual rate increase to customers would be substantially less, probably on the order of $0.25 per 1,000 gallons.

Local Government Ad Valorem Tax Revenues

Local government ad valorem tax revenues are not typically used to fund water supply development. In some instances, an advance or transfer from a local government's general fund may be used as seed money to establish a water system. Advance payments of this sort are often repaid to the general fund from utility revenues from customer charges. This potential source is not expected to generate significant funds for future water supply development projects.

Local Government Special Assessments

Local government special assessments are typically used to fund portions of water supply development projects at the subdivision or neighborhood level. Because special assessments are levied against taxable property, the portions funded must directly benefit the taxable property. This usually includes only distribution lines to individual residences. This potential source of funding is not expected to contribute significantly to the implementation of water supply development projects.

SJRWMD Ad Valorem Tax Revenues

Based on the provisions of Paragraph 373.0831(1)(a), *FS*, WMDs are not precluded from providing assistance with water supply development. Further, Paragraphs 373.0831(4)(a) and (b), *FS* (Appendix H), provide guidance for prioritizing the distribution of state or water management district funds for water supply development projects.

SJRWMD has had an active Alternative Water Supply Cost-Share Program since 1996. This program is based on the requirements of Section 373.1961, *FS*. SJRWMD has annually funded this program from ad valorem tax revenues in an average amount of $704,578 per year (FY 1996–FY 2000).

SJRWMD's ad valorem tax revenues are limited by a constitutionally established cap of 1 mil and by a statutory cap of .6 mil. SJRWMD's FY 2000 budget includes about $63.3 million from ad valorem tax sources; the budget is based on .482 mil.

If the current statutory limit of .6 mil were to be increased to the constitutional limit of 1 mil, an additional $69 million, based on current property assessments, could be generated. The Governing Board could allocate all or a portion of this money to support water supply development projects. However, SJRWMD has no current plans to actively pursue such an increase in the constitutional millage limit.

SJRWMD's Governing Board has maintained a levy of .482 mil for six consecutive years. However, the Governing Board could levy an additional .118 mil without exceeding its statutory cap. This would generate an additional $16.3 million, based on current property assessments.

SJRWMD ad valorem tax revenues are allocated to various program accounts to support all of SJRWMD's areas of responsibility. Water supply development is only one of those programs. A significant change in funding allocations among programs by SJRWMD's Governing Board

would be necessary to direct additional ad valorem revenues toward the support of water supply development projects.

State of Florida General Revenues

State of Florida general revenues have historically been the source of funding for relatively small local government water supply projects. However, this source of funding has not typically been appropriated for significant water supply development projects. This practice is not expected to change.

Preservation 2000 and Water Management Trust Funds

Section 259.101(3)(b), *FS*, currently authorizes SJRWMD to use Preservation 2000 Trust Fund moneys for the acquisition of lands for water supply development. However, the Florida Forever Act, Section 259.105, *FS*, will replace Preservation 2000. The Florida Forever Act does not authorize the use of funds for SJRWMD acquisition of lands for water supply development, but, pursuant to Subsections 259.105(6) and 373.1391(5), *FS*, SJRWMD lands which are purchased with Florida Forever funds may be used for water supply development projects that are funded through other sources.

Subsection 373.59(11), *FS*, authorizes SJRWMD to purchase lands for water supply development with funds from the Water Management Lands Trust Fund.

Federal Revenues

SJRWMD, in cooperation with SFWMD and SWFWMD, has actively sought and secured federal funding for water resource development and water supply development projects. The United States Congress in 1997 appropriated $870,000 for water supply projects in SJRWMD. An additional $3,116,000 was appropriated in 1998. These funds are administered through EPA.

Additional funds continue to be sought through the proposed Alternative Water Sources Act. If approved, this act would establish a more dependable source of funds in EPA to develop and demonstrate alternative water supply approaches which conserve, manage, reclaim, reuse, and de-salt water. Under this program, $75 million per year for five fiscal years would be authorized to provide grants to states not eligible for assistance from the Bureau of Reclamation. Florida would be eligible to receive a portion of this funding. However, at this time, there is no

assurance that this proposed act will be enacted or what the SJRWMD portion of possible funding would be.

Private Investment

Private investment is a potential source of funds to support water supply development in SJRWMD. A range of public/private ownership and investment options is available. These options range from all-public ownership and operation to all-private ownership and operation. Typically, in projects that depend heavily on the use of private investment, that investment is used to support initial capital costs. In these cases, funds to pay back the private capital investment and to support project operation and maintenance ultimately come from revenues from customer charges. However, competition among private investors desiring to fund water supply development projects could act to reduce project costs, potentially resulting in lower customer charges. The financial dynamics of the regulated rate-making process make it difficult for a private owner to maintain profitability over the life of a large water supply facility such as a water treatment plant. For this reason, public/private partnerships are often more feasible. SJRWMD's consultant Burton and Associates has prepared a discussion of principles relative to private investment in water supply facilities (Appendix I).

WATER SUPPLY DEVELOPMENT PROJECTS

Subparagraph 373.0361(2)(a)4, *FS*, requires that this DWSP include a list of water supply development projects that meet the criteria in Subsection 373.0831(4), *FS*. Based on the provisions of Subsection 373.0831(4), *FS*, water supply development projects that are consistent with the relevant regional water supply plans and that meet one or more of the following criteria shall receive priority consideration for state or water management district funding assistance:

- The project supports establishment of a dependable, sustainable supply of water which is not otherwise financially feasible (Subparagraph 373.0831(4)(a)1, *FS*)
- The project provides substantial environmental benefits by preventing or limiting adverse water resource impacts, but requires funding assistance to be economically competitive with other options (Subparagraph 373.0831(4)(a)2, *FS*)
- The project significantly implements reuse, storage, recharge, or conservation of water in a manner that contributes to the sustainability of regional water sources (Subparagraph 373.0831(4)(a)3, *FS*)

SJRWMD has identified and described water supply source options for its entire jurisdiction in the Water Supply Development Component of this document. However, specific water supply development projects based on these identified source options, in most cases, have not been finally decided upon by water suppliers. SJRWMD anticipates that the proposed regional decision-making project, which is described in the Water Resource Development Component section of this document, will provide the mechanism for identifying specific water supply development projects in Work Group Areas I and II.

Several water supply development projects are being actively discussed, investigated, and, in one instance, implemented by public supply utilities in SJRWMD. These projects meet or exceed one or more of the criteria listed in Subsection 373.0831(4), *FS*. Three of these projects are components of SJRWMD's highest priority water supply effort, the Eastern I-4 Corridor Water Project, which is designed to identify and implement economically, technically, and environmentally feasible water supply and water resource development projects in the rapidly growing I-4 corridor area of east-central Florida.

Proposed water supply development projects are described as follows:

- St. Johns River Water Supply Facility Component of the Eastern I-4 Corridor Water Project
- Eastern Orange and Seminole Counties Regional Reuse Component of the Eastern I-4 Corridor Water Project
- City of Apopka Reuse Component of the Eastern I-4 Corridor Water Project
- North-Central St. Johns County Wellfield Project
- Strategic Water Conservation Assistance Project
- Strategic Reclaimed Water Assistance Project

St. Johns River Water Supply Facility Component of the Eastern I-4 Corridor Water Project

Water supply development alternatives included in this DWSP rely on the St. Johns River to supply up to 221 mgd to meet projected 2020 demands. SJRWMD anticipates that one or more surface water supply facilities will be developed on the St. Johns River from De Land in Volusia County upstream to Lake Washington in Brevard County. Consistent with the requirements of Subparagraph 373.0831(4)(a)2, *FS*, development of these

facilities will provide substantial environmental benefits by preventing or limiting adverse water resource impacts, but will require funding assistance to be economically competitive with other options. Additionally, it is important that these facilities be developed in a manner that would sustain the resources of the St. Johns River. SJRWMD, in cooperation with the Volusian Water Alliance and Seminole County, has completed preliminary investigations of two potential sites along the St. Johns River near Lake Monroe (CH2M HILL 1999b).

Eastern Orange and Seminole Counties Regional Reuse Component of the Eastern I-4 Corridor Water Project

This project will provide for the effective use of large quantities of reclaimed water, which are available in eastern Orange and Seminole counties and which otherwise would be discharged to the St. Johns River. The project focuses on system interconnections to transport reclaimed water from areas of surplus to areas of need. Consistent with the requirements of Subparagraph 373.0831(4)(a)3, *FS*, this project will significantly implement reuse in a manner that contributes to the sustainability of regional sources. SJRWMD, in cooperation with the City of Orlando, Orange County, the Orlando Utilities Commission, Seminole County, the City of Oviedo, and the University of Central Florida, is currently developing specific reuse scenarios and cost estimates for this project.

City of Apopka Reuse Component of the Eastern I-4 Corridor Water Project

This project will relieve the use of substantial amounts of groundwater for irrigation in the area that supplies groundwater to springs in the headwaters of the Wekiva River. Consistent with the requirements of Subparagraph 373.0831(4)(a)3, *FS*, this project significantly implements reuse in a manner that contributes to the sustainability of regional sources. The additional reuse capacity provided by this project also will assure adequate flow to meet peak demands and prevent future shortfalls of reclaimed water supply as experienced by the City of Apopka during dry conditions for the last several years. Project components include the upgrade of an existing 2-mgd wastewater treatment facility to public area reuse standards, increased storage, additional pump station capacity, and installation of additional infrastructure to distribute reclaimed water.

North-Central St. Johns County Wellfield Project

Development of a new Floridan aquifer wellfield with a membrane softening treatment facility in the northern portion of St. Johns County has

been identified as a feasible water supply option to meet projected 2020 needs for St. Johns County Utility. Land holdings adequate to provide for flexibility in wellfield design and management are critical to this project. In addition, management of desalting concentrate from the treatment process is likely to prove challenging and costly. Consistent with the requirements of Subparagraph 373.0831(4)(a)1, *FS*, this project will support the establishment of a dependable, sustainable supply of water which would otherwise not be financially feasible.

Strategic Water Conservation Assistance Project

SJRWMD is firmly committed to maximizing water conservation to the extent technically, environmentally, and economically feasible. This commitment to water conservation is districtwide, not focused only on priority water resource caution areas. To this end, SJRWMD has implemented the water conservation practices described in Appendix F.

SJRWMD's consumptive use permitting rules require that all permitted water users implement water conservation measures in order to demonstrate efficient water use. As a result, all water users, including all public supply utilities in SJRWMD, currently implement water conservation practices. The water conservation programs implemented by public supply utilities are designed primarily to improve utility efficiency and reduce individual customer water use. The *Water 2020* estimates used in the demand-center-specific options analysis account for these current programs. However, it is reasonable to assume that additional water conservation initiatives could be developed and become available in the future to further enhance current practices.

Water Conservation Plan

SJRWMD proposes to provide water supply development assistance by developing a Water Conservation Plan that will guide SJRWMD activities and assist water users by identifying additional water conservation strategies and projects that could be implemented to further reduce water demands. These strategies and projects will be designed to maximize conservation of water within environmentally, economically, and technically feasible limits. While conservation is the responsibility of the water users, SJRWMD anticipates that cooperative funding may be available to implement some strategies and projects that would otherwise be economically infeasible. The Water Conservation Plan is being developed in cooperation with SJRWMD's Water Utility Advisory Board and Agricultural Advisory Committee and other interested parties. SJRWMD proposes that this plan will be reviewed and updated on a

regular basis. A draft of the plan is scheduled for completion in June 2000. The final Water Conservation Plan is scheduled for completion by December 2000 and will be presented to the Governing Board for consideration for inclusion in DWSP. Individual project schedules and costs will be identified as part of the plan development process.

At a minimum, this water conservation plan will address the following components:

- Further documentation of feasible conservation projects for different categories of water use
- Data collection and analysis, including estimating savings in water consumption and costs of conservation
- Research concerning the effectiveness of water conservation practices
- Cooperative development of water conservation education between SJRWMD and public supply utilities
- Provisions for consideration of cost-shared assistance for practices that would be otherwise economically infeasible

Strategic Reclaimed Water Assistance Project

SJRWMD's consumptive use permitting rules currently require that water users use reclaimed water and other lower quality sources whenever feasible. As a result, many utilities within SJRWMD have active reuse programs. SJRWMD is committed to the continuation and expansion of these reuse programs. Development of future water supply options identified in this plan does not lessen SJRWMD's commitment to this effort; reuse options considered in this DWSP would supplement existing programs.

SJRWMD is firmly committed to assisting water users in maximizing the use of reclaimed water to the extent technically, environmentally, and economically feasible. This commitment to reuse is districtwide, not focused solely on priority water resource caution areas. To this end, SJRWMD has already implemented numerous water reuse initiatives, which include the major elements described in Appendix G.

SJRWMD proposes to provide water supply development assistance by developing a Reclaimed Water Plan that will identify additional strategic reuse initiatives and regional projects. These initiatives and projects will be designed to assist water users in maximizing the use of reclaimed water within environmentally, economically, and technically feasible

limits. While the use of reclaimed water is the responsibility of the water users, SJRWMD anticipates that cooperative funding may be available for implementation of some of these strategies and projects that would otherwise be economically infeasible. This plan will be developed in cooperation with SJRWMD's Water Utility Advisory Board and Agricultural Advisory Committee and other interested parties. The Reclaimed Water Plan is scheduled for completion by December 2000 and will be presented to the Governing Board for consideration for inclusion in DWSP. At a minimum, this plan should address the following components:

- Data collection, documentation, and analysis of the current status of reuse that can be used by utilities and others to plan for additional reuse
- Identification of additional regional reuse projects and coordination of planning between utilities and local governments
- Coordination between SJRWMD and public-supply utilities on development of educational programs on the use of reclaimed water
- Cost-shared assistance for implementation of reuse projects that would otherwise be economically infeasible
- Provisions for limited cost-sharing, when needed, for feasibility assessments of specific reuse projects

This ongoing project will be reviewed on a regular basis. Individual project schedules and costs will be identified as part of the plan development process.

WATER RESOURCE DEVELOPMENT COMPONENT

SJRWMD has developed a water resource development program in association with its regional water supply planning effort. This water resource development program includes water resource development projects based on the provisions of Paragraph 373.0361(2)(b), *FS*. This subsection requires that DWSP include

A water resource development component that includes:

1. A listing of those water resource development projects that support water supply development.
2. For each water resource development project listed:
   a. An estimate of the amount of water to become available through the project.
   b. The timetable for implementing or constructing the project and the estimated costs for implementing, operating, and maintaining the project.
   c. Sources of funding and funding needs.
   d. Who will implement the project and how it will be implemented.

Based on the definition of water resource development included in Subsection 373.019(19), *FS*, SJRWMD considers a water resource development project to be a project that contributes to the formulation and implementation of regional water resource management strategies. Based on the provisions of this subsection, these strategies include

- The collection and evaluation of surface water and groundwater data
- Structural and nonstructural programs to protect and manage water resources
- The development of regional water resource implementation programs
- The construction, operation, and maintenance of major public works facilities to provide for flood control, surface and underground water storage, and groundwater recharge augmentation
- Related technical assistance to local governments and to government-owned and privately owned water utilities

SJRWMD has historically performed projects that are consistent with the definition of water resource development projects. These projects are numerous and range in significance from major flood control and environmental enhancement projects, such as the Upper St. Johns River Basin Project, to smaller, very specialized hydrologic data collection and analysis efforts. Many of these projects are ongoing. These SJRWMD

projects, although consistent with the definition of water resource development projects, are not necessarily identified as water resource development projects in DWSP. Water resource development projects identified in DWSP are projects that would increase the quantity of water available for water supply. Following is a description of SJRWMD's water resource development projects that are currently under way or that will be implemented by SJRWMD to support water supply development.

Abandoned Artesian Well Plugging Program

Uncontrolled or improperly constructed artesian wells (abandoned artesian wells) can have an adverse impact on the quantity and quality of water in aquifers or other water bodies. Pursuant to the requirements of Section 373.207, *FS*, SJRWMD has an active program to plug or repair abandoned artesian wells. This program is known as the Abandoned Artesian Well Plugging Program. The goal of this program is to assure the continued availability of groundwater resources by detecting, evaluating, and controlling abandoned artesian wells.

SJRWMD annually prepares a report of the status of its Abandoned Artesian Well Plugging Program. Based on the most recently published report, 581 abandoned artesian wells were in need of plugging of repair in 1995 (Curtis 1998). The wasted flow from these wells is estimated to be about 106 mgd. Properly controlling the flow from these wells will have positive impacts on groundwater levels and quality, thus increasing the availability of water for reasonable-beneficial use. Abandoned artesian wells in priority water resource caution areas have the highest priority for plugging.

SJRWMD estimates that about $2,243,960 (1995 dollars) will be required to plug or repair these wells. SJRWMD has plugged or repaired an average of 97 abandoned artesian wells per year since the current program was established in 1983. At this rate, the 1995 inventory of 581 wells would not be plugged or repaired until 2002.

Funds to support this program historically have been supplied cooperatively by SJRWMD, individual well owners, and several counties. A description of this cooperative funding effort is included in Curtis 1998.

SJRWMD proposes to continue its Abandoned Artesian Well Plugging Program on the current schedule and with the current sources of funding.

ADAPTIVE MANAGEMENT PROJECT

For the last decade, SJRWMD's water supply planning and assessment investigations have indicated that there are finite limits to the amount of groundwater withdrawal that can be sustained without causing unacceptable adverse impacts to the water resource and related natural systems. The *Water 2020* planning effort results to date show that at some locations, withdrawal limits will be approached in the foreseeable future within the *Water 2020* planning horizon.

It has been acknowledged throughout the *Water 2020* and DWSP development process that uncertainty exists in water supply planning (see Appendix J). The level of uncertainty will be reduced as DWSP is revised and updated, but it will never be fully eliminated. Therefore, an *adaptive management*, or "learn as you go," approach is an important part of SJRWMD's water supply planning process.

Adaptive management involves long-term hydrologic and environmental monitoring as well as hydrologic modeling and analysis, with integration of the results into the decision-making process. All of these activities are ongoing; however, they should be coordinated and integrated into a continuous process of monitoring, modeling, and evaluation.

A major objective of adaptive management is that the resources of concern (aquifers, wetlands, lakes, streams, springs, etc.) be monitored in order to make better-informed future management decisions. SJRWMD will develop and implement a comprehensive and coordinated resource monitoring plan, with major focus on the priority water resource caution areas. These data will be stored in a well-designed database to facilitate retrieval and usefulness. The data will be used to further calibrate, verify, and enhance SJRWMD's hydrologic and decision models, thereby continually improving the basis for decision making.

It is anticipated that the resource components to be monitored as part of the regional program will include aquatic, wetland, and upland ecosystems; lakes and streams; and the surficial, intermediate, and Floridan aquifer systems. The first step for this effort will be the development of a plan for the regional water resources monitoring program. The monitoring program plan will address the following:

- Program goals and objectives
- Parameters to be monitored—flows, levels, water quality, ecology
- Equipment needs and options

- Monitoring station layouts/configurations
- Spatial distribution needs for monitoring network
- Criteria for siting monitoring stations
- Protocols and standards for data collection, validation, modeling, and analysis
- Protocols and standards for data storage, retrieval, and access

SJRWMD proposes to develop and implement an adaptive management monitoring plan that includes these program elements. SJRWMD proposes to develop this plan in concert with the regional decision-making process in Work Group Areas I and II.

SJRWMD proposes to begin plan development in FY 2000 and to complete it within 18 months. Plan implementation should begin immediately after the monitoring program plan is developed.

SJRWMD estimates the cost of plan development to be about $100,000. SJRWMD will fund the development of the plan. Estimated implementation costs will not be available until a plan is developed. Implementation will likely be funded by SJRWMD and water supply utilities benefiting from the program.

Implementation of the adaptive management project will provide for more careful management of the groundwater resources in SJRWMD. More careful management could result in the availability of increased quantities of groundwater that could be withdrawn for reasonable-beneficial use. In Work Group Area I, based on uncertainty analyses performed to date by SJRWMD, increases in groundwater availability of about 30 mgd could be realized.

AQUIFER PROTECTION PROGRAM

Protection of SJRWMD's aquifers from unacceptable contamination and loss of recharge is essential to the security of existing and future water supplies. The surficial aquifer provides an important source of water supply in parts of SJRWMD. Coastal areas such as Brevard, Flagler, and St. Johns counties make direct use of the surficial aquifers along the coastal ridges as water supply sources. The surficial aquifer sources are prone to contamination from overlying activities on the land surface. Inland, in parts of Alachua, Marion, Lake, and Orange counties, confining beds are thin or absent, making the Floridan aquifer itself similarly prone to contamination. The surficial and Floridan aquifers are projected to continue to be the primary sources of water supply in these areas of

SJRWMD. Therefore, these aquifers should be protected to ensure their continued availability as water supply sources.

Release of contaminants in a surficial aquifer recharge area can quickly render an aquifer unusable. Depending upon hydrologic conditions, the contaminated surficial aquifer may have the potential to locally contaminate the intermediate and Floridan aquifers as well.

Loss of recharge may occur when development causes a loss of natural land cover and an increase of impermeable surfaces, such as parking lots and roadways. Ditching, draining, and diversion of water out of closed basins may also contribute to the problem. These changes tend to reduce recharge and increase surface water runoff. Loss of recharge in this way is often slow and incremental, but the long-term result can be devastating.

SJRWMD's activities relating to source protection are guided by the State Comprehensive Plan, the Water Resources Act of 1972 (Chapter 373, *FS*), and SJRWMD rules.

Wellhead Protection

Florida's wellhead protection program is one element of surficial aquifer protection. This program was developed in Florida in response to the requirements of Section 1428 of the Safe Drinking Water Act. The wellhead protection program is implemented through the Minimum Criteria Rule for Review of Local Government Comprehensive Plans and Plan Amendments, Chapter 9J-5, *F.A.C.* Through this rule, local government comprehensive plans are required to address wellhead protection.

In wellhead protection zones, local governments limit or restrict land uses that have a high potential for contaminant release. Because wellhead protection is implemented at the local level, there are a variety of techniques used to identify the wellhead protection zones (areas around wellheads to be protected). Some techniques are technically rigorous, but many utilize a nominal 200-foot radius around the wellhead without regard to hydrologic conditions. The popular use of a 200-foot zone provides virtually no aquifer protection in most areas of Florida because of high permeability sandy soils, and only limited protection of the Floridan aquifer in areas where confining beds are thin or absent. Upon request from a local government, SJRWMD will assist in the determination of the area around a well that should be protected and how to protect it through local government regulations.

Recharge Area Protection

Section 373.0391, *FS*, requires the WMDs to provide information to local governments concerning the location of aquifer recharge areas, while Section 373.0395, *FS*, requires the WMDs to include "prime groundwater recharge areas" in their groundwater availability inventories. Floridan aquifer recharge areas are well documented in SJRWMD; this information is provided to local governments upon request. However, recharge areas for surficial aquifers have not been extensively mapped.

A recent development in the area of aquifer protection is DEP's Source Water Assessment and Protection Program, which is an outgrowth of the 1996 amendments to the Safe Drinking Water Act. The program is designed to evaluate potential sources of pollution to public drinking water supplies and to protect those supplies through pollution prevention programs.

SJRWMD proposes to develop an Aquifer Protection Plan. This plan would be developed cooperatively with DEP and local governments to identify and protect surficial aquifers, the Floridan aquifer in areas where confining beds are thin or absent, and associated recharge areas. This plan will integrate existing aquifer protection efforts with additional initiatives required to adequately protect the surficial and Floridan aquifers.

The Aquifer Protection Plan should include groundwater quality and recharge protection goals, objectives, and implementation strategies. At a minimum, the following strategies should be included:

- SJRWMD will cooperate with local governments to investigate specific strategies to retain and use storm water and reclaimed water to reduce existing or potential loss of recharge to reasonable levels and to potentially make more water available for potable or irrigation supply. To the extent practical, the identified strategies should include multiple objectives such as reducing development-induced freshwater discharge, as well as increasing recharge and wetlands hydration.
- SJRWMD will seek to identify strategic land acquisitions needed to implement these recharge strategies. SJRWMD will include lands identified to be strategic for recharge enhancement as a priority for land acquisition.
- SJRWMD will continue its wellhead protection technical assistance program to provide timely delineations and implementation assistance to requesting local governments.

- SJRWMD will continue a coordinated outreach program to inform local governments of the aquifer protection technical assistance available from SJRWMD upon request.
- SJRWMD will delineate surficial aquifer recharge areas and prime recharge areas as a basis for protective regulations by local governments.
- SJRWMD will consider incorporating recharge standards and criteria for important recharge areas into SJRWMD's surface water and stormwater rules.

A schedule and estimate of costs for development and implementation of this aquifer and recharge protection plan have not been developed. However, SJRWMD anticipates that project planning will begin in FY 2000. Potential funding sources for land acquisition to increase recharge include SJRWMD, Florida Forever, the federal government's fund for alternative water supply development, local governments, and privately owned public supply utilities.

Specific estimates of the amount of water to be made available as a result of this program have not been made by SJRWMD. However, this program has the potential of ensuring the availability of all existing and future groundwater supplies in SJRWMD.

Aquifer Storage Recovery Feasibility Testing

Significant quantities of storage will be required to develop a reliable water supply from most candidate surface water withdrawal sites investigated in DWSP, including all St. Johns River sites. ASR is a cost-effective method for providing the required storage and is generally feasible within SJRWMD. As part of the SJRWMD alternative water supply strategies investigations, a preliminary ASR feasibility assessment procedure was developed (CH2M HILL 1997a). This procedure may be applied to a given potential ASR location, to assess the technical feasibility of ASR relative to other storage methods. The desktop procedure relies on existing data, including general hydrogeologic characteristics of the target storage zone.

However, because a natural geologic formation is being used to store the treated water, performance uncertainties will exist until physical testing is performed. This testing will involve design, construction, and instrumentation of test ASR wells, and injection and recovery over several cycles, with careful monitoring of the quantities and quality of the injected

and recovered water. Analysis of these data will define the true performance in given locations. Test data can be used to design ASR systems, develop operational criteria, and predict long-term ASR performance.

SJRWMD proposes to sponsor ASR feasibility testing in association with development of water supply systems. SJRWMD also proposes to enter cooperative agreements with individual utilities to perform ASR testing where ASR may contribute to better management of local water supplies.

Firm schedules and costs for this project are not available at this time, but will be developed when proposed ASR locations have been identified through the regional decision-making process.

In addition, SJRWMD proposes pursuing ASR demonstration projects for raw surface water and reclaimed water to test the feasibility of this technique as a means of managing the availability of water from these sources for agricultural irrigation and for public supply.

Firm schedules and costs for this work are not available at this time. However, SJRWMD estimates that project costs will be about $2.5 million. SJRWMD plans to fund the initial phase of this testing. Likely funding sources for future ASR testing and development include public supply utilities, Florida Forever, the federal government's fund for alternative water supply development, and SJRWMD.

ASR testing is necessary to ensure that this storage and recovery technique can be used successfully at specific locations. Therefore, performance of this project is critical to the development of ASR systems that may be associated with future water supply development projects. ASR of treated water is the primary storage technique planned for surface water source development projects for public supply, which could supply about 500 mgd of additional water supplies. ASR of raw surface water may offer significant potential in the development of new water supplies for reasonable-beneficial use. SJRWMD proposes to investigate this potential more fully and will develop estimates of the quantities of water that can be made available using this technique; such estimates are not available at this time.

Central Florida Aquifer Recharge Enhancement Program

Providing additional aquifer recharge in central Florida could significantly increase available fresh groundwater supplies and thereby reduce or delay the need for development of alternative water supplies.

Aquifer recharge could be increased by enhancing natural recharge or by providing artificial recharge, including infiltration basins or recharge wells. Recharge enhancement can be integrated with stormwater management systems to provide needed drainage and flood control as well as increased water supply. The purpose of the Central Florida Aquifer Recharge Enhancement Program is to maximize local recharge to the Floridan aquifer and to minimize the impacts of groundwater withdrawals in order in increase the sustainable fresh groundwater supply and reduce the need for development of alternative supplies.

The Central Florida Aquifer Recharge Enhancement Program will proceed in three main phases:

- Phase I—Artificial Recharge Demonstration Projects
- Phase II—Recharge Enhancement Evaluation and Design
- Phase III—Program Implementation

Phase I—Artificial Recharge Demonstration Projects

Artificial recharge was included in SJRWMD's alternative water supply strategies investigation. Artificial recharge using infiltration basins, as well as recharge wells, was investigated in the east-central Florida planning area. The use of RIBs to recharge high-quality reclaimed water to the surficial aquifer is a well-established and accepted practice. However, the use of recharge wells, although practiced for many years, has been the subject of much controversy. Recharge wells have historically been used in central Florida as a stormwater management and lake-level control technique. However, the aquifer recharge benefits and consequences of central Florida drainage wells have not been fully investigated. In addition, construction of new recharge wells has not been permitted in recent years due to aquifer contamination concerns. As a result, local governments have increasingly relied on diversion of water from recharge to nearby rivers to solve flooding problems, which has resulted in losses in aquifer recharge.

SJRWMD investigated the aquifer recharge characteristics of existing recharge wells and developed a preliminary assessment of the technical feasibility of increasing this recharge, thereby increasing the water supply potential of the Floridan aquifer in east-central Florida (CH2M HILL 1997d). Aquifer recharge provided by existing aquifer recharge wells is significant (from 39 mgd to 52 mgd) and that opportunity exists to significantly increase the current recharge rate, thereby supplementing current groundwater supplies.

The major issue preventing additional use of direct recharge wells is the potential for bacterial contamination of the aquifer using lake water or treated storm water as the source of recharge. The purpose of these artificial recharge demonstration projects is to demonstrate the use of recharge wells for net aquifer improvement. Net improvement may include increasing recharge volume without increasing aquifer contamination, or decreasing aquifer contamination while preserving existing artificial recharge rates. Because bacteria is of primary concern, the demonstration program will focus on the following:

- The fate of bacteria in the Floridan aquifer
- The effectiveness of passive stormwater treatment for reducing bacteria
- The effectiveness and cost feasibility of physically reducing bacteria in lake water recharge

The increase in recharge that would result from full implementation of the net improvement concept is not precisely known, but SJRWMD believes that 50 mgd is a reasonable estimate.

The artificial recharge demonstration program is a cooperative effort between central Florida local governments, SJRWMD, SFWMD, DEP, and EPA. Three projects have been identified for this program:

- Lake Orienta Recharge Well Project (City of Altamonte Springs)
- Urban Street Drainage Treatment Project (City of Orlando)
- Lake Sherwood Project (Orange County)

The Lake Orienta project involves construction of a new recharge well and monitoring wells on Lake Orienta, which is currently served by lake-level control wells. Monitoring of both lake water quality and the receiving-aquifer water quality will be performed prior to, during, and after recharge, to investigate the fate and transport of bacteria in the aquifer.

The Urban Street Drainage project is similar in scope and objective to the Lake Orienta project except that in this case, an existing street drainage well(s) with no stormwater treatment will be retrofitted with a passive stormwater treatment system and/or a subsurface treatment system to evaluate net water quality benefits.

The Lake Sherwood project involves comprehensive watershed planning and installation of stormwater pollutant reduction technologies to allow increased recharge volume in an existing lake-level control well without increasing pollutant loading to the aquifer.

These projects will provide vital data on the fate and transport of constituents introduced into the aquifer via direct recharge as well as provide criteria for the design of aquifer recharge systems, including recharge water pretreatment systems.

The artificial recharge demonstration projects are currently planned as five-year projects. These projects began in 1999 and are scheduled to extend through 2004.

The estimated total cost of this program will not be available until the design phase is complete and permits have been issued. However, the estimated cost of monitor well construction and associated data collection and analysis is $300,000. This element of the program will be funded by SJRWMD and SFWMD. Based on a cost-share agreement between SJRWMD and SFWMD (SJRWMD Contract No. 99H278), SJRWMD and SFWMD will share the cost of this element for work related to the Urban Street Drainage and Lake Sherwood projects, and SJRWMD will fund the work related to the Lake Orienta project. In addition, based on cost-share agreements with the local government cooperators, SJRWMD will design the monitoring plan for the program and will prepare the required permit applications and perform permit-related interagency coordination at an estimated cost of $250,000. SJRWMD will also reimburse local government cooperators in an amount up to $200,000 for their project-related expenses. It is expected that both DEP and EPA will participate by reviewing monitoring data to evaluate the benefits of the program.

The cost identified to date for Phase I is $750,000. Construction costs, other than monitor well construction, and other project-related expenses will be borne by the local government cooperators. These costs are expected to be considerable.

Phase II—Recharge Enhancement Evaluation and Design

Concurrent with the performance of Phase I work, evaluations of the feasibility of other artificial recharge enhancement approaches, such as the placement of storm water and reclaimed water in RIBs and naturally occurring closed depressions in upland recharge areas, are proposed. Upon completion of the Phase I demonstration projects and these evaluations, recharge water treatment requirements, costs, and hydrologic design requirements will be better defined. This information, along with local stormwater management and flood control needs, can be used to design an integrated central Florida aquifer recharge system. This system should meet stormwater management, aquifer protection, and water

supply needs and will contribute to integrated regional water resource management.

A cost of $250,000 has been identified to date for Phase II evaluations of the feasibility of other artificial recharge enhancement approaches, such as the placement of storm water and reclaimed water in RIBs and naturally occurring closed depressions in upland recharge areas. It is estimated that these evaluations will be performed cooperatively with local governments and will require about five years to complete. Other Phase II costs and schedules have not been estimated.

Phase III—Program Implementation

The scope of the Central Florida Aquifer Recharge Enhancement Program can be determined only after completion of Phases I and II. However, it is likely that it will require the cooperative efforts of SJRWMD, SFWMD, DEP, EPA, local water supply utilities, and local stormwater management agencies. Priorities will need to be established, and detailed design, construction, and monitoring will follow. Costs and schedules for Phase III are not available at this time.

Cooperative Well Retrofit Project

The *Water 2020* Water Supply Planning Area IV work group has developed a proposed solution to deal with existing and potential future interference problems in southwestern St. Johns County and eastern Putnam County. The nature of this problem is discussed in more detail in the Water Supply Development Component of this DWSP. The proposed solution, if successfully implemented, will eliminate interference with existing legal domestic users and will avoid the construction of new domestic well systems that are inadequate for producing water during the peak irrigation period. The two-pronged solution developed by the Area IV work group is described as follows:

- **Eliminating the Impact of Seasonal Drawdowns on Existing Legal Domestic Users**—The majority of the work group has agreed in concept to a cooperative effort to repair existing well systems when a loss of flow occurs due to seasonal drawdown. Each loss-of-flow complaint will be investigated to verify that loss of flow is directly attributable to the drawdown and not to a well system construction, operation, or maintenance problem. If the loss of flow is clearly due to drawdown, the well system will be repaired and the cost will be shared by SJRWMD and major area water users. This cooperative approach is appropriate, considering the large number of consumptive use

permittees whose withdrawals contribute to the interference with existing legal uses. Specific details regarding the cost-share split and other administrative details have yet to be finalized.

The funding needed to resolve this water supply issue is modest. A repair of this type typically involves adding a pump between the well and the aerator and/or increasing the length of drop pipe in the well. This type of repair is estimated to cost between $400 and $500 per well. It is estimated that there are fewer than 50 wells in the work group area that are subject to loss of flow during seasonal drawdown events. Estimated maximum capital cost to resolve the existing problem is $25,000.

Implementation of this project is expected to impact the continued availability of about 12,500 gallons per day of existing domestic self-supply in Work Group Area IV. This project is also designed to ensure the availability of water to supply future domestic self-supply systems.

SJRWMD proposes to develop a final implementation plan and schedule for this solution in FY 2000.

- **Avoiding the Construction of Inadequate New Domestic Well Systems**—SJRWMD has worked with St. Johns County and Putnam County to get county ordinances in place to ensure that new domestic well installations are capable of producing water during the seasonal drawdown events.

  Putnam County had a well construction ordinance, but it did not apply to all areas of the county subject to seasonal drawdowns due to potato irrigation. SJRWMD worked with county staff to revise the ordinance to include all affected areas. The revised ordinance has been approved by the county commission.

  St. Johns County did not have a well construction ordinance in place to address this water supply issue. SJRWMD, supported by the Northeast Florida Growers Exchange, worked with county staff and made a presentation to the St. Johns County Commission regarding the need for this type of ordinance. SJRWMD provided the county with draft language for a well construction ordinance, and the ordinance has been adopted by the St. Johns County Commission.

Demineralization Concentrate Management Project

SJRWMD has identified brackish groundwater and surface water as potential significant sources of supply to meet projected 2020 demands. The use of this brackish water will require management of the waste concentrate that is a byproduct of the demineralization process. Available management options include placement in deep injection wells, discharge to surface waters, land spreading, discharge to wastewater treatment facilities, and so forth. Implementation of these management options is subject to DEP regulatory requirements; these regulatory requirements are based on federal guidelines administered by EPA. The history of the permitting of demineralization concentrate discharges in SJRWMD indicates the need to develop acceptable management strategies for demineralization concentrate discharge that can be dependably utilized by public supply utilities and other water users. This should be a cooperative effort with DEP and EPA. SJRWMD proposes to proactively work to develop these management strategies through the following actions:

- Develop acceptable management strategies for demineralization concentrate discharge that can be dependably utilized by public supply utilities and other water users. This should be accomplished through a cooperative effort with DEP, EPA, public supply utilities, and other affected parties
- Identify any required technical studies, data collection, or analysis needed to formulate management strategies and monitor the effectiveness of management strategies. This should be accomplished through a cooperative effort with DEP, EPA, public supply utilities, and other affected parties

SJRWMD proposes to begin this effort in FY 2000, but has not developed a comprehensive schedule or budget for this project. Such a schedule and budget will be developed at the time of contract negotiations with the consultant selected by SJRWMD to perform the work.

Specific estimates of the amount of water to be made available as a result of this project have not been made by SJRWMD. However, because acceptable concentrate management must be associated with any demineralization project, all existing and future potential brackish groundwater, surface water, and seawater source development could be impacted.

FACILITATION OF REGIONAL DECISION-MAKING PROCESS

SJRWMD has identified water supply source options that are adequate to meet the projected water demands of all users through 2020. However, decisions concerning the choice of options by public supply utilities may greatly influence the availability of these source options for other utilities. This is of particular concern for those options that differ significantly in cost, for example, fresh groundwater at a cost of about $0.75 per 1,000 gallons and surface water from the St. Johns River at a cost of approximately $2.00 per 1,000 gallons. SJRWMD anticipates that less-expensive fresh groundwater will be the first option of choice for most public supply utilities. However, in Work Group Areas I and II, there may be inadequate locally available fresh groundwater to meet all projected 2020 demands. The combination of some fresh groundwater, but not enough locally available to meet demands, and the considerably higher cost of development of alternative sources, such as surface water and brackish groundwater, sets the stage for competition for the less expensive additional groundwater. A regional decision-making process is recommended as a means of avoiding unnecessary and disruptive competition for the water resource.

As part of this regional decision-making process, SJRWMD will strive to maximize decision-oriented discussions between major water users, particularly public supply utilities. SJRWMD intends to proactively implement this regional decision-making process by taking the following actions:

- Coordinate with the work groups to develop a plan and schedule for the decision-making process
- Provide a facilitator for the process at SJRWMD's expense
- Provide SJRWMD staff and consultant expertise to support the process at SJRWMD's expense
- Develop a document that describes the decision-making process and the decisions achieved through the process
- Amend and update DWSP as necessary to incorporate sustainable water source options selected by water supply utilities that are consistent with this DWSP

This regional decision-making process has not been designed specifically for the purpose of creating any particular form of intergovernmental or institutional structure. Rather, the process seeks to encourage forms of

cooperation which are mutually beneficial to all participants. SJRWMD intends to begin this effort in FY 2000 and anticipates that completion of this process may require up to two years.

An estimate of the cost of this decision-making process will be developed in association with the development of a plan for the process. However, based on the costs incurred to date by SJRWMD in association with the *Water 2020* process, SJRWMD estimates that the cost will be about $500,000. This project will be funded by SJRWMD.

SJRWMD considers this decision-making process to be critical to the development of additional public supplies in Work Group Areas I and II through the planning horizon. The estimated quantity of these additional public supplies is 340 mgd in Work Group Area I and 42 mgd in Work Group Area II.

Feasibility of Seawater Demineralization Projects

Seawater demineralization is considered as a general option available to all water supply utilities. However, because of the relative cost and availability of other less expensive options, seawater demineralization is not considered among the utility-specific options identified in this DWSP.

Significant quantities of seawater will probably not need to be developed in SJRWMD before 2020. However, it is reasonable to assume that seawater will be developed as a water supply source within SJRWMD in the future. Seawater demineralization technology is continually advancing, and the relative cost between seawater and other alternative public supply sources will likely narrow in the future. Coastal areas are more likely than inland areas to develop seawater resources. Special case situations, such as co-siting a seawater demineralization plant with an electric power plant, may make this water supply source competitive with the development of other water supply sources.

SJRWMD proposes to investigate the technical, environmental, and economic feasibility of seawater demineralization projects. This feasibility investigation will include an evaluation of

- Available technologies
- Potential sites, including sites on the Atlantic Ocean and along the Atlantic Intracoastal Waterway system, with special emphasis on opportunities to co-site with an electric power plant
- Demineralization concentrate management

- Costs

SJRWMD proposes to begin this feasibility investigation during FY 2000 and to complete it within 18 months. SJRWMD plans to fund this investigation.

SJRWMD estimates the cost of this project to be about $300,000. Decisions concerning further investigation of seawater demineralization projects will be made following completion of this feasibility investigation.

Hydrologic Data Collection and Analysis

SJRWMD has identified the need for hydrologic data collection and analysis in association with required five-year revisions of DWSP and in association with DWSP implementation. Based on this need, SJRWMD proposes the following data collection and analysis efforts.

SJRWMD's Hydrologic Data Collection Network

SJRWMD operates and maintains a hydrologic data collection network. This network provides a source of valuable hydrologic information concerning parameters, including rainfall, evapotranspiration, surface water and groundwater flows and levels, and surface water and groundwater quality. SJRWMD proposes the following actions in association with this effort:

- Maintain the existing network, making changes as necessary based on site evaluations and consideration of the adaptive management monitoring program
- Develop and implement a plan to improve the surficial aquifer monitoring network to support recalibration of groundwater models
- Develop and implement a plan for the construction of additional Lower Floridan aquifer monitor wells in SJRWMD's regional groundwater flow model areas

Water Use Data Management

SJRWMD collects, manages, and analyzes water use data in association with its water supply assessment and water supply planning efforts. SJRWMD's water use data management project includes verification of the location of public supply wells and water treatment plants, mapping of public supply service area boundaries, and development of population projections and demand projections for water use categories examined in

the water supply assessment. SJRWMD proposes the following actions in association with this effort:

- Continue the water use data management program
- Expand the well and water treatment plant inventory to include all public supply utilities using at least 0.1 mgd; include country clubs with a resident population in the public supply water use category
- Continue efforts to make water use information available to internal and external customers, using SJRWMD's database and Internet systems
- Continue coordination with SJRWMD permitting staff to assure consistency between demand projections and permit allocations
- Develop demand projections for public supply at the water treatment plant level and, if possible, at the well level

Hydrology of Native Plant Communities

SJRWMD recognizes the need to determine the hydrologic conditions associated with native plant communities that have not been impacted by groundwater withdrawals, surface water diversions, or other man-induced activities that would alter the natural character of the communities. SJRWMD operates and maintains a network of native vegetation monitoring sites located in unimpacted native plant communities. Surficial aquifer monitor wells have been installed at each site for the collection of groundwater level data. In addition to groundwater level data, vegetation and soils data are collected at the sites. The network was installed in 1995 and has been monitored regularly since that time. Data from these sites are analyzed to better understand the relationships between vegetation, soils, and groundwater level changes. SJRWMD plans to use this information as a reference for assessments at other sites that may be impacted by proposed groundwater withdrawals. SJRWMD proposes the following actions in association with this effort:

- Continue to operate and maintain the monitoring network
- Analyze data and prepare written reports of analyses at five-year intervals

Groundwater Modeling

SJRWMD relies heavily on the use of groundwater models for evaluation of hydrologic data in association with its water supply planning effort.

These groundwater models include regional-scale groundwater flow models, local-scale analytical flow models, and regional and subregional groundwater quality models.

SJRWMD's regional groundwater flow models are currently capable of simulating only steady-state conditions. Development of transient calibrations for these regional groundwater flow models will allow for the simulation of time-varying conditions in the aquifer. The simulation of smaller time-steps than that represented by the steady-state condition can lead to improved model calibration and thus to improved confidence in SJRWMD's predictive simulations. In addition, simulation of smaller time-steps will aid in assessing the response time of water levels to pumping stresses. SJRWMD proposes the following actions in association with this effort:

- Complete the steady-state recalibration of the northeast Florida regional groundwater flow model to 1995 conditions
- Develop a decision model based on the northeast Florida regional groundwater flow model
- Determine an appropriate methodology for prediction of water quality changes in the Floridan aquifer with respect to time in the northeast Florida regional groundwater flow model area. Implement this methodology
- In cooperation with SFWMD and SWFWMD, develop and implement a groundwater modeling strategy for the east-central Florida area that will meet the needs of the three WMDs. At a minimum, the following elements shall be considered in development of this strategy:
  - Joint development of a central Florida regional groundwater flow model
  - Development of a new or revised groundwater quality model for SJRWMD's east-central Florida groundwater flow model area
  - Development of transient calibrations for SJRWMD's east-central Florida regional groundwater flow model
- Improve the decision models associated with the east-central and Volusia regional groundwater flow models based on flow model revisions, as necessary

- Consider the need to develop local-scale MODFLOW models and optimization models of the St. Augustine, St. Johns County, and Palm Coast Utility wellfields; develop these models as deemed necessary
- Consider the need to develop groundwater flow models for the Indian River County area; develop these models as deemed necessary
- Maintain close coordination with the U.S. Geological Society and other WMDs concerning the MEGA model to ensure appropriate incorporation of boundary conditions in future predictive scenarios
- Evaluate groundwater/surface water interactions in Bennett Swamp and other flow-through wetland areas, as necessary
- Develop and implement a plan to project water level declines in lakes with established minimum levels or in lakes that are included on the MFLs project priority list using the MODFLOW LAKE PACKAGE and other appropriate techniques
- Assess the need to develop local-scale groundwater flow and water quality models in association with proposed new wellfield sites identified as a result of the proposed regional decision-making process; develop these models as deemed necessary

Surface Water Modeling

SJRWMD utilizes surface water modeling to simulate the surface runoff responses of watersheds to precipitation by representing the watersheds as interconnected systems of hydrologic and hydraulic components. Each component models an aspect of the precipitation-runoff process within a portion of the watershed, commonly referred to as a basin or a subbasin. Each basin or subbasin is represented by a combination of model components that include runoff, river routings, reservoirs, and diversion and pump components. Daily rainfall, evapotranspiration, seepage losses, soil and land use data, and hydraulic rating curves are basic input requirements for these model programs. The watershed divisions and their components are linked together to represent the connectivity of the defined project areas.

The purpose of the continuous simulation modeling is to provide long-term hydrologic data for project areas under existing, historical, and projected future conditions. These simulations are needed to evaluate the conditions associated with establishing the hydrologic criteria required for maintaining a balance between the consumptive use of water for human

purposes and that required for maintaining a healthy ecological environment. Examples of the type of information provided are

- Supplemental irrigation requirements for agricultural areas under historic rainfall conditions for existing and projected future land use conditions
- Long-term hydrologic data to ensure that any withdrawals for water supply will not cause water flows or levels to fall below established MFLs and environmental hydrologic criteria established for protecting healthy ecosystems
- Information essential in determining the amount of surface water available for water supply for meeting a 1-in-10-year drought requirement

SJRWMD proposes to take the following actions in association with this effort:

- Continue the simulation modeling of the upper St. Johns River to more accurately define the existing and future agricultural water demands and the impact the established environmental criteria will have on the ability of the water supply to meet these demands
- Develop suitable river flow simulation modeling of the middle St. Johns River to provide a more accurate description of the water supply available from the St. Johns River in this area, including Lake Monroe
- Include water supply withdrawal scenarios in the simulation modeling of the upper Ocklawaha River Basin to provide a more accurate description of the water supply available from the basin

Integrated Decision Modeling

SJRWMD, in cooperation with the University of Florida's Center for Applied Optimization, has developed and used decision models to assist in its water supply planning efforts in the east-central Florida and Volusia regional groundwater flow model areas. These models allow SJRWMD and the water supply planning work groups to identify possible regional water supply solutions based on the integration of water resource impact criteria, cost, and other considerations such as sociopolitical or regulatory restrictions. These models are based on the regional groundwater flow models and must be revised as the flow models are updated and revised. SJRWMD proposes to take the following actions in association with this effort:

- Assess the need to develop a decision model based on the northeast Florida regional groundwater flow model. Develop this model as deemed necessary
- Improve the decision models associated with the east-central and Volusia regional groundwater flow models based on changes to the flow models

Specific estimates of the amount of water to be made available as a result of this project have not been made by SJRWMD. However, this project will support all existing and proposed future source development.

Investigation of Areas Where Domestic Self-Supply Wells Are Sensitive to Water Level Fluctuation

Certain areas of SJRWMD have high concentrations of domestic self-supply wells. As growth has continued and demands on the aquifers have increased, regional lowering in the aquifers has occurred. This regional lowering, in combination with natural or induced seasonal fluctuations, has caused loss of flow to some self-supply installations. Installations relying upon free-flowing wells to supply a household are particularly susceptible to this problem. Also, pumps or drop pipes designed for historically higher water levels may no longer be adequate for the fluctuations that now occur. This investigation will identify areas where high concentrations of domestic self-supply wells exist and hydrologic conditions are such that the potential for loss of flow is high. Management strategies will be developed for these areas so that interference with these self-supply wells can be avoided. This information will assist permitted water users in managing impacts and mitigating for any interference with existing legal uses.

Regional Aquifer Management Project

Projected 2020 groundwater withdrawals for public supply in Volusia County are projected to result in cumulative impacts that could cause unacceptable adverse impacts to the water resources and related natural systems in the area. Impacts to wetlands and lakes and saltwater intrusion are of particular concern. The area includes existing public supply wellfields belonging to the cities of Ormond Beach, Holly Hill, Daytona Beach, Port Orange, New Smyrna Beach, Edgewater, Lake Helen, De Land, Orange City, and Pierson; Florida Water Services (for the City of Deltona); and Volusia County. The cumulative impacts of the withdrawals from these wellfields rather than the impacts of withdrawals from any one

of these wellfields are the source of concern. Therefore, the regional aquifer management project (RAMP) is proposed as a means of increasing the quantity of sustainable wellfields while protecting the water resources and related natural systems.

RAMP will consist of the following phases:

1. Plan development
2. Feasibility assessments and demonstration projects
3. Design and construction
4. Operation and maintenance

Based on information available to date, the following water supply strategies are expected to be incorporated into RAMP:

1. Avoidance of wetland impacts using wetland hydration with storm water and reclaimed water
2. Aquifer storage recovery
3. Water supply facility interconnection
4. Wellfield optimization

SJRWMD proposes to work cooperatively with the Volusian Water Alliance to develop a plan for RAMP. SJRWMD estimates that plan preparation will cost $250,000 and can be completed in two years, beginning in FY 2001. Costs and time frames for the remaining phases of RAMP will be estimated as part of the plan preparation process.

Surface Water In-Stream Monitoring and Treatability Studies

Surface water is an alternative water supply source in SJRWMD. Its current use for public supply is limited to withdrawal by the City of Melbourne from Lake Washington on the upper St. Johns River and by the City of Cocoa from the Taylor Creek Reservoir.

DWSP has identified several opportunities for development of additional surface water resources, including

- The St. Johns River between Cocoa and De Land
- The upper and lower Ocklawaha River basins
- The C-1 Canal watershed in Brevard County

Compared to groundwater, surface water is difficult and expensive to develop as a public water supply source, because rivers and streams are inherently variable in both quantity and quality of flow available for use.

DWSP has been developed based on the best available data. For the most part, historic streamflow records are adequate for evaluation of the quantity of water available, and some water quality data are available for preliminary characterization of treatment requirements. However, much uncertainty exists regarding the impact of surface water quality on total water treatment costs.

Historically, there has been little interest in surface water for public supply because high-quality groundwater was usually available. In addition, the number of water quality parameters important to water treatment process selection and design is increasing rapidly, as a result of recent and ongoing revisions to national drinking water standards and rules.

There is a need to establish a comprehensive surface water quality monitoring program to gather the data necessary to adequately characterize surface water quality at likely water supply withdrawal locations. The most critical monitoring locations include the main stem of the St. Johns River between Cocoa and De Land. Siting of one or more regional water treatment plants along this reach is likely.

One very important and evolving issue is disinfection byproducts control. Historic water quality data of interest to the evaluation of disinfection byproducts are largely unavailable and are critical for developing accurate assessments of treatment requirements and costs.

Other locally important candidate surface water withdrawal sites could also be investigated (e.g., the C-1 Canal) if local governments or utilities are interested in joining a cooperative effort. Bench- and pilot-scale treatability studies should also be initiated once sufficient data are obtained to adequately characterize the raw water quality.

SJRWMD proposes to begin the water quality monitoring program in FY 2000 and estimates that the program will require about 18 months to complete, at a cost of about $200,000.

Surface water in-stream monitoring and treatability studies must be performed before adequate surface water withdrawal and treatment systems can be designed. Therefore, performance of this project is critical to the development of new surface water sources, including the St. Johns River (up to 351 mgd), the upper Ocklawaha River Basin (up to 14 mgd), the lower Ocklawaha River Basin (up to 107 mgd), and the C-1 Canal (up to 11 mgd).

Strong local interest has been expressed at this time in the development of a surface water supply system on the St. Johns River near Lake Monroe, but not at the other sites. Therefore, the costs and schedules for surface water in-stream monitoring and treatability studies are based on performance of this work only for the St. Johns River at Lake Monroe at this time. SJRWMD plans to initiate treatability testing in FY 2000. SJRWMD estimates that this work will cost $1.5 million and will require two years to complete. Potential funding sources for construction of a regional surface water supply facility include public supply utilities (both government and privately owned), Florida Forever, the federal government's fund for alternative water supply development, private investors, and SJRWMD.

Wetland Augmentation Demonstration Program

Augmentation of water levels in wetlands is one approach to avoiding wetland impacts resulting from lowering of adjacent surficial aquifer water levels. Although this technique could be used to offset or avoid some of the undesirable impacts of groundwater withdrawals, operational experience is limited. The purpose of the impact-avoidance demonstration program is to initiate and monitor several wetland hydration projects to generate a monitoring, design, construction, and operational history which can be used in future water supply planning to fully evaluate this technique as an alternative water supply development strategy.

The feasibility of avoiding wetland impacts through hydration was assessed in SJRWMD's alternative water supply strategies investigation. The wetlands augmentation demonstration program is a continuing phase of the alternative strategies investigations documented by CH2M HILL (1997c).

The wetland augmentation demonstration program is a cooperative effort between SJRWMD and participating water supply utilities. Five demonstration projects have been identified and are included in the current program:

- Project 1—Tillman Ridge wellfield, St. Johns County
- Project 2—Bennett Swamp, Volusia County
- Project 3—Port Orange wellfield, Volusia County
- Project 4—City of Titusville wellfield (Parkland Wetland), Brevard County
- Project 5—City of Sanford wellfield, Seminole County

Projects 1, 3, and 4 are very similar in scope and format. Each demonstration project involves assessment of baseline hydrologic, biologic, and water quality conditions. Permitting, design, construction, and operation of the required hydration facilities are also included. Construction of the hydration facilities will be the responsibility of the utility owner. The other activities will be completed by SJRWMD. Each hydration system will then be operated to maintain the desired wetland hydrologic regime as necessary, with monitoring of important hydrologic and biologic parameters, as well as water requirements and costs. Raw groundwater will be used for augmentation in Projects 1 and 3, local stormwater runoff will be used for augmentation in Project 4, and reclaimed water will be used for augmentation in Project 5.

Project 2 is somewhat more complex then the other demonstration projects and involves optimal management of a regional surface water wetland and drainage system to maximize environmental and water supply benefits. The initial phase of this project includes environmental baseline monitoring to establish existing conditions. Monitoring and simulation modeling will then be used to determine optimal surface water control structure locations and operating elevations to achieve the desired benefits.

Cooperative agreements between SJRWMD and the participating owner/utilities have been developed for Projects 1 through 4, and all of these projects have recently been initiated. Discussions concerning Project 5 are under way with the City of Sanford.

Information provided from each wetland augmentation demonstration project will be useful in ascertaining the potential cost and effectiveness of this technology as a water supply and environmental management alternative. Such an assessment will improve the quality and completeness of future DWSP updates.

The Wetland Augmentation Demonstration Program began in 1999 and is scheduled to extend through 2005.

The estimated total cost of this program is $1.5 million. Based on existing and contemplated agreements with the local government cooperators, SJRWMD plans to provide $1.25 million of this cost, with local government cooperators providing $250,000.

The specific quantity of additional groundwater that will be made available for withdrawal and use as a result of this demonstration project cannot be determined prior to performance of the demonstration project.

SJRWMD believes that wetland augmentation can be used to increase the quantity of groundwater that can be withdrawn without causing unacceptable adverse impacts to the water resources and related natural systems. However, operational experience necessary to precisely quantify this increase is lacking. This demonstration project is designed to provide that operational experience.

RECOMMENDATIONS

SJRWMD has developed strategies for implementation of this DWSP. These implementation strategies are included in the following categories:

- Minimum flows and levels
- Water supply development projects
- Water resource development projects
- Consumptive use permitting process
- Intergovernmental, water supplier, and public coordination

Following is a discussion of the strategies by category.

MINIMUM FLOWS AND LEVELS

SJRWMD's MFLs program is described in the Establishment of Minimum Flows and Levels section of this document. SJRWMD annually publishes an approved priority list and a schedule for establishment of MFLs for water bodies on the priority list. The current priority list and schedule has been published in the *Florida Administrative Weekly*.

Proposed Action

- As part of the annual update to SJRWMD's Priority List and Schedule for the Establishment of Minimum Flows and Levels, give due consideration to water supply sources identified in DWSP
- Continue with the establishment of MFLs in accordance with the approved priority list and schedule
- Perform ongoing monitoring and periodic re-evaluation of MFLs
- Develop and refine groundwater and surface water models, including an interface between ground and surface water models, where appropriate, to predict if water withdrawals will cause water levels and flows to fall below established MFLs

WATER SUPPLY DEVELOPMENT PROJECTS

SJRWMD has identified and described water supply source options for its entire jurisdiction in the Water Supply Development Component section of this document. SJRWMD anticipates that specific water supply development projects will be selected as a result of the proposed regional

decision-making project, described in the Water Resource Development Component section of this DWSP.

Several water supply development projects are being actively discussed, investigated, and, in one instance, implemented by public supply utilities in SJRWMD. These projects meet or exceed one or more of the criteria listed in Subsection 373.0831(4), *FS*, and are described as follows:

- St. Johns River Water Supply Facility Component of the Eastern I-4 Corridor Water Project
- Eastern Orange and Seminole Counties Regional Reuse Component of the Eastern I-4 Corridor Water Project
- City of Apopka Reuse Component of the Eastern I-4 Corridor Water Project
- North-Central St. Johns County Wellfield Project
- Strategic Water Conservation Assistance Project
- Strategic Reclaimed Water Assistance Project

Proposed Action

- Assist in identifying water supply development projects through the proposed regional decision-making process
- Complete timely and regular updates of DWSP as needed to incorporate the results of regional decision making and further feasibility investigations
- Assist in implementing water supply development projects through technical assistance and cooperative funding

WATER RESOURCE DEVELOPMENT PROJECTS

SJRWMD has identified and described proposed water resource development projects in the Water Resource Development Component section of this document. Identified water resource development projects include the following:

- Abandoned artesian well plugging program
- Adaptive management project
- Aquifer protection program
- Aquifer storage recovery feasibility testing

- Central Florida aquifer recharge enhancement program
- Cooperative well retrofit project
- Demineralization concentrate management project
- Facilitation of regional decision-making process
- Feasibility of seawater demineralization projects
- Hydrologic data collection and analysis
- Investigation of areas where domestic self-supply wells are sensitive to water level fluctuation
- Regional aquifer management project
- Surface water in-stream monitoring and treatability studies
- Wetland augmentation demonstration program

Proposed Action

- Implement water resource development projects as described in the Water Resource Development Component section of this document
- Complete timely and regular updates of DWSP as needed to incorporate the results of regional decision-making and further feasibility investigations

Consumptive Use Permitting Process

Both the DWSP and the consumptive use permitting programs are tools which the legislature has provided SJRWMD to ensure that sufficient water will be available for existing legal uses and reasonably anticipated future needs and to sustain the water resources. A successful planning process should provide an effective means for avoiding the adverse effects of competition for water supplies which could occur in the consumptive use permitting process. Simply put, these two processes—planning and permitting—complement each other.

The District has identified a number of actions which will help ensure that these two processes are fully complementary:

- **Make available all data, scientific analyses, modeling, and other information developed in the DWSP process for use by permit applicants as part of establishing that their water use meets the applicable consumptive use permitting criteria**

SJRWMD will make this information available in readily usable formats and will provide assistance to permit applicants in using the modeling tools.

Although the water resource constraints utilized in the planning process are not direct substitutes for SJRWMD's consumptive use permitting criteria and some of the consumptive use permitting criteria (e.g., water conservation) are not encompassed within these constraints, nonetheless, the options included in the plan have withstood a rigorous planning-level analysis and should therefore be very useful to applicants seeking to focus on options which have been identified as potentially sustainable sources.

- **Encourage participation by water supply utilities and other CUP applicants in a regional decision-making process in areas where such a process is important to the successful future development of regional public water supplies**

SJRWMD has identified the need for regional decision making concerning the choice of water supply sources to meet projected 2020 demands in Work Group Areas I and II. Numerous public supply utilities exist in close proximity to one another in these work group areas. These utilities currently have proposed to use groundwater to meet most demands through 2020. To successfully meet the 2020 demands, a combination of additional groundwater and alternative sources has been identified as the most sustainable approach. The alternative sources most likely to be used are surface water and brackish groundwater. The costs of developing these resources could range from about $0.75 per 1,000 gallons for additional fresh groundwater to about $2.00 per 1,000 gallons for surface water. This combination of some fresh groundwater, but not enough locally available to meet demands, and the considerably higher cost of development of alternative sources, such as surface water and brackish groundwater, sets the stage for competition for the less expensive additional groundwater. A regional decision-making process is recommended as a means of avoiding unnecessary and disruptive competition for the water resource. A cooperative regional decision-making process rather than a more piecemeal allocation of water among competing permit applicants pursuant to Section 373.223, *FS*, is more likely to result in the most beneficial use of the water resource for all existing and reasonably anticipated future uses.

The facilitated process will include appropriate groupings of users. The goal of the process will be to select regional water supply options (1) which meet existing and reasonably anticipated future water needs of all

users while sustaining the water resources and related natural systems and (2) which the participants are willing to support and implement. SJRWMD envisions the successful completion of this process will result in revisions to DWSP to incorporate the selected regional water supply options.

- **If one or more utilities attempt to disrupt or bypass the regional decision-making process, SJRWMD should consider initiation of rulemaking to amend its consumptive use permitting rules to establish specific public interest factors to be used in the case of competing applications pursuant to Section 373.233, *FS*.**

As part of its consideration, SJRWMD should weigh the public interest served by the water supply planning process, DWSP, and the regional decision-making process implemented as a recommendation of DWSP.

- **Consider initiation of the rulemaking process to amend the permit duration provisions of SJRWMD's consumptive use permitting rules which may serve to encourage selection of water supply options consistent with DWSP and the subsequent regional decision-making process.**

- **Use the coordinated review of CUPs as provided for in the Memorandum of Understanding (MOU) between SJRWMD, SFWMD, and SWFWMD to address and resolve concerns about interdistrict impacts.**

SJRWMD's water supply planning Work Group Area I includes portions of SFWMD and SWFWMD. Water use in those areas beyond the SJRWMD boundary could contribute to unacceptable water resource impacts in SJRWMD, and vice versa (Vergara 1998). The potential for interdistrict impacts exists because the Floridan aquifer is hydrologically continuous across the jurisdictional boundaries of the three WMDs. All three WMDs have consumptive use permitting rules promulgated based on the requirements of Part II, Chapter 373, *FS*. In 1998, the three WMDs entered into an MOU (Appendix K) which commits the districts to coordination of these permitting programs. SJRWMD should continue to participate in the MOU coordination and review process to help address interdistrict impacts.

Intergovernmental, Water Supplier, and Public Coordination

DWSP was developed through a cooperative public process designed to maximize the participation and input of local governments, government-

owned and privately owned utilities, self-suppliers, and other interested and potentially affected parties, pursuant to the requirements of Subsection 373.0361(1), *FS*. SJRWMD recognizes the need for continued significant intergovernmental, water supplier, and public coordination in association with its water supply plan development and implementation efforts.

Implementation of this DWSP will be subject to applicable provisions of Chapters 120 and 373, *FS*. Pursuant to Section 373.0361(4), *FS*, any portion of this DWSP which affects the substantial interests of a party shall be subject to Section 120.569, *FS*. Additionally, pursuant to Section 373.0361(2)(e), *FS*, the considerations referenced in paragraph (e) of that subsection, unless adopted by rule, do not constitute final agency action.

Coordination With Other WMDs and DEP

SJRWMD recognizes the importance of coordination with Florida's four other WMDs and DEP concerning the water supply planning process. This coordination has historically been carried out primarily through the following organized efforts:

- Water Planning Coordination Group (WPCG)
- Interdistrict MFLs Framework Group
- MOU between SJRWMD, SFWMD, and SWFWMD (Appendix K)

WPCG was formed following the signing of Executive Order 96-297 and the enactment of the water supply planning provisions of Section 373.0361, *FS*. WPCG is composed of representatives of DEP and the five WMDs. The purpose of WPCG is to deal with consistency issues among WMDs concerning water supply planning matters.

The Interdistrict MFLs Framework Group was formed by the five WMDs and DEP for the purpose of developing consistent methodologies for the determination of MFLs.

SJRWMD, SFWMD, and SWFWMD entered into an MOU on October 28, 1998, for the purpose of establishing guidelines for interdistrict coordination of matters concerning water resource investigations, water supply planning, water use regulation, and water shortage management.

The three districts are currently involved in separate but coordinated water supply planning efforts in the area of the tri-district boundary. SFWMD is currently developing its Kissimmee Basin Water Supply Plan in the area immediately south of its boundary with SJRWMD. SWFWMD is currently developing its Southern Water Use Caution Area

Management Plan in the area immediately west of its boundary with SJRWMD. These planning processes are being performed based on the requirements of Section 373.0316, *FS*. However, the three separate planning processes are being carried out on different schedules. The three WMDs should jointly develop water resource constraints, which can be used in the required five-year update of DWSP, the Kissimmee Basin Water supply Plan, and the Southern Water Use Caution Area Management Plan.

In addition to these organized efforts, SJRWMD coordinates on an as-needed basis with the other WMDs and DEP concerning water supply planning matters.

Proposed Action

- Continue active participation in WPCG
- Continue active participation in the Interdistrict MFLs Framework Group
- Continue to implement the provisions of the tri-district MOU and develop a cooperative planning strategy with SFWMD and SWFWMD for areas which could experience interdistrict impacts, to be implemented in future updates of the water supply plans of these WMDs
- Continue coordination with other WMDs and DEP on an as-needed basis

Coordination With Local Governments

SJRWMD recognizes the importance of coordination with local governments on matters concerning water supply planning. SJRWMD's water supply planning process has been linked to local governments through the participation of local government elected officials and staff members in the work group process and through the work group plan and the DWSP review processes. Active participation by local government elected officials in work group meetings was generally weak; therefore, the primary links between the work group process and local government elected officials were local government staff members. The work groups expressed concern that this linkage was not strong enough. This concern prompted SJRWMD to present the results of the *Water 2020* process to selected local government bodies and to receive the direct input of those bodies.

SJRWMD coordination with local governments in Brevard and Volusia counties was considerably more organized than in other counties in SJRWMD. Local government coordination in Brevard and Volusia counties was primarily through the Brevard Water Supply Board (BWSB) and the Volusian Water Alliance (VWA), respectively. This organized coordination resulted in very valuable and direct input by local elected officials.

SJRWMD anticipates that the recommended regional decision-making process will require continued and even stronger coordination with local government staffs and elected bodies. Continuation of the work group process, development of the facilitated regional decision-making process, and meetings with local government staffs on an as-needed basis should provide adequate coordination at the local government staff level. However, the value of actively encouraging the development of groups such as BWSB and VWA in other areas of SJRWMD should be considered.

Proposed Action

- Continue coordination with local governments through water supply planning work groups and through meetings on an as-needed basis
- Develop and implement strategies for improved coordination with local government elected officials, with special consideration given to the formation of groups such as BWSB and VWA

Coordination With Water Suppliers

SJRWMD recognizes the importance of coordination with water suppliers, including publicly owned and privately owned water supply utilities, agricultural water users, and other self-suppliers, on matters concerning water supply planning. SJRWMD's water supply planning process has been linked to these users primarily through SJRWMD's water use projection process, work group process, and DWSP review processes. In addition, SJRWMD has focused considerable attention on public supply utilities and agricultural users through coordination with SJRWMD's Water Utility Advisory Board and Agricultural Advisory Committee and through the consumptive use permitting process. Active participation in work group activities by public supply utilities and by agriculture has been generally strong.

Proposed Action

- Continue current coordination links, particularly those with SJRWMD's Water Utility Advisory Board and Agricultural Advisory Committee,

adjusting the intensity of coordination as necessary based on the regional decision-making process

Coordination With the State of Georgia

SJRWMD recognizes the importance of coordination with the state of Georgia concerning water supply development in northeast Florida and southeast Georgia. SJRWMD's northern boundary is coincident with the state of Georgia's southern boundary. The Floridan aquifer is continuous throughout the coastal areas of Georgia and Florida and is the primary source of water supply in the northeast Florida/southeast Georgia area. Groundwater withdrawals in the northeast Florida area impact groundwater levels in southeast Georgia, and vice versa.

SJRWMD and the Georgia Environmental Protection Division have actively coordinated for several years concerning the potential impacts of groundwater withdrawals. This coordination has been on an as-needed basis and has included technical workshops, project development coordination and report review, and meetings as needed.

Proposed Action

- Continue coordination with the State of Georgia Environmental Protection Division

Coordination With the Federal Government

SJRWMD recognizes the importance of coordination with the federal government in association with its water supply plan development and implementation efforts. This coordination involves primarily the areas of funding and regulation.

SJRWMD, in cooperation with SFWMD and SWFWMD, has actively sought and secured federal funding for water resource development and water supply development projects. The United States Congress in 1997 appropriated $870,000 for water supply projects in SJRWMD. An additional $3,116,000 was appropriated in 1998. These funds are administered through EPA.

Additional funds continue to be sought through the proposed Alternative Water Sources Act. If approved, this act would establish a more dependable source of funds in EPA to develop and demonstrate alternative water supply approaches which conserve, manage, reclaim, reuse, and de-salt water. Under this program, $75 million per year for five fiscal years would be authorized to provide grants to states not eligible for

assistance from the Bureau of Reclamation. Florida would be eligible to receive a portion of this funding.

In addition to coordination on funding matters, SJRWMD coordinates with EPA concerning EPA regulation of water supply development and water resource development projects. The focus of this coordination has involved federal requirements for underground injection and discharge to surface waters, which are administered by DEP. These requirements could impact the implementation of important water resource and water supply development projects involving desalting concentrate management, artificial recharge, aquifer storage recovery, and public supply treatment technologies.

Proposed Action

- Continue to actively seek federal funding for identified water supply and water resource development projects
- Continue to coordinate with EPA and DEP to improve the ability to implement identified water supply development projects while ensuring necessary water resource protection

Coordination With Other Affected Parties and the Public

SJRWMD recognizes the importance of coordination with affected parties and the public concerning water supply planning matters. This coordination has occurred mainly through the work group and workshop processes. In an effort to maximize the involvement of affected parties and the public, SJRWMD developed and implemented an outreach plan. Based on this outreach plan, significant attention has been directed at obtaining the involvement of all interested parties. SJRWMD's Division of Water Supply Management (DWSM) maintains a comprehensive communications database to support SJRWMD's water supply planning effort. This database includes the *Water 2020* mailing list, which includes more than 1,700 names and is used as the basis of dissemination of water supply planning information. When initially compiled, this list included about 3,300 names gathered from all pertinent SJRWMD mailing lists. Following the first several work group meetings, the initial list was culled to eliminate the names of parties who did not want to continue to participate.

In addition to coordination with work group participants based on the *Water 2020* mailing list, SJRWMD maintains a World Wide Web site at http://sjr.state.fl.us. This Web site includes pertinent information concerning SJRWMD's water supply planning activities.

Proposed Action

- Update SJRWMD water supply planning outreach plan annually and implement updated plan
- Continue to manage the DWSM comprehensive communications database
- Continue to maintain the SJRWMD Web site, updating as necessary with pertinent water supply planning information

GLOSSARY

adaptive management—An approach to water resources and water supply management frequently described as a *learn as you go* process. Adaptive management involves long-term hydrologic and environmental monitoring, hydrologic modeling, and adjustment of withdrawal rates (allowed increases or required decreases) as more is learned about each alternative water supply source and its ability to deliver sustainable water supplies without resulting in unacceptable adverse impacts to the water resources or related natural systems.

average day demand (ADD)—Existing or projected future water use for an average or typical day. ADD is equal to the total annual water supply volume divided by the number of days per year. ADD is usually expressed in units of million gallons per day.

construction cost—The total amount expected to be paid to a qualified contractor to build the required facilities.

control point—A location in the simulation model where environmental or hydrologic limits or values are specified in order to achieve a management objective.

decision models—Water supply planning tools that incorporate regional groundwater flow models, saltwater upconing models, and mathematical optimization models to identify groundwater withdrawal scenarios that maximize the use of fresh groundwater while ensuring compliance with selected environmental constraints. Decision models can also be used to find the least-cost solution for providing necessary alternative water supplies to meet future needs. Decision models provide for the rapid and systematic evaluation of numerous regional water supply development scenarios.

deficit—The quantity of water that cannot be withdrawn from existing groundwater supplies without violating the specified constraints.

drawdown—A decline in the water level of the surficial aquifer or the potentiometric surface of the Floridan aquifer.

economic optimization model—A decision model that identifies the combination of alternative water supply source options that will provide future water supply needs at minimum total cost. An economic optimization model is applied only when the desired water supply cannot be fully met by fresh groundwater.

equivalent annual cost—Total annual life cycle cost of a water supply option, based on service life and time value of money criteria established for the *Water 2020* program. Equivalent annual cost includes amortized capital cost

plus annual operation and maintenance cost. Equivalent annual cost represents total water supply development cost with the water supply facilities operating at design capacity.

facility deficit—Amount of projected 2020 water supply needs that cannot be met by existing water supply facilities.

groundwater optimization model—A decision model that identifies the water supply withdrawal scenario (i.e., pumpage rate at each well) that will maximize the use of fresh groundwater while ensuring compliance with selected environmental constraints and other groundwater withdrawal constraints specified by the user.

interdistrict transfers of groundwater—The withdrawal of groundwater from a point in one water management district for use outside the boundaries of that water management district.

land acquisition cost—The estimated cost of acquiring the required land. For the *Water 2020* program, land acquisition cost equals 25% of the land market value.

land cost—The market value of the land required to implement the water supply option.

maximum day demand (MDD)—Existing or projected future water use for the peak or maximum day during the year. MDD is equal to the highest daily volume used during a given year. MDD is usually expressed in units of million gallons per day.

membrane softening—Membrane softening is a water treatment process that reduces hardness by membrane treatment, usually nanofiltration. In addition to softening the water, membrane treatment will also remove color and disinfection byproduct precursors.

nonconstruction capital cost—The cost of construction-related services including engineering design, permitting, administration, and construction contingency associated with the constructed facilities. For the *Water 2020* program, nonconstruction capital cost equals 45 percent of the estimated construction cost.

1-in-10-year drought—A drought event that results in an increase in water demand with a 10 percent probability of occurrence in any given year. The level-of-certainty water supply planning goal is to assure at least a 90 percent probability, during any given year, that all reasonable-beneficial water uses will be met while sustaining water resources and related natural systems.

operation and maintenance cost—The estimated annual cost of operating and maintaining the water supply option when operated at design capacity.

ozonation—The application of ozone to water for the purpose of disinfection.

priority water resource caution areas—Those areas where existing and reasonably anticipated sources of water and conservation efforts may not be adequate (1) to supply water for all existing legal uses and reasonably anticipated future needs and (2) to sustain the water resources and related natural systems.

reverse osmosis—Reverse osmosis is a water treatment process that removes salts and other dissolved constituents from raw water by forcing the water under pressure through a semipermeable membrane. Principal applications include brackish water and saline water desalting.

service area—The area served by a single water supply utility.

source deficit—The difference between the projected 2020 needs and the quantity of water the source can supply.

system demand ratio—The ratio of the maximum day demand (MDD) to the average day demand (ADD)—[MDD/ADD]—for a given demand center. In general, this ratio varies for each public supply utility.

total capital cost—Construction cost, plus nonconstruction capital cost, plus land cost, plus land acquisition cost.

unit production cost—Equivalent annual cost divided by the annual production rate. The unit production cost is expressed in terms of dollars per 1,000 gallons.

water resource constraints—The limits of water resource impacts beyond which unacceptable adverse impacts to water quality, wetland and aquatic systems, and existing legal uses are expected to occur.

water supply alternative—An array of water supply options that will provide future water supply needs; applies to an entire work group area. An alternative will meet all future water supply needs of a work group area and is a subset of the water supply plan.

water supply development project—A project that contributes to the planning, design, construction, operation, and maintenance of public or private facilities for water collection, production, treatment, transmission, or distribution for sale, resale, or end use.

water supply option—Applies to a given water service area, usually a public supply utility. It is an action, that may or may not involve construction of new facilities (projects), that will meet a given service area's future water supply needs.

work group area—A subdivision of the *Water 2020* planning area intended to facilitate the water supply planning process. The individual work group areas share water supply sources and issues.

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http://sjr.state.fl.us

Composite Exhibit Grant 4.

Correspondence Between City of Titusville and Representatives of Miami Corporation

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 021256-WU EXHIBIT NO 12
COMPANY/ City of Titusville
WITNESS. Ranetta C. Grant (RCG-4)
DATE: 06/22-23/04

HARTMAN & ASSOCIATES, INC.

engineers, hydrogeologists, surveyors & management consultants

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December 12, 2002

HAI #01.0036.000

Ms. Raynetta Grant, P.E.
Director of Water Resources
City of Titusville
2836 Garden Street
Titusville, FL 32796

Subject: Miami Corporation Proposed Bulk Water Service

Dear Ms. Grant:

Per your request, we have prepared a brief summary of items relative to providing bulk raw water service. Attachment A includes an overview of the proposed system, including a layout of the proposed wells (Figure 1). In addition, Tables and Schedules showing the anticipated capital costs and calculation of the fixed charge and gallonage rates are included. If you have any questions or if we can be of any other assistance, please do not hesitate to contact me at (407) 839-3955.

Very truly yours,

Hartman & Associates, Inc.

Charles W. Drake

Charles W. Drake, P.G.
Vice President

CWD/jev/01.036.00/corresp/bulk raw water.cwd

Attachments

cc: Glenn Storch, Esquire
Barbra Goering, Esquire
Mr. Earl Underhill
Mr. George S. Flint, HAI



ATTACHMENT A
PROPOSED BULK RAW WATER FACILITIES AND RATES

GENERAL

The Phase I bulk raw water facilities will provide water to meet a projected total demand of approximately 2.25 Million Gallons per Day (MGD) Average Annual Daily Flow (AADF) and the Phase II bulk raw water facilities will provide water to meet a projected total demand of approximately 2.75 MGD AADF.

It is estimated that seven wells will be constructed initially and ultimately fifteen (15) 12-inch wells will be required to meet the 2.75 MGD AADF demand over the 10-year planning period. We have assumed, based upon meetings with the SJRWMD, that wetland impacts may occur if the pumping of groundwater is concentrated in a small area. For that reason we have spaced the proposed wells on 1,000 foot centers and designed them to pump 350 gallons per minute, or 0.500 million gallons per day. The SJRWMD may require additional aquifer testing in order to better estimate potential wetland impacts. The testing and subsequent review by the SJRWMD may result in relocating some of the proposed production wells, and/or adjusting pumping rates, and the total number of wells. Assuming for firm pumping capacity, as required by the FDEP, 20% of the proposed fifteen (15) wells are out of service, the firm pumping capacity would be 6.0 MGD. This is 2.18 times the average day demand of 2.75 MGD. The firm pumping capacity of 6.0 MGD is anticipated to be the maximum daily demand of the neighboring utilities.

This raw water supply will be pumped from the proposed wellfield located in the southeast region of the service area near the Brevard County/Volusia County line where it will be metered and delivered to bulk customers. It is proposed to provide 1,000 feet spacing between the wells. The proposed location of the wellfield is shown in Figure 1. Withdrawals will be through 12" diameter wells approximately 300 feet deep completed into the Upper Floridan aquifer.

ESTIMATED CAPITAL COSTS

It is estimated that the Phase I capital cost of the proposed bulk raw water operation including the necessary permitting and engineering fees is approximately $2,913,600. The Phase I and II bulk raw water facilities will include the construction of fifteen (15) new wells, associated facilities and a wholesale meter for a total estimated cost of $5,274,000. The estimated capital costs associated with the bulk raw water facilities are listed in Table 1. It is assumed that Contributions In Aid of Construction (CIAC) will be approximately 60% of the total capital costs.

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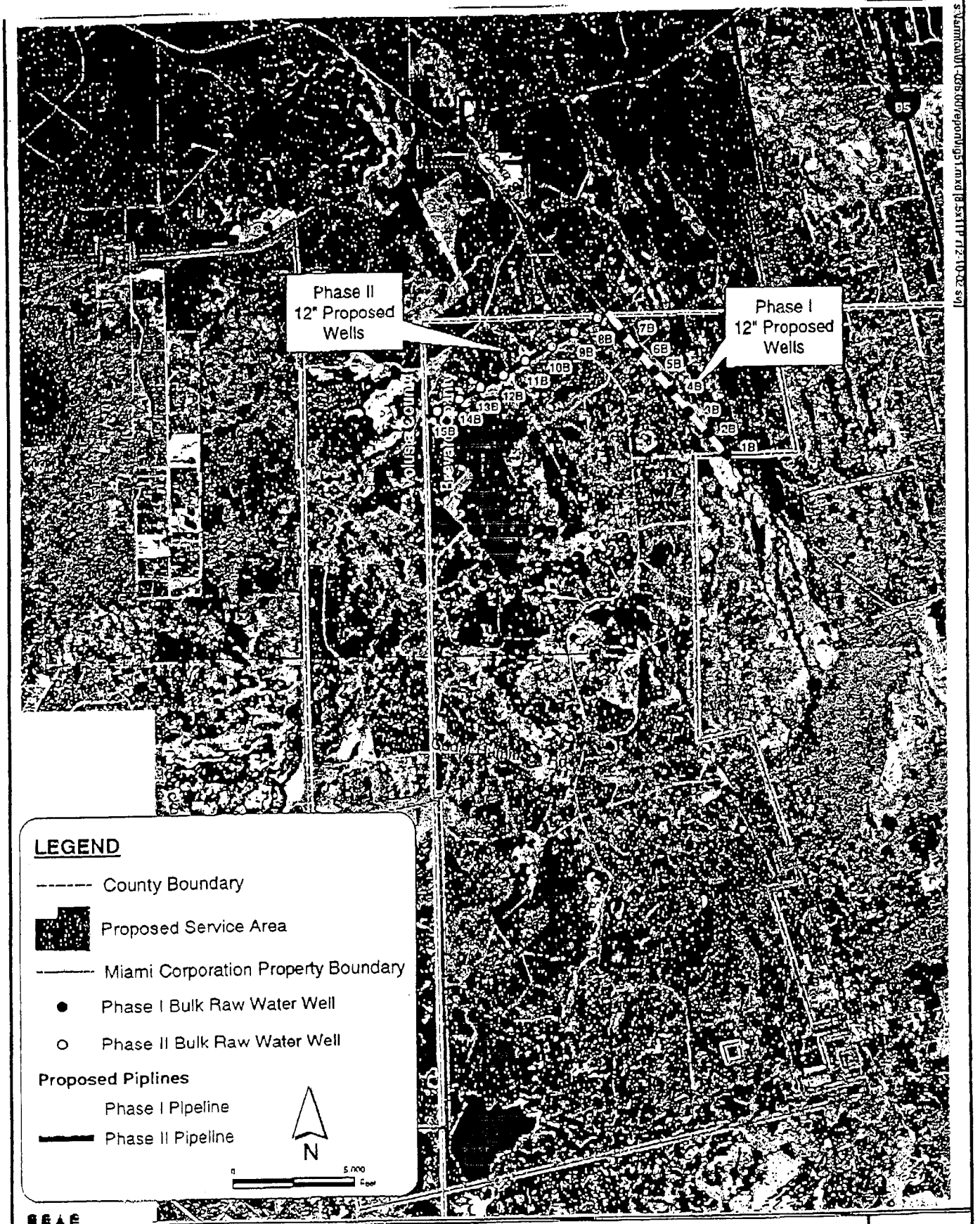
ESTIMATED OPERATION AND MAINTENANCE COSTS

The costs that are typically associated with the operation and maintenance (O&M) of bulk raw water pumping facilities are:

- Power
- Labor
- Permitting/Water Quality Analysis

Chemical costs are not applicable as the raw water will not be chlorinated. The primary maintenance will be periodic inspection and repair of the wells and controls and site maintenance (mowing). A royalty payment is included in the O&M Costs. This payment is intended to compensate the landowner for the use of the land and the lost opportunity to the landowner as a result of utilizing the property for utility purposes. The royalty payment has been calculated in terms of demand and is applied to every 1,000 gallons of water consumed. The royalty payment has been calculated at $0.10 per 1,000 gallons. The estimated O&M costs are presented in Table 2.

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HARTMAN & ASSOCIATES, INC.
ORLANDO JACKSONVILLE PLANTATION DESTIN

PROPOSED RAW WATER SUPPLY WELLS
FARMTON WATER RESOURCES LLC
VOLUSIA/BREVARD COUNTY, FLORIDA

FIGURE
1

Exhibit Grant 4
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Table1
Capital Costs
Bulk Raw Water Supply

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
	Phase I				
1	12" well, pump, motor and controls	7	EA	$150,000	$1,050,000
2	Well and Control Building (400 s.f.)	7	EA	10,000	70,000
3	Sitework	7	EA	2,000	14,000
4	Electrical (Site)	7	EA	10,000	70,000
5	Electrical (Transmission)	1	LS	200,000	200,000
6	Yard Piping, Valves	7	EA	2,000	14,000
7	24" PVC Pipe to Service Area Boundary (ft)	8,000	FT	120	960,000
8	Telemetry	1	LS	50,000	50,000
9	Subtotal				$2,428,000
10	Engineering & Permitting @ 20%				485,600
11	**Total Phase I**				**$2,913,600**
	Phase II				
12	12" well, pump, motor and controls	8	EA	$150,000	$1,200,000
13	Well and Control Building (400 s.f.)	8	EA	10,000	80,000
14	Sitework	8	EA	2,000	16,000
15	Electrical (site)	8	EA	10,000	80,000
16	Yard Piping, Valves	8	EA	2,000	16,000
17	16" PVC Transmission Pipe (ft)	7,000	FT	75	525,000
18	Telemetry	1	LS	50,000	50,000
19	Subtotal				$1,967,000
20	Engineering & Permitting @ 20%				393,400
21	**Total Phase II**				**$2,360,400**
22	**TOTAL ALL PHASES**				**$5,274,000**

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Table 2
Estimated O&M Costs
Bulk Raw Water Supply

Year	Purchased Power	Contractual Services (Contract Operations)	Contractual Services (Lab Services)	Rent (Royalty Payment)	Total
2002	$ 40,300	$ 10,400	$ 7,000	$ 42,300	$ 100,000
2003	48,600	10,400	7,000	45,600	111,600
2004	57,300	10,400	7,000	48,900	123,600
2005	65,300	10,400	7,000	62,100	144,800
2006	73,700	15,600	7,000	69,400	165,700
2007	106,600	15,600	15,000	75,700	212,900
2008	117,900	15,600	15,000	87,600	236,100
2009	129,600	15,600	15,000	92,300	252,500
2010	140,900	15,600	15,000	96,700	268,200
2011	152,700	20,800	15,000	100,400	288,900

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BULK RAW WATER RATE DESIGN

In order to determine the base charge or fixed charge, the amount allocated to fixed costs ($270,239) was divided by the total design capacity of the wells at the end of Phase II, which results in an annual rate of $85,790.16 per MGD of available capacity. In order to calculate the annual gallonage rate, the gallonage determinant for the Test Year was developed. Based on the anticipated flows during the Test Year, the annual gallonage determinant has been set at 923,450,000 gallons. The annual gallonage rate was then calculated by dividing the amount allocated to the annual gallonage charge ($300,755), by the annual gallonage determinant in thousands of gallons (923,450) to arrive at a charge of $0.33 per thousand gallons, as shown on Support Table D-2. It should be noted, that these rates were developed assuming 60% CIAC. The schedules provided in the appendices document this methodology. Since providing these services requires a large capital outlay, it is anticipated that a "take-or-pay" agreement will be utilized for those customers requiring bulk raw water service. The take-or-pay amounts and additional gallonage charge are shown on Table 3. In order to not penalize the customer, the take-or-pay rates have been designed based on the following minimum annual usage:

Year	Available Capacity	Minimum Annual Usage
2002	2.25 MGD	1.0 MGD
2003	2.25 MGD	1.0 MGD
2004	2.25 MGD	1.0 MGD
2005	2.25 MGD	1.5 MGD
2006	2.25 MGD	1.5 MGD
2007	3.15 MGD	2.0 MGD
2008	3.15 MGD	2.0 MGD
2009 (1)	3.15 MGD	2.5 MGD
2010	3.15 MGD	2.5 MGD
2011	3.15 MGD	2.5 MGD

Note: (1) Test Year

The annual fixed rate of $85,790.16 per MGD of available capacity and annual gallonage rate of $0.33 per thousand gallons were then applied to the take-or-pay annual constraints shown above, to arrive at the annual take-or-pay charges shown on Table 3 and detailed on Support Table D-2A. Any gallonage over the take-or-pay amount will be charged the gallonage rate ($0.33 per thousand gallons) developed on Support Schedule D-2. This combination of fixed

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and gallonage costs results in an effective rate per thousand gallons ranging from $0.78 to $0.62 for the current period through the Test Year.

Table 3 summarizes the proposed bulk raw water rates.

Table 3
Proposed Bulk Raw Water Rates

Bulk Raw Water

Take-or-Pay Charge

Year	Annual Minimum Gallonage (In Thousands)	Annual Charge
2002	365,000	$ 311,903
2003	365,000	$ 311,903
2004	365,000	$ 311,903
2005	547,500	$ 371,341
2006	547,500	$ 371,341
2007	730,000	$ 507,990
2008	730,000	$ 507,990
2009	912,500	$ 567,428
Annual Gallonage Charge (per thousand gallons) [1]		$ 0.33

Note: (1) For gallonage in excess of the Take-or-Pay Annual Minimum Gallonage.

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OPERATING INCOME - BULK RAW WATER
TEST YEAR 2009

SUPPORT TABLE A-1

Description	2002	2003	2004	2005	2006	2007	2008	2009
OPERATING REVENUES	$ 330,923	$ 341,622	$ 352,321	$ 395,116	$ 418,891	$ 516,905	$ 555,540	$ 570,994
Operation & Maintenance	$ 110,000	$ 122,760	$ 135,960	$ 159,280	$ 182,270	$ 234,190	$ 259,710	$ 277,750
Depreciation	64,460	122,763	122,763	122,763	122,763	172,638	222,514	222,514
CIAC Amortization	(38,676)	(73,658)	(73,658)	(73,658)	(73,658)	(103,583)	(133,508)	(133,508)
Taxes Other Than Income - Reg Fees	14,892	15,373	15,854	17,780	18,850	23,261	24,999	25,695
Provisions for Income Taxes	20,410	19,022	18,895	19,899	19,925	19,438	19,038	18,923
TOTAL OPERATING EXPENSES	$ 171,086	$ 206,260	$ 219,814	$ 246,065	$ 270,151	$ 345,944	$ 392,753	$ 411,373
NET OPERATING INCOME	$ 159,838	$ 135,362	$ 132,507	$ 149,051	$ 148,740	$ 170,961	$ 162,787	$ 159,621
RATE BASE	$ 1,251,926	$ 1,204,416	$ 1,156,961	$ 1,110,771	$ 1,064,539	$ 1,946,134	$ 1,860,319	$ 1,773,568
ALLOWED RATE OF RETURN	9.000%	9.000%	9.000%	9.000%	9.000%	9.000%	9.000%	9.000%
CALCULATED RATE OF RETURN	12.767%	11.239%	11.453%	13.419%	13.972%	8.785%	8.750%	9.000%

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12/12/02

08/21/2003 12:40 3213835553 WATER RESOURCES PAGE 10/11

OPERATING INCOME
BULK RAW WATER SUPPLY

SUPPORT TABLE B-1

Description	2002	2003	2004	2005	2006	2007	2008	2009
Utility Plant In Service	$ 3,159,900	$ 3,159,900	$ 3,159,900	$ 3,159,900	$ 3,159,900	$ 5,520,300	$ 5,520,300	$ 5,520,300
Accumulated Depreciation	$ (64,460)	$ (187,223)	$ (309,986)	$ (432,749)	$ (556,513)	$ (728,151)	$ (950,664)	$ (1,173,178)
Contributions in Aid of Construction	$ (1,895,940)	$ (1,895,940)	$ (1,895,940)	$ (1,895,940)	$ (1,895,940)	$ (3,312,180)	$ (3,312,180)	$ (3,312,180)
Accumulated Amortization of CIAC	$ 38,676	$ 112,334	$ 185,992	$ 259,650	$ 333,308	$ 436,891	$ 570,399	$ 703,907
Less: Non Used & Useful Adjustment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Working Capital Allowance	$ 13,750	$ 15,345	$ 16,995	$ 19,910	$ 22,784	$ 29,274	$ 32,464	$ 34,719
Total Rate Base	$ 1,251,926	$ 1,204,416	$ 1,156,961	$ 1,110,771	$ 1,064,539	$ 1,946,134	$ 1,860,319	$ 1,773,568

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PLANT IN SERVICE

SUPPORT TABLE B-2

	Description	2002	2003	2004	2005	2006	2007	2008	2009
BULK RAW WATER ANNUAL ADDITIONS									
303.1	Land & Land Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
307.1	Wells & Springs	1,260,000	-	-	-	-	1,440,000	-	-
304.2	Structures & Improvements	84,000	-	-	-	-	96,000	-	-
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	357,600	-	-	-	-	134,400	-	-
331.4	Transmission & Distribution Mains	1,212,000	-	-	-	-	690,000	-	-
301.5	Organization Expense	246,300	-	-	-	-	-	-	-
TOTAL		$ 3,159,900	$ -	$ -	$ -	$ -	$ 2,360,400	$ -	$ -
BULK RAW WATER ANNUAL BALANCES									
303.1	Land & Land Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
307.1	Wells & Springs	1,260,000	1,260,000	1,260,000	1,260,000	1,260,000	2,700,000	2,700,000	2,700,000
304.2	Structures & Improvements	84,000	84,000	84,000	84,000	84,000	180,000	180,000	180,000
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	357,600	357,600	357,600	357,600	357,600	492,000	492,000	492,000
331.4	Transmission & Distribution Mains	1,212,000	1,212,000	1,212,000	1,212,000	1,212,000	1,902,000	1,902,000	1,902,000
301.5	Organization Expense	246,300	246,300	246,300	246,300	246,300	246,300	246,300	246,300
TOTAL		$ 3,159,900	$ 3,159,900	$ 3,159,900	$ 3,159,900	$ 3,159,900	$ 5,520,300	$ 5,520,300	$ 5,520,300

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DEPRECIATION

SUPPORT TABLE B-3

	Description	2002	2003	2004	2005	2006	2007	2008	2009
BULK RAW WATER ANNUAL EXPENSE									
307.1	Wells & Springs	$ 31,500	$ 63,000	$ 63,000	$ 63,000	$ 63,000	$ 99,000	$ 135,000	$ 135,000
304.2	Structures & Improvements	1,135	2,270	2,270	2,270	2,270	3,568	4,865	4,865
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	10,518	21,035	21,035	21,035	21,035	24,988	28,941	28,941
331.4	Transmission & Distribution Mains	15,150	30,300	30,300	30,300	30,300	38,925	47,550	47,550
301.5	Organization Expense	6,158	6,158	6,158	6,158	6,158	6,158	6,158	6,158
TOTAL		$ 64,460	$ 122,763	$ 122,763	$ 122,763	$ 122,763	$ 172,638	$ 222,514	$ 222,514
BULK RAW WATER ACCUMULATED DEPRECIATION									
307.1	Wells & Springs	$ 31,500	$ 94,500	$ 157,500	$ 220,500	$ 283,500	$ 382,500	$ 517,500	$ 652,500
304.2	Structures & Improvements	1,135	3,405	5,676	7,946	10,216	13,784	18,649	23,514
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	10,518	31,553	52,588	73,624	94,659	119,647	148,588	177,529
331.4	Transmission & Distribution Mains	15,150	45,450	75,750	106,050	136,350	175,275	222,825	270,375
301.5	Organization Expense	6,158	12,315	18,473	24,630	30,788	36,945	43,103	49,260
TOTAL		$ 64,460	$ 187,223	$ 309,986	$ 432,749	$ 555,513	$ 728,151	$ 950,664	$ 1,173,178

Exhibit: Grant4
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CONTRIBUTED PLANT IN SERVICE

SUPPORT TABLE B-4

Description		2002	2003	2004	2005	2006	2007	2008	2009
BULK RAW WATER ANNUAL ADDITIONS									
303.1	Land & Land Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
307.1	Wells & Springs	756,000	-	-	-	-	864,000	-	-
304.2	Structures & Improvements	50,400	-	-	-	-	57,600	-	-
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	214,560	-	-	-	-	80,640	-	-
331.4	Transmission & Distribution Mains	727,200	-	-	-	-	414,000	-	-
301.5	Organization Expense	147,780	-	-	-	-	-	-	-
TOTAL		$ 1,895,940	$ -	$ -	$ -	$ -	$ 1,416,240	$ -	$ -
BULK RAW WATER ANNUAL BALANCES									
303.1	Land & Land Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
307.1	Wells & Springs	756,000	756,000	756,000	756,000	756,000	1,620,000	1,620,000	1,620,000
304.2	Structures & Improvements	50,400	50,400	50,400	50,400	50,400	108,000	108,000	108,000
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	214,560	214,560	214,560	214,560	214,560	295,200	295,200	295,200
331.4	Transmission & Distribution Mains	727,200	727,200	727,200	727,200	727,200	1,141,200	1,141,200	1,141,200
301.5	Organization Expense	147,780	147,780	147,780	147,780	147,780	147,780	147,780	147,780
TOTAL		$ 1,895,940	$ 1,895,940	$ 1,895,940	$ 1,895,940	$ 1,895,940	$ 3,312,180	$ 3,312,180	$ 3,312,180

Exhibit Graph 4
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AMORTIZATION

SUPPORT TABLE B-5

Description		2002	2003	2004	2005	2006	2007	2008	2009
BULK RAW WATER ANNUAL EXPENSE									
307.1	Wells & Springs	$ 18,900	$ 37,800	$ 37,800	$ 37,800	$ 37,800	$ 59,400	$ 81,000	$ 81,000
304.2	Structures & Improvements	681	1,362	1,362	1,362	1,362	2,141	2,919	2,919
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	6,311	12,621	12,621	12,621	12,621	14,993	17,365	17,365
331.4	Transmission & Distribution Mains	9,090	18,180	18,180	18,180	18,180	23,355	28,530	28,530
301.5	Organization Expense	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695
TOTAL		$ 38,676	$ 73,658	$ 73,658	$ 73,658	$ 73,658	$ 103,583	$ 133,508	$ 133,508
BULK RAW WATER ACCUMULATED AMORTIZATION									
307.1	Wells & Springs	$ 18,900	$ 56,700	$ 94,500	$ 132,300	$ 170,100	$ 229,500	$ 310,500	$ 391,500
304.2	Structures & Improvements	681	2,043	3,405	4,768	6,130	8,270	11,189	14,108
310.2	Power Generation	-	-	-	-	-	-	-	-
311.2	Pumping Equipment	6,311	18,932	31,553	44,174	56,795	71,788	89,153	106,518
331.4	Transmission & Distribution Mains	9,090	27,270	45,450	63,630	81,810	105,165	133,695	162,225
301.5	Organization Expense	3,695	7,389	11,084	14,778	18,473	22,167	25,862	29,556
TOTAL		$ 38,676	$ 112,334	$ 185,992	$ 259,650	$ 333,306	$ 436,891	$ 570,399	$ 703,907

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NET PLANT TO NET CIAC RATIOS

SUPPORT TABLE B-6

Description	2002	2003	2004	2005	2006	2007	2008	2009
BULK RAW WATER								
Net Plant	$ 3,095,440	$ 2,972,677	$ 2,849,914	$ 2,727,151	$ 2,604,387	$ 4,792,149	$ 4,569,836	$ 4,347,122
Net CIAC	$ 1,857,264	$ 1,783,606	$ 1,709,948	$ 1,636,290	$ 1,562,632	$ 2,875,289	$ 2,741,781	$ 2,608,273
NET CIAC as % of Net Plant	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%

Exhibit Grant 4
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OPERATIONS AND MAINTENANCE REQUIREMENTS
BULK RAW WATER SUPPLY

SUPPORT TABLE C-1

Account No.	Description	2002	2003	2004	2005	2006	2007	2008	2009
Operation and Maintenance Expenses									
601	Salaries and Wages - Employees	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
603	Salaries and Wages - Other	-	-	-	-	-	-	-	-
604	Employees Pensions and Benefits	-	-	-	-	-	-	-	-
610	Purchased Water	-	-	-	-	-	-	-	-
615	Purchased Power	40,300	48,600	57,300	65,300	73,700	106,600	117,900	129,600
616	Fuel for Power Production	-	-	-	-	-	-	-	-
618	Chemicals	-	-	-	-	-	-	-	-
620	Materials and Supplies	-	-	-	-	-	-	-	-
630	Contractual Services	17,400	17,400	17,400	17,400	22,600	30,600	30,600	30,600
640	Rents	42,300	45,600	48,900	62,100	69,400	75,700	87,600	92,300
650	Transportation Expense	-	-	-	-	-	-	-	-
655	Insurance Expense	-	-	-	-	-	-	-	-
665	Regulatory Expense	-	-	-	-	-	-	-	-
670	Bad Debt Expense	-	-	-	-	-	-	-	-
675	Misc. Expenses (10% of Other O&M)	10,000	11,160	12,360	14,480	16,570	21,290	23,810	25,250
Total Operation and Maintenance Expenses		$ 110,000	$ 122,760	$ 135,960	$ 159,280	$ 182,270	$ 234,190	$ 259,710	$ 277,750

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OPERATIONS AND MAINTENANCE REQUIREMENTS - ASSUMPTIONS
BULK RAW WATER SUPPLY

SUPPORT TABLE C-1A

POWER COSTS

	2002	2003	2004	2005	2006	2007	2008	2009
Average Flow (MGD)	1.16	1.40	1.65	1.89	2.12	2.36	2.61	2.87
Average Pump Rate (gpm)	2,000	2,000	2,000	2,000	2,000	2,500	3,000	3,000
Average Operation (Hrs/day)	10	12	14	16	18	16	15	16
Estimated Pressure (ft.)	250	250	250	250	250	325	325	325
Average Power (HP)	180	180	180	180	180	293	352	352
Calculated Power (kwh/day)	1,299	1,568	1,848	2,105	2,374	3,436	3,800	4,178
Calculated cost per day [1]	$ 110.42	$ 133.26	$ 157.06	$ 178.95	$ 201.79	$ 292.03	$ 322.96	$ 355.14
Calculated Cost per year [1]	$ 40,300	$ 48,600	$ 57,300	$ 65,300	$ 73,700	$ 106,600	$ 117,900	$ 129,600

Note: (1) Based on $0.085 per kwh.

CONTRACTUAL SERVICES

	2002	2003	2004	2005	2006	2007	2008	2009
Operation Service (hr/wk)	4	4	4	4	6	6	6	6
Operation Service Costs per year [1]	$ 10,400	$ 10,400	$ 10,400	$ 10,400	$ 15,600	$ 15,600	$ 15,600	$ 15,600
Lab Service Costs per year [2]	7,000	7,000	7,000	7,000	7,000	15,000	15,000	15,000
Total Contractual Services	$ 17,400	$ 17,400	$ 17,400	$ 17,400	$ 22,600	$ 30,600	$ 30,600	$ 30,600

Note: (1) Operating Services costs based on $50.00 per hour.
Note: (2) Lab costs based on $1,000.00 per well per year.

RENTS

	2002	2003	2004	2005	2006	2007	2008	2009
Gallons per year (in thousands)	423,400	456,250	489,100	520,500	693,500	757,375	876,000	923,450
Cost per 1,000 gallons [1]	$ 0.10	$ 0.10	$ 0.10	$ 0.10	$ 0.10	$ 0.10	$ 0.10	$ 0.10
Total Rents (rounded)	$ 42,300	$ 45,600	$ 48,900	$ 62,100	$ 69,400	$ 75,700	$ 87,600	$ 92,300

Note: (1) Based on the amount of acreage and the opportunity cost of not being able to use that acreage.

TOTAL O&M Expense	$ 100,000	$ 111,600	$ 123,600	$ 144,800	$ 165,700	$ 212,900	$ 236,100	$ 252,500

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REVENUE REQUIREMENT CALCULATION
BULK RAW WATER SUPPLY

SUPPORT TABLE D-1

Description				2002	2003	2004	2005	2006	2007	2008	2009
OPERATING REVENUES				$ 330,923	$ 341,622	$ 352,321	$ 395,116	$ 418,891	$ 516,905	$ 555,540	$ 570,984
TOTAL O&M EXPENSES				$ 110,000	$ 122,760	$ 135,960	$ 159,280	$ 182,270	$ 234,190	$ 259,710	$ 277,750
NET DEPRECIATION EXPENSE				25,784	49,105	49,105	49,105	49,105	69,055	69,005	69,005
TAXES OTHER THAN INCOME				-	-	-	-	-	-	-	-
NOI BEFORE INCOME TAXES				$ 195,139	$ 169,757	$ 167,256	$ 186,731	$ 187,516	$ 213,660	$ 206,825	$ 204,236
INTEREST EXPENSE				(56,659)	(56,032)	(55,362)	(54,647)	(53,884)	(84,474)	(83,173)	(81,997)
TAXABLE NOI				$ 138,480	$ 113,725	$ 111,893	$ 132,083	$ 133,632	$ 129,186	$ 123,652	$ 122,241
RESTATEMENT OF OPERATING INCOME											
OPERATING REVENUES				$ 330,923	$ 341,622	$ 352,321	$ 395,116	$ 418,891	$ 516,905	$ 555,540	$ 570,984
TOTAL O&M EXPENSE				$ 110,000	$ 122,760	$ 135,960	$ 159,280	$ 182,270	$ 234,190	$ 259,710	$ 277,750
NET DEPRECIATION EXPENSE				25,784	49,105	49,105	49,105	49,105	69,055	69,005	69,005
TAXES OTHER THAN INCOME				-	-	-	-	-	-	-	-
REG FEES				14,892	15,373	15,854	17,780	18,850	23,261	24,999	25,695
INCOME TAX				20,410	19,022	18,895	19,899	19,925	19,438	19,038	18,923
SUBTOTAL				$ 171,086	$ 206,260	$ 219,814	$ 246,065	$ 270,151	$ 345,944	$ 392,753	$ 411,373
CALCULATED NOI AFTER TAXES				$ 159,838	$ 135,362	$ 132,507	$ 149,051	$ 148,740	$ 170,961	$ 162,787	$ 159,621
ALLOWABLE NOI AFTER TAXES				$ 112,673	$ 108,397	$ 104,126	$ 99,969	$ 95,808	$ 175,152	$ 167,428	$ 159,621
GROSS NOI DEFICIENCY				$ 123,566	$ 98,352	$ 96,039	$ 114,303	$ 114,781	$ 105,926	$ 98,652	$ 96,546
STATE EXEMPTION				$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500
STATE TAXABLE INCOME				$ 121,066	$ 95,852	$ 93,539	$ 111,803	$ 112,281	$ 103,426	$ 96,152	$ 94,046
STATE INCOME TAX RATE				5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%
STATE INCOME TAX				$ 6,660	$ 5,272	$ 5,145	$ 6,149	$ 6,175	$ 5,688	$ 5,288	$ 5,173
FEDERAL TAXABLE INCOME				$ 116,928	$ 93,080	$ 90,894	$ 108,154	$ 108,606	$ 100,237	$ 93,364	$ 91,374
FEDERAL INCOME TAX											
0	-	50,000	15.00%	$ 7,500	$ 7,500	$ 7,500	$ 7,500	$ 7,500	$ 7,500	$ 7,500	$ 7,500
50,000	-	75,000	25.00%	6,250	6,250	6,250	6,250	6,250	6,250	6,250	6,250
75,000	-	100,000	34.00%	-	-	-	-	-	-	-	-
100,000	-	335,000	39.00%	-	-	-	-	-	-	-	-
335,000	-	+	34.00%	-	-	-	-	-	-	-	-
FEDERAL INCOME TAX				$ 13,750	$ 13,750	$ 13,750	$ 13,750	$ 13,750	$ 13,750	$ 13,750	$ 13,750
STATE INCOME TAX				6,660	5,272	5,145	6,149	6,175	5,688	5,288	5,173
TOTAL INCOME TAX				$ 20,410	$ 19,022	$ 18,895	$ 19,899	$ 19,925	$ 19,438	$ 19,038	$ 18,923

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RATE CALCULATION
BULK RAW WATER SUPPLY

SUPPORT TABLE D-2

Account No.	Description	Test Year 2009	Base Facility Charge	Gallonage Charge	Base Facility Cost	Base Facility Charge	Gallonage Cost	Gallonage Charge
Operation and Maintenance Expenses								
601	Salaries and Wages - Employees	$ -	0%	100%	$ -	$ -	$ -	$ -
603	Salaries and Wages - Other	-	0%	100%	-	-	-	-
604	Employees Pensions and Benefits	-	0%	100%	-	-	-	-
610	Purchased Water	-	0%	100%	-	-	-	-
615	Purchased Power	129,600	0%	100%	-	-	129,600	0.14
616	Fuel for Power Production	-	0%	100%	-	-	-	-
618	Chemicals	-	0%	100%	-	-	-	-
620	Materials and Supplies	-	0%	100%	-	-	-	-
630	Contractual Services	30,600	50%	50%	15,300	4,857.14	15,300	0.02
640	Rents	92,300	0%	100%	-	-	92,300	0.10
650	Transportation Expense	-	0%	100%	-	-	-	-
655	Insurance Expense	-	0%	100%	-	-	-	-
665	Regulatory Expense	-	100%	0%	-	-	-	-
670	Bad Debt Expense	-	0%	100%	-	-	-	-
675	Miscellaneous Expense	25,250	25%	75%	6,313	2,003.97	18,938	0.02
Total Operation and Maintenance Expenses		$ 277,750			$ 21,613	$ 6,861.11	$ 256,138	$ 0.28
Depreciation and Amortization								
403	Depreciation Expense	$ 222,514	100%	0%	$ 222,514	$ 70,630.22	$ -	$ -
407	Amortization Expense - Other	(133,508)	100%	0%	(133,508)	(42,383.53)	-	-
Total Depreciation and Amortization		$ 89,005			$ 89,005	$ 28,255.69	$ -	$ -
Taxes Other Than Income Taxes								
408.10	Utility Regulatory Assessment Fees	$ 25,695	0%	100%	$ -	$ -	$ 25,695	$ 0.03
408.11	Property Taxes	-	0%	100%	-	-	-	-
408.12	Payroll Taxes	-	0%	100%	-	-	-	-
408.13	Other Taxes and Licenses	-	0%	100%	-	-	-	-
408.20	Other Income and Deductions	-	0%	100%	-	-	-	-
Total Taxes Other Than Income Taxes		$ 25,695			$ -	$ -	$ 25,695	$ 0.03
Income Taxes								
409	Federal, State, and Local Income Taxes	$ 18,923	0%	100%	$ -	$ -	$ 18,923	$ 0.02
Total Income Taxes		$ 18,923			$ -	$ -	$ 18,923	$ 0.02
Return on Investment		$ 159,621	100%	0%	$ 159,621	$ 50,673.36	$ -	$ -
Total Revenue Requirement		$ 570,994			$ 270,239	$ 85,790.16	$ 300,755	$ 0.33
Less: Miscellaneous Revenues		$ -	0%	100%	$ -	$ -	$ -	$ -
Total Revenues for Rate Setting		$ 570,994			$ 270,239	$ 85,790.16	$ 300,755	$ 0.33
Available Capacity		3,150						
Factored Gallons (In Thousands)		923,450						

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OPERATING REVENUE CALCULATION
BULK RAW WATER SUPPLY

SUPPORT TABLE D-2A

Description	2002	2003	2004	2005	2006	2007	2008	Test Year 2009
Total Gallonage Requirements (MGD)	1.160	1.250	1.340	1.700	1.900	2.075	2.400	2.530
Take-Or-Pay Gallonage (MGD)	1.000	1.000	1.000	1.500	1.500	2.000	2.000	2.500
Billed Gallonage (MGD)	0.160	0.250	0.340	0.200	0.400	0.075	0.400	0.030
Capacity (MGD)	2.250	2.250	2.250	2.250	2.250	3.150	3.150	3.150
Take-or-Pay Rate								
Fixed Costs	$ 193,028	$ 193,028	$ 193,028	$ 193,028	$ 193,028	$ 270,239	$ 270,239	$ 270,239
Gallonage	118,875	118,875	118,875	178,313	178,313	237,751	237,751	297,189
Total Take-or-Pay Rate	**$ 311,903**	**$ 311,903**	**$ 311,903**	**$ 371,341**	**$ 371,341**	**$ 507,990**	**$ 507,990**	**$ 567,428**
Additional Gallonage	19,020	29,719	40,418	23,775	47,550	8,916	47,550	3,566
Total Revenues	$ 330,923	$ 341,622	$ 352,321	$ 395,116	$ 418,891	$ 516,905	$ 555,540	$ 570,994
Gallonage rate per 1,000 gallons	**$ 0.33**							
Thousand Gallons Per Year	423,400	456,250	489,100	620,500	693,500	757,375	876,000	923,450
Average Cost Per 1,000 Gallons	$ 0.78	$ 0.75	$ 0.72	$ 0.64	$ 0.60	$ 0.68	$ 0.63	$ 0.62

Exhibit "A"
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CAPITAL EXPENDITURES
BULK RAW WATER SUPPLY

SUPPORT TABLE E-1

	Description & Quantity	In Service Year	Cost	Depreciation Life	CIAC	Funded By CIAC
303.1	**Land & Land Rights**					
36	Plant/Well sites (acre)	2002	$ -	N/A	60.00%	$ -
36	Plant/Well sites (acre)	2007	-	N/A	60.00%	-
307.1	**Wells & Springs**					
7	12" well, pump, motor and controls	2002	1,260,000	20	60.00%	$ 756,000
8	12" well, pump, motor and controls	2007	1,440,000	20	60.00%	864,000
304.2	**Structures & Improvements**					
7	Well and Control Building (400 s.f.)	2002	84,000	37	60.00%	50,400
8	Well and Control Building (400 s.f.)	2007	96,000	37	60.00%	57,600
310.2	**Power Generation**					
0	Generator (120 kw)	2002	-	17	60.00%	-
311.2	**Pumping Equipment**					
7	Sitework	2002	16,800	17	60.00%	10,080
7	Electrical (Site)	2002	84,000	17	60.00%	50,400
1	Electrical (Transmission)	2002	240,000	17	60.00%	144,000
7	Yard Piping, Valves	2002	16,800	17	60.00%	10,080
8	Sitework	2007	19,200	17	60.00%	11,520
8	Electrical (site)	2007	96,000	17	60.00%	57,600
8	Yard Piping, Valves	2007	19,200	17	60.00%	11,520
331.4	**Transmission & Distribution Mains**					
6,000	24" PVC Pipe to Service Area Boundary (ft)	2002	1,152,000	40	60.00%	691,200
1	Telemetry	2002	60,000	40	60.00%	36,000
7,000	16" PVC Transmission Pipe (ft)	2007	630,000	40	60.00%	378,000
1	Telemetry	2007	60,000	40	60.00%	36,000
301.5	**General Plant**					
1	Organization Costs	2002	246,300	40	60.00%	147,780
TOTAL BULK RAW WATER SUPPLY			$ 5,520,300			$ 3,312,180

Allocation to CIAC	$ 3,312,180
Investment	2,208,120
	$ 5,520,300

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PUBLIC RESOURCES MANAGEMENT GROUP, INC.
Utility, Rate, Financial and Management Consultants
341 North Maitland Avenue, Suite 300, Maitland, FL 32751
Telephone (407) 628-2600 · Fax (407) 628-2610
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Memorandum

TO: Raynetta Grant
Water Resources Director – City of Titusville
Phone: 321-383-5650
Fax: 321-383-5653

FROM: Henry Thomas
Tony Hairston

DATE: January 3, 2003

SUBJECT: Analysis of Miami Corporation's Water Supply Offer

As requested we have reviewed Miami Corporation's ("Miami Corp.") offer to the City of Titusville (the "City") to supply the City raw water in north Brevard County. Based on our discussions during our meeting with you and John Peterson last week, we have developed a comparative analysis of this offer compared to the option of the City building its own supply on the Florida East Coast Railroad ("FECR") right-of-way and to the existing arrangement with the City of Cocoa ("Cocoa").

These three water supply options are shown on Exhibits 1 and 2 and include the following assumptions:

1. For each alternative, all construction-related costs and required upfront capital contributions/impact fees are amortized as if they are paid by the City with 100% bond financing over a 30 year period at 5.0% annual interest and 2.0% issuance costs. This assumption enables the three scenarios to be compared on an equivalent basis in terms of annual debt service.

2. All three scenarios assume capacity of 2.75 MGD-AADF and that the actual average daily flow is equal to capacity of 2.75 MGD.

3. The FEC and Miami Corp. options assume raw water from north Brevard County is treated at the City's water treatment facilities at a cost of $0.21/1000 gallons. Water provided by Cocoa requires no further treatment by the City. All costs shown are in current dollars.

Exhibit 1 compares the upfront capital costs among the three options in terms of annual debt service. As shown on Exhibit 1 the FECR option requires the most upfront capital expenditure of $15.2 million equivalent to $1,009,274 debt service annually. The Miami Corp. option is

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$13.5 million or $892,553 annually which is higher than the FECR option since Miami Corp's offer requires a 60% upfront capital contribution towards the construction of the water supply facilities. Finally, assuming the City pays the existing Cocoa impact fee, purchasing additional capacity from Cocoa would cost $460,129 annually.

The estimated annual O&M costs under the FECR option is the lowest among the three options as shown on Exhibit 2. Assuming water demand of 2.75 MGD-AADF, the annual O&M cost under the FECR option is $315,178 or $0.31/1000 gallons. The Miami Corp. annual O&M cost is higher at $808,328 or $0.81/1000 gallons. Operating costs under the Miami Corp. option are higher since a portion of the capital cost is recovered in the proposed Miami Corp. rate option (i.e. the 40% for wellield construction that is not included in the City's initial capital contribution) and this rate also includes taxes, property rental fees, management fees, return on equity, and certain other expenses such as regulatory fees that are unique to investor-owned utilities. The annual O&M cost under the Cocoa option is $2,079,375 or $2.07/1000 gallons.

As expected, the combined average cost, including capital and O&M costs, is lowest under the FECR option at $1.32/1000 gallons. The next lowest option is Miami Corp. at $1.69/1000 gallons which is $0.37 higher than the FECR option. Finally, the Cocoa option is the highest at $2.53/1000 gallons and will actually be higher when the expected Cocoa rate increases are implemented.

While the FECR option appears to be more cost effective than Miami Corp.'s initial offer, there may also be other reasons why the City may want to favor the FECR option. Miami Corp. would likely increase its initial rates annually based on allowed regulatory price index increases. These increases could be passed on to the City even though under the FECR option the City's cost of providing its own water may not increase by this index amount. Further, there are questions to what extent Miami Corp. would exercise control over the construction process and facilities operations and what devices the City would have available to protect its interests.

We trust this analysis satisfies your needs. Should you need any additional information or have any questions about the analysis please let us know.

Exhibit I
City of Titusville
Water Supply Financial Analysis

Debt Service Assumptions - Long Term Options

Line No.	Description		F.E.C. Railroad (a)		Miami Corp. (b)		City of Cocoa (c)	
	2.75 MGD-AADF Water Supply							
	Supply Construction Costs:							
1	Water Supply Capital Costs		$ 3,850,200	(1)	$ 3,164,400	(2)	$ 0	
2	Adjustment/Additional Costs		0		(527,400)	(3)	0	
3	Adjusted Supply Costs		3,850,200		2,637,000		0	
4	Transmission Costs		6,640,000	(4)	6,640,000	(4)	960,000	(5)
5	Other Costs		0		0		0	
6	Total Upfront Supply & Transmission Capital Costs		$ 10,490,200		$ 9,277,000		$ 960,000	
7	Eng., General Conditions, and Contingency (45%)		4,720,600		4,174,700		432,000	
8	Other Costs		0		0		5,542,619	(6)
9	Total Project Cost		$ 15,210,800		$ 13,451,700		$ 6,934,619	
10	Cost of Issuance		$ 304,216		$ 269,034		$ 138,692	
11	Total Amount Financed		$ 15,515,016		$ 13,720,734		$ 7,073,311	
12	Annual Debt Service	(7)	$ 1,009,274		$ 892,553		$ 460,129	
13	Total Annual Debt Service		$ 1,009,274		$ 892,553		$ 460,129	

Footnotes on Following Page.

Exhibit Grant 4
Page 24 of 42

Exhibit 1
City of Titusville
Water Supply Financial Analysis

Debt Service Assumptions - Long Term Options

Footnotes:

(1) The estimated cost per well is $200,000 based on information from City staff and the City's consulting engineers (total of 15 wells). Other costs include well connection pipeline ($72,000), Instrumentation/SCADA ($100,000), wellfield piping ($478,200), and land costs ($200,000).

(2) Amount based on 60% of $5,274,000 Phase I and II estimated costs provided by Miami Corp. as a initial capital contribution.

(3) Amount reflects adjustment of Miami Corp's estimated engineering & permitting costs equal to 20% of construction costs.

(4) Transmission main cost from the NW Brevard County to the Mourning Dove WTP includes 83,000 linear feet @ $80.00 per unit. for a 24" line.

(5) Amount reflects cost of Tulsa Blvd. 20" Main required as part of bulk water agreement with Cocoa.

(6) Amount reflects total impact fee due of $4,528,302 (@ $800 per 265 gpd) less $2,759,433 paid through through Fiscal Year 2000 plus the cost of additional capacity from the City of Cocoa at the current cost per gallon as shown below:

Total Capacity Needed (gpd-adf)		2,750,000		
Capacity Reserved from Amended Agreement (gpd-a		1,500,000		
Additional Capacity Required (gpd-adf)		1,250,000		
Existing Cost of Capacity per Gallon (adf)*	$	3.019		
Total Cost of Additional Capacity			$	3,773,750
Total Impact Fees for Existing Capacity	$	4,528,302		
Less Impact Fees paid through FY 2000		(2,759,433)		
Impact Fees due on Existing Capacity			$	1,768,869
Total Impact Fees Due			$	5,542,619

* Assumes additional capacity is available for purchased from City of Cocoa at existing cost per gallon.

(7) Annual debt service based on the following assumptions for all projects:

	F.E.C. Railroad	Miami Corp.	City of Cocoa
Cost of Issuance	2%	2%	2%
Interest Rate	5%	5%	5%
Term (Years)	30	30	30

Exhibit "Grant 4"
Page 25 of 42

Exhibit 2
City of Titusville
Water Supply Financial Analysis

Projected O&M and Total Cost of Treated Water - Long Term Supply (1)

Line No.	Description	F.E.C. Railroad (a)	Miami Corp. (b)	City of Cocoa (c)
1	Average Daily Flow from Sources Other Than Existing Titusville Wellfield (MGD-ADF)	2.750	2.750	2.750
2	**Annual Base (Fixed) Charges**	$ 0	$ 567,428 (2)	$ 3,056 (3)
	Variable Costs			
3	Treatment Cost per Thousand Gallons	$ 0.210 (4)	$ 0.210 (4)	$ 2.072 (5)
4	Thous. Gallons Treated (Annual)	1,003,750	1,003,750	1,003,750
5	Annual Treatment Costs	$ 210,788	$ 210,788	$ 2,079,375
6	Additional Variable Costs	$ 0.104 (6)	$ 0.330 (7)	$ 0.000
7	Thousand Gallons (Annual)	1,003,750	91,250 (8)	
8	Annual Additional Variable Costs	$ 104,390	$ 30,113	$ 0
9	Total Annual Variable Costs	$ 315,178	$ 240,900	$ 2,079,375
10	**Total O&M (Fixed and Variable Costs)**	$ 315,178	$ 808,328	$ 2,082,431
11	Per Thousand Gallons	$ 0.31	$ 0.81	$ 2.07
	CAPITAL PLUS OPERATING COSTS:			
12	Annual Capital Cost	$ 1,009,274	$ 892,553	$ 460,129
13	Annual Operating Cost	315,178	808,328	2,082,431
14	Total Annual Cost	$ 1,324,452	$ 1,700,881	$ 2,542,560
15	**Total Cost per Thousand Gallons**	$ 1.32	$ 1.69	$ 2.53

Footnotes on Following Page.

Exhibit 2
City of Titusville
Water Supply Financial Analysis

Projected O&M and Total Cost of Treated Water - Long Term Supply (1)

Footnotes:

(1) Dollar amounts assume Fiscal Year 2002 price level.

(2) Amount reflects 2009 minimum (base) charge proposed by Miami Corp.

(3) Amount refelcts existing City of Cocoa base charge of $256.66 per month.

(4) Amount assumes water is treated at City of Titusville water treatment facilities.

(5) Reflects estimated average rate per thousand gallons based on the following rate schedule:

Rate per 000 Gallon:	Usage Block (000 (Gallons per Month)
$ 1.50	0 - 20,000
$ 1.74	20,001 - 40,000
$ 2.09	40,001 - 60,000
$ 2.82	>60,000

(6) Amount reflects estimated wellfield pumping cost of $0.05/1000 gallons and transmission costs of $0.054/1000 gallons.

(7) Amount reflects variable charge per 1000 gallons for delivered raw water proposed by Miami Corp. above minimum usage of 2.5 MGD.

(8) Amount reflects annual usage (1000 gallons) above minimum.

HARTMAN & ASSOCIATES, INC.

engineers, hydrogeologists, surveyors & management consultants

OFFICERS:
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Jill A. Hutchins, P.E.
Daniel M. Nelson, P.E.
Valerie C. Harris, P.G.
Brian J. Fields, P.E.

February 11, 2003

HAI#01.0036.000

Ms. Raynetta Grant
Water Resources Director
City of Titusville
555 S. Washington Avenue
Titusville, FL 32781

Dear Ms. Grant:

As a result of the meeting between representatives of the City of Titusville ("Titusville") and Miami Corporation on January 21, 2003, I was requested to review an analysis prepared by PRMG on behalf of Titusville, dated January 3, 2003. The PRMG analysis compared the costs to Titusville of the three options under consideration to supplement Titusville's existing wellfields.

To ensure that the PRMG analysis is a fair representation of the costs and presents an "apples to apples" comparison, I am in need of some additional information and hoped that you can assist me with this effort.

At the meeting there were questions about the land cost estimates included in the analysis. Please verify that $200,000 is a reasonable cost estimate for the FEC land necessary to locate the wells and provide justification for the estimate. If it is determined that the estimate is not reasonable, please provide me with an updated estimate and the basis for that estimate.

Upon review of Exhibit 2, line 6 – Additional Variable Costs, it appears that only costs associated with well pumping and transmission were included. These costs were calculated at $0.104 per thousand gallons. Are administrative and overhead costs, transfers to the General Fund, renewal and replacement and other associated costs considered in Line 6? If these costs are not included in Line 6 are they considered elsewhere in the analysis? If they are included please indicate where, if they are not included please consider including them. In either case, please provide the necessary information to calculate their impact on the rates.

Please provide the basis for the estimated treatment cost per thousand gallons referenced on Line 3.

It is our understanding that this issue will be before the City Commission in the very near future and therefore an expeditious response to this letter would be greatly appreciated.

Thank you in advance for your assistance in this matter and I look forward to receiving your response.

Very truly yours,

Hartman & Associates, Inc.

George S. Flint
Regional Manager

Cc: Barbra Goering, Esquire
Glenn D. Storch, Esquire
Earl M. Underhill
Charles W. Drake, P.G.
F. Marshall Deterding, Esquire

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Exhibit "Grant 4"
Page 29 of 42

HARTMAN & ASSOCIATES, INC.

engineers, hydrogeologists, surveyors & management consultants

OFFICERS:
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L. Todd Sears, P.E.
Rafael A. Herrera, P.E., DEE
Jill A. Hutchins, P.E.
Daniel M. Nicklaus, P.E.
Valerie C. Davis, P.G.
Brian S. Fields, P.E.

March 5, 2003

HAI#01.0036.000

Via facsimile and USPS Certified Mail

Ms. Raynetta Grant
Water Resources Director
City of Titusville
555 S. Washington Avenue
Titusville, FL 32781

Re: PRMG Cost Analysis

Dear Ms. Grant:

Enclosed please find a copy of my letter to you dated February 11, 2003 requesting additional information. To date, we have not received a response. The additional information is needed in order to review the cost analysis prepared by PRMG on behalf of Titusville, dated January 3, 2003.

As stated in my letter, it is our understanding that this issue will be before the City Commission in the near future and therefore an expeditious response to this letter would be greatly appreciated.

Thank you in advance for your assistance in this matter and I look forward to receiving your response.

Very truly yours,

Hartman & Associates, Inc.

George S. Flint
Regional Manager

Cc: Barbra Goering, Esquire
Glenn D. Storch, Esquire
Earl M. Underhill
Charles W. Drake, P.G.
F. Marshall Deterding, Esquire

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8211 WEST BROWARD BOULEVARD - SUITE 330 - PLANTATION, FL 33324
TELEPHONE (954) 236-3360 - FAX (954) 236-5601 - www.consultinal.com

ORLANDO FORT MYERS PLANTATION JACKSONVILLE DESTIN

Exhibit "Grant 4
Page 30 of 42

City of Titusville

555 South Washington Avenue
Titusville, FL 32796-3584
Post Office Box 2806 (32781-2806)

FILE COPY

April 22, 2002

Dwight W. Severs, City Attorney
Phone: (321) 383-5695
Telecopier: (321) 383-5694

Via Facsimile and U.S. Mail

Glenn D. Storch, Esq.
STORCH, HANSEN & MORRIS, P.A.
400 South Nova Road
Daytona Beach, FL 32119-9008

Re: City of Titusville/Miami Corporation

Dear Mr. Storch:

This will serve as a follow-up to our meeting on March 18, 2002. The City of Titusville would like to continue exploring a partnership arrangement with Miami Corporation for a wellfield in the North Brevard area. At this time, the City is not abandoning its continued discussions and exploration of a wellfield on the FEC right-of-way. The City has expended significant dollars in pursuing this option and must continue to pursue this option until other alternative arrangements are determined to be more beneficial to the City. In addition, we are continuing to explore our discussions with the City of Cocoa and Brevard County.

I am not certain as to how you would like to proceed; however, we continue to be interested in additional discussions with Miami Corporation for a mutually beneficial wellfield on the Miami Corporation property in Brevard County.

In the event the City is able to negotiate a satisfactory agreement with the Miami Corporation, and/or alternatively, locate wells on the FEC right-of-way, we believe significant benefit could accrue to Miami Corporation for having ground water available for fire suppression and/or other purposes for your property.

We continue to look forward to working with you and, if you would like, I would be willing to draft an outline of a proposed agreement between the City and Miami Corporation.

Thank you for your anticipated cooperation.

Very truly yours,

Dwight W. Severs
City Attorney

DWS:vmh
cc: Thomas A. Harmer, City Manager
Raynetta Grant, Water Resources Director

Exhibit "Grant 4"
Page 32 of _____

RECEIVED
MAY 06 2002

STORCH, HANSEN & MORRIS, P.A.
ATTORNEYS AT LAW

GLENN D. STORCH
MARY D. HANSEN
JAMES S. MORRIS

420 SOUTH NOVA ROAD
DAYTONA BEACH, FLORIDA 32114-4514

(386) 238-8383
FAX (386) 238-0988
e-mail: shmpa@mindspring.com

April 29, 2002

SJRWMD
Rich Burklew, Lead Hydrologist
Department of Resource Management
525 Community College Parkway S.E.
Palm Bay, FL 32909

SJRWMD
Lorne Malo, Senior Resource Scientist
Department of Water Resources
975 Keller Road
Altamonte Springs, FL 32714

Re: City of Titusville, CUP #10647

Dear Messrs. Burklew and Malo:

Please be advised I represent the interest of The Miami Corporation, which is the owner of the property that surrounds a small 100-foot wide area on which the City of Titusville is attempting to create a wellfield. Although my client has attempted to work with the City to address their desires in a manner that would not be detrimental to my client's intent, it is my understanding that the City and their consulting engineer have elected to proceed with the above-referenced permit request, which will, if granted, clearly damage my client's business, based on the information provided, probably cause severe ecological harm to this ecosystem and impacts to the water resources of the region. Therefore, my client strenuously objects to the proposed permit for a wellfield on this location, in the manner the City of Titusville has proposed, and continues to object based upon the following grounds:

1. My client owns close to 60,000 acres in the area that the City of Titusville desires to place a wellfield. The City of Titusville has approached my client repeatedly in an effort to drill test wells with the goal of establishing a wellfield within the Miami Corporation property. However, the property has been owned by the Miami Corporation since the 1920's and the corporation has no interest or desire to relinquish control of the property, nor impact its forestry and silvicultural operation. The City, knowing the objections of the Miami Corporation, instead obtained a license for a test well in a small 100-foot wide parcel in the heart of the Miami Corporation holdings.[1] My client objects to any wellfield within the Miami Corporation boundaries or vicinity in light of the potential drawdowns that might affect the silvicultural operation, increase the risk of fire damage as a result of machinery and lowered water tables; and create additional salt water

[1]They have also drilled a test well site southeast of the Miami Corporation holdings. The Miami Corporation does not object to the placement of a well in this area.

intrusion as a result the City's extremely limited area available for placement of wells within the licensed property.[2] Although the City may have made the representation that the wells will not cause adverse environmental impacts, in fact, the City has not provided any reasonable assurances or evidence that the proposed withdrawals will not cause adverse environmental impacts including, but not limited to, impacts to environmental features, including lakes, streams and the vast jurisdictional wetlands and habitat corridors within the Miami Corporation holdings, as well as, salt water intrusion and upcoming. This is required pursuant to 40C-2.301(2)(4)(d)(e)(f)(h)(j) F.A.C., Section 10.2 (e)(g)(i)(j)(l)(o)(p)(r), and 10.3(b)(c)(d)(e)(h)(j), A.H.

2. The applicant's aquifer performance test did not yield hydrogeologic data adequate to estimate, in any manner, the hydrogeologic properties of the upper Floridan aquifer or the overlying confining unit. The applicant's hydrogeologic investigation report dated September 2001 stated that none of the drawdown data from the test produced a good match for the Hantush-Jacob analysis, so leakance could not be calculated as provided pursuant to Section 10.2(a)(l), 10.3(c)(d) A.H.

3. The applicant has shown through water quality testing that the chloride concentration increases rapidly with depth. Obviously, salt water upconing is very likely in light of the fact that the bottom of the proposed well will be less than 200 feet from the depth to the 250 PPM chloride area. No hydrogeological modeling has been produced to demonstrate that at either the proposed average, or the maximum day pumping rates, that neither intrusion nor upconing will occur [Section 10.2(3)(l), 10.3(c)(d) A.H.

4. The groundwater flow modeling conducted by the applicant does not describe nor evaluate steady state or long term drawdowns associated with the requested quantities. Without this environmental impact analysis, impacts to existing legal users and wetlands cannot be made. [Section 10.2(e)(l)m 10.39(c)(d)]. This is critical in determining potential damage to the Miami Corporation silvicultural operation and mitigation banks established throughout the Miami Corporation holdings.

5. The applicant has not conducted an evaluation of impacts to existing legal uses

[2]It is my understanding that said license was only for a purpose of a test well and the City has no deed, easement or other property rights allowing a permanent wellfield within this property.

Exhibit "Grant 4
Page 34 of 42

by checking pump settings and water elevations. Without knowing this, the impact on an existing legal use cannot be evaluated. [Section 10.2(e)(g) A.H., 40C-2.301(2)(b), F.A.C.]

6. The applicant has indicated that a test well outside of the Miami Corporation's boundaries has, in fact, produced a better water supply than the area within the Miami Corporation's boundaries, and thus, the applicant has failed to demonstrate a need for drilling a wellfield that may have significant ecological environmental and water resource impacts upon the Miami Corporation property, as well as potentially causing severe damage to the timber interests owned by the Miami Corporation.

7. In addition, the City of Titusville has made it clear that any wellfield within the Miami Corporation boundaries, especially within the small 100-foot wide licensed area, will have continuing impacts on the Miami Corporation property. These impacts will include the City's access of this area through Miami Corporation property, flooding of the Miami Corporation property during test well construction or during the test well phase, as well as increased fire danger caused by the operation of machinery, vehicles and man's activities in this area. In fact, the Miami Corporation recently received a notice from the City of Titusville (copy attached) requesting the right to enter the Miami Corporation property to make a jurisdictional wetlands determination but clearly advising my client that the City or its agents intended to trespass regardless of the Miami Corporation's decision on this matter. Further, the letter indicated that the St. John River Water Management District would authorize this trespass. Please be advised that the City has been notified, both verbally and in writing that any activities by the City of Titusville or their agents other than those specifically authorized by statute on property owned by the Miami Corporation would be considered trespass and would be prosecuted as such (copy attached).

I appreciate your review of these concerns, however, please be advised these are our initial concerns based upon the initial, incomplete applications provided by the City of Titusville. It is my client's intent, depending on the actions of the City, to continue to monitor and provide additional comment to the City's permit activities within the Miami Corporation property and thus, I would appreciate continuous notice of all activities with regard to this application. We understand that the normal course of business is that we must contact Palatka for updated files, but we would appreciate a telephone call notifying us of any permit activity.

Please do not hesitate to contact me if you have any questions or can be of further assistance in this matter.

Very truly yours,

STORCH, HANSEN & MORRIS, P.A.

Glenn D. Storch

GDS:pas
cc: Dwight Severs, Esq.

Exhibit "Grant 4
Page 36 of 42

City of Titusville

FILE COPY

555 South Washington Avenue
Titusville, FL 32796-3584
Post Office Box 2806 (32781-2806)

July 11, 2002

Dwight W. Severs, City Attorney
Phone: (321) 383-5695
Telecopier: (321) 383-5694

Leonard Spielvogel, Esq.
Dean, Mead, Spielvogel & Goldman
101 S. Courtenay Parkway, Suite 201
Merritt Island, Florida 32952-4855

Re: Response to St. Johns River Water Management District

Dear Leonard:

Pursuant to your request, the City applied for and was granted an extension for the submittal of additional information to the St. Johns River Water Management District. As you are aware, this additional information is in connection with the City's request to modify its Consumptive Use Permit (CUP). As indicated in our May 17, 2002 correspondence, the extension, which was not to exceed 45 days, was for the purpose of attempting to negotiate a mutually satisfactory agreement.

To date, the City has not received any correspondence, proposals or draft agreements from the Miami Corporation. The extension expires on July 15, 2002. The City will therefore, be submitting its response to the Water Management District by that date. Having expended significant time and funding on the request for CUP modification, the City intends to continue the process to a successful conclusion.

This does not however, exclude the possibility of reaching a mutually satisfactory and beneficial agreement with the Miami Corporation. Indeed, the City has demonstrated its good faith by requesting the above-described extension and will continue discussions with the Miami Corporation for the purpose of reaching an agreement of mutual benefit.

As previously stated, the City is moving on the parallel paths of pursuing a Consumptive Use Permit modification, while entering into discussions with the Miami Corporation. These paths are not mutually exclusive.

We look forward to receiving proposals from the Miami Corporation and to working with you on this very important matter.

Exhibit "Grant 4"
Page 37 of 42

Should you have any questions or require any additional information, please contact me at your convenience.

Sincerely,

Dwight W. Severs vmh

Dwight W. Severs
City Attorney

DWS:vmh
cc: Thomas A. Harmer, City Manager
Raynetta Curry Grant, Water Resources Director

Exhibit "Grant 4
Page 38 of 42

DEAN, MEAD, SPIELVOGEL & GOLDMAN
ATTORNEYS AND COUNSELORS AT LAW

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MERRITT ISLAND, FLORIDA 32952-4866
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FAX (321) 453-8641

6640 DEVEREUX DRIVE, SUITE 100
MELBOURNE, FLORIDA 32940-7949
(321) 259-8900
FAX (321) 254-4479

www.deanmead.com

August 15, 2002

REPLY TO:

Merritt Island

e-mail address:
lspielvogel@deanmead.com



By Facsimile No. 383-5694

Dwight W. Severs, City Attorney
for the City of Titusville
Titusville City Hall
555 So. Washington Avenue
Titusville, Florida 32796

Re: Miami Corporation/City of Titusville/Options for consideration
Our File No. 22678/38311

Dear Dwight:

I am pleased to enclose herewith options for division of costs between the City of Titusville and Farmton Utility. I would point out that the amounts provided in these options are, at this stage, only estimates that would be subject to further refinement. The estimates are based upon the following assumptions:

A. Eleven wells will be built to pump an average day of 2.5 million gallons and a maximum day of 4.5 million gallons;

B. The pipeline would run to the southern boundary of my client's property; and

C. A re-pump station is included in these estimates in the event flows exceed 2 million gallons a day.

Exhibit Grant 4
Page 39 of 42

OPTION ONE

Farmton Water Resources

Construction of eleven (11) wells, pumps, motors, electrical controls, power, building, well piping manifold, engineering and permitting.

$2,601,000

City of Titusville CIAC

Construction of pipeline to southern FWR boundary, repump station, engineering and permitting.

$3,396,600

OPTION TWO

Farmton Water Resources

Construction of eleven (11) wells, pumps, motors, electrical controls, power, building, repump station, well manifold, engineering and permitting.

$3,258,000

City of Titusville CIAC

Construction of pipeline to southern FWR boundary, engineering and permitting.

$2,739,000

OPTION THREE

Farmton Water Resources

Construction of pipeline to southern FWR boundary, repump station, well piping manifold engineering and permitting.

$3,819,600

City of Titusville CIAC

Construction of eleven (11) wells, pumps, motors, electrical controls, power, building, engineering and permitting.

$2,178,000

Exhibit Grant 4
Page 40 of 42

09/15/2002 16:07 FAX 321 453 8641 DEAN MEAD 004/004

You will, undoubtedly, want to share this material with your consultants, but I suggest that we arrange a conference at your office with all interested parties at an early date.

I will await your advice.

Very truly yours,

Leonard Spielvogel

LS:pb

Enclosure

cc: Client
(by facsimile with enclosure)

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Exhibit Grant-4
Page 41 of 42

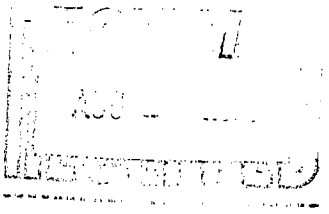
STORCH, HANSEN & MORRIS, P.A.
ATTORNEYS AT LAW

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MARY D. HANSEN
JAMES S. MORRIS

420 SOUTH NOVA ROAD
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FAX (904) 238-0988
e-mail: shmpa@mindspring.com

August 16, 2000



Dwight W. Severs, City Attorney
City of Titusville
555 South Washington Avenue
Post Office Box 2806
Titusville, FL 32781-2806

Re: City of Titusville/Miami Corporation

Dear Dwight:

I forwarded your July 6, 2000, letter to my client and my client is concerned that that letter did not address the two central issues that would have to be resolved in order to proceed toward an agreement. If you will recall, we understood at the outset that resolution of those issues were central to any agreement between the parties. We also understood that the issue of the protection of the Miami Corporation's property rights of potential condemnation proceedings by the City of Titusville in the event a wellfield was permitted was a paramount concern for Miami Corporation. The Duda/Cocoa Beach example is enough to strike fear into the hearts of any property owner.

My understanding of your letter was that there was really little that the city could offer to prevent such a reoccurrence. It was also my understanding from our initial conference that you thought there may be some creative method to deal with the potential for the diminution of the landowner's property rights by condemnation.

Unless and until we can find a creative solution to that problem, and address more attractive reasons for the Miami Corporation to put itself in such a situation, I do not believe there is any reason to pursue an agreement.

Yours very truly,

STORCH, HANSEN & MORRIS, P.A.

Glenn D. Storch

GDS:dlb

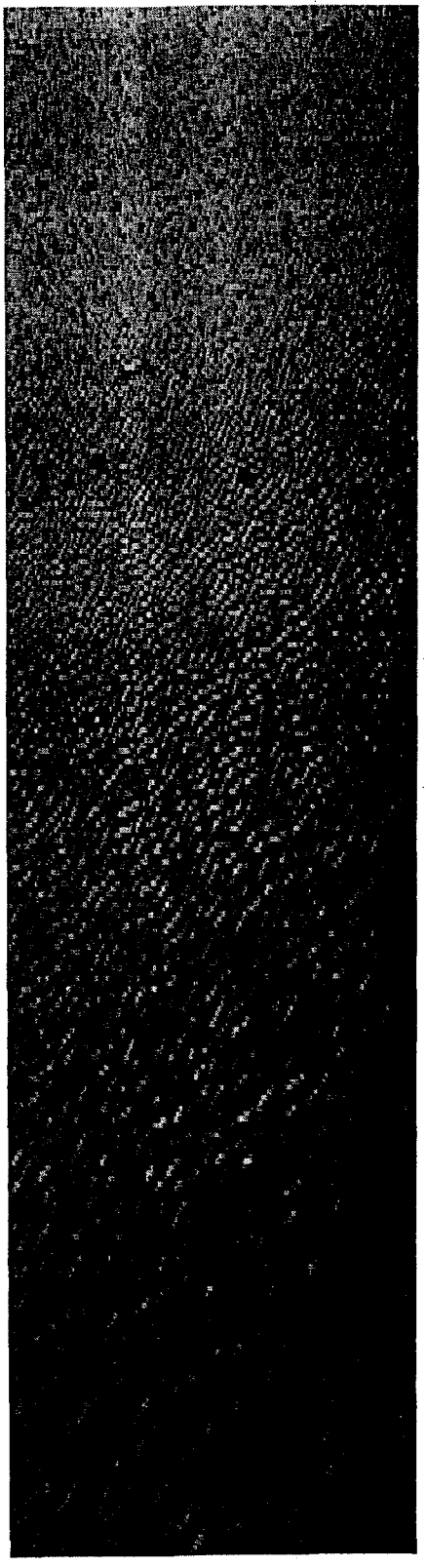
cc: Miami Corporation

Exhibit "Grant 4"
Page 42 of 42

Exhibit Thomas 1.

Resume of Henry Thomas

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 021256-WU EXHIBIT NO 13
COMPANY/ City of Titusville
WITNESS: Henry Thomas Resume (HT-1)
DATE 6/22-23/04



Education

B.S., B.A., Economics, University of Florida

Qualifications and Experience Summary

Mr. Thomas has twenty-five years of experience in the areas of utility rates, economics, planning, and finance. He is responsible for providing a wide-range of economic, financial, and business management services including rate studies, financial planning, resource planning and customer demand forecasting, capital funding analyses, economic feasibility studies, valuations, contract negotiations, expert testimony, and preparation of feasibility studies in support of tax exempt revenue bond financing.

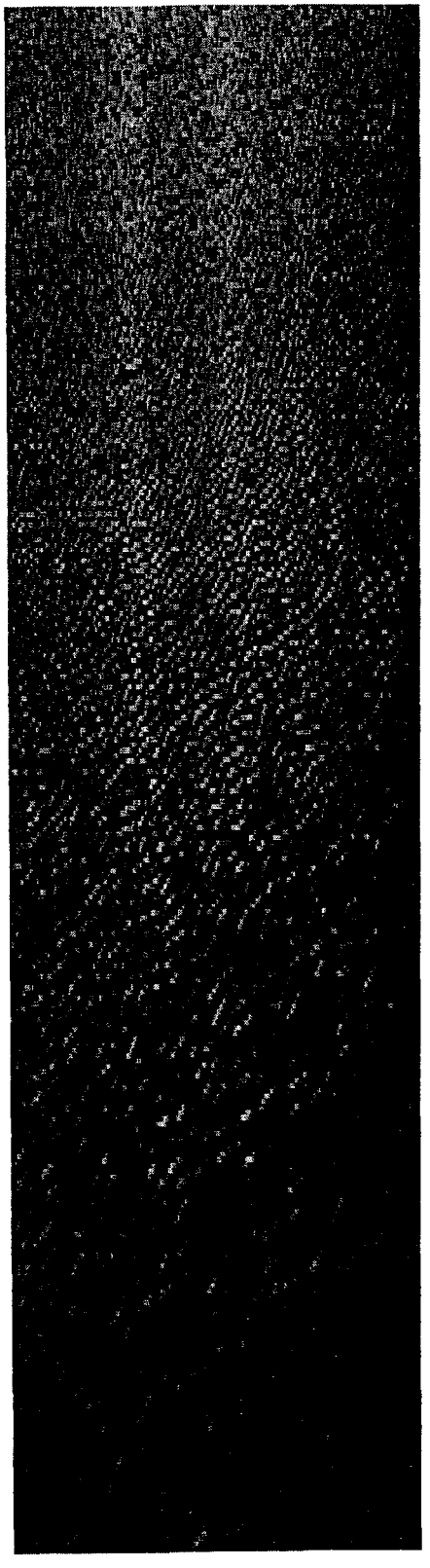
Cost of Service and Utility Rate Studies

Mr. Thomas has directed utility rate studies for electric, gas, water, wastewater and solid waste utility systems. These studies include evaluation of revenue requirements, cost of service analyses, retail and wholesale rate design, impact fees and miscellaneous service charges, and development of rate administrative policies. Representative project experience for water and wastewater rate studies includes:

- Directed water and wastewater rate studies for the cities of Casselberry, Crystal River, Fort Pierce, Gulf Breeze, Homestead, Jacksonville Beach, Largo, Leesburg, Mount Dora, Ocala, Oldsmar, Orlando Utilities Commission, Oviedo, Plant City, Sanford, St. Cloud, Titusville, Vero Beach and West Melbourne in addition to the counties of Charlotte, Citrus, and Volusia.

- Directed water and wastewater rate studies for non-profit cooperatives including Destin Water Users, Inc., South Walton Utility Corporation and Pine Island Water Association, as well as, the Reedy Creek Improvement District, Laurens, South Carolina Commission of Public Works and the Virginia Islands Water and Power Authority.

Exhibit "Thomas"
Page 1 of 3



Expert Testimony

Mr. Thomas presented testimony as an expert witness before the following regulatory jurisdictions:

- State of Indiana Public Service Commission - IURC Case No. 41118, Wholesale Transmission Rates
- State of Indiana Public Service Commission - Docket No. 40115, Wholesale Rates
- Virgin Islands Public Service Commission - Docket No. 345,Tax Exempt Bond Issue
- Virgin Islands Public Service Commission - Docket No. 481, Water Rates
- Circuit of Cass County, State of Michigan - Case No. 97-879-CK, Capital Credit Allocation
- State of Florida, Division of Administrative Hearings - Case No. 98-0449, Charlotte County Comprehensive Plan

Financial and Economic Feasibility Studies

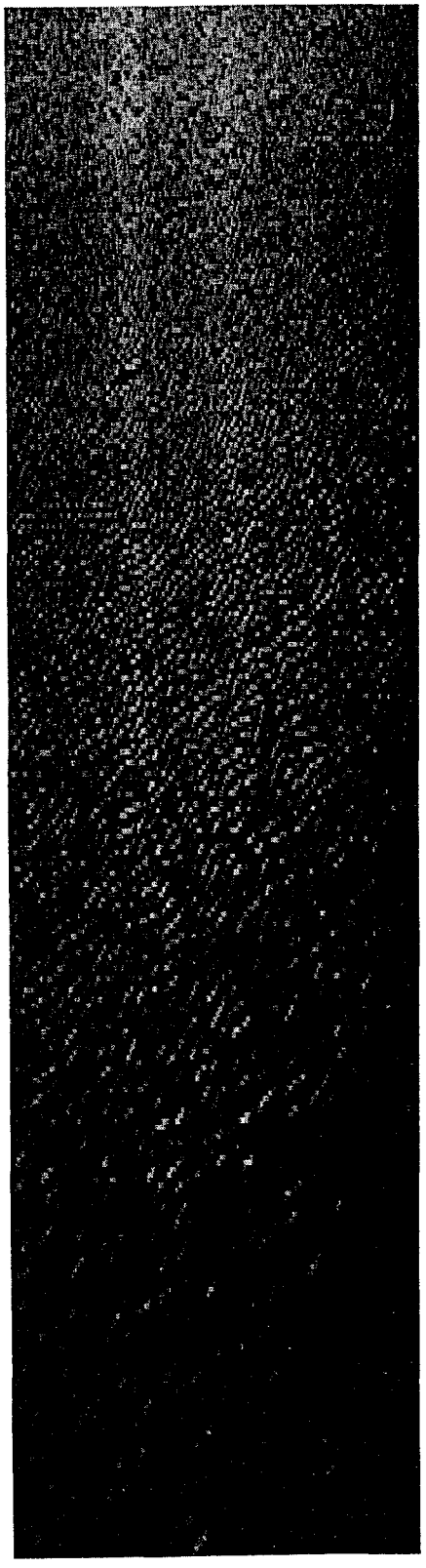
Mr. Thomas has directed economic and financial feasibility studies associated with the issuance of long-term indebtedness and project feasibility.

Representative project experience includes:

- Development of financial projections, official statements, certificates of compliance, additional bonds test certificates and other services associated with issuance of long-term debt for Charlotte County, Florida, Virgin Islands Water and Power Authority, the cities of Grand Island and Kearney, Nebraska, and Shelby, North Carolina.
- Development of project feasibility analyses to evaluate customer and territory swaps, wastewater treatment facilities, water supply resources, reclaimed water systems and regional irrigation projects. Clients included: Volusia County, City of Titusville, Orlando Utilities Commission, Miami-Dade Water and Sewer Department and the South Florida Water Management District.

PR MG

Exhibit "Thomas 1"
Page 2 of 3



Other Utility Services

- Mr. Thomas was involved in strategic business plans and financial forecasts in support of comprehensive planning initiatives, utility valuation studies, contract negotiations, and utility-resource planning studies. The studies included the preparation of customer demand forecasts using econometric forecasting models including issues such as the estimation of price elasticity to measure consumer response to changing utility price structures. Clients include Charlotte County, Florida Keys Aqueduct Authority, and the cities of Largo, Ocala and Tallahassee, Florida.

- He directed numerous utility-resource planning studies that included the preparation of forecasts of customers and usage requirements for electric, water, wastewater, and gas utilities. He developed econometric and end-use forecasting models and forecasts for numerous municipal clients as well as municipal joint-action agencies and generation and transmission cooperatives. The development of these forecasting models included issues such as the estimation of price elasticity to measure the consumer's reaction to changing utility prices, as well as economic and demographic factors, appliance ownership choices, and efficiency issues.

- Mr. Thomas co-authored a paper on integrated resources planning for water and wastewater utilities that was presented before the Florida section of the American Water Works Association (AWWA), and he was a guest speaker at the National Rural Electric Cooperative Association's 1995 Annual Managers Conference and the 1995 Marketing Member Services and Communications Conference.

PR MC

Exhibit Thomas 1
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Exhibit RHM-1

BREVARD COUNTY COMPREHENSIVE PLAN

CHAPTER 6

POTABLE WATER ELEMENT

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FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO 14
COMPANY/ Brevard County
WITNESS: Brevard Comprehensive Plan Chapter 6 (RHM-1)
DATE: 06/22-23/04
Richard H. Martens

POTABLE WATER ELEMENT

GOALS, OBJECTIVES AND POLICIES

GOAL 1
BREVARD COUNTY SHALL PURSUE A POTABLE WATER SUPPLY WHICH DOES NOT DEPLETE THE FRESHWATER RESOURCE AND IS SAFE, ENVIRONMENTALLY SOUND, AND EFFICIENT.

Objective 1
Brevard County shall strive to utilize potable water more efficiently on a per capita basis in 2002 as compared to 1998.

Policy 1.1
Brevard County shall maintain efforts to increase public awareness and acceptance of water conservation techniques including wastewater reclamation.

Policy 1.2
The County shall strive to strengthen and enforce the provisions found in the Brevard County Water Conservation Ordinance in an effort to reduce per capita consumption.

Policy 1.3
The County shall strengthen and enforce the provisions found in the Brevard County Water Source Heat Pump Ordinance in an effort to protect water resources.

Policy 1.4
The County shall identify additional reclamation zones and implement the provisions found in the Brevard County Wastewater Reuse Ordinance.

Policy 1.5
Brevard County shall investigate and enact such other ordinances as may be required to reduce per capita consumption of potable water.

Policy 1.6
Brevard County's Utility Services Department shall maintain a rate schedule of connection and service fees at an adequate level to provide necessary annual operation and maintenance funds, capital improvements, and renewal and replacement funds, for all County operated potable water systems.

Policy 1.7

Brevard County encourages water conservation practices to be utilized throughout the County in domestic, commercial, agricultural, and industrial activities.

Objective 2

All public water supply systems serving Brevard County residents shall be maintained at accepted water quality standards to protect the health of the users of potable water.

Policy 2.1

Brevard County shall meet or exceed the water quality standards found in Chapter 17-22, F.A.C.

Policy 2.2

Brevard County shall cooperate with the Florida Department of Environmental Protection (FDEP) to ensure that the appropriate purveyor of potable water shall notify the users of the public water supply systems when violations of water quality standards occur by following, at a minimum, the procedure found in Chapter 17-22, F.A.C.

Policy 2.3

Brevard County, municipalities, the School Board, and all primary and support agencies designated within the Brevard County Comprehensive Emergency Management Plan (CEMP), being governed by the authority of Public Law 93-288, Chapter 62-22, F.A.C, Chapter 252, F.S. and the St. Johns River Water Management District Water Shortage Plan (40C-21, F.A.C.), shall ensure the provision of potable water supplies to users of potable water within Brevard County during or after natural or man-made catastrophes.

Policy 2.4

Anyone proposing a new public water supply well shall comply with the policies contained in the Conservation Element.

Objective 3

Ensure that the present and future population has access to potable water that is consistent with the service sectors defined in the Future Land Use Element of this Comprehensive Plan.

Policy 3.1

The following acceptable level of service standards based on the average daily flow are hereby adopted, and shall be used as the basis for determining the availability of facility capacity and the demand generated by a development within the respective service areas.

POTABLE WATER

SERVICE AREA	LEVEL OF SERVICE STANDARD
MIMS	Residential - 250 gal/residential unit/day Non-Residential - 200 gal/equivalent unit/day
TITUSVILLE	125 gal/capita/day
COCOA	265 gal/ERC/day
SOUTH BREVARD	120 gal/capita/day

Policy 3.2

Brevard County's Water and Wastewater Division shall develop and implement a procedure to monitor the water system's level of service (LOS) status, and to determine the impact of a requested development order on available potable water capacity. Consistency with the established LOS determines approval of the development order as it pertains to the Potable Water Element as it pertains to the Potable Water Element. The gallons per day criteria for residential and non-residential consumption as established by the individual water suppliers shall be used as the criteria to measure the available capacity of the applicable water treatment plant.

Policy 3.3

Recognizing that acceptable level of service standards may not be achieved in practice and to avoid the possibility of curtailment of potable water service, the Brevard County water service agency shall initiate action (including introduction into the Capital Improvement Element), utilizing a lead time based on a calculated number of years before the design capacity has been reached using the following formulas to ensure additional capacity is on-line within five years:

design capacity - actual capacity / growth rate = # of years to design capacity

 # years to design capacity - 5 years = # of years before necessary inclusion within the CIE

growth rate = percentage capacity increase per year.

Brevard County shall pursue agreements with the other water suppliers in Brevard to adopt and utilize this or a similar procedure.

Policy 3.4

Newly proposed service areas, expanding restricted service areas, or Public Service Commission (PSC) regulated service areas shall be reviewed and approved by Brevard County and applicable agencies.

Policy 3.5

Potable water facilities and services intended to serve future development needs that are not located in the 0-20 year future potable water service area (see Map 1) shall not be permitted or provided unless the potable water service area is amended in the Potable Water Element of the Comprehensive Plan or a non-governmental entity is the provider of the potable water facilities, so long as the private potable water service is consistent with the Brevard County Comprehensive Plan. Nothing in this element will prevent a private property owner from utilizing on-site water sources, such as a well, for individual and personal potable water use.

Objective 4

Provide the facilities necessary to meet the projected needs of the County-operated public water supply system for the next twenty years by developing and implementing a Potable Water Capital Improvements Program.

Policy 4.1

Brevard County shall continue to implement an wellfield expansion program to increase the safe yield of the surficial aquifer in the north county area, in order to provide an adequate and dependable water supply source to meet the current and future needs of the County-operated water system.

Policy 4.2

Brevard County supports the effort of the Brevard Water Supply Board to develop a water supply plan to meet the future needs of Brevard County which is consistent with and supportive of the provisions found in the Brevard County Comprehensive Plan.

Policy 4.3

Brevard County promotes cooperative efforts with other governmental entities, both within the County and outside of the County, for the planning, implementation, and management of water resources and supplies.

Policy 4.4

A potable water interconnect should be established and maintained between all of the publicly owned water systems in order to provide potable water during emergencies.

Policy 4.5

For potable water uses, Brevard County should utilize the highest quality water source, whenever economically and environmentally feasible.

Objective 5

Brevard County shall maximize the use of existing facilities to discourage urban sprawl.

Policy 5.1

The development and use of County-owned potable water facilities and systems shall be undertaken to maximize the overall public benefit while minimizing construction, operation, and maintenance costs.

APPENDIX

LIST OF MAPS

Map	Title
1	Potable Water Treatment Plants
2	Existing Potable Water Customers and Future Service Areas

Exhibit RHM-2

Brevard County Ordinance No. 03

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 021256-WU EXHIBIT NO. 15
COMPANY/ Brevard County
WITNESS. Richard H. Mactens (RHM-2)
DATE: 06/22-23/04

ORDINANCE NO. 03-032

AN ORDINANCE OF THE BREVARD COUNTY BOARD OF COUNTY COMMISSIONERS CREATING A SPECIAL WATER AND SEWER DISTRICT WITHIN THE UNINCORPORATED AREA OF BREVARD COUNTY; SETTING FORTH THE PURPOSE OF THE DISTRICT; ESTABLISHING THE ORGANIZATION AND DUTIES OF THE DISTRICT GOVERNING BODY; SETTING FORTH POWERS OF THE DISTRICT; GRANTING CERTAIN CONSENTS FOR THE EXPANSION AND OPERATION OF WATER AND SEWER FACILITIES; SETTING FORTH BUDGETING AND REPORTING REQUIREMENTS; PROVIDING FOR CONSISTENCY WITH THE COMPREHENSIVE PLAN; PROVIDING FOR SEVERABILITY; PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Chapter 153, Part II, Florida Statutes, authorizes the County Commission to create special districts to provide water and sewer facilities; and

WHEREAS, Chapter 153, Part II, Florida Statutes, provides that the County Commission may serve as the governing body of any water district created under the act; and

WHEREAS, Section 153.86, Florida Statutes, provides that no water treatment plant or other facilities for the supply and distribution of water, or sewer facilities shall be constructed within any district unless the district board shall give its consent; and

WHEREAS, several municipalities and the County currently provide water and sewer service within incorporated and unincorporated areas of the county; and

WHEREAS, several provider municipalities and the County have entered into interlocal, settlement or franchise agreements which set forth service areas and conditions under which the various providers will supply water and sewer services or expand such services; and

WHEREAS, the current agreements between the cities and the County provide an efficient method for providing and expanding water and sewer systems; and

WHEREAS, the County Commission is concerned about possible disruption of the current system of providing water and sewer service by new private and public providers located within or outside of the County; and

WHEREAS, the County Commission desires to facilitate cooperation in development of water supplies in the County which best meet the needs of residents of Brevard County and the Central Florida region; and

WHEREAS, any district created will not have any jurisdiction over the permitting of groundwater or surface water use and withdrawal; and

WHEREAS, the Board of County Commissioners, for itself and the Brevard County Water and Sewer District, finds that the water and sewer system service areas designated in Section 4.3(a) of this Ordinance are generally designated and subject to the provisions of the May 22, 2001 Joint Planning Agreement with Brevard County, the April 4, 2002 Water and Sewer Franchise Agreement with Brevard County as approved by the Board of County Commissioners on April 4, 2000 and by the City of Melbourne pursuant to City Ordinance No. 2000-26, and the August 29, 2001 Settlement Agreement with Respect to Utility Service Areas between Brevard County and the Cities of Melbourne, Palm Bay, and West Melbourne; and

WHEREAS, the Board of County Commissioners, for itself and the Brevard County Water and Sewer District, further finds that some additional areas on the South, South Beaches have been included within the area described in Section 4, paragraph 3(a)(1) of this Ordinance, which additional water system service areas are hereby found to be a logical extension of the foregoing Melbourne water system service area; and

WHEREAS, the Board of County Commissioners, for itself and the Brevard County Water and Sewer District, further finds that the additional areas on the South, South Beaches should be

added to the City of Melbourne water system service area, because the City of Melbourne is a potential provider of central, regional water system services to the South, South Beaches within the foreseeable future; and

WHEREAS, the Board of County Commissioners, for itself and the Brevard County Water and Sewer District, finds that the water system service areas designated in Section 4.3(a) of this Ordinance have their historical genesis in, and were developed at significant expense to the City of Melbourne; and

WHEREAS, it is the intent of the Board of County Commissioners, for itself and the Brevard County Water and Sewer District, that the adoption and grant of consents in Section 4 of this Ordinance are intended to run with the land and shall not be revocable or amendable without the consent and joinder of the grantee municipality of the consent granted; and

WHEREAS, the Board of County Commissioners, for itself and the Brevard County Water and Sewer District, finds that the provision of service and development of the City's water system and sewer system has been in reliance upon the provisions of the May 22, 2001 Joint Planning Agreement with Brevard County, the April 4, 2002 Water and Sewer Franchise Agreement with Brevard County as approved by the Board of County Commissioners on April 4, 2000 and by the City pursuant to City Ordinance No. 2000-26, the August 29, 2001 Settlement Agreement with Respect to Utility Service Areas between Brevard County and the Cities of Melbourne, Palm Bay, and West Melbourne, and the Master Plan for Water Distribution System adopted in 1987 by the City of Melbourne and the South Brevard Water Authority, together with the 1990 Plan updates, which plan was approved pursuant to the South Brevard Water Authority operating legislation in Chapter 83-375, Laws of Florida, as amended, as well as other agreements, ordinances, and plans; and

WHEREAS, the City of Melbourne's reliance on the foregoing has been substantial, and the Board of County Commissioners, for itself and the Brevard County Water and Sewer District, finds that the City of Melbourne within the water system and sewer system service areas has a vested right to continue provision and to expand provision of water system services and sewer system service, all within the unincorporated portion of the service areas described in Section 4.3(a) of this Ordinance, without additional consent, permit, or regulation by the Board of County Commissioners and the Brevard County Water and Sewer District; and

WHEREAS, the Board of County Commissioners, for itself and the Brevard County Water and Sewer District, finds that nothing in this Ordinance shall be deemed to alter, modify, or reduce the rights granted under provisions of the May 22, 2001 Joint Planning Agreement with Brevard County, the April 4, 2002 Water and Sewer Franchise Agreement with Brevard County as approved by the Board of County Commissioners on April 4, 2000 and by the City pursuant to City Ordinance No. 2000-26, the August 29, 2001 Settlement Agreement and Interlocal Agreement with Respect to Utility Service Areas between Brevard County and the Cities of Melbourne, Palm Bay, and West Melbourne, as well as other agreements, ordinances, and plans;

WHEREAS, the County recognizes that the City of Cocoa Beach has an established and vested sewer franchise service area under which the City of Cocoa Beach will supply sewer services or expand such services; and

WHEREAS, the Board of County Commissioners, for itself and the Brevard County Water and Sewer District, finds that the water and sewer service area designated to the City of Cocoa Beach in Section 4.6 of this Ordinance has its historical genesis in, and was developed at significant expense to the City of Cocoa Beach pursuant to Chapter 180, Florida Statutes, City of Cocoa Beach

ordinances, resolutions and other existing laws and case law applicable to the City of Cocoa Beach's rights to continue to provide exclusive sewer services to that area; and

WHEREAS, the County recognizes that the City of Cocoa has an established and vested water and sewer franchise service area under Chapter 57-1232, Laws of Florida, by which the City of Cocoa will supply water and sewer services or expand such services; and

WHEREAS, the Board of County Commissioners, for itself and the Brevard County Water and Sewer District, finds that the water and sewer service area designated to the City of Cocoa in Section 4.2 of this Ordinance has its historical genesis in, and was developed at significant expense to the City of Cocoa pursuant to Chapter 57-1232, Laws of Florida, Chapter 180, Florida Statutes, City of Cocoa ordinances, and other existing laws and case law applicable to the City of Cocoa's rights to continue to provide exclusive water and sewer services to that area to the extent authorized by Chapter 57-1232, Laws of Florida; and

WHEREAS, the City of Cocoa's reliance on the foregoing has been substantial, and the Board of County Commissioners, for itself and the Brevard County Water and Sewer District, finds that the City of Cocoa within the water system and sewer system service area has a vested and exclusive right, to the extent authorized by Chapter 57-1232, Laws of Florida, to continue provision and to expand provision of water and sewer services, all within the service area described in Section 4.2 of this Ordinance, without additional consent, permit, or regulation by the Board of County Commissioners and the Brevard County Water and Sewer District; and

WHEREAS, the Board of County Commissioners, for itself and the Brevard County Water and Sewer District, finds that nothing in this Ordinance shall be deemed to alter, modify, or reduce the rights granted to, and exercised by, the City of Cocoa under Chapter 57-1232, Laws of Florida, Chapter 180, Florida Statutes, City of Cocoa ordinances, and other existing laws and case law

applicable to the City of Cocoa's right to continue to provide water and sewer services to that area; and

WHEREAS, the County recognizes that the City of Cape Canaveral has entered into an interlocal agreement, dated April 6, 1994, as amended, with the City of Cocoa Beach and an interlocal agreement with the Canaveral Port Authority, dated March 17, 1999, to provide reclaimed water service; and

WHEREAS, the City of Cape Canaveral provides sewer service within municipal boundaries; and

WHEREAS, the City of Cape Canaveral's reliance on the foregoing has been substantial, and the Board of County Commissioners, for itself and the Brevard County Water and Sewer District, finds that the City of Cape Canaveral has a vested right to continue provisions and to expand provision of reclaimed water service to Cocoa Beach and the Canaveral Port Authority without additional consent, permit, or regulation by the Board of County Commissioners and the Brevard County Water and Sewer District; and

WHEREAS, the County and the City of Titusville recognize that the City of Titusville has a service area for water and sewer service generally described as the Indian River on the east, Kings Highway, Range Road on the south, Parrish Road on the north and extended westerly towards the St. Johns River with certain areas excluded that are serviced by the County; and

WHEREAS, the County and the City of Titusville will proceed with formalizing and finalizing the interlocal agreement describing said service areas; and

WHEREAS, municipalities are authorized to annex certain territories within their jurisdiction and to enter into agreements providing for the future annexation of said areas when said areas become contiguous; and

WHEREAS, it is contemplated that any areas annexed or executed agreements to annex providing for future annexation, may be added to the existing or future water and sewer service areas of said respective municipalities to the extent not inconsistent with any interlocal service area agreement; and

WHEREAS, the Board of County Commissioners recognizes that the City of Rockledge has an established and vested sewer service and reclaimed water area within which the City of Rockledge will supply sewer services; and

WHEREAS, the Board of County Commissioners recognizes that the City of Rockledge has invested significant funds to create its sewer and reclaimed water systems and has continuing existing public debt therefore; and

WHEREAS, the Board of County Commissioners recognizes that the City of Rockledge has a continuing right to provide sewer and reclaimed water services, to the extent authorized by law, to contiguous areas, incorporated or unincorporated; and

WHEREAS, the Board of County Commissioners, for itself and the Brevard County Water and Sewer District, finds that nothing in this ordinance shall be deemed to alter, modify or reduce the rights granted to, and exercised by, the City of Rockledge under Chapter 180, Florida Statutes, City of Rockledge ordinances, and other existing laws and case law applicable to the City of Rockledge's right to continue to provide and expand its sewer and reclaimed water system; and

WHEREAS, the Board of County Commissioners recognizes that the City of Palm Bay has an established and vested water, sewer and reclaimed water service area under Chapter 180, Florida Statutes, and in accordance with the August 29, 2001 Settlement Agreement with Respect to Utility Service Areas between Brevard County and the Cities of Melbourne, Palm Bay and West Melbourne by which the City of Palm Bay will supply water, sewer and reclaimed water services; and

WHEREAS, the Board of County Commissioners recognizes that the City of Palm Bay has invested significant funds to create its water, sewer and reclaimed water systems and has continuing existing public debt therefore; and

WHEREAS, to the extent set forth in the August 29, 2001 settlement agreement, the Board of County Commissioners recognizes that the City of Palm Bay has a continuing right to provide water, sewer and reclaimed water services to areas, incorporated or unincorporated, without additional consent, permit or regulation, including rate regulation, by the Board of County Commissioners and/or the Brevard County Water and Sewer District; and

WHEREAS, the Board of County Commissioners, for itself and the Brevard County Water and Sewer District, finds that nothing in this ordinance shall be deemed to alter, modify or reduce the rights granted to, and exercised by, the City of Palm Bay under Chapter 180, Florida Statutes, the August 29, 2001 Settlement Agreement with Respect to Utility Service Areas between Brevard County and the Cities of Melbourne, Palm Bay and West Melbourne, City of Palm Bay ordinances, and other existing laws and case law applicable to the City of Palm Bay's right to continue to provide and expand its water, sewer and reclaimed water systems within its service area as described in the August 29, 2001 Settlement Agreement; and

NOW THEREFORE, be it ordained by the Board of County Commissioners of Brevard County, Florida:

Section 1. CREATION AND PURPOSE OF SPECIAL DISTRICT. Pursuant to Chapter 153, Part II, Florida Statutes, and Section 189.4041, Florida Statutes, the Board of County Commissioners determines it to be necessary in the public interest to create and there is hereby created a dependent special district to be known as the "Brevard County Water and Sewer District" ("District"). The boundaries of the district shall be the unincorporated area of Brevard County, less

and except the area lying within the boundaries of the Barefoot Bay Water and Sewer District. The purpose of the special district is to acquire, own, operate, lease and maintain water and sewer systems in the unincorporated area of Brevard County, Florida. The Board of County Commissioners hereby declares that a dependent special district is the best means of establishing the District and for acquiring, leasing, operating and managing assets of water and sewer systems within the District because creating the special district with the authority set forth in Chapter 153, Part II, Florida Statutes, preserves the option of adjusting the membership of the governing body and best addresses the issues described in the recital clauses set forth above.

Section 2. ORGANIZATION AND DUTIES OF DISTRICT GOVERNING BODY. The governing body of the Brevard County Water and Sewer District shall be the Brevard County Board of County Commissioners, the members of which shall receive no additional compensation for their service as District board members. The duties of the county commissioners, sitting as the district governing body, shall be those specified in Chapter 153, Part II, Florida Statutes, and all duties necessary or incidental to the District's authority as set forth in that chapter.

Section 3. POWERS AND AUTHORITY OF THE DISTRICT AND ITS GOVERNING BODY. The special district, through its governing body, shall have all powers and authority specified in Chapter 153, Part II, Florida Statutes, and as otherwise may be specified by law. Such powers shall include, but shall not be limited to those powers to construct and expand water and sewer systems to serve domestic and industrial customers as well as all other powers specified in Section 153.62, Florida Statutes, and all other provisions of Chapter 153, Part II, Florida Statutes.

Section 4. GRANTS OF CONSENT. Pursuant to the authority vested in the District under Section 153.86, Florida Statutes:

1. The District, through the Board of County Commissioners as its governing body, hereby consents to Brevard County municipalities the right to continue to provide any water and sewer service currently provided by those municipalities in the unincorporated areas of the County as of the date of this ordinance.

2. The District, through the Board of County Commissioners as its governing body, hereby consents to the City of Cocoa's operation, maintenance, construction, reconstruction, repair, removal, contraction, and expansion of its water system, as that term is defined by Section 153.52(5), Florida Statutes (2002), and its sewer system, as that term is defined by Section 153.52(4), Florida Statutes (2002), and providing water and sewer services within all areas of Brevard County which are described in Chapter 57-1232, Laws of Florida, and further consents to the same for the additional water service area which extends past Mathers Bridge down to the southernmost dwelling on South Tropical Trail. The additional water service area is hereby found to be a logical extension of the foregoing City of Cocoa water system service area.

3. City of Melbourne Service Area.

(a)(1) The District, through the Board of County Commissioners as its governing body, hereby consents to the City of Melbourne's operation, maintenance, construction, reconstruction, repair, removal, contraction, and expansion of its water system, as that term is defined by Section 153.52(5), Florida Statutes (2002), and providing of water service in all areas of Brevard County which are described in Exhibit A attached hereto including the unincorporated areas described within Exhibit A.

(2) The District, through the Board of County Commissioners as its governing body, hereby consents to the City of Melbourne's operation, maintenance, construction, reconstruction, repair, removal, contraction, and expansion of its sewer system, as that term is

defined by Section 153.52(4), Florida Statutes (2002), and providing of sewer system services in all areas of Brevard County which are described in Exhibit B attached hereto including the unincorporated areas described within Exhibit B.

(b) The Board of County Commissioners finds, for itself and the District, that the provision of service and development of the City's water system and sewer system in reliance upon the May 22, 2001 Joint Planning Agreement with Brevard County, the April 4, 2002 Water and Sewer Franchise Agreement with Brevard County as approved by the Board of County Commissioners on April 4, 2000 and by the City of Melbourne pursuant to City Ordinance No. 2000-26, and the August 29, 2001 Settlement Agreement with Respect to Utility Service Areas between Brevard County and the Cities of Melbourne, Palm Bay, and West Melbourne, ordinances, and plans forms a vested right to continue and expand provision of water and sewer service within the unincorporated portion of the service areas described in Section 4, paragraph 3(a) of this Ordinance, without additional regulation by the District. Consequently, nothing in this ordinance shall be deemed to alter, modify, or reduce the rights granted under those agreements.

(c) The grant of consent provided in this Section 4, paragraph 3 of this Ordinance shall run with the land and shall not be revocable or amendable without the consent and joinder of the City of Melbourne. By granting this consent, the Board of County Commissioners, for itself and the District, grants and or affirms to the City of Melbourne the authority to operate, maintain, construct, reconstruct, repair, remove, contract, renew existing contracts, and expand or contract its water system or service and its sewer system or service, to set rates for, to approve plans and specifications for, and to acquire land for, the water system and the sewer system of the City of Melbourne, all within the service areas described in Section 4, paragraph 3(a) of this Ordinance.

These rights are delegated, and irrevocably granted, to the City of Melbourne pursuant to the provisions of Chapter 153, Florida Statutes.

(d) By grant of this consent, the Board of County Commissioners, for itself and the District affirms to the City of Melbourne that it does not intend to exercise its powers pursuant to Sections 153.53, 153.62, 153.64, Florida Statutes, within the service areas described in Section 4, paragraph 3(a) of this Ordinance.

(e) The service areas described in Section 4, paragraph 3 are non-exclusive service areas for the City of Melbourne. The portion of the service areas described in Section 4, paragraph 3(a)(1) of this Ordinance which are co-extensive with the area described in paragraph 2 of the August 29, 2001 Settlement Agreement with Respect to Utility Service Areas between Brevard County and the Cities of Melbourne, Palm Bay, and West Melbourne, shall be non-exclusive water system service areas for the City of Melbourne.

4. (a) The District, through the Board of County Commissioners as its governing body, hereby consents to the City of West Melbourne's operation, maintenance, construction, reconstruction, repair, removal, contraction and expansion of its reclaimed water facilities and water and sewer facilities and providing water and sewer service in the areas and subject to the provisions of the August 29, 2001 Settlement Agreement With Respect to Utility Service Areas, and Interlocal Agreement with the provision that nothing in this ordinance alters, modifies, increases or reduces the rights granted under that agreement. The grant of consent provided in this Section 4, paragraph 4 of this ordinance shall run with the land and shall not be revocable or amendable without the consent and joinder of the City of West Melbourne. These rights are delegated and irrevocably granted to the City of West Melbourne pursuant to the provisions of Chapter 153, Florida Statutes.

(b) Insomuch as the City of West Melbourne is supplied water by the City of Melbourne, the City of West Melbourne shall also be afforded the protections under paragraph 3(d) of this ordinance.

5. The District, through the Board of County Commissioners as its governing body, hereby consents to the City of Palm Bay's operation, maintenance, construction, reconstruction, application for consumptive use permits, repair, removal, contraction and expansion of its water and sewer facilities and providing of water, sewer and reclaimed water service in the areas specified and subject to the provisions of the August 29, 2001 Settlement Agreement With Respect to Utility Service Areas, and nothing in this ordinance shall be deemed to alter, modify, increase or reduce the rights granted under that agreement. Nothing set forth in this paragraph shall be construed to prohibit, limit or restrict the right of either the County or the District, at their discretion, to intervene in opposition to a consumptive use permit application filed by the City of Palm Bay. The grant of rights and consent provided in this Section 4, paragraph 5 of this Ordinance shall run with the land and shall not be revocable or amendable without the consent and joinder of the City of Palm Bay. These rights are delegated and irrevocably granted to the City of Palm Bay pursuant to the provisions of Chapter 153, Florida Statutes.

6. The District, through the Board of County Commissioners as its governing body, hereby consents to the City of Cocoa Beach's operation, maintenance, construction, reconstruction, repair, removal, contraction and expansion of its sewer facilities and the City's providing sewer service in the areas and subject to the provisions of resolution (90-103) and the Cocoa Beach Suburban Sewer System acquisition agreement between the county and the city dated January 18, 1990, and nothing in this ordinance shall be deemed to alter, modify, increase or reduce the rights

granted under that resolution or agreement. The District further consents to the City of Cocoa Beach's providing of sewer service to the Capehart Housing area at Patrick Air Force Base.

7. The District, through the Board of County Commissioners as its governing body, hereby consents to the City of Titusville's operation, maintenance, construction, reconstruction, repair, removal, contraction and expansion of its existing water and sewer facilities and providing water and sewer service in the areas generally described as the Indian River on the east, from Kings Highway, Range Road on the south to, on the north, Parrish Road and a line extending from the end of Parrish Road and westerly to the St. Johns River except those areas presently where served by Brevard County or of which are encompassed within a future interlocal agreement between Brevard County and the City of Titusville.

(a) To the extent the SJRWMD approves the City of Titusville's application for Consumptive Use Permit for Area IV Wellfield, the District through the Board of County Commissioners as its governing body consents to the necessary transmission mains and facilities from Area IV Wellfield to the City of Titusville Water Treatment facilities to the extent that the transmission lines would not substantially, adversely and materially impact a substantial number of existing residents or owners in the unincorporated area of the County.

(b) The District through the Board of County Commissioners as its governing body hereby consents and recognizes the City of Cocoa and the City of Titusville's Interlocal Agreement dated April 12, 1994 recorded in OR Book 3987, page 1163 as establishing the southern boundary of Titusville's water and sewer service.

8. The District, through the Board of County Commissioners as its governing body, hereby consents to the City of Rockledge's operation, maintenance, construction, reconstruction, repair, removal, contraction and expansion of its sewer and reclaimed water facilities and providing

sewer and reclaimed water service in the areas and subject to the provisions of that agreement between the City of Rockledge and Brevard County bearing a date of September 6, 2000.

9. The District, through the Board of County Commissioners as its governing body, hereby consents to the City of Cape Canaveral's operation, maintenance, construction, reconstruction, repair, removal, contraction and expansion of its reclaimed water facilities and the City's providing reclaimed water service to Cocoa Beach subject to the interlocal agreement, dated April 6, 1994, as amended, and to Canaveral Port Authority subject to the interlocal agreement, dated March 17, 1999, as well as other agreements, ordinances, and plans.

10. Pursuant to the District's authority under Section 153.86, Florida Statutes, upon application for the extension or construction of a water or sewer system into an area for which consent has not been given, the District may grant consent to the construction or expansion of any water or sewer system which is to provide domestic or industrial service to customers. The District's consent shall not be unreasonably withheld upon demonstration of all of the following:

(a) That the proposed area does not lie within an area in which facilities are owned by the District, or to which another local government entity or private company has rights as set out in this Ordinance; and

(b) That the proposed area does not lie within the service area of the District or of another local governmental entity whose service area has been established by this ordinance, an interlocal agreement or special act; and

(c) That if facilities are available from a provider or the area lies within a service area of a provider established by interlocal agreement, the provider is unable or unwilling to provide service; and

(d) That construction or expansion of the water or sewer treatment is financially feasible and will occur within five years of the date of application; and

(e) That the proposed expansion or construction is in the public interest and will provide the most efficient and cost effective service to customers in the area proposed to be served, provided that if two or more providers are equally capable of supplying cost effective service the customer requesting service shall have the ability to choose which provider supplies service to the property to which service is being extended; and

(f) The proposed expansion is consistent with the county comprehensive plan; and

(g) The proposed expansion is consistent with demand for potable water by reasonably foreseeable residential, commercial and industrial users within the next seven years in the areas of Brevard County proposed to be served.

(h) In the event a dispute arises with the District in which a city or cities contend that the District is unreasonably withholding consent under this ordinance, the dispute shall be submitted to binding mediation before a panel consisting of three members, one appointed by the District, one appointed by the city or cities involved, and one jointly agreed upon by the appointees of the District and the city or cities. At the conclusion of the mediation the District shall adopt and implement the panel's action.

11. Upon annexation into a municipality of any portion of a service area described in Section 4 of this Ordinance, and after the time for contest of said annexation shall have run, or if contested, completion of any litigation arising from said contest, said portion of the service area shall no longer be subject to this Ordinance or the regulation of the Brevard County Water and

Sewer District but shall become a part of the service area of the annexing municipality, if the area is not already part of the service area of another municipality.

12. The Board of County Commissioners hereby recognizes that the District created by this ordinance does not have jurisdiction over the consumptive use permitting of ground water or surface water use and withdrawals and as such, hereby consents and agrees to the installation, permitting, operating, and maintenance of any ground water or surface water use, withdrawals and transmission presently operated by any municipality. Nothing in this ordinance or section shall be deemed to waive the right of any local government to intervene in or object to any application for a consumptive use permit to withdraw or use groundwater or surface water, except as provided herein.

13. The Board of County Commissioners of Brevard County and/or the District governing body shall take no action which may affect any municipal provider of water, sewer or reclaimed water service without providing ninety (90) days' written notice to the affected municipalities and otherwise complying with Florida Law. A municipality may waive the notice requirement contained within this subsection.

14. The intention of the consents granted by this section, though worded somewhat differently for each City, is to provide all similarly situated cities with the same rights, duties and responsibilities.

15. The District hereby consents to a private utility providing water or sewer service to existing customers in their certificated territories and to new customers within that certificated territory who are able to be served by existing water or sewer infrastructure owned by the private utility as of the date of adoption of this ordinance.

Section 5. NO IMPAIRMENT OF CONTRACT. Nothing in this ordinance shall impair the existing obligations set forth in any contract, settlement or interlocal agreement for which consent has been granted under this ordinance pertaining to water service, sewer service, reclaimed water service; the expansion of water treatment, water distribution or supply facilities; or the expansion of sewer treatment or transport facilities. No future amendment to this ordinance shall in any way impair the obligations set forth in any contract, settlement or interlocal agreement for which consent has been granted under this ordinance pertaining to water service, sewer service, reclaimed water service; the expansion of water treatment, water distribution or supply facilities; or the expansion of sewer treatment or transport facilities.

Section 6. BUDGETING AND FINANCIAL REPORTING REQUIREMENTS. The District shall comply with all applicable budgeting laws and financial reporting laws including Chapter 200, Florida Statutes, and Sections 218.32, 218.321, 218.33, 218.34 and 218.345, Florida Statutes.

Section 7. CONSISTENCY WITH COMPREHENSIVE PLAN. The Board of County Commissioners of Brevard County hereby declares that the creation of the District and the consents granted in Section 4 of this Ordinance are consistent with the County's approved comprehensive plan and all elements thereof. The Board of County Commissioners of Brevard County shall not adopt any policy, goal or objective in its comprehensive plan or other rule which would allow the County's comprehensive plan to impair the consents granted in Section 4 of this Ordinance.

Section 8. RATE-MAKING PROCEDURE AND FINANCING OF THE DISTRICT. District ownership and operation of a water and sewer system and any future assets of that system, shall be financed through revenues generated by the water and sewer system, provided the District may use any of the methods of financing capital improvements or operations as may be authorized

by law, including Chapter 153, Part II, Florida Statutes. The District governing body shall not establish or raise rates or charges for services provided by the District except after a public hearing held after a minimum of ten days' notice published in a newspaper of general circulation within the boundaries of the District. Such a public hearing shall be scheduled after 5:00 p.m. The Board of County Commissioners of Brevard County and/or the District governing body shall not establish or otherwise regulate rates or the manner in which rates are established or adopted by a municipality for any service area in which a right or consent to provide service has been granted.

Section 9. SEVERABILITY. If any section, paragraph, sentence, clause, phrase, or word of this ordinance is for any reason held by a court to be unconstitutional, inoperative, or void, such holding shall not affect the remainder of this ordinance; provided, however, that the consents granted by this Ordinance in Section 4 and rights related thereto found to exist or granted therein are a material and non-severable part of this Ordinance.

Section 10. EFFECTIVE DATE. This ordinance shall become effective upon filing as provided by law. A certified copy of the ordinance shall be filed with the Office of the Secretary of State, State of Florida, within ten days of enactment.

DONE AND ADOPTED in Regular Session this 22 day of July, 2003.

ATTEST:

Scott Ellis, Clerk

BOARD OF COUNTY COMMISSIONERS OF BREVARD COUNTY, FLORIDA

Jackie Colon, Chairperson
As approved by the Board on July 22, 2003

Reviewed as to form and content:

(Asst.) County Attorney

ord\waterdistord 7-22-03.wpd

EXHIBIT A: MELBOURNE WATER SERVICE

Commencing at the Atlantic Ocean and the Brevard County/Indian River County boundary line as the POINT OF BEGINNING; thence meander Northerly along the mean high water line of the shore of Brevard County on the Atlantic Ocean to a point, said point being 440 feet +/- East of the Western boundary of SR-A-1-A and being the intersection with an imaginary line running Eastward from the Southern line of the Pineda Causeway, SR-404 right-of-way; thence run Westward along said line to the Southern right-of-way line of SR-404, the Pineda Causeway to Wickham Road; thence run Southward on the Eastern right-of-way line of Wickham Road to a point where the Pineda Causeway is proposed to run West of Wickham Road as shown on the 1 page Proposed Pineda Road Extension Plan prepared by B.S.E. Consultants, Inc., of Melbourne, Florida, under Project No. 10407.09/Drawing No. 10407906, dated January 13, 1999, as revised on September 11, 1999 (the "Pineda Causeway Extension"); thence follow the Northern right-of-way line of said Pineda Causeway Extension through the Northern portion of Township 28 South, Range 36 East, Section 25 and Westward through the central portion of Township 28 South, Range 36 East, Section 26, all as shown on said drawing to the Western right-of-way line of I-95; thence continue generally Westward along an imaginary line which represents the extension of the Northern right-of-way of the Pineda Causeway Extension to the Brevard County/Osceola County boundary; thence run Southward along the Brevard County/Osceola County boundary to North line of Township 28 South, Range 35 East, Section 19; thence run Eastward along the North line of Sections 19 through 24, inclusive, Township 28 South, Range East 35, and Sections 19 through 24, inclusive, Township 28 South, Range 36 East to Minton Road; thence run Southward along the Western right-of-way line of Minton Road to the intersection of Minton Road with Palm Bay Road; thence run Eastward along the South right-of-line of Palm Bay Road to a point 650 feet West of the Eastline line of Township 28 South, Range 37 East, Section 21 (Babcock Street), said point being the Melbourne City limits; thence run 2,750 feet Northward along said Melbourne City limits to the South line of Township 28 South, Range 37 East, Section 16; thence run Eastward along the Melbourne City limits and the South line of Township 28 South, Range 37 East, Sections 15 and 16 to the Southeast corner of said Section 15; thence run North along the East line of Section 15 and the Melbourne City limits to the Northwest corner of Township 28 South, Range 37 East, Section 15, which is also the Southwest corner of Township 28 South, Range 37 East, Section 11; thence run Eastward along the South line of said Section 11 and the Melbourne City limits to West right-of-way of the Florida East Coast Railroad tracks; thence run Northwestward 2,250 feet +/- along the West right-of-line of the Florida East Coast Railroad tracks from the South line of said Section 11 to a point; thence run Eastward 400 feet along the Palm Bay/Melbourne City limits to a point, said point being 660 feet +/- South of the Southeast corner of the Northwest ¼¼ of Township 28 South, Range 37 East, Section 11; thence from said point run North 660 feet along the Palm Bay/Melbourne City limits to South right-of-way line of University Boulevard, also known as Shull Street; thence run East along the South right-of-way line of University Boulevard and the Palm Bay/Melbourne City limits and on to the centerline of the Indian River Lagoon; thence run Southeastward along the centerline of the Indian River Lagoon to the Indian River County line; thence run Eastward along the Brevard County/Indian River County line to the mean high water line of the Atlantic Ocean and the POINT OF BEGINNING of this description, including all of Grand Haven — Phase I, according to the plat thereof, as recorded in Plat Book 46, Page 55, Public Records of Brevard County, Florida (specifically including that portion of property located North of the proposed Pineda Causeway),

and less and except the following described area known as the Capehart Subdivision which includes the South ½½ of the Northwest ¼¼, the Southwest ¼¼, the South ½½ of Government Lot 1 West of Highway A-1-A but excluding South Patrick Park, 1st Addition, according to the plat thereof, as recorded in Plat Book 17, Page 116, Public Records of Brevard County, Florida and the West 270 feet of the South 1,000 feet of the Southwest ¼¼ of the Southwest ¼¼, all in Township 26 south, Range 37 East, Section 26.

EXHIBIT B: MELBOURNE SEWER SERVICE

Area 1 — Westside of Melbourne: Commence at the Northeast corner of Township 27 South, Range 36 East, Section 1; thence run 1,680 feet West (Post Road) to a point; thence follow the Melbourne City limits South 1,300 feet to a point which point is the Southwest corner of East Bay Plantation Phase II, according to the plat thereof, as recorded in Plat Book 40, Page 36, Public Records of Brevard County, Florida; thence continue following the Melbourne City limits Southwestward 1,450 feet +/- to the POINT OF BEGINNING; thence run generally Southwestward along the South boundary of Greystone Phase 2, according to the plat thereof, as recorded in Plat Book 38, Page 22, Public Records of Brevard County, Florida, to the Southernmost point of Greystone Phase 2, Tract F; thence run North 1050 feet along the West line of Greystone Phase 2, Tracts D and F; thence run West 230 feet +/-; thence run North 2590 feet +/-, along the East line of Jade Tree Subdivision, according to the plat thereof, as recorded in Plat Book 37, Page 47, and The Woodlands of Lake Washington, according to the plat thereof, as recorded in Plat Book 33, Page 5, all in the Public Records of Brevard County, Florida, to the North section line of Township 27 South, Range 36 East, Section 1 (Post Road); thence run West 6,850 feet +/- along the North section line of Township 27 South, Range 36 East, Sections 1, 2, and 3 to the East line of Interstate Highway 95 right-of-way; thence South along the East right-of-way line of Interstate Highway I-95 3,660 feet +/- to the Northeast corner of Chestnut Run, 1st Addition, according to the plat thereof, as recorded in Plat Book 36, Page 49, Public Records of Brevard County, Florida; thence from said Northeast corner run West 9,000 feet +/- along the North line of Chestnut Run, according to the plat thereof, as recorded in Plat Book 26, Page 98, Chestnut Run 1st Addition, according to the plat thereof, as recorded in Plat Book 36, Page 49, The Willows Phase 2, according to the plat thereof, as recorded in Plat Book 42, Page 57, and The Willows, according to the plat thereof, as recorded in Plat Book 40, Page 6, all in the Public Records of Brevard County, Florida to ordinary high water line of Lake Washington; thence meander Southward along the Ordinary High Water Mark approximately 10,600 feet +/- to the South line of Township 27 South, Range 36 East, Section 16; thence East along said South line of Township 27 South, Range 36 East, Section 16 to the Southeast corner of said Township 27 South, Range 36 East, Section 16; thence run South along the West line of Township 27 South, Range 36 East, Section 22 to the Southwest corner of Township 27 South, Range 36 East, Section 22; thence East along the South line of Township 27 South, Range 36 East, Section 22 to the intersection of said South line with Interstate Highway 95; thence run South along the West line of Interstate Highway 95 5,610 feet +/- to the South line of Township 27 South, Range 36 East, Section 27; thence run East along the South line of Township 27 South, Range 36 East, Sections 25, 26 and 27 to the Melbourne City limits, some 66 feet +/- East of the Southwest corner of Township 27 South, Range 36 East, Section 25; thence follow the Melbourne City limits Northward and Westward to the POINT OF BEGINNING.

Area 2 — Northwest Melbourne Enclaves: All enclaves located Township 27 South, Range 36 East, Sections 1 and 12, including Tax Parcels 27-36-01-00-00001.0-0000.00, 27-36-01-00-00760.0-0000.00, 27-36-01-00-00785.0-0000.00, 27-36-12-00-00004.0-0000.00, 27-36-12-00-00004.1-0000.00, 27-36-12-00-00005.0-0000.00, 27-36-12-00-00015.0-0000.00, and 27-36-12-00-00023.0-0000.00.

Area 3 — Aurora Road Enclave: All unincorporated property located within Township 27 South, Range 37 East, Sections 8, 17, and 18.

Area 4 — Northeast Melbourne/Palm Shores: In Township 26 South, Range 37 East, Section 32, on the Western line of said Section 32 commence at a point 1,250 feet +/- North of the Post Road right-of-way at the Melbourne City limits; thence run North 1,300 feet +/-along the West line of said Section 32 to a point on the Palm Shores City limits; thence run East 1,560 feet +/- to the U.S. Highway 1 right-of-way; thence run Northwestward 1,410 feet +/- along the U.S. Highway 1 right-of-way to a point; thence run 580 feet +/- East to the ordinary high water mark of the Indian River Lagoon; thence meander Southeasterly along the Lagoon shore for 4,050 feet to a point on the Melbourne City limits 210 feet North of the South line of Township 26 South, Range 37 East, Section 32; thence follow the Melbourne City limits 1800 feet +/- Westward to a point on the Easterly right-of-way line of the Florida East Coast Railroad tracks roughly 230 feet North of the South line; thence run 1250 feet +/- Northwesterly along the East side of the FEC tracks to a point 1,270 feet Northwest of the Post Road right-of-way; thence run West 870 feet to the POINT OF BEGINNING.

Area 5 — Dairy Road Enclave: Commence at the Northeast corner of Township 28 South, Range 37 East, Section 20; thence run South 2550 feet +/- along the East section line of Section 20 to the North right-of-way line of Palm Bay Road; thence run West along said North right-of-way line to a point 1020 feet West of the section line of said Section 20 and the POINT OF BEGINNING; thence continue West 1,690 feet +/- along the North right-of-way line of Palm Bay Road to the Southwest corner of the Northeast ¼¼ of Township 28 South, Range 37 East, Section 20; thence run North 3,800 feet; thence run West 640 feet +/- in Township 28 South, Range 37 East, Section 17; thence run North 1,280 feet +/- to the Southwest corner of Coventry Subdivision Phase 3, according to the plat thereof, as recorded in Plat Book 31, Page 4, Public Records of Brevard County, Florida; thence run West 650 feet; thence run North 1,370 feet +/-; thence run East 1,270 feet +/- generally along the North line of Coventry Subdivision, Phase 3 to the Northeast corner of Lot 18, Block 1, Coventry Subdivision Phase II, according to the plat thereof, Plat Book 30, Page 49, Public Records of Brevard County, Florida; thence from said Northeast corner run North 1,290 feet in Township 28 South, Range 37 East, Section 17 to the South line of Township 28 South, Range 37 East, Section 8; thence run East 1,280 feet along said South line of Section 8 to a point 660 feet East of the East section line of Section 8; thence run 2600 feet +/- North in Township 28 South, Range 37 East, Section 8; thence run East 350 feet to the East line of Township 28 South, Range 37 East, Section 8; thence run 7,860 feet +/- South along said West line to the Northeast corner of Township 28 South, Range 37 East, Section 20; thence run West 1,020 feet +/- along the North line of Township 28 South, Range 37 East, Section 20; thence run South 2,550 feet to Palm Bay Road and the POINT OF BEGINNING, less and except Tax Parcels 28-37-17-00-00750.0-0000.00 and 28-37-17-00-00771.0-0000.00 in Township 28 South, Range 37 East, Section 17.

It is intended that Areas 1 through 4 shall include all unincorporated property within:

Township 27, Range 36 East, Sections 1, 2, 10, 12, 13, 15, 22, and 26; Approximately the Southern one-third of Township 27, Range 36 East, Sections 3 and 4; and the portion of Township 27, Range 36 East, Sections 9 and 16 above the ordinary high water mark; Township 27, Range 37 East, Sections 8, 12, 17, 18; and Township 28, Range 37 East, Section 21, together with such other unincorporated properties as may be described above in this Section 4, paragraph 3(a)(2).

Legislative Intent

Ordinance: Water and Sewer District For the Unincorporated Area

Purpose

1. The purpose of the ordinance is to create a special water and sewer district encompassing the entire unincorporated area of Brevard County with the exception of the unincorporated area already included within the boundaries of the Barefoot Bay Water and Sewer District.

2. It is the Board's intent that the special water and sewer district be created under the authority of Chapter 153, Part II, Florida Statutes, and Section 189.4041, Florida Statutes.

3. It is the Board's further intent that the governing body of the new special water and sewer district will be comprised of the County Commissioners and that the governing body of the District shall have all authority and powers specified in Chapter 153, Part II, Florida Statutes.

4. The Board intends to utilize this ordinance to provide a mechanism to provide, acquire, lease, and operate water and/or sewer systems for the benefit of the public. The creation of the ordinance will also allow the Commission, as governing body of the District, to require their consent to the construction of water or sewer facilities for the purpose of providing efficient and cost effective domestic or industrial service to customers within the boundaries of the District in accordance with the provisions of Chapter 153, Part II, Florida Statutes.

5. By the terms of the ordinance, the Board, in its capacity of the governing body of the District, also intends to recognize and grant its express consent to continued municipal water and sewer service in the unincorporated area. To that end the ordinance expressly grants provider municipalities with consent to continue service and to expand water and sewer services and facilities within the unincorporated areas consistent with applicable special acts and interlocal agreement

Exhibit RHM-3

Copy of Minutes from the July 22, 2003 Meeting of the

Brevard County Board of County Commissioners

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO. 16
COMPANY/ BREVARD County (RHM-3)
WITNESS: Richard H. Martens
DATE: 06/22-23/04

VERBATIM TRANSCRIPT OF ITEM IV.I. PUBLIC HEARING, RE: ORDINANCE CREATING SPECIAL WATER AND SEWER DISTRICT WITHIN UNINCORPORATED AREA OF BREVARD COUNTY, JULY 22, 2003 BOARD OF COUNTY COMMISSIONERS MEETING

Colon: Okay, our first. . .let's see here, um, we'll go ahead and go with our first speaker, Mr. Gou. . .

Gougelman: Thank you very much. Paul Gougelman, representing the City of Melbourne as City Attorney, and I'm here on behalf of the City today just to give you a few comments regarding the proposed water and sewer ordinance. The first thing I want to do, on behalf of the City, is to thank the Commission. If you'll think back many, many months, you had an ordinance that was before you; it looked like it was going at full speed through this room; and the Cities did ask you to slam on the brakes, engage in some intergovernmental cooperation, run it through the Water Supply Board, and seek some input from the municipalities, which you did; and I want to thank you all for that. I think it was a true exercise in intergovernmental coordination, and I think as a result, all of us can now say we've come a thousand miles and that the product that you have before you is going to be much more meaningful. If you stand back from the forest and don't look at the individual trees, I think what you will see is that what you're creating is actually a water and sewer plan for Brevard County; and it's rather amazing. Commissions all over the State of Florida over the last 20 years have tried to do this without much success, and you're going to do it. The other thing I want to do is to tell you that we have a lot of thanks and praise for your County Attorney Scott Knox. He has done yeoman's duty, and I don't mean to embarrass you Scott, but he's done yeoman's duty in trying to work with the various municipalities in taking input, working with the city attorneys to try to fine tune the language. I can't say we always agreed with everything, but on the other hand it's been professional and he's done nothing but credit for Brevard County in putting this package together. The last thing I want to tell you is, on behalf of the City of Melbourne, now that we've come the distance that we've come, even though there's probably a little fine tuning that you may end up choosing to do today to the ordinance, and there are a couple of rough edges I suspect a couple of the other cities may want to comment to you about, on the whole the City has no objection to what you're doing. We're supportive of your efforts, and just thank you for the opportunity to be a part of the production.

Colon: Thank you sir. Next speaker is James Payne.

Payne: Good afternoon Commissioners. My name is James Payne with East Central Florida Services. The last time I was before the Commission, I mentioned a couple of concerns. I did go to the next meeting and expressed those concerns there as well. It's my understanding that there may be some additional language that Mr. Knox has prepared that may be inserted into the ordinance. At least I got a copy of something this morning that seems to address the majority of those concerns that I expressed. Obviously this Statute is designed to eliminate confusion, or at least that's the stated objective. I guess I only have one additional comment or thought, and that's with respect to paragraph 10 on page. . .at least it's on my page 17 of the ordinance. To me it appears that there's still

some confusion in that paragraph as to exactly how it's to be applied and what circumstances. It seems that there's two types of areas that it would address, one is an area where consent has been granted, and the other is an area where no consent has been granted. And at least the way it's written, paragraph 10 seems to apply only to an area for which consent has not been granted; and I'm not sure if that's exactly the intent of the Commission in this regard. I guess I think of two types of areas. If consent has been granted, then perhaps this ordinance would not apply at all to that area, or at least paragraph 10 would not apply to that area, so that if any utility wanted to come in and do something in that area, if consent had been granted to that area, then any utility could do anything within that area and I'm not sure if that's exactly what the Commission intended to do in that regard. Now, if consent has not been granted, then additional confusion is created by subparagraph (a) and subparagraph (b). For example, you're talking about an area where consent has not been granted; and it says that if somebody comes in and files an application in that area, then consent would be granted if all of the following provisions were met. And the first provision, of course, talks about that no other local government entity or private company has rights in that area; and subparagraph (b) talks about that the area does not lie within the service area of the district or another local government entity whose service area has been established by this ordinance, interlocal agreement, special act. If you look at that, this would preclude anybody from doing anything except in a very small portion of the County, and if the proposed area lies within the service area of the district, which it would, another local government entity or private utility, then it would seem like nobody could do anything in that area at all. I'm not sure if you're following me on my logic there, but this would preclude a private utility from doing anything in that area because it wouldn't meet either of (a) or (b). In other words, there's no way for anybody to meet (a) or (b) the way it's presently written, at least as I read it; and perhaps Mr. Knox can clarify that, but it seems like paragraph 10 really needs to be rewritten to give a little bit of clarity to exactly what the County's intention is. For example where consent has been given; there's areas where consent has not been given. If it's an area where consent was not granted, then consent would be granted if those conditions were met. I actually came up with an idea of some language for that where subparagraph (a) perhaps should read, "If the proposed area lies within an area in which facilities are owned by the district, or to which another local government entity or private company might provide service, then the district could approve an application if the owners of those other facilities are unable or unwilling to provide service." Then subparagraph (b) perhaps could be rewritten to say that, "an application would be granted if the proposed areas lies within the service areas of the district, another local government entity, or private utility, and such government or private utility is unwilling or unable to provide service." And then I think subparagraph (c) perhaps could be eliminated altogether. I guess the idea is if a spot lies within one of these consent areas, and the person who is granted consent does not wish to provide services, then no one can provide services the way this is written. I'll be happy to try answer any other questions.

Colon: You may have a seat. Thank you. Scott, you can help us out in regards to paragraph 10.

Knox: In regard to the first question, which is what it applies to, paragraph 10 only applies to areas where there is no consent given already, so if you have. . .the whole purpose of paragraph 10 is to provide a mechanism for either private or public entities who provide water or sewer service to obtain consent through the district. That's the whole purpose of that paragraph. So if he's got consent already, this paragraph doesn't even apply. Now in terms of the issue that Mr. Payne raises about whether you can comply with these terms and conditions, I can see his point if there is a situation where a city has consent under this agreement and doesn't want to provide service. I mean maybe some tweaking needs to be done with that, but the way to handle that is change the "and" in paragraph (a) to an "or". I think that will take care of it because that would eliminate that as a cumulative requirement.

Carlson: So Scott, under (a), which starts that, "the proposed area does not lie within an area in which facilities are owned by the district, and to which another local government entity or private entity company has rights as set out in this ordinance" if you're saying "and" would fix that?

Knox: I'll just take a look at it real quick.

Higgs: Scott, I'm wondering if. . .envisioning a situation like that is hard for me, because if we've given consent, the cities have outlined it, I would hate to wordsmith that right here today when there's couple of things we could do; but since all of the attorneys and people are here, this doesn't seem to be an issue that I can see of coming up next week. Why don't we work that through the various process, because I think we've come to a balance on most of the issues; most of the cities seem to feel fairly comfortable. Let's not interject that, that's not going to come up next. I don't know if it would ever come up, that somebody's going to say, well you've consented to me serving this area and I'm not going to do it, but let's go ahead and put that through the process and we can always come back. If the Board adopts this today, we can always come back and add that, because I'm. . .that particular change may be harder than we think.

Knox: Uhum.

Higgs: I mean, maybe it is an easy thing, but. . .

Carlson: I would agree. I think it's a complex issue and I want to. . .I would want to make sure before I voted on it that I would understand the ramifications in 10. I'm comfortable with the way it is right now and I think we can work through it if we can pass this and get through this hump. We can always bring it back with the tweaking that might be necessary in the near future.

Knox: I think you're right, Commissioners. I think that's something we probably ought to think about. There's probably a way to handle that by just adding a catchall at the end saying that if for some reason the city doesn't want to provide service and were granted the consent, then some other. . .

Higgs: It may be an interlocal agreement between the consented city and the proposer. That may be the way we do it, but I think that can be worked out. I think the question of the private utilities, the language that you've given us, that you've just

passed out, recognizes that we have some private utilities out there that need to be recognized, and this language would do it.

Knox: And I would propose to add that as number 15 on page 20.

Colon: Commissioner Pritchard, you have a question in regards to what he just brought up?

Pritchard: I have a question in regard to that as well as a couple of other inputs that I wanted to. . .

Colon: We have three more cards of speakers. Did you want to do that now?

Pritchard: I'll wait until you're done with the speakers.

Colon: Okay. Thank you. Mr. David Henderson, and then Mr. Lee Feldman. Good afternoon, sir. Five minutes.

Henderson: Good afternoon Madam Commissioner and other Commissioners. I'll just take a moment to thank Mr. Knox in particular. He was very patient with me at one of the meetings at the Water Supply Board. We had several emails together. I'm not sure we are totally. . .completely comfortable with this ordinance the way it's worded, but there are some provisions and safeguards we have seen be put in place and we appreciate that, and want to let you know we are concerned but at this point quiet about the ordinance. Thank you.

Higgs: Mr. Henderson, before you sit down, the City of Rockledge that you represent today, was concerned that the interlocal agreement that we have could be amended and that we would recognize those areas in here. Scott, have we taken care of that?

Knox: Dick was working on that. I don't know.

Henderson: That's one thing I would like to ask, like the modifications you were just talking about today, Mr. Feldman I believe has an ordinance that is not as current as the one I have. It would be very important to us, I think, if all the cities could get the most recent revisions as quickly as possible. I understand that's a voluminous task but that would help, I think, from our point for confusion purposes.

Carlson: We've got a couple of them, if you want ours.

Higgs: The issue of amendment of the Rockledge interlocal is specific with me. I want to know have we done anything in terms of suggesting language?

Knox: I think the last I heard of that, (unclear) addressed some of Rockledge's concerns. We had asked them to consider what territory they would want to serve in the future, and that would be done as part of an interlocal agreement, which would be incorporated as part of the consent format once this ordinance is adopted; and that can be done after the ordinance is finished as well.

Higgs: So we're basically in this ordinance agreeing that we would amend in the future the Rockledge interlocal at their request.

Knox: That can be done independent of the ordinance.

Carlson: Right, but using that as a vehicle versus changing this.

Henderson: And that would have something to do regarding the September 2000 Agreement. We would do some amendments to that provision.

Knox: Right.

Henderson: Thank you.

Colon: Next speaker is Mr. Lee Feldman. Good afternoon, Mr. Feldman.

Feldman: Good afternoon and thank you very much for giving me an opportunity to address you today. My name is Lee Feldman. I'm the City Manager of the City of Palm Bay. I just want to echo what Mr. Gougelman said. We are very appreciative of the efforts of the County to work with the cities on this issue. A lot of our concerns have been addressed. Your staff has been excellent in trying to pursue resolutions on this. There are a couple of issues though that I still think are outstanding that I would like to address, but before I get to those, I think it's important to recognize that the City of Palm Bay does not believe that this ordinance is necessary to accomplish your goals in South Brevard County. You have the discretion of setting the boundaries for the district and we don't believe the City of Palm Bay or our service area should be included within the district; and the Mayor and City Council for the City of Palm Bay, because of that, object to the ordinance. But recognizing that we need to get a document that ultimately you all can vote on that will work for all the cities, we have three issues to address. First is in your dispute resolution process. In the draft that I'm working off of is the draft dated July 7th; and what I'm referring to is section 4.10 where you presented two options.

Carlson: Page number?

Feldman: Page 18 I believe. Page 18 at the bottom and 19 at the top. You have two options in there. We're not sure which option you selected, but assuming you do move forward with one of them, the option we would prefer is Option 2.

Colon: Can you repeat that Mr. Feldman?

Feldman: We would prefer you moving forward with Option 2, but we need to clarify two aspects of that. First, I believe we mean binding arbitration and not binding mediation. We're not quite sure exactly what binding mediation is. And second, as to the scope of what dispute resolution would apply to, as is drafted in your ordinance now, it's limited to withhold unreasonably withheld consent provided under this ordinance; we'd like the dispute resolution process to include all aspects of this ordinance and all aspects of the district's operations, which may affect any city in Brevard County. The second issue deals with section 4.11, subsection 11, which is also on page 19. It deals with the issue of annexation.

The way this ordinance is drafted today, if a municipality annexes an area, it will become part of the service area for that municipality. This ordinance does not make any provision if that service area already belongs to another municipality. For example, in our particular case, there's an area of unincorporated Brevard that lies between Melbourne and the City of Palm Bay, and under our settlement agreement it is not specified whose service area it is until service is actually commenced at that location. If the area remains part of unincorporated Brevard County and is served by the City of Palm Bay, and the City of Palm Bay makes an investment, and Melbourne annexes the area, you're taking away that service area from Palm Bay after we've made an investment; and I think that needs to be addressed.

Higgs: (Unclear)

Feldman: I think if you add at the very end of that sentence, "if it is not part of a service area of another municipality," would help clarify that issue. The third issue I have deals with again Section 4, paragraph 12, second line in there where it limits the scope of the paragraph to consumptive use permits. When it was originally drafted, it pertained to all permits permitting relative to ground water or surface water withdrawals. We think it should be for all permits. Consumptive use permits are not the only type of permits that municipalities will be seeking under a water and sewer utility. There are other things such as MPDS and other types of permits that will be affecting ground water withdrawals and surface water withdrawals, and we think that your scope should not be limited. Finally, our last issue, and this is an issue we raised at the very beginning of the process, the ordinance is one mechanism, but I think also interlocal agreements that preserve the rights of municipalities should be looked at as well. You have an ordinance, you can amend your ordinances in the future, the consents you grant today may not be the consents you maintain five or six years down the road. Thank you.

Colon: Okay. Commissioner Pritchard. Last card.

Pritchard: Scott.

Knox: Yes, sir.

Pritchard: Regarding the three concerns that City Manager Feldman has regarding dispute resolution process, arbitration, mediation, is there a problem with changing that?

Knox: Well, I guess my concern there is that the only thing that the district is going to do other than grant consents, which is already granted in this ordinance, is to grant a consent some time in the future, so I'm not sure what other kind of dispute he would ever see erupting between the district and a utility company or a public utility. So I think we may be trying to interject something that would create an ambiguity that we don't need to create, because the only thing this thing deals with is consents.

Pritchard: All right. No. 2. Section 4.11.

Knox: I don't have a problem with what Mr. Feldman proposed on that at all.

Pritchard: All right. And No. 3, Section 4.12.

Knox: I think perhaps there's a misunderstanding there in terms of how the City's reading that. All that is saying is that the County Commission does not have jurisdiction over consumptive use permitting and that nothing in this ordinance prevents any local government from challenging or objecting to anybody's application for consumptive use permit. That was put in, in recognition of the original criticism of the ordinance that the County was trying to usurp consumptive use permitting, which is not the case, because the County doesn't have jurisdiction over that issue.

Pritchard: All right, thank you. Just a couple of comments I wanted to make. With much thanks to our County Attorney Scott Knox and Dick Martens the Director of our Water Utilities, we have, I don't recall what speaker, I think it was Mr. Gougelman who said that we have attempted to eliminate confusion. We did that by way of ✓ ten revisions and expanding this to 28 pages, so as I said before, OSHA couldn't have done a better job of putting something together. These pages are color-coded with input; and they are in the typical underline or strike-through method, and as far as I can recall, everything that was removed was discussed prior to the final draft coming out. It was a major undertaking; the Board met over several months; the Water Supply Board met over several months to put this together; and I'd like to thank all of the participants, I'm the chair of the board, I'd like to thank all of the participants. We ended up with as I recall a 9/1 vote to approve the ordinance that was provided that day; and the board did decide to select Option B, which was the specific conflict resolution that was mentioned earlier and also recommended by Mr. Feldman. So thanks to all of you for all of the work that you've put in to provide a water/sewer district ordinance.

Colon: Commissioner Higgs.

Higgs: And I do compliment the Water Supply Board on sticking to it as well as the various municipalities, and our County Attorney for working at this item. I'm aware of the conflict resolution proposal, and while I appreciate that the. . .some folks would want the option to be that we would go through some sort of binding mediation or binding arbitration, I think that the agreement to go through the dispute resolution process, I think that the commitment this Board has shown to try to deal with the objections of the municipalities indicates our willingness and our commitment to work with people. I would suggest that we do Option 2, which says we will go through the mediation; we will have a panel, one appointed by the district, one by city, one person who can be jointly agreed to, but the final conclusion implementation would be the district's governing board's responsibility. So I would suggest we would adopt the resolution with non-binding arbitration, which would be Option No. 2.

Pritchard: That's 1.

Higgs: I'm sorry, it's 1. You're right, you're right, thank you. I have it circled.

Colon: Okay, I have a motion on the floor. Is there a second? Okay. . .

Higgs: Everybody's for Option 2.

Pritchard: I'd like to make a motion that we accept the ordinance as drafted with Option No. 2 for binding mediation/arbitration; and accepted as written.

Colon: Is that the opposite of Commissioner Higgs?

Pritchard: Yes.

Higgs: Well, on that one point, yes.

Carlson: But can we include in that Ron, the proposal for No. 15, page 20 regarding the utilities, and any of the agreed upon language that Mr. Feldman had suggested that the Board can agree on? Can we put that in or do we need. . .do you need to look at that further, Scott?

Pritchard: I would agree with that, and I also agree with the caveat at the end of this that this would be subject to revision as needed.

Higgs: Ron, the phrase you're looking for is. . .when there's um. . .on page 19, no. 11, it's not a part of a service area of another municipality. Is that the language that was agreed to? I don't remember any other language being agreed to.

Carlson: I believe that was it.

Knox: That was it.

Higgs: So is that language with the language that um is in Scott's memorandum, and the motion for the binding arbitration. That's the motion?

Pritchard: Yeah, and I would also expect that if there's going to be disputes about annexation, that the two parties that would be moving into this discussion would be able to resolve that problem. If, for example, Melbourne were to providing and Palm Bay wanted to annex, that they would be able to resolve this at their level prior to bringing it to the water board level.

Colon: Been there, done that. We have a motion and a second. All in favor please say aye.

Scarborough, Pritchard, Higgs, Carlson: Aye.

Colon: In opposition, Colon. Motion by Commissioner Pritchard, and seconded by Commissioner Carlson.

****

SPEAKERS:

Colon: Commissioner Jackie Colon, Chairperson of the Board of County Commissioners
Gougelman: Paul Gougelman, City of Melbourne Attorney
Payne: James Payne, East Central Florida Services
Knox: Scott Knox, County Attorney

Carlson: Susan Carlson, District 4 Commissioner
Higgs: Nancy Higgs, District 3 Commissioner
Pritchard: Ron Pritchard, District 2 Commissioner
Henderson: David Henderson, City of Rockledge
Feldman: Lee Feldman, City Manager of Palm Bay

STATE OF FLORIDA)
COUNTY OF BREVARD)

THIS IS TO CERTIFY THAT the above is a true and correct verbatim transcript of Item IV.I. of the July 22, 2003 Board of County Commissioners of Brevard County, Florida's meeting.

WITNESS my hand and the seal of said Board of County Commissioners this_____day of _____, 2003.

BOARD OF COUNTY COMMISSIONERS
SCOTT ELLIS, CLERK

(S E A L)

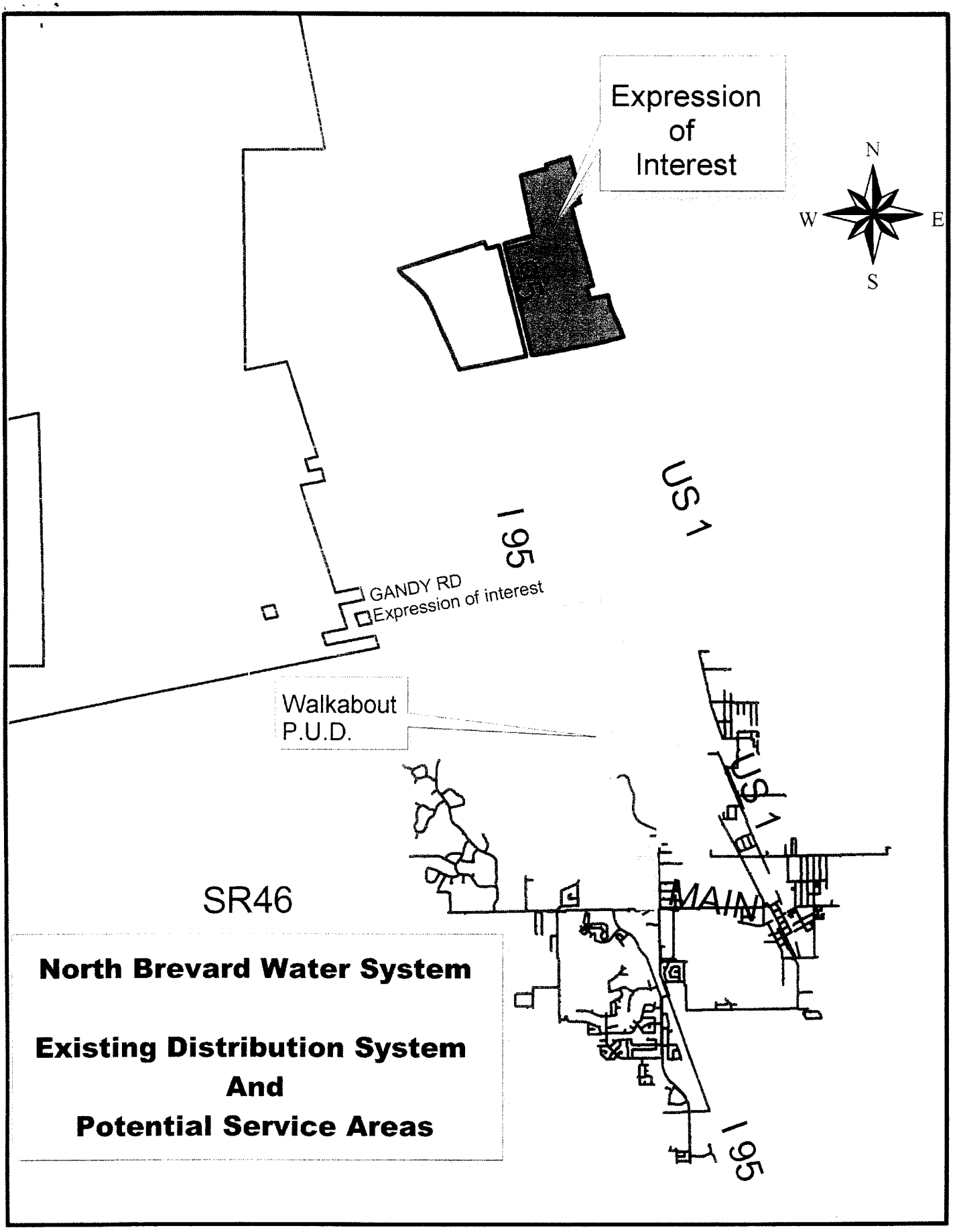
By_____
Bernadette S. Talbert, Deputy Clerk

Exhibit RHM-4

Graphic of Existing County Water Distribution and Supply

Lines Connected to the North Brevard Water System

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 021256-WU EXHIBIT NO. 17
COMPANY/ BREVARD County
WITNESS. Richard H. Martens (RHM-4)
DATE: 06/22-23/04



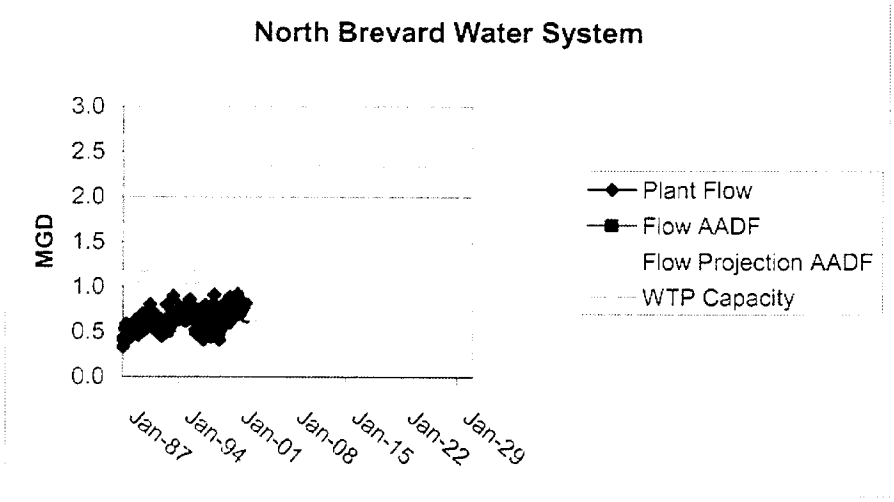
North Brevard Water System

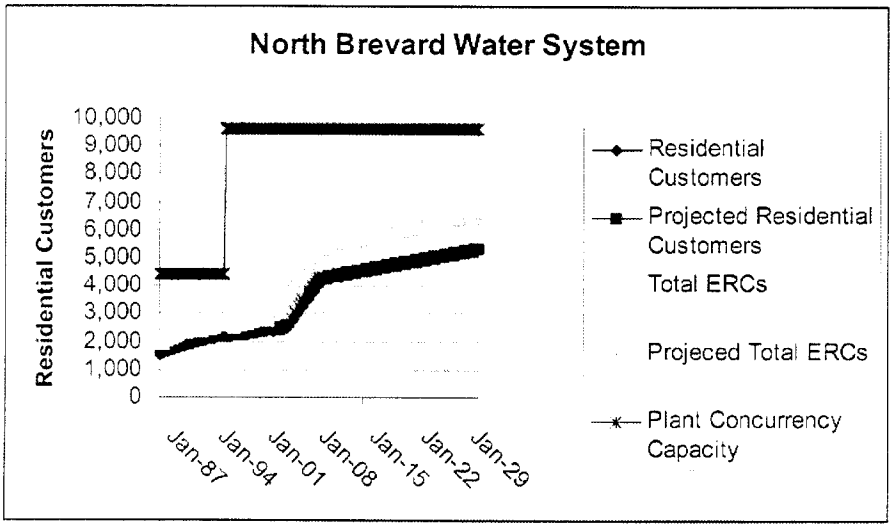
Existing Distribution System And Potential Service Areas

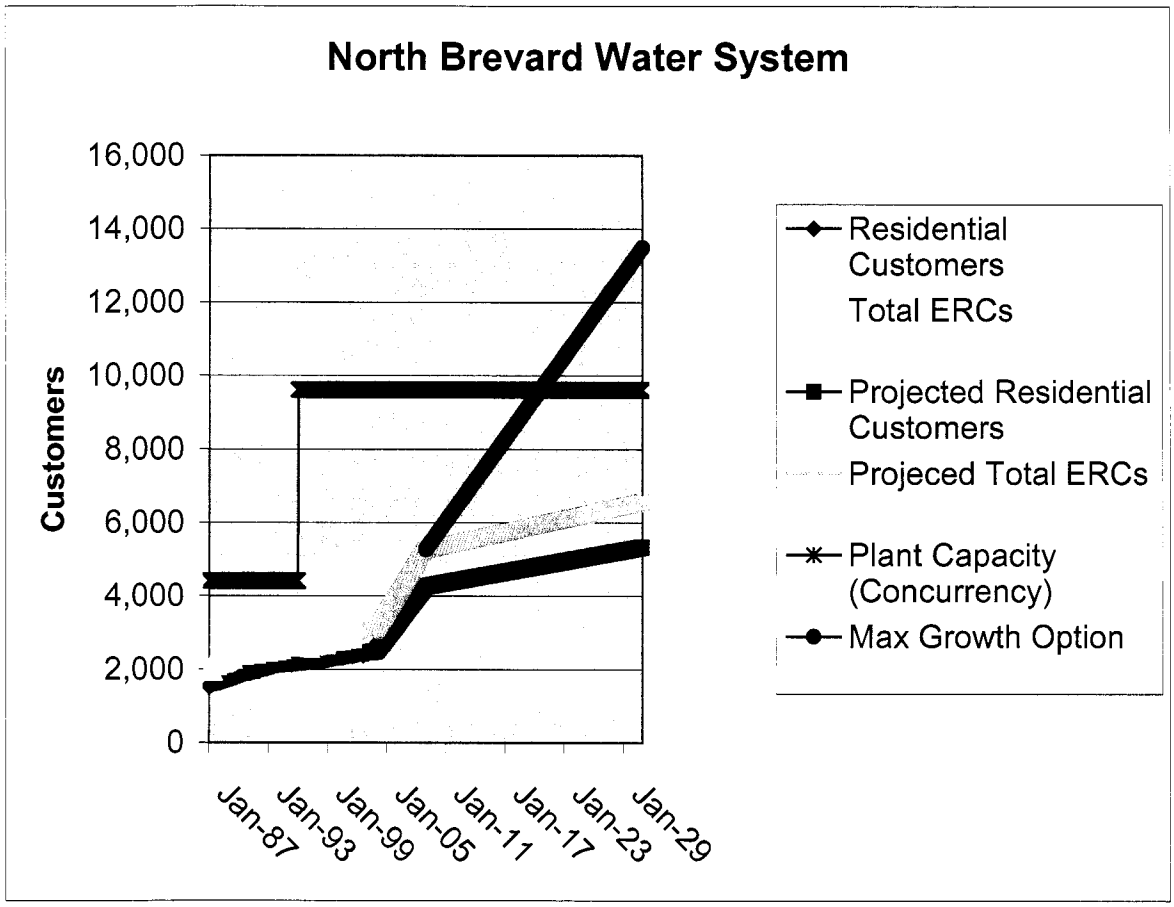
Composite Exhibit RHM-5

Graphics of Water Treatment Capacity of the Plant, Plant Flows, Average Annual Daily Flows from the Plant and Projected Average Annual Daily Flows; Graphic of Total Residential Customers, Projected Residential Customers, Total Equivalent Residential Connections, ERC's, Projected ERC's, Both of Which Are Based upon 250 Gallons per Day of Consumption per Residential Unit, as Well as the Concurrency Capacity of the Mims Water Treatment Plant' and North Brevard Water System Data

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 021256-WU EXHIBIT NO 18
COMPANY/ BREVARD County
WITNESS. Richard H. Martens (RHM-5
DATE: 06/22-23/04


North Brevard Water System
MGD
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Jan-87
Jan-94
Jan-01
Jan-08
Jan-15
Jan-22
Jan-29
Plant Flow
Flow AADF
Flow Projection AADF
WTP Capacity


North Brevard Water System
Residential Customers
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Jan-87
Jan-94
Jan-01
Jan-08
Jan-15
Jan-22
Jan-29
Residential Customers
Projected Residential Customers
Total ERCs
Projeced Total ERCs
Plant Concurrency Capacity



Maximum Growth Rate Calculation	
Plant Capacity (Total ERC)	9600
Present Plant Commitment (Total ERC)	3100
Available Capacity (ERC)	6500
Maximum Growth Rate (ERC per Year)	369
Potable Water Element Policy 3.3	
# of years to design capacity	17.6
# of years before necessary inclusion within the CIE	12.6

Projected Growth Rate Calculation	
Plant Capacity (Total ERC)	9600
Present Plant Commitment (Total ERC)	3100
Available Capacity (ERC)	6500
Projected Growth Rate (ERC per Year)	133
Potable Water Element Policy 3.3	
# of years to design capacity	49.0
# of years before necessary inclusion within the CIE	44.0

Composite Exhibit RHM-6

Map 1, Potable Water Treatment Plants, and Map 2, the

Existing Potable Water Customers and Future Service Area

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO. 19
COMPANY/ BREVARD County
WITNESS. Richard H. Martens (RHM-6)
DATE: 06/22-23/04

Composite Exhibit RHM-6

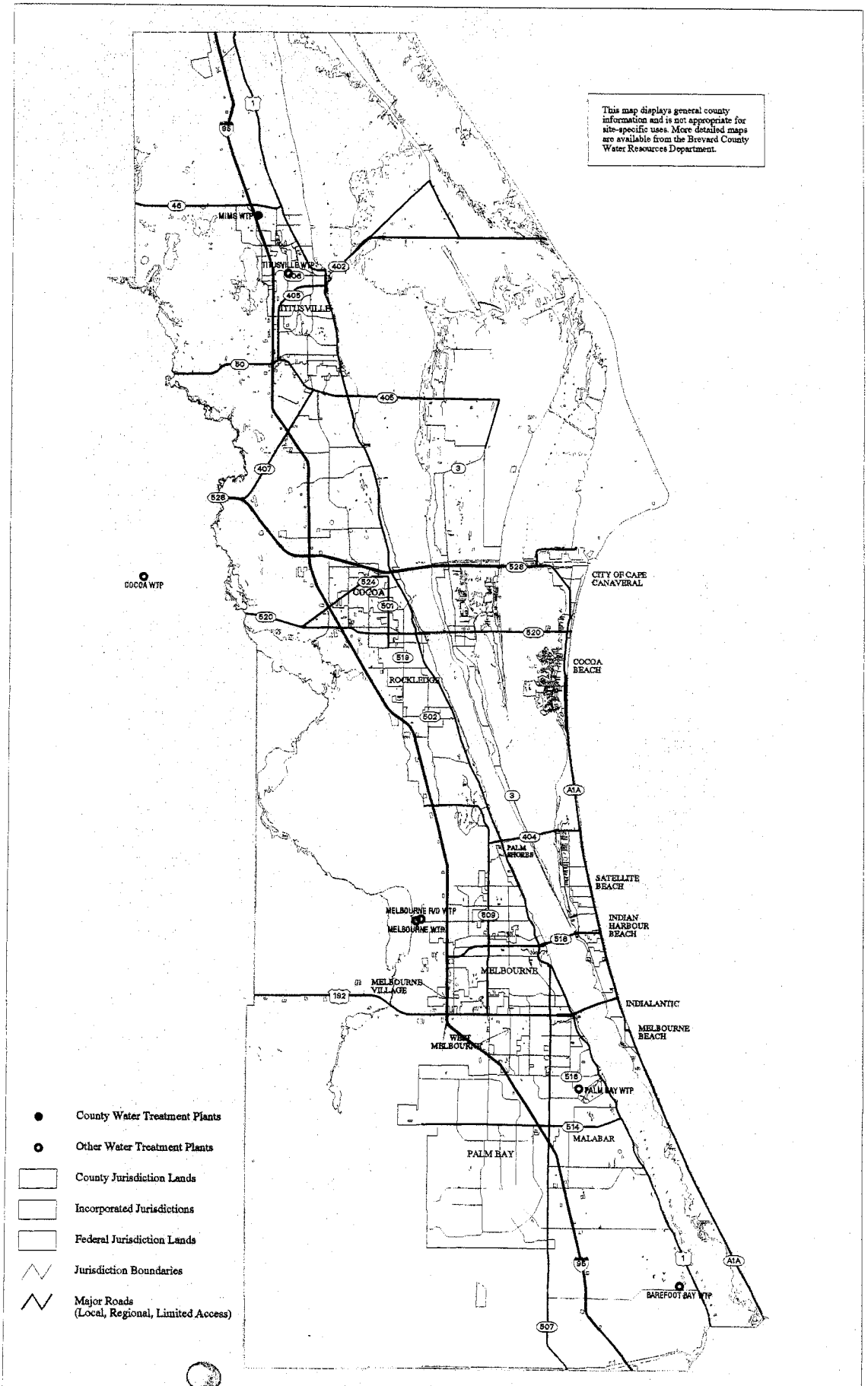
Map 1, Potable Water Treatment Plants, and Map 2, the

Existing Potable Water Customers and Future Service Area

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 021256-WU EXHIBIT NO 19
COMPANY/ BREVARD County
WITNESS. Richard H. Martens (RHM-6)
DATE 01/22-23/04

Brevard County - Comprehensive Plan

Potable Water Treatment Plants



Basemap, customer and service area maps from Brevard County Water Resources Department.
State plane projection, Florida east zone.
Map displays water treatment plants in Brevard County as of September, 1997. This map may not be an exhaustive representation.
Produced on December 03, 1997 by Brevard County Water Resources Department

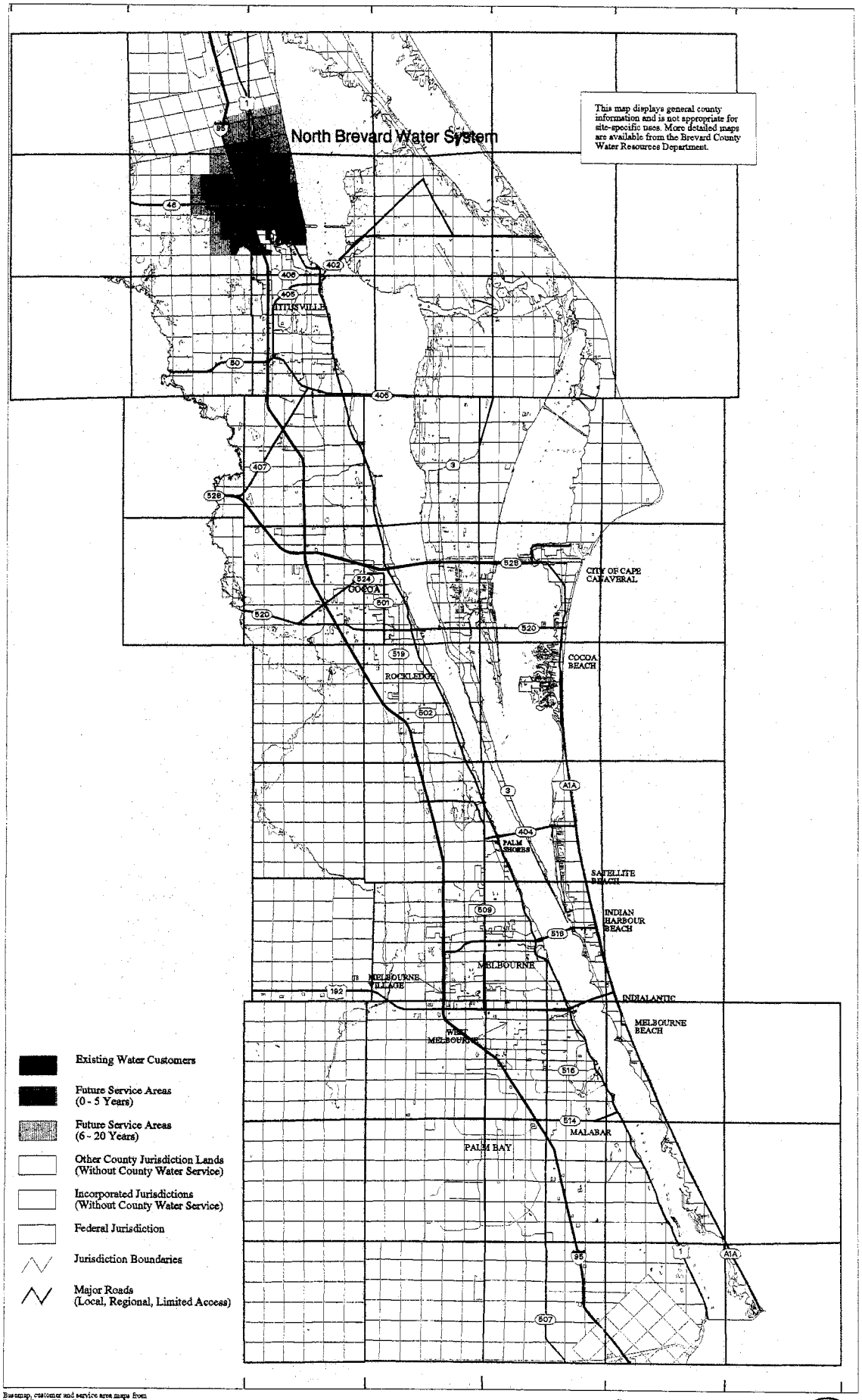
Scale 1 : 500000

1 0 1 2 3 4 5 6 MILES

1 0 1 2 3 4 5 6 KILOMETERS

Brevard County - Comprehensive Plan

Existing Potable Water Customers And Future Service Areas



Basemap, customer and service area maps from Brevard County Water Resources Department.
State plane projection, Florida east zone.
Map displays the existing waste water customers and projected future waste water service areas as of September, 1997.
Produced on November 21, 1997 by Brevard County Water Resources Department

Scale 1 : 300000

1 0 1 2 3 4 5 6 MILES

1 0 1 2 3 4 5 6 KILOMETERS

N

Exhibit RHM-7

Graphic and Calculations of the Number of Years Before

the Mims Plant Will Require Expansion

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO. 20
COMPANY/ BREVARD County
WITNESS. Richard H. Martens (RHM-
DATE 06/22-23/04

DATE	PLANT WATER PRODUCTION	MGD PLANT	Flow AADF	Flow Projection AADF	Sales AADF	Sales Projection AADF	WTP Capacity	TOTAL RESIDENT UNITS	Projected Residential Customers	Max Growth Option	GPD RESIDENT UNITS	TOTAL UNITS	T/R ratio	Max Growth Option	Plant Capacity (Concurrency)	TOTAL GPD UNIT SALES	TOTAL GPD UNIT FLOW
		Plant Flow	Flow AADF	Projection A	Sales AADF	s Projection A	WTP Capacity	idential Custor	l Residential Cx	Growth Option		Total ERCs	ceed Total E	Growth O	pacity (Concurrency)		
Jan-87	10,166	0.328					1.100	1,516			193	1,882			4,400	194	174
Feb-87	11,340	0.405					1.100	1,568			230	2,097			4,400	223	193
Mar-87	13,768	0.444					1.100	1,567			190	2,032			4,400	192	219
Apr-87	15,790	0.526					1.100	1,578			240	2,171			4,400	229	242
May-87	16,820	0.543					1.100	1,591			266	2,066			4,400	251	263
Jun-87	17,521	0.584					1.100	1,607			272	2,048			4,400	256	285
Jul-87	17,158	0.553					1.100	1,606			222	1,878			4,400	219	295
Aug-87	16,741	0.540					1.100	1,630			218	1,896			4,400	216	285
Sep-87	14,040	0.468					1.100	1,623			239	2,118			4,400	230	221
Oct-87	15,128	0.488					1.100	1,623			201	2,052			4,400	201	238
Nov-87	12,840	0.428					1.100	1,629			209	2,077			4,400	207	206
Dec-87	14,600	0.471	0.482		0.440		1.100	1,637			176	2,033			4,400	180	232
Jan-88	14,120	0.455	0.492		0.445		1.100	1,646			211	2,044			4,400	209	223
Feb-88	13,842	0.477	0.498		0.444		1.100	1,638			223	2,106			4,400	218	227
Mar-88	15,998	0.516	0.504		0.446		1.100	1,656			194	2,090			4,400	195	247
Apr-88	17,775	0.593	0.510		0.452		1.100	1,657			275	2,241			4,400	255	264
May-88	18,690	0.603	0.515		0.449		1.100	1,660			234	2,126			4,400	227	284
Jun-88	17,600	0.587	0.515		0.447		1.100	1,679			239	2,161			4,400	230	271
Jul-88	17,687	0.571	0.516		0.448		1.100	1,685			206	2,108			4,400	205	271
Aug-88	19,468	0.628	0.524		0.452		1.100	1,690			216	2,141			4,400	212	293
Sep-88	17,443	0.581	0.533		0.450		1.100	1,697			226	2,112			4,400	221	275
Oct-88	17,170	0.554	0.539		0.453		1.100	1,712			207	2,135			4,400	206	259
Nov-88	14,391	0.480	0.543		0.455		1.100	1,726			212	2,163			4,400	210	222
Dec-88	16,650	0.537	0.548		0.460		1.100	1,720			203	2,146			4,400	202	250
Jan-89	14,230	0.459	0.549		0.462		1.100	1,725			207	2,174			4,400	206	211
Feb-89	13,380	0.478	0.549		0.466		1.100	1,737			232	2,246			4,400	225	213
Mar-89	18,990	0.613	0.557		0.469		1.100	1,758			203	2,198			4,400	202	279
Apr-89	16,700	0.557	0.554		0.468		1.100	1,747			267	2,219			4,400	253	251
May-89	18,760	0.605	0.554		0.474		1.100	1,753			253	2,271			4,400	241	266
Jun-89	18,600	0.620	0.557		0.473		1.100	1,761			227	2,240			4,400	221	277
Jul-89	21,660	0.699	0.568		0.482		1.100	1,768			244	2,285			4,400	234	306
Aug-89	21,270	0.686	0.572		0.482		1.100	1,780			205	2,213			4,400	204	310
Sep-89	18,120	0.604	0.574		0.484		1.100	1,782			222	2,308			4,400	217	262
Oct-89	16,213	0.523	0.572		0.485		1.100	1,798			190	2,334			4,400	192	224
Nov-89	16,220	0.541	0.577		0.485		1.100	1,801			197	2,309			4,400	198	234
Dec-89	18,685	0.603	0.582		0.492		1.100	1,818			219	2,386			4,400	214	253
Jan-90	19,570	0.631	0.597		0.498		1.100	1,835			224	2,400			4,400	219	263
Feb-90	17,779	0.635	0.610		0.504		1.100	1,832			230	2,574			4,400	221	247
Mar-90	21,885	0.706	0.617		0.510		1.100	1,848			206	2,518			4,400	204	280
Apr-90	19,110	0.637	0.624		0.517		1.100	1,852			272	2,603			4,400	251	245
May-90	24,801	0.800	0.640		0.524		1.100	1,886			259	2,613			4,400	242	306
Jun-90	19,069	0.636	0.642		0.530		1.100	1,868			244	2,388			4,400	235	266
Jul-90	18,768	0.605	0.634		0.531		1.100	1,874			233	2,403			4,400	226	252
Aug-90	18,972	0.612	0.628		0.535		1.100	1,883			206	2,433			4,400	205	252

DATE	PLANT WATER PRODUCTION	MGD PLANT	Flow AADF	Flow Projection AADF	Sales AADF	Sales Projection AADF	WTP Capacity	TOTAL RESIDENT UNITS	Projected Residential Customers	Max Growth Option	GPD RESIDENT UNITS	TOTAL UNITS	T/R ratio	Max Growth Option	Plant Capacity (Concurrency)	TOTAL GPD UNIT SALES	TOTAL GPD UNIT FLOW
		Plant Flow	Flow AADF	Projection A	Sales AADF	s Projection A	WTP Capacity	idential Custor	Residential Cu	x Growth Option		Total ERC	ceed Total E	Growth O	pacity (Concurrency)		
Sep-90	21,763	0.725	0.638		0.549		1.100	1,888			285	2,540			4,400	263	286
Oct-90	16,622	0.536	0.639		0.548		1.100	1,891			188	2,323			4,400	190	231
Nov-90	16,010	0.534	0.638		0.554		1.100	1,899			221	2,439			4,400	217	219
Dec-90	20,150	0.650	0.642		0.559		1.100	1,898			241	2,495			4,400	231	261
Jan-91	18,667	0.602	0.640		0.555		1.100	1,902			201	2,362			4,400	201	255
Feb-91	15,912	0.568	0.634		0.558		1.100	1,906			259	2,477			4,400	245	229
Mar-91	16,176	0.522	0.619		0.556		1.100	1,911			203	2,401			4,400	202	217
Apr-91	16,260	0.542	0.611		0.546		1.100	1,920			226	2,465			4,400	220	220
May-91	17,822	0.575	0.592		0.537		1.100	1,929			218	2,401			4,400	214	239
Jun-91	16,355	0.545	0.585		0.541		1.100	1,936			259	2,487			4,400	246	219
Jul-91	16,280	0.525	0.578		0.532		1.100	1,941			177	2,393			4,400	182	219
Aug-91	15,810	0.510	0.570		0.534		1.100	1,941			213	2,497			4,400	210	204
Sep-91	16,178	0.539	0.554		0.522		1.100	1,952			223	2,401			4,400	219	225
Oct-91	14,043	0.453	0.547		0.523		1.100	1,959			189	2,359			4,400	191	192
Nov-91	13,900	0.463	0.541		0.518		1.100	1,987			192	2,400			4,400	194	193
Dec-91	13,900	0.448	0.524		0.508		1.100	1,963			196	2,347			4,400	196	191
Jan-92	16,500	0.532	0.519		0.509		1.100	1,975			203	2,404			4,400	203	221
Feb-92	14,692	0.507	0.513		0.503		1.100	1,953			222	2,449			4,400	218	207
Mar-92	14,763	0.476	0.510		0.505		1.100	1,996			207	2,469			4,400	206	193
Apr-92	15,750	0.525	0.508		0.504		1.100	1,999			214	2,513			4,400	211	209
May-92	18,790	0.606	0.511		0.514		1.100	2,009			254	2,629			4,400	241	231
Jun-92	19,114	0.637	0.519		0.503		1.100	2,019			203	2,396			4,400	203	266
Jul-92	24,777	0.799	0.541		0.517		1.100	2,024			250	2,479			4,400	241	322
Aug-92	20,010	0.645	0.553		0.517		1.100	2,028			215	2,487			4,400	212	260
Sep-92	19,392	0.646	0.562		0.512		1.100	2,037			190	2,450			4,400	192	264
Oct-92	19,623	0.633	0.577		0.514		1.100	2,039			192	2,417			4,400	193	262
Nov-92	19,733	0.658	0.593		0.518		1.100	2,035			216	2,417			4,400	214	272
Dec-92	20,271	0.654	0.610		0.518		1.100	2,039			193	2,398			4,400	194	273
Jan-93	19,563	0.631	0.618		0.520		1.100	2,049			211	2,437			4,400	209	259
Feb-93	17,667	0.631	0.629		0.517		1.100	2,055			201	2,435			4,400	201	259
Mar-93	20,013	0.646	0.643		0.516		1.100	2,058			207	2,405			4,400	206	268
Apr-93	21,130	0.704	0.658		0.520		1.100	2,071			239	2,505			4,400	232	281
May-93	27,739	0.895	0.682		0.533		1.100	2,075			334	2,549			4,400	309	351
Jun-93	24,986	0.833	0.698		0.537		1.100	2,081			224	2,468			4,400	220	337
Jul-93	21,458	0.692	0.689		0.532		1.100	2,081			217	2,456			4,400	214	282
Aug-93	25,563	0.825	0.704		0.536		1.100	2,097			239	2,522			4,400	232	327
Sep-93	19,316	0.644	0.704		0.538		1.100	2,111			191	2,546			4,400	192	253
Oct-93	20,377	0.657	0.706		0.541		1.100	2,116			197	2,515			4,400	198	261
Nov-93	20,770	0.692	0.709		0.546		1.100	2,119			233	2,525			4,400	228	274
Dec-93	21,128	0.682	0.711		0.544		1.100	2,123			179	2,445			4,400	182	279
Jan-94	19,700	0.635	0.711		0.545		1.100	2,131			210	2,529			4,400	208	251
Feb-94	18,320	0.654	0.713		0.550		1.100	2,136			212	2,586			4,400	210	253
Mar-94	22,423	0.723	0.720		0.555		1.100	2,138			220	2,584			4,400	217	280
Apr-94	22,684	0.756	0.724		0.553		1.100	2,144			220	2,557			4,400	217	296

DATE	PLANT WATER PRODUCTION	MGD PLANT	Flow AADF	Flow Projection AADF	Sales AADF	Sales Projection AADF	WTP Capacity	TOTAL RESIDENT UNITS	Projected Residential Customers	Max Growth Option	GPD RESIDENT UNITS	TOTAL UNITS	T/R ratio	Max Growth Option	Plant Capacity (Concurrency)	TOTAL GPD UNIT SALES	TOTAL GPD UNIT FLOW
		Plant Flow	Flow AADF	Projection A	Sales AADF	s Projection A	WTP Capacity	idential Custor	l Residential Cx	Growth Option		Total ERCs	ced Total E	Growth O	pacity (Concurrency)		
May-94	23,200	0.748	0.712		0.541		1.100	2,144			243	2,773			4,400	233	270
Jun-94	19,350	0.645	0.696		0.534		1.100	2,141			182	2,472			4,400	185	261
Jul-94	21,320	0.688	0.696		0.541		1.100	2,144			238	2,629			4,400	231	262
Aug-94	20,580	0.664	0.682		0.533		1.100	2,137			192	2,571			4,400	194	258
Sep-94	19,961	0.665	0.684		0.537		1.100	2,147			208	2,556			4,400	207	260
Oct-94	19,165	0.618	0.681		0.539		1.100	2,147			202	2,585			4,400	202	239
Nov-94	20,931	0.698	0.681		0.532		1.100	2,153			192	2,555			4,400	193	273
Dec-94	19,202	0.619	0.676		0.534		1.100	2,152			179	2,576			4,400	182	240
Jan-95	22,624	0.730	0.684		0.533		1.100	2,152			201	2,596			4,400	201	281
Feb-95	21,116	0.754	0.692		0.534		1.100	2,155			211	2,627			4,400	209	287
Mar-95	23,583	0.761	0.696		0.527		1.100	2,153			182	2,573			4,400	185	296
Apr-95	24,339	0.811	0.700		0.537		1.100	2,149			258	2,730			4,400	246	297
May-95	26,549	0.856	0.709		0.532		1.100	2,148			230	2,627			4,400	225	326
Jun-95	20,690	0.690	0.713		0.534		1.100	2,149			188	2,565			4,400	190	269
Jul-95	20,900	0.674	0.712		0.538		1.100	2,160			254	2,671			4,400	243	252
Aug-95	22,131	0.714	0.716		0.535		1.100	2,159			176	2,559			4,400	180	279
Sep-95	20,164	0.672	0.716		0.536		1.100	2,167			208	2,615			4,400	207	257
Oct-95	22,158	0.715	0.725		0.531		1.100	2,165			176	2,539			4,400	180	281
Nov-95	22,825	0.761	0.730		0.530		1.100	2,171			190	2,564			4,400	192	297
Dec-95	21,730	0.701	0.737		0.534		1.100	2,171			196	2,584			4,400	197	271
Jan-96	20,685	0.667	0.731		0.530		1.100	2,179			185	2,568			9,600	187	260
Feb-96	15,069	0.520	0.712		0.526		2.400	2,177			192	2,612			9,600	193	199
Mar-96	14,658	0.473	0.688		0.530		2.400	2,187			199	2,601			9,600	200	182
Apr-96	17,478	0.583	0.669		0.527		2.400	2,184			249	2,637			9,600	241	221
May-96	20,222	0.652	0.652		0.530		2.400	2,184			233	2,749			9,600	226	237
Jun-96	15,982	0.533	0.639		0.537		2.400	2,189			218	2,693			9,600	215	198
Jul-96	20,900	0.674	0.639		0.522		2.400	2,190			181	2,540			9,600	183	265
Aug-96	19,546	0.631	0.632		0.524		2.400	2,195			184	2,627			9,600	187	240
Sep-96	15,390	0.513	0.618		0.528		2.400	2,192			230	2,612			9,600	225	196
Oct-96	17,995	0.580	0.607		0.531		2.400	2,198			186	2,588			9,600	188	224
Nov-96	19,534	0.651	0.598		0.531		2.400	2,203			192	2,562			9,600	193	254
Dec-96	15,767	0.509	0.582		0.537		2.400	2,203			225	2,628			9,600	221	194
Jan-97	14,205	0.458	0.565		0.538		2.400	2,208			187	2,570			9,600	189	178
Feb-97	11,433	0.408	0.555		0.533		2.400	2,215			175	2,527			9,600	178	162
Mar-97	16,331	0.527	0.560		0.533		2.400	2,219			201	2,601			9,600	200	203
Apr-97	15,208	0.507	0.554		0.531		2.400	2,221			235	2,662			9,600	229	190
May-97	24,675	0.796	0.566		0.530		2.400	2,221			237	2,642			9,600	231	301
Jun-97	19,833	0.661	0.576		0.525		2.400	2,224			204	2,505			9,600	203	264
Jul-97	21,851	0.705	0.579		0.528		2.400	2,231			181	2,727			9,600	184	259
Aug-97	17,314	0.559	0.573		0.530		2.400	2,228			193	2,669			9,600	195	209
Sep-97	20,335	0.678	0.587		0.539		2.400	2,236			263	2,764			9,600	251	245
Oct-97	20,523	0.662	0.593		0.536		2.400	2,238			170	2,622			9,600	175	253
Nov-97	17,761	0.592	0.588		0.533		2.400	2,237			174	2,576			9,600	177	230
Dec-97	13,605	0.439	0.583		0.525		2.400	2,238			182	2,587			9,600	185	170

DATE	PLANT WATER PRODUCTION	MGD PLANT	Flow AADF	Flow Projection AADF	Sales AADF	Sales Projection AADF	WTP Capacity	TOTAL RESIDENT UNITS	Projected Residential Customers	Max Growth Option	GPD RESIDENT UNITS	TOTAL UNITS	T/R ratio	Max Growth Option	Plant Capacity (Concurrency)	TOTAL GPD UNIT SALES	TOTAL GPD UNIT FLOW
		Plant Flow	Flow AADF	Projection A	Sales AADF	s Projection A	WTP Capacity	idential Custor	Residential Cu	x Growth Option		Total ERC	ceed Total E	Growth Op	pacity (Concurrency)		
Jan-98	13,651	0.440	0.581		0.528		2.400	2,236			199	2,626			9,600	199	168
Feb-98	13,535	0.483	0.587		0.532		2.400	2,247			184	2,675			9,600	187	181
Mar-98	17,584	0.567	0.591		0.536		2.400	2,247			213	2,712			9,600	211	209
Apr-98	24,348	0.812	0.616		0.530		2.400	2,259			202	2,648			9,600	202	307
May-98	28,091	0.906	0.625		0.559		2.400	2,246			370	2,896			9,600	332	313
Jun-98	27,231	0.908	0.646		0.584		2.400	2,242			280	3,140			9,600	257	289
Jul-98	23,481	0.757	0.650		0.601		2.400	2,248			267	2,778			9,600	254	273
Aug-98	19,914	0.642	0.657		0.602		2.400	2,247			200	2,663			9,600	200	241
Sep-98	19,259	0.642	0.654		0.585		2.400	2,246			183	2,637			9,600	186	243
Oct-98	19,423	0.627	0.651		0.601		2.400	2,256			241	2,804			9,600	233	223
Nov-98	17,128	0.571	0.650		0.613		2.400	2,257			223	2,720			9,600	219	210
Dec-98	14,256	0.460	0.651		0.615		2.400	2,259			190	2,607			9,600	192	176
Jan-99	12,596	0.406	0.648		0.616		2.400	2,269			203	2,658			9,600	203	153
Feb-99	14,256	0.509	0.651		0.623		2.400	2,276			204	2,905			9,600	204	175
Mar-99	19,820	0.639	0.657		0.630		2.400	2,285			238	2,799			9,600	231	228
Apr-99	23,390	0.780	0.654		0.650		2.400	2,295			279	2,991			9,600	260	261
May-99	21,666	0.699	0.637		0.622		2.400	2,287			228	2,798			9,600	223	250
Jun-99	19,539	0.651	0.615		0.601		2.400	2,293			209	2,702			9,600	207	241
Jul-99	18,781	0.606	0.603		0.595		2.400	2,306			227	2,814			9,600	222	215
Aug-99	19,000	0.613	0.600		0.599		2.400	2,310			211	2,787			9,600	209	220
Sep-99	20,446	0.682	0.604		0.605		2.400	2,309			210	2,724			9,600	209	250
Oct-99	18,723	0.604	0.602		0.594		2.400	2,311			186	2,773			9,600	188	218
Nov-99	20,250	0.675	0.610		0.587		2.400	2,318			183	2,750			9,600	186	245
Dec-99			0.624		0.587		2.400	2,319			181	2,703			9,600	184	0
Jan-00	23,755	0.766	0.657		0.594		2.400	2,324			221	2,852			9,600	217	269
Feb-00	24,492	0.845	0.687		0.592		2.400	2,333			207	2,772			9,600	206	305
Mar-00	23,656	0.763	0.698		0.590		2.400	2,338			223	2,824			9,600	219	270
Apr-00	23,750	0.792	0.700		0.572		2.400	2,329			205	2,778			9,600	204	285
May-00	27,417	0.884	0.716		0.584		2.400	2,329			282	2,871			9,600	267	308
Jun-00			0.723		0.586		2.400								9,600		
Jul-00	19,446	0.627	0.725		0.578		2.400	2,340			193	2,733			9,600	194	230
Aug-00	19,446	0.627	0.727		0.577		2.400	2,340			205	2,806			9,600	204	224
Sep-00	22,334	0.744	0.733		0.578		2.400	2,344			212	2,761			9,600	210	270
Oct-00	21,473	0.693	0.742		0.582		2.400	2,356			205	2,779			9,600	204	249
Nov-00	20,910	0.697	0.744		0.587		2.400	2,360			200	2,852			9,600	200	244
Dec-00	22,692	0.732	0.743		0.603		2.400	2,369			236	2,932			9,600	229	250
Jan-01			0.740		0.594		2.400	2,361			185	2,768			9,600	187	0
Feb-01	24,898	0.889	0.745		0.596		2.400	2,371			208	2,880			9,600	207	309
Mar-01	24,354	0.786	0.747		0.600		2.400	2,387			233	2,914			9,600	227	270
Apr-01	25,394	0.846	0.753		0.600		2.400	2,379			197	2,858			9,600	197	296
May-01	28,511	0.920	0.756		0.597		2.400	2,380			261	2,931			9,600	249	314
Jun-01	25,571	0.852	0.765		0.597		2.400	2,376			217	2,798			9,600	215	305
Jul-01	21,926	0.707	0.772		0.601		2.400	2,381			201	2,879			9,600	201	246
Aug-01	21,609	0.697	0.779		0.597		2.400	2,378			183	2,853			9,600	186	244

DATE	PLANT WATER PRODUCTION	MGD PLANT	Flow AADF	Flow Projection AADF	Sales AADF	Sales Projection AADF	WTP Capacity	TOTAL RESIDENT UNITS	Projected Residential Customers	Max Growth Option	GPD RESIDENT UNITS	TOTAL UNITS	T/R ratio	Max Growth Option	Plant Capacity (Concurrency)	TOTAL GPD UNIT SALES	TOTAL GPD UNIT FLOW
		Plant Flow	Flow AADF	Projection A	Sales AADF	s Projection A	WTP Capacity	idential Custor	Residential Cx	Growth Option		Total ERC	seed Total E	Growth Op	acity (Concurrency)		
Sep-01	23,335	0.753	0.779		0.595		2.400	2,381			192	2,866			9,600	193	263
Oct-01	22,810	0.760	0.785		0.591		2.400	2,395			183	2,809			9,600	185	271
Nov-01	22,429	0.748	0.790		0.588		2.400	2,413			189	2,776			9,600	190	269
Dec-01	25,793	0.832	0.799		0.578		2.400	2,409			182	2,963			9,600	185	281
Jan-02	22,909	0.739	0.794		0.584		2.400	2,412			202	2,926			9,600	202	253
Feb-02	18,884	0.674	0.776		0.580		2.400	2,419			184	2,928			9,600	187	230
Mar-02			0.775		0.572		2.400								9,600		
Apr-02			0.768		0.573		2.400								9,600		
May-02			0.751		0.556		2.400								9,600		
Jun-02			0.739		0.550		2.400								9,600		
Jul-02	20,676	0.667	0.734		0.559		2.400	2,402			220	3,007			9,600	216	222
Aug-02	20,961	0.676	0.731		0.577		2.400	2,393			238	2,938			9,600	231	230
Sep-02	20,409	0.680	0.722		0.588		2.400	2,418			219	2,982			9,600	216	228
Oct-02	21,355	0.689	0.713		0.589		2.400	2,421			171	2,964			9,600	176	232
Nov-02	22,000	0.733	0.711		0.598		2.400	2,447			199	3,039			9,600	199	241
Dec-02	22,000	0.710	0.696		0.598		2.400	2,433			176	3,036			9,600	181	234
Jan-03			0.690		0.619		2.400	2,440			255	3,118			9,600	243	0
Feb-03	21,000	0.750	0.701		0.625		2.400	2,444			189	3,105			9,600	192	242
Mar-03				0.708	0.615		2.400	2,452			167	3,058			9,600	174	0
Apr-03				0.716	0.620		2.400		2,456		0		3,021		9,600	#DIV/0!	#DIV/0!
May-03				0.723		0.626	2.400		2,460		0		3,026		9,600	#DIV/0!	#DIV/0!
Jun-03				0.731		0.632	2.400		2,464		0		3,031		9,600	#DIV/0!	#DIV/0!
Jul-03				0.738		0.638	2.400		2,468		0		3,036		9,600	#DIV/0!	#DIV/0!
Aug-03				0.746		0.644	2.400		2,472		0		3,041		9,600	#DIV/0!	#DIV/0!
Sep-03				0.753		0.650	2.400		2,476		0		3,045		9,600	#DIV/0!	#DIV/0!
Oct-03				0.761		0.656	2.400		2,480		0		3,050		9,600	#DIV/0!	#DIV/0!
Nov-03				0.768		0.662	2.400		2,484		0		3,055		9,600	#DIV/0!	#DIV/0!
Dec-03				0.776		0.667	2.400		2,513		0		3,091		9,600	#DIV/0!	#DIV/0!
Jan-04				0.783		0.673	2.400		2,542				3,127		9,600		
Feb-04				0.791		0.679	2.400		2,571				3,162		9,600		
Mar-04				0.798		0.685	2.400		2,600				3,198		9,600		
Apr-04				0.806		0.691	2.400		2,629				3,234		9,600		
May-04				0.813		0.697	2.400		2,658				3,269		9,600		
Jun-04				0.821		0.703	2.400		2,687				3,305		9,600		
Jul-04				0.828		0.709	2.400		2,716				3,341		9,600		
Aug-04				0.836		0.715	2.400		2,745				3,376		9,600		
Sep-04				0.843		0.720	2.400		2,774				3,412		9,600		
Oct-04				0.850		0.726	2.400		2,803				3,448		9,600		
Nov-04				0.858		0.732	2.400		2,832				3,483		9,600		
Dec-04				0.865		0.738	2.400		2,861				3,519		9,600		
Jan-05				0.873		0.744	2.400		2,890				3,555		9,600		
Feb-05				0.880		0.750	2.400		2,919				3,590		9,600		
Mar-05				0.888		0.756	2.400		2,948				3,626		9,600		
Apr-05				0.895		0.762	2.400		2,977				3,662		9,600		

DATE	PLANT WATER PRODUCTION	MGD PLANT	Flow AADF	Flow Projection AADF	Sales AADF	Sales Projection AADF	WTP Capacity	TOTAL RESIDENT UNITS	Projected Residential Customers	Max Growth Option	GPD RESIDENT UNITS	TOTAL UNITS	T/R ratio	Max Growth Option	Plant Capacity (Concurrency)	TOTAL GPD UNIT SALES	TOTAL GPD UNIT FLOW
		Plant Flow	Flow AADF	Projection A	Sales AADF	s Projection A	WTP Capacity	idential Custor	Residential Cx	Growth Option		Total ERCs	ced Total E	Growth Op	pacity (Concurrency)		
May-05				0.903		0.767	2.400		3,006				3,697		9,600		
Jun-05				0.910		0.773	2.400		3,035				3,733		9,600		
Jul-05				0.918		0.779	2.400		3,064				3,769		9,600		
Aug-05				0.925		0.785	2.400		3,093				3,804		9,600		
Sep-05				0.933		0.791	2.400		3,122				3,840		9,600		
Oct-05				0.940		0.797	2.400		3,151				3,876		9,600		
Nov-05				0.948		0.803	2.400		3,180				3,911		9,600		
Dec-05				0.955		0.809	2.400		3,209				3,947		9,600		
Jan-06				0.963		0.814	2.400		3,238				3,983		9,600		
Feb-06				0.970		0.820	2.400		3,267				4,018		9,600		
Mar-06				0.978		0.826	2.400		3,296				4,054		9,600		
Apr-06				0.985		0.832	2.400		3,325				4,090		9,600		
May-06				0.993		0.838	2.400		3,354				4,125		9,600		
Jun-06				1.000		0.844	2.400		3,383				4,161		9,600		
Jul-06				1.008		0.850	2.400		3,412				4,197		9,600		
Aug-06				1.015		0.856	2.400		3,441				4,232		9,600		
Sep-06				1.023		0.861	2.400		3,470				4,268		9,600		
Oct-06				1.030		0.867	2.400		3,499				4,304		9,600		
Nov-06				1.038		0.873	2.400		3,528				4,339		9,600		
Dec-06				1.045		0.879	2.400		3,557				4,375		9,600		
Jan-07				1.053		0.885	2.400		3,586				4,411		9,600		
Feb-07				1.060		0.891	2.400		3,615				4,446		9,600		
Mar-07				1.068		0.897	2.400		3,644				4,482		9,600		
Apr-07				1.075		0.903	2.400		3,673				4,518		9,600		
May-07				1.083		0.908	2.400		3,702				4,553		9,600		
Jun-07				1.090		0.914	2.400		3,731				4,589		9,600		
Jul-07				1.098		0.920	2.400		3,760				4,625		9,600		
Aug-07				1.105		0.926	2.400		3,789				4,660		9,600		
Sep-07				1.113		0.932	2.400		3,818				4,696		9,600		
Oct-07				1.120		0.938	2.400		3,847				4,732		9,600		
Nov-07				1.128		0.944	2.400		3,876				4,767		9,600		
Dec-07				1.135		0.950	2.400		3,905				4,803		9,600		
Jan-08				1.142		0.955	2.400		3,934				4,839		9,600		
Feb-08				1.144		0.961	2.400		3,963				4,874		9,600		
Mar-08				1.145		0.967	2.400		3,992				4,910		9,600		
Apr-08				1.146		0.968	2.400		4,021				4,946		9,600		
May-08				1.146		0.969	2.400		4,050				4,982		9,600		
Jun-08				1.147		0.970	2.400		4,079				5,017		9,600		
Jul-08				1.148		0.971	2.400		4,108				5,053		9,600		
Aug-08				1.149		0.972	2.400		4,137				5,089		9,600		
Sep-08				1.150		0.972	2.400		4,166				5,124		9,600		
Oct-08				1.151		0.973	2.400		4,195				5,160		9,600		
Nov-08				1.152		0.974	2.400		4,224				5,196		9,600		
Dec-08				1.153		0.975	2.400		4,253				5,231		9,600		

DATE	PLANT WATER PRODUCTION	MGD PLANT	Flow AADF	Flow Projection AADF	Sales AADF	Sales Projection AADF	WTP Capacity	TOTAL RESIDENT UNITS	Projected Residential Customers	Max Growth Option	GPD RESIDENT UNITS	TOTAL UNITS	T/R ratio	Max Growth Option	Plant Capacity (Concurrency)	TOTAL GPD UNIT SALES	TOTAL GPD UNIT FLOW
		Plant Flow	Flow AADF	Projection A	Sales AADF	s Projection A	WTP Capacity	idential Custor	Residential Cu	x Growth Option		Total ERCs	ced Total E	Growth Op	pacity (Concurrency)		
Aug-12				1.192		1.015	2.400		4,433	5,382			5,453	6,620	9,600		
Sep-12				1.193		1.015	2.400		4,437	5,407			5,458	6,651	9,600		
Oct-12				1.194		1.016	2.400		4,441	5,432			5,462	6,681	9,600		
Nov-12				1.195		1.017	2.400		4,445	5,457			5,467	6,712	9,600		
Dec-12				1.196		1.018	2.400		4,449	5,482			5,472	6,743	9,600		
Jan-13				1.196		1.019	2.400		4,453	5,507			5,477	6,774	9,600		
Feb-13				1.197		1.020	2.400		4,457	5,532			5,482	6,804	9,600		
Mar-13				1.198		1.021	2.400		4,461	5,557			5,487	6,835	9,600		
Apr-13				1.199		1.022	2.400		4,465	5,582			5,492	6,866	9,600		
May-13				1.200		1.022	2.400		4,469	5,607			5,497	6,897	9,600		
Jun-13				1.201		1.023	2.400		4,473	5,632			5,502	6,927	9,600		
Jul-13				1.202		1.024	2.400		4,477	5,657			5,507	6,958	9,600		
Aug-13				1.203		1.025	2.400		4,481	5,682			5,512	6,989	9,600		
Sep-13				1.203		1.026	2.400		4,485	5,707			5,517	7,020	9,600		
Oct-13				1.204		1.027	2.400		4,489	5,732			5,521	7,050	9,600		
Nov-13				1.205		1.028	2.400		4,493	5,757			5,526	7,081	9,600		
Dec-13				1.206		1.029	2.400		4,497	5,782			5,531	7,112	9,600		
Jan-14				1.207		1.029	2.400		4,501	5,807			5,536	7,143	9,600		
Feb-14				1.208		1.030	2.400		4,505	5,832			5,541	7,173	9,600		
Mar-14				1.209		1.031	2.400		4,509	5,857			5,546	7,204	9,600		
Apr-14				1.210		1.032	2.400		4,513	5,882			5,551	7,235	9,600		
May-14				1.210		1.033	2.400		4,517	5,907			5,556	7,266	9,600		
Jun-14				1.211		1.034	2.400		4,521	5,932			5,561	7,296	9,600		
Jul-14				1.212		1.035	2.400		4,525	5,957			5,566	7,327	9,600		
Aug-14				1.213		1.036	2.400		4,529	5,982			5,571	7,358	9,600		
Sep-14				1.214		1.037	2.400		4,533	6,007			5,576	7,389	9,600		
Oct-14				1.215		1.037	2.400		4,537	6,032			5,581	7,419	9,600		
Nov-14				1.216		1.038	2.400		4,541	6,057			5,585	7,450	9,600		
Dec-14				1.217		1.039	2.400		4,545	6,082			5,590	7,481	9,600		
Jan-15				1.217		1.040	2.400		4,549	6,107			5,595	7,512	9,600		
Feb-15				1.218		1.041	2.400		4,553	6,132			5,600	7,542	9,600		
Mar-15				1.219		1.042	2.400		4,557	6,157			5,605	7,573	9,600		
Apr-15				1.220		1.043	2.400		4,561	6,182			5,610	7,604	9,600		
May-15				1.221			2.400		4,565	6,207			5,615	7,635	9,600		
Jun-15				1.222			2.400		4,569	6,232			5,620	7,665	9,600		
Jul-15				1.223			2.400		4,573	6,257			5,625	7,696	9,600		
Jul-15				1.224			2.400		4,577	6,282			5,630	7,727	9,600		
Aug-15				1.224			2.400		4,581	6,307			5,635	7,758	9,600		
Sep-15				1.225			2.400		4,585	6,332			5,640	7,788	9,600		
Oct-15				1.226			2.400		4,589	6,357			5,644	7,819	9,600		
Nov-15				1.227			2.400		4,593	6,382			5,649	7,850	9,600		
Dec-15				1.228			2.400		4,597	6,407			5,654	7,881	9,600		
Jan-16				1.229			2.400		4,601	6,432			5,659	7,911	9,600		

DATE	PLANT WATER PRODUCTION	MGD PLANT	Flow AADF	Flow Projection AADF	Sales AADF	Sales Projection AADF	WTP Capacity	TOTAL RESIDENT UNITS	Projected Residential Customers	Max Growth Option	GPD RESIDENT UNITS	TOTAL UNITS	T/R ratio	Max Growth Option	Plant Capacity (Concurrency)	TOTAL GPD UNIT SALES	TOTAL GPD UNIT FLOW
		Plant Flow	Flow AADF	Projection A	Sales AADF	s Projection A	WTP Capacity	idential Custor	l Residential Cu	x Growth Option		Total ERCs	ceed Total E	Growth Op	pacity (Concurrency)		
Jan-09				1.153		0.976	2.400		4,257	4,282			5,236	5,267	9,600		
Feb-09				1.154		0.977	2.400		4,261	4,307			5,241	5,298	9,600		
Mar-09				1.155		0.978	2.400		4,265	4,332			5,246	5,328	9,600		
Apr-09				1.156		0.979	2.400		4,269	4,357			5,251	5,359	9,600		
May-09				1.157		0.980	2.400		4,273	4,382			5,256	5,390	9,600		
Jun-09				1.158		0.980	2.400		4,277	4,407			5,261	5,421	9,600		
Jul-09				1.159		0.981	2.400		4,281	4,432			5,266	5,451	9,600		
Aug-09				1.160		0.982	2.400		4,285	4,457			5,271	5,482	9,600		
Aug-09				1.160		0.983	2.400		4,289	4,482			5,275	5,513	9,600		
Sep-09				1.161		0.984	2.400		4,293	4,507			5,280	5,544	9,600		
Oct-09				1.162		0.985	2.400		4,297	4,532			5,285	5,574	9,600		
Nov-09				1.163		0.986	2.400		4,301	4,557			5,290	5,605	9,600		
Dec-09				1.164		0.987	2.400		4,305	4,582			5,295	5,636	9,600		
Jan-10				1.165		0.987	2.400		4,309	4,607			5,300	5,667	9,600		
Feb-10				1.166		0.988	2.400		4,313	4,632			5,305	5,697	9,600		
Mar-10				1.167		0.989	2.400		4,317	4,657			5,310	5,728	9,600		
Apr-10				1.167		0.990	2.400		4,321	4,682			5,315	5,759	9,600		
May-10				1.168		0.991	2.400		4,325	4,707			5,320	5,790	9,600		
Jun-10				1.169		0.992	2.400		4,329	4,732			5,325	5,820	9,600		
Jul-10				1.170		0.993	2.400		4,333	4,757			5,330	5,851	9,600		
Aug-10				1.171		0.994	2.400		4,337	4,782			5,335	5,882	9,600		
Sep-10				1.172		0.994	2.400		4,341	4,807			5,339	5,913	9,600		
Oct-10				1.173		0.995	2.400		4,345	4,832			5,344	5,943	9,600		
Nov-10				1.174		0.996	2.400		4,349	4,857			5,349	5,974	9,600		
Dec-10				1.174		0.997	2.400		4,353	4,882			5,354	6,005	9,600		
Jan-11				1.175		0.998	2.400		4,357	4,907			5,359	6,036	9,600		
Feb-11				1.176		0.999	2.400		4,361	4,932			5,364	6,066	9,600		
Mar-11				1.177		1.000	2.400		4,365	4,957			5,369	6,097	9,600		
Apr-11				1.178		1.001	2.400		4,369	4,982			5,374	6,128	9,600		
May-11				1.179		1.001	2.400		4,373	5,007			5,379	6,159	9,600		
Jun-11				1.180		1.002	2.400		4,377	5,032			5,384	6,189	9,600		
Jul-11				1.181		1.003	2.400		4,381	5,057			5,389	6,220	9,600		
Aug-11				1.181		1.004	2.400		4,385	5,082			5,394	6,251	9,600		
Sep-11				1.182		1.005	2.400		4,389	5,107			5,398	6,282	9,600		
Oct-11				1.183		1.006	2.400		4,393	5,132			5,403	6,312	9,600		
Nov-11				1.184		1.007	2.400		4,397	5,157			5,408	6,343	9,600		
Dec-11				1.185		1.008	2.400		4,401	5,182			5,413	6,374	9,600		
Jan-12				1.186		1.008	2.400		4,405	5,207			5,418	6,405	9,600		
Feb-12				1.187		1.009	2.400		4,409	5,232			5,423	6,435	9,600		
Mar-12				1.188		1.010	2.400		4,413	5,257			5,428	6,466	9,600		
Apr-12				1.189		1.011	2.400		4,417	5,282			5,433	6,497	9,600		
May-12				1.189		1.012	2.400		4,421	5,307			5,438	6,528	9,600		
Jun-12				1.190		1.013	2.400		4,425	5,332			5,443	6,558	9,600		
Jul-12				1.191		1.014	2.400		4,429	5,357			5,448	6,589	9,600		

DATE	PLANT WATER PRODUCTION	MGD PLANT	Flow AADF	Flow Projection AADF	Sales AADF	Sales Projection AADF	WTP Capacity	TOTAL RESIDENT UNITS	Projected Residential Customers	Max Growth Option	GPD RESIDENT UNITS	TOTAL UNITS	T/R ratio	Max Growth Option	Plant Capacity (Concurrency)	TOTAL GPD UNIT SALES	TOTAL GPD UNIT FLOW
		Plant Flow	Flow AADF	Projection A	Sales AADF	s Projection A	WTP Capacity	idential Custo	Residential Cu	Growth Option		Total ER	Exceed Total E	Growth Op	pacity (Concurrency)		
Feb-16				1.230			2.400		4,605	6,457			5,664	7,942	9,600		
Mar-16				1.231			2.400		4,609	6,482			5,669	7,973	9,600		
Apr-16				1.231			2.400		4,613	6,507			5,674	8,004	9,600		
May-16				1.232			2.400		4,617	6,532			5,679	8,034	9,600		
Jun-16				1.233			2.400		4,621	6,557			5,684	8,065	9,600		
Jul-16				1.234			2.400		4,625	6,582			5,689	8,096	9,600		
Aug-16				1.235			2.400		4,629	6,607			5,694	8,127	9,600		
Sep-16				1.236			2.400		4,633	6,632			5,699	8,157	9,600		
Oct-16				1.237			2.400		4,637	6,657			5,704	8,188	9,600		
Nov-16				1.238			2.400		4,641	6,682			5,708	8,219	9,600		
Dec-16				1.238			2.400		4,645	6,707			5,713	8,250	9,600		
Jan-17				1.239			2.400		4,649	6,732			5,718	8,280	9,600		
Feb-17				1.240			2.400		4,653	6,757			5,723	8,311	9,600		
Mar-17				1.241			2.400		4,657	6,782			5,728	8,342	9,600		
Apr-17				1.242			2.400		4,661	6,807			5,733	8,373	9,600		
May-17				1.243			2.400		4,665	6,832			5,738	8,403	9,600		
Jun-17				1.244			2.400		4,669	6,857			5,743	8,434	9,600		
Jul-17				1.245			2.400		4,673	6,882			5,748	8,465	9,600		
Aug-17				1.246			2.400		4,677	6,907			5,753	8,496	9,600		
Sep-17				1.246			2.400		4,681	6,932			5,758	8,526	9,600		
Oct-17				1.247			2.400		4,685	6,957			5,763	8,557	9,600		
Nov-17				1.248			2.400		4,689	6,982			5,767	8,588	9,600		
Dec-17				1.249			2.400		4,693	7,007			5,772	8,619	9,600		
Jan-18				1.250			2.400		4,697	7,032			5,777	8,649	9,600		
Feb-18				1.251			2.400		4,701	7,057			5,782	8,680	9,600		
Mar-18				1.252			2.400		4,705	7,082			5,787	8,711	9,600		
Apr-18				1.253			2.400		4,709	7,107			5,792	8,742	9,600		
May-18				1.253			2.400		4,713	7,132			5,797	8,772	9,600		
Jun-18				1.254			2.400		4,717	7,157			5,802	8,803	9,600		
Jul-18				1.255			2.400		4,721	7,182			5,807	8,834	9,600		
Aug-18				1.256			2.400		4,725	7,207			5,812	8,865	9,600		
Sep-18				1.257			2.400		4,729	7,232			5,817	8,895	9,600		
Oct-18				1.258			2.400		4,733	7,257			5,822	8,926	9,600		
Nov-18				1.259			2.400		4,737	7,282			5,827	8,957	9,600		
Dec-18				1.260			2.400		4,741	7,307			5,831	8,988	9,600		
Jan-19				1.260			2.400		4,745	7,332			5,836	9,018	9,600		
Feb-19				1.261			2.400		4,749	7,357			5,841	9,049	9,600		
Mar-19				1.262			2.400		4,753	7,382			5,846	9,080	9,600		
Apr-19				1.263			2.400		4,757	7,407			5,851	9,111	9,600		
May-19				1.264			2.400		4,761	7,432			5,856	9,141	9,600		
Jun-19				1.265			2.400		4,765	7,457			5,861	9,172	9,600		

DATE	PLANT WATER PRODUCTION	MGD PLANT	Flow AADF	Flow Projection AADF	Sales AADF	Sales Projection AADF	WTP Capacity	TOTAL RESIDENT UNITS	Projected Residential Customers	Max Growth Option	GPD RESIDENT UNITS	TOTAL UNITS	T/R ratio	Max Growth Option	Plant Capacity (Concurrency)	TOTAL GPD UNIT SALES	TOTAL GPD UNIT FLOW
		Plant Flow	Flow AADF	Projection A	Sales AADF	s Projection A	WTP Capacity	idential Custor	Residential Cu	x Growth Option		Total ERCs	eed Total E	Growth Op	pacity (Concurrency)		
Jul-19				1.266			2.400		4,769	7,482			5,866	9,203	9,600		
Aug-19				1.267			2.400		4,773	7,507			5,871	9,234	9,600		
Sep-19				1.267			2.400		4,777	7,532			5,876	9,264	9,600		
Oct-19				1.268			2.400		4,781	7,557			5,881	9,295	9,600		
Nov-19				1.269			2.400		4,785	7,582			5,886	9,326	9,600		
Dec-19				1.270			2.400		4,789	7,607			5,890	9,357	9,600		
Jan-20				1.271			2.400		4,793	7,632			5,895	9,387	9,600		
Feb-20				1.272			2.400		4,797	7,657			5,900	9,418	9,600		
Mar-20				1.273			2.400		4,801	7,682			5,905	9,449	9,600		
Apr-20				1.274			2.400		4,805	7,707			5,910	9,480	9,600		
May-20				1.274			2.400		4,809	7,732			5,915	9,510	9,600		
Jun-20				1.275			2.400		4,813	7,757			5,920	9,541	9,600		
Jul-20				1.276			2.400		4,817	7,782			5,925	9,572	9,600		
Aug-20				1.277			2.400		4,821	7,807			5,930	9,603	9,600		
Sep-20				1.278			2.400		4,825	7,832			5,935	9,633	9,600		
Oct-20				1.279			2.400		4,829	7,857			5,940	9,664	9,600		
Nov-20				1.280			2.400		4,833	7,882			5,945	9,695	9,600		
Dec-20				1.281			2.400		4,837	7,907			5,950	9,726	9,600		
Dec-20				1.281			2.400		4,841	7,932			5,954	9,756	9,600		
Jan-21				1.282			2.400		4,845	7,957			5,959	9,787	9,600		
Mar-21				1.283			2.400		4,849	7,982			5,964	9,818	9,600		
Mar-21				1.284			2.400		4,853	8,007			5,969	9,849	9,600		
Apr-21				1.285			2.400		4,857	8,032			5,974	9,879	9,600		
May-21				1.286			2.400		4,861	8,057			5,979	9,910	9,600		
Jun-21				1.287			2.400		4,865	8,082			5,984	9,941	9,600		
Jul-21				1.288			2.400		4,869	8,107			5,989	9,972	9,600		
Aug-21				1.288			2.400		4,873	8,132			5,994	10,002	9,600		
Sep-21				1.289			2.400		4,877	8,157			5,999	10,033	9,600		
Oct-21				1.290			2.400		4,881	8,182			6,004	10,064	9,600		
Nov-21				1.291			2.400		4,885	8,207			6,009	10,095	9,600		
Dec-21				1.292			2.400		4,889	8,232			6,013	10,125	9,600		
Jan-22				1.293			2.400		4,893	8,257			6,018	10,156	9,600		
Feb-22				1.294			2.400		4,897	8,282			6,023	10,187	9,600		
Mar-22				1.295			2.400		4,901	8,307			6,028	10,218	9,600		
Apr-22				1.295			2.400		4,905	8,332			6,033	10,248	9,600		
May-22				1.296			2.400		4,909	8,357			6,038	10,279	9,600		
Jun-22				1.297			2.400		4,913	8,382			6,043	10,310	9,600		
Jul-22				1.298			2.400		4,917	8,407			6,048	10,341	9,600		
Aug-22				1.299			2.400		4,921	8,432			6,053	10,371	9,600		
Sep-22				1.300			2.400		4,925	8,457			6,058	10,402	9,600		
Oct-22				1.301			2.400		4,929	8,482			6,063	10,433	9,600		

DATE	PLANT WATER PRODUCTION	MGD PLANT	Flow AADF	Flow Projection AADF	Sales AADF	Sales Projection AADF	WTP Capacity	TOTAL RESIDENT UNITS	Projected Residential Customers	Max Growth Option	GPD RESIDENT UNITS	TOTAL UNITS	T/R ratio	Max Growth Option	Plant Capacity (Concurrency)	TOTAL GPD UNIT SALES	TOTAL GPD UNIT FLOW
		Plant Flow	Flow AADF	Projection A	Sales AADF	s Projection A	WTP Capacity	idential Custor	Residential Cu	x Growth Option		Total ERCs	aced Total E	Growth Op	pacity (Concurrency)		
Nov-22				1.302			2.400		4,933	8,507			6,068	10,464	9,600		
Dec-22				1.303			2.400		4,937	8,532			6,073	10,494	9,600		
Jan-23				1.303			2.400		4,941	8,557			6,077	10,525	9,600		
Feb-23				1.304			2.400		4,945	8,582			6,082	10,556	9,600		
Mar-23				1.305			2.400		4,949	8,607			6,087	10,587	9,600		
Apr-23				1.306			2.400		4,953	8,632			6,092	10,617	9,600		
May-23				1.307			2.400		4,957	8,657			6,097	10,648	9,600		
Jun-23				1.308			2.400		4,961	8,682			6,102	10,679	9,600		
Jul-23				1.309			2.400		4,965	8,707			6,107	10,710	9,600		
Aug-23				1.310			2.400		4,969	8,732			6,112	10,740	9,600		
Sep-23				1.310			2.400		4,973	8,757			6,117	10,771	9,600		
Oct-23				1.311			2.400		4,977	8,782			6,122	10,802	9,600		
Nov-23				1.312			2.400		4,981	8,807			6,127	10,833	9,600		
Dec-23				1.313			2.400		4,985	8,832			6,132	10,863	9,600		
Jan-24				1.314			2.400		4,989	8,857			6,136	10,894	9,600		
Feb-24				1.315			2.400		4,993	8,882			6,141	10,925	9,600		
Mar-24				1.316			2.400		4,997	8,907			6,146	10,956	9,600		
Apr-24				1.317			2.400		5,001	8,932			6,151	10,986	9,600		
May-24				1.317			2.400		5,005	8,957			6,156	11,017	9,600		
Jun-24				1.318			2.400		5,009	8,982			6,161	11,048	9,600		
Jul-24				1.319			2.400		5,013	9,007			6,166	11,079	9,600		
Aug-24				1.320			2.400		5,017	9,032			6,171	11,109	9,600		
Sep-24				1.321			2.400		5,021	9,057			6,176	11,140	9,600		
Oct-24				1.322			2.400		5,025	9,082			6,181	11,171	9,600		
Nov-24				1.323			2.400		5,029	9,107			6,186	11,202	9,600		
Dec-24				1.324			2.400		5,033	9,132			6,191	11,232	9,600		
Jan-25				1.324			2.400		5,037	9,157			6,196	11,263	9,600		
Feb-25				1.325			2.400		5,041	9,182			6,200	11,294	9,600		
Mar-25				1.326			2.400		5,045	9,207			6,205	11,325	9,600		
Apr-25				1.327			2.400		5,049	9,232			6,210	11,355	9,600		
May-25				1.328			2.400		5,053	9,257			6,215	11,386	9,600		
Jun-25				1.329			2.400		5,057	9,282			6,220	11,417	9,600		
Jul-25				1.330			2.400		5,061	9,307			6,225	11,448	9,600		
Aug-25				1.331			2.400		5,065	9,332			6,230	11,478	9,600		
Sep-25				1.331			2.400		5,069	9,357			6,235	11,509	9,600		
Oct-25				1.332			2.400		5,073	9,382			6,240	11,540	9,600		
Nov-25				1.333			2.400		5,077	9,407			6,245	11,571	9,600		
Dec-25				1.334			2.400		5,081	9,432			6,250	11,601	9,600		
Jan-26				1.335			2.400		5,085	9,457			6,255	11,632	9,600		
Feb-26				1.336			2.400		5,089	9,482			6,259	11,663	9,600		
Mar-26				1.337			2.400		5,093	9,507			6,264	11,694	9,600		

DATE	PLANT WATER PRODUCTION	MGD PLANT	Flow AADF	Flow Projection AADF	Sales AADF	Sales Projection AADF	WTP Capacity	TOTAL RESIDENT UNITS	Projected Residential Customers	Max Growth Option	GPD RESIDENT UNITS	TOTAL UNITS	T/R ratio	Max Growth Option	Plant Capacity (Concurrency)	TOTAL GPD UNIT SALES	TOTAL GPD UNIT FLOW
		Plant Flow	Flow AADF	Projection A	Sales AADF	s Projection A	WTP Capacity	idential Custor	Residential Cu	x Growth Option		Total ERCs	ced Total E	Growth Op	pacity (Concurrency)		
Apr-26				1.338			2.400		5,097	9,532			6,269	11,724	9,600		
May-26				1.338			2.400		5,101	9,557			6,274	11,755	9,600		
Jun-26				1.339			2.400		5,105	9,582			6,279	11,786	9,600		
Jul-26				1.340			2.400		5,109	9,607			6,284	11,817	9,600		
Aug-26				1.341			2.400		5,113	9,632			6,289	11,847	9,600		
Sep-26				1.342			2.400		5,117	9,657			6,294	11,878	9,600		
Oct-26				1.343			2.400		5,121	9,682			6,299	11,909	9,600		
Oct-26				1.344			2.400		5,125	9,707			6,304	11,940	9,600		
Nov-26				1.345			2.400		5,129	9,732			6,309	11,970	9,600		
Dec-26				1.345			2.400		5,133	9,757			6,314	12,001	9,600		
Jan-27				1.346			2.400		5,137	9,782			6,319	12,032	9,600		
Feb-27				1.347			2.400		5,141	9,807			6,323	12,063	9,600		
Mar-27				1.348			2.400		5,145	9,832			6,328	12,093	9,600		
Apr-27				1.349			2.400		5,149	9,857			6,333	12,124	9,600		
May-27				1.350			2.400		5,153	9,882			6,338	12,155	9,600		
Jun-27				1.351			2.400		5,157	9,907			6,343	12,186	9,600		
Jul-27				1.352			2.400		5,161	9,932			6,348	12,216	9,600		
Aug-27				1.353			2.400		5,165	9,957			6,353	12,247	9,600		
Sep-27				1.353			2.400		5,169	9,982			6,358	12,278	9,600		
Oct-27				1.354			2.400		5,173	10,007			6,363	12,309	9,600		
Nov-27				1.355			2.400		5,177	10,032			6,368	12,339	9,600		
Dec-27				1.356			2.400		5,181	10,057			6,373	12,370	9,600		
Jan-28				1.357			2.400		5,185	10,082			6,378	12,401	9,600		
Feb-28				1.358			2.400		5,189	10,107			6,382	12,432	9,600		
Mar-28				1.359			2.400		5,193	10,132			6,387	12,462	9,600		
Apr-28				1.360			2.400		5,197	10,157			6,392	12,493	9,600		
May-28				1.360			2.400		5,201	10,182			6,397	12,524	9,600		
Jun-28				1.361			2.400		5,205	10,207			6,402	12,555	9,600		
Jul-28				1.362			2.400		5,209	10,232			6,407	12,585	9,600		
Aug-28				1.363			2.400		5,213	10,257			6,412	12,616	9,600		
Sep-28				1.364			2.400		5,217	10,282			6,417	12,647	9,600		
Oct-28				1.365			2.400		5,221	10,307			6,422	12,678	9,600		
Nov-28				1.366			2.400		5,225	10,332			6,427	12,708	9,600		
Dec-28				1.367			2.400		5,229	10,357			6,432	12,739	9,600		
Jan-29				1.367			2.400		5,233	10,382			6,437	12,770	9,600		
Feb-29				1.368			2.400		5,237	10,407			6,442	12,801	9,600		
Mar-29				1.369			2.400		5,241	10,432			6,446	12,831	9,600		
Apr-29				1.370			2.400		5,245	10,457			6,451	12,862	9,600		
May-29				1.371			2.400		5,249	10,482			6,456	12,893	9,600		
Jun-29				1.372			2.400		5,253	10,507			6,461	12,924	9,600		
Jul-29				1.373			2.400		5,257	10,532			6,466	12,954	9,600		

DATE	PLANT WATER PRODUCTION	MGD PLANT	Flow AADF	Flow Projection AADF	Sales AADF	Sales Projection AADF	WTP Capacity	TOTAL RESIDENT UNITS	Projected Residential Customers	Max Growth Option	GPD RESIDENT UNITS	TOTAL UNITS	T/R ratio	Max Growth Option	Plant Capacity (Concurrency)	TOTAL GPD UNIT SALES	TOTAL GPD UNIT FLOW
		Plant Flow	Flow AADF	Projection A	Sales AADF	s Projection A	WTP Capacity	idential Custor	Residential Cu	Growth Option		Total ERCs	ceed Total E	Growth O	pacity (Concurrency)		
Aug-29				1.374			2.400		5,261	10,557			6,471	12,985	9,600		
Sep-29				1.374			2.400		5,265	10,582			6,476	13,016	9,600		
Oct-29				1.375			2.400		5,269	10,607			6,481	13,047	9,600		
Nov-29				1.376			2.400		5,273	10,632			6,486	13,077	9,600		
Dec-29				1.377			2.400		5,277	10,657			6,491	13,108	9,600		
Jan-30				1.378			2.400		5,281	10,682			6,496	13,139	9,600		
Feb-30				1.379			2.400		5,285	10,707			6,501	13,170	9,600		
Mar-30				1.380			2.400		5,289	10,732			6,505	13,200	9,600		
Apr-30				1.381			2.400		5,293	10,757			6,510	13,231	9,600		
May-30				1.381			2.400		5,297	10,782			6,515	13,262	9,600		
Jun-30				1.382			2.400		5,301	10,807			6,520	13,293	9,600		
Jul-30				1.383			2.400		5,305	10,832			6,525	13,323	9,600		
Aug-30				1.384			2.400		5,309	10,857			6,530	13,354	9,600		
Sep-30				1.385			2.400		5,313	10,882			6,535	13,385	9,600		
Oct-30				1.386			2.400		5,317	10,907			6,540	13,416	9,600		
Nov-30				1.387			2.400		5,321	10,932			6,545	13,446	9,600		
Dec-30				1.388			2.400		5,325	10,957			6,550	13,477	9,600		

Exhibit MWS-1

Excerpts from Text of Future Land Use Element of the

Brevard County Comprehensive Plan

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 021256-WU EXHIBIT NO. 21
COMPANY/ Brevard County
WITNESS. Mel W. Scott (MWS-1)
DATE: 06/22-23/04

FUTURE LAND USE ELEMENT
CHAPTER 11

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GOAL, OBJECTIVES AND POLICIES

GOAL
TO MANAGE GROWTH IN BREVARD COUNTY IN A MANNER THAT ENHANCES NATURAL AND MAN-MADE SYSTEMS AND MEETS THE PUBLIC'S SOCIAL AND ECONOMIC NEEDS.

RESIDENTIAL LAND USES

Objective 1
Brevard County shall facilitate the development of residential neighborhoods that offer the highest quality of life to the citizenry through the implementation of policies that accomplish the following:

Criteria:

A. Ensure the compatibility of new development with its surroundings;

B Ensure the delivery of services that meet or exceed established levels of service;

C. Discourage the occurrence of inefficiencies inherent in urban sprawl as defined by Florida Statutes;

D. Strive to decrease identified hurricane evacuation deficiencies;

E. Produce neighborhoods that complement adjacent land uses;

F. Permit mixed use developments which, through the application of appropriate performance standards, juxtaposes neighborhood services and employment centers with residential uses in order to promote efficient use of land; and

G. Encourage open space within residential developments and promote interconnectivity with surrounding land uses through innovative land regulations and bonus incentives.

Residential Land Use Designations
Policy 1.1

The residential land use designations adopted as part of the Future Land Use Map represent maximum density thresholds. Approved densities may be lower than the maximum allowed by a residential land use designation as a result of one or more of the following:

Criteria:

A. Environmental constraints identified in applicable objectives and policies of the Conservation Element which impose more stringent density guidelines;

B. Land use compatibility pursuant to Administrative Policy 3;

C. Unavailability or inadequacy of public facilities and services to accommodate adopted density allowances, as set forth in Policy 1.2 and the policies found in the 'Service Delivery, Concurrency and Growth' section of this Element as well as related objectives and policies in the Capital Improvements Element;

D. Character of the general area, pursuant to Administrative Policy 4;

E. Hurricane evacuation capabilities; and

F. Policies established in specialized plans as may be adopted by the Board of County Commissioners.

Public Facilities and Services Requirements
Policy 1.2

Minimum public facilities and services requirements should increase as residential density allowances become higher. The following criteria shall serve as guidelines for approving new residential land use designations:

Criteria:

A. Adequate roadways, solid waste disposal, drainage and recreation facilities to serve the needs of associated development shall be available concurrent with development in all residential land use designations.

B. Fire and police protection and emergency medical services to serve the needs of associated development shall be available concurrent with development in all residential land use designations in accordance with policies set forth in the 'Service Delivery, Concurrency and Growth' section of this Future Land Use Element.

C. In the Residential 30, Residential 15, Residential 10, Residential 6 and Residential 4 land use designations, centralized potable water and wastewater treatment shall be available concurrent with the impact of the development.

D. Where public water service is available, residential development proposals with densities greater than four units per acre shall be required to connect to a centralized sewer system.

E. Where public water service is not available, residential development proposals with densities greater than two units per acre shall be required to connect to a centralized sewer system.

F. The County shall not extend public utilities and services outside of established service areas to accommodate new development in Residential 2, Residential 1 and Residential 1:2.5 land use designations, unless an overriding public benefit can be demonstrated. This criterion is not intended to preclude acceptance of dedicated facilities and services by the County through MSBU's, MSTU's and other means through which the recipients pay for the service or facility.

Residential 30 (maximum of 30 dwelling units per acre)
Policy 1.3

The Residential 30 land use designation affords the highest density allowance, permitting a maximum density of up to thirty (30) units per acre, except as otherwise may be provided for within this element. Parameters for this future land use designation include:

Criteria:

A. The Residential 30 land use designation may be considered for lands within the following generalized locations, unless otherwise limited by this Comprehensive Plan.

1. Areas located east of Interstate-95; and

2. Unincorporated enclaves located within or adjacent to incorporated areas which permit similar or greater density allowance; or

3. Areas adjacent to existing Residential 30 land use designation; and

4. Areas with direct access to an arterial or collector roadway, without impacting existing or designated lower density/intensity areas.

B. In the Merritt Island Redevelopment Area, Brevard County should encourage high density development in clustered patterns that maximize the provision of open space to avoid the impacts of "strip" or "checkerboard" land use patterns and to assist in the development of an urban atmosphere. The Residential 30 land use designation may permit development in excess of 30 units per acre, provided that one of the following applies:

1. Residential density of up to 37.5 dwelling units per acre, may be considered if approved as part of a redevelopment plan; or

Water-Related and Water-Dependent Industrial Uses
Policy 3.9

Waterfront parcels may be designated for Heavy/Light Industrial land use to satisfy unique locational needs for water-dependent and water-related industrial activities, provided that such activity is compatible with surrounding existing and programmed development and is consistent with these Industrial land use policies. Appropriate locations for water-dependent and water-related industrial land uses shall be based upon the following minimum criteria:

Criteria:

A. Only water-dependent industrial land uses, which must be carried out only on, in or adjacent to water areas, may be considered for location along the Indian River lagoon system.

B. Water-related industrial land uses shall be considered only on the uplands adjacent to Class III waters of the Indian River lagoon system. Water-related uses are those which are not directly dependent upon access to a waterbody but which provide goods and services to uses which are water-dependent.

C. Directives, policies and criteria in the Coastal Management and Conservation elements of this Comprehensive Plan which address water-dependent and water-related land uses shall be utilized in the location of industrial uses adjacent to waterbodies.

AGRICULTURAL LAND USES

Objective 4
Brevard County recognizes the importance of agricultural lands to the community as the industry benefits the economy, reduces the extent of urban sprawl, and the costs of providing public facilities and services, provides environmental benefits, and provides open space and visual beauty. The County shall enhance and protect agricultural lands, and provide for the continuing viability of the agricultural industry in the County's economy.

Permitted Uses in Agricultural Land Use Designation
Policy 4.1

Appropriate and adequate lands shall be designated Agricultural on the Future Land Use Map. Agricultural activities include, but are not limited to, row, vegetable and fruit crop production, dairy, poultry and livestock production, aquaculture, silviculture, horticulture, and apiariculture. Large lot residential development which does not impede the use of lands for agricultural purposes shall be permitted in this land use

designation. The following minimum criteria shall govern activities in this land use designation:

Criteria:

A. Residential densities shall not exceed one dwelling unit per five (5) acres.

B. The County shall not extend public utilities and services outside of the service areas to Agricultural areas for new development, unless there is an overriding public benefit which accrues to an area larger than the specific Agricultural area. However, the County will accept facilities through dedication, and provide services and utilities through MSBU's, MSTU's and other means through which the recipients pay for the service or facility.

Maintenance of Agricultural Designated Lands

Policy 4.2

Brevard County shall support voluntary federal, state and private acquisition and incentive programs for the maintenance of agricultural lands as opposed to eminent domain procedures.

Policy 4.3

Agricultural lands which are unique to Brevard County should be identified and programs for the protection of such lands should be evaluated as part of each Evaluation and Appraisal Report.

Criteria:

A. Unique agricultural lands would be those lands in Brevard County which possess the physical and chemical conditions for a high level of production with a low level of input. Other factors to be used in defining these lands would include the location, growing season, climate, moisture supply, or technique utilized.

B. Programs to be considered for protection of these agricultural lands should include, but not be limited to voluntary agricultural districts, time-certain dedications, purchase or transfer of development rights, and voluntary fee simple purchase of agricultural lands.

Policy 4.4

Brevard County shall support the Florida Greenbelt Law, Chapter 193, Florida Statutes, in an effort to provide incentives for agricultural property owners to maintain their lands in agriculture.

Policy 4.5

Brevard County shall encourage the use of cost-sharing programs and technical assistance offered through agencies such as the Soil & Water Conservation District to assist in the application of technology to conserve water and land resources.

CONSERVATION LAND USES

Objective 5

Brevard County shall protect the natural and historic resources in the County from the adverse impacts of development, and coordinate development with appropriate topography and soil conditions.

Conservation Future Land Use Designations

Policy 5.1

The following two (2) conservation land use designations are adopted as part of the Future Land Use Map:

- Public Conservation
- Private Conservation

Public Conservation Lands

Policy 5.2

The Future Land Use Map shall designate lands as Public Conservation to provide for the protection of publicly held environmentally sensitive areas. The Public Conservation future land use designation is intended to accommodate lands and facilities which are managed by federal, state and local governments. Such uses shall conform with the following minimum criteria:

Criteria:

A. The Public Conservation land use designation should include lands under the ownership of Brevard County, the St. Johns River Water Management District, or other such agencies, for the purpose of environmental protection, publicly owned lands within the Environmental Area (EA) zoning classification, and publicly owned areas in which it is demonstrated that the preservation of environmentally sensitive resources will provide an overriding public benefit.

B. Development activities within lands designated as Public Conservation shall be consistent with the specific policies in the Conservation Element related to natural resources, and the intent of this Comprehensive Plan.

Exhibit MWS-2

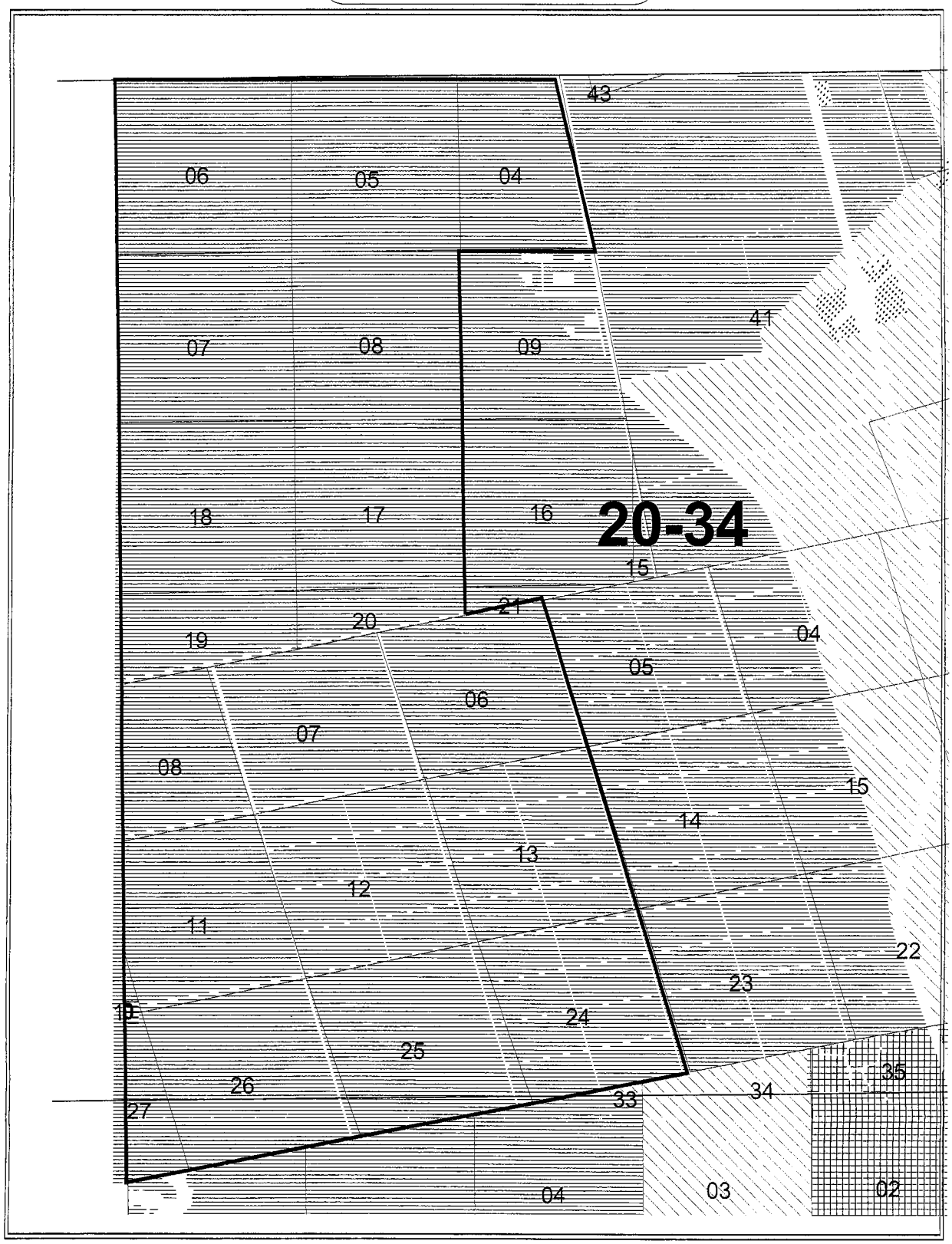
Future Land Use Map Covering Area Identified in the

Farmton Application

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 021256-WU EXHIBIT NO. 22
COMPANY/ BREVARD County
WITNESS. Mel W. Scott (MWS-2)
DATE 06/22-23/04

FARMTON
FUTURE LAND USE MAP
Townships 20 and 21, Range 34

N



SCALE: 1" = 3000 Feet

SUBJECT PROPERTY BOUNDARY

FUTURE LAND USE DESIGNATIONS

DIRECTIVE	IND	PUB	RES 1:2.5	RES 10
AGRIC	NC	PUB-CONS	RES 2	RES 15
CC	PLNIP	REC	RES 4	
DRI	PRIV-CONS	RES 1	RES 6	

Exhibit MWS-3

Brevard County Comprehensive Plan

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 021256-WU EXHIBIT NO. 23
COMPANY/ Volusia County
WITNESS. John Thomson (JT-1)
DATE 06/22-23/04

BREVARD COUNTY COMPREHENSIVE PLAN GLOSSARY

Acceptable Level of Service - the minimum standard adopted in this Comprehensive Plan for a service level on public facilities and services such as roadways, sanitary sewer, potable water, drainage, solid waste and parks.

Access - the physical attributes of a site/facility which enable a person and his attendant means of transportation, to enter a site/facility; See Public Access.

Acquire - to come into possession or control of.

Acre-foot (acre-feet) - the quantity which is equal to one acre of land covered by one foot of water.

Active Recreation - are those recreational uses which require a greater degree of physical exertion and involvement, and which contribute to the physical and mental well-being of an individual. Active recreation facilities typically require the alteration of land, vegetation, topography, or other natural features unless developed on a previously impacted site. Includes, but is not limited to, activities such as tennis, baseball, golf, football, etc.

Adequate - able to satisfy a requirement.

Adequate Housing - a housing unit which is suitable for human occupancy, which has working indoor plumbing, an adequate heating system, and is in safe structural condition. May have some housing code violations consisting of minor repairs and upkeep which can be corrected by relatively inexpensive means.

Affordable Housing - a dwelling unit is considered to be affordable when a household spends no more than 30 percent of its gross income on housing costs. Rental housing costs include contract rent and utilities. Owner occupied housing costs include mortgage principal and interest, property taxes, insurance, and where applicable, homeowner's association fees.

Agriculture - activities within land areas which are predominantly used for the cultivation of crops and livestock including: cropland, pastureland, orchards, vineyards, nurseries, ornamental horticulture areas, groves, confined feeding operations, specialty farms, and silviculture areas.

Ambient (water or air) Quality - the background quality or condition of water or air.

Amenities - attractive or positive natural, historical or cultural features such as the beaches, riverfronts, historic landmarks, museums, etc.

Aquaculture - the culturing of aquatic plants and animals for human use.

Aquatic Preserves - those sovereignty lands established by the state of Florida and managed under the provisions set forth in Chapters 253 and 258 of the Florida Statutes.

Attain - to reach an end; to arrive by effort.

Average Weekday Volume - average 24-hour traffic volume based upon a minimum of 48 hours of continuous counting between 12:01 a.m. Monday to 12:01 a.m. Friday.

Backlogged Facilities - infrastructure that is deficient and for which there are no planned or programmed improvements in the Capital Improvements Element.

Balanced Housing Market - a market situation where housing opportunities are equally distributed across an area according to the cost, size, type, location, and density of housing units.

Base Flood Elevation -- the height, expressed in feet above sea level, of the highest level of floodwaters occurring in the regulatory base flood.

Berm -- a mound of sand piled by wind and waves just above the ordinary limit of waves at high tide or a manmade structure used to isolate or contain surface waters. A berm can also be defined as a man-made mound of earth, in excess of two feet in vertical height, used to shield or buffer properties from adjoining uses, highways, or noise, or to control the direction of surface water flow.

Best Evaluation Practices - the best practices relating to procedures, processes, data and information, that are feasible but dependent upon the availability of resources, personnel, professional expertise, state-of-the-art equipment, and other similar components contributing to the accuracy of analytical efforts.

Best Management Practices - erosion control methods such as those described in "Stormwater Management Manual" (1981), the "Florida Development Manual: A Guide to Good Land and Water Management" (June, 1988), manuals adopted by the Environmental Regulation Commission pursuant to rule 1725.050 F.A.C.

Billboard Sign - any permanently affixed sign that is erected and maintained for the purpose of advertising services, accommodation, products, or activities that are not available on the premises on which the sign is located. Size limitations for billboards are contained in the zoning code.

Biological Diversity – the millions of plants, animals, microorganisms, and the intricate ecosystems they help build into the living environment and which is typically considered at three levels: 1 – species diversity; 2 – genetic diversity; 3 – community diversity.

Blowout -- a natural or man-made hollow or pass eroded from a sand dune.

Boat Slip (Wet or dry slip) - an area within a boating facility which is intended for the mooring or storage of a vessel.

BrevCEMP - Brevard County Emergency Management Plan; mandated by Chapter 252, Florida Statutes (State Emergency Management Act), serves to integrate and coordinate comprehensive emergency management plans and programs of the state and federal governments. This document establishes a framework through which Brevard County may prepare for, respond to, recover from, and mitigate impacts resulting from a wide variety of disasters and emergency events that could adversely affect the health, safety and/or general welfare of the visitors and citizens located in Brevard County.

Buffer -- open spaces, landscaped areas, fences, walls, berms, or any combination thereof used to physically separate or screen one use of property from another so as to visually separate, ameliorate, reduce, mitigate, shield, or block the adverse impacts of noise, lights, or other nuisances.

Bulkhead -- a retaining wall built along a body of water behind which fill is placed.

Building - any structure that encloses a space used for sheltering any occupancy, such as residential, business, industry, or other private or public services.

CCL - Brevard County Coastal Construction Control Line; the FDEP's old Coastal Control Line (CCCL) which was recorded by the State of Florida in 1975 and adopted by Brevard County Ordinance (Ord. 85-17). This line was adopted by Brevard County so that the Brevard County Coastal Setback Line (CSL) could be established.

CCCL - FDEP's old Coastal Construction Control Line as recorded by the State of Florida on March 21, 1975.

CSL - the Brevard County Coastal Construction Setback Line; a line 25 foot landward of the established Brevard County Coastal Control Line (CCL or CCCL).

Canaveral Port Authority - a distinct entity whose governing body of five elected Commissioners is responsible for the administration, development, and operation of the seaport and its supporting uplands. The Port Authority also may issue bonds and levy property taxes; they also publish their own tariffs, building regulations, and land use controls.

Capital Budget, Annual - the first year of the Capital Improvements Program serves as the current year's capital budget.

Capital Improvement - any construction, land acquisition, equipment purchase, or rental proposal that costs $25,000 or more and has a five (5) year or longer expected service life. Projects which may cost less than $25,000 which are considered necessary for the implementation of any long-term improvement, including implementation of the adopted Comprehensive Plan, shall also be considered a capital improvement.

Capital Improvements Program - a five (5) year program for the construction and financing of new public facilities. The Brevard County Capital Improvements Program shall be consistent with the Schedule of Improvements and Funding in the Capital Improvements and Programs Element of the Brevard County Comprehensive Plan. A Capital Improvement Program may also be the capital improvement program of a governing body that provides either roadway, solid waste, potable water, sanitary sewer, parks and stormwater management services to the unincorporated area of Brevard County, such as the Metropolitan Planning Organizations Transportation Improvement Program.

Centralized Sewer System - any collection, treatment and disposal sewer system that is not a septic tank (i.e. package plants and public sewer systems), and requires FDER permits as opposed to HRS permits.

Class I Waters - waters utilized as a source of potable water supply as determined by the Florida Department of Environmental Regulations and defined within Chapter 17-3, F.A.C.

Class II Waters - waters utilized for shellfish propagation and harvesting as determined by the Florida Department of Environmental Regulations and defined within Chapter 17-3, F.A.C.

Class III Waters - all waters within Brevard County except those designated by the Florida Department of Environmental Regulation as Class I or Class II; those which are part of a designated stormwater management system; or those that are man-made waterbodies that do not have a direct surface water connection to open water.

Coastal Floodplain - the area susceptible to being inundated by waters from the Atlantic Ocean from a given storm event.

Coastal High Hazard Area (Zone) - those areas that are defined as category 1 evacuation zones.

Coastal Zone - the area within the watershed of the Atlantic Ocean and the Indian River Lagoon system. It also includes the barrier islands, Merritt Island (a remnant barrier island) and that portion of the mainland which drains into the lagoon.

Commercial Development Node - terminology for a Neighborhood Commercial (NC) activity area (see Commercial Land Use Designations). A commercial development node should not exceed one acre at each corner of an intersection of collector/arterial or collector/collector roadways.

Commercial Land Use Designations - Land use designations which permit commercial development activities of varying intensity and service radii. These are based upon factors which consider locational standards, accessibility, potential service areas for activities, compatibility with surrounding land uses, the availability of public facilities and services, and environmental constraints. These land use designations include:

> **Neighborhood Commercial (NC)** - a classification providing for low impact commercial development nodes serving the needs of the immediate residential area. These activities include convenience stores and personal service establishments and are appropriately located at intersections of collector/arterial or collector/collector roadways.
>
> **Community Commercial (CC)** - a classification providing for commercial development activities which are intended to serve several neighborhoods and sub-regional areas. These activities include an array of retail, personal services and professional uses and are appropriately located at intersections of principal/minor arterial intersections. Collector/arterial intersections are acceptable locations provided that the said roadways serve multiple residential areas.

Community Commercial Cluster - an agglomeration of Community Commercial (CC) development activities of up to 10 acres in size.

Community Park - a large natural and/or landscaped area preferably with a minimum of two (2) acres provided per one thousand (1,000) individuals in a planning area.

Concurrency - the established minimum acceptable levels of services are available and are sufficient to accommodate a proposed development.

Conservation Area - an area established to preserve significant ecological systems, and natural resources.

Conservation Land Use Designation - land use designation intended to accommodate lands and facilities which are managed by federal, state and local governments. Residential uses to accommodate park rangers or other authorized personnel to manage or protect conservation lands are permitted at a maximum density not to exceed 1 dwelling unit per 50 acres.

Conserve - to keep in a safe or sound state, to avoid wasteful or destructive use of.

Consistent - compatible with; not in conflict with.

Continuing Florida Aviation System Planning Process (CFASPP) - updates the Florida Aviation System Plan, inventories existing facilities, provides an area aviation system plan describing short- medium- and long-term aviation system needs for nine statewide regions.

Coordinate - to work together in a common action or effort; to meet talk, and discuss in pursuit of a shared goal.

Covenant - a contractual agreement between private parties that run with the land, thereby restricting uses that may be made of the property.

Criteria - principles, guidelines, or standards which further describe the intent of an objective or a policy.

Critical Habitat – Designated by the U.S. Fish and Wildlife Service as an area where management is required to protect endangered and threatened species, or to prevent long-term damage to their habitat.

Crucial Habitat – Habitat that is essential to ensure long-term conservation and survival of a viable population of listed species. Critical habitat may include sites for breeding, foraging, and roosting; sites that provide appropriate cover and shelter; and enough surrounding suitable habitat to allow for normal behavior and to maintain the population dynamics of a listed species. Critical habitat may be one or more geographic areas or one distinct area depending upon the distribution, home range, size and dispersal abilities of a listed species.

Cultural Resources - are those resources which are expressive forms that reflect the living dimensions of an area's heritage. May be of historical or contemporary nature and would include folk crafts or skills, dance, music, visual arts, etc.

Current Weekday Volume - determined by the Brevard County Office of Traffic Management and adjusted for seasonal fluctuations prior to April, 1990.

Data and Analysis - information accumulated and evaluated to form the basis of conclusions regarding all subjects of the comprehensive plan. It shall be considered best available, unless new research using acceptable research methodology was conducted during the planning period to generate more current information. Data and analysis do not represent goals, objectives, policies, or criteria, and unless stated otherwise, represent best available data only.

Defer - to postpone; to not grant a development order or permit until a public facility or service is available at its established minimum acceptable level of service to support the impact of the development order or permits.

Deficiency - the measured impact of a development proposal which will quantitatively exceed the existing established minimum acceptable level of service for a public facility or service.

Deficient Facilities - infrastructure operating below the adopted acceptable level of service.

Demonstrated Good Cause - good cause shall be demonstrated by the existence of special conditions and circumstances preventing timely performance by the applicant, where such special conditions and circumstances occurred during a required review and comment procedure involving a governing body or agency with jurisdiction, but were not the result of any action or inaction by the applicant. The determination of whether good cause has been demonstrated shall be by the applicable permitting official or authority.

Desirable Level of Service - the preferred level of service for public facilities and services that may or may not be attainable even though pursued.

Develop - to set forth, to evolve the possibilities of.

Development - the term "development" means the carrying out of any building activity, the renovation, rehabilitation or remodeling of any structure, the alteration of land, the dividing of land into three or more parcels, or the establishment of flag lots or access easements. The following activities or uses shall be taken for purposes of this Plan to involve "development" as defined:

1. A reconstruction or alteration of the size of a structure on the land.

2. A change in the intensity of use of land, such as the increase in the number of dwelling units in a structure or on land or a material increase in the number of businesses, manufacturing establishments, offices, or dwelling units in a structure or on land.

3. Alteration of a shore or bank of a seacoast, river, stream, lake, pond, or canal, including any "coastal construction" as defined in S.161.021, Florida Statutes.

4. Commencement of drilling, except to obtain soil samples; mining; or excavating on a parcel of land.

5. Demolition of a structure

6. Clearing of land as an adjunct of construction.

7. Deposit of refuse, solid or liquid waste, or fill on a parcel of land.

Development Deferral Zone - includes those areas in which the issuance of development orders impacts the level of service on a deficient roadway.

Development of Regional Impact (DRI) Land Use Designation - land use designation required for projects which meet or exceed the threshold requirements established by Chapter 380, Florida Statutes and Chapter 28-24, Florida Administrative Code.

Development Order - means any order granting, denying, granting with conditions or deferring, an application for a development permit.

Development Permit - includes any building permit, zoning permit, subdivision approval, rezoning, site development plan approval, certification, special exception, variance, or any other official action of local government having the effect of permitting the development of land.

Development Permit, Conditional - the following constitute conditional development permits. For conditional development permits, Brevard County retains authority to initiate the appropriate administrative action, such as an administrative rezoning or permit denial or deferral, considered necessary by the Board of County Commissioners, or its designee, to alleviate or prevent deficiencies on roadway, solid waste, drainage, potable water, sanitary sewer, or park facilities or services.

1. Existing zoning or a rezoning.

2. Any development permit, whose measured impacts would cause a deficiency to occur to a roadway, solid waste, drainage, potable water, sanitary sewer, or park facility or service.

3. Any development permit where specific conditions, standards or criteria are required by the Comprehensive Plan or element thereof, or the Land Development Regulations.

Development Permit, Final - *see Land Development Regulations.*

Development, Cultural - cultural development shall mean any activity or development which improves or enhances the social, educational or cultural goals of Brevard County.

Development, Economic - economic development shall mean any activity or development which furthers or enhances the economic goals of Brevard County.

Direct - to regulate the activities of, to dominate and determine the course of.

Directives - principals or guidelines that provide the general philosophical outlook of Brevard County with regard to the respective elements of the Comprehensive Plan. Directives do not necessarily require specific actions for implementation. However, the level of significance given to directives is commensurate with that for the goals, objectives and policies of the Comprehensive Plan.

Distressed Roadway - a roadway segment which is operating at or above 85 percent of the maximum acceptable volume of the acceptable level of service, but which has not exceeded the acceptable level of service.

Diversify - to give variety; to balance; to engage in a variety of operations.

Easement - an acquired interest in property owned by another, and may be for overall conservation, exterior or facade, or interior preservation.

Effective - producing the desired result.

Efficient - cost effective and not wasteful of resources.

Encourage - to stimulate, spur on, inspire, advocate, give help or patronage.

Endangered Species – Species of animals and plants federally listed under the jurisdiction of the U.S. Fish and Wildlife Service, Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*), or the Florida Fish and Wildlife Conservation Commission, Chapter 39 and 46, Florida Administrative Code (F.A.C), or the Florida Department of Agricultural and Consumer Services, Preservation of Native Flora of Florida Act (s. 581.185-187, Florida Statutes). These are generally any species, subspecies, or isolated population, which is in danger of extinction or extirpation from the State of Florida, throughout all or a significant portion of its range.

Enhance - to improve, to make better (in value, desirability, attractiveness).

Ensure - to make sure, certain; to guarantee.

Environmentally Sound - not contrary to the continued viability of the natural environment or detrimental to public health, safety, and welfare.

Estuarine Floodplain - the area susceptible to being inundated by waters from the Indian River Lagoon System from a given storm event.

Evaluate - to determine the significance or worth of by careful appraisal and study.

Fair Housing Market - a market situation where there is no housing discrimination based on race, sex, marital status, religion, national origin, age, or physical handicap.

Farm - an agricultural enterprise that produces $2,500 of gross product a year.

Finding - a conclusion based upon analyses of the best available data and information regarding the relationship between the use intensity of a development order or permit proposal and the availability of public facilities or services having established minimum acceptable levels of service, to support the proposed use intensity.

Fishery Industry - an industry which produces, harvests, processes, or markets food and other products from ocean or brackish waters.

Floodplains - any area susceptible to being inundated by water from any source; including areas which may or may not have a direct hydrological connection to a surface water body.

Forestry - the art, application, and practice of controlling forest establishment, composition, and growth through sound management techniques, based on the owners management objectives. *See Silviculture.*

G1 - Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very little remaining area, i.e., <2,000 acres) or because of some factor(s) making it especially vulnerable to extinction.

G2 - Imperiled globally because of rarity (6-20 occurrences or very little remaining area, i.e., <10,000 acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.

General Aviation Facilities - associated airport activities, which includes terminal space, based and itinerant aircraft parking and automobile parking spaces.

Goal - a general statement of a desired long term end toward which programs or activities are ultimately directed; may be unmeasurable or unattainable.

Growth Management - the control of the location, type, intensity and rate of growth or development, in order to maximize the efficient use of public facilities and services while protecting the values and functions of the natural systems.

Hazardous Material - any material which, because of its physical, chemical, or infectious characteristics, can pose a substantial or potential hazard to human health or safety or the environment when improperly used, treated, stored, transported, or disposed of. A hazardous material generally exhibits one of four characteristics: toxic, ignitable, corrosive, or reactive. Reactive means a material may react violently and/or produce hazardous vapors or gases when exposed to water. A hazardous material can be a liquid, a solid, or a gas, or can exist in different forms dependent on the temperature and pressure of its surroundings.

Hazardous Material Incineration Unit - an incineration unit designed for the reduction or disposal of any material listed on the EPA Hazardous Substance List.

Hazardous Materials Management System - a coordinated set of programs and policies, governmental or non-governmental, whose purpose is to encourage and ensure that hazardous materials in the community are used, transported, stored, and disposed of in a manner which protects the health and safety of citizens and the environment.

Hazardous Substance - can be used interchangeably with hazardous material.

Hazardous Waste - hazardous materials which have outlived their originally intended purpose, and are ready to be disposed of, recycled, regenerated, or otherwise treated or altered.

Heavy Industrial Land Use - land uses which involve the manufacturing of products directly from raw materials. These uses may include indoor and outdoor activities such as cement and concrete production, chemicals and fertilizer processing, lumber mills, foundries and forge works, or paint and plastics production.

Highly Permeable Soils - soils listed in the Brevard County Soil Survey that have a permeability rate greater than twenty inches per hour. These soils are: Astatula (As, At), Basinger (Ba), Canaveral (Ca, Cc), Galveston (Ga), Orsino (Or), Palm Beach (Pb), Paola (PfB, PfD, Ph), Pomello (Ps, Pu), Pompano (Pw), Satellite (Sa), St. Johns (Sb, Sc), St. Lucie (SfB, SfD), Tavares (Ta), Valkaria (Va), Welaka (We).

High Risk Vulnerability Zones - those areas predicted to received sufficient flooding to require evacuation during a Category 1-2, or Category 3-5 storm, as determined by the East Central Florida Regional Planning Council. Please refer to Map 7.

Historic Context - an organizational framework that groups information about related historic properties based on a theme, geographical area and period of time.

Historic District - a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.

Historic Property - a district, site, building, structure, or object significant in American history, architecture, engineering, archaeology, and culture. It may be of value to the Nation as a whole or important only to the community in which it is located.

Historic Resource - any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places; such term includes artifacts, records, and remains which are related to such a district, site, building, structure, or object.

Historic Site - a location of a significant event, a pre-historic or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historical, cultural, or archaeological value regardless of the value of any existing structure.

Household - one or more persons related by blood, adoption, or marriage, living and cooking together as a single housekeeping unit, exclusive of servants, and may include up to two

unrelated persons. Also one or more persons, not exceeding four, living and cooking together a single housekeeping unit though not related by blood, adoption or marriage.

Households with Special Needs - Households which have incomes not exceeding moderate-income and, because of particular social, economic, or health related circumstances, may have greater difficulty acquiring or maintaining affordable housing. Such households may have, for example, encountered resistance to their residing in particular communities, and may have suffered increased housing costs resulting from their unique needs and high risk of institutionalization. Persons within such households may include, but are not limited to, persons with Acquired Immune Deficiency Syndrome (AIDS) and Human Immunodeficiency Virus (HIV) disease; runaway and abandoned youth; public assistance recipients; migrant and seasonal farm workers; refugees and entrants; the elderly; and disabled adults.

Housing - buildings or other structures in which people live that provide shelter, a link to the neighborhood and community, a sense of belonging, a sense of social status, and that constitutes an investment.

Housing Stock - refers to housing supply, the housing which is available for sale or rent.

Housing Unit - a house, apartment, group of rooms, or a single room occupied or intended for occupancy a separate living quarters.

Hydrologic Basin -- the region or area that supplies a particular body of water or aquifer.

Hydroperiod -- a means of expressing the average timing of water retention or flows through a specified area.

Identify - to establish the identity of, location or existence of.

Impervious Surface Area -- the aerial extent of any material that prevents or resists penetration by fluids and absorption of stormwater into the ground.

Implement - to carry out, to give practical effect to and ensure of actual fulfillment by concrete measures.

Implementation Strategy - the translation of management policies into operational programs.

Improve - to make more acceptable or bring nearer to some standard.

Indigenous – occurring or living naturally in an area (native).

Indian River Lagoon - the area including the Indian River, the Banana River, Sykes Creek, and Newfound Harbor. Unless specifically excluded, the Indian River Lagoon shall also include

the tributaries of these waters. The terms Indian River Lagoon system and Indian River Lagoon may be used interchangeably.

Indian River Lagoon Program - refers to the combined Indian River Lagoon Surface Water Improvements and Management Plan (SWIM) and National Estuary Programs.

Indian River Lagoon System - see Indian River Lagoon.

Industrial Land Use Designations - areas in which industrial land uses of varying intensities are permitted. They are designated utilizing factors which include demonstrated future need, existing industrial development and zoning trends, land use compatibility, availability of public facilities and services and environmental constraints. Industrial land use designations include the following:

> **Heavy/Light Industrial** - permits light industrial activities (such as manufacturing, assembling, fabricating and warehousing which are generally conducted indoors); heavy industrial activities (which involve the manufacturing of products directly from raw materials and include both indoor and outdoor activities); and water-related/water-dependent industrial activities.
>
> **Planned Industrial** - permits industrial development activities possessing Planned Industrial Park (PIP) and Planned Business Park (PBP) zoning classifications. Activities occur within enclosed buildings and may include manufacturing, assembling, fabricating, warehousing and retailing as well as hotel and motel accommodations that serve the travel needs of employees or clients associated with firms within this land use designation. Marinas are also permitted within this land use designation.

Intensive Historic Resource survey - systematic, detailed inventory designed to identify precisely and completely.

Interbasin Diversion -- the transport or redirection of surface water from its natural hydrologic basin to a different one.

Invasive Exotic – A nonindigenous living organism.

Isolated Floodplain - the area susceptible to being inundated by waters which are not riverine, estuarine, or coastal from a given storm event.

Isolated Wetlands - wetlands which are not directly connected to open water, but exhibit the other characteristics of wetlands.

Joint-Use Agreement - a cooperative arrangement between two or more jurisdictions to provide for the combined use of a particular facility or service.

Landfill - a facility for the disposal of solid wastes; the facility does not does not accept liquid or hazardous waste.

Level of Service Management Plan - a plan providing strategies to maintain or improve the level of service on roadways while accommodating the impacts of development.

Light Industrial Land Use - land uses involving manufacturing, assembling, fabricating and warehousing activities which are generally conducted indoors, such as that found in machine shops, bottling and canning works, boat building, and freight or trucking terminals.

Listed Species – Species of animals and plants legally protected as endangered, threatened, or as species of special concern by federal and state laws.

Low Income Household - are those households whose incomes are between 50 to 80 percent of the area's median income.

Maintain - to keep in an existing state; to support or provide for; to bear the expense of.

Market - includes local, state, regional, national, and international buyers.

Maximize - to increase to the greatest quantity or extent possible.

Maximum Acceptable Volume - the greatest number of vehicles a roadway segment can carry given the level of service standard established for that segment. The traffic volume equivalent to a specific level of service standard is influenced by several roadway design and operation factors that effect average travel speed, such as traffic signal spacing, number of lanes, area type, peak hour traffic levels and roadway type.

May - to have the permission to.

Merritt Island Redevelopment District - the area on Merritt Island bounded by Merritt Avenue to the north, Newfound Harbor to the east, Fortenberry Avenue to the south, and the Indian River Lagoon to the west.

Mini-Parks - small areas intended primarily for the use of children up to the early elementary grades in high-density areas.

Minimize - to reduce to the least quantity possible.

Mining - the act or process of removing minerals or other resources from the land including mining and smelting operations, borrow pits, and commercial borrow pits as defined within the Code of Brevard County.

Mitigation -- methods used to alleviate or lessen the impact of development.

Mobile Source Emissions -- a moving source of pollution such as an automobile.

Moderate Income Household - are those households whose incomes are no greater than 120 percent and no less than 80 percent of the area's median income.

Morphological - associated with the study of form and its development, including the study of cell structure, tissue structure, and external anatomy.

Mosquito Impoundment -- a body of water confined by a dam, dike, floodgate or other barrier for the purpose of controlling the reproduction of salt marsh mosquitoes.

Native Vegetation -- plant species that naturally occur in and are indigenous to a specified geographic area.

Natural Resources - the actual and potential forms of wealth supplied by nature that possess a value and function within the natural systems and which are essential for the perpetuation of life.

Natural System - the complex network of natural resources in which no resource is capable of functioning independently of the other resources in the network.

Natural Water Body - occurring normally; a water system occurring in conformity with the ordinary course of nature; not originally created through man's activities, not artificial. May include those normally occurring water bodies which have been dredged or channelized.

Neighborhood Commercial (NC) Land Use Designation - see definitions of Commercial Land Use Designations.

Neighborhood Parks - designed to serve both active and passive short-term activities. Typically these parks average five (5) to fifteen (15) acres in size, with a minimum of two (2) acres of park land for every one thousand (1,000) people served in a planning area.

New Town Overlay - development standards set forth in the Comprehensive Plan for large scale mixed use projects which are at least 1,500 acres in size.

Nonfunctional Wetland - a nonfunctional wetland is a wetland which has a water regime that has been permanently altered, either artificially or naturally, in a manner to preclude the area from maintaining surface water or hydroperiodicity necessary to sustain wetland function. This does not apply to wetlands that have had their water regime illegally altered.

Non-point Source - stormwater runoff which is not discharged through a pipe or other identified, specific conveyance mechanism.

Noxious Species - undesirable plant species, including, but not limited to, *Schinus terebinthifolius* (Brazilian Pepper); *Malaleuca quinquenervia* (Malaleuca, Cajeput Tree); *Casuarina spp.* (Australian Pine); *Eucalyptus spp.* (Eucalyptus); and *Enterolobium contortisiliquem* (Ear tree).

Object - a construction that is primarily artistic in nature or is relatively small in scale and simply constructed. Although it may be, by nature or design, movable, an object is associated with a specific setting or environment, such as statuary in a designed landscape.

Objective - a statement that is more specific than a goal and identifies the steps necessary for the satisfactory pursuit of a goal; normally measurable and attainable.

Obtain - to gain or attain usually by planned action or effort.

Offshore Emergent Vegetation -- aquatic or marine plants whose canopy continuously or frequently extends above water level.

Onsite Sewage Disposal System: any domestic sewage treatment and disposal facility, as defined by Florida Administrative Code Section 10D-6.42(29), including standard subsurface systems, gray-water systems, laundry wastewater systems, alternative systems or experimental systems, installed or proposed to be installed on land of the owner or on the land to which the owner of owners have the legal right to install a system.

Open Space - lands and water not covered by structures including agriculture, which are suitable for passive recreation or conservation use.

Open Space System - a continuous or near-continuous network of open space areas within the pattern of development, including both public and private lands, that provide for passive recreation, conservation, and visual relief from expanses of development.

Outstanding Florida Waters - those water bodies afforded special protection and described within Rule 17-3.041, F.A.C. and designated under the authority of Chapter 403 of the Florida Statutes.

Overcrowded Housing - are those housing units which contain more than 1.00 person per room.

Package Treatment Plant - a sewage treatment facility that is prefabricated off-site and assembled on-site.

Parallel Roadways - a roadway or group of roadways of a lower classification that provide alternate routes for a primary roadway, and which serve similar origin and destination points.

Passive Recreation - recreation uses are considered passive where very minimum alteration of vegetation, topography or other native feature is necessary, for the enjoyment of the site amenities. Activities which are considered passive include, but are not limited to, hiking, bicycling, nature observation, camping, non-motorized boating, rowing, swimming, picnicking, archaeological or historic preservation.

Pedestrian Way - a transportation facility designed for use by pedestrians which may be used by other forms of non-motorized transportation.

Person - any corporation, individual, partnership, association, or other entity.

Planned Industrial Park Land Use Designation - land uses intended for the location of light, clean industrial land uses in "clusters". These uses may include indoor activities such as manufacturing, assembling, fabricating, warehousing and retailing. Hotel and motel accommodations that serve the travel needs of employees for clients associated with firms within the planned industrial parks would also be appropriate. Marinas could also be considered for location within this land use designation.

Planned Unit Development - a development, usually phased and of a large scale, which provides a mixture of land uses and densities, incorporates open space through the clustering of land uses, and permits flexibility in the development design.

Point Source - a source, such as a pipe, from which stormwater or wastewater is discharged.

Policy - a statement that is more detailed than an objective and provides guidelines for specific actions which will satisfy particular objectives.

Population – The total number of people inhabiting a specified area or the total number of inhabitants of a particular race, class, or group in a specified area. For biological purposes, the definition of population is a collection of individuals belonging to the same species and living in the same area.

Power Boat - Any vessel which is primarily propelled or powered by an internal combustion engine and which is used or is capable of being used as a means of navigation or transportation on water. Sailboats with auxiliary engines are not considered powerboats for the purpose of this plan. For the purpose of this plan powerboat and motorboat are synonymous.

Preserve - to keep intact.

Prime Farmlands - those lands which, due to the presence of the right combination of physical and chemical conditions, consistently produce a high level of output with minimal fertilizer, labor and energy requirements.

Private Wastewater Treatment Plant - a wastewater treatment plant of small capacity, usually between five thousand and one million gallons per day. Private treatment plants are those facilities that provide wastewater services to a localized community because of the absence of a publicly owned facility. These may be purchased as a package from a vendor and assembled from prefabricated components on the site. Private wastewater treatment plants with capacities of under one hundred thousand gallons per day may be purchased pre-assembled.

Privatization - the transfer of public sector services and responsibilities to the private sector.

Promote - to contribute to the growth or prosperity of; to help bring into being; to present for public acceptance.

Protect - to shield from injury or destruction.

Provide - to supply what is needed for sustenance or support; to supply for use.

Public Access - the ability of the public to physically reach, enter or use public sites, facilities and activities and shores.

Public Facilities - transportation, sewer, solid waste, drainage, potable water, fire and police protection, emergency medical, educational, parks and recreation, and public health systems and facilities.

Public Facilities Land Use Designation - land use designation which permits activities and improvements which relate to government-managed transportation, sanitary sewer, potable water, solid waste, drainage, conservation, education, government service systems and other utilities such as gas, electric, telephone and cable.

Public Services - the programs and employees determined necessary by local government to provide adequate operation and maintenance of public systems and facilities.

Pursue - to find or employ measures to obtain or accomplish.

Reconnaissance Survey - a cursory inspection of an area, most useful for characterizing its historic or other resources in general and for developing a basis for deciding how to organize and orient more detailed historic or other resource survey efforts.

Recreation - the pursuit of leisure time activities occurring in an indoor or outdoor setting.

Recreational Land Use Designation - land use designation which permits public recreation activities.

Recreational Vehicle Parks - activities intended to serve the needs of tourists and seasonal (up to six months) residents and provide lodging for visitors with recreational vehicles, travel trailers and camping equipment as well as supportive facilities such as laundries, bathing facilities, and recreation areas. Activities are located in Community Commercial (CC) land use designations. Densities for Recreational Vehicle Parks shall not exceed 10 units per acre.

Recycling - the reuse of materials and/or wastes.

Redevelopment - activities or projects in an area to eliminate and prevent the development or spread of slums and blight, or to provide affordable housing, whether for rent or sale, to low and moderate income households; or to generate renewed economic activity and development.

Regional Park - ideally, there should be a minimum of twenty (20) acres per one thousand (1,000) individuals or a minimum of one park per County wide area. The regional park is usually the largest of all parks, and typically serves an area encompassing one county or region of adjacent counties, depending on population concentrations of the counties, size, and location generally resource-oriented and designed to blend highly specialized recreational facilities with the natural environment.

Regulatory Discharge - discharges of water from canals in order to regulate the water level of lands within the drainage basin of the canal.

Rehabilitation - the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural and cultural values.

Reliever Aviation Facilities - general aviation airports designated by the Federal Aviation Administration as alternatives to busy commercial service airports for business and cargo aircraft traffic.

Relocation Housing - those dwellings made available to households displaced by public programs, provided that such dwellings are sound, safe and sanitary and within the financial means of the households displaced.

Resident - a person who makes his/her home in a particular place, may be of permanent or temporary status and would include both existing and future residents and special populations.

Residential Land Use Designations - areas designated on the Future Land Use Map for use in providing housing including single-family, multi-family, and mobile home dwelling units. Residential land use designations stipulate varying density allowances which are based upon various factors, including the availability of public facilities and services, compatibility with surrounding land uses, and environmental constraints. These land use classifications are defined as follows:

Residential 30 - a classification providing for a maximum residential density of thirty (30) dwelling units per acre, unless otherwise established by the Comprehensive Plan

Residential 15 - a classification providing for a maximum residential density of fifteen (15) dwelling units per acre, unless otherwise established by the Comprehensive Plan.

Residential 6 - a classification providing for a maximum residential density of six (6) dwelling units per acre, unless otherwise established by the Comprehensive Plan.

Residential 4 - a classification providing for a maximum residential density of four (4) dwelling units per acre, unless otherwise established by the Comprehensive Plan.

Residential 2 - a classification providing for a maximum residential density of two (2) dwelling units per acre, unless otherwise established by the Comprehensive Plan.

Residential 1 - a classification providing for a maximum residential density of one (1) dwelling unit per acre, unless otherwise established by the Comprehensive Plan.

Residential 1:2.5 - a classification providing for a maximum residential density of one (1) dwelling unit per two and one-half (2.5) acres, unless otherwise established by the Comprehensive Plan.

Resource Recovery - the process of obtaining materials or energy from wastes; recycling.

Retention (surface water) -- a drainage technique that retards or detains runoff or discharge to enhance groundwater recharge and reduce erosion and surface water pollution, such as a retention basin, parking lot storage, porous pavement, dry well, or any combination thereof.

Reverter Clause - a clause in a deed which stipulates that unless certain conditions are followed, ownership of the property involved will return to the conveyor or to a designated third party.

Riverine Floodplain - the area susceptible to being inundated by waters from the St. Johns River, freshwater Lakes, and freshwater tributaries to the Indian River Lagoon System from a given storm event.

Roadway Network - the vehicular and pedestrian traffic circulation system including roads, bicycle paths and lanes, sidewalks, and traffic control devices.

Runoff -- (aka surface runoff) the portion of precipitation or irrigation on an area that flows across the ground surface as sheet or stream flow to natural or manmade catchment basins without returning to the atmosphere nor infiltrating the soil to recharge groundwater.

S1 - Critically imperiled in state because of extreme rarity (5 or fewer occurrences or very little remaining area) or because of some factor(s) making it especially vulnerable to extinction.

S2 - Imperiled in state because of rarity (6-20 occurrences or little remaining area) or because of some factor(s) making it very vulnerable to extinction throughout its range.

Schedule of Improvements and Funding - that schedule prioritizing capital facilities and services adopted as part of the Capital Improvements and Programs element of the Brevard County Comprehensive Plan.

Seawall -- a wall or embankment that acts as a breakwater and is used to prevent erosion of the walled off area.

Seagrass Coverage (%) - Seagrass coverage shall be determined on a project site during the months of May through October. The percent coverage of seagrass is determined by counting short shoots in a one square meter ($1m^2$) plot frame that has been evenly subdivided into one hundred square cells. The plot is placed every five meters (5m) along a minimum of three (3) transect lines perpendicular to the shoreline and extending to the end of the project site. The transect lines are to be evenly spaced along the project site shoreline with one transect located at the middle of the site and one at each end of the project site. Transects shall be no greater than fifty meters (50m) apart. If the project site is greater than one hundred meters (100m) in width, additional transects shall be added at a rate of one for every fifty meters (50m) of shoreline. If ten of the sample plot frames contain ten percent (10%) or more seagrass, then the final coverage for the site is greater than or equal to ten percent (10%). The project site is defined as that area within which boats will be docked. If the project site and the shoreline are not contiguous then the first plot frame shall be placed at the intersection of the project site and the transect line.

Setback -- the distance between a structure and any lot line.

Shall - expresses a command, must express what is mandatory, to be done at all times without deviation.

Shelter Space - facilities usable for the purpose of providing safe sheltering for "at risk" population. Pubic shelters must be able to provide protection from *surge inundation, flooding* and *high winds*. Shelter space is considered to be both public and private facilities. Public

shelters are identified by two categories; *general population* and *special needs*. Private shelters consist of structures privately owned.

Shoreline - the edge of a body of water, where the water and the uplands meet.

Shoreline Protection Buffer - a setback established from the mean or ordinary high water line or safe upland line whichever the applicant chooses. Within the shoreline protection buffer, passive recreation, hunting, fish and wildlife management open space, nature trails and limited amounts and types of shoreline access facilities shall be allowed. The amounts and types of development allowed within the shoreline protection buffer and other development restrictions are found in Conservation Element Policies 3.3, 3.4, and 3.5.

Should - expresses obligation; mandatory action necessary unless it can be clearly demonstrated that: a. Strict application will be contrary to the public interest; b. The public values being protected are insignificant and strict application will result in an excessive hardship to the project; c. Strict application will place an excessive hardship on the project, and an alternative action is available which is equal to or superior than the original requirements in reaching the policy's objective, and; d. The activity is not financially feasible for the local government.

Significant Manatee Habitat Features - each of the following five habitat features is considered significant as described.

1. Seagrass - 5% or more seagrass present on the proposed project site is considered significant.
2. Manatee Abundance - five (5) or more observations/overflight within a 5 mile radius of the site. If more than one survey falls within the 5-mile radius, the number of manatees observed will be counted for each survey, divided by the number of overflights and then the normalized values will be summed.
3. Significant Manatee Mortality - the number of watercraft mortality within a 5 mile radius, divided by the total number of watercraft mortalities in Brevard County, A value of 0.03 or larger is considered significant.
4. Manatee Freshwater Source/Calving/Cavorting/Feeding/Resting Area is within a 1/2 mile of the proposed site.
5. The proposed site is in a Class II Waterbody, Outstanding Florida Waterway (OFW), or an Aquatic Preserve.

Silviculture - the art, application, and practice of controlling forest establishment, composition, and growth through sound management techniques, based on the owners management objectives. *See Forestry.*

Solid Waste - sludge from a waste treatment works, water supply treatment plant, or air pollution control facility; or, garbage, rubbish, refuse, derelict vessels, junk vehicles, and other

discarded material, including solid, liquid, semisolid, and contained gaseous material resulting from domestic, industrial, commercial, mining, agricultural, or governmental operations.

Source Reduction - the practice of reducing the generation of waste at the source of production. Potential source reduction methods include redesign of processes to minimize waste production and the use of safer substitute materials in manufacturing process.

Special Populations - a subset of the resident population which includes those persons with special housing needs such as the elderly, single parent families, handicapped, transients and family-deprived.

Special Use Parks - there are parks and recreational facilities which do not conform to existent standards and have special uses including recreational vehicle parks, nature trails, golf courses, conservation areas, airport parks and wildlife sanctuaries.

Specialized Incineration Unit - an incineration unit designed for the reduction or disposal of material that poses a threat to the environment when it is left untreated (e.g., bio-hazardous material).

Species - a group of individuals that potentially breed among themselves and do not breed with other groups (biological definition) or a group of individuals that are morphologically, physiologically, or biochemically distinct from other groups in some important characteristic (morphological definition of species).

Species of Special Concern - Species of animals listed under the jurisdiction of the Florida Fish, Game and Wildlife Conservation Commission, Chapters 39 and 46 F.A.C. These are generally any species, subspecies, or isolated population that is likely to become a threatened species, or a species that meets certain criteria for threatened status but where conclusive data is limited or lacking.

Spoil Islands -- dirt, rock, or waste material that has been removed from its prior location, often the bottoms of waterways, and deposited as emergent mounds.

Standard - a rule set up and established by authority for the measure of quantity, weight, extent, value or quality; a criterion on which a judgment or decision may be based.

Strive - to endeavor; to devote serious effort or energy.

Structure - anything constructed or erected, the use of which requires rigid location on the ground or attachment to something having a permanent location on the ground.

Substandard Housing Suitable for Rehabilitation - a housing unit which is suitable for human occupancy but which has some degree of hazardous conditions to the health or safety of the occupants. Also, a housing unit which is structurally sound but has visible degrees of

deterioration and several housing code violations but all of which are economically feasible to correct.

Substandard Housing not Suitable for Rehabilitation - a housing unit which is structurally unsound and which possesses a serious and immediate threat to the health and safety of the occupants. Also, a housing unit which is not suitable for occupancy and the conditions or code violations are not economically feasible to correct. Would include units damaged by fire, storm, or other natural causes.

Substantially Surrounded - when a parcel of land is bordered on two sides by land developed as commercial or industrial. Such commercial or industrial development should abut the subject land.

Suitability – Means the degree to which the existing characteristics and limitations of land and water are compatible with a proposed use or development. (Form 9J-5.003(134)).

Support - to promote the interests or causes of; to uphold or defend as valid or right, advocate; to argue or vote for; to pay the costs of; to favor actively in the face of opposition.

Surface Water -- water on the earth's surface exposed to the atmosphere as rivers, lakes, streams, and oceans.

Threatened Species – Species of animals and plants federally listed the jurisdiction of the U.S. Fish and Wildlife Service, Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*), or the Florida Fish and Wildlife Conservation Commission, Chapters 39 and 46, Florida Administrative Code (F.A.C.), or the Florida Department of Agricultural and Consumer Services, Preservation of Native Flora of Florida Act (s. 581.185-187, Florida Statutes). These are generally any species, subspecies, or isolated population, which are likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Tourist Commercial Development Activities - activities intended to serve the needs of tourists and seasonal residents and include hotels, motels and support activities such as restaurants, gas stations and souvenir shops. Varying densities for hotel/motel activities are set forth within the Comprehensive Plan. Such activities are located in Community Commercial (CC) land use designations, unless otherwise provided in the Comprehensive Plan.

Toxic Material - a type of hazardous waste that causes harm to humans or other organisms by entering the organism and interfering with normal life functions, as opposed to corrosive, ignitable, or reactive materials which cause damage by physical proximity or contact.

Transfer Station - a facility for the temporary collection of solid waste prior to transport to the processing facility.

Transient Commercial Development Activities - activities intended to serve the needs of the overnight visitor and are located in Community Commercial (CC) land use designations.

Transitional Level of Service - a temporary acceptable level of service for a specific facility or service not to exceed 12 years, but which shall realistically reflect the minimum timeframe necessary to establish a funding source and/or remove affecting obstacles, and proceed with an appropriate improvement effort.

Tributary - a natural stream or other natural water body that flows, falls or empties into another water body. This definition is not to include non-point sources.

Turbidity -- a thick, hazy condition of air or water due to the presence of suspended particulates or other pollutants.

Type 1 Aquifer Recharge Areas - those areas which are within the City of Titusville's Area of Critical Concern, or are within five hundred (500) feet of a public water supply well or within the boundaries of a development that proposes a public water supply well provided that this area serves to recharge the aquifer from which the well draws and which have highly permeable soils.

Type 2 Aquifer Recharge Areas - those areas which are not classified as Type 1 aquifer recharge areas and are above 30 feet mean sea level and have highly permeable soils.

Type 3 Aquifer Recharge Areas - those areas which have highly permeable soils and are below 30 feet mean sea level.

Unique Farmlands - those lands which possess a special complement of location, soil characteristics, growing season and moisture supply that result in high productivity for specialty crops such as fruits, vegetables and vineyards.

Units Per Acre - the number of residential units allowed as a maximum per acre. This term may describe an aggregate density over a large tract or a building lot size.

Urban Sprawl - a land development pattern characterized by the location of development in areas where public facilities and services cannot be provided efficiently.

Urban-District Park - generally contain 100 to 499 acres and serve several communities in the metropolitan area.

Utility Corridor - an inter-county corridor established for rail transportation of persons and/or cargo and one or more of the following: the location of lines for the transmission of water, electricity, communications, petroleum products, products of a public utility (including new technologies of a public utility nature), or materials.

Very Low Income Household - a household which possesses a household income of less than 50 percent of the median income.

Water Dependent Uses - activities which can be carried out only on, in or adjacent to water areas because the use requires access to the water body for: waterborne transportation including ports and marinas; recreation; electrical generating facilities; or water supply.

Water Enhanced Uses - activities which are not water dependent but whose value is increased due to location along the water. This increased value is not related to the increased property values of water-front property. Water enhanced uses include restaurants, some upland recreational areas and tourist attractions.

Water Quality -- a measure of the levels of pollutants occurring within a specified area of a waterbody.

Water Related Uses - activities which are not directly dependent upon access to a water body, but which provide goods and services that are directly associated with water-dependent or waterway uses. These land uses include bait and tackle shops, and boat sales and rentals.

Watershed -- the region or area of land that drains water, sediment, and dissolved materials to a common outlet or body of water.

Water's Edge Wetlands - wetlands which are a transitional area between dry land and open water.

Wetland Functionality - is determined by the ability of the wetland to provide a diversity of habitat and food sources for aquatic and wetland-dependent species, and for threatened and endangered species and species of special concern; to provide flood storage capacity; to provide for the protection of downstream and offshore water resources from siltation and pollution; or to provide for the stabilization of the water table. (from Chapter 62-3691, Brevard County Code of Ordinances). In considering the functional value of wetlands, the degree of alteration, uniqueness, landscape diversity, and proximity to water bodies should be considered.

Wetlands - wetlands as defined by the Florida Department of Environmental Protection (FDEP) and St. Johns River Water Management District (SJRWMD) methodology, soil types, hydrological requirements, and vegetation types.

Wildlife and Open Space Corridor - a widespread, continuous or near-continuous system of wildlife habitat that is established by linking wildlife preserves, sanctuaries, refuges, parks or open space areas to provide a pathway for wildlife movement.

Wildlife Habitat - An area that provides an animal with food, water, and shelter and that also provides the spatial requirements that facilitate breeding, foraging, roosting, and resting.

Acronyms

BCC	Brevard County Board of County Commissioners
CCL	Brevard County Coastal Control Line (Ord. 85-17).
CCCL	FDEP's old Coastal Construction Control Line (1975).
CSL	Brevard County Coastal Setback Line
CCMP	Coastal Conservation and Management Plan
DCA	Department of Community Affairs
DRI	Development of Regional Impact
ECFRPC	East Central Florida Regional Planning Council
EPA	Environmental Protection Agency
FDEP	Florida Department of Environmental Protection
IRL	Indian River Lagoon
LPA	Local Planning Agency
NEP	National Estuary Program
NRCS	Natural Resources and Conservation Service (previously the Soil and Water Conservation District)
PLRG	Pollution Load Reduction Goals
SAV	Submerged Aquatic Vegetation
SJRWMD	St. Johns River Water Management District
SWIM	Surface Water Improvement and Management
SACOE	United States Army Corps of Engineers

EXHIBIT JT-1

CHAPTER 1

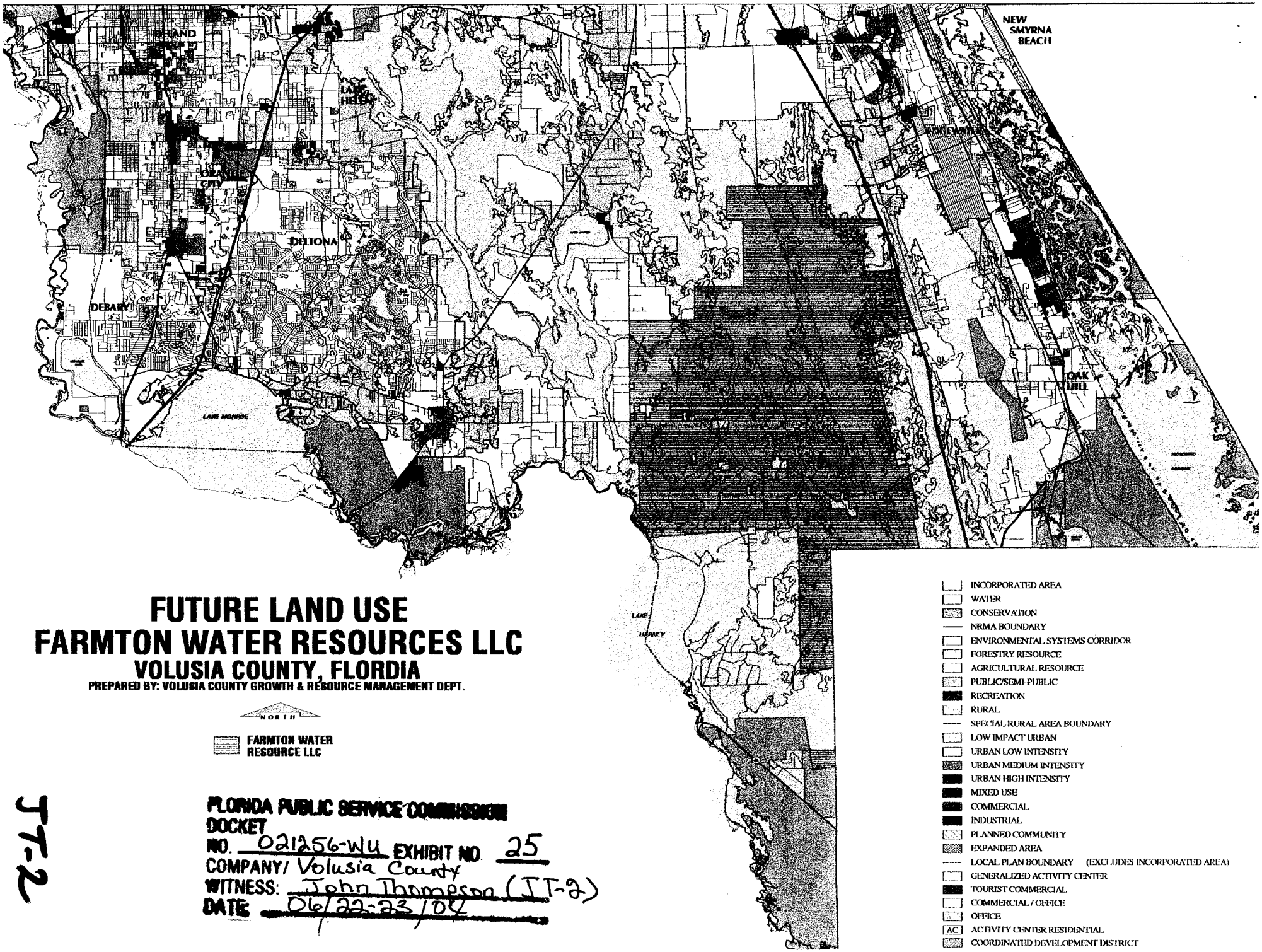
FUTURE LAND USE ELEMENT

A. OVERVIEW:

The Future Land Use Element establishes the pattern of land uses and location of urban growth for Volusia County through 2020. This Element represents the growth policy from which Volusia County ensures that physical expansion of the urban areas are managed (1) at a rate to accommodate projected population and economic growth; (2) in a contiguous pattern centered around existing urban areas; and (3) in locations which optimize efficiency in public service delivery and conservation of valuable natural resources.

The Future Land Use Element identifies locations in Volusia County where various land uses and intensities of use will be permitted to occur in the future. It establishes and articulates broad policy in keeping with the traditional role of the comprehensive plan as a framework for future development.

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 021256-WU EXHIBIT NO. 24
COMPANY/ Volusia County
WITNESS: John Thomeson (JT-1)
DATE: 06122-23/04



FUTURE LAND USE
FARMTON WATER RESOURCES LLC
VOLUSIA COUNTY, FLORDIA

PREPARED BY: VOLUSIA COUNTY GROWTH & RESOURCE MANAGEMENT DEPT.

NORTH

FARMTON WATER RESOURCE LLC

JT-2

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO. 25
COMPANY/ Volusia County
WITNESS: John Thompson (JT-2)
DATE: 06/22-23/04

B. FUTURE LAND USE CATEGORIES:

The Future Land Use categories are declared to be a part of the adopted Future Land Use Policies.

General categories have been developed to help in the determination of where development should occur in the next 20 years. These categories are described below:

2. Natural Resource Management Areas (NRMA) - Volusia County contains expanses of relatively uninterrupted environmentally sensitive areas which need to be managed as part of a system. Among the functions these areas support are a wide range of wildlife species; continually help recharge the County's groundwater supply; ensure high quality surface waters; and provide recreation, aesthetic and open space areas that have become an integral part of the quality of life for Volusia County residents. It is the intent of the Natural Resource Management Area land use category to ensure that the development that does occur within its boundaries does not adversely impact the quality and quantity of existing resources. Development standards established for land use activities within the NRMA are more restrictive for the same uses falling outside the NRMA; such standards are set forth in the Conservation Element. In effect, the NRMA provides a mechanism to protect environmental site features without depriving a landowner the use of his property. The areas targeted for the NRMA include: the Talbot and Pamilico Terraces; Turnbull Hammock (particularly from S.R. 442 south); the headwaters of Tomoka River and Spruce Creek; Rima Ridge; immediate drainage basins of the Tomoka Basin, Mosquito Lagoon/Indian River and Strickland Bay, and the St. Johns River Valley.

   The NRMA, consists of three subcategories. The environmental standards and safeguards are presented in the Conservation Element. The three subcategories are: Environmental System Corridor, Forestry Resources and Low Impact Urban. Each is described in more detail below. The NRMA may also contain the future land use categories of Conservation, Agriculture Resource, and Rural. These categories may be applied inside the NRMA where existing site characteristics indicate they would be appropriate. In those instances, development within the above three future land use categories must also meet the requirements of the NRMA.

   a. Environmental System Corridor (ESC) - These consist of important ecological corridors consisting of environmentally sensitive and ecologically significant lands. Land use activities occurring within these corridors shall not degrade these natural functions and connections. The intention is to provide protected, natural pathways which connect to other protected areas such as parks, conservation lands and water bodies. This inter-connection helps maintain the ecological integrity and ecodiversity of the County's vast natural resources.

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DOCKET
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WITNESS: John Thompson
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ESC's shall include significant interconnected natural systems of environmentally sensitive lands, connecting to and including conservation areas where possible. The ESC's are not intended to include pre-existing improved, cultivated, or developed lands unless such lands contain unique or exceptional ecological value. Conservation and silviculture, utilizing Best Management Practices (BMP's), will be the preferred use, however, other compatible passive agricultural activities may also be permitted such as, unimproved pasture. The primary consideration of compatible agriculture should be potential adverse impacts to the short and long term ecological stability of the system, as well as adjacent lands and waterways. The residential density after the effective date of the Comprehensive Plan shall not exceed 1 dwelling unit per 25 acres.

The Environmental System Corridor configuration displayed on the Future land Use Map is intended to show a generalized location for the corridor. The actual boundaries will be established after the corridor has been reviewed to determine the boundary in relation to a proposed development based upon site specific information and features. Any adjustments will be included in the next amendment cycle.

b. Forestry Resource (FR) - Land that is primarily suited for silviculture (the cultivation and harvesting of timber for commercial purposes), however, other limited agricultural activities may be appropriate. Forest lands are a multiple-use resource which yields valuable agricultural products while providing wildlife habitat and recreational opportunities. In addition to being a multiple-use resource, the forests in Volusia may provide important environmental functions that may also be components of the land's value for silviculture, limited agriculture, wildlife habitat, protection of watershed lands, the prevention of soil erosion, reduction of stormwater runoff, and provision of high quality groundwater recharge. The Forestry Resource category was developed to help provide protection to the silviculture business in Volusia County, in recognition of the need for adequate timber resources and to protect the value of the land for forest purposes and significant environmental purposes as well. Over the years, the conversion of timber lands to other agricultural uses has occurred. Due to the various soil types occupied by forested lands, many areas can be incorporated into agricultural management activities other than silviculture. Expansion of the fern industry and pasture land have been the major cause for the timberland conversion, but many other agricultural uses have been established as well. In addition to protecting the timber industry, the Forestry Resource category is also intended to permit limited agricultural activities. This category is intended to preserve and protect farms for personal and limited agricultural production or to provide a transition to valuable natural resources. To ensure protection of natural resources, agricultural uses

occurring within the Forestry Resource category should be consistent with the Natural Resource Conservation Service and other agricultural best management programs.

The residential density after the effective date of the Comprehensive Plan shall not exceed 1 dwelling unit per 20 acres. In order to protect residential development from normal silviculture activities, clustering of residential dwelling units may be appropriate (refer to Policy 1.2.3.3). The clustering of units will provide opportunities to:

- retain open space;
- provide buffers to the ESC or as a secondary corridor connection;
- preserve the rural character; and
- maintain significant areas for silviculture and agriculture production

The manner in which a site is developed shall be consistent with the policies contained in the Conservation and Future Land Use Elements and with the County's land development regulations. Increased densities in the range of 1 du/20 acres to 1 du/5 acres may be allowed if part of an existing development or project is developed as a cluster subdivision under Policy 1.2.3.3. In other instances, densities of 1 du/10 acres may be permitted if consistent with Policy 1.2.1.6 or 1.4.1.8.

3. Agricultural Resource (AR) - Areas representing land that is suited for intensive cultivation, ranching, aquaculture, and timber farming. The criteria used to identify these areas include the soil quality, existing or potential value of production, existing agricultural uses, parcel size, ownership patterns, and investment in farming. In order to protect the agricultural industry, it is important that uses incompatible with agriculture, and uses and facilities that support or encourage urban development are not allowed. The residential density after the effective date of the Comprehensive Plan shall not exceed 1 dwelling unit per 10 acres.

C. GOALS, OBJECTIVES & POLICIES:

GOAL:

1.2 Future development shall be designed and located in a manner that protects the County's natural resources, particularly environmentally sensitive areas.

OBJECTIVE:

1.2.1 Future Land Use designations will reflect the inherent capabilities and limitations of the existing natural features of the land.

EXHIBIT JT-3

OBJECTIVE:

1.2.2 Volusia County shall protect natural, and historic resources from the adverse impact of development as outlined in the Conservation and Historic Preservation elements.

OBJECTIVE:

1.3.1 Volusia County shall provide for adequate and appropriate lands for the location of all land use types (residential, commercial, industrial, agricultural, recreational, conservation and public facility) to support the anticipated population and maximize compatibility with existing uses.

EXHIBIT JT-4

GOAL:

12.2 Protect, conserve, and enhance the ecological resources of the County, maintaining their quality and contribution to the quality of life and economic well-being of Volusia County.

OBJECTIVE:

12.2.1 To provide for the protection of areas determined to be environmentally sensitive, and direct growth away from such areas.

POLICIES:

12.2.1.1 Existing, relatively uninterrupted expanses of natural resources contained within the County shall be managed as an individual unit, providing natural resources the highest degree of protection in land development decisions and planning. These lands shall comprise the Natural Resource Management Area (NRMA) established in the Future Land Use Element.

Criteria: Areas to be included in the NRMA shall consist of, in whole or a portion of at minimum: the St. John's River Valley; Talbot Terrace; Pamlico Terrace; Rima Ridge; and Turnbull Hammock. Site specific boundaries shall be based on soils, topographic, and vegetative data, particularly that which is outlined in Policy 12.2.2.1.

12.2.1.2 The County shall promote land use activities compatible with the intentions of the NRMA through the establishment of special use areas, the boundaries of which to be determined by resource data including: ecological community mapping as stated in Policy 12.2.2.1, USGS Topographic maps; National Wetland Inventory maps; Florida Natural Area Inventory records; available wildlife data; and site specific field information if available. At minimum, the following special use areas shall be established:

a. Environmental System Corridor (ESC) - These consist of important ecological corridors consisting of environmentally sensitive and ecologically significant lands. Land use activities occurring within these corridors shall not degrade their natural functions and connections. The intention is to provide protected, natural pathways which connect to other protected areas such as parks, conservation lands and water bodies. ESC's shall include significant interconnected natural systems of environmentally sensitive lands, connecting to and including conservation areas where possible. The ESC's are not intended to include pre-existing improved, cultivated, or developed lands unless such lands contain unique or exceptional ecological value. Conservation and silviculture, UTILIZING BEST MANAGEMENT PRACTICES, will be the preferred use, however, other compatible passive agricultural activities may also be permitted such as, unimproved pasture. The primary consideration of compatible agriculture should be potential adverse impacts to the short and long term ecological stability of the system, as well as

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COMPANY/ Volusia County
WITNESS: John Thompson (JT-4)
DATE: 06/22-23/04

adjacent lands and waterways. All land parcels or lots created for single family dwellings after the effective date of the Comprehensive Plan shall contain no more than 1 dwelling unit per 25 acres.

The Environmental System Corridor configuration displayed on the Future land Use Map is intended to show a generalized location for the corridor. Actual boundaries will be established utilizing the County's vegetative mapping program. Each corridor will be reviewed to determine the boundary in relation to a proposed development based upon site specific information and features and other planning related data. Any adjustments will be included in the next amendment cycle.

b. Forestry Resource - The Forestry Resource category is designated on lands that are primarily suited for silvicultural uses. However, other limited agricultural activities may be appropriate. Silvicultural uses consistent with State prescribed Best Management Practices will be encouraged by the Forestry Resource category.

EXHIBIT JT-5

CHAPTER 7

POTABLE WATER SUB-ELEMENT

A. OVERVIEW

The following Future Land Use categories are considered to be urban and require the provision of Potable Water facilities and services consistent with the Level of Service standards set out.in this Sub-element and the Capital Improvements Element, unless specifically noted elsewhere in the Plan; Urban Low Intensity, Urban Medium Intensity, Urban High Intensity, Commercial, Industrial, Mixed Use, Activity Center, Planned Community, and Low Impact Urban. Each of these categories are described in the Future Land Use Element and are geographically depicted by the Future Land Use Map. Additional requirements regarding potable water service are found in the Future Land Use (Chapter 1), Conservation (Chapter 12), Coastal Management (Chapter 11), and Capital Improvements (Chapter 15) Elements of the Comprehensive Plan.

Proper planning and water resource management require that rainfall conditions and peak demands be monitored to minimize temporary water shortages. The St. Johns River Water Management District (SJRWMD) has designated most of Volusia County as being within a "Priority Water Resource Caution Area". This designation indicates that, given current plans for use, that water supplies will be inadequate by the year 2020. The SJRWMD, in cooperation with local representatives, has undertaken a comprehensive water supply planning process. For these reasons, the conservation and protection of water resources are issues in Volusia County. In addition to the supply of raw water, equal consideration must be given to the quality of water being supplied. Care must be taken to guard against contamination in high volume aquifer recharge areas, in coastal recharge areas, and in wellfield areas.

Potable water service within the unincorporated area represents the complete spectrum of facilities/systems, consisting of individual wells, package plants, and area-wide systems. The majority of these package plants are privately-owned. The area-wide systems serving portions of the unincorporated region include both privately-held and publicly-owned facilities. The publicly-owned systems are either operated by municipalities or the County. In accordance with the provisions of the Comprehensive Plan, the County has, and continues to, negotiate water service area agreements with municipalities. Maps depicting these municipal service areas are included in the supporting documents for this Sub-element. Within these agreed upon areas, the appropriate utility will be the primary provider of water services. Unless provisions are required to recognize any existing water lines in non-urban areas which are within municipal service areas, the County's requirements for connection to potable water service shall remain in full force and effect within these agreed upon service areas.

Throughout the planning period, potable water service issues will likely be raised with respect to:

1. improving existing facilities to County approved service standards;
2. expansion of the water service area to developing areas;
3. maintaining adequate supply and pressure for fire protection;
4. quantity and quality of water treatment; and

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5. planning and funding the maintenance, repair, replacement and extension of the system.

These issues will be addressed in conjunction with standards for level of service, concurrency and capital budgeting improvements.

The areas to be accorded potable water service by the County are depicted by the maps found in the supporting documentation accompanying this Sub-element:

The provision of potable water is intended to adequately accommodate the projected population.

B. GOALS, OBJECTIVES AND POLICIES

GOAL:

7.1 Provide an adequate public supply, treatment, and distribution of potable water for unincorporated Volusia County.

OBJECTIVE:

7.1.1 Volusia County shall require that the following policies which establish minimum level of service standards are met when planning capital improvements and reviewing applications for development approval.

POLICIES:

7.1.1.7 Except as may be otherwise permitted by this Sub-element, the extension of water lines or establishment of central systems of potable water outside of the water service areas (County, municipal, or other established by an adopted service area agreement) shall be prohibited unless said extension or facility construction will mitigate existing or potential problems of public health, safety, or welfare or other exceptions under the guidelines delineated in the Future Land Use Element.

7.1.1.9 Existing privately-owned potable water systems that are not located in an area encompassed by an adopted water service area agreement, a County water service area, Rural Community, Rural Village, or Rural Recreational area, may expand only so long as said expansion is for the purpose of correcting existing or potential conditions which have been determined to be a hazard to the public health, safety or welfare. Expansion of said systems will require that the facility comply with the appropriate level of service standards and other applicable County rules and regulations.

7.1.1.11 Central water is not required for non-urban areas. Lines should only be extended if the absence of such facilities would result in a threat to the public health or safety or a designated rural area is inside an approved water service area with an agreement that describes the method and timing of when these services would be provided, or the Comprehensive Plan is amended to change rural areas to urban areas.

7.1.1.12 Individual potable water wells are only allowed under any one of the following applicable circumstances provided that the well has been approved by the Volusia

County Environmental Management Services Group or other agencies, as appropriate;

a. the lot is not designated for urban land uses by the Future Land Use Map, or

b. the lot is two and a half (2-1/2) acres in size or larger and is designated as either Low Impact Urban or Urban Low Intensity by the Future Land Use Map and the lot is within a single family subdivision (new or previously approved under Volusia County Ordinance 72-2 or 88-3, as amended), or

c. The potable water well is installed in conjunction with the construction of a single family residence on an existing single family lot or a new subdivision of six (6) lots or less in size, (exempt or approved under Volusia County Ordinance 72-2 or 88-3, as amended) which is designated for urban land uses by the Future Land Use Map and which the lots are less than two and a half (2-1/2) acre in size provided that;

   I) that central service is currently not available to the lot. Connection to central water service is required when said service becomes available, and

   ii) the lot is not located within a Special Assessment District which has been established for the purpose of installing a potable water system.

or

d. The potable water well is installed in conjunction with non-residential construction on an existing lot (exempt or approved under Volusia County Ordinance 72-2 or 83-3, as amended) which is designated for urban land uses by the Future Land Use Map, provided that central potable water service is not currently available and said well complies with applicable provisions as specified in Chapter 10D-4, Florida Administrative Code. When a central system becomes available, connection to said system is required.

7.1.1.14 The establishment of package treatment plants outside of water service areas is prohibited except for Rural Communities and Rural Recreational Areas may otherwise be permitted by this Sub-element or where the Florida Department of Environmental Protection, or other appropriate agency, has determined that such a facility is necessary to correct existing or potential problems of public health, safety, or welfare.

OBJECTIVE:

7.1.3 Volusia County shall provide adequate (meeting the level of service standard) public potable water sources commensurate with growth to service the needs of Volusia County, as consistent with the carrying/producing capacity of the aquifer.

EXHIBIT JT-5
POLICIES:

7.1.3.1 Volusia County shall participate in the Water 2020 Planning Process in conjunction with the St. Johns River Water Management District and the Volusian Water Alliance, in the development of a regional water supply plan that will provide the quantity and quality needed to meet the needs until the year 2020, without creating water use conflicts or unacceptable impact to natural resources.

7.1.3.2 Prior to 2020, Volusia County shall provide facilities having the capability to access groundwater supplies of sufficient yield to provide the required potable water in the County water service areas.

7.1.3.3 Volusia County shall evaluate additional potential water supply sources and recovery technologies (e.g., reverse osmosis, membrane softening, desalinization) for the County water service areas when considering new or expanded facilities.

OBJECTIVE:

7.1.4 Provide water facility extensions and/or expand the treatment capacity of Volusia County water supply systems to meet the demands of future growth within the respective service areas.

POLICIES:

7.1.4.1 Volusia County shall develop water treatment capacity to process sufficient quantities of potable water to meet the projected long-range (2020) needs described in this Sub-element.

7.1.4.3 Volusia County shall develop a potable water treatment and distribution facilities Master Plan for the County water service areas in Volusia County that is based on year 2020 demand projections and the level of service standards contained in this Sub-element.

7.1.4.4 County water service areas may include undeveloped land inside existing unincorporated urban areas where the developer agrees to provide necessary urban services. In this instance the necessary facilities and services are to be guaranteed by an enforceable development agreement. An enforceable development agreement may include, but is not limited to, development agreements pursuant to County land development/utility regulations or an agreement or development order issued pursuant to Chapter 380, Florida Statutes (F.S.).

OBJECTIVE:

7.1.6 Throughout the planning period Volusia County shall maximize the use of existing facilities in the water service areas, so as to discourage urban sprawl.

POLICIES:

7.1.6.4 The "infilling" of urban areas shall be directed to locations where an existing central system of potable water is available and where capacity is adequate to service the intended development or to those areas where funds have been committed for the

provision of adequate capacity, unless otherwise vested under the County's Concurrency Management Ordinance, Vested Rights Ordinance, or Land Development Regulations as may be determined by the County Council.

OBJECTIVE:

7.1.8 Throughout the planning period, Volusia County shall coordinate the provision of potable water service to the unincorporated area so as to ensure the efficient and economical delivery of this service.

CHAPTER 10

NATURAL GROUNDWATER AND AQUIFER RECHARGE ELEMENT

A. OVERVIEW

This Element combines those Chapter 9J-5, F.A.C. requirements for natural groundwater and aquifer recharge.

The overall purpose of this Element is to protect both the quantity and quality of the natural groundwater. This includes both the surficial and Floridan (particularly the Upper Floridan) aquifers. Groundwater levels and water quality are affected by many activities. Solid waste and hazardous waste facilities, underground storage tanks, and septic tanks all have the potential to contaminate groundwater quality, these issues are affected by the Land Use Element which regulates potential contaminate sources and wellfield locations; Transportation Element which determines need (gas stations) and affects location particularly of large public facilities; Intergovernmental Coordination determines effectiveness of a groundwater protection program; and the Capital Improvements Element determines funding. In addition, the Sanitary Sewer Sub-element (reuse or recharge of treated effluent), Potable Water Sub-element (mining of the groundwater to meet demand), Solid Waste Sub-element (potential contaminant sources, including hazardous and biological waste) and Drainage Sub-element (affects how much stormwater is available for recharge) impact groundwater. Those elements should be reviewed for additional restrictions as they relate to recharge and groundwater quality. Deficiencies in federal, state, regional and local rules meant to protect the aquifer from the above potential contaminant sources are addressed and additional aquifer protection measures are proposed. All of these issues are addressed more fully in the supporting documents. The goals, objectives and policies contained herein, provide guidelines and limitations regarding the above issues in order to protect the County's only water supply for the next twenty years and beyond.

B. GOALS, OBJECTIVES AND POLICIES

GOAL:

10.1 Protect the quality and quantity of the surficial and Floridan aquifers, including the Volusia-Floridan sole source aquifer, and protect and enhance the capabilities of the groundwater recharge areas for the present and future water supply of the County.

EXHIBIT JT-5
OBJECTIVE:

10.1.3 Volusia County shall develop a program for its potable water facilities to protect future sources and minimize detrimental environmental effects which may be caused by developing excessive groundwater supplies.

POLICIES:

10.1.3.2 Volusia County, working with the SJRWMD and the Volusian Water Alliance, shall:

a. Restrict additional groundwater development within those portions of coastal Volusia County which are known to contain groundwater of subpotable quality at a depth of less than 100 feet.

b. Permit regional wellfields under their jurisdiction to serve a multipurpose function, such as conservation and passive public recreational facilities.

c. Monitor that the natural aquifer levels are maintained.

d. Encourage water use efficiency through low flow plumbing, water efficient landscaping, etc.

e. If necessary, explore alternative sources of potable water.

CHAPTER 14

INTERGOVERNMENTAL COORDINATION ELEMENT

A. OVERVIEW

The purpose of the Intergovernmental Coordination Element is to coordinate the Volusia County Comprehensive Plan with the comprehensive plans of adjacent local governments and regional and state agencies. This Element also strives to determine and respond to the needs for coordination mechanisms between Volusia County and adjacent local governments and regional and state agencies.

B. GOAL, OBJECTIVES AND POLICIES

GOAL:

14.1 Volusia County shall initiate and/or participate in the intergovernmental coordination mechanisms necessary to ensure consistency among local, county and regional government plans and policies and to resolve any conflicts that may arise.

EXHIBIT JT-5
OBJECTIVE:

14.1.1 Volusia County shall continue communication with adjacent cities and counties and federal, state and regional agencies, among others, via effective formal and informal coordination mechanisms to ensure consistency in planning related matters and to coordinate the impacts of development. The formal and informal mechanisms shall include membership in areawide organizations and multi-level staff communication.

POLICIES:

14.1.1.7 Volusia County shall continue to support and cooperate with the East Central Florida Regional Planning Council and the St. Johns River Water Management District and other appropriate agencies.

CHAPTER 15

CAPITAL IMPROVEMENTS ELEMENT

A. OVERVIEW

The Capital Improvements Element is essentially the facility and financial part of the Comprehensive Plan. This is a mandated element by Chapter 163, Florida Statutes and Rule 9J-5.016. It prescribes what new facilities will be needed to correct existing deficiencies, accommodate new growth plus plan for repair and renovation needs of existing facilities. It also outlines the financing needed to pay for the various capital facilities.

LINKAGES TO THE FUTURE LAND USE ELEMENT AND LAND DEVELOPMENT

B. GOALS, OBJECTIVES AND POLICIES

GOAL:

15.1 Public facilities shall be provided to promote orderly compact urban growth, which is compatible with existing and designated land uses, and with the natural environment.

[URBAN SERVICE AREAS/NEW GROWTH]

OBJECTIVE:

15.1.1 Volusia County shall concentrate public facilities and services to areas that are delineated on the Future Land Use Map with land use categories defined as urban in the Land Use Element.

15.1.1.4 Public facilities and services intended to serve proposed development that are inconsistent with the adopted Future Land Use Element shall not be permitted (unless the Future Land Use Element has been amended in accordance with Florida Statutes and the Florida Administrative Code). A minimum threshold of one dwelling unit per acre and the facility impact of its nonresidential equivalent in terms of either

trips generated or water consumption, wastewater, solid waste generation shall be used as the definition of an urban service area for this policy and element.

15.1.1.5 Central water is not required for non-urban areas. Lines should only be extended if the absence of such facilities would result in a threat to the public health or safety, or a designated rural area is inside an approved water service area with an agreement that describes the method and timing of when these services would be provided, or the Comprehensive Plan is amended to change rural areas to urban areas.

15.1.1.8 Public facilities shall be planned and constructed in a manner that encourages compact urban growth based on proximity to existing central water and sewer systems, accessibility to the major road network (arterials, collectors) at the designated service levels, existing land use patterns and the carrying capacity of the natural environment. The extension of water and sewer lines outside of urban service areas shall be prohibited unless there is a threat to health and safety or other exceptions under the guidelines delineated in the Future Land Use Element.

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO. 29
COMPANY/ FPSC Staff (RHB-1)
WITNESS: Richard H. Burlew Resume
DATE: 06/22-23/09

RESUME

Richard H. Burklew, Jr.
4306 Hield Road
Palm Bay, Florida 32907 (321) 984-8496

EDUCATION

Master of Science, Geology – University of Florida (1988) Thesis entitled *The Hydrologeologic System of Trail Ridge Above the Basal Clays Near Folkston, Georgia.*

Bachelor of Science, Geology – University of Florida (1984)

CERTIFICATION

Professional Geologist , License No. 1453
State of Florida

EXPERIENCE

Supervising Regulatory Hydrologist, SJRWMD, November 2002 to present. Currently supervise a consumptive use permitting and compliance staff of six in the Palm Bay Service Center. Our staff are responsible for permit review and compliance in Brevard, Indian River, Osceola, Okeechobee, and Volusia counties and also well construction oversight in all the above mentioned counties except Volusia. In addition to supervision and training duties, I have served on the Technical Advisory Committee (TAC) for injection well projects. I also have served on the Reuse Coordinating Committee, been called upon as an expert witness on several occasions, and am responsible for reviewing and making recommendations on the more complicated CUP applications in our area.

Hydologist IV, SJRWMD, June 1995 to December 2002. Same duties as described above.

Hydrologist PE/PG, SJRWMD, October 1993 to June 1995. Same duties as described above except our office was not responsible for permit reviews in Volusia County or the Orlando area.

Hydrologist III, SHRWMD, October 1991 to October 1993. Same duties as described above except a reduced staff of four was supervised.

Consulting Hydrogeologist, RGS (USA) Minerals Inc., January 1990 to September 1991. Independent groundwater consultant responsible for heavy mineral mine feasibility studies in Virginia and North Carolina. Work involved supervision of a water quality sampling program; regional water resources investigations including water

budget determinations, well design and installation, aquifer testing and evaluation, and water table contour mapping; analytical modeling; and environmental permitting.

Principal Hydrogeologist, Integrated Environmental Solutions, Inc., June 1989 to January 1990. Water supply department manager/marketer. Project manager for mine plan hydrogeologic investigations.

Hydrogeologist III, G. Warren Leve, Inc., December 1988 to June 1989. Project manager of a pre-purchase environmental assessment, a groundwater monitoring plan for a wastewater treatment plant, a groundwater consumptive use hydrogeologic investigation, and numerous groundwater contamination assessments.

Contract Geologist, E. I. DuPont de Nemours, September 1986 to October 1988. Responsibilities included water table monitoring, water quality sampling, well design and installation, aquifer testing, data analyses, and geologic characterization of heavy mineral placer deposits.

Exploration Geologist, E. I. DuPont de Nemours, Cooperative Education Program, May 1985 to August 1986. Responsible for direction of a drilling program to characterize a heavy mineral placer deposit. Work included logging drill cuttings, locating and supervising the installation of monitor wells, conducting various laboratory analyses of samples collected, geologic mapping, and ore reserve calculations.

PERSONAL Born January 19, 1962. Married with three children.

REFERENCES Available upon request.

Docket No. 021256-WU
G. C. Hartman Exhibit No. R-1
Service Areas and Locations of Major Facilities Within the Areas

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO. 30
COMPANY/ FARMTON REBUTTAL
WITNESS: G.C. Hartman (GCH-R1)
DATE: 06/22-23/04

ORIGINAL

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JOHN R. JENKINS, P.A.
STEVEN T. MINDLIN, P.A.
DAREN L. SHIPPY
WILLIAM E. SUNDSTROM, P.A.
DIANE D. TREMOR, P.A.
JOHN L. WHARTON
ROBERT M. C. ROSE, OF COUNSEL
WAYNE L. SCHIEFELBEIN, OF COUNSEL

MARTIN S. FRIEDMAN, P.A.
VALERIE L. LORD, OF COUNSEL
(LICENSED IN TEXAS ONLY)

April 26, 2004
VIA HAND DELIVERY

Ms. Blanca Bayo
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

C+ Rpr.

RECEIVED-FPSC
04 APR 26 AM 9:48
COMMISSION CLERK

Re: Farmton Water Resources, LLC; Docket No. 021256-WU
Application for Original Certificate
Our File No. 36029.01

Dear Ms. Bayo:

On April 16, 2004 we filed with your office the rebuttal testimony of Gerald C. Hartman on behalf of Farmton Water Resources, LLC in the above-referenced matter.

After review of Exhibit GCH-R1 and GCH-R4 attached to that testimony we determined that the legal description utilized was in error in several respects. Rather than utilize the latest version of the legal description of the service territory, we mistakenly utilized a prior legal description that included references to recorded instruments. This error had previously been corrected with the filing of revised Exhibits to the application in March of 2003.

Therefore, I am including corrected exhibits to the rebuttal testimony of Gerald C. Hartman in the form of Revised Exhibit GCH-R1 and GCH-R4 in order to correct this error and provide the final legal description and map for the territory proposed for service by Farmton as amended. The original and fifteen copies of these revised exhibits are attached hereto to replace those filed with Gerald Hartman's rebuttal testimony on April 16, 2004.

If you have any questions in this regard, please let me know.

Sincerely,

ROSE, SUNDSTROM & BENTLEY

F. Marshall Deterding
For The Firm

AUS
CAF
CMP
COM 3+1 C+ Rpr.
CTR
ECR
GCL 2
OPC
MMS
SEC 1
OTH cover ltr.

RECEIVED & FILED
FPSC-BUREAU OF RECORDS

FMD/tms
cc: Jennifer A. Rodan, Esq. (without attachments)
Edward P. de la Parte, Jr. Esq.
William J. Bosch, III, Esq.
Scott L. Knox, Esq.
Frank Roberts, City Manager

DOCUMENT NUMBER-DATE
04835 APR 26 04
FPSC-COMMISSION CLERK

STATE OF FLORIDA



OFFICE OF COMMISSION CLERK
ANN COLE
COMMISSION CLERK

Public Service Commission

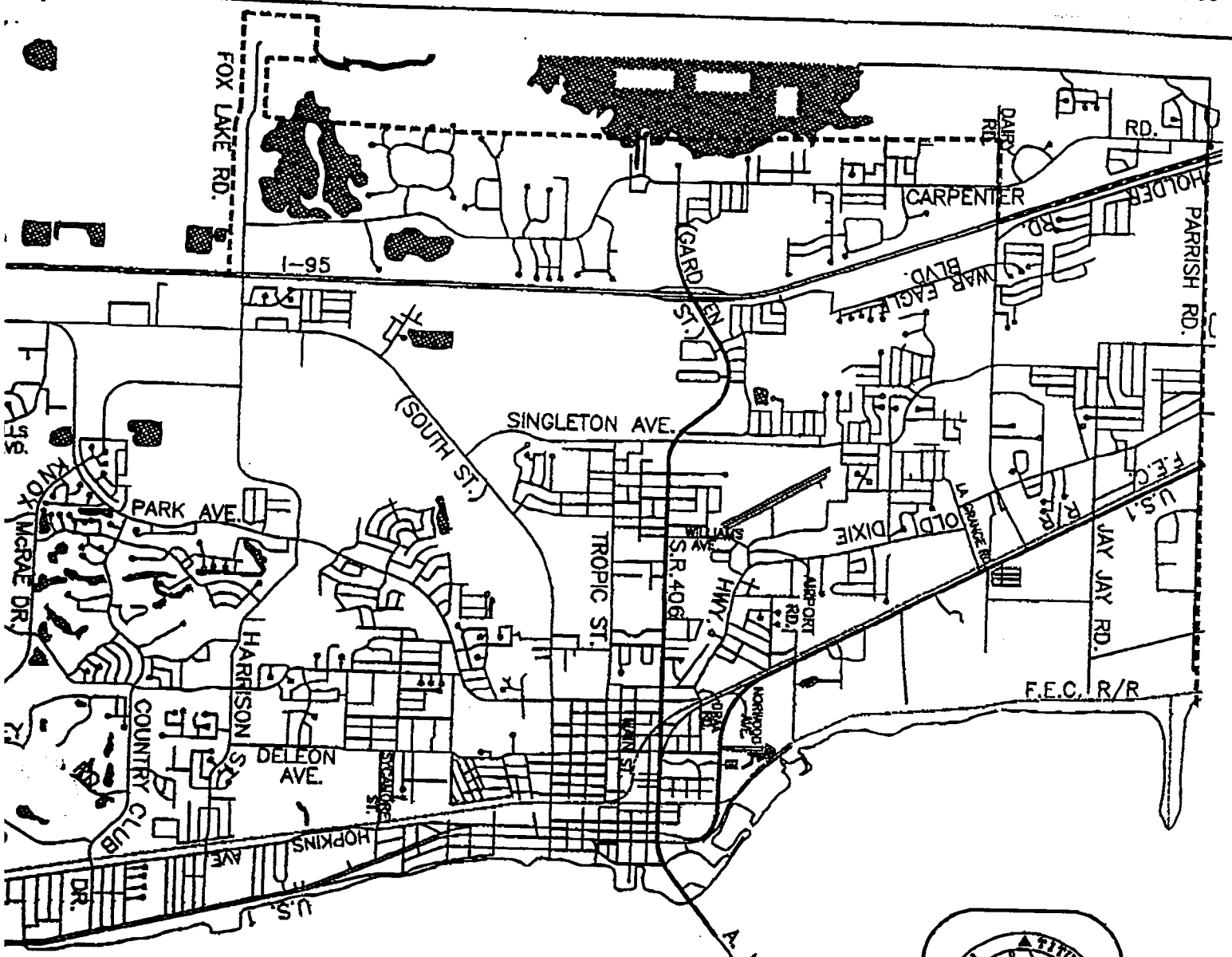
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Docket No. : 021256-WS

Docket Title: Application for certificate to provide water service in Volusia and Brevard Counties by Farmton Water Resources LLC.

DN 04835-04: FARMTON (DETERDING) - FARMTON (DETERDING) - LETTER DATED 4/26/04 WITH ATTACHED REVISED EXHIBIT NOS. GCH-R1 AND GCH-R4 TO REBUTTAL TESTIMONY OF GERALD C HARTMAN. MAP IS NOT IN PDF FORMAT.

[CLK NOTE: MAP PORTION OF EXHIBIT 30 CAN BE FOUND IN MAPS MICROFILM.]



WATER SERVICE AREA

LEGEND

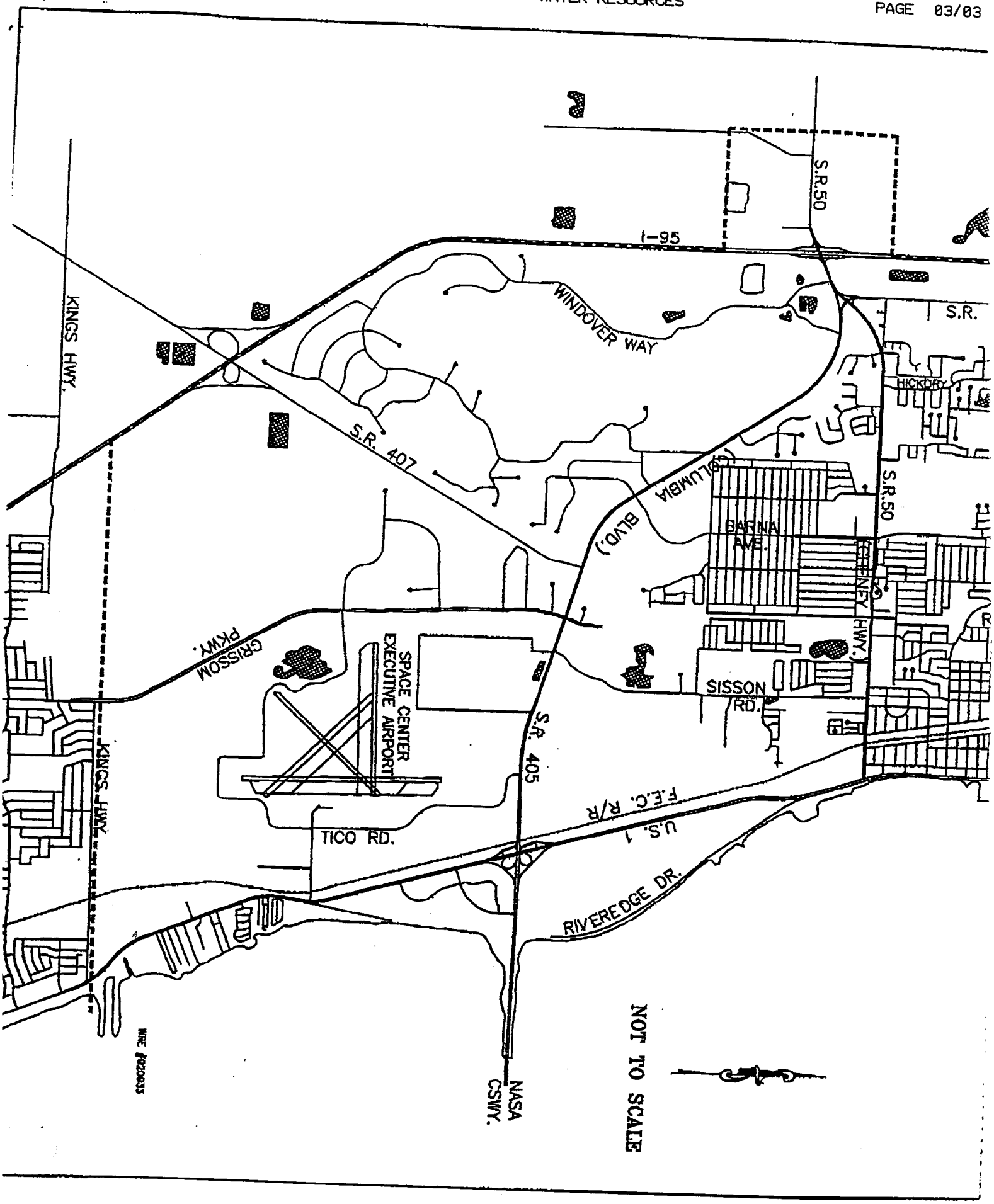
F.E.C. R/R

WATER

TITUSVILLE WATER SERVICE AREA

City of Titusville
WATER RESOURCES
ENGINEERING DIVISION
2536 GARDEN STREET
Titusville, Florida 32796
(407) 268-5077

3


I-95
S.R.50
WINDOVER WAY
KINGS HWY.
S.R. 407
COLUMBIA BLVD.
BARNA AVE.
S.R.50
HICKORY
SISSON RD.
GRISSOM PKWY.
SPACE CENTER EXECUTIVE AIRPORT
S.R. 405
F.E.C. R/R
U.S. 1
TICO RD.
RIVEREDGE DR.
NASA CSWY.
NOT TO SCALE

ORDINANCE NO. 88-0-12

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF EDGEWATER, FLORIDA, PURSUANT TO CHAPTER 180, FLORIDA STATUTES CREATING A RESERVE AREA FOR THE PROVISIONS OF WATER AND WASTEWATER SERVICE FOR THE CITY OF EDGEWATER TO BE KNOWN AS THE GREATER EDGEWATER WATER AND WASTEWATER SERVICR AREA; PROVIDING A LEGAL DESCRIPTION FOR SAID AREA; PROVIDING THAT SAID SERVICE AREA SHALL NOT EXTEND FOR MORE THAN FIVE (5) MILES FROM THE CORPORATE LIMITS FROM THE CITY OF EDGEWATER; PROVIDING FOR WATER AND SEWER AVAILABILITY AND CONNECTIONS AND AVAILABILITY CHARGES; CONTAINING A REPEALER PROVISION, A SEVERABILITY CLAUSE AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Florida Statute Section 180.02 (1985) provides that any muncipality may extend and execute all of its corporate powers applicable for the accomplishment of the purposes of Chapter 180, Municipal Public Works, outside of its corporate limits, as may be desirable or necessary for the promotion of the public health, safety and welfare, provided, however, that said corporate powers shall not extend or apply within the corporate limits of another municipality, and,

WHEREAS, the Local Planning Agency required and recommended that the City Attorney prepare an Ordinance on the subject.

NOW, THEREFORE, BE IT ENACTED BY THE CITY COUNCIL OF THE CITY OF EDGEWATER, FLORIDA:

SECTION 1. Creation; Purpose. There is hereby created under authority of Florida Statutes Section 180.02 (1985) an area defined as the "City of Edgewater Water & Wastewater Service Area" for the purpose of delivering to that area water and wastewater services and exercising within that area the powers provided for by law.

SECTION 2. The Edgewater Water & Wastewater Service Area shall include the described property in Volusia County, attached hereto as Exhibit "A", and by reference incorporated herein as if fully set forth.

SECTION 3. That the Greater Edgewater Service Area shall not extend for more than five (5) miles from the corporate limits from the City of Edgewater, as amended from time to time.

SECTION 4. None of the Greater Edgewater Service Area includes any area within the city limits of any other incorporated municipality.

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SECTION 5. Legal Description. The legal description by metes and bounds of the land in Volusia County, Florida, included within the City of Edgewater City Water & Wastewater Service Area is on file with the city clerk and available for inspection and copying.

SECTION 6. Reference to Greater Edgewater City Service Area. Wherever reference is made in this chapter to the Greater Edgewater Service Area, such reference shall be construed to mean the Greater Edgewater Water & Wastewater Service Area.

SECTION 7. Water and Sewer Availability.

(1) To the full extent permitted by law, all buildings and structures, which are located or constructed on property in the Greater Edgewater Water and Wastewater Service Area and which are adjacent to a public right-of-way or easement that has a water main or gravity sanitary sewer located in it, are hereby required, except as provided in subsection (2) and (3), to connect with and use the services and facilities of the City of Edgewater water and wastewater systems in order to preserve the health, safety and welfare of the citizens and inhabitants of the Edgewater Water and Wastewater Service Area.

(2) A water main or gravity sanitary sewer is considered adjacent or available to a property when it is located anywhere in a public right-of-way or easement adjoining the property. A water main or gravity sanitary sewer will not be considered available in a State Road right-of-way unless it is located on the same side of the paved roadway as the property to be served. When the water main and/or gravity sanitary sewer is available to a property, that property will be billed a water service availability charge and/or a wastewater service availability charge as set forth in Section 19-47.12. The service availability charge will be credited toward the development fee at the time the building or structure located on the property is connected to the City of Edgewater water and/or wastewater systems as set forth in Section 19-42.

(3) If a water main is adjacent or available to a property, and a building or structure located on that property is connected

to an individual well, then that building or structure will be required to be connected to the City of Edgewater's water system when the well system fails, becomes contaminated or experiences a dry well condition or a permit is requested from the Volusia County Health Department or other appropriate authority for a replacement well. If a gravity sanitary sewer is adjacent or available to a property, and a building or structure located on that property is connected to a septic tank system, then that building or structure will be required to be connected to the City of Edgewater's wastewater system when the septic tank fails or a permit is requested from the Volusia County Health Department or other appropriate authority for a septic tank or drainfield replacement.

SECTION 8. Section 19-47.12 of the Code of Ordinances is hereby amended to read as follows:

Credit given against development fee when individuals connect who have been previously paying monthly service availability charges for utility service, although notconnected to the system.

The City of Edgewater City will allow the application of monthly service availability charges paid for water and/or wastewater service as a credit not to exceed the total cost of the development fee assessed to the connector.

SECTION 9. That all ordinances or parts of ordinances and all resolutions in conflict herewith, be and the same are hereby repealed.

SECTION 10. If any section, part of a section, paragraph, clause, phrase or word of this ordinance is declared invalid, the remaining provisions of this Ordinance shall not be affected.

SECTION 11. This Ordinance shall take effect immediately upon its adoption by the City Council of the City of Edgewater, Florida, and approval as provided by law.

This Ordinance was introduced by Councilman Prater.

This Ordinance was read on first reading and passed by a vote of the City Council of the City of Edgewater City, Florida, and approval as provided by law, at a regular meeting of said Council held on the 4th day of April, 1988.

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The second reading of this Ordinance to be at a regular meeting of the City Council of the City of Edgewater, Florida, to be held on the 2nd day of May, 1988.

ROLL CALL VOTE ON ORDINANCE NO. 88-0-12

Mayor	Yes
Councilman-Zone One	Yes
Councilman-Zone Two	Yes
Councilman-Zone Three	Yes
Councilman-Zone Four	Yes

SECOND READING:

Mayor	Yes
Councilman-Zone One	Yes
Councilman-Zone Two	Yes
Councilman-Zone Three	Yes
Councilman-Zone Four	Yes

ATTEST:

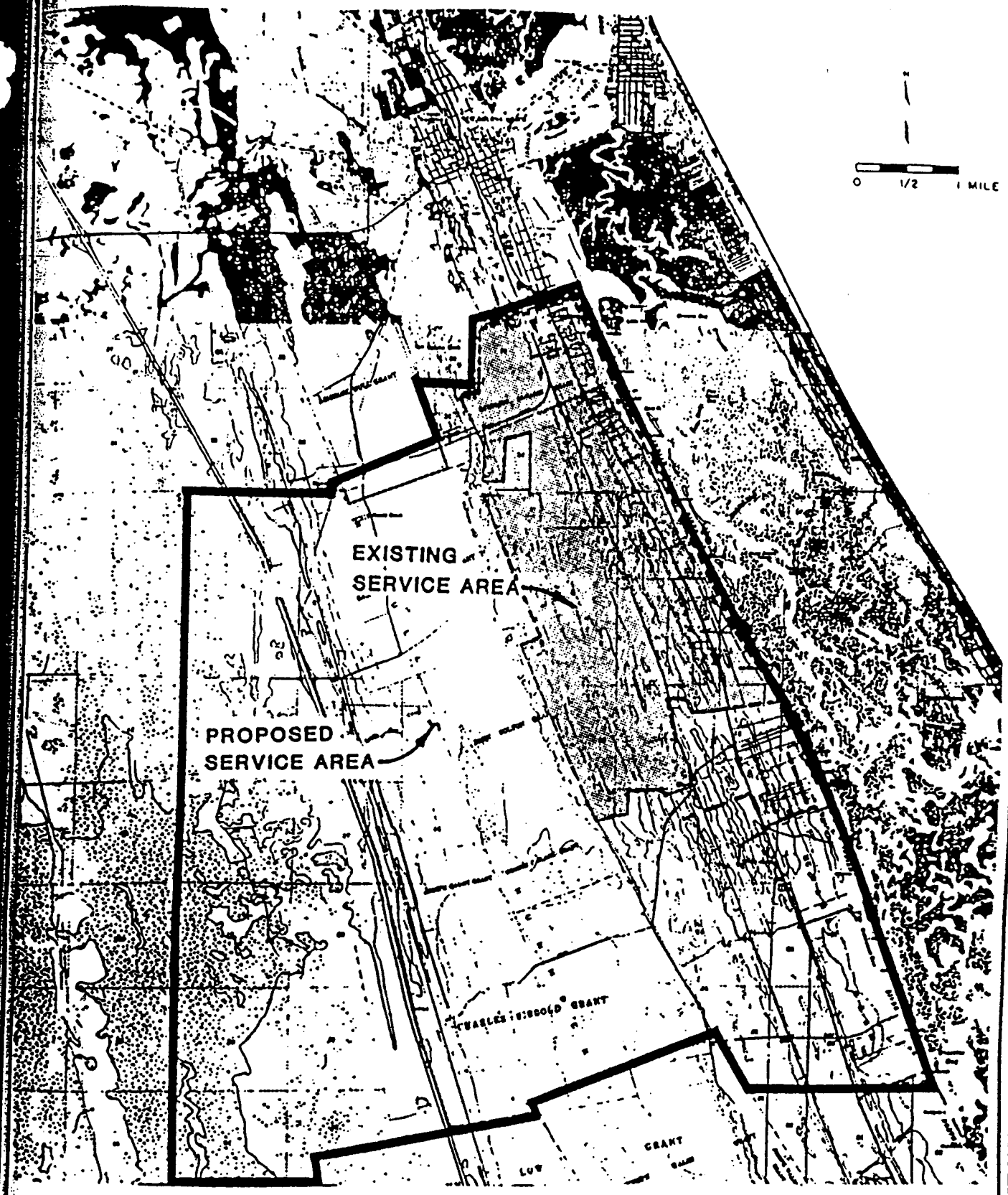
City Clerk

This Ordinance read and adopted on second reading at a regular recessed meeting of the City Council of the City of Edgewater Florida, and authenticated this 5th day of May, 1988.

Mayor

This Ordinance prepared by:

City Attorney



DYER, RIDDLE, MILLS AND PRECOURT, INC.
ENGINEERS • SURVEYORS

CITY OF EDGEWATER

CHAPTER 180 RESERVE AREA

CHAPTER 180 RESERVE AREA:

Beginning at an old stake situated ninety-seven feet (97') East of the center of the bridge South Canal, Gabordy's Canal at its junction with the Indian River North, and the Southeast Corner of the Pedro De Cala Grant also being the southeast corner of the Seymour Pickett Grant, supposed to be located within a few feet of the Northeast corner of said bridge, and on the North shores of said Canal, in Township 17S, Range 34 East; thence Westerly along the South line of said Pickett Grant approximately 5,000 feet to a point. Said point being the Northwest corner of Section 29, Township 17 South, Range 34 East, thence southerly along the west line of said Section 29 approximately 3,070 feet to the North line of the Geronimo Alvarez Grant; thence westerly along the north line approximately 600 feet to the Northwest corner of said Alvarez Grant; thence southerly along the west line of said grant approximately 225 feet to the southeast corner of Section 30, Township 17 South, Range 33 East, thence west along the south line of said Section 30 approximately 2,000 feet to a point on the east line of the Ambrose Hull Grant; thence southerly along said east line approximately 3,000 feet to a point on the north right-of-way line of the Florida East Coast Railroad. Thence westerly along said right-of-way line approximately 6,000 feet to a point on the south line of Township 17 South, Range 33 East. Thence west along said south line approximately 7,500 feet to the northwest corner of Section 6, Township 18 South, Range 34 East; thence south along west line of said Township 18 South, Range 34 East, approximately 35,800 feet to the southwest corner of Section 31, Township 18 South, Range 34 East; thence east along the south line of Township 18 South, Range 34 East, approximately 7,600 feet to a point on the west line of the John Low Grant; thence northerly along said west line approximately 1,800 feet to the northwest corner of said John Low Grant; thence northeasterly along north line of said Grant approximately 11,700 feet to a point on the west line of the Joseph Wales Grant; thence northwesterly along the west line approximately 800 feet to the northwest corner of said Joseph Wales Grant; thence easterly along the north line of said grant approximately 10,000 feet to the northeast corner of said grant; thence southerly along the east line of said grant approximately 3,700 feet to a point on the south line of Section 25, Township 18 South, Range 34 East; thence easterly along the south line of Sections 25 and 30 approximately 5,900 feet to a point on the west line of the McHardy Grant; thence southerly along said west line approximately 200 feet to the southwest corner of said McHardy Grant; thence westerly along south line of said grant approximately 3,600 feet to a point on the center line of the United States Government Main Channel of the Indian River north; thence northerly along said center line approximately 43,500 feet to a point on the south line of the Pedro De Cala Grant; thence westerly along said south line approximately 1,000 feet to the Point of Beginning.

Less the following:

For a Point of Beginning, start at the intersection of the centerline of U.S. Highway No. 1, and the South section line of Said Section 13, Township 18 South, Range 34 East, thence in a southerly direction along said highway centerline a distance of 350 feet, more or less, to the North boundary line of Riverfront Estates, thence easterly along said north boundary line of Riverfront Estates on a bearing of North 88° 23' East for a distance of 2,600 feet more or less to the median highwater line of the Indian River; thence following said median high water line in a generally Northerly direction to a point of 175 feet north of the south boundary line of the Jane Murray Grant, said south boundary line of the Jane Murray Grant also being the south boundary line of said Section 49 and the north boundary lines of said Sections 13 and 50; thence moving in a southwesterly direction, remaining 175 feet north of and parallel to said south boundary line of the Jane Murray Grant, a distance of 2,930 feet, more or less, to the centerline of said U.S Highway No. 1; thence in a southerly direction and following said centerline of U.S. Highway No. 1 a distance of 175 feet, more or less, to the North section line of said Section 13; thence South 68° 38' 36" West a distance of 1,811.88 feet, more or less, thence South 00° 50' 02" East a distance of 1,010 feet, more or less, to a point; thence North 89° 32' 43" East a distance of 220 feet more or less, to a point; thence North 00° 50' 02" West a distance of 85 feet more or less, to a point; thence North 87° 35' 58" East a distance of 2,094 feet, more or less, to the centerline of said U.S. Highway No. 1; thence following said centerline in a Southeasterly direction a distance of 1,400 feet, more or less, to a Point of Beginning.

CHAPTER 180

MUNICIPAL PUBLIC WORKS

180.01 Definition of term "municipality."
180.02 Powers of municipalities.
180.03 Resolution or ordinance proposing construction or extension of utility; objections to same.
180.04 Ordinance or resolution authorizing construction or extension of utility; election.
180.05 Definition of term "private company."
180.06 Activities authorized by municipalities and private companies.
180.07 Public utilities; combination of plants or systems; pledge of revenues.
180.08 Revenue certificates; terms; price and interest; three-fifths vote of governing body required.
180.09 Notice of resolution or ordinance authorizing issuance of certificates.
180.10 When election necessary.
180.11 Referendum and procedure therefor.
180.12 Examinations and surveys.
180.13 Administration of utility; rate fixing and collection of charges.
180.135 Utility services; refusal or discontinuance of services for nonpayment of service charges by former occupant of rental unit prohibited; unpaid service charges of former occupant not to be basis for lien against rental property, exception.
180.14 Franchise for private companies; rate fixing.
180.15 Liability of private companies.
180.16 Acquisition by municipality of property of private company.
180.17 Contracts with private companies.
180.18 Use by municipality of privately owned utility.
180.19 Use by other municipalities and by individuals outside corporate limits.
180.191 Limitation on rates charged consumer outside city limits.
180.20 Regulations by private companies; rates; contracts.
180.21 Powers granted deemed additional.
180.22 Power of eminent domain.
180.23 Contracts with engineers, attorneys and others; boards.
180.24 Contracts for construction; bond; publication of notice; bids.
180.25 Contents of notice of issuance of certificates.
180.26 Form of certificates.
180.301 Purchase or sale of water, sewer, or wastewater reuse utility by municipality.

180.01 Definition of term "municipality."—The term "municipality," as used in this chapter, shall mean any city, town, or village duly incorporated under the laws of the state.

History.—s. 1, ch. 17118, 1935; CGL 1936 Supp. 3100(6).

180.02 Powers of municipalities.—

(1) For the accomplishment of the purposes of this chapter, any municipality may execute its corporate powers within its corporate limits.

(2) Any municipality may extend and execute all its corporate powers applicable for the accomplishment of the purposes of this chapter outside of its corporate limits, as hereinafter provided and as may be desirable or necessary for the promotion of the public health, safety and welfare or for the accomplishment of the purposes of this chapter; provided, however, that said corporate powers shall not extend or apply within the corporate limits of another municipality.

(3) In the event any municipality desires to avail itself of the provisions or benefits of this chapter, it is lawful for such municipality to create a zone or area by ordinance and to prescribe reasonable regulations requiring all persons or corporations living or doing business within said area to connect, when available, with any sewerage system or alternative water supply system including, but not limited to, reclaimed water, aquifer storage and recovery, and desalination systems, constructed, erected and operated under the provisions of this chapter; provided, however, in the creation of said zone the municipality shall not include any area within the limits of any other incorporated city or village, nor shall such area or zone extend for more than 5 miles from the corporate limits of said municipality.

History.—s. 1, ch. 17118, 1935; CGL 1936 Supp. 3100(6); s. 5, ch. 85-323.

180.03 Resolution or ordinance proposing construction or extension of utility; objections to same.—

(1) When it is proposed to exercise the powers granted by this chapter, a resolution or ordinance shall be passed by the city council, or the legislative body of the municipality, by whatever name known, reciting the utility to be constructed or extended and its purpose, the proposed territory to be included, what mortgage revenue certificates or debentures if any are to be issued to finance the project, the cost thereof, and such other provisions as may be deemed necessary.

(2) Any objections to any of the provisions of said resolution or ordinance shall be in writing and filed with the governing body of the municipality, and hearing thereupon shall be held within 30 days after the passage of the resolution by the legislative body of said municipality.

History.—s. 1, ch. 17118, 1935; CGL 1936 Supp. 3100(6).

180.04 Ordinance or resolution authorizing construction or extension of utility; election.—If after the passage of said resolution the said city council or other legislative body, by whatever name known, shall determine to proceed toward the construction of said utility, but not earlier than 40 days after the passage of said ordinance or resolution, the said city council or other legislative body, by whatever name known, shall pass an ordinance or resolution authorizing the construction of the utility or any extension thereof, reciting the purpose and the territory to be included, correcting any errors, remedying any sustained objections, authorizing the issuance of mortgage revenue certificates or debentures to pay for the construction and all other costs of the said utility, and containing all other necessary provi-

ns. All other legislative and administrative functions proceedings shall be the same as provided for the government of the municipality. The city council or other legislative body, by whatever name known, of the municipality, may adopt and provide for the enforcement of all resolutions and ordinances that may be required for the accomplishment of the purposes of this chapter, and its decision shall be final in determining to construct the utility, or any extension thereof as and where proposed, to promote the public health, safety, and welfare by the accomplishment of the purposes of this chapter; provided, that where any mortgage revenue certificates, debentures, or other evidences of indebtedness shall come within the purview of s. 12, Art. VII of the State Constitution, the same shall be issued only after having been approved by a majority of the votes cast in an election in which a majority of the owners of freeholds not wholly exempt from taxation who are qualified electors residing in such municipality shall participate, pursuant to the provisions of ss. 100.201-100.221, 100.241, 100.261-100.341, and 100.351.

History.—s. 1, ch. 17118, 1935; CGL 1936 Supp. 3100(6); s. 15, ch. 69-216; s. 64, ch. 77-175.

180.05 Definition of term "private company."—A "private company" shall mean any company or corporation duly authorized under the laws of the state to construct or operate water works systems, sewerage systems, sewage treatment works, garbage collection and garbage disposal plants.

History.—s. 2, ch. 17118, 1935; CGL 1936 Supp. 3100(7).

180.06 Activities authorized by municipalities and private companies.—Any municipality or private company organized for the purposes contained in this chapter, is authorized:

(1) To clean and improve street channels or other bodies of water for sanitary purposes;

(2) To provide means for the regulation of the flow of streams for sanitary purposes;

(3) To provide water and alternative water supplies, including, but not limited to, reclaimed water, and water from aquifer storage and recovery and desalination systems for domestic, municipal or industrial uses;

(4) To provide for the collection and disposal of sewage, including wastewater reuse, and other liquid wastes;

(5) To provide for the collection and disposal of garbage;

(6) And incidental to such purposes and to enable the accomplishment of the same, to construct reservoirs, sewerage systems, trunk sewers, intercepting sewers, pumping stations, wells, siphons, intakes, pipelines, distribution systems, purification works, collection systems, treatment and disposal works;

(7) To construct airports, hospitals, jails and golf courses, to maintain, operate and repair the same, and to construct and operate in addition thereto all machinery and equipment;

(8) To construct, operate and maintain gas plants and distribution systems for domestic, municipal and industrial uses; and

(9) To construct such other buildings and facilities as may be required to properly and economically operate and maintain said works necessary for the fulfillment of the purposes of this chapter.

However, a private company or municipality shall not construct any system, work, project or utility authorized to be constructed hereunder in the event that a system, work, project or utility of a similar character is being actually operated by a municipality or private company in the municipality or territory immediately adjacent thereto, unless such municipality or private company consents to such construction.

History.—s. 3, ch. 17118, 1935; s. 1, ch. 17119, 1935; CGL 1936 Supp. 3100(8); s. 5, ch. 93-51; s. 6, ch. 95-323.

180.07 Public utilities; combination of plants or systems; pledge of revenues.—

(1) All such reservoirs, sewerage systems, trunk sewers, intercepting sewers, pumping stations, wells, intakes, pipelines, distribution systems, purification works, collecting systems, treatment and disposal works, airports, hospitals, jails and golf courses, and gas plants and distribution systems, whether heretofore or hereafter constructed or operated, are considered a public utility within the meaning of any constitutional or statutory provision for the purpose of acquiring, purchasing, owning, operating, constructing, equipping and maintaining such works.

(2) Whenever any municipality shall decide to avail itself of the provisions of this chapter for the extension or improvement of any existing utility plant or system, any then-existing plant or system may be included as a part of a whole plant or system and any two or more utilities may be included in one project hereunder. The revenues of all or any part of any existing plants or systems or any plants or systems constructed hereunder may be pledged to secure moneys advanced for the construction or improvement of any utility plant or system or any part thereof or any combination thereof.

History.—s. 4, ch. 17118, 1935; s. 2, ch. 17119, 1935; CGL 1936 Supp. 3100(9).

180.08 Revenue certificates; terms; price and interest; three-fifths vote of governing body required.

(1) Any municipality which acquires, constructs or extends any of the public utilities authorized by this chapter and desires to raise money for such purpose, may issue mortgage revenue certificates or debentures therefor without regard to the limitations of municipal indebtedness as prescribed by any statute now in effect or hereafter enacted; provided, however, that such mortgage revenue certificates or debentures shall not impose any tax liability upon any real or personal property in such municipality nor constitute a debt against the municipality issuing the same, but shall be a lien only against or upon the property and revenues of such utility, including a franchise setting forth the terms upon which, in the event of foreclosure, the purchaser may operate the same, which said franchise shall in no event extend for a period longer than 30 years from the date of the sale of such utility and franchise under foreclosure proceedings.

(2) Such mortgage revenue certificates or debentures shall be sold for at least 95 percent of par value and shall bear interest not to exceed 7.5 percent per annum.

(3) No mortgage revenue certificates or debentures shall be issued except upon a three-fifths affirmative vote of the city council, or other legislative body of the municipalities by whatever name known; such mortgage revenue certificates or debentures shall provide that out of the revenues and income derived and obtained from the operation of the utility so constructed, such portion thereof as may be deemed sufficient after all operating costs have been paid, shall be set aside annually in a sinking fund for the payment of interest on said certificates or debentures and the principal thereof at the maturity of the same.

History.—s. 5, ch. 17118, 1935; CGL 1936 Supp. 3100(10); s. 18, ch. 73-302.

180.09 Notice of resolution or ordinance authorizing issuance of certificates.—Upon the adoption of resolution or ordinance by the city council, or other legislative body, by whatever name known, authorizing the issuance of mortgage revenue certificates or debentures, a notice thereof shall be published once a week for 2 consecutive weeks in a newspaper of general circulation in the county in which the municipality is located, or by posting a notice in at least three conspicuous places within the limits of the municipality, one of which shall be posted at the door of the city hall or city offices; provided, that if any of the mortgage revenue certificates or debentures are to be purchased by the United States of America, or any instrumentality or subdivision thereof, it shall not be necessary to advertise or offer the same for sale by competitive bidding.

History.—s. 5, ch. 17118, 1935; CGL 1936 Supp. 3100(10).

180.10 When election necessary.—Where any mortgage revenue certificates, debentures, or other evidences of indebtedness shall come within the purview of s. 12, Art. VII of the State Constitution, the same shall be issued only after having been approved by a majority of the votes cast in an election in which a majority of the owners of freeholds not wholly exempt from taxation who are qualified electors residing in such municipality shall participate, pursuant to the provisions of ss. 100.201-100.221, 100.241, 100.261-100.341, and 100.351.

History.—s. 7, ch. 22858, 1945; s. 15, ch. 69-216; s. 64, ch. 77-175.

180.11 Referendum and procedure therefor.—

(1) A referendum may be held upon the issuance of such mortgage revenue certificates or debentures in the following manner: a petition shall be filed with the clerk within 30 days after the date of the first publication of the notice of the issuance of the proposed mortgage revenue certificates or debentures or after the posting of the notice, as hereinbefore provided. The petition shall contain the nature of the objection to the proposed utility or the issuance of said mortgage revenue certificates or debentures and shall be signed by 20 percent of the registered and qualified electors of said municipality. Such referendum shall be held not later than 60 days after the date of the first publication of said notice as aforesaid or the posting of such notice.

(2) The aforesaid petition shall be filed with the city clerk, or the officer performing the corresponding duties, and the said clerk or officer shall ascertain immediately if the requisite number of registered and qualified electors have signed the said petition; whereupon the clerk or officer shall immediately report in writing to the mayor, or the executive officer of said municipality, and to the city council or other legislative body of the municipality, by whatever name known; whereupon a resolution or ordinance shall forthwith be enacted determining if the requisite number of registered and qualified electors have signed the petition, a resolution or ordinance shall forthwith be enacted setting forth the date upon which the referendum shall be held, appropriating sufficient funds to pay the expenses of said election, designating the places of voting and providing for the form of ballot to be used. In determining the number of registered and qualified electors for the purposes of determining the sufficiency of the petition for referendum, the city clerk, or such other officer, shall use the number of registered and qualified electors at the last municipal election held by the said municipality. All rules, regulations, ordinances or resolutions pertaining to municipal elections shall apply under the referendum herein set forth, except where the same are inconsistent with the proceedings herein authorized.

History.—s. 5, ch. 17118, 1935; CGL 1936 Supp. 3100(10); s. 938, ch. 95-147.

180.12 Examinations and surveys.—Any municipality, to carry out the purpose of this chapter, may, through its officers, committees, agents, servants or employees, enter into and upon private property where it is proposed to construct said utility, or extensions thereof to make necessary examinations and surveys, and for such other purposes as may be required in the accomplishment of the purposes of this chapter; provided, however, the municipality, before constructing any of said works upon private property, shall first acquire the right to take and use the property by agreement or purchase or by proceedings or by the exercise of the right of eminent domain in a court of the state having jurisdiction of the same in the manner prescribed by law.

History.—s. 6, ch. 17118, 1935; CGL 1936 Supp. 3100(11).

180.13 Administration of utility; rate fixing and collection of charges.—

(1) The city council, or other legislative body of the municipality, by whatever name known, may create a separate board or may designate certain officers of said municipality to have the supervision and control of the operation of the works constructed under the authority of this chapter, which said board or designated officers may make all necessary rules or regulations governing the use, control and operation of said works; subject, however, to the approval of the city council, or other legislative body, by whatever name known.

(2) The city council, or other legislative body of the municipality, by whatever name known, may establish just and equitable rates or charges to be paid to the municipality for the use of the utility by each person, firm or corporation whose premises are served thereby; and provided further, that if the charges so fixed are not paid when due, such sums may be recovered by the said municipality by suit in a court having jurisdiction of said cause or by discontinuance of service of such utility until delinquent charges for services thereof are paid, includ-

ing charge covering any reasonable expense for reconnecting such service after such delinquencies are paid, or any other lawful method of enforcement of the payment of such delinquencies.
History.—s. 7, ch. 17118, 1935; CGL 1936 Supp. 3100(12).

180.135 Utility services; refusal or discontinuance of services for nonpayment of service charges by former occupant of rental unit prohibited; unpaid service charges of former occupant not to be basis for lien against rental property; exception.—

(1)(a) Any other provision of law to the contrary notwithstanding, no municipality may refuse services or discontinue utility, water, or sewer services to the owner of any rental unit or to a tenant or prospective tenant of such rental unit for nonpayment of service charges incurred by a former occupant of the rental unit; any such unpaid service charges incurred by a former occupant will not be the basis for any lien against the rental property or legal action against the present tenant or owner to recover such charges except to the extent that the present tenant or owner has benefited directly from the service provided to the former occupant.

(b) This section applies only if the former occupant of the rental unit contracted for such services with the municipality or if the municipality provided services with knowledge of the former occupant's name and the period the occupant was provided the services.

(2) The provisions of this section may not be waived through any contractual arrangement between a municipality and a landlord whereby the landlord agrees to be responsible for a tenant's or future tenant's payment of service charges.

(3) Any other provision of law to the contrary notwithstanding, any municipality may adopt an ordinance authorizing the municipality to withdraw and expend any security deposit collected by the municipality from any occupant or tenant for the provision of utility, water, or sewer services for the nonpayment of service charges by the occupant or tenant.

(4) In any case where a tenant subject to part II of chapter 83 does not make payment for service charges to a municipality for the provision of utility, water, or sewer services, the landlord may thereupon commence eviction proceedings. Nothing in this section shall be construed to prohibit a municipality from discontinuing service to a tenant who is in arrears 30 days or more, or as required by bond covenant.
History.—s. 1, ch. 84-292; s. 1, ch. 88-332; s. 1, ch. 89-272.

180.14 Franchise for private companies; rate fixing.—A private company or corporation organized under the laws of the state for any of the purposes specified in this chapter, may construct, operate and maintain such works provided for in this chapter, within or without the corporate limits of any municipality, upon application by such company or corporation to the city council, or other legislative body of the municipality, by whatever name known, and the said municipality may grant to said private company or corporation the privilege or franchise of exercising its corporate powers for such terms of years and upon such conditions and limitations as may be deemed expedient and for the best interest of said municipality for the accomplishment of the purposes set forth in this chapter; said franchise, however, to be for a period of not longer than 30 years; provided further, that the rates or charges to be made by the private company or corporation to the individual users of the utility constructed or operated under authority of this chapter shall be fixed by the city council, or other legislative body of the municipality, by whatever name known, upon proper hearing had for that purpose.
History.—s. 8, ch. 17118, 1935; CGL 1936 Supp. 3100(13).

180.15 Liability of private companies.—Any private company or corporation constructing or operating any of the works provided for in this chapter, within or without the corporate limits of any municipality, shall be liable for all damages occasioned by the acts, negligence or injury to the rights of other persons, firms or corporations in the same manner and with the same limitations as any other private corporation chartered under the laws of the state.
History.—s. 9, ch. 17118, 1935; CGL 1936 Supp. 3100(14).

180.16 Acquisition by municipality of property of private company.—When a municipality has granted to a private company or corporation a privilege or franchise, as set forth in s. 180.14, if at the expiration of the term of the privilege or franchise and after petition of the private company or corporation, the municipality fails or refuses to renew the privilege or franchise, then upon further petition of the private company or corporation, its property, consisting of all the works constructed and used in the operation and use of the utility, together with the appurtenances, materials, fixtures, machinery, and real estate appertaining thereto, which is on hand at the time of the expiration of said privilege or franchise, shall be purchased by the said municipality at a price to be mutually agreed upon; provided, however, if the price for same cannot be agreed upon, the price shall be determined by an arbitration board consisting of three persons, one of whom shall be selected by the city council or other legislative body, one shall be appointed by the private company or corporation, and the two persons so selected shall select a third member of said board; and provided further, that in the event said board cannot agree as to the price to be paid by the said municipality, then the municipality shall file appropriate condemnation proceedings under chapter 73, within 6 months after the date of filing the original petition.
History.—s. 10, ch. 17118, 1935; CGL 1936 Supp. 3100(15).

180.17 Contracts with private companies.—Any municipality may contract by and through its duly authorized officers with any private company or corporation which is organized for any purpose related to the provisions of this chapter, and may contract with said private company or corporation for the construction or use of such works authorized by this chapter.
History.—s. 11, ch. 17118, 1935; CGL 1936 Supp. 3100(16).

180.18 Use by municipality of privately owned utility.—Whenever a private company or corporation shall construct or operate any of the works authorized by this chapter, the municipality wherein the same shall be constructed or operated shall not use the said works in any

manner except by and with the consent of the private company or corporation in the manner and upon the terms and conditions which are mutually agreeable to the private company or corporation and the municipality, except as hereinbefore provided.
History.—s. 12, ch. 17118, 1935; CGL 1936 Supp. 3100(17).

180.19 Use by other municipalities and by individuals outside corporate limits.—

(1) A municipality which constructs any works as are authorized by this chapter, may permit any other municipality and the owners or association of owners of lots or lands outside of its corporate limits or within the limits of any other municipality, to connect with or use the utilities mentioned in this chapter upon such terms and conditions as may be agreed between such municipalities, and the owners or association of owners of such outside lots or lands.

(2) Any private company or corporation organized to accomplish the purposes set forth in this chapter, which has been granted a privilege or franchise by a municipality, may permit the owners or association of owners of lots or lands outside of the boundaries of said municipality granting said privilege or franchise, or other municipality, to connect with and use the utility operated by the said private company or corporation upon such terms as may be agreed between the said private company or corporation and the owners or association of owners of said lots or lands or the said municipality.
History.—s. 13, ch. 17118, 1935; CGL 1936 Supp. 3100(18).

180.191 Limitation on rates charged consumer outside city limits.—

(1) Any municipality within the state operating a water or sewer utility outside of the boundaries of such municipality shall charge consumers outside the boundaries rates, fees, and charges determined in one of the following manners:

(a) It may charge the same rates, fees, and charges as consumers inside the municipal boundaries. However, in addition thereto, the municipality may add a surcharge of not more than 25 percent of such rates, fees, and charges to consumers outside the boundaries. Fixing of such rates, fees, and charges in this manner shall not require a public hearing except as may be provided for service to consumers inside the municipality.

(b) It may charge rates, fees, and charges that are just and equitable and which are based on the same factors used in fixing the rates, fees, and charges for consumers inside the municipal boundaries. In addition thereto, the municipality may add a surcharge not to exceed 25 percent of such rates, fees, and charges for said services to consumers outside the boundaries. However, the total of all such rates, fees, and charges for the services to consumers outside the boundaries shall not be more than 50 percent in excess of the total amount the municipality charges consumers served within the municipality for corresponding service. No such rates, fees, and charges shall be fixed until after a public hearing at which all of the users of the water or sewer systems; owners, tenants, or occupants of property served or to be served thereby; and all others interested shall have an opportunity to be heard concerning the proposed rates, fees, and charges. Any change or revision of such rates, fees, or charges may be made in the same manner as such rates, fees, or charges were originally established, but if such change or revision is to be made substantially pro rata as to all classes of service, both inside and outside the municipality, no hearing or notice shall be required.

(2) Whenever any municipality has engaged, or there are reasonable grounds to believe that any municipality is about to engage, in any act or practice prohibited by subsection (1) or subsection (5), a civil action for preventive relief, including an application for a permanent or temporary injunction, restraining order, or other order, may be instituted by the person or persons aggrieved.

(3) This section shall apply to municipally owned water and sewer utilities within the confines of a single county and may apply, pursuant to interlocal agreement, to municipally owned water and sewer utilities beyond the confines of a single county.

(4) This section shall not apply to a municipality in a county operating under a home rule charter if that county has in operation under the charter an agency regulating water and sewer systems except as provided in subsection (5).

(5)(a) Any municipality operating a municipally owned water and sewer utility and providing water and sewer service outside the boundaries of the municipality, which municipality is eligible for and specifically exercises the exemption from county rate regulation as provided for in paragraph (b), shall charge consumers outside the boundaries the same just and equitable rates, fees, and charges as consumers inside the municipal boundaries.

(b) The provisions of this section shall be applicable within a county that was regulating water and sewer rates on or before May 1, 1988, with respect to any municipality operating a municipally owned water and sewer utility outside the boundaries of the municipality, provided that:

1. The municipality was providing water and sewer service to any consumers outside its municipal boundaries before May 1, 1988;

2. The governing body of the municipality adopts an ordinance, under the authority of this section, modifying the current water and sewer system rate structure in such manner as may be necessary to bring the method of rate determination into compliance with the provisions of this subsection and declaring the municipality's exemption, to take effect upon the effective date of said ordinance, from county agency regulation of water and sewer rates, fees, and charges; and

3. The municipality remains in compliance with the provisions of this subsection.

Nothing in this subsection shall be construed to require eligible municipalities to so exempt themselves from county rate regulation or to subject municipal water or sewer utility rates, fees, and charges for services rendered within the boundaries of a municipality to regulation by a county agency, and any such rates, fees, and charges shall remain a matter of municipal determination in accordance with law.

(6) In any action commenced pursuant to this section, the court in its discretion may allow the prevailing

party treble damages and, in addition, a reasonable attorney's fee as part of the cost.
History.—ss. 1, 2, 3, 4, 5, ch. 70-997; s. 1, ch. 88-301; s. 1, ch. 92-181.

180.20 Regulations by private companies; rates; contracts.—Whenever any private company or corporation organized for the accomplishment of the purposes of this chapter is granted a privilege or franchise by a municipality, it may prescribe the terms upon which owners and occupants of houses, buildings or lots may obtain the use of the utility constructed and operated by the said private company or corporation, and the rate charged for such use, and also the rate and terms upon which the municipality may use such utility for public purposes; such rates, however, shall be subject to the approval of the city council, or other legislative body of the municipality, by whatever name known; provided, however, that the municipality may contract with the said private company or corporation to pay the said company or corporation a flat or fixed rate for such service and use of the utility and may pay out of the general revenue or any special revenue such rate as agreed.
History.—s. 14, ch. 17118, 1935; CGL 1936 Supp. 3100(19).

180.21 Powers granted deemed additional.—The authority and powers granted by this chapter to municipalities shall be in addition to but not in limitation of any of the powers heretofore or hereafter granted to municipalities now existing or hereafter created.
History.—s. 15, ch. 17118, 1935; CGL 1936 Supp. 3100(20).

180.22 Power of eminent domain.—

(1) Any municipality or private company or corporation authorized to carry into effect any or all of the purposes defined in this chapter may exercise the power of eminent domain over railroads, traction and streetcar lines, telephone and telegraph lines, all public and private streets and highways, drainage districts, bridge districts, school districts, and any other public or private lands or property whatsoever necessary to enable the accomplishment of the purposes of this chapter.

(2) Any municipality which exercises its power under this section outside of its corporate boundaries for the accomplishment of the purposes of this chapter may finance such extraterritorial project in any manner in which it is presently authorized by law to finance a like project within its corporate boundaries.
History.—s. 16, ch. 17118, 1935; CGL 1936 Supp. 3100(21); s. 1, ch. 78-196.

180.23 Contracts with engineers, attorneys and others; boards.—Any municipality desiring to construct, maintain or operate any of the utilities described in this chapter, may contract with engineers and attorneys for professional services required for the accomplishment of any or all of the purposes of this chapter; provided, however, that such employment is to be evidenced by written agreement setting forth the terms and conditions of the employment; provided further, that such municipality may also create such other offices and boards as may be necessary and expedient for carrying out the purposes of this chapter and shall provide suitable and fit compensation for the same.
History.—s. 17, ch. 17118, 1935; CGL 1936 Supp. 3100(22).

180.24 Contracts for construction; bond; publication of notice; bids.—

(1) Any municipality desiring the accomplishment of any or all of the purposes of this chapter may make contracts for the construction of any of the utilities mentioned in this chapter, or any extension or extensions to any previously constructed utility, which said contracts shall be in writing, and the contractor shall be required to give bond, which said bond shall be executed by a surety company authorized to do business in the state; provided, however, construction contracts in excess of $25,000 shall be advertised by the publication of a notice in a newspaper of general circulation in the county in which said municipality is located at least once each week for 2 consecutive weeks, or by posting three notices in three conspicuous places in said municipality, one of which shall be on the door of the city hall; and that at least 10 days shall elapse between the date of the first publication or posting of such notice and the date of receiving bids and the execution of such contract documents. For municipal construction projects identified in s. 255.0525, the notice provision of that section supersedes and replaces the notice provisions in this section.

(2) All contracts for the purchase, lease, or renting of materials or equipment to be used in the accomplishment of any or all of the purposes of this chapter by the municipality, shall be in writing; provided, however, that where said contract for the purchase, lease, or renting of such materials or equipment is in excess of $10,000, notice or advertisement for bids on the same shall be published in accordance with the provisions of subsection (1).
History.—s. 18, ch. 17118, 1935; CGL 1936 Supp. 3100(23); s. 3, ch. 73-129; s. 19, ch. 90-279; s. 27, ch. 95-196.
[1]Note.—Section 55, ch. 95-196, provides that "[n]othing in this act shall be construed to authorize a state agency to discontinue the collection and maintenance of information contained in any required report repealed or modified by this act, unless the state agency is specifically authorized to discontinue such collection and maintenance pursuant to this act or another section of law."
Note.—Former s. 255.26.

180.25 Contents of notice of issuance of certificates.—The form of the notice for advertising the proposed issuance of mortgage revenue certificates or debentures shall contain the amount of the certificates to be sold and the rate of interest thereon; a description in general terms of the utility to be constructed; the time, place and date where bids for the sale of the same are to be received; and such other pertinent information as may be deemed necessary.
History.—s. 19, ch. 17118, 1935; CGL 1936 Supp. 3100(24).

180.26 Form of certificates.—The certificate of indebtedness to be issued under the terms and conditions of this chapter shall contain a description of the utility, the revenue of which is pledged, together with the terms of payment of the same, as is established by the ordinances or resolutions of the municipality, in accordance with the conditions heretofore established in this chapter, and may or may not have attached thereto interest coupons, and shall contain such other and further conditions as shall be determined by the governing body of the municipality, in accordance with the terms and conditions of this chapter.
History.—s. 20, ch. 17118, 1935; CGL 1936 Supp. 3100(25).

180.301 Purchase or sale of water, sewer, or wastewater reuse utility by municipality.—No munici-

pality may purchase or sell a water, sewer, or wastewater reuse utility that provides service to the public for compensation, until the governing body of the municipality has held a public hearing on the purchase or sale and made a determination that the purchase or sale is in the public interest. In determining if the purchase or sale is in the public interest, the municipality shall consider, at a minimum, the following:

(1) The most recent available income and expense statement for the utility;

(2) The most recent available balance sheet for the utility, listing assets and liabilities and clearly showing the amount of contributions-in-aid-of-construction and the accumulated depreciation thereon;

(3) A statement of the existing rate base of the utility for regulatory purposes;

(4) The physical condition of the utility facilities being purchased or sold;

(5) The reasonableness of the purchase or sales price and terms;

(6) The impacts of the purchase or sale on utility customers, both positive and negative;

(7) Any additional investment required and the ability and willingness of the purchaser to make that investment, whether the purchaser is the municipality or the entity purchasing the utility from the municipality;

(8) The alternatives to the purchase or sale and the potential impact on utility customers if the purchase or sale is not made; and

(9) The ability of the purchaser to provide and maintain high-quality and cost-effective utility service whether the purchaser is the municipality or the entity purchasing the utility from the municipality.

The municipality shall prepare a statement showing that the purchase or sale is in the public interest, including a summary of the purchaser's experience in water, sewer, or wastewater reuse utility operation and a showing of financial ability to provide the service, whether the purchaser is the municipality or the entity purchasing the utility from the municipality.

History.—s. 2, ch. 84-84; s. 6, ch. 93-51.

RESOLUTION NO. 86-R-30

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EDGEWATER, FLORIDA, AUTHORIZING THE APPROPRIATE CITY OFFICIALS TO EXECUTE AN AGREEMENT WITH THE UTILITIES COMMISSION, CITY OF NEW SMYRNA BEACH, TO PROVIDE POTABLE WATER TO THE CITY OF EDGEWATER, IN TIMES OF EMERGENCY; REPEALING ALL RESOLUTIONS IN CONFLICT HEREWITH AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, at a regular Council meeting held on the 2nd day of June, 1986, the City Council unanimously agreed to enter into an agreement with the Utilities Commission, City of New Smyrna Beach, for potable water to be provided to the City of Edgewater, Florida, in times of emergency.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF EDGEWATER, FLORIDA:

SECTION 1. That the appropriate officials of the City of Edgewater, Florida, are authorized to execute the Interconnect Agreement with the Utilities Commission, City of New Smyrna Beach, for potable water to be provided to the City of Edgewater, Florida, in times of emergency.

SECTION 2. That said agreement is attached to this Resolution and by reference incorporated herein, as if fully set forth herein with full force and effect.

SECTION 3. That all resolutions or parts of resolutions in conflict herewith be and the same are hereby repealed.

SECTION 4. That this Resolution shall take effect immediately upon its adoption by the City Council of the City of Edgewater, Florida, at a regular meeting of said Council held on the 16th day of June, 1986, and approved as provided by law.

This Resolution was introduced and sponsored by Councilman Councilman Rotundo and was read and passed by a vote of the City Council at a regular meeting held on the 16th day of June, 1986, and authenticated as providded by law.

ROLL CALL VOTE AS FOLLOWS:

MAYOR — Yes

COUNCILMAN - ZONE ONE — Yes

Excused

COUNCILMAN - ZONE TWO

COUNCILMAN - ZONE THREE — Yes

COUNCILMAN - ZONE FOUR — Yes

ATTEST:

CITY CLERK

Authenticated this 16th

day of June, 1986.

MAYOR

This Resolution prepared by:

CITY ATTORNEY

AGREEMENT

AGREEMENT made this 16th day of June of 1986, by and between the Utilities Commission, City of New Smyrna Beach, Florida, hereinafter the "Commission", and the City of Edgewater, Florida, hereinafter "Edgewater", whereby the Commission intends to comply with the request of Edgewater to provide potable water in times of emergency.

FOR AND in consideration of the mutual exchange of promises hereinafter contained, the parties do agree as follows:

1. Purpose. The interconnect is for a one way transmission of water from the Commission's system to the Edgewater system during times of emergencies. Emergencies shall include, but are not limited to, power failure, mechanical failure, water main breakage, fire demand and construction disruption, but do not include periods, if any, during which the Commission is experiencing a water shortage.

2. Cost. The responsibility and entire cost of construction operation and maintenance of the interconnection, including but not limited to, design consultant's fees, inspection, testing, disinfection and permitting shall be accomplished and/or paid for by Edgewater. Such cost incurred and paid directly by the Commission shall be reimbursed by Edgewater.

3. Construction. Contruction must be in accordance with the standards of the American Water Works Association, approved by both parties and the installed configuration shall be inspected and accepted by the Commission before the interconnect will become operable.

4. Operating the Interconnect. The Edgewater Superintendent of Utilities or his designated representative shall, in his discretion, notify the operator of the Commission's water treatment plant of any emergency and the Commission's operator shall be responsible for having someone meet Edgewater's representative at the interconnect site within the hour of notification of need for the joint operation of the interconnect. Discontinuance shall occur in the same fashion.

5. Cost of Water. The cost of water transfered shall be at the Commission's prevailing rate, plus such monthly and/or standby charges as is applicable for Fire Service.

6. Indemnification. This contract in no way creates a duty or contractual obligation of the Commission to the customers of Edgewater. Edgewater agrees to indemnify and hold the Commission harmless against claims of Edgewater's customers.

7. Termination. Both parties reserve the right to discontinue this agreement when, in the opinion of either party expressed in writing, furnishing water under this agreement is detrimental to the quality or quantity of the water supply of either party as follows:

This agreement may be terminated by Edgewater upon thirty (30) days written notice to the Commission.

This agreement may be terminated by the Commission upon not less than two (2) years written notice to Edgewater.

IN WITNESS WHEREOF the parties have set their hands and seals on the day and year first written above.

CITY OF EDGEWATER, FLORIDA

By: _____
City Clerk/Administrator

_____ (seal)

UTILITIES COMMISSION, CITY OF NEW SMYRNA BEACH, FLORIDA

By: _____
Chairman

_____ (seal)

Approved as to Form and Correctness,

_____
J.P. Bolt Utilities Commission Counsel

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AGREEMENT BY AND AMONG
VOLUSIA COUNTY, FLORIDA, THE CITY OF NEW SMYRNA BEACH, FLORIDA, AND THE UTILITIES COMMISSION CITY OF NEW SMYRNA BEACH, FLORIDA

WHEREAS, Chapter 125, Section 125.01(1)(K), Florida Statutes, (1987) as amended, provides that county government shall have the power to "Provide and regulate waste and sewage collection and disposal, water supply, and conservation programs"; and,

WHEREAS, the Local Government Comprehensive Planning and Land Development Regulation Act, Chapter 163, Florida Statutes, as amended, and Rule Chapter 9J-5, Florida Administrative Code, as amended, provide requirements and guidelines regarding land use planning, establishment of "levels of service"; capital improvement programming for infrastructure requirements, inter-governmental coordination and cooperation, consistency of comprehensive plans, both internally and with adjacent jurisdictions, and concurrency of infrastructure provision with development approvals; and

WHEREAS, the Utilities Commission (U.C.), an agency of the City currently owns and operates water distribution and wastewater collection, treatment and disposal systems which serve customers both within and without the City's corporate limits, and which have or will have, additional capacity sufficient to serve continued development within and without the City; and

WHEREAS, the County desires to assure availability of water and sewer services to areas designated for said services

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in the Volusia County Comprehensive Plan and all amended plans; and

WHEREAS, the Utilities Commission, City of New Smyrna Beach will be increasing its water plant capacity from 6.2 million gallons per day to 9.3 million gallons per day as one part of its most recent 5 Year Capital Improvement Program, based partially on projected demands for water in the "Service Area" described herein; and

WHEREAS, in order to make available a safe and secure supply of raw water, necessary to meet the projected demands in the "Water Service Area" as defined herein, the Utilities Commission expects to augment the existing supply by an additional six wells for the necessary increased capacity; and

WHEREAS, the Utilities Commission, City of New Smyrna Beach, currently operates a sewage treatment plant rated at 4 million gallons per day capacity, but said plant is currently operating at approximately fifty percent (50%) of such capacity; and

WHEREAS, the City of New Smyrna Beach 1989 Comprehensive Plan projects year 2010 sewage treatment requirements of the "Service Area" to be 4.7 million gallons per day; and

WHEREAS, the City and the County desire for the U.C. to provide for water and sewer utility services and to designate a service area within which the County shall not provide, nor allow the provision of water or sewer utility services except

where County or City standards allow the use of individual wells and/or septic tanks; and

WHEREAS, the parties make and enter into this Agreement for the purpose of accomplishing the goals and objectives stated hereinabove:

NOW, THEREFORE, for $10.00 and other good and valuable consideration given by each party to the other, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. The foregoing recitations are true, correct and incorporated herein by specific reference.

2. Incorporated herein by specific reference, and attached hereto is a map, being Exhibit 1, comprising the intended water and wastewater service areas of the County and City, respectively, which may in the future be amended as hereinafter set forth. Also attached hereto as Exhibits 2 and 3 respectively, are agreements between the City and the Cities of Port Orange and Edgewater.

3. The map and boundary description described as Exhibit 1 involves, in the public interest, the results of studies, negotiations, engineering evaluations and analysis, and examinations by the respective parties as to the best and most practical division of potable water service and wastewater service areas, and methods for the provision of such within the unincorporated County and the adjacent City of New Smyrna Beach. As to that territory described in Exhibit 1, the U.C.

hall have the exclusive right to provide potable water and wastewater service within the area marked "City of New Smyrna Beach Water and Sewer Service Area", both on a wholesale and retail basis as determined herein. As to that area on Exhibit 1 marked "Potential Future City Service Area", the U.C. shall have the exclusive right to provide potable water and wastewater service within such area, should the County amend its Comprehensive Plan to require such service in said area. As to the remaining area on Exhibit 1 marked "Volusia County Water and Wastewater Service Area", the County shall have the exclusive right to provide potable water and wastewater service within such area, both on a wholesale and retail basis.

4. The County agrees that it shall not provide water or wastewater services within the City Service Area without the prior consent of the City, unless the U.C. is first given the opportunity to provide such services, and has indicated that it cannot or does not desire to provide such services. For purposes of interpretation of this provision, if, within 6-month's notice to do so, the U.C. either cannot or will not provide water and/or wastewater capacity commitment or within 24 months of that notice, cannot or will not provide water and/or wastewater service to an area within the Service Area or if the U.C. or the City indicate in advance that it will not be able to provide such services, then the provisions of this paragraph are hereby waived and the County shall be entitled to provide such water and/or wastewater services. In the inter-

pretation of this provision, it is mutually agreed and understood by and between the parties hereto that the City and U.C. shall, at all times, use its best efforts to provide such water and/or wastewater services, it being the intention of the parties that the U.C. shall always have a prior right to provide water and/or wastewater services within and without the areas immediately adjacent to the incorporated municipality of New Smyrna Beach. Nothing herein shall preclude the County from permitting development on lands which do not have an urban zoning or land use classification in the Volusia County Comprehensive Plan with individual wells and/or sanitary septic sewage disposal systems. The provisions of this Agreement shall be further subject to and limited by commonly understood principles of force majeure.

5. The County hereby declares that although it believes it has the legal right, it is not its intention to be the provider of potable water and/or wastewater services within the designated City Service Areas as depicted on Exhibit 1.

6. In order that the U.C. may recover its extraordinary capital costs for extending lines and providing additional services, the U.C. may charge users other than the County up to a twenty-five percent (25%) surcharge on in-city water and wastewater rates, fees and charges which are of a periodic and recurring nature until no later than December 31, 1999. No surcharge shall be made on in-city fees and charges involved in initial connection to the U.C. system on or after the effective

date of this agreement. On or after January 1, 2000, neither the City nor the Utilities Commission shall be entitled to collect any surcharge which may otherwise be allowable and shall charge in-city water and wastewater rates, fees, and charges throughout the New Smyrna Beach Water and Sewer Service Area.

7. The City will not require annexation agreements as a condition to providing service to existing and new development not contiguous to the City boundaries, effective 12:01 AM, January 1, 1990. Annexation within the Service Area will be controlled by applicable Florida law and federal regulations.

8. The City and the U.C. shall prepare a water and wastewater plan for the New Smyrna Beach Water and Wastewater Service Area which is consistent with the Volusia County Comprehensive Plan and sufficient to meet the requirements of Chapter 163, Florida Statutes, and Rule 9J-5, Florida Administrative Code.

The U.C. shall provide service throughout the designated service area. U.C. policies and procedures for financing and extension of water distribution and/or sewage collection and transmission lines within unincorporated portions of the service area shall be consistent with such policies and procedures within the City boundaries. The County, upon request by the City or U.C., shall provide such assistance as determined appropriate by the County Council, regarding financing and installation of local water distribution and/or

sewage collection systems and acquisition of rights-of-way or easements for such installations, including, but not limited to use of special assessment procedures and/or eminent domain.

9. Each party agrees that it will not unreasonably interfere with or withhold consent for the use by the other of rights-of-way, express or implied easements or the exercise of any other possessory interest which is now in use or which may become necessary to effectuate the intent hereof. Each party will abide by the rights-of-way use regulations of the other.

10. The U.C. agrees that should the County desire wholesale potable water and/or sewage treatment service for County Service Areas from the U.C., the U.C. will negotiate and enter into wholesale service agreement(s) with the County under such terms and conditions as may be mutually acceptable to all parties of this Agreement.

11. The parties hereto recognize and agree that time is of the essence in this Agreement. They additionally recognize and agree that failure of performance by any party of the terms of this Agreement may result in injury to the other that may not be adequately redressed by a remedy at law.

12. The parties hereto agree that at any time after the execution hereof they will, upon the request of the other, execute and deliver such other documents and further assurances as may be reasonably required by such other party in order to carry out the intention of this Agreement. Each party agrees that should it fail to do all things necessary to complete this

Agreement, through no fault of the others, that the others shall have the right of specific performance of this provision.

13. Failure to insist upon strict compliance of any of the terms, covenants, or conditions hereof shall not be deemed a waiver of such terms, covenants, or conditions, nor shall any waiver or relinquishment of any right or power hereunder at any one time or times be deemed a waiver or relinquishment of such right or power at any other time or times.

14. This writing embodies the entire agreement and understanding between the parties hereto, and there are no other agreements or understandings, oral or written, with reference to the subject matter hereof that are not merged herein and superseded hereby. No alteration, change or modification of the terms of this Agreement shall be valid unless made in writing and signed by the parties hereto.

15. It is agreed by and among the parties hereto that all words, terms, and conditions contained herein are to be read in concert, each with the other, and that a provision contained under one heading may be construed equally applicable under another in the interpretation of this Agreement.

16. All notices, demands, or other communications given hereunder shall be in writing and shall be deemed to have been duly affected on the first business day after mailing by U.S., registered or certified mail, return receipt requested, postage prepaid, addressed as follows:

As to Volusia County:

Dr. Thomas C. Kelly
County Manager
Volusia County, Florida
123 West Indiana Avenue
DeLand, Florida 32720-4612

with a copy to:

Richard M. Kelton
Assistant County Manager for
Development Services
Volusia County, Florida
123 West Indiana Avenue
DeLand, Florida 32720-4253

Daniel D. Eckert, Esquire
County Attorney
123 West Indiana Avenue
DeLand, Florida 32720-4612

- AND -

- AND -

As to City:

Mr. Frank Roberts
City Manager
City of New Smyrna Beach
210 Sams Avenue
New Smyrna Beach, FL 32069-9985

As to Utilities Commission:

Mr. R. Ronald Hagen
Director of Utilities
Utilities Commission,
City of New Smyrna Beach
P. O. Box 100
New Smyrna Beach, FL 32170

with a copy to:

City Attorney
City of New Smyrna Beach
210 Sams Avenue
New Smyrna Beach, FL 32069-9985

17. The County, the City and the Utilities Commission acknowledge that they each participated in the drafting of this Agreement. In the event that any term of this Agreement shall be interpreted by a court of competent jurisdiction, the Agreement shall not be construed more or less favorably on behalf of any party hereto on the ground that such party was or was not the drafter of this Agreement.

18. In connection with any litigation, including appellate proceedings arising out of the terms of this Agreement, the prevailing party shall be entitled to attorney's fees and costs.

19. All terms of this Agreement, including all covenants, representations and warranties contained and made herein, shall survive the execution hereof.

20. This agreement may be amended from time to time by mutual consent of the parties. Any party may propose an amendment to this Agreement. All amendments shall be in writing. No amendment shall be effective until approved by all parties to this agreement.

21. This agreement shall become effective at 12:01 AM on January 1, 1990.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized representatives as of this _____ day of _____, 1989.

VOLUSIA COUNTY, FLORIDA

BY: _____
County of Volusia, Florida
by Chairman, County Council

ATTEST:

_____
County Manager

_____
Charles W. Bruso, Purchasing Director

CITY OF NEW SMYRNA BEACH, FLORIDA

By: George E Reamon
Mayor

ATTEST:

Lynn L. Schmidt
City Clerk

Utilities Commission, City of New Smyrna Beach

By: Albert J. Venick
Chairman

ATTEST:

Delna Simmons
Executive Secretary

AREA #1

Beginning with the intersection of the south line of Section 9, Township 18S Range 34E and the Atlantic Ocean, travel westerly along south line of Section 9 to the center of Turner Flats, thence travel northwesterly through Turner Flats and Shipyard Canal and through an unnamed waterway to a point just south of Three Sisters Islands, then due West to the channel of the Intracoastal Waterway, turning northerly along said channel to the south boundary line of New Smyrna Beach thence turning easterly along said south boundary line to its intersection with the Atlantic Ocean, thence turning southeasterly along the Ocean to the point of beginning.

AREA #2

Beginning with a point on the Southwest Boundary line of Ponce Inlet and following the Ponce Inlet City Limits in a northwesterly direction along the west bank of the Halifax River to the channel of Spruce Creek, traveling westerly through Strickland Bay and following Spruce Creek to the intersection of Spruce Creek and the city limits of Port Orange (located in Section 33, Township 16S, Range 33E), thence turning South and following the Port Orange city limits to the north right-of-way of Pioneer Trail (County Road 4118), changing direction and traveling northwesterly and westerly along Pioneer Trail to the east right-of-way of I-95. Turn south following the east right-of-way of I-95 to the northeast corner of Section 21, Township 17S, Range 33E, then turning westerly along said north line for a distance of approximately 3500 feet, thence

turning south and parallel with the west line of Section 21 to the south line of Section 21 thence turning easterly along the south line of Sections 21 and 22 to the east right-of-way line of I-95, turning south and traveling along the east right-of-way line of I-95 to the intersection of an imaginary line which is a westerly prolongation of the boundary line between New Smyrna Beach and Edgewater, traveling easterly along said prolongation to the southwest corner of city limits of New Smyrna Beach, thence turn northwesterly, following the city limits to the point of beginning. Said area includes all enclaves within the City of New Smyrna Beach which are situated within above described boundaries.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Application for amendment of Certificate No. 249-S in Volusia County by North Peninsula Utilities Corporation.	DOCKET NO.	900659-SU
	ORDER NO.	24271
	ISSUED:	3/21/91

ORDER AMENDING CERTIFICATE TO INCLUDE ADDITIONAL TERRITORY AND CLOSING DOCKET

BY THE COMMISSION:

On July 26, 1990, North Peninsula Utilities Corporation (North Peninsula or Utility) filed an application with this Commission to amend Certificate No. 249-S to include additional territory in Volusia County, Florida. The notice included with the application was incorrect in that notice was given in the newspaper for only one week instead of once a week for three consecutive weeks. The Utility renoticed the proposed amendment. Also, the legal description filed with the application was incorrect. The application is now in compliance with Section 367.045, Florida Statutes, and other statutes and administrative rules concerning an application for amendment of certificate. In particular, the notarized application contains:

1. A filing fee in the amount of $150.00, as prescribed by Rule 25-30.020, Florida Administrative Code.

2. Adequate service territory and system maps and a territory description, as prescribed by Rule 25-30.035, Florida Administrative Code. The additional territory in Volusia County is described in Attachment A of this Order.

3. Proof of notice to interested governmental and regulatory agencies and utilities within a four-mile radius of the territory, and proof of advertisement in a newspaper of general circulation in Volusia County, as prescribed by Rule 25-30.030, Florida Administrative Code.

4. Evidence that the Utility owns the land upon which its facilities are located as required by Rule 25-30.035, Florida Administrative Code.

No objections to the application have been received and the time for filing such has expired.

North Peninsula has been operating the system satisfactorily since 1989. The Utility has demonstrated that it has the expertise and the capital necessary to provide quality service to the customers in the additional territory. In addition, the Department of Environmental Regulations has no outstanding notices of

DOCUMENT NUMBER-DATE
02821 MAR 21 1991
FPSC-RECORDS/REPORTING

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violations or corrective orders against the Utility. Therefore, we find that it is in the public interest to amend Certificate No. 249-S to include the territory described in Attachment A of this Order, which by reference is incorporated herein. The Utility has submitted Certificate No. 249-S for entry reflecting the territory described in Attachment A. North Peninsula has also submitted tariff sheets reflecting the additional territory.

It is, therefore,

ORDERED by the Florida Public Service Commission that Certificate No. 249-S, held by North Peninsula Utilities Corporation, Post Office Box 2803, Ormond Beach, Florida 32175, is hereby amended to include the territory described in Attachment A of this Order. It is further

ORDERED that the customers in the territory added herein shall be charged the rates approved in the Utility's tariff. It is further

ORDERED that Docket No. 900659-SU is hereby closed.

By ORDER of the Florida Public Service Commission, this 21st day of MARCH, 1991.

Steve Tribble

STEVE TRIBBLE, Director
Division of Records and Reporting

(S E A L)

ALC

NOTICE OF FURTHER PROCEEDINGS OR JUDICIAL REVIEW

The Florida Public Service Commission is required by Section 120.59(4), Florida Statutes, to notify parties of any administrative hearing or judicial review of Commission orders that is available under Sections 120.57 or 120.68, Florida Statutes, as well as the procedures and time limits that apply. This notice should not be construed to mean all requests for an administrative

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hearing or judicial review will be granted or result in the relief sought.

Any party adversely affected by the Commission's final action in this matter may request: 1) reconsideration of the decision by filing a motion for reconsideration with the Director, Division of Records and Reporting within fifteen (15) days of the issuance of this order in the form prescribed by Rule 25-22.060, Florida Administrative Code; or 2) judicial review by the Florida Supreme Court in the case of an electric, gas or telephone utility or the First District Court of Appeal in the case of a water or sewer utility by filing a notice of appeal with the Director, Division of Records and Reporting and filing a copy of the notice of appeal and the filing fee with the appropriate court. This filing must be completed within thirty (30) days after the issuance of this order, pursuant to Rule 9.110, Florida Rules of Appellate Procedure. The notice of appeal must be in the form specified in Rule 9.900 (a), Florida Rules of Appellate Procedure.

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ATTACHMENT A
Page 1 of 3

DESCRIPTION OF NORTH PENINSULA UTILITIES CORPORATION

IN VOLUSIA COUNTY

Township 13 South, Range 32 East

In Section 21

Commence at the intersection of the North Line of Section 21 of said Township and range with the westerly line of State Road A-1-A (Ocean Shore Blvd.), an 80 foot Right of Way as now laid out; Thence Southerly along said Westerly line a distance of 1,172.89 feet to the Point of Beginning; Thence continue South 23° 16' 39" East along the Westerly line of State Road A-1-A, a distance of 267.49 feet; Thence South 88° 06' 52" West a distance of 1,847.20 feet; Thence South 88° 06' 52" West a distance of 31.30 feet to a point on the easterly line of John Anderson Drive (formerly John Anderson Highway), a 50 foot Right of Way in this Section; Thence North 18° 36' 26" West along said Easterly line, a distance of 154.48 feet; Thence North 88° 04' 46" East and parallel with the North line of said Section, a distance of 155.00 feet; Thence North 18° 36' 26" West and parallel with the Easterly line of John Anderson Drive, a distance of 104.40 feet; Thence North 88° 04' 46" East a distance of 1,700.42 feet to the Point of Beginning.

DESCRIPTION OF NORTH PENINSULA UTILITIES CORPORATION

IN VOLUSIA COUNTY

Barrier Isle Subdivision

Township 13 South, Range 32 East

In Section 21

Commence at the intersection of the North line of Section 21, of Said Township and Range, with the westerly line of State Road A-1-A (Ocean Shore Blvd.), an 80 foot Right of Way as now laid out; Thence Southerly along the Westerly line of State Road A-1-A, a distance of 1014.45 feet, to the Northwest corner of Marlin Drive and State Road A-1-A, said point also being the Point of Beginning of this description, Thence South 88° 04' 46" West (along Marlin Drive) a distance of 298.02 feet; Thence North 23° 19' 36" West a distance of 104.71 feet; Thence South 88° 04' 46" West a distance of 1,534.67 feet; Thence North 18° 38' 19" West a distance of 62.64 feet (also parallel to and adjacent to John Anderson Drive, formerly John Anderson Highway); Thence North 88° 04' 46" East a distance of 181.33 feet; Thence North 18° 38' 33" West a distance of 114.87 feet; Thence North 88° 04' 46" East a distance of 1635.79 feet; Thence South 23° 19' 36" East a distance of 287.31 Feet to the Point of Beginning.

ATTACHMENT A
Page 3 of 3

DESCRIPTION OF NORTH PENINSULA UTILITIES CORPORATION

IN VOLUSIA COUNTY

Township 13 South, Range 32 East

In Section 16

Commence at the intersection of the North line of Section 16, of Said Township and Range, with the Westerly Right of Way line of State Road A-1-A (Ocean Shore Blvd.), an 80 foot Right of Way as now laid out; Thence Southerly along the Westerly line of State Road A-1-A, a distance of 2,912 feet, more or less, to the Point of Beginning; thence continue along the Westerly line of State Road A-1-A South 22° 05' 50" East, 212.59 feet; thence South 87° 59' 20" West along the Northerly line of Ocean Aire Terrace (also parallel to the North line), 1,555.58 feet; thence North 15° 38' 45" West, parellel to and 30.00 feet Easterly of the Easterly right of way line of John Anderson Highway, 206.33 feet; thence North 88° 01' 15" East along the one-half Section line of said Section 16, 1,531.20 feet to the Point of Beginning.

Docket No. 021256-WU
G. C. Hartman Exhibit No. R-2
ECFS, Inc. Summary

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO. 31
COMPANY/ FARMTON Rebuttal
WITNESS. Gerald C. Hartman (GCH-R2)
DATE: 06/22-23/04

FPSC CERTIFICATION PUBLIC INTEREST EXAMPLE

East Central Florida Services, Inc.

BACKGROUND

In the early 1990s, a large landowner (Corporation of the President of the Church of Jesus Christ of Latter-Day Saints) certificated the largest land area FPSC regulated water and wastewater utility in the State of Florida. This large piece of property had singularity of land ownership. The owner was constantly impacted by governmental entities wishing to utilize this property for waste solids, solid waste, water resource development, and effluent disposal as well as other matters. The area had experienced forest fires and there was a need for fire protection in eastern Osceola, southeastern Orange and western Brevard Counties. No fire station was located in this region. Though sparse and spread out, there were many hunting camps on the property desirous of potable water service and had requested the same from the landowner. In addition, there are several home sites on the property for workers, managers and administrators of the property. These individuals and their families also wished to have adequate utility services. There was a future 50-year potential for certain types of development on the property. There were major corporations, which were desirous of utility service and access to the I-95 Power Transmission Corridor.

Land stewardship is very important to the owner. The use of water for land management was needed. The water resources underneath the property were being contaminated by saltwater intrusion at an alarming rate. The saltwater wedge was moving from the east to the west at an average rate of approximately 1,500 linear feet per year. The City of Cocoa's easternmost wells were being pumped so hard that saltwater upconing was also occurring and both were polluting the freshwater Floridan aquifer water resources to the extent of several square miles of the property each year. Prior to the FPSC certification, the landowner intervened on the City of Cocoa's water use permit (1988 through 1991) and the condemnations of well sites (1990 through 1991). The facts were that the City of Cocoa's more eastern Tram Road wells were increasing in salinity and that the monitor wells to the east were showing the saltwater pollution moving across the property. The St. Johns River Water Management District (SJRWMD) granted the complete request by the City of Cocoa for additional Floridan aquifer freshwater supplies and found such utilization to be in the general public interest that the environmental harm being caused was solely to one landowner and thereby insignificant, that the environmental damage to wetlands, etc. was also acceptable in nature, and that the use of fresh groundwater from the Floridan aquifer was reasonable and beneficial use to serve the customers of the City of Cocoa regional water system.

The City of Cocoa derives 90-percent (90%) of its water revenues from customers outside of the city limits. Only 10-percent (10%) of the revenues are within the city limits. The City of Cocoa historically applied a 35-percent (35%) "outside the city" surcharge to those customers outside the city limits and was transferring significant sums of money to the general fund of the City of Cocoa. Customers of the City of Cocoa included the Federal Government (military and aerospace installations), Titusville, the beach communities and cities, the City of Melbourne, and

the inland cities generally north of Melbourne and south of Titusville. During this same time period, the beach communities and other communities, other than the City of Melbourne, surrounding the City of Cocoa obtained the Volusia County surcharge limitation legislation. This was accomplished through the legislative delegation in Brevard County, which passed the Florida legislature limiting specifically as an exception to the 180.02 F. S. a Brevard County Outside City Limit of 110%. In addition, the court system found that the wells on the landowner's property had necessity for condemnation and very small wellhead properties were condemned by the City of Cocoa for integration into its regional raw water system. Shortly thereafter, the lower court found that the southern properties adjacent to the landowner (the Holland properties), would be considered "water banking" and there was not enough necessity for the condemnation of those parcels due to the City of Cocoa's demand projections and testimony at trial. Interestingly, the lower court opinion was appealed by the City of Cocoa and the Circuit Court of Appeals reversed the lower court ruling and provided again small well sites on the Holland property and provided for the condemnation of these small wells sites basically usurping all of the Fresh Floridan aquifer water resources in this area of Orange County to the City of Cocoa.

In contrast, to the north, within Orange County's utility service area and the International Corporate Park located just north of the owner's property, the well sites were not accomplished. In that situation, Orange County offered to provide raw water service to Cocoa if it so desired and stated that the County would develop its water resources within the County's Urban Service Area boundary. A major fact that the landowner, Holland Properties, ICP, Orange County, etc. pointed out was that the City of Cocoa virtually had no reuse, no alternative water supply development, no conservation, or other demand mitigating or resource protecting activities of substance.

Since the fresh water resources of Deseret from the main Floridan aquifer were being polluted at an alarming rate and no help was in sight, and due to the fact that there was a need for service on the property and that Deseret had hired professional hydrogeologists and water resource engineers to demonstrate environmentally acceptable water resource development alternatives; Deseret searched for an avenue which met all the needs of proper stewardship of the land, the community, and satisfied the ever-increasing potable water needs of the Space Coast via Cocoa's regional system.

In addition, the South Brevard Water Authority (a special act legislatively created entity) was searching for additional water supplies on Deseret and the Bull Creek Wildlife Area for an additional 50 million gallons per day. Osceola County, the State of Florida Department of Natural Resources, and Parks and Recreation personnel as well as the landowner and other landowners and their representatives within the Eastern Osceola area, all banded together and objected to both on a permitting, environmental, and legislative basis to this additional withdrawal of Floridan aquifer freshwater in Eastern Osceola County. The SJRWMD supported the South Brevard Water Authority and was willing to issue the water use permit for the area on the landowner's property, on Bull Creek property, and on other properties. Due to negotiations with the SJRWMD, the Bull Creek property was to be utilized at no cost to the Authority for land and easements, etc. The impacts of a regional well field at that location would be similar to the Cocoa wellfield and would lower or stop the flow in the agricultural wells in the area as well

as have significant environmental harm. The hearing officer, after a lengthy case, found that the environmental harm was unacceptable, that the alternatives for water supply existed, that the alternative water supply development had not occurred and should be allowed to occur and that though the use would be considered reasonable and beneficial use and the highest priority use (for potable water service) and that the engineering and hydrogeology conducted for its development were appropriate, that the permits should not be issued. This plus the legislative activities of the community finally led to the unique situation by the Florida Legislature to dissolve a regional water supply authority which has only occurred once in the State's history.

With this historical background, the major landowner in the area submitted for certification to Florida's Public Service Commission its holdings under to corporate name of East Central Florida Services, Inc. (ECFS). Osceola County, Special Water Districts 1, 2, 3, and 4, the City of Palm Bay and others supported the ECFS application. The Cities of Kissimmee, St. Cloud, OUC, Titusville, Rockledge and Melbourne did not intervene in the matter. Initially, Orange County intervened, but with a slight modification to the service area requested (a deletion of properties within the Orange County USA), settled out of the case. Both Brevard County and the City of Cocoa intervened and alleged conflicts with comprehensive plans, overlapping facilities and service areas. The Florida Public Service Commission (FPSC) conducted the hearing and weighed the testimony in the matter. The FPSC granted ECFS, Inc. the water and wastewater service area as amended.

TRACK RECORD OF ECFS, INC.

1. Financial

For over the past decade, ECFS, Inc. has only had to apply for a few of the many annual FPSC inflation derived deflator indexing provision. Although, a) millions of dollars have been invested by or contributed, transferred or loaned to ECFS, Inc.; b) the SJRWMD, SFWMD, FDEP and Orange, Osceola and Brevard Counties have required or requested many things of ECFS, Inc.; and, c) ECFS, Inc. has cumulatively operated approximating a not-for-profit entity – ECFS, Inc. has had little in rate relief.

2. Service

There have been no service complaints in over a decade of service. In fact, the hunting camps, residences, development, governments, fire districts, and major corporations have had their need for service met promptly. The quality of service and facilities has improved greatly and continuously ever since FPSC certification. ECFS, Inc. has improved water treatment and service for its potable customers. ECFS, Inc. has made more efficient use of existing facilities through its raw water service to its customers. Examples of new customers include:

- Additional hunting camps
- Additional single-family homes
- The new church facilities
- Major telecommunication customers

- Osceola County Fire Station (a sorely needed service could be provided with ECFS, Inc. water supply)
- Reliant Energy Corporation merchant power plant cooling water, fresh water for potable, boiler water make-up, and other uses.

3. Intergovernmental

ECFS, Inc. has an exemplary track record in assisting various levels of government in accomplishing worthwhile projects, programs and/or activities. A few of the examples include:

a. ECFS, Inc. providing information to Osceola, Orange and Brevard Counties for comprehensive planning and other purposes.

b. ECFS, Inc. and Deseret have consolidated their water use permits for easier regulation and have provided water facility, use, and resource information for improved regulation to both the SFWMD and SJRWMD.

c. ECFS, Inc. has agreed with the City of Palm Bay to provide alternative water supply and/or fresh raw water supply when the City elects to avail itself of the supply. This combined with the City of Palm Bay's new membrane treatment facilities assures that the City's potable supply needs will be met.

d. ECFS, Inc./City of Orlando/Orange county reclaimed water program cooperative activities developed environmental wetland renourishment, silvaculture, sod, agriculture and saltwater encroachment barrier opportunities. This program is one of the priority listing reclaimed water uses following CHSEC cooling water use and residential/golf course uses on the eastside of Orange County.

e. Alternative Water Supply Programs:

1) City of Cocoa/ECFS, Inc./Deseret:
   - Taylor Creek Reservoir:
     This lease created the largest new surface water source use in Florida over the past 20 years
   - Pipeline Road Secondary Aquifer Shallow Wells:
     ECFS, Inc. developed the concept and City of Cocoa implemented 11 such wells providing wellfield stress rotation and management benefits.

2) Cities of Melbourne and Palm Bay:
   With Florida Legislature's dissolving of the SBWA, both cities have developed major reclaimed water reuse and alternative water supply – membrane treatment – sources to meet their potable needs versus the previous SBWA program of inland fresh Floridan aquifer groundwater sources.

f. Managed Land Stewardship Programs:

1) Brevard County Landfill Site:
This site is accommodated in the northeast corner of the unit north of 192 and downstream of the Class I Lake Washington Reservoir and with the additional protection of the Deseret Berm.

2) City of Cocoa Lime Sludge:
The City of Cocoa's lime sludge from the Claude Dyal lime softening units is stockpiled on their site in Orange County. This waste product is beneficially reused upon the property as a soil sweetener.

3) City of Orlando and Others Domestic Biosolids:
This material is either directly applied or composed and applied to add organics to the sandy soil matrix.

There are several other land stewardship programs occurring on Deseret Ranches which do not include intergovernmental cooperation/ facilitation/assistance.

INTERVENOR OBJECTIONS – A DECADE LATER

1. Comprehensive Plan Compliance -

There have been no developments on other activities that have conflicted with either the Brevard County or City of Cocoa comprehensive plans after over a decade of operations.

2. Competition with Existing Utilities

Neither the City of Cocoa nor Brevard County serve on the west side of the St. Johns River or anywhere close to ECFS, Inc. after over a decade of operations.

3. Competition for Water Use Permits

a. ECFS, Inc. has facilitated the City of Cocoa getting the WUP's for the Pipeline Road Wells and the Taylor Creek Surface Water Reservoir. Now the City of Cocoa has more raw water resources than ever and their Tram Road wellfield that was previously becoming more saline is recovering and improving in water quality.

b. ECFS, Inc. has never commented, competed or intervened on any Brevard County WUP and Brevard County has not commented, competed or intervened on any ECFS, Inc. WUP.

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4. Public Interest

None of the objections or theories of negative public interest by either City of Cocoa or Brevard County have occurred in over a decade of operations.

All of the positive public interest statements by the applicant ECFS, Inc. have occurred and are documented.

5. Water Resources

The devastation and pollution at an alarming rate of the fresh Floridan aquifer water quality due to overpumping in concentrated areas by the City of Cocoa have been stemmed to approximately that level of pollution present in 1992 and in some areas some limited water quality recovery has occurred. The westward migration of salinity has been slowed to a small fraction of the previous pace.

ECFS, Inc. has facilitated the largest percent growth of Alternative Water Supplies in any major/regional (Space Coast) water supply area in the State of Florida. ECFS, Inc. has provided the GIS mapping and information to both the SJRWMD and SFWMD to better regulate and manage the water resources of the region.

Docket No. 021256-WU
G. C. Hartman Exhibit No. R-3
Chapters 373.016 and 403.021 Florida Statutes

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO. 32
COMPANY/ FARMTON Rebuttal
WITNESS: Gerald C. Hartman (GCH-R3)
DATE: 06/22-23/04

Select Year: 2003 GO

The 2003 Florida Statutes

Title XXVIII	Chapter 373	View Entire Chapter
NATURAL RESOURCES; CONSERVATION, RECLAMATION, AND USE	WATER RESOURCES	

373.016 **Declaration of policy.**--

(1) The waters in the state are among its basic resources. Such waters have not heretofore been conserved or fully controlled so as to realize their full beneficial use.

(2) The department and the governing board shall take into account cumulative impacts on water resources and manage those resources in a manner to ensure their sustainability.

(3) It is further declared to be the policy of the Legislature:

(a) To provide for the management of water and related land resources;

(b) To promote the conservation, replenishment, recapture, enhancement, development, and proper utilization of surface and ground water;

(c) To develop and regulate dams, impoundments, reservoirs, and other works and to provide water storage for beneficial purposes;

(d) To promote the availability of sufficient water for all existing and future reasonable-beneficial uses and natural systems;

(e) To prevent damage from floods, soil erosion, and excessive drainage;

(f) To minimize degradation of water resources caused by the discharge of stormwater;

(g) To preserve natural resources, fish, and wildlife;

(h) To promote the public policy set forth in s. 403.021;

(i) To promote recreational development, protect public lands, and assist in maintaining the navigability of rivers and harbors; and

(j) Otherwise to promote the health, safety, and general welfare of the people of this state.

In implementing this chapter, the department and the governing board shall construe and apply the policies in this subsection as a whole, and no specific policy is to be construed or applied in isolation from the other policies in this subsection.

(4)(a) Because water constitutes a public resource benefiting the entire state, it is the policy of the Legislature that the waters in the state be managed on a state and regional basis. Consistent with this directive, the Legislature recognizes the need to allocate water throughout the state so as to meet all reasonable-beneficial uses. However, the Legislature acknowledges that such allocations have in the past adversely affected the water resources of certain areas in this state. To protect such water resources and to meet the current and future needs of those areas with abundant water, the Legislature directs the department and the water management districts to encourage the use of water from sources nearest the area of use or application whenever

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practicable. Such sources shall include all naturally occurring water sources and all alternative water sources, including, but not limited to, desalination, conservation, reuse of nonpotable reclaimed water and stormwater, and aquifer storage and recovery. Reuse of potable reclaimed water and stormwater shall not be subject to the evaluation described in s. 373.223(3)(a)-(g). However, this directive to encourage the use of water, whenever practicable, from sources nearest the area of use or application shall not apply to the transport and direct and indirect use of water within the area encompassed by the Central and Southern Florida Flood Control Project, nor shall it apply anywhere in the state to the transport and use of water supplied exclusively for bottled water as defined in s. 500.03(1)(d), nor shall it apply to the transport and use of reclaimed water for electrical power production by an electric utility as defined in section 366.02(2).

(b) In establishing the policy outlined in paragraph (a), the Legislature realizes that under certain circumstances the need to transport water from distant sources may be necessary for environmental, technical, or economic reasons.

(5) The Legislature recognizes that the water resource problems of the state vary from region to region, both in magnitude and complexity. It is therefore the intent of the Legislature to vest in the Department of Environmental Protection or its successor agency the power and responsibility to accomplish the conservation, protection, management, and control of the waters of the state and with sufficient flexibility and discretion to accomplish these ends through delegation of appropriate powers to the various water management districts. The department may exercise any power herein authorized to be exercised by a water management district; however, to the greatest extent practicable, such power should be delegated to the governing board of a water management district.

(6) It is further declared the policy of the Legislature that each water management district, to the extent consistent with effective management practices, shall approximate its fiscal and budget policies and procedures to those of the state.

History.--s. 2, part I, ch. 72-299; s. 36, ch. 79-65; s. 70, ch. 83-310; s. 5, ch. 89-279; s. 20, ch. 93-213; s. 250, ch. 94-356; s. 1, ch. 97-160; s. 1, ch. 98-88.

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Select Year: 2003 Go

The 2003 Florida Statutes

Title XXIX PUBLIC HEALTH | Chapter 403 ENVIRONMENTAL CONTROL | View Entire Chapter

403.021 **Legislative declaration; public policy.**--

(1) The pollution of the air and waters of this state constitutes a menace to public health and welfare; creates public nuisances; is harmful to wildlife and fish and other aquatic life; and impairs domestic, agricultural, industrial, recreational, and other beneficial uses of air and water.

(2) It is declared to be the public policy of this state to conserve the waters of the state and to protect, maintain, and improve the quality thereof for public water supplies, for the propagation of wildlife and fish and other aquatic life, and for domestic, agricultural, industrial, recreational, and other beneficial uses and to provide that no wastes be discharged into any waters of the state without first being given the degree of treatment necessary to protect the beneficial uses of such water.

(3) It is declared to be the public policy of this state and the purpose of this act to achieve and maintain such levels of air quality as will protect human health and safety and, to the greatest degree practicable, prevent injury to plant and animal life and property, foster the comfort and convenience of the people, promote the economic and social development of this state, and facilitate the enjoyment of the natural attractions of this state. In accordance with the public policy established herein, the Legislature further declares that the citizens of this state should be afforded reasonable protection from the dangers inherent in the release of toxic or otherwise hazardous vapors, gases, or highly volatile liquids into the environment.

(4) It is declared that local and regional air and water pollution control programs are to be supported to the extent practicable as essential instruments to provide for a coordinated statewide program of air and water pollution prevention, abatement, and control for the securing and maintenance of appropriate levels of air and water quality.

(5) It is hereby declared that the prevention, abatement, and control of the pollution of the air and waters of this state are affected with a public interest, and the provisions of this act are enacted in the exercise of the police powers of this state for the purpose of protecting the health, peace, safety, and general welfare of the people of this state.

(6) The Legislature finds and declares that control, regulation, and abatement of the activities which are causing or may cause pollution of the air or water resources in the state and which are or may be detrimental to human, animal, aquatic, or plant life, or to property, or unreasonably interfere with the comfortable enjoyment of life or property be increased to ensure conservation of natural resources; to ensure a continued safe environment; to ensure purity of air and water; to ensure domestic water supplies; to ensure protection and preservation of the public health, safety, welfare, and economic well-being; to ensure and provide for recreational and wildlife needs as the population increases and the economy expands; and to ensure a continuing growth of the economy and industrial development.

(7) The Legislature further finds and declares that:

(a) Compliance with this law will require capital outlays of hundreds of millions of dollars for the installation of machinery, equipment, and facilities for the treatment of industrial wastes which are not productive assets and increased operating expenses to owners without any financial return and should be separately classified for assessment purposes.

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(b) Industry should be encouraged to install new machinery, equipment, and facilities as technology in environmental matters advances, thereby improving the quality of the air and waters of the state and benefiting the citizens of the state without pecuniary benefit to the owners of industries; and the Legislature should prescribe methods whereby just valuation may be secured to such owners and exemptions from certain excise taxes should be offered with respect to such installations.

(c) Facilities as herein defined should be classified separately from other real and personal property of any manufacturing or processing plant or installation, as such facilities contribute only to general welfare and health and are assets producing no profit return to owners.

(d) In existing manufacturing or processing plants it is more difficult to obtain satisfactory results in treating industrial wastes than in new plants being now planned or constructed and that with respect to existing plants in many instances it will be necessary to demolish and remove substantial portions thereof and replace the same with new and more modern equipment in order to more effectively treat, eliminate, or reduce the objectionable characteristics of any industrial wastes and that such replacements should be classified and assessed differently from replacements made in the ordinary course of business.

(8) The Legislature further finds and declares that the public health, welfare, and safety may be affected by disease-carrying vectors and pests. The department shall assist all governmental units charged with the control of such vectors and pests. Furthermore, in reviewing applications for permits, the department shall consider the total well-being of the public and shall not consider solely the ambient pollution standards when exercising its powers, if there may be danger of a public health hazard.

(9)(a) The Legislature finds and declares that it is essential to preserve and maintain authorized water depth in the existing navigation channels, port harbors, turning basins, and harbor berths of this state in order to provide for the continued safe navigation of deepwater shipping commerce. The department shall recognize that maintenance of authorized water depths consistent with port master plans developed pursuant to s. 163.3178(2)(k) is an ongoing, continuous, beneficial, and necessary activity that is in the public interest; and it shall develop a regulatory process that shall enable the ports of this state to conduct such activities in an environmentally sound, safe, expeditious, and cost-efficient manner. It is the further intent of the Legislature that the permitting and enforcement of dredging, dredged-material management, and other related activities for Florida's deepwater ports pursuant to this chapter and chapters 161, 253, and 373 shall be consolidated within the department's Division of Water Resource Management and, with the concurrence of the affected deepwater port or ports, may be administered by a district office of the department or delegated to an approved local environmental program.

(b) The provisions of paragraph (a) apply only to the port waters, dredged-material management sites, port harbors, navigation channels, turning basins, and harbor berths used for deepwater commercial navigation in the ports of Jacksonville, Tampa, Port Everglades, Miami, Port Canaveral, Ft. Pierce, Palm Beach, Port Manatee, Port St. Joe, Panama City, St. Petersburg, Pensacola, Fernandina, and Key West.

(10) It is the policy of the state to ensure that the existing and potential drinking water resources of the state remain free from harmful quantities of contaminants. The department, as the state water quality protection agency, shall compile, correlate, and disseminate available information on any contaminant which endangers or may endanger existing or potential drinking water resources. It shall also coordinate its regulatory program with the regulatory programs of other agencies to assure adequate protection of the drinking water resources of the state.

(11) It is the intent of the Legislature that water quality standards be reasonably established and applied to take into account the variability occurring in nature. The department shall recognize the statistical variability inherent in sampling and testing procedures that are used to express water quality standards. The department shall also recognize that some deviations from water quality

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standards occur as the result of natural background conditions. The department shall not consider deviations from water quality standards to be violations when the discharger can demonstrate that the deviations would occur in the absence of any human-induced discharges or alterations to the water body.

History.--s. 3, ch. 67-436; s. 1, ch. 78-98; ss. 1, 5, ch. 81-228; s. 4, ch. 84-79; s. 46, ch. 84-338; s. 11, ch. 85-269; s. 1, ch. 85-277; s. 8, ch. 86-186; s. 3, ch. 86-213; s. 143, ch. 96-320; s. 1004, ch. 97-103; s. 4, ch. 99-353.

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Docket No. 021256-WU
G.C. Hartman Exhibit No. R-4 (Revised 4/21/04)
Revised Farmton Resources Requested Certification Area and Legal Description

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 021256-WU EXHIBIT NO. 33
COMPANY/ FARMTON Rebuttal
WITNESS: Gerald C. Hartman (GCH-R4)
DATE: 06/22-23/04

DOCUMENT NUMBER-DATE
04835 APR 26 04
FPSC-COMMISSION CLERK

STATE OF FLORIDA



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ANN COLE
COMMISSION CLERK

Public Service Commission

* *

Docket No. : 021256-WS

Docket Title: Application for certificate to provide water service in Volusia and Brevard Counties by Farmton Water Resources LLC.

DN 04835-04: FARMTON (DETERDING) - FARMTON (DETERDING) - LETTER DATED 4/26/04 WITH ATTACHED REVISED EXHIBIT NOS. GCH-R1 AND GCH-R4 TO REBUTTAL TESTIMONY OF GERALD C HARTMAN. MAP IS NOT IN PDF FORMAT.

[CLK NOTE: MAP PORTIONS OF EXHIBIT 33 CAN BE FOUND IN MAPS MICROFILM.]

STATE OF FLORIDA



OFFICE OF COMMISSION CLERK
ANN COLE
COMMISSION CLERK

Public Service Commission

* *

Docket No. : 021256-WS

Docket Title: Application for certificate to provide water service in Volusia and Brevard Counties by Farmton Water Resources LLC.

DN 04835-04: FARMTON (DETERDING) - FARMTON (DETERDING) - LETTER DATED 4/26/04 WITH ATTACHED REVISED EXHIBIT NOS. GCH-R1 AND GCH-R4 TO REBUTTAL TESTIMONY OF GERALD C HARTMAN. MAP IS NOT IN PDF FORMAT.

[CLK NOTE: MAP PORTIONS OF EXHIBIT 33 CAN BE FOUND IN MAPS MICROFILM.]

GCH-R4
LEGAL DESCRIPTION:

TOWNSHIP 18 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY. FLORIDA

ALL OF SECTIONS 13 AND 14
THE EAST 1/2 OF SECTIONS 15 AND 22
ALL OF SECTIONS 23, 24, 25, 26, 27, 28, 31, 32, 33, 34, 35 AND 36.

TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA

ALL OF SECTIONS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29

LESS AND EXCEPT THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF SECTION 5

LESS AND EXCEPT THE EAST ¼ OF THE SOUTHWEST ¼ OF THE NORTHWEST ¼; AND THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF SECTION 6

LESS AND EXCEPT THE WEST ½ OF THE NORTHWEST ¼ OF THE SOUTHWEST ¼; AND THE WEST ½ OF THE EAST ½ OF THE SOUTHWEST ¼ OF THE SOUTHWEST ¼; AND THE EAST ¾ OF THE NORTHEAST ¼ OF THE SOUTHWEST ¼; AND THE WEST ½ OF THW SOUTHWEST ¼ OF THE SOUTHEAST ¼; AND THE WEST ¾ OF THE NORTHWEST ¼ OF THE SOUTHEAST ¼; AND THE WEST ¼ OF THE NORTHEAST ¼ OF THE SOUTHEAST ¼; AND THE WEST ¼ OF THE SOUTHEAST ¼ OF THE NORTHEAST ¼; AND THE EAST ½ OF THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 7

LESS AND EXCEPT THE EAST ½ OF THE SOUTHWEST ¼ OF THE SOUTHEAST ¼; AND THE EAST ½ OF THE WEST ½ OF THE SOUTHEAST ¼ OF THE SOUTHEAST ¼; AND THE SOUTHEAST ¼ OF THE SOUTHEAST ¼ OF THE SOUTHEAST ¼ OF SECTION 8

LESS AND EXCEPT THE NORTH ½ OF THE NORTHEAST ¼ OF SECTION 16

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 1,486.51 FEET; THENCE RUN S.01°21'39"E., FOR A DISTANCE OF 515.09 FEET TO THE POINT OF BEGINNING; THENCE RUN S.89°33'37"E., FOR A DISTANCE OF 521.14 FEET; THENCE RUN S.00°32'06"W., FOR A DISTANCE OF 150.63 FEET; THENCE RUN S.89°20'51"W., FOR A DISTANCE OF 515.94 FEET; THENCE RUN N.01°21'39"W., FOR A DISTANCE OF 160.55 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 1,487.87 FEET; THENCE RUN S.00°44'27"E., FOR A DISTANCE OF 253.23 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°51'24"E., FOR A DISTANCE OF 50.00 FEET; THENCE RUN S.00°44'47"E., FOR A DISTANCE OF 100.76 FEET; THENCE RUN S.88°59'51"W., FOR A DISTANCE OF 50.01 FEET; THENCE RUN N.00°44'27"W., FOR A DISTANCE OF 101.51 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF

1,643.36 FEET; THENCE RUN S.00°52'09"E., FOR A DISTANCE OF 1,185.77 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°16'13"E., FOR A DISTANCE OF 49.07 FEET; THENCE RUN S.00°40'06"E., FOR A DISTANCE OF 99.13 FEET; THENCE RUN S.89°33'32"W., FOR A DISTANCE OF 48.72 FEET; THENCE RUN N.00°52'09"W., FOR A DISTANCE OF 98.89 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 1,704.56 FEET; THENCE RUN S.00°20'35"E., FOR A DISTANCE OF 1,482.69 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°18'56"E., FOR A DISTANCE OF 52.32 FEET; THENCE RUN S.01°22'15"E., FOR A DISTANCE OF 99.28 FEET; THENCE RUN S.89°28'14"W., FOR A DISTANCE OF 54.10 FEET; THENCE RUN N.00°20'35"W., FOR A DISTANCE OF 99.13 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 1,916.36 FEET; THENCE RUN S.00°55'35"E., FOR A DISTANCE OF 883.67 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°29'23"E., FOR A DISTANCE OF 70.19 FEET; THENCE RUN S.00°50'18"E., FOR A DISTANCE OF 100.39 FEET; THENCE RUN S.89°23'11"W., FOR A DISTANCE OF 70.04 FEET; THENCE RUN N.00°55'35"W., FOR A DISTANCE OF 100.51 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 2,099.62 FEET; THENCE RUN S.01°01'27"E., FOR A DISTANCE OF 763.77 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°29'50"E., FOR A DISTANCE OF 71.22 FEET; THENCE RUN S.01°01'23"E., FOR A DISTANCE OF 105.02 FEET; THENCE RUN S.89°35'52"W., FOR A DISTANCE OF 71.22 FEET; THENCE RUN N.01°01'27"W., FOR A DISTANCE OF 104.89 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 2,343.64 FEET; THENCE RUN S.01°14'33"E., FOR A DISTANCE OF 1,359.09 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°11'54"E., FOR A DISTANCE OF 53.60 FEET; THENCE RUN S.00°38'10"E., FOR A DISTANCE OF 104.13 FEET; THENCE RUN S.89°35'27"W., FOR A DISTANCE OF 52.50 FEET; THENCE RUN N.01°14'33"W., FOR A DISTANCE OF 103.77 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THAT PART OF SECTION 18 DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY FLORIDA; THENCE RUN N.89°23'07"E., FOR A DISTANCE OF 3,011.48 FEET; THENCE RUN S.01°14'00"E., FOR A DISTANCE OF 1,059.93 FEET TO THE POINT OF BEGINNING; THENCE RUN N.89°11'46"E., FOR A DISTANCE OF 98.01 FEET; THENCE RUN S.00°53'04"E., FOR A DISTANCE OF 105.26 FEET; THENCE RUN S.89°37'56"W., FOR A DISTANCE OF 97.38 FEET; THENCE RUN N.01°14'00"W., FOR A DISTANCE OF 104.52 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THE WEST ½ OF THE SOUTHWEST ¼; AND THE SOUTHWEST ¼ OF THE NORTHWEST ¼ OF SECTION 19

LESS AND EXCEPT THE EAST ½ OF THE NORTHEAST ¼ OF THE NORTHEAST ¼ OF SECTION 20

LESS AND EXCEPT A PORTION OF SECTION 21, MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHEAST CORNER OF SECTION 21, TOWNSHIP 19 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA; THENCE RUN S.01°54'33"E., ALONG THE EAST LINE OF SAID SECTION 21 FOR A DISTANCE OF 996.18 FEET; THENCE RUN S.01°54'21"E., FOR A DISTANCE OF 364.58 FEET TO THE POINT OF BEGINNING; THENCE RUN S.01°54'36"E., FOR A DISTANCE OF 1,325.86 FEET; THENCE DEPARTING SAID EAST LINE, RUN S.89°30'18"W., FOR A DISTANCE OF 1,316.67 FEET; THENCE RUN N.02°18'23"W., FOR A DISTANCE OF 266.34 FEET; THENCE RUN S.89°42'43"W., FOR A DISTANCE OF 497.23 FEET; THENCE RUN N.01°57'48"W., FOR A DISTANCE OF 1,047.99 FEET; THENCE RUN N.89°11'44"E., FOR A DISTANCE OF 1,816.46 FEET TO A POINT IN THE AFOREMENTIONED EAST LINE AND THE POINT OF BEGINNING.

LESS AND EXCEPT THE WEST ½ OF THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 22

LESS AND EXCEPT THE EAST 12 CHAINS OF THE SOUTH 10 CHAINS OF THE NORTHEAST ¼ OF THE NORTHWEST ¼; AND THE SOUTHEAST ¼ OF THE NORTHWEST ¼; AND THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 23

LESS AND EXCEPT THE WEST ½ OF THE NORTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 27

TOGETHER WITH THE EAST ½; THE EAST ½ OF THE NORTHWEST ¼; AND ALL THAT PART OF THE SOUTHWEST ¼ OF SECTION 30, LYING EAST OF THE ST. JOHNS RIVER

TOGETHER WITH ALL OF THAT PART OF THE NORTHEAST ¼ LYING NORTH OF THE ABANDONED FLORIDA EAST COAST RAILROAD; THE NORTHEAST ¼ OF THE NORTHWEST ¼; AND THE SOUTH 13.67 CHAINS OF THE SOUTHEAST ¼ OF THE NORTHWEST ¼ LYING NORTH AND EAST OF THE RIVER IN SECTION 31

TOGETHER WITH ALL OF SECTIONS 32, 33, 34 AND 35 LYING NORTH OF THE ABANDONED FLORIDA EAST COAST RAILROAD RIGHT-OF-WAY

LESS AND EXCEPT THE SOUTHWEST ¼ OF THE NORTHEAST ¼ OF SECTION 34 LYING NORTH OF THE ABANDONED FLORIDA EAST COAST RAILROAD RIGHT-OF-WAY

ALL OF SECTION 36.

TOWNSHIP 20 SOUTH, RANGE 33 EAST VOLUSIA COUNTY, FLORIDA

ALL OF SECTIONS 1, 12, 13 AND 24

TOWNSHIP 19 SOUTH, RANGE 34 EAST, VOLUSIA COUNTY, FLORIDA

ALL OF SECTIONS 5, 6, 7, 8, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, AND 33

LESS AND EXCEPT THE WEST ½ OF THE SOUTHEAST ¼ OF THE NORTHWEST ¼; AND THAT PART OF THE SOUTHEAST ¼ OF THE SOUTHEAST ¼ OF THE NORTHWEST ¼ LYING WITHIN THE RAILROAD RIGHT-OF-WAY; AND THAT PART OF THE SOUTHEAST ¼

OF THE SOUTHWEST ¼ LYING NORTH OF THE SOUTHERLY RAILROAD RIGHT-OF-WAY LINE; AND THE SOUTHWEST ¼ OF THE SOUTHEAST ¼ OF SECTION 30

TOWNSHIP 20 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA

ALL OF SECTION 4, 5, 6, 7, 8, 17, 18, 19 AND 20

TOWNSHIP 20 SOUTH, RANGE 34 EAST AND TOWNSHIP 21 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA; AND TOWNSHIP 21 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA

ALL OF SECTIONS 6, 7, 8, 10, 11, 12, 25, 26, 27; A PORTION OF SECTION 13 AND 24 VOLUSIA COUNTY AND A PORTION OF SECTION 37 OF THE PLAT OF INDIAN RIVER PARK SUBDIVISION OF THE BERNARDO SEQUI GRANT RECORDED IN PLAT BOOK 2, PAGE 33 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS.

BEGINNING AT THE SOUTHEAST CORNER OF SECTION 20, TOWNSHIP 20 SOUTH, RANGE 34 EAST THENCE N78°15'40"E, A DISTANCE OF 2,203.90 FEET; THENCE S18°04'14"E, A DISTANCE OF 5,203.03 FEET; THENCE S78°28'51"W, A DISTANCE OF 650.12 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE N78°28'51"E, A DISTANCE OF 650.12 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE S78°28'51"W, A DISTANCE OF 1,300.24 FEET; THENCE S18°04'14"E, A DISTANCE OF 5,850.53 FEET; THENCE N78°28'51"E, A DISTANCE OF 1,300.24 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE S78°28'51"W, A DISTANCE OF 1,300.24 FEET; THENCE S18°04'14"E, A DISTANCE OF 1,300.12 FEET; THENCE S78°28'51"W, A DISTANCE OF 1,300.24 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE N78°28'51"E, A DISTANCE OF 2,600.48 FEET; THENCE S18°04'14"E, A DISTANCE OF 650.06 FEET; THENCE S78°28'51"W, A DISTANCE OF 21,437.63 FEET TO THE SOUTHWEST CORNER OF SECTION 37, TOWNSHIP 21 SOUTH, RANGE 33 EAST; THENCE N09°25'57"W, A DISTANCE OF 3,351.19 FEET; THENCE S89°42'37"E, A DISTANCE OF 4,129.52 FEET; THENCE N00°57'50"W, A DISTANCE OF 5,354.01 FEET; THENCE N01°00'59"W, A DISTANCE OF 5,235.95 FEET; THENCE N01°22'29"W, A DISTANCE OF 2,576.62 FEET; THENCE N78°15'40"E, A DISTANCE OF 10,900.37 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THE SOUTHWEST ¼ OF THE SOUTHWEST ¼ OF THE NORTHWEST ¼ OF SECTION 24.

Docket No. 021256-WU
G. C. Hartman Exhibit No. R-4
Revised Farmton Resources Requested Certification Area and Legal Description

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 021256-WU EXHIBIT NO. 34
COMPANY/ FARMTON REBUTTAL
WITNESS: H.M. Landers (HML-2)
DATE: 06/22-23/04

EXHIBIT HML- 2: "Exhibit A. Consistency of Zoning Classifications With Future Land Use Map Series", Brevard County Land Development Regulations: Chapter 62 Code of Ordinances, Nov. 12, 2002

	Land Use Designations																
Zoning Classifications	Ag	Res 1:2.5	Res 1	Res 2	Res 4	Res 6	Res 10	Res 15	Res 30	NC	CC	PI	H/L	PUB	REC	PR CON	PUB CON
GU, PA, AGR, RRMH-5, PUD, RPUD, RVP	Y									Y*		N		N			
AU, REU, RRMH-2.5	N	Y								Y*		N		N			
ARR, RR-1, SEU, RRMH-1	N		Y							Y*		N		N			
SR, TR-2	N			Y						Y*		N		N			
EU, EU-1, EU-2, RU-1-13, RU-1-11, TR-1, RA-2-4, RU-2-4	N				Y					Y*		N		N			
RU-1-7, RU-1-9, TR-1-A, TR-3, TRC-1, RU-2-6, RA-2-6	N					Y				Y*		N		N			
RU-2-8, RA-2-8 RA-2-10, RU-2-10	N						Y			Y*		N		N			
RU-2-12, RU-2-15	N							Y		Y*		N		N			

RU-2-30	N					Y	Y*			N		N
BU-1-A	Y**						Y			N		N
RP	N			Y**			Y			N		N
BU-1, TU-1, TU-2	N						N		Y	N		N
BU-2	N						N		Y	Y**		N
PBP	N						N		Y	Y		N
PIP	N						N			Y		N
IU, IU-1	N						N			N	Y	N
EA, GML	Y						Y			Y		Y

GCH-R4

LEGAL DESCRIPTION
Proposed Farmton Water Resources LLC Service Area
November 20, 2001
As amended April 6, 2004

The following lands lying in Township 18 South, Range 33 East, Volusia County, Florida, more particularly described as follows:

All of Sections 13 and 14.

Blocks 1 and 4 of Howe and Curriers Allotment, Section 15, according to the Plat thereof, as recorded in Map Book 4, Page 44 in Section 15.

Blocks 1 and 4 of Howe and Curriers Allotment, Section 22, according to the Plat thereof, as recorded in Map Book 4, Page 44 in Section 22.

All of Sections 23, 24, 25, 26, 27, and 28.

Blocks 1, 2, 3, and 4 of The Florida Homeland Company, Section 31, according to the Plat thereof, as recorded in Map Book 1, Page 107 in Section 31.

All of Sections 32, 33, 34, 35, and 36.

Together with the following lands lying in Township 19 South, Range 33 East, Volusia County, Florida, more particularly described as follows:

All of Sections 1, 2, 3, and 4.

Blocks 1 and 2- Block 3 except Lot 10; and Block 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 5, Page 75 in Section 5.

Block 1; Block 2 except Lot 12; Block 3 except Lot 10; And Block 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 107 in Section 6.

Lots 1 to 10 inclusive, and Lots 14, 15, and 16 of Block 1; Block 2; Lots 4, 5, 6, 9, 10, 12, 13, 14, 15, 16 of Block 3; and Lots 2, 3, 5, 8, 11, 12, 13, 14, 15, and 16 of Block 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 108 in Section 7.

Blocks 1, 2 and 3; And Lots 1 to 10 inclusive and Lots 13 and 15 of Block 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 108 in Section 8.

Blocks 1, 2, 3 and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 108 in Section 9.

All of Sections 10, 11, 12, 13 and 14.

Blocks 1, 2, 3, and 4 of the Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 108 in Section 15.

Lots 9 to 16 inclusive of Block 1; Blocks 2, 3, and 4 of The Florida Homeland Company according to the Plat thereof, as recorded in Map Book 4, Page 106 in Section 16.

Blocks 1, 2, 3, and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 108 in Section 17.

Blocks 3 and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 108 in Section 18.

Blocks 1, 2, 3, 4 and 5; Block 6 except Lots 16, 17, and 18; Block 7 except Lots 38, 39, and 40; Blocks 8, 9, 10, 11, 12 and 13; Block 14 except Lot 14; Block 15; Block 16 except Lots 1 and 2; Blocks 17 to 25 inclusive; Block 26 except Lot 4; Block 27 except Lot 15; Blocks 28 to 60 inclusive of Farmton (formerly Celery City), according to the Plat thereof, as recorded in Map Book 5, Page 44 in Section 18.

Unnamed Lot(s) lying between Orange Avenue and the right of way of Florida East Coast Railway and North of Blocks 2, 3, 4, and 5; Unnamed Lot(s) lying between Orange Avenue and

the right of way of Florida East Coast Railway and North of Blocks 8, 9, and 10; Unnamed Lot(s) North of the right of way of the Florida East Coast Railway and East of 5th Street; All that Lot lying North of the right of way of Florida East Coast Railway right of way and between 5th Street and 7th Street; All that Lot lying North of the right of way of the Florida East Coast Railway and West of 7th Street of Farmton (formerly Celery City), according to the Plat thereof, as recorded in Map Book 5, page 44 in Section 18.

The Northeast 1/4; The Southeast 1/4; The North 1/2 of the Northwest 1/4; The Southeast 1/4 of the Northwest 1/4; and the East 1/2 of the Southwest 1/4 in Section 19.

Block 1 except Lots I and 2; and Blocks 2, 3 and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 108 in Section 20.

The Northwest 1/4; The Southwest 1/4; The Southeast 1/4; The North 1/2 of the Northeast 1/4; The South four (4) chains of the East 3/8 of the Southwest 1/4 of the Northeast 1/4; and the West 5/8 of the Southwest 1/4 of the Northeast 1/4 of Section 21.

Block 1 except the West 1/2 of Lot 10; and Blocks 2, 3 and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 106 in Section 22.

The East 1/2 of the Northeast 1/4; The Northwest 1/4 of the Northeast 1/4; The Southeast 1/4 The Northeast 1/4 of the Northwest 1/4, except the East 12 chains of the South 10 chains; The Southwest 1/4; The West 1/2 of the Northwest 1/4 in Section 23.

Section 24 less and except railroad right of way and road right of way.

Section 25 less and except railroad right of way and road right of way.

All of Section 26.

Block 1 except Lots 7 and 8; and Block 2, 3, and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 106 in Section 27.

All of Sections 28 and 29.

The East 1/2; The East 1/2 of the Northwest 1/4; And all that part of the Southwest 1/4 lying in Volusia County, Florida, in Section 30.

All of that part of the Northeast 1/4 lying North of the abandoned right of way of the Florida East Coast Railroad; The Northeast 1/4 of the Northwest 1/4; And the South 13.67 chains of the Southeast 1/4 of the Northwest 1/4 lying north and east of the river in Section 31.

All of that part Sections 32 and 33 lying North of the right of way of the Florida East Coast Railroad.

All of that part of the East 1/2 of the Northeast 1/4 lying North of the right of way of the Florida East Coast Railway Company; The Northwest 1/4 of the Northeast 1/4-, and all that part of the Northwest 1/4 lying North of the right of way of the Florida East Coast Railway Company in Section 34.

All of that part of Section 35 lying North of the right of way of the Florida East Coast Railway Company.

All of Section 36.

Together with the following lands lying in Township 20 South, Range 33 East, Volusia County, Florida, more particularly described as follows:

All of Sections 1, 12, and 13.

All of Fractional Section 24.

Together with all of that portion of Bernard Sequi Grant in Section 37, Township 21 South, Range 33 East, Volusia County, Florida.

Together with the following lands lying in Township 18 South, Range 34 East, Volusia County, Florida, more particularly described as follows:

BEGIN at the Northwest comer of Section 17, Township 18 South, Range 34 East, thence SOUTH, on the West line of said Section 17, a distance of, 1407.60 feet to a point; Thence North

79 degrees 47 minutes East, a distance of, 2794.30 feet to a point; Thence NORTH, a distance of, 912.00 feet to the North line of said Section 17; Thence WEST, a distance of 2751.00 feet more or less to the POINT OF BEGINNING.

All of Sections 18 and 19.

All that part of Section 20 lying South of a line beginning at the Northwest corner of the Sibbald Grant and running thence West parallel to the North line of said Section 20 to the West line of said Section 20.

All fractional Section 29.

All of Sections 30 and 3 1.

All of fractional Section 32 (being all of Section 32, except that portion in the Sibbald Grant and that portion in the John Lowe Grant).

That part of Lots 62 and 167 lying West of 1-95 right of way of the Assessor's Subdivision of the Charles Sibbald Grant in Sections 42, 43, and 44, Township 18 South, Range 34 East, according to the Plat thereof, as recorded in Map Book 3, Page 151 of the Public Records of Volusia County, Florida.

That part of Lots 13B, 14B, and 15B lying West of the 1-95 right of way of the Assessor's Subdivision of the Charles Sibbald Grant in Sections 43 and 44, Township 18 South, Range 34 East, according to the Plat thereof, as recorded in Map Book 3, Page 151 of the Public Records of Volusia County, Florida, less and except Borrow Pit No. 11 and the Haul Access.

Together with the following lands lying in Township 19 South, Range 34 East, Volusia County, Florida, more particularly described as follows:

Government Lots 1, 2, 3, and 4, in Section 5.

All of section 6.

All of Block 1, 2, 3, and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 106 in Section 7.

All of fractional Section 8 and 17.

Blocks 1, 2, 3, and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, Page 106 in Section 18.

All of Section 19.

All of fractional Section 20.

All of fractional Section 21 except railroad right of way and Maytown Road right of way.
All of fractional Section 28 except railroad right of way and Maytown Road right of way.

All of Section 29 except railroad right of way and Maytown Road right of way.

The Northeast 1/4; The North 1/2 of the Southeast 1/4; The Southeast 1/4 of the Southeast 1/4; The Southeast 1/4 of the Southwest 1/4 (less and except the East 72 feet of the Southeast 1/4 of the Southwest 1/4 and less and except that part of Southeast 1/4 of Southwest 1/4 lying Northeast of the right of way of the Florida East Coast Railway Company); The Southwest 1/4 of the Southwest 1/4; The North 1/2 of the Northwest 1/4; The East 1/2 of the Southeast 1/4 of the Northwest 1/4 (less and except a triangular strip of land sold to the Florida East Coast Railway Company in the East 1/2 of the Southeast 1/4 of the Northwest 1/4, located in the wye of said railroad); The Southwest 1/4 of the Northwest 1/4; and That part of land in the North 1/2 of the Southwest 1/4 lying North of the Florida East Coast Railway Company right of way in Section 30.

All of Section 31 except Florida East Coast Railway right of way.

All of Blocks 1, 2, 3, and 4 of The Florida Homeland Company, according to the Plat thereof, as recorded in Map Book 4, page 106 in Section 32.

All of fractional Section 33.

Less and excepting from all of the above described lands, all railroad rights of way of the Florida East Coast Railway Company.

Together with the following lands lying in Township 20 South, Range 34 East, Brevard County, Florida, more particularly described as follows:

All of fractional Section 4.

All of Sections 5, 6, 7, 8, 17, and 18.

All of fractional Sections 19 and 20.

Together with the following lands lying in Township 20 South, Range 34 East and Township 21 South, Range 34 East, Brevard County, Florida, more particularly described as follows:

All of Sections 6, 7, 8, 10, 11, 12, 25, 26, and 27, Indian River Park, according to the Plat thereof, as recorded in Plat Book 2, Page 33 of the Public Records of Brevard County, Florida.

Lots 2 to 8 inclusive of Block 1; Blocks 2 and 3; Lots 3 to 6 inclusive of Block 4; Lots 3 to 6 inclusive of Block 5; Blocks 6 and 7; and Lots 3 to 6 inclusive of Block 8 in Section 13, Indian River Park, according to the Plat thereof, as recorded in Plat Book 2, Page 33 of the Public Records of Brevard County, Florida.

Lots 3 to 6 inclusive of Block 1; Block 2; Block 3 except Lot 5; Lots 3 to 8 inclusive of Block 4; Lots 3 to 6 inclusive and Lot 8 of Block 5; Blocks 6 and 7; and Lots 5 to 8 inclusive of Block 8 in Section 24, Indian River Park, according to the Plat thereof, as recorded in Plat Book 2, Page 33 of the Public Records of Brevard County, Florida.

EXHIBIT HML- 3: Gerald Hartman, "FPSC Certification Public Interest Example : East Central Florida services, Inc." , January 30, 2004

FPSC CERTIFICATION PUBLIC INTEREST EXAMPLE

East Central Florida Services, Inc.

BACKGROUND

In the early 1990s, a large landowner (Corporation of the President of the Church of Jesus Christ of Latter-Day Saints) certificated the largest land area FPSC regulated water and wastewater utility in the State of Florida. This large piece of property had singularity of land ownership. The owner was constantly impacted by governmental entities wishing to utilize this property for waste solids, solid waste, water resource development, and effluent disposal as well as other matters. The area had experienced forest fires and there was a need for fire protection in eastern Osceola, southeastern Orange and western Brevard Counties. No fire station was located in this region. Though sparse and spread out, there were many hunting camps on the property desirous of potable water service and had requested the same from the landowner. In addition, there are several home sites on the property for workers, managers and administrators of the property. These individuals and their families also wished to have adequate utility services. There was a future 50-year potential for certain types of development on the property. There were major corporations, which were desirous of utility service and access to the I-95 Power Transmission Corridor.

Land stewardship is very important to the owner. The use of water for land management was needed. The water resources underneath the property were being contaminated by saltwater intrusion at an alarming rate. The saltwater wedge was moving from the east to the west at an average rate of approximately 1,500 linear feet per year. The City of Cocoa's easternmost wells were being pumped so hard that saltwater upconing was also occurring and both were polluting the freshwater Floridan aquifer water resources to the extent of several square miles of the property each year. Prior to the FPSC certification, the landowner intervened on the City of Cocoa's water use permit (1988 through 1991) and the condemnations of well sites (1990 through 1991). The facts were that the City of Cocoa's more eastern Tram Road wells were increasing in salinity and that the monitor wells to the east were showing the saltwater pollution moving across the property. The St. Johns River Water Management District (SJRWMD) granted the complete request by the City of Cocoa for additional Floridan aquifer freshwater supplies and found such utilization to be in the general public interest that the environmental harm being caused was solely to one landowner and thereby insignificant, that the environmental damage to wetlands, etc. was also acceptable in nature, and that the use of fresh groundwater from the Floridan aquifer was reasonable and beneficial use to serve the customers of the City of Cocoa regional water system.

The City of Cocoa derives 90-percent (90%) of its water revenues from customers outside of the city limits. Only 10-percent (10%) of the revenues are within the city limits. The City of Cocoa historically applied a 35-percent (35%) "outside the city" surcharge to those customers outside the city limits and was transferring significant sums of money to the general fund of the City of Cocoa. Customers of the City of Cocoa included the Federal Government (military and aerospace installations), Titusville, the beach communities and cities, the City of Melbourne, and

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the inland cities generally north of Melbourne and south of Titusville. During this same time period, the beach communities and other communities, other than the City of Melbourne, surrounding the City of Cocoa obtained the Volusia County surcharge limitation legislation. This was accomplished through the legislative delegation in Brevard County, which passed the Florida legislature limiting specifically as an exception to the 180.02 F. S. a Brevard County Outside City Limit of 110%. In addition, the court system found that the wells on the landowner's property had necessity for condemnation and very small wellhead properties were condemned by the City of Cocoa for integration into its regional raw water system. Shortly thereafter, the lower court found that the southern properties adjacent to the landowner (the Holland properties), would be considered "water banking" and there was not enough necessity for the condemnation of those parcels due to the City of Cocoa's demand projections and testimony at trial. Interestingly, the lower court opinion was appealed by the City of Cocoa and the Circuit Court of Appeals reversed the lower court ruling and provided again small well sites on the Holland property and provided for the condemnation of these small wells sites basically usurping all of the Fresh Floridan aquifer water resources in this area of Orange County to the City of Cocoa.

In contrast, to the north, within Orange County's utility service area and the International Corporate Park located just north of the owner's property, the well sites were not accomplished. In that situation, Orange County offered to provide raw water service to Cocoa if it so desired and stated that the County would develop its water resources within the County's Urban Service Area boundary. A major fact that the landowner, Holland Properties, ICP, Orange County, etc. pointed out was that the City of Cocoa virtually had no reuse, no alternative water supply development, no conservation, or other demand mitigating or resource protecting activities of substance.

Since the fresh water resources of Deseret from the main Floridan aquifer were being polluted at an alarming rate and no help was in sight, and due to the fact that there was a need for service on the property and that Deseret had hired professional hydrogeologists and water resource engineers to demonstrate environmentally acceptable water resource development alternatives; Deseret searched for an avenue which met all the needs of proper stewardship of the land, the community, and satisfied the ever-increasing potable water needs of the Space Coast via Cocoa's regional system.

In addition, the South Brevard Water Authority (a special act legislatively created entity) was searching for additional water supplies on Deseret and the Bull Creek Wildlife Area for an additional 50 million gallons per day. Osceola County, the State of Florida Department of Natural Resources, and Parks and Recreation personnel as well as the landowner and other landowners and their representatives within the Eastern Osceola area, all banded together and objected to both on a permitting, environmental, and legislative basis to this additional withdrawal of Floridan aquifer freshwater in Eastern Osceola County. The SJRWMD supported the South Brevard Water Authority and was willing to issue the water use permit for the area on the landowner's property, on Bull Creek property, and on other properties. Due to negotiations with the SJRWMD, the Bull Creek property was to be utilized at no cost to the Authority for land and easements, etc. The impacts of a regional well field at that location would be similar to the Cocoa wellfield and would lower or stop the flow in the agricultural wells in the area as well

as have significant environmental harm. The hearing officer, after a lengthy case, found that the environmental harm was unacceptable, that the alternatives for water supply existed, that the alternative water supply development had not occurred and should be allowed to occur and that though the use would be considered reasonable and beneficial use and the highest priority use (for potable water service) and that the engineering and hydrogeology conducted for its development were appropriate, that the permits should not be issued. This plus the legislative activities of the community finally led to the unique situation by the Florida Legislature to dissolve a regional water supply authority which has only occurred once in the State's history.

With this historical background, the major landowner in the area submitted for certification to Florida's Public Service Commission its holdings under to corporate name of East Central Florida Services, Inc. (ECFS). Osceola County, Special Water Districts 1, 2, 3, and 4, the City of Palm Bay and others supported the ECFS application. The Cities of Kissimmee, St. Cloud, OUC, Titusville, Rockledge and Melbourne did not intervene in the matter. Initially, Orange County intervened, but with a slight modification to the service area requested (a deletion of properties within the Orange County USA), settled out of the case. Both Brevard County and the City of Cocoa intervened and alleged conflicts with comprehensive plans, overlapping facilities and service areas. The Florida Public Service Commission (FPSC) conducted the hearing and weighed the testimony in the matter. The FPSC granted ECFS, Inc. the water and wastewater service area as amended.

TRACK RECORD OF ECFS, INC.

1. Financial

For over the past decade, ECFS, Inc. has only had to apply for a few of the many annual FPSC inflation derived deflator indexing provision. Although, a) millions of dollars have been invested by or contributed, transferred or loaned to ECFS, Inc.; b) the SJRWMD, SFWMD, FDEP and Orange, Osceola and Brevard Counties have required or requested many things of ECFS, Inc.; and, c) ECFS, Inc. has cumulatively operated approximating a not-for-profit entity – ECFS, Inc. has had little in rate relief.

2. Service

There have been no service complaints in over a decade of service. In fact, the hunting camps, residences, development, governments, fire districts, and major corporations have had their need for service met promptly. The quality of service and facilities has improved greatly and continuously ever since FPSC certification. ECFS, Inc. has improved water treatment and service for its potable customers. ECFS, Inc. has made more efficient use of existing facilities through its raw water service to its customers. Examples of new customers include:

- Additional hunting camps
- Additional single-family homes
- The new church facilities
- Major telecommunication customers

- Osceola County Fire Station (a sorely needed service could be provided with ECFS, Inc. water supply)
- Reliant Energy Corporation merchant power plant cooling water, fresh water for potable, boiler water make-up, and other uses.

3. Intergovernmental

ECFS, Inc. has an exemplary track record in assisting various levels of government in accomplishing worthwhile projects, programs and/or activities. A few of the examples include:

a. ECFS, Inc. providing information to Osceola, Orange and Brevard Counties for comprehensive planning and other purposes.

b. ECFS, Inc. and Deseret have consolidated their water use permits for easier regulation and have provided water facility, use, and resource information for improved regulation to both the SFWMD and SJRWMD.

c. ECFS, Inc. has agreed with the City of Palm Bay to provide alternative water supply and/or fresh raw water supply when the City elects to avail itself of the supply. This combined with the City of Palm Bay's new membrane treatment facilities assures that the City's potable supply needs will be met.

d. ECFS, Inc./City of Orlando/Orange county reclaimed water program cooperative activities developed environmental wetland renourishment, silvaculture, sod, agriculture and saltwater encroachment barrier opportunities. This program is one of the priority listing reclaimed water uses following CHSEC cooling water use and residential/golf course uses on the eastside of Orange County.

e. Alternative Water Supply Programs:

1) City of Cocoa/ECFS, Inc./Deseret:
   - Taylor Creek Reservoir:
     This lease created the largest new surface water source use in Florida over the past 20 years
   - Pipeline Road Secondary Aquifer Shallow Wells:
     ECFS, Inc. developed the concept and City of Cocoa implemented 11 such wells providing wellfield stress rotation and management benefits.

2) Cities of Melbourne and Palm Bay:
   With Florida Legislature's dissolving of the SBWA, both cities have developed major reclaimed water reuse and alternative water supply – membrane treatment – sources to meet their potable needs versus the previous SBWA program of inland fresh Floridan aquifer groundwater sources.

f. Managed Land Stewardship Programs:

1) Brevard County Landfill Site:
This site is accommodated in the northeast corner of the unit north of 192 and downstream of the Class I Lake Washington Reservoir and with the additional protection of the Deseret Berm.

2) City of Cocoa Lime Sludge:
The City of Cocoa's lime sludge from the Claude Dyal lime softening units is stockpiled on their site in Orange County. This waste product is beneficially reused upon the property as a soil sweetener.

3) City of Orlando and Others Domestic Biosolids:
This material is either directly applied or composed and applied to add organics to the sandy soil matrix.

There are several other land stewardship programs occurring on Deseret Ranches which do not include intergovernmental cooperation/ facilitation/assistance.

INTERVENOR OBJECTIONS – A DECADE LATER

1. Comprehensive Plan Compliance -

There have been no developments on other activities that have conflicted with either the Brevard County or City of Cocoa comprehensive plans after over a decade of operations.

2. Competition with Existing Utilities

Neither the City of Cocoa nor Brevard County serve on the west side of the St. Johns River or anywhere close to ECFS, Inc. after over a decade of operations.

3. Competition for Water Use Permits

a. ECFS, Inc. has facilitated the City of Cocoa getting the WUP's for the Pipeline Road Wells and the Taylor Creek Surface Water Reservoir. Now the City of Cocoa has more raw water resources than ever and their Tram Road wellfield that was previously becoming more saline is recovering and improving in water quality.

b. ECFS, Inc. has never commented, competed or intervened on any Brevard County WUP and Brevard County has not commented, competed or intervened on any ECFS, Inc. WUP.

4. Public Interest

None of the objections or theories of negative public interest by either City of Cocoa or Brevard County have occurred in over a decade of operations.

All of the positive public interest statements by the applicant ECFS, Inc. have occurred and are documented.

5. Water Resources

The devastation and pollution at an alarming rate of the fresh Floridan aquifer water quality due to overpumping in concentrated areas by the City of Cocoa have been stemmed to approximately that level of pollution present in 1992 and in some areas some limited water quality recovery has occurred. The westward migration of salinity has been slowed to a small fraction of the previous pace.

ECFS, Inc. has facilitated the largest percent growth of Alternative Water Supplies in any major/regional (Space Coast) water supply area in the State of Florida. ECFS, Inc. has provided the GIS mapping and information to both the SJRWMD and SFWMD to better regulate and manage the water resources of the region.

EXHIBIT HML - 4: Matrix for Consistent Zoning Classification with Future Land Use Categories, pages 1-19 – 1-21 of the Future Land Use Element of the Volusia County Comprehensive Plan.

MATRIX FOR CONSISTENT ZONING CLASSIFICATION WITH FUTURE LAND USE CATEGORIES

FLU CATEGORY	A (EXPLANATION BELOW)	B (EXPLANATION)
Conservation (C)	C	All Zoning Classifications
Environmental Systems Corridor (ESC)	C, RC	RPUD, MPUD**1, P, C
Forestry Resource (FR)	FR	FR, RPUD, MPUD**1, BPUD, P, C, RC
Low Impact Urban (LIU)	All PUD's	P, C, existing zoning, provided however, that any development is consistent with applicable provisions of the Comprehensive Plan, RC
Agriculture Resource (AR)	A-1	RPUD, MPUD**1, BPUD, P, C, RC
Rural (R)	A-1, A-2, MH-3	A-3, A-4, MH-4, MH-8, RA, RE, RR, RPUD, MPUD**, BPUD, P, C, RC
Rural Community	Refer to underlying Future Land Use categories for zoning classifications assumed to be compatible	Refer to underlying Future Land Use categories for zoning classifications that may be compatible under certain circumstances and in addition the following classifications: B-2, R-1*, R-3*, R-4*, R-6*, R-7*, MH-1*, MH-5*, B-4*, B-5*, B-7*, B-8*, I-1*
Rural Recreational	Refer to underlying Future Land Use categories for zoning classifications assumed to be compatible	Refer to underlying Future Land Use categories for zoning classifications that may be compatible under certain circumstances and in addition the following classifications: B-2, B-7, R-3*, R-4*, R-7*, MH-1*, MH-5*, B-4*
Rural Village	A-2, MH-3	Zoning classifications existing prior to April 3, 1990. P, C
Urban Low Intensity (ULI)	R-1, R-2, R-3, RPUD, MH-6, MH-7	B-2, B-9, BPUD, MPUD**, RR, RA, RE, R-4, R-9, RE, MH-3, MH-4, MH-8, A-2, A-3, A-4, P, C, RC
Urban Medium Intensity (UMI)	R-4, R-5, R-6, R-9, MH-1, MH-5, RPUD	MH-2, B-2, B-9, BPUD, MPUD**, P, C, RC

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Urban High Intensity (UHI)	R-6, R-7, R-8, MH-2, B-8, RPUD	B-1, B-2, B-9, BPUD, MPUD**, P, C, RC
Commercial (COM)	B-1, B-2, B-3, B-4, B-9, BPUD	B-5, B-6, B-7, B-8, MPUD**, P, C
Industrial (I)	I-1, I-3, I-4, IPUD	I-2, MPUD**, P, C
Mixed Use Zone (MXZ)	IPUD, BPUD, MPUD, RPUD	P, C, Existing zoning, provided however, that any new development is consistent with applicable provisions of the Comprehensive Plan ***
Planned Community (PC)	Development of Regional Impact only All PUD's	All development shall require review as a Development of Regional Impact as per Ch. 380, Florida Statutes
Activity Center (AC)	All PUD's	CDD, P, C, Existing zoning, provided however, that any development is consistent with applicable provisions of the Comprehensive Plan
Recreation (REC)	All Zoning Classifications	P, C, RC
Public/Semi-Public (P)	P, C	All Zoning Classifications

* Only applies to existing zoning at time of approval, April 3, 1990.

** MPUD, development must be consistent with the Future Land Use Map.

*** As provided by Policy 1.3.1.19, rezoning to PUD is not required under certain circumstances.

1 The RPUD or MPUD classification may only be applied to lands designated ESC, FR and AR on the Future Land Use Map when the RPUD or MPUD meets the requirements outlined in Policy 1.2.3.3 of the Volusia County Comprehensive Plan, Ordinance 90-10, as amended; or when the lands designated as ESC, FR, and AR included within the RPUD or MPUD comprise 25% or less of the land area of the RPUD or MPUD, providing development of areas designated as ESC, FR and AR is consistent with the Comprehensive Plan Future Land Use category descriptions.

A Group	B Group
This column indicates which zoning categories are assumed compatible. They provide the closest approximation to the Future Land Use Category. The existing character of the area is one determinant of the appropriate classification to be accorded on an individual premise	This column indicates which zoning categories may be considered compatible under certain circumstances. Stricter consistency requirements may be applied or special criteria may have to be complied with prior to receiving a rezoning. Site conditions in conjunction with the existing character of the surrounding area are the determining factors for rezoning requests.

LORIDA PUBLIC SERVICE
OCKET
O. 021256-WU EXHIBIT NO. 37
OMPANY/ FARMTON Rebuttal
ITNESS: Howard M. Landers (HML-5) +
DATE: 06/22-23/04 (HML-6)
attached

HML - 5: Florida Department of Community Affairs, Technical Memo, (Volume 5, Number 2, March 1990).

TECHNICAL MEMO

VOLUME 5 · NUMBER 2 MARCH · 1990

The Truth About Growth Management in Rural Areas

A great deal of misinformation has been circulating concerning the impact of growth management in rural areas. Some of the misinformation is due to honest misunderstandings and poor communication. However, much of it is due to a well-orchestrated campaign



SECRETARY'S COLUMN
THOMAS G. PELHAM

of disinformation waged by critics of Florida's Growth Management Act. I am very concerned about this campaign and its potential for eroding the strong base of support that currently exists for effective growth management in Florida. I am using this column as a forum to clarify some of the inaccurate representations and to reaffirm the Department's support for fair and reasonable but firm implementation of Florida's planning laws in all areas of the state.

Quite a bit of attention has focused on the need to plan for desirable growth patterns in our urban areas because the local plan review process commenced in our large urban areas in South Florida. Equally important, however, is the need to conduct effective planning in Florida's rural areas to ensure that they can accommodate growth and development without sacrificing the rural qualities

continued on page 2

DCA Seeks Public Input for *Technical Memo* on Rural Planning Strategies and Techniques

The Department of Community Affairs is currently preparing a special issue of the *Technical Memo* on planning in rural and agricultural areas which will be issued in June 1990. The DCA's 1987 *Model Future Land Use Element* and its November 1989, special issue of the *Technical Memo* on urban sprawl set forth a variety of planning approaches for rural areas.

The upcoming special issue on rural planning will provide more detailed information about acceptable local comprehensive planning strategies and techniques that may be used in rural and agricultural areas to meet the requirements of Florida's growth management laws. A selected list of the kinds of planning techniques to be discussed in the special issue is included in this month's feature article, which begins on page three.

A great deal of misinformation about the DCA's approach to planning in rural areas has been circulating in recent months. Hopefully, the special *Technical Memo*, will help dispel many misconceptions generated by the misinformation.

The DCA invites public input for the special issue on rural planning. Do you have comments on any of the techniques listed in the feature article? Do you have other proposals, techniques, or strategies for planning and managing growth in Florida's rural and agricultural areas that the DCA could consider in preparing the special issue? If so, write them up and send them in. Your ideas need to be consistent with the State Comprehensive Plan and the minimum requirements of Chapter 163, Part II, Florida Statutes, and Rule Chapter 9J-5, Florida Administrative Code.

If you would like to contribute to the DCA's special issue on rural planning, send your written suggestions by May 1, 1990, to Ben Starrett, Strategic Planning Administrator, Florida Department of Community Affairs, 2740 Centerview Drive, Tallahassee, Florida 32399-2100.

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COMMENTARY

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valued by Florida's residents and visitors. As indicated in its 1987 *Model Future Land Use Element*, the Department encourages well-planned development that is compatible with the rural character of an area.

The public and the Florida Legislature have made it clear that unbridled and undirected growth will no longer be tolerated in Florida, in either our urban or our rural areas. The Department's policies for carrying out this directive are found in: the State Comprehensive Plan; the Local Government Comprehensive Planning and Land Development Regulation Act (Chapter 163, Part II, Florida Statutes); and Rule Chapter 9J-5, Florida Administrative Code. Unfortunately, the application and effect of these policies are being exaggerated and distorted through a well-orchestrated campaign of disinformation.

Orchestrators of this campaign have utilized two rumors to frighten rural landowners: (1) the Department is requiring local governments to set densities of one unit per 40 acres or lower in rural areas; and (2) the Department is forcing local governments to undertake massive downzonings in their new local comprehensive plans. Neither of these rumors are true.

As of April 1, 1990, the DCA has approved (either through original notices of compliance or through negotiated compliance agreements) 143 local plans. In all of these approved plans, there are only *two* instances of densities as low as one unit per 40 acres. These densities were set for swamps or large wetland areas in Lee and Charlotte counties. While these approved plans contain a few instances of rural or agricultural densities as low as one unit per 20 acres, they also contain a variety of rural densities, ranging from one unit per acre to one unit per two and one-half acres to one unit per five acres to one unit per 10 acres. There is simply no evidence to support the rumor that the Department is requiring densities as low as one unit per 40 acres on developable lands.

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POLICY UPDATE

Hearing Officer Finds that DCA's Approach to Urban Containment is Balanced

In December 1989, a Division of Administrative Hearings' hearings officer ruled in favor of the Department of Community Affairs in consolidated cases brought by Charlotte County, the Homebuilders and Contractors Association of Brevard, Inc., and the Florida Home Builders Association, Inc. The Florida League of Cities intervened on behalf of the DCA.

The common issues in the cases were whether the DCA had adopted nonrule policies concerning urban sprawl and applied them in its review of local comprehensive plans; and, if so, whether the nonrule policies are invalid because they were adopted without rulemaking. The hearing officer, in his final order, dismissed both challenges. He found that the DCA correctly interprets and applies existing rules and statutes when it reviews local comprehensive plans for urban sprawl.

The hearing officer discussed and commented on the guidance which DCA has provided local governments about how to discourage urban sprawl in their comprehensive plans. He noted that practical guidance is offered in several DCA publications, particularly the *Model Future Land Use Element* published in 1987. The hearing officer said that DCA's *Model Future Land Use Element* refutes the assertions of the petitioners that the DCA had exceeded its statutory powers by interpreting and applying the urban sprawl rules to prefer unlawfully one planning theory (e.g., urban containment) over another (e.g., metropolitan decentralization). In the words of the hearing officer:

> *The model element takes a balanced approach to urban containment by encouraging urban in-fill in tandem with allowing planned development of areas that are sparsely developed or entirely undeveloped. While discouraging urban sprawl, the model element nonetheless establishes urban service areas beyond the boundaries of present urban areas, designates large tracts of low density residential in other areas designated for agricultural or other nonresidential uses, and establishes a new town center in a largely undeveloped area. By doing so, the model element simultaneously accommodates current market preferences and focuses development activity that, if unplanned, would perpetuate patterns of sprawling development in contravention of the Act (Chapter 163, Part II, F.S.), [Rule] Chapter 9J-5 [F.A.C.], and the State [Comprehensive] Plan.*

The *Model Future Land Use Element*, along with other DCA publications demonstrate the flexibility local governments have in preparing a plan that will discourage urban sprawl. Further, they make clear that local governments may permit well-planned development to occur outside areas where they plan to provide public facilities and services. The DCA will continue to offer guidance on discouraging urban sprawl in ways that are balanced and flexible through its future technical assistance publications.

For a copy of the hearing officer's final order in the Charlotte County case and copies of the *Model Future Land Use Element*, contact the Grants and Publications Section (904)488-4545, SC 278-4545. For further assistance in developing local plans to discourage urban sprawl, local governments may contact the Field Technical Assistance Section, (904)922-5438, SC 292-5438.

The Growth Management Act Gives Communities Much Flexibility for Planning Their Rural Areas

The traditional technique for regulating development in rural areas is density controls. Before enactment of the Growth Management Act in 1985, many Florida counties adopted zoning ordinances that set much lower densities for rural and agricultural areas than are allowed in urban or suburban areas. But, there are many other planning techniques available to local governments for planning and regulating development in rural areas.

The 1985 Growth Management Act encourages innovative approaches to land use planning and regulation. The following is a list of some techniques which can be used with or in lieu of pure density controls to manage growth in rural areas. In June 1990, the Department of Community Affairs will publish a special *Technical Memo* to detail these and other rural planning techniques.

Readers are cautioned to remember that these options need to be applied in a manner consistent with the State Comprehensive Plan, the applicable comprehensive regional policy plan, Chapter 163, Part II, Florida Statutes, and Rule Chapter 9J-5, Florida Administrative Code. In addition, options should not be used without first adapting them to local conditions and circumstances.

Preserve Working Landscapes. A key to this technique is planning for rural areas to determine where development can occur without destroying an area's rural character. Use of area based allocations can preserve a low overall intensity of use and density in a rural area while at the same time allow flexibility concerning what occurs in specific locations. Consideration needs to be given to an area's topography, soil conditions, unique natural features, scenic vistas, waterbodies, and productive agricultural lands when establishing this type of program. Strong policies are also needed to ensure that this approach does not permit strip commercial sprawl to occur.

Locational Requirements. Locational requirements can be established in plans and implemented through land development regulations. This technique can involve permitting, modifying, or prohibiting development based on their distance from urban areas, other uses such as employment and commercial centers, important natural resources, and specific facilities, e.g., central sewer systems. Locational systems can also adjust densities that are allowed using a point system based on the proximity of specified facilities, natural resources, and other essential land uses.

"There are many . . . planning techniques available to local governments for planning and regulating development in rural areas."

Planned Unit Developments. This regulatory tool can be used to implement many of the strategies and techniques identified in this article. Developments in rural areas over a certain size can be required to be built as planned unit developments to ensure that they meet the criteria established for developments in rural areas.

Clustering Requirements. This technique involves permitting an amount of development to occur based on the gross acreage of a parcel but requiring all of the development to be placed on only part of the parcel. The remainder of the parcel can be required to be left as permanent open space or used for recreational or agricultural purposes.

Open Space Requirements. Similar to the clustering technique, open space requirements can involve allowing a certain quantity of development based upon gross acreage but requiring the development to be designed to leave a certain percentage of the land in public open space. This differs from clustering as the development itself may not have to be clustered as long as the required open space ratio is achieved.

Two-tier Density Programs. This technique can involve having two densities apply to the same rural lands. The lower density, for example ten acres per dwelling unit, could be made available to any landowner. Landowners could build at a higher density, however, for example two units per gross acre, if they were willing to meet certain criteria. These criteria should include clustering and open space, a complimentary mix of uses that allows people to shop and work close to their homes, ensuring that a percentage of traffic generated by the development would be "captured" by other uses in the development, and other factors.

Mixed Use Districts and Performance Zoning. Establishing mixed use districts in the local comprehensive plan can permit a wide diversity of land uses in rural areas, retaining the permissive approach to the types of land uses allowed that currently exists in many rural areas. Performance zoning regulations can be used to implement these districts by ensuring that different land uses are adequately buffered from one another. The local government considering this approach should make sure it has the staff and resources to administer a performance zoning system.

Density Controls. This technique involves limiting the amount of residen-

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tial, commercial and other types of development that can occur in an area to the quantity per acre of gross or net land that can be accommodated in an area without overloading public facilities or sacrificing the rural character of an area. This technique may be the simplest to administer of the many options available to local governments for maintaining a separation between urban and rural areas. It is especially appropriate for large tracts of timber lands and must be used if other rural planning controls are not established in the local comprehensive plan.

Restrict the Subdivision of Land. This technique can allow property owners considerable flexibility in using their land while at the same time ensuring that land is not prematurely characterized in suburban-type development patterns. The ability to subdivide and plat land can be adjusted based on the proximity of the land to urban areas and public facilities. Users of this technique may also want to consider incorporating a provision to allow property owners to subdivide land to give parcels of land to their immediate family members. Many variations of this option can be used to maintain the rural character of an area but still allow rural property owners the ability to sell portions of their properties.

Promote Urban or Rural Villages and Activity Centers. This concept is based on permitting development at varying intensities to promote the location of rural development in nodes, which can consist of small rural communities, urban villages, activity centers, and other types of development. These areas should be clustered and contain a mix of residential and nonresidential uses that will support surrounding agricultural and silvacultural activities, large-lot rural residential areas, recreation activities, and conservation areas.

Direct Public Investments to Existing Communities. This basic technique involves targeting rural communities and development nodes to receive capital expenditures for facility renovations and expansions. Integrating land use planning that promotes rural activity centers with capital improvements programming can make these rural communities more desirable and attractive places to live and work.

Mandate Large-Scale Developments Be Mixed Use and Self-Sufficient. One of the most effective techniques for minimizing the impacts of large-scale development in rural areas is to adopt strong mixed use policies which require residential and nonresidential uses to be located in reasonably close proximity to each other. Such policies should promote an integrated and complimentary mix of office, retail, housing – including affordable housing, and recreational opportunities.

"While agricultural lands should not be permanently restricted from conversion to other uses, their conversion should be managed to ensure it is timely and appropriate."

Require Large-Scale Developments in Rural Areas to be Florida Quality Developments. This strategy involves using the development review process established in Section 380.061, Florida Statutes, to ensure that large rural developments are thoughtfully planned and compatible with the surrounding rural or agricultural area, take into consideration the protection of Florida's natural amenities, address the cost to local government of providing services, and maintain a high quality of life.

Control Access to Arterial Roadways. This technique to manage strip or ribbon sprawl development also assists in maintaining the through-carrying capacity of arterial roadways. Curb cuts and access points can be minimized by requiring development to utilize parallel access roads, share existing or new access points, and to construct local road networks that provide alternatives to the use of arterial roads. It is essential when employing this technique that the plan and LDRs require new subdivisions, PUDs, and like development to connect their internal roadways to existing local networks so that a grid of alternative travel routes eventually results.

Protect Agricultural Areas. Florida's prime and unique farmlands, combined with its climate and industrious agricultural community, has resulted in its being one of the top agricultural production states in the nation. While agricultural lands should not be permanently restricted from conversion to other uses, their conversion should be managed to ensure it is timely and appropriate. Many techniques are available to local governments that wish to protect agricultural lands, several of which also provide farmers needing capital but interested in staying in farming the opportunity to obtain financial relief. Under any of these programs, provisions also can be included to ensure that property owners have the ability to subdivide land among immediate family members to be used to accommodate primary residences. In addition, provisions should be incorporated to ensure adequate farmworker housing is provided. Some of these techniques include:

- ***Exclusive agricultural zoning:*** Plans can include policies to guide development in lands placed within the agricultural land use category that authorizes the use of exclusive agricultural zoning. This type of zoning can restrict uses that are not related to agricultural purposes. Policies need to be included that establish a minimum lot size that can be created, direct the subdivision of land to the most unproductive areas, and ensure adequate facilities and services can be pro-

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DCA's Plan Review Approach Considers Local Conditions

Florida's Growth Management Act establishes certain minimum planning requirements for all local governments. However, each local government should satisfy those requirements in a way that adequately addresses its own needs. A good plan for Dade County will not work in a small north Florida county and vice versa. The Department of Community Affairs recognizes the differences between south Florida and north Florida and urban areas and rural areas.

Thus, while the minimum planning requirements must be met by all local governments, a sound comprehensive plan will be based on and respond to local conditions. When the DCA reviews local government comprehensive plans for compliance, it must determine whether a plan is consistent with the State Comprehensive Plan and the appropriate regional policy plan. It also must evaluate whether a plan complies with Section 163.3177, Florida Statutes; Sections 163.3178 and 163.3191, F.S., as applicable; and Rule Chapter 9J-5, Florida Administrative Code. *These plans, laws, and rules give local governments broad discretion in tailoring their plans to meet local needs and conditions.*

The rule chapter specifies the minimum criteria for reviewing local comprehensive plans and determining compliance. Thus it forms the basis for the DCA's compliance review of each local government's comprehensive plan.

Just as local governments have considerable flexibility in developing plans that respond to their unique circumstances. Rule Chapter 9J-5, F.A.C., permits the DCA to modify the application of its requirements to consider local conditions. The DCA, however, must closely follow statutory intent in determining whether plans comply with law.

Rule 9J-5.002(2), F.A.C., sets out guidelines for applying the rule chapter. *Generally, it provides that the DCA shall consider the complexity, size, growth rate, and other factors associated with local government in Florida.* The DCA must consider these community characteristics when providing technical assistance and when applying Rule Chapter 9J-5, F.A.C., to its review of the detail of the data and analysis required of a jurisdiction. These factors include the following:

> *"The DCA shall consider the complexity, size, growth rate, and other factors associated with local government in Florida."*

1. the existing and projected population and the rate of population growth;
2. the geography, size, and the extent of the existence of large amounts of undeveloped land and the existence of features requiring special data and analysis (i.e., environmentally sensitive lands and natural resources);
3. the scale of public services provided or projected to be provided related to the levels of capital improvements planning required;
4. the extent of county charter provisions, special or local acts, or intergovernmental agreements that affect planning activities (i.e., countywide planning councils, designation of an area as an area of critical state concern, and city-county joint planning agreements); and
5. whether the local government is complying with evaluation and appraisal report requirements simultaneously with the new plan.

Complexity

The "complexity" of a local government refers to its degree of urbanization, history of land use regulation, and its development and application of specialized planning techniques and procedures. For example, a highly urbanized, fast-growing community that provides a full range of public facilities and services is a more complex jurisdiction than a rural, slow-growing community that provides only solid waste transfer facilities. The urban community is more likely to have a long history of land use regulation with many land use categories and higher densities and intensities of use. It very likely has an established planning and development review program with trained, professional staff.

The rural community, however, not having experienced rapid population growth or significant pressures, may have no zoning or only a simple zoning ordinance with basic land use categories and relatively low densities and intensities. It likely hires consulting firms to handle planning and development review functions as needed and has only one or two staff professionals to handle permitting functions.

The approaches used by the urban community and by the rural community to meet planning requirements would, therefore, probably be very different. The urban community may use innovative planning techniques like transfer of development rights programs to protect environmentally sensitive lands. Such a sophisticated approach may be a desirable, appropriate, and expected technique for an urbanized, rapidly growing community. The rural community, however, may choose a more basic approach, such as designating environmentally sensitive areas for conservation on its future land use map. The DCA would evaluate both approaches by the DCA based on local conditions to determine whether they meet planning requirements.

Size

The "size" of a local government refers to its land area and its current and projected populations. A local government with large areas of forested land; a relatively small, dispersed population;

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The second rumor is also without a factual foundation. There have been a few instances in which local governments have lowered densities on some rural lands. However, the amount of upzoning of rural lands far exceeds any downzoning. The predominant pattern in approved county plans thus far is that the local government, to meet its projected growth for the next 10 or 20 years, upzones substantial amounts of rural lands and maintains existing densities on lands that will continue to be designated as agricultural. For example, this pattern was followed in the Broward, Charlotte, Collier, Dade, Manatee, Pasco, and Sarasota plans.

Florida's planning system does not require the taking of land use rights from Florida's small rural landowners. It does direct, however, that land development rights be used in such a way as not to encourage or promote urban sprawl, cause detriments to others, or destroy important environmental and natural resources.

Because one of the easiest ways to discourage urban sprawl is by limiting densities, critics of Florida's growth management process have seized upon this single option for discouraging sprawl in their campaigns to mislead and frighten many landowners concerning the effects of the law on their property rights. The critics are using these fears as the pretext for legislation which would restrict application of the Growth Management Act to rural areas. These critics are ignoring the important fact that the Growth Management Act already gives local governments considerable flexibility in how they address rural planning and density issues. The list of rural planning techniques on page three are only some of the techniques currently available to local governments.

Moreover, as I have emphasized many times in hundreds of speeches around the state and as stated in the DCA's frequent technical publications, ***the Department does not evaluate a plan based on densities alone when determining if a plan successfully discourages urban sprawl, but instead considers many factors.*** Among these factors are the current and anticipated growth characteristics of a community, the development guidelines contained in a plan for projects in rural areas, and the manner in which environmentally sensitive and coastal high hazard areas are treated in the plan.

The issue is not density alone but the way in which density will be used. If adequate planning controls for rural areas are established in the comprehensive plan, then higher densities can be accommodated. On the other hand, lower densities should be set for rural areas if planning controls are not included in the plan.

The DCA also does not apply an arbitrary density figure or multiplier to determine whether a local plan is in compliance with Florida's planning laws and rules. Generally, plans should ensure that anticipated future needs are reasonably accommodated with some extra land allocated to allow for market irregularities. When plans vastly overallocate land for certain land uses in relation to the anticipated need, the DCA looks for the guidelines and criteria that will ensure that future development will not result in sprawling, environmentally damaging, unattractive, and unaffordable land use patterns.

"The Department does not evaluate a plan based on densities alone when determining if a plan successfully discourages urban sprawl, but instead considers many factors."

Thus it becomes increasingly important, as allowable densities increase, that a plan contain effective policies for guiding growth in rural areas. Plans that do not reduce densities in their rural areas and also fail to include effective policies to guide rural development will frequently fail to comply with Florida's growth management requirements. Such policies include promoting clustering, mixed use, alternatives to strip commercial development, and policies to protect important natural environmental resources such as wetlands, upland habitat areas, timber lands, and agricultural lands.

Communities with rapid growth rates, where development pressures on rural lands are high, have an even greater need to incorporate effective rural planning and development guidelines in their local plans. As permitted by Rule Chapter 9J-5, Florida Administrative Code, the DCA carefully considers a community's growth characteristics when evaluating its approach to guiding development in rural areas. Slow growth communities, for example, may have conditions and circumstances that could allow them to successfully justify lesser development criteria than would be necessary in a community that faces rapid growth.

Florida's growth management process is under assault. Misinformed and irresponsible critics are conducting disinformation campaigns to confuse property owners and local officials concerning the requirements of the law and the policies of the Department of Community Affairs. The Department is acting to counteract these rumors and incorrect accusations by increasing our visits to local communities and meetings with concerned citizens and elected officials.

The Department also is preparing a special *Technical Memo* focusing on rural planning and density issues to help concerned citizens and local officials to understand accurately the issues involved and the requirements they must meet. The special issue will offer numerous suggestions for measures that can be taken in rural areas, other than simply limiting densities, to prepare a plan that allows reasonable development in rural areas and that complies with Florida's planning requirements.

If Florida's growth management requirements are weakened in rural areas, effective growth management in this state will be compromised. It is important that we do not let distortions and misunderstandings combine to prompt unnecessary changes that will weaken this landmark planning law. We ask that you join us in our efforts to spread the truth about the impact of growth management on rural lands.

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and few anticipated growth pressures may use a very different approach to meeting planning requirements than a rapidly growing community with many competing land uses would use.

Again, by rule, the DCA must consider size characteristics in its determination of whether a local government's approach meets legal requirements.

Growth Rate

A local government's "growth rate" includes its projected population increase during the planning time frame and its expected development pressures. The community's location in relationship to growth centers is also considered in determining development pressures. This is an important consideration because growth in one community may impact neighboring communities. Developments may also "jump the border" to avoid complying with a neighboring community's local comprehensive plan, bringing with them significant development pressures.

Fast-growing communities and those communities expecting significant development pressures have a greater need to include adequate planning controls in their plans. Slower growing communities with large areas dedicated to timbering and other land-intensive agricultural uses are less likely to face heavy development pressures. In these communities basic and simple, but fundamentally sound planning approaches will usually meet planning requirements.

Other Factors

The DCA's review approach must consider local conditions and allow for differing methods used to meet planning requirements. It cannot, however, waive the minimum planning requirements of law. As it reviews the plans of rural communities, the DCA will apply the flexibilities of Rule 9J-5.002(2), F.A.C., and will continue to review plans for sound planning practices.

The DCA will review the plans of rural communities to determine if the plan provides for maintaining the rural character of designated rural areas and the separation of urban and rural uses. In the absence of rapid population growth, however, urban sprawl will be less of a problem and reviews will focus on measures for protecting environmentally sensitive lands and water resources. Specifically, measures to protect significant resources, e.g., the Suwannee River, other major water bodies, and coastal areas will be scrutinized.

At the same time; the requirements are flexible and sensitive to the needs of individual citizens. For example, if a rural government can demonstrate minimal impacts on overall land development patterns, its plan may permit some or all of the follow to occur: reconstructing nonconforming residential uses; conveying land to immediate family members in nonconforming lot sizes; and building on lots of record smaller than minimum size if the lot owner has paid property taxes on it.

Local comprehensive plans, however, should guard against the excessive premature platting of lands to circumvent future growth controls and relate the amount of land permitted to be platted to expected needs. Premature designation of land uses at established densities and intensities long before needed is contrary to sound planning.

Historically, this activity has failed to consider infrastructure needs, environmental impacts, and has resulted in uncontrolled urban sprawl. Restricting the premature subdivision and platting of land controls the activities of land developers while permitting owners of small tracts of land reasonable use of their properties.

Sound Planning

Local government comprehensive planning requirements were established to ensure that Florida's cities and counties conduct minimal, sound planning programs to manage the state's rapid growth. The legal requirements give local governments broad discretion in tailoring their plans to meet minimum requirements and allow the DCA to consider local characteristics when applying the minimum criteria rule.

Communities with rural characteristics are held to the same minimum requirements as urban communities so that they can establish acceptable growth patterns now. Although they do not need to use the complex planning techniques that may be used by their urban counterparts, rural communities must develop sound plans that meet legal requirements.

Because planners in many communities do not have to plan around land use decisions made decades ago, they are in the fortunate position of being able to plan now for efficient growth into the next century. In 20 years, today's rural communities may be models in our state, largely due to their opportunity to plan today for future growth.

For more information on the DCA's approach to reviewing local plans, contact Robert Pennock, Plan Review Administrator, (904)488-9210, SC 278-9210.

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Feature

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vided. Local governments should carefully consider the types of active agriculture in their jurisdictions and the amount of land and buffers needed to maintain those activities when setting minimum lot sizes in exclusive agricultural areas. This approach can be used in combination with the promotion of clustered development nodes to plan for a pattern of development that is consistent with a rural character.

· ***Large lot residential zoning:*** Used judiciously, large lot zoning can be an effective means for allowing rural residential development on the fringe of agricultural areas while avoiding sprawling subdivision development. It should be used selectively, however, and only in conjunction with the promotion of more dense development in nodes and clusters. This helps to prevent spreading large lot residential development across entire areas, which can frequently encourage leapfrog development, lead to inefficient use of public facilities and land, and hinder ongoing agriculture activities.

· ***Transferable development rights programs:*** This technique involves creating specific sending and receiving zones for development rights. Typically, TDR systems require sophisticated administration to ensure that they are both fair and economically viable. A variation of this technique is a PDR program, which involves purchasing development rights from land. These programs can also be used to protect environmentally sensitive lands.

Adopt Design Guidelines for Rural Development. An effective technique for allowing development in rural areas is to adopt rural design guidelines. An excellent source manual on this subject is a recent publication entitled *Dealing with Change in the Connecticut River Valley: A Design Manual for Conservation and Development*. This manual, developed by the Center for Rural Massachusetts and published by the Lincoln Institute of Land Policy, contains many techniques for accommodating development in rural areas without sacrificing the visual and natural characteristics of rural areas.

The above options represent some of the many techniques and strategies available to local governments for accommodating growth in rural areas while maintaining a separation of rural and urban lands. These options and additional ideas will be reviewed in more detail in a special issue of the *Technical Memo* being developed by the Department.

For more information about rural planning strategies and techniques contact the Field Technical Assistance Section, (904)922-5438, SC 272-5438.

Planning Notes

New Publications

· The Division of Resource Planning and Management has prepared an *Overview of Programs* booklet to help local officials, private business leaders, and the general public understand the division's role in land planning activities statewide. The free booklet lists the specific statutory authority, the types of assistance available, and the contact person for each program. **Contact: Grants and Publications Section, (904)487-4545, SC 277-4545.**

· The DCA has published its revised *Agency Functional Plan* for fiscal years 1989-90 through 1993-94. **Contact: Debbie Skelton, Office of the Secretary (904)488-8466, SC 278-8466.**

· The DCA has published the *Model Intergovernmental Coordination Element.* The model element is a revised version of the draft made available last year. **Contact: Grants and Publications Section, (904)487-4545, SC 277-4545.**

· A limited number of copies of the proceedings of the May 1988, conference "Livable Cities For Florida's Future" are available. The conference focused on energy efficient growth and transportation issues in Florida. **Contact: Pat Pieratte, Florida Department of Transportation, (904)488-4640, SC 278-4640.**

Requesting Technical Assistance.

Local governments requesting technical assistance visits from the DCA's Field Technical Assistance Section should do so in writing. Letters should be sent to Robert G. Nave, Chief, Bureau of Local Planning, Division of Resource Planning and Management, Department of Community Affairs, 2740 Centerview Drive, Tallahassee, Florida 32399-2100, and should specify the topics, issues, and comprehensive plan elements to be covered by FTA staff. **Contact: Mike Cavanaugh, (904)922-5438, SC 292-5438.**

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TECHNICAL MEMO

INFORMATION FROM THE FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS

VOLUME 5 · NUMBER 6 SPECIAL ISSUE · JULY · 1990

Managing Rural Growth Preserves and Enhances Florida's Quality of Life

As the local comprehensive planning process has moved from the urban coastal areas of the south into the rural areas of the northern and interior sections of Florida, the Department of Community Affairs has given increased attention to rural planning issues. Our March issue of the *Technical Memo* emphasized the planning flexibility which the Growth Management Act allows in both urban and rural areas and identified a variety of planning approaches and techniques that can be used in rural areas. This issue presents a more detailed list and discussion of planning techniques and approaches for rural areas.



SECRETARY'S COLUMN
THOMAS G. PELHAM

The Department solicited public input from a wide array of people and interest groups in preparing this issue of the *Technical Memo*. Among other things, we sent personalized requests for comments, suggestions, and proposals to more than 250 persons and groups and solicited comments through an announcement in our March 1990 *Technical Memo*, which has a circulation of 2800.

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FEATURE

Planning for Rural Areas: Issues, Strategies and Techniques

Florida's growth management laws and rules require local governments to manage growth and development in rural areas as well as in urban areas. One requirement that must be met in this planning effort is discouraging the proliferation of urban sprawl. Additional policy directives found in the State Comprehensive Plan that should be satisfied through rural planning include promoting agricultural diversification; maintaining the rural character of rural areas by encouraging a separation of urban and rural land uses; protecting natural systems and environmentally sensitive areas; permitting the conversion of agricultural land to other uses when and where appropriate; and maximizing the efficient provision and use of public facilities and services.

Planning and land development regulation in rural areas have traditionally been based on fixed density controls. This approach, while typically the least complex to administer, may be limited in its ability to meet all of the above policy directives. It can also result in the conversion of rural landscapes into large-lot development patterns, which fails to halt urbanization and needlessly consumes agricultural lands. Widespread patterns of large lot development—whether on one-, two-, five-, or 10-acre tracts—place at risk the very character of rural areas that is so important to retain.

Strategies and techniques are available for managing growth in rural areas that can avoid this result. These approaches focus on controlling and directing growth into appropriate and desirable patterns, as opposed to relying solely on regulating allowable densities. Many of these approaches are also more sensitive to market forces and the maintenance of rural land values than approaches based solely on density limitations.

If properly implemented, Florida's growth management laws and rules provide sufficient flexibility to permit these types of approaches to be used. In fact, the Florida Legislature explicitly encouraged local governments to adopt innovative land development regulations in planning for and regulating the use of land when it enacted the Local Government Comprehensive Planning and Land Development Regulation Act.

The Department of Community Affairs has prepared this article to assist

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andidly, the response was very dis-
pinting. We received only 21 responses
ur requests and most of these were
general and philosophical comments
it growth management in rural and
cultural areas. We have endeavored
nclude the few concrete proposals
suggestions we received in preparing
issue. I want to thank each person
organization who responded to our
iests for their contributions to this
inical assistance effort.

Effective growth management in ru-
areas is critical to the preservation
enhancement of the quality of life in
rida. As Florida continues to urban-
more innovative planning approaches
be needed to protect the character
values of our rural areas from urban
awl while at the same time allowing
encouraging appropriate develop-
nt in rural areas.

The Growth Management Act encour-
s local governments to adopt innova-
planning approaches. We hope that
s *Technical Memo* will assist local gov-
iments in achieving this goal. TM

Comprehensive Planning Rural and Agricultural Areas: Tools, Techniques, and Options

Wednesday - July 25, 1990
9:00 a.m. to 4:00 p.m.
Sheraton Orlando Airport Hotel
Orlando, Florida

Topics

Planning for Rural and Agricultural Areas Under Florida's Growth Management Laws
Overview of Rural Planning and Development Techniques
Creating New Communities in Rural Areas
Strategies for Promoting Rural Economic Development
Preserving Community Character through Creative Development Techniques

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officials and citizens interested in some of the innovative and flexible planning approaches that can be used to accommodate growth and change in rural areas while preserving important rural attributes and discouraging urban sprawl. This article first discusses five important factors that a local government must consider in crafting its planning and regulatory approach for its rural areas. It then reviews strategies and techniques available to local governments in four general categories: preserving rural character, new communities, conserving agricultural lands, and addressing special circumstances.

Many factors should be considered by a local government before any of these planning approaches are used. Foremost, planning for rural areas must be based on sound data and analyses and fit in with a community's comprehensive plan as a whole. Full public participation in this planning process must be ensured.

Experience has shown that planning for rural areas must be undertaken within the context of a community's entire comprehensive plan to comply with the provisions of Chapter 163, Part II, Florida Statutes, and Rule Chapter 9J-5, Florida Administrative Code, and to be consistent with the State Comprehensive Plan and the applicable comprehensive regional policy plan. Many planning techniques, for example, may be appropriate under one set of circumstances but fail to comply with state planning requirements under different circumstances.

Considerations in Developing a Planning and Regulatory Program

Consideration of five factors, among others, can assist local governments to meet these requirements. These include (1) the demographic and economic characteristics of an area, (2) the extent to which an area is physically appropriate for development, (3) the extent to which adequate public facilities and services can be provided, (4) the ability to implement adopted regulatory approaches, and (5) the guidelines and standards necessary to ensure that rural development is well-planned and does not result in sprawling development patterns.

Evaluate Demographic and Economic Characteristics

First, the demographic and economic characteristics of rural areas need to be assessed. Rural issues in rural counties, those counties not part of metropolitan statistical areas, are clearly different from rural issues in fast-growing urban counties. These areas should be treated differently in the planning process. Planning efforts must be based on local conditions and circumstances. For example, some agricultural industries, like raising cattle on unimproved pasture or producing paper products, require very large parcels to remain economically viable, but growers of ornamental plants can produce profits on very small tracts. These different needs should be considered in any planning effort.

Likewise, planners should consider ownership patterns. That is, whether a rural area is highly parceled into numerous small tracts with many landowners or whether an area is owned by a limited number of large landowners. In some parts of rural Florida a few landowners control substantial quantities of land. Local governments typically have greater flexibility in planning for rural lands owned by very few owners since these owners have a greater ability to undertake innovative development approaches within the boundaries of their lands.

The characteristics of Florida's agricultural industry, which contributes more than $16 billion annually to Florida's economy, emphasizes the need to distinguish between rural counties and the remaining rural areas of fast growing

urban counties. Five of Florida's 10 most populous counties are also in the top 10 counties in terms of market sales of agricultural products.

Given the problems that urban encroachment can present for viable agriculture, these fast-growing urban counties should give more emphasis to protecting the character and natural resources of their rural areas by putting in place a set of land use policies that will sustain an agricultural economy; ensuring that exurban and suburban development does not undermine the ability of the agricultural industry to produce and market its products; and establishing strong policies to guide the efficient conversion of land from rural to urban uses where and when needed.

On the other hand, many slow-growing rural counties may have conditions and circumstances that enable them to justify greater reliance on flexible, area-based planning tools, which can provide greater leeway in the use of individual parcels of land, than can be justified within and adjacent to fast-growing areas. In addition, many of these counties located in the northern part of the state have more than one-half of their total land area in forests, an industry typically characterized by a small number of owners of very large parcels of land. These features may permit different planning approaches than may be needed in rural areas facing rapid growth.

Nevertheless, these counties' comprehensive plans must also contain adequate guidelines and standards to ensure that development occurs in a manner compatible with surrounding rural areas, the concurrency requirement, the protection of natural resources, and the discouragement of urban sprawl.

Assess the Appropriateness of Rural Areas for Development

Second, the extent to which land is appropriate for development should be evaluated. Rural areas inappropriate for development, such as areas with physical, safety, environmental, or historical constraints, should be treated differently from rural lands which are suitable for development. These constrained areas typically should be assigned more restrictive development rights than developable rural lands for a plan's future land use map to be consistent with the land suitability analysis conducted pursuant to the requirements of Rule 9J-5.006, F.A.C.

For example, many of the flexible techniques discussed below involve using floating regulatory categories that apply to broad areas. Constrained areas typically should not be eligible for the higher densities common under many such programs because of their fragility or increased susceptibility to the harmful side-effects of development. Distinguishing between developable rural lands appropriate for flexible management techniques and lands needing special protection and management is an essential part of any successful comprehensive planning effort. The recommendations of the Governor's Suwannee River Task Force for protecting the Suwannee River basin are summarized in the accompanying article. The recommendations together comprise the type of special planning approach merited by a natural resource of state and regional significance.

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Regionally Significant Resources Must Receive Special Protection: the Suwannee River Case

Local governments in predominantly rural or slow-growing areas of the state have an important role to play in protecting regionally significant resources. When an important resource is located within or is impacted by activities within a jurisdiction, the local government must include measures to protect the resource in its comprehensive plan and in its land development regulations.

While the Local Government Comprehensive Planning and Land Development Regulation Act encourages flexible, innovative approaches to planning, local governments developing plans for the protection of significant resources may wish to use more traditional planning controls, such as restricting the density and intensity of development or transfer of development rights programs. In other words, planning approaches should be developed specifically for protecting significant resources.

Regionally significant resources and measures necessary to protect them may vary from region to region. A review of recommendations for provisions to be included in the comprehensive plans and land development regulations of local governments in a region may provide guidance in developing plans for preserving regionally significant resources. The recommendations for preserving the special resources of the Suwannee River basin represent a comprehensive approach that rural local governments can consider in developing plans to protect riverine resources within their jurisdictions.

In November 1988, Governor Bob Martinez created the Suwannee River Task Force to evaluate and report on the effectiveness of current planning, regulatory, and land acquisition programs, and to develop a plan for protecting and managing the resources in the Suwannee River basin. The task force presented its final report to the governor in November 1989.

The report identified 12 issues important for the protection and effective management of the river. Of the report's 44 recommendations, 13 recommendations from five issue areas—floodplain development, buffering, water quality, recreational use, and intergovernmental coordination—call for action by local governments in the region through their comprehensive planning and land development regulation processes. These recommendations for local government actions are described below.

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Ensure Availability of Public Facilities and Services

Third, the extent to which adequate facilities and services can be provided should be evaluated. The facilities and services that must be provided concurrent with the impacts of development according to Chapter 163, Part II, F.S., and Rule Chapter 9J-5, F.A.C., include potable water, sanitary sewer, solid waste, drainage, transportation, parks and recreation, and, where applicable, mass transit. Additional factors that may be considered by a local government in determining what residential densities are appropriate in its rural areas include but are not limited to the ability to provide such services as law enforcement, fire and rescue, health care, schools, and libraries, as well as an area's proximity to working, shopping, and cultural opportunities.

"The importance of this issue ... should not be underestimated because the provision of public facilities and services frequently stimulates growth and development."

The importance of this issue from both a financial and planning perspective should not be underestimated because the provision of public facilities and services frequently stimulates growth and development. If that growth and development occurs in sprawling, inefficient land development patterns, the cost of providing an adequate level of many services and facilities, such as central water and sewer, roads, public transportation, and law enforcement, can be greatly increased.

For this reason, many local governments may find it advantageous to permit development at an intensity that requires the provision of facilities and services at an "urban" level of service only if the development is located in rural villages or new towns, or is proximate to existing urban areas that are adequately served. If this approach is consistent with their comprehensive plans, local governments can use this strategy to permit urban levels of development in rural areas consistent with the directives in the State Comprehensive Plan to maximize the use of existing public facilities and plan for and finance new facilities in a timely, orderly, and efficient manner.

Evaluate Resources for Plan Implementation

Fourth, local governments must realistically assess the resources they have available to administer the planning programs they adopt. Performance-based planning and regulatory programs require trained professional staff with appropriate capital support (computers, etc.) to interpret, implement, monitor and enforce the programs. Adopting planning approaches that cannot reasonably be administered represents bad policy. A basic planning program implemented effectively will provide greater long term benefits to the residents of a community than a more innovative approach that cannot be administered adequately.

Adopt Standards to Ensure Well-Planned Rural Development

Finally, the guidelines and criteria needed to ensure that rural development does not result in sprawling development patterns must be adopted. The most important issue for maintaining the rural character of an area is not the densities that are allowed, but the pattern of development that is permitted. This is not to say that densities are irrelevant, but the real issue is how densities will be used.

If adequate planning controls are incorporated into a local plan and land development regulations, higher densities can be permitted in rural and agricultural areas. Well-planned development can occur in a manner that is compatible with rural and agricultural uses. On the other hand, communities that are not willing to administer or are financially constrained from administering adequate planning controls, should more strongly restrict densities until such time as they are ready to incorporate and enforce better planning guidelines and standards. Readers should review this *Technical Memo* in conjunction with the Department's special *Technical Memo* (Volume 4, Number 4), which comprehensively addressed the urban sprawl issue.

Rural Planning Strategies and Techniques

Regardless of the regulatory techniques to be utilized, local governments must include goals, objectives, and policies in their comprehensive plans and adopt consistent land development regulations to guide future growth and development in their rural areas. Many effective techniques and strategies, in addition to density limitations, are available to local governments for this purpose.

Most desirable planning and regulatory approaches accomplish multiple goals related to managing growth in rural areas. For example, cluster zoning can both preserve agricultural lands and help to accommodate growth without harming scenic rural values. The strategies and techniques presented here are organized into four general categories: preserving rural character, new communities, conserving agricultural lands, and addressing special circumstances. Many of these approaches are complementary. Some also must be used in combination with other approaches in order to be effective and to satisfy state planning requirements. All of these options must be implemented through consistent land development regulations.

Further, these options must be adapted to local conditions and circumstances before they are used. Just as every local community is unique, every textbook approach must be adapted to local needs. Finally, all strategies and techniques must be utilized consistent with the State Comprehensive Plan, the applicable comprehensive regional policy plan, Chapter 163, Part II, F.S., and Rule Chapter 9J-5, F.A.C.

Preserving Rural Character

Rural areas represent a combination of working landscapes and natural landscapes with an overall low intensity of use. Working landscapes—fields of row crops, managed forests, pastures, vineyards and orchards—provide the scenic vistas associated with rural areas. These open space land uses can be intermingled with structures, from farmhouses to feedstores, without threatening the quality of the overall working landscape.

This holds true as long as strip sprawl is avoided, the overall intensity of development remains low, and development design guidelines and standards that ensure that the development is well-planned and compatible with the rural nature of surrounding lands are met. The key to preserving rural character is managing the overall pattern of development, not the density of development or type of land use on any particular parcel.

The 12 strategies and techniques described in this section follow several common themes involved in preserving rural character. These include using area-based allocations, establishing performance standards, avoiding strip sprawl, and preserving open space.

However, all of these options must be used in conjunction with development design guidelines to ensure that development is compatible with rural and agricultural areas. The article below outlines some of the key development design guidelines and standards that local governments should consider incorporating into their comprehensive plans and land development regulations for this purpose.

continued on page 6

Preserving Community Character with Development Guidelines

A critical component of any program to accommodate or allow development in rural areas is the adoption of rural design guidelines. *Dealing with Change in the Connecticut River Valley: A Design Manual for Conservation and Development*, developed by the Center for Rural Massachusetts and published by the Lincoln Institute of Land Policy, contains many techniques for accommodating development in rural areas without sacrificing the visual and natural characteristics of rural areas. Some of the manual's design guidelines for maintaining visual compatibility, sensitive use of rural highways, and protecting open space and sensitive natural resources are summarized below.

Maintaining Visual Compatibility

* Adopt a Planned Unit Commercial Development Ordinance that requires commercial development to be clustered in wooded areas or at major intersections. Such an ordinance could allow, for example, a tourist-oriented commercial node to be located adjacent to the highway, while a second commercial node would be set back from the highway, screened by a wooded area or other natural feature, and located around a central open space.

* Incorporate policies in the plan and development standards to ensure that new development reflects existing rural settlement patterns and architecture.

* Enact a mandatory open space provision for building in rural areas or on farmland, including requirements for clustering development and severing development rights from the remaining open space, which in turn can be leased for agricultural use.

* Adopt performance zoning ordinances or traditional zoning ordinances that provide for variations in lot size and that require wooded buffers be used to separate housing from farmland.

* Require buildings located along main roads to use architectural techniques that enhance their relationship to the road. Ensure parking lots and storage are screened from direct view from the road.

* Use lighting controls to prevent over-illumination and glare.

* Use signage controls to reduce the size and visual impacts of proposed signs. Clear signage can also improve safety.

* Require underground utilities.

* Encourage multifamily attached units to be built to resemble traditional rural homes rather than modern, "boxed" units.

* Establish guidelines to ensure new residences and nonresidential structures reflect an architectural style that fits in with typical local architecture.

Sensitive Use of Rural Highways

* Require common driveways be used to reduce construction impacts on farm and forest lands and visual quality. This also increases safety and efficiency by reducing the number of curb cuts.

* Designate specific roadways or roadway sections as scenic highways. Only moderate improvements should be allowed within the existing right-of-way of the scenic highways, since these highways would not be expanded. This technique is also useful in separating commercial roadsides from scenic roadsides and providing alternatives to strip commercial development.

* Require moderate road widths, for example by adopting subdivision regulations requiring only 20-foot-wide collector roads, and require roads and driveways be placed to avoid farm and forest lands and sensitive natural areas. Roads should also be required to fit the topography of the land.

Protecting Open Space and Sensitive Natural Resources

* Adopt requirements for setbacks from and buffers adjacent to rivers, lakes, and wetlands.

* Adopt ordinances to ensure that farmland, forests, and open spaces are preserved by clustering development at the edges of open areas and working landscapes.

* Adopt a Planned Unit Development Ordinance that requires multifamily housing to be clustered away from sensitive natural areas and ridgelines and provide common open space accessible to all residents. TM

from page 5

Area-Based Allocations. An alternative to the use of traditional Euclidean zoning, which relies on rigidly defined single use districts, area-based allocation programs permit an amount of development to occur within an area without stating exactly what must happen on any parcel. This approach can preserve a low overall intensity and density of use in a rural area while allowing flexibility in determining use of specific locations.

Area-based allocation programs are typically established by the incorporation of floating zones (see below) in comprehensive plans and land development ordinances that apply to certain land use categories or areas. Performance zoning can also be used in conjunction with intensity standards to implement area based allocations. Area-based allocation programs should be implemented through performance standards that ensure consideration of a specific site's topography, soil conditions, infrastructure availability and capacity, unique natural features, scenic vistas, water bodies, and productive agricultural lands, including forest lands, in determining where development can occur and what densities are appropriate. Many of the following approaches represent types of area-based allocation programs.

Overlay Districts. Overlay districts are special planning and zoning regulations that, if permitted to be used, impose additional or different development guidelines and standards in a zoning district without disturbing the district's underlying standards. Many local governments treat planned unit developments (see below) as a type of overlay district. Similar to floating zones, overlay districts provide additional flexibility and greater responsiveness to market conditions, while providing the necessary standards for a category of uses.

In contrast with floating zones, overlay zones typically only supplement the development standards that already apply in a district. While these programs allow for greater flexibility in the use of individual parcels and can provide for enhanced protection of sensitive environmental resources, the administration of overlay districts can be complicated and increase the amount of time needed to review development applications.

Floating Zones. Floating zones can be used to establish land use categories and related development criteria without actually identifying the categories on the future land use map. For example, traditional neighborhood development districts (see below), which require special subdivision regulations and codes, frequently will be adopted as floating zones. Unlike overlay zones, floating zones can be used to provide a developer with access to a completely different set of development guidelines than would otherwise apply in the applicable land use category. When a local government approves a development on a particular site pursuant to the criteria set forth in a floating zone, the development and appropriate land use category is then designated on the comprehensive plan's land use map by amendment.

"Area-based allocation programs can preserve a low overall intensity and density of use in a rural area while allowing flexibility in determining use of specific locations."

Clustering Requirements. Although several techniques and strategies exist for permitting development in rural areas without detracting from rural aesthetic values and encouraging sprawling development patterns, one of the most effective is clustering. The physical form of clustered development can be adjusted to fit the characteristics of any particular area, be it in a rural village or in open countryside. Clustering requirements minimize the amount of rural land needed to be converted to urban uses to accommodate a development. Not only are clustered developments substantially less costly to build due to lower site preparation costs, they result in a more efficient use of facilities and services, and afford greater protection of environmentally sensitive areas. Moreover, clustered units, which frequently overlook preserved open spaces, have increased value and marketability.

Clustering techniques involve permitting an amount of development to occur based on the gross or net acreage of a parcel but requiring all of the development to be placed on only part of the parcel. The remainder of the parcel is usually required to be left as permanent open space or dedicated for use for recreational or agricultural purposes. Clustering programs also typically permit developers to build diverse housing types, such as a combination of detached homes, townhomes, and garden apartments within the same development.

Open Space Requirements. Open space zoning achieves a balance between open space and farmland protection and necessary growth through land use planning. Under this technique, residential and commercial buildings are clustered to preserve agricultural and forest lands and open space. Like the clustering technique, open space programs permit a certain amount of development based upon a parcel's net or gross acreage but require the development to be designed to leave 80 percent or more of the land in contiguous and workable public open space. Open space zoning differs from clustering by establishing greater requirements on the size and quality of the open space that is protected.

Two-Tier Density Programs. Many local governments with substantial amounts of rural lands will desire to discourage sprawling development patterns while being sensitive to land values in rural areas. One of the best techniques for accomplishing this objective is to set an underlying maximum density for an area but to allow that density to be exceeded if certain guidelines are met.

Generally, two-tier density strategies involve having two densities apply to the

same rural lands through the use of an overlay district or floating zone that is adopted as part of the comprehensive plan. A lower density, perhaps 10 or 20 acres per dwelling unit, could be made available to any landowner. Landowners could build at a higher density, however, if they meet certain criteria for the overlay zone. These criteria should include clustering and open space ratios, a complementary mix of land uses that allows people to shop, work, and recreate close to their homes; minimum thresholds for the amount of traffic generated by the development that has to be "captured" by other developments internal to the development; and other factors.

Mixed-Use Districts. Establishing mixed-use districts in the local comprehensive plan can permit a wide diversity of land uses in rural areas, retaining the permissive approach to the types of land uses allowed that currently exists in many rural areas. Mixed-use districts are frequently most appropriate in areas on the rural-urban fringe. Performance zoning regulations should be used to implement these districts to ensure that different land uses are adequately buffered from one another. In addition, standards and guidelines to control the maximum allowable amounts of each use and the ratio of uses to each other should be included. Local governments considering this approach should ensure they have the staff and resources to administer a performance zoning system, which is more complicated than traditional Euclidean zoning systems and frequently requires additional monitoring and enforcement efforts.

Generally, mixed-use district requirements should result in residential and nonresidential uses locating in reasonably close proximity to each other. Depending on the size of the development and the neighboring land uses, mixed-use district programs should encourage an attractive and functional mix of commercial, office, retail, housing—including affordable housing, and recreational opportunities.

Well-planned developments designed according to sound mixed-use and clustering requirements can occur away from existing urban areas and avoid the problems of sprawling development patterns. These developments can also capture some trips internally, thus reducing the traffic demand on rural arterials, by linking all properties to an internal street system and providing a complementary mix of residential and nonresidential land uses.

An example of how this mix can occur is the inclusion of sites for neighborhood commercial opportunities, such as grocery and drug stores, dry cleaners, restaurants, and banks, within a residential project. Local governments adopting mixed-use districts should also incorporate development design standards to ensure compatibility among uses and aesthetic acceptability.

"Mixed-use districts are frequently most appropriate in areas on the rural-urban fringe."

Access Management. Effective access management programs help to limit strip sprawl development patterns, maintain the through-carrying capacity of arterial roadways, and enhance the preservation of rural scenic values as development occurs. Curb cuts and access points can be minimized by requiring development to utilize parallel access roads, share existing or new access points, and construct local road networks that provide alternatives to the use of arterial roads. It is essential when employing this technique that the plan and implementing land development regulations require new subdivisions, planned unit developments, and like development to cluster commercial development sites in nodes and to connect their internal roadways to existing local networks so that a grid of alternative travel routes eventually results.

Not only can access management programs enhance the operation of rural arterials, freeways, and other roads, effective access management efforts can help to preserve rural scenic character. Due to the heavy reliance of today's population on the automobile for transportation, many people's perception of rural areas is based upon what they can see from their cars as they drive on rural highways.

Locating nontraveler-dependent land uses in development nodes that are set away from the roadside and buffered by stands of trees and other natural screening features can help to preserve rural scenic character even while accommodating significant quantities of development. The projects located in the development nodes also benefit by having one or two access points, each marked by clear signs, which help drivers to easily identify the entrances to the sites and recognize which establishments and other projects are located there.

Locational Systems. Also known as permit or point systems, locational requirements can be established in plans and implemented through land development regulations. This technique can involve permitting, modifying, or prohibiting development based on its distance from schools, employment and commercial centers, natural resources, and public facilities. Locational systems are usually designed to maximize the benefits of growth while minimizing negative impacts. They can include absolute requirements that all developments must meet as well as criteria to determine the densities that a development is allowed. The criteria may depend on the proximity of specified facilities, natural resources, and other essential land uses. As locational systems typically prohibit very few uses, use of this technique frequently minimizes problems caused by nonconforming structures. Local governments adopting locational systems must ensure that their point allocation process has adequate safeguards against sprawling development patterns.

Planned Unit Developments. This regulatory tool, which can be used as an overlay district or floating zone to implement many of the strategies and techniques identified in this article, also provides enhanced flexibility in planning and land development regulations. Planned unit development ordinances can be used in

conjunction with traditional zoning to provide for a mix of land uses within an individual zoning district, which frequently results in more desirable development patterns. Developments in rural areas over a certain size can be required to be built as a PUD to ensure that they meet the criteria established for developments in rural areas. It is essential, however, that adequate criteria be included in the PUD system. Currently, there is great diversity in local PUD systems and many of them probably are not adequate to accomplish the objectives of sound growth management in rural areas.

Fixed Density Controls. This technique involves limiting the amount of residential, commercial, and other types of development that can occur in an area relative to the amount per acre of land that can be accommodated without overloading public facilities or sacrificing rural character. This option uses a fixed ratio for determining the number of residences that are permitted on a specified number of acres. A fixed ratio, unlike a sliding-scale ratio (see below), does not change in response to the size of the parcel.

"Currently, there is great diversity in local PUD systems and many of them probably are not adequate to accomplish the objectives of sound growth management in rural areas."

For example, if the fixed ratio is one unit per 10 acres, a parcel of 50 acres would be allowed five units, while a 200-acre parcel would be allowed 20 units. Of the many options available to local governments for planning in rural areas, this technique may be the simplest to administer and is especially appropriate for large tracts of timber lands. The technique may be one of the weakest, however, for sustaining a healthy agricultural economy, especially if the area is subject to urban development pressures and to escalating land values. For a plan to comply with Rule Chapter 9J-5, F.A.C., this technique must be used if adequate alternative rural planning controls are not established in the local comprehensive plan.

Sliding-Scale Zoning. Sliding-scale zoning can be useful in agricultural areas affected by development and price speculation. It differs from traditional or fixed-scale zoning in that a sliding-scale ratio is used to allocate the number of units permitted on a given number of acres. As the parcel size increases, fewer lots or residences per acre are allowed.

Sliding-scale zoning permits smaller parcels of land to be split into more lots and directs growth onto these already fragmented smaller parcels, thus leaving the larger, undivided land parcels in agricultural use. This approach also encourages clustered development, a benefit that can be enhanced by limiting the maximum allowable lot size, for example to two acres.

Sliding-scale zoning can be used to encourage nonfarm development to occur on less productive land. This provides an effective technique for accommodating development pressures while sustaining an agricultural economy. This approach also helps address the needs of large and small landowners, as it permits large landowners some development while allowing small landowners to develop a higher percentage of their property. A key to using this strategy, however, is ensuring the establishment of adequate buffers between agricultural lands and residential developments.

New Communities

With Florida's tremendous rate of population growth, well-planned new urban communities in rural areas can assist in accommodating some of the demands of future growth. Local governments which can produce data and analyses to justify new communities and which desire to provide for such communities should designate appropriate locations on their future land use map of their local comprehensive plans.

Goals, objectives, and policies must also be included in the future land use and related plan elements to guide the conversion of land from rural and agricultural uses to new urban community sites when and where they are needed. These goals, objectives, and policies should ensure that new urban communities are compact, distinct, and self-contained. Policies should also establish standards for internal traffic capture, complementary mix of land uses, timing of construction, balance between jobs and housing, clustering, provision of and efficient use of adequate infrastructure, and open space.

When planning for new communities, local governments should also incorporate performance standards to ensure that development associated with new urban communities will be compatible with surrounding rural and agricultural uses and the protection of natural resources and environmentally sensitive areas.

New communities may represent leapfrog sprawl unless adequate provisions are incorporated into local plans to ensure that new urban communities remain distinct, separate urban areas and that the land area between existing urban areas and the new urban community does not become characterized by sprawling development patterns, including strip commercial sprawl and one-dimensional residential districts. Several of the following strategies and techniques can be used to provide for new communities and related development patterns.

Promote Rural Villages. This concept is based on permitting development at varying intensities to promote the location of rural development in nodes, which can consist of small rural communities, local activity centers, and other types of development. These areas should be clustered and contain a mix of residential and nonresidential uses that will support surrounding agricultural and forestry activities, large-lot rural residential areas, recreation activities, and conservation areas (see page 12).

Direct Public Investments to Existing Communities. This fundamental technique involves targeting existing rural communities and development nodes to

receive public funds for infrastructure renovations and expansions and working to assist them to become cultural and economic centers. Integrating land use planning and economic development strategies that promote rural activity centers with capital improvements programming can make these rural communities more desirable and attractive places to live and work and help alleviate pressures for additional urban encroachment into rural areas.

Require Large-Scale Developments in Rural Areas to be Florida Quality Developments. This strategy involves using the development review process established in Section 380.061, F.S., to ensure that large developments in rural areas are thoughtfully planned and compatible with the surrounding rural or agricultural area, take into consideration the protection of Florida's natural amenities, address the cost to local government of providing services, and maintain a high quality of life. The FQD program is described on page nine.

Traditional Neighborhood Development Districts. Traditional neighborhood developments are mixed-use developments that let people live, work, and shop in the same neighborhood. In a large-scale proposal, several such traditionally-designed neighborhoods are linked to form a functionally integrated new town center. A greater percentage of trips are thus captured internally and the need to drive on arterial roads outside of the development is reduced.

Local governments may wish to establish a traditional neighborhood district code to address specific needs of a geographic area or to preserve the character of the area. Traditional neighborhood development districts can be provided for by establishing floating zones that apply to certain land use categories or areas in comprehensive plans and land development ordinances. General guidelines for establishing a traditional neighborhood development district code are provided in Article III of the *Model Land Development Code for Florida Cities and Counties.*

Pedestrian Pockets. Frequently associated with traditional neighborhood development districts, pedestrian pockets represent an innovative concept for accommodating new growth in rural areas at urban intensities. Smaller than new towns, the pedestrian pocket is defined as a balanced, mixed-use area within a one-quarter-mile radius (walking distance) of a light rail station. The uses within this zone of approximately 50 to 120 acres include housing, commercial (especially telecommunications and computer-oriented industries), retail, daycare, recreation, and open space.

The pedestrian pocket concept provides a strategy for the long-range growth of an entire region in a manner that is more pedestrian friendly, public transportation-oriented, and environmentally sensitive than current development patterns. Development of the Florida High Speed Rail System may provide communities with greater opportunities to develop pedestrian pockets.

Conserving Agricultural Lands

Many of the strategies and techniques discussed above relate to converting rural and agricultural lands to other uses. But agriculture—including fruits and vegetables, nurseries, livestock, livestock products, sugar, and forestry—is an important component of Florida's economy. Due to its prime and unique farmlands, climate, and industrious agricultural community, Florida is one of the top states in the nation in agricultural production.

While the State Comprehensive Plan prohibits permanent restrictions on converting agricultural lands to other uses, it also encourages agricultural diversity and maintaining a healthy and competitive agricultural economy. To comply with these planning requirements, Florida's communities must ensure that they adopt land use policies for areas designated as agricultural in their plans that will sustain a strong agricultural economy on these lands until their conversion to other uses is timely and appropriate.

Many techniques are available to local governments that wish to conserve agricultural lands and promote a viable agricultural economy. These techniques also can be combined with many of the programs described above to give farmers that want to stay in farming but are in need of capital the opportunity to obtain financial relief during difficult economic periods. Provisions also can be included to ensure that property owners have the ability to subdivide land among immediate family members to be used to accommodate primary residences (see the next subsection). In addition, provisions should be incorporated to ensure adequate farmworker housing is provided.

Three factors must be considered in any effort to implement zoning to conserve agricultural lands. These include precisely defining the permitted uses within an agricultural zoning district, assessing the characteristics of the area to be protected, and determining the suitability of a particular parcel for inclusion into an agricultural district.

Even after successfully resolving these issues, however, zoning alone cannot be expected to protect agricultural lands effectively when the development value of farm or forest lands is much higher than their value in agricultural production. In these cases, zoning must be used not only in conjunction with other planning programs, such as an overlay district, but also in conjunction with voluntary programs at the local level that offer financial incentives to owners of agricultural lands and call upon the landowner's management judgment and discretion. In the face of market pressures, a local government's efforts to preserve agricultural lands and maintain a viable agriculture will be enhanced by a collaborative arrangement with the local agricultural community in designing appropriate planning and regulatory programs. With these caveats in mind, some options available to local governments for conserving agricultural land follow below.

Exclusive Agricultural Zoning. Exclusive agricultural zoning is the most restrictive category of agricultural zoning. It typically includes very large parcel sizes, exclusion of nonfarm land uses, and other restrictions on the type and

amount of development that may occur within the agricultural district. This zoning approach can be a very effective tool for controlling conversion of agricultural lands but may be most appropriate only for prime agricultural lands and highly productive unique agricultural lands that must be managed intensively.

Communities should carefully consider the types of active agriculture in their jurisdictions and the amount of land and buffers needed to maintain those activities when setting minimum lot sizes in exclusive agricultural areas. Use of exclusive agricultural zoning can minimize the chance that nuisances created by exurban development will hinder efficient agricultural production.

Nonexclusive Agricultural Zoning. Nonexclusive agricultural zoning can preserve an area's overall agricultural character but permit areas to be converted to nonagriculturally dependent development. This zoning may restrict some uses that are not related to agricultural purposes if their nuisance impact on farming activities is high. Policies should direct the subdivision of land in these areas to the most unproductive areas and ensure that adequate facilities and services can be provided.

This approach can be used in combination with sliding-scale zoning, clustering requirements, and buffer requirements to maintain viable agriculture while an area slowly moves toward dependence on nonfarm related development. Local governments should strongly consider adopting "right-to-farm" ordinances as part of any nonexclusive agricultural zoning program to ensure that exurban development does not prematurely drive out productive agricultural industries.

Large-Lot Residential Zoning. Used judiciously, large-lot zoning can be used to accommodate some of the demand for rural residential development. Such zoning should be limited to less productive farm and forest lands, as well as rural lands inappropriate for agricultural uses. Large-lot zoning should not be relied upon to sustain viable agriculture because parceling up farm and forest lands for rural residential subdivisions frequently encourages leapfrog development, leads to the inefficient use of public facilities and land, and unnecessarily consumes large quantities of agricultural lands. Used selectively and in conjunction with promoting denser nodal or cluster development to avoid spreading large-lot residential development across wide areas, large-lot zoning can be an appropriate tool for meeting some market demands for rural residential lifestyles.

Transfer of Development Rights Programs. This technique is used to sever development rights from parcels of land and transfer those development rights to other parcels. Development rights can be transferred without affecting remaining property rights, such as the right of access or the ability to camp, farm, or fish.

To set up a TDR program, a local government must designate specific areas within which development rights can be purchased (sending areas) and areas within which development rights can be used (receiving areas). Sending areas may consist of important farmlands and open space, environmentally sensitive lands, or lands containing historical resources. Receiving areas should be served by public facilities and be appropriate for higher density development.

These programs can also be used to address problems created by lands previously divided into antiquated and undesirable subdivision plats. To accomplish this, TDR sending areas can be limited to properties that already have vested rights, but that are no longer desired to be developed. This approach may represent a viable option for dealing with the problems caused by antiquated subdivisions.

While TDR programs present enormous potential for preserving the underlying asset value of lands not appropriate for urban development and for directing development into appropriate patterns without incurring "taking" challenges, these programs can be difficult to design and administer. The more complicated a program is, the less likely it will be understood and used. Local governments also must ensure that they do not increase densities in receiving areas through variances and parcel rezonings, thus eliminating the incentive developers have to purchase development rights.

Purchase of Development Rights Programs. A variation of the TDR concept is a PDR program, which involves purchasing development rights from land. Such programs can also be used to protect environmentally sensitive lands, farmlands, open space, and historical resources. These programs traditionally have proven more effective than TDR programs because they are simpler to understand and administer. Nonprofit land trusts with knowledge of the real estate market and access to private capital often play a lead role in assisting communities in implementing PDR programs.

Addressing Special Circumstances

When establishing minimum densities for rural areas, local governments may wish to consider the situations of property owners with special circumstances. Two of the most likely special circumstances are property owners wishing to divide their land among immediate family members and property owners wishing to rebuild or improve structures that do not conform to the new plan. Some of the issues involved and sample plan language to address these situations are discussed below.

Dividing Land Among Immediate Family Members. When densities are set in rural areas, the selected standard may restrict the ability of property owners to divide up land among members of their immediate families. Local governments concerned with this issue may include a variation of the following family lot provision, modified as appropriate for their conditions and circumstances, in their comprehensive plans. This provision is worded to apply to a local plan which includes a two-tier density program such as the one described above.

Family Lot Provision
It is the intent of the Agricultural

and Mixed Use-Conservation Land Use categories to permit the development of tracts of land for the use of family members for their primary residences. For the purpose of the Agricultural and Mixed-use-Conservation categories, property developed and/or subdivided for the use of immediate family members for their primary residence shall not be limited in density to one dwelling unit per 10 acres, but may be developed for family residences up to the maximum gross density permitted in each district, respectively, pursuant to the clustering provisions established in this plan. Immediate family is defined as persons related by blood, marriage, or adoption, such as parents, spouses, siblings and children. This provision shall not be construed to permit land to be subdivided in a lot size smaller than that which would be otherwise permissable in these districts more than one time for each family member.

Rebuilding Nonconforming Structures. Property owners with lots or uses that become non-conforming under a new local comprehensive plan due to density restrictions could be prohibited from rebuilding following a total or partial destruction of a structure unless this issue is specifically addressed in the plan. Local governments concerned with this issue may include a variation of the following existing uses provision, modified as appropriate for their conditions and circumstances, in their comprehensive plans.

Existing Uses Provision

It is the intent of the Agricultural and Mixed-use-Conservation Land Use categories to guide the future development and use of these areas. For the purpose of the Agricultural and Mixed-use-Conservation categories, structures existing as of (insert the appropriate date) shall be permitted to be rebuilt in the event of an accident or otherwise improved as long as the gross density or intensity of the property is not increased and the land use remains consistent with that in effect as of (insert the appropriate date).

Creativity Important in Rural Planning

As the foregoing description of planning techniques demonstrates, local governments have tremendous flexibility in addressing rural density and planning issues. The concerns of property owners with special circumstances, such as a landowner wishing to divide land among family members, should be addressed and accommodated. What must be avoided is the inappropriate and premature conversion of large amounts of rural land into urban uses without adequate considerations given to the need for balanced, well-planned development.

The preparation and adoption of local government comprehensive plans and land development regulations offers an excellent opportunity for local governments to design and implement innovative planning and development guidelines for their rural areas, as well as for the remainder of their community. Land development regulations must contain the specific and detailed provisions necessary or desirable to implement the adopted comprehensive plan. Thus, the rural planning policies of a local government should be clearly outlined in its comprehensive plan, although more detailed regulations can be provided in the land development regulations required to be adopted to implement the local plan. Performance zoning and planned unit development ordinances, for example, can include many of the needed details if authorized by the local plan.

The key to allowing development in a rural area is proper planning which will preserve the area's rural character. The issue is not densities alone. In fact, relying solely on limiting densities is not the most desirable approach. Strong consideration should be given to an area's topography, soil conditions, unique natural features (including flora, fauna, and water bodies), and productive agricultural and forest lands when determining how and where an area can grow. As permitted densities increase, so should the guidelines and safeguards applied by local governments to ensure that rural development does not result in unaffordable, nonfunctional, and unattractive sprawling development patterns.

As noted in *Dealing with Change in the Connecticut River Valley: A Design Manual for Conservation and Development*:

> Essentially, the broad choice in future residential development patterns is between a creative extension of the traditional rural village concept, and repetition of conventional suburban subdivision practices, wherein 100 percent of the tract is covered by streets, houses, front yards, back yards, and side yards. The former enables a large proportion of new homes to be sited so as to command uninterrupted views across long, open fields or pastures, permanently protected from future development. The latter option almost guarantees that the view from one's picture window will ultimately be, as Christopher Alexander has observed, "of the other man's picture window."

There are a variety of planning strategies and techniques available to local governments to allow developments in rural areas while preserving an area's rural character. Local governments should evaluate the many strategies and techniques available to them, some of which have been presented in this article, in addition to density limitations. The discussion of available options in this article is not intended to reflect that there are no other strategies that might be utilized.

One purpose of the Local Government Comprehensive Planning and Land Development Regulation Act is to stimulate creativity in planning for the impact of growth in Florida. With the participation of its citizens, a local government should evaluate the strategies and techniques presented in this article, and others, and select those that will enable it to address rural planning issues effectively in its local plan and achieve its desired community character. TM

Allowing Higher Densities in Rural Areas

Hillsborough County's Planned Villages

Designating low residential densities in rural and agricultural areas does not necessarily mean precluding carefully, properly planned developments of higher densities. A fast-growing local government may include provisions in its comprehensive plans that promote the planned village concept as a means of discouraging urban sprawl while permitting flexibility in developing the urban fringe. Hillsborough County's development of proposed plan amendments to implement a planned village concept illustrates this approach.

The county's intent in using the planned village concept is to discourage urban sprawl by promoting mixed-use, clustered, and planned developments on rural tracts of at least 160 acres located in the urban fringe. This size tract is needed to achieve a minimum level of community self-sufficiency. Uses within a planned village must be appropriately scaled to maximize internal trip capture, shopping, and job creation on-site. Projects must be designed to achieve compact, pedestrian-oriented nodes that mix shopping, office, and residential uses and provide for the efficient use of infrastructure.

To implement this concept, the county is proposing to amend its plan by designating two new land use categories for areas located in the urban fringe in the southern part of the county of this rapidly developing metropolitan area: Low Suburban Density Residential-Planned (LSDR-P) and Rural Residential Planned (RR-P). With the exception of lots for immediate family members and planned villages, development within these categories must occur at a density of no greater than one unit per five acres.

Projects that are 160 acres or more, however, may qualify as planned villages, within which residential densities may be increased to a maximum of two dwelling units per gross acre in LSDR-P areas and a maximum of one dwelling unit per gross acre in RR-P areas. To achieve these higher densities, a planned village must use a clustering ratio of two and demonstrate that it satisfies minimum requirements for meeting neighborhood retail and shopping commercial office needs, providing job opportunities on-site, and capturing trips internally. As the size of a planned village increases from the 160-acre minimum, the minimum requirements for mixed uses, internal trip capture, and job opportunities increase proportionally.

For example, a project of between 640 and 2559 acres will qualify as a planned village, and be eligible for higher densities, if it meets the following minimum requirements:

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New FQD Rule Provides One Approach for Creating New Urban Communities

New urban communities—or new towns —have been described as a planning tool that can be used to accommodate development in rural areas while discouraging sprawling development patterns. Because a new town is typically planned to maximize internal capture of the impacts of its development, the approach may be appropriate for permitting development in rural areas ***if it is otherwise consistent with an overall comprehensive plan that complies with state law.***

Nationally, one of the trends in designing new towns is by using the traditional neighborhood district approach. Its use is also increasing in Florida. Traditional neighborhood districts are a return to 19th and early 20th century development design patterns. Generally, they create a better quality of life than the automobile-driven suburban design patterns created after World War II.

The Florida Quality Development Program, an alternative development of regional impact review process, gives developers, both private and local government, effective means for implementing a traditional neighborhood district design plan.

The DCA's Rules of Procedure and Practice Pertaining to Florida Quality Developments became effective in January 1990. Applicants pursuing designation of their developments of regional impact as an FQD can receive expedited DRI review by meeting the requirements of Section 380.061, F.S., and Rule Chapter 9J-28, Florida Administrative Code.

The rule establishes a point system for evaluating FQD applications. Applicants earn points for incorporating planning and design features specified by the rule in development plans. Applications must earn a minimum of 15 points to receive FQD designation.

Planning and Design Features

The planning and design features fall into two categories: primary and secondary. All developers seeking FQD designation for their plans must incorporate one primary feature (worth five points) and any combination of secondary features (each worth between one and three points) to achieve the needed points. There are two options for meeting the primary feature requirement; both require the developer to address the need for affordable housing.

The first primary feature option is for the development to be located in an urban area or regional activity center and characterized by urban renewal, downtown redevelopment, or urban infill. The second primary feature option is for the development to promote compact urban growth. This approach requires providing a complementary mix of residential and nonresidential uses of parcels lo-

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Suwannee, from page 3

Development in the Floodplain

The task force concluded that the greatest threat to the Suwannee River, its tributaries, and associated natural areas is future development in the rivers' floodplains. Land uses along the Suwannee River are primarily low-density residential development and forestry. There are an estimated 20,000 to 25,000 small-tract platted lots in the Suwannee basin, most of which are currently undeveloped. If these lots were built out, undesirable development intensities along the river system would result.

The task force indicated that redesignating densities in undeveloped residential areas, reducing thresholds for developments of regional impact, and perpetuating forestry interests in the basin will serve to maintain low development intensities, protect groundwater and surfacewater quality, and maintain wildlife habitat. Recommendations for local government action included the following:

1. Designate the floodplains of the Suwannee, Santa Fe, Alapaha, and Withlacoochee rivers as special planning areas.
2. Limit development in special planning areas to low-density residential, forestry, low-intensity agricultural, public recreational, and limited resource-based or water-dependent commercial uses.
3. Replat unimproved subdivisions with undersized lots to acceptable lot sizes, where ownership patterns allow. Create a land authority to purchase undersized lots and replat them for resale.
4. Encourage incentives to prevent conversion of forestry lands to more intensive land uses.
5. Direct development to outside the 100-year floodplain and concentrate it as far from water bodies as practicable.
6. Reduce by 50 percent the thresholds for development of regional impact projects wholly or partially within the 100-year floodplain.

Provisions for Setbacks/Buffers

The Suwannee River Water Management District has required a minimum 75-foot setback from major surface water bodies since 1982 and amended its rules in 1989 to include provisions for greater setbacks when development is more intense than low-density, single-family residential. The North Central Florida Comprehensive Regional Policy Plan also calls for the same buffer along the Suwannee River and its tributaries.

Because these setbacks do not address preservation of riparian wildlife habitat, the water management district and regional planning council may recommend that buffers substantially greater than 75 feet be adopted by local governments to preserve and protect wetland-dependent wildlife. The Suwannee River Task Force recommended the following local actions:

1. Amend local floodplain ordinances to be consistent with Suwannee River Water Management District buffer requirements.
2. Identify areas where additional setbacks are necessary to ensure adequate habitat for wildlife dependent on the river system and to maintain the aesthetic qualities of the river.
3. Ensure that all development in the floodplain complies with buffer requirements and with minimum standards and requirements of the Federal Emergency Management Agency model ordinance.

Water Quality

The task force also determined that point and nonpoint sources of pollution were reducing the river's water quality. Point sources include specific operations, such as sewage treatment plants, electrical generation units, and industrial plants, where pollutants are directly discharged into the river or its tributaries. Nonpoint sources of water quality degradation in the Suwannee River basin include stormwater from urbanized areas, cattle and dairy ranches, and residential development in the floodplains. Septic tanks in use along the river have been shown to contribute to the high levels of fecal coliform bacteria in the river, which resulted in closing portions of the Suwannee Sound to shellfishing. The task force's recommendations for local government action to protect water quality are summarized below.

1. Build stormwater management systems for high-density residential areas.
2. Conduct a feasibility study to abandon septic tanks and establish central wastewater treatment facilities in areas of higher intensity development.
3. Prohibit all septic tanks, private wells, and central wastewater facilities in the 10-year floodplain.

Recreational Use of the River

The Suwannee River, its tributaries, springs, and associated floodplains are a significant recreation resource. Recreational opportunities include fishing, camping, canoeing, snorkeling, scuba diving, swimming, boating, skiing, hiking, hunting, and visiting historical and archaeological sites. The Florida portion of the Suwannee River basin contains at least 50 springs, more than one-quarter of the state's total, and nine of the 78 known first magnitude springs in the United States. Many of the springs are threatened by overuse. Problems include spring bank erosion, habitat destruction, trash dumping, and boating traffic conflicts. The task force recommended the following local action for further management and protection of the river as a recreational resource:

Assess the spring resources of the area and determine what measures are needed to protect the spring runs, springs, and their associated uplands.

Intergovernmental Coordination

The task force also determined that intergovernmental coordination efforts will play an important role in ensuring the protection of the river. The protection of regionally significant resources involves action at each level of government. The task force's 31 recommendations for action by federal, state, and regional agencies makes this point clear.

Local governments, therefore, must cooperate with other local governments in the region and with regional, state, and federal agencies that are responsible for preparing regulatory programs to protect the resources. Not only should goals, objectives, and policies to protect re-

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Comprehensive Planning is Key to Rural Economic Development

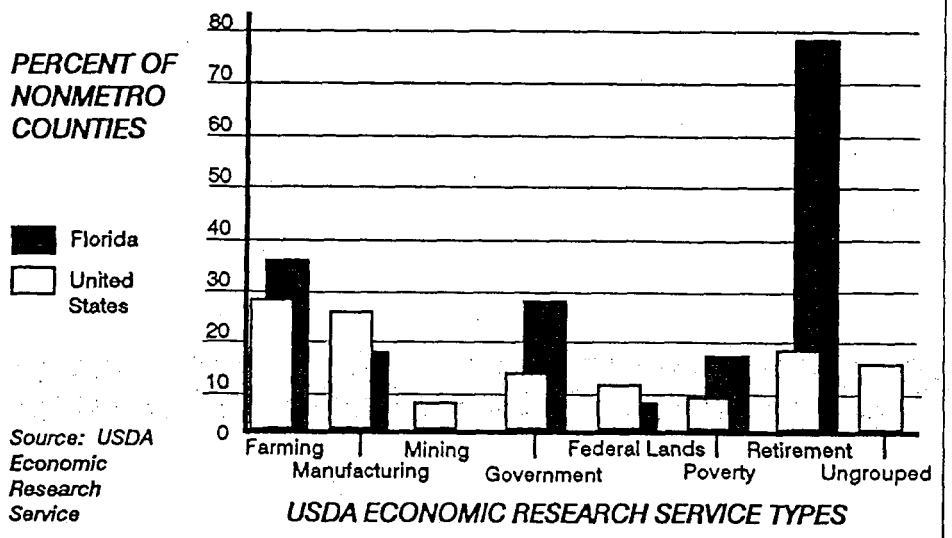
Growth management does not mean no growth. In fact, successful growth management will mean planning ways to stimulate appropriate future growth and economic development in most rural communities. Studies show that five factors are the most important in business location and expansion decisions: access to knowledge and training, access to capital, access to telecommunications, access to transportation, and access to a high-quality living environment. Effective planning for a community's future can help to ensure that businesses within a rural or small community have access to these essential features.

Effective implementation of Florida's growth management laws means more than directing development away from areas where it should not occur, like environmentally sensitive riverine corridors and wetlands. It also means reducing regulatory barriers to new development and redevelopment in areas where it should take place and accommodating additional growth and development in a manner that is sensitive to existing residents' rights, maintenance of a high quality of life, and protection of natural resources.

Florida's Rural Economy

Rural counties—the 36 Florida counties not part of a metropolitan statistical area—are individually becoming more economically diverse. A common denominator among them, however, is that they tend to have economies that are heavily influenced by natural-resource-based industries, although trade, services, and manufacturing are more prominent employment sectors than ever before. The growing dissimilarities among rural counties, however, make it more important than ever to tailor economic development strategies to specific local needs and circumstances. Florida's rural counties are also quite different overall from their national counterparts, as demonstrated by the above chart. This reinforces the need for Florida's communities to create economic development programs that are closely based on their conditions and circumstances.

Nonmetro Counties in Florida by Type of Specialization



Source: USDA Economic Research Service

Since Florida's metropolitan areas are spread across the state, 75 percent of Florida's rural counties are adjacent to metropolitan areas. The large number of rural counties adjacent to metropolitan areas—Florida ranks fourth nationally in the percent of rural residents living in rural counties that are adjacent to metropolitan areas—enhances economic development opportunities in these counties. Rural counties adjacent to metropolitan counties tend somewhat to take on the characteristics of their metropolitan neighbors and to outperform nonadjacent rural counties economically. At the same time, these counties face significant growth management challenges in retaining their quality of life, as the rural character of these counties prized by many residents can easily be changed or lost in the absence of careful planning for future growth and development.

Key Challenges in Rural Florida: Agriculture and Retirement

While rural counties adjacent to metropolitan counties benefit from their proximity to urban areas, this closeness also poses a challenge to maintaining a strong agricultural industry. Residential encroachment in agricultural areas significantly decreases the ability of the agricultural industry to employ necessary management practices, produce its products, and operate efficiently. Local comprehensive planning provides the opportunity to address these conflicting interests and to balance the needs of natural resource-based industries with the pressures for additional growth. An example of this occurring is planning to avoid scattered rural housing and ensuring that residential development in rural areas is appropriately clustered and buffered to minimize its impact on agricultural activities.

Studies have characterized the nation's rural counties into eight groups: farming-dependent, manufacturing-dependent, mining-dependent, specialized government, persistent poverty, federal lands, retirement, and counties that do not fall into any of the seven specific categories. Florida's rural counties fall into every category except for mining-dependent (which requires 20 percent or more of

total labor and proprietor income in the county to come from mining) and ungrouped. Several counties qualify in more than one category, although few have economies diverse enough to meet the criteria for three or more categories. The greatest number of Florida's rural counties by far fall into the retirement county category. These are defined as counties having 15 percent or more net immigration of persons aged 60 or older.

This predominant characteristic of Florida's rural counties has considerable significance for these local governments, and reinforces the need to use effective growth management techniques to assist rural economic development efforts. Typically, retirement counties have relatively high growth rates, offer more opportunities for the development of service industries, and have strong development potential. At the same time, high numbers of older residents may generate greater demands on county health services and strain government's ability to ensure transportation mobility for all residents.

Effective planning programs can help local governments to address these demands. For example, comprehensive planning can ensure patterns of land development that assist local governments and other service providers in the efficient provision of important services such as health care, recreation, and transportation. Without effective planning, land development patterns can inhibit efficient service delivery, generating higher costs and taxes for all residents.

Looking Ahead

Economic sectors with the highest potential for growth in rural communities over the coming decade include maintaining strong agricultural and silvicultural (forestry) industries, including promoting related value-added industries and agricultural diversification, supporting entrepreneurs in creating and expanding small businesses, encouraging business relocations, taking advantage of telecommunications advances to attract new service industries, stimulat-

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7 Strategies for Rural Economic Development

1 **Create Access to Capital for Small Business Development.** Often small businesses lack enough start-up money to assure success; others struggle to keep afloat because they are undercapitalized. Banks are understandably cautious, particularly when non-traditional enterprises are proposed. Rural communities and the state need to work with lenders to create rural revolving loan funds, venture capital networks of private investors and innovative other programs.

2 **Create Access to Training & Advice for Business Owners.** Many feel business management savvy is more important than money when it comes to business success. Because of their relative isolation, special approaches are needed to get training and counseling offered in rural areas and small towns.

3 **Create a Well-Prepared Workforce.** Attention must be paid to improving the high school graduation rate in rural Florida, and all graduates should possess the basic reading and writing skills needed to succeed in the workforce. Entrepreneurship training should be included as an option in job training programs, vocational schools, and community colleges.

4 **Provide Adequate Infrastructure to Support Enterprise & Development.** Transportation, water, and wastewater treatment facilities are basic necessities of rural economic development. Adequate schools and modern health facilities are also necessary to assure the quality of life desired by most business leaders today. Special efforts must often be made to develop partnerships among local governments, between local government and the state, and between the public and private sectors in order to pool resources and encourage creativity.

5 **Assure Access to Technology that Competes Globally.** Agriculture has participated in the global marketplace for many years; farmers know they need the latest techniques and technology in order to stay competitive. Other rural businesses must face the same challenge; their competitors are in Korea or South America, not the next small community or urban area. University linkages to rural areas are crucial, and existing programs such as the Extension Service and Small Business Development Centers should be used regularly. Local Chambers of Commerce, service clubs, and special committees should sponsor programs about new technologies appropriate for local businesses.

6 **Create Marketing Plans & Strategies for Growth.** Communities can help local businesses expand their markets and develop strategies for growth by encouraging international trade and tourism, holding regional business trade fairs, organizing cooperative advertising, preparing a countywide business guide, creating cooperative marketing organizations, or offering procurement assistance.

7 **Develop Leaders.** Local rural development has traditionally focused on branch plant recruitment. Entrepreneurship and home-grown development is more effective over the long term, but requires community leaders to assume new roles. Regional seminars, how-to publications and directories, and data responsive to local needs can help build effective leadership. Local educational institutions, chambers, and service clubs must become interested in devising local strategies in cooperation with government.

Source: Rural Visions, Inc.

TM

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ing additional natural-resource-based industries, such as viticulture (wineries) and aquaculture, and continuing to attract retirees and other immigrants interested in enjoying Florida's climate and natural beauty. Effective planning for future growth and for community revitalization is essential for realizing the potential of each of these areas. Innovative and forward-thinking planning represents a key to maintaining a high-quality living environment and ensuring that currently rural areas do not succumb to the same transportation problems afflicting many urban areas because of poorly planned growth patterns and ineffective access management programs.

It must be recognized that rural economic development will not occur solely as a result of planning efforts, however, despite their critical importance. While not the subject of this article, additional strategies in a successful rural economic development program may include: working with local financial institutions and pension fund managers to create capital pools that can be accessed by entrepreneurs; working with private and public interests to provide educational opportunities and increased access to training and business management advice; and working with utility companies and telecommunications industries to become integrated into the fiber optic telecommunications network spreading across the country. [See the box on page 15 for more strategies for promoting rural economic development.]

Programs and Policies

The Local Government Comprehensive Planning and Land Development Regulation Act recognizes the need for economic development in all of Florida's communities. For this reason, an optional economic element is provided for in Section 163.3177(7)(j), Florida Statutes. This element, which must be consistent with the other comprehensive plan elements and the appropriate objectives and policies in the State Comprehensive Plan and the applicable comprehensive regional policy plan, calls for local governments to set forth their principles and guidelines for commercial and industrial development and for the utilization of the local workforce.

Many of Florida's rural industries now compete in an international economy. This reinforces the need for local governments to consider economic development issues during its comprehensive planning efforts to ensure that comprehensive planning efforts accomplish what is needed without enacting unnecessary regulations that hinder economic competitiveness. Undertaking regulatory reform is an important facet of Florida's planning requirements; preparing the optional economic element can assist local governments to more effectively integrate economic development and regulatory reform considerations with their local planning efforts. [The Florida Department of Commerce has prepared a guide *Preparing the Economic Element of the Comprehensive Plan*, which can be obtained from its Bureau of Economic Assistance by calling the telephone number provided at the end of this article.]

While the majority of new jobs in rural areas come from small business creation or expansion, encouraging business relocations can also perform a role in a rural economic development strategy. Planning tools exist today that local governments can avail themselves of to make Florida's rural counties more competitive in this arena. Linking capital improvements programming with land use planning, for example by equipping an office or industrial park with adequate infrastructure up front so that the concurrency requirement is not an obstacle to economic development, can be a powerful marketing tool for attracting business relocations.

Technical Assistance Available

All of Florida's rural counties face unique challenges that can be met in part through careful comprehensive planning. Part of this challenge is to ensure that sprawling development patterns are not encouraged under the guise of economic development. Permitting the proliferation of urban sprawl works directly counter to promoting a high-quality living environment and ensuring access to an efficient transportation system, two community attributes fundamental to the success of any economic development program.

Many resources are available to assist local governments in this area. In addition to working with the Department of Community Affairs, communities interested in economic development should contact their regional planning council, local chambers of commerce, the Florida Chamber of Commerce, the Department of Commerce, the Department of Agriculture and Consumer Services, the State University System, the U.S. Department of Agriculture, and other federal agencies for assistance in crafting economic development programs tailored to their special needs. TM

Economic development technical assistance contacts:

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Bureau of Economic
and Community Assistance
(904) 488-3581

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(904) 392-0171

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Rural Planning Data Sources

Data Source: LANDSAT
Description: Ongoing satellite imagery to map and monitor agricultural lands, includes description of land cover.
Form Available: computer tapes, 8" x 10" negatives
Date: 1987
Contact: U.S. Soil Conservation Service (c/o Department of Community Affairs) (904)488-2356

Data Source: Land Use/Cover Maps
Description: Maps for metropolitan areas statewide.
Form Available: blueline prints or mylars; quad sheets
Date: continually updated
Contact: State Topographic Bureau, Department of Transportation (904)488-2168

Data Source: Florida Natural Areas Inventory
Description: Identifies attributes and geographic location of specific species and natural communities.
Form Available: computer printout
Date: continually updated
Contact: Florida Natural Areas Inventory (904)224-8207

Data Source: Aerial Photographs
Description: Aerial photographs of entire state, available by county at a scale of 1:24,000.
Form Available: 9"x9" black and white prints
Date: updated every three to five years
Contact: State Topographic Bureau, Department of Transportation (904)488-2332

Data Source: Cultural Resource Surveys
Description: Inventory of specific topical resources to provide comparative data for use in determining site significance.
Form Available: printed reports
Date: varies with area
Contact: Local Historic Preservation Board, or Division of Historic Resources, Department of State (904)487-2333

Data Source: Florida Master Site File
Description: Maps and detailed site descriptions of historic resources.
Form Available: paper files and site maps on county highway maps or quadrangle sheets
Date: updated annually
Contact: Division of Historic Resources, Department of State (904)487-2333

Data Source: National Register of Historic Places
Description: Inventory of existing and pending National Register sites.
Form Available: printed reports
Date: continually updated
Contact: Division of Historic Resources, Department of State (904)487-2333

Data Source: Groundwater Management System
Description: A computerized data base and reporting system of all Department of Environmental Regulation permitted facilities that are potential point-source polluters.
Form Available: printed reports
Date: continually updated
Contact: Bureau of Information Systems, Department of Environmental Regulation (904)488-0890

Data Source: U.S. Geological Survey Quadrangle Maps
Description: Maps of surface features at varying scales.
Form Available: prints and mylar film; some digitized maps are available
Date: varies with area
Contact: local map merchant, or U.S. Geological Survey, Mid-Continent Mapping Center (314)341-0851

Data Source: Flood Insurance Rate Maps, Flood Boundary and Floodway Maps, and Flood Hazard Boundary Maps
Description: Maps of identified flood areas for communities within the Federal Flood Insurance Program.
Form Available: paper maps
Date: varies with area
Contact: Federal Emergency Management Agency, Flood Map District Center (800)638-6620

Data Source: National Wetlands Inventory
Description: Maps of wetlands at various scales.
Form Available: paper or mylar maps
Date: within last seven years
Contact: U.S. Geological Survey, National Wetlands Inventory Florida Office (813)893-3864
National Information Center (800)872-6277

Data Source: Soil Surveys
Description: Publication containing maps, tabular data, and text about soils. Compiled at the county level.
Form Available: document
Date: varies by county; updated as needed
Contact: local soil and water conservation district

Data Source: List of Publications
Description: A booklet that describes various hydrologic, geologic, and mineral resource publications. Includes index by county.
Form Available: document
Date: updated annually
Contact: local depository library, or Bureau of Geology, Department of Natural Resources (904)488-9380

Villages, from page 12

1. The ratio of the gross density of the clustered area to the project's gross density (permitted by the LSDR-P or RR-P category) is two.

2. The project will provide job opportunities on-site for 40 percent of its residents.

3. The project will meet 100 percent of the need for neighborhood retail and shopping on-site.

4. The project will meet 25 percent of the need for community commercial space.

5. The project will internally capture 20 percent of residentially generated trips for employment, shopping, recreation, and other amenities.

The effect of the clustering ratio and mixed use requirements for planned villages is to concentrate development at higher densities than permitted under the LSDR-P and the RR-P designations. This clustering is intended to avoid low-density, single-dimensional development patterns. The densities and other criteria proposed for Hillsborough County's planned village concept are appropriate for permitting urban development in the urban/rural fringe of this fast-growing metropolitan area.

The county's proposed plan amendments also include a provision that allows developers to aggregate property in the LSDR-P and RR-P land use categories to meet the 160-acre minimum requirement. To get the maximum densities allowed in these categories, developers must show that aggregated property will function as an integral and planned part of existing adjacent development. They also must show that the shopping and job needs of the aggregated development will be met by the combined development.

When planning for rural areas in their jurisdictions, local governments may consider Hillsborough County's example of using planned villages. If approached in a sound manner that does not promote scattered, leap frog urban sprawl, this approach has the potential to allow development to occur in rural areas at higher than usual rural densities while making efficient use of infrastructure, preserving open space, protecting the environment, and discouraging low-density sprawl. Special care must be taken, however, to ensure that the planned village concept is only undertaken in a manner that is consistent with a community's overall plan for its future. TM

FQD, from page 12

cated on-site or located adjacent to or proximate to the project. This feature also includes the option for the developer to propose a new town or new community, incorporating, where appropriate, traditional neighborhood development features.

Secondary features incorporated in design plans earn between one and three points toward FQD designations. These secondary features include comprehensive transportation system management, preserving environmentally sensitive lands, establishing water-conservation measures, providing on-site care for the elderly and children, undertaking urban renewal or redevelopment, establishing recycling and hazardous waste collection programs, enhancing emergency management capabilities, and furthering community economic development.

Consistency with Plan Required

The rule's provisions enabling the development of new towns and, where appropriate, features from the traditional neighborhood development code are interesting provisions in that local governments may use these approaches to site large- scale projects outside of higher density urban areas. This provision is especially useful for county governments working to discourage urban sprawl through the establishment of separate and distinct new towns and regional activity centers.

However, an important caveat should be noted. Simply attaching the traditional neighborhood district label to a project does not necessarily mean it is a desirable development. It must make sense within the context of an overall plan.

Contact: Marcus Hepburn, (904)488-4925, SC 278-4925. TM

Suwannee, from page 13

gionally significant resources be included in future land use, conservation, and general infrastructure elements of a local plan, but they should also be included in the intergovernmental coordination element.

Local governments have an important role to play in protecting Florida's natural resources. By including special planning provisions to protect environmentally sensitive areas and successfully implementing their comprehensive plans, local governments will go far in addressing many of the significant issues facing Florida's regionally significant resources.

For information about the Suwannee River Task Force's final report, contact Jim Farr, (904)488-4925, SC 278-4925. For a copy of the FEMA model floodplain ordinance, contact Charles Speights, (904)487-4915, SC 277-4915. TM

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Docket No.: 021256-WU
Exhibit # _____
Title: GCH Late Filed Exhibit No. 5 Farmton Water Resources LLC's Estimated Capital Cost for Retail Water Supply

FARMTON WATER RESOURCES LLC

Gerald C. Hartman Deposition

Revised Table 3-1 to
Farmton Water Resources LLC's Estimated Capital Cost
For Retail Water Supply

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 021256-WU EXHIBIT NO. 38
COMPANY/ FARMTON Revised Table 3.1
WITNESS. GCH Late File Exhibit No. 5
DATE: 06/22-23/04

Late-Filed Exhibit No. 5

Revised Table 3-1
FARMTON WATER RESOURCES LLC
Estimated Capital Cost
Retail Water Supply

NARUC Account Number	Description	Quantity	Unit	Unit Cost	Total Total Cost
307.1	4" well, pump, motor and controls	6	EA	$ 2,500	$ 15,000
330.4	20-Gallon Bladder Type Hydropneumatic Tank	3	EA	200	600
330.4	200-Gallon Bladder Type Hydropneumatic Tank	4	EA	600	2,400
320.3	Chlorinators	6	EA	200	1,200
311.2	Sitework	6	EA	500	3,000
311.2	Electrical (Site & Transmission)/Solar/Gas	4	EA	2,200	8,800
311.2	Yard Piping	6	EA	100	600
334.4	5/8" X 3/4" Meter	3	EA	200	600
334.4	2" Meter	4	EA	600	2,400
	Subtotal				$ 34,600
	Engineering & Permitting @ 25%				8,650
	TOTAL RETAIL SUPPLY				**$ 43,250**

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO. 39
COMPANY/ FARMTON
WITNESS: Earl M. Underhill - Hunting Lease
DATE: 06/22-23/04

Docket No.: 021256-WU
Exhibit # 39
Title: Miami Tract Hunt Club Hunting Lease

HUNTING LEASE

As of this sixteenth day of April, 2001, MIAMI CORPORATION, a Delaware corporation authorized to do business in the State of Florida ("Lessor") with offices at 1625 Maytown Road, Osteen, Florida 32764, and MIAMI TRACT HUNT CLUB INC., a Florida Corporation ("Lessee"), with offices at 1721 Royal Palm, Edgewater, Florida 32132, in consideration of the mutual covenants and agreements expressed herein, agree as follows:

1. Term of Lease. This lease shall be in full force and effect from the date of execution until May 15, 2006, unless terminated earlier as provided herein; however, the right of entry shall commence May 12, 2001, and this lease shall be known and described as "HUNTING LEASE DATED MAY 12, 2001."

2. Acreage Leased. The land subject to this lease is approximately 52,000 acres located in Volusia and Brevard Counties, Florida, is specifically described as shown in Exhibit A attached hereto and made a part hereof, and shall hereinafter be referred to as the "MIAMI TRACT".

3. Purpose and Uses. This Lease is to provide hunting privileges, during State of Florida authorized hunting seasons only, on the Miami Tract to the fee-paying members of Lessee, their families and guests as described in the Hunt Club Rules attached hereto as Exhibit B and made a part hereof (the "Hunt Club Rules"), subject to all the terms and conditions of this agreement. No access to the Miami Tract will be allowed to Lessee's members during May, June, July and August except (1) during the third weekend of each such months for the sole purpose of filling feeders or (2) at other times with the approval of Lessor.

4. Lease Payments. Lessee agrees to pay Lessor as follows:

Year 1: May 12, 2001 – May 15, 2002:
$[redacted] on or before July 1, 2001
$[redacted] on or before September 1, 2001

Year 2: May 15, 2002 – May 15, 2003:
$[redacted] on or before May 1, 2002
$[redacted] on or before September 1, 2002

Year 3: May 15, 2003 – May 15, 2004:
$[redacted] on or before May 1, 2003
$[redacted] on or before September 1, 2003

EXHIBIT 1

Year 4: May 15, 2004 – May 15, 2005:
$[redacted] on or before May 1, 2004
$[redacted] on or before September 1, 2004

Year 5: May 15, 2005 – May 15, 2006:
$[redacted] on or before May 1, 2005
$[redacted] on or before September 1, 2005

Lessee's failure to make timely lease payments will constitute a default under this lease.

5. Rules and Laws. It is understood and agreed that Lessee's members and their guests will govern themselves according to the laws of the State of Florida, the current rules and regulations of the Florida Fish and Wildlife Conservation Commission, and the Hunt Club rules set forth in Exhibit B. The Hunt Club Rules are at all times subject to the approval of Lessor, which will not be unreasonably withheld. Lessee also agrees that it will not allow guided hunts on the Miami Tract. Lessee agrees to provide Lessor with annual harvest information including at a minimum the number of all animals (and sex of deer) by hunting season, on or before February 1 of each lease year.

6. Tree Farm Lands. The said lands are being used for tree farming purposes and such use is of paramount importance not only to the parties hereto but to the economy of the area, and in view of this primary use of the land, Lessee agrees that members and guests shall carry on their hunting operations in such manner as shall not be inconsistent with the Lessor's uses of the land as an industrial forest, to avoid any damage to the seedlings and young trees, and to follow any further regulations or restrictions which the Lessor's Tree Farm Director may deem necessary to protect the trees and minimize the danger of fire due to drought, low humidity or any other reason. The Lessor may designate areas of young pine plantations or stands or areas on which personnel employed by the Lessor will be working during the hunting season, on which all hunting will be prohibited and upon which no vehicles shall be permitted. Lessor also has discretion to close access roads if wetness conditions so require. It is further provided that during periods of drought constituting, in the sole judgment of the Lessor, an emergency condition and upon being advised by the Lessor that continued use for hunting would jeopardize timber on said lands, the Lessee's members and guests shall cease all hunting until said drought emergency has ended. If such prohibition extends beyond two (2) days in any lease year, Lessor shall refund to Lessee a prorated portion of the lease payment for such lease year.

7. Fire Protection. The said hunting privileges are granted on the condition that Lessee's members and guests will not start or cause to be started any fires on the property except in their own camps, and that such fires as

Lessee's members and guests may start in their camps will be guarded and protected at all times and extinguished upon leaving the camp; that Lessee will report and lend assistance to extinguishing any fires that may occur anywhere on the lands covered by this lease; that Lessee will report and assist in preventing trespassing on the property; that Lessee will not destroy or damage the fences or any other property of the Lessor. At such time as this lease is not renewed or it is otherwise terminated, Lessee agrees to remove all structures placed upon the Lessor's land by Lessee's members and guests.

8. Liability. It is understood and agreed that Lessor shall not be liable for any property or personal damages that may be incurred by Lessee or Lessee's members and their guests, or by any third party as a result of Lessee's activities under this Lease.

and each spouse and qualified adult child of each member for Lessor Emil M. Hulsey

9. Indemnity Agreement. The attached hold harmless and indemnity agreement executed by Lessee shall become a part hereof and is incorporated herein by reference. Each member of Lessee and each guest shall be required to execute ~~the~~ hold harmless and indemnity agreement before entering on the Miami Tract. ~~a~~ in a form approved by Lessor for Lessor Emil M. Hulsey

for Lessor Emil M. Hulsey

10. Insurance. Prior to entering on the land, Lessee shall provide Lessor with proof of (1) general liability insurance in the amount of $5,000,000, (2) non-owned automobile liability insurance in the same amount, both with Lessor a named insured thereon, and (3) workers compensation insurance, with a company or companies acceptable to Miami Corporation, and shall provide updated proof of insurance upon each renewal. Prior to entering the Miami Tract, each member of Lessee shall provide Lessor with a photocopy of a current driver's license for each hunter driving on the Miami Tract and with proof of current automobile insurance for each vehicle to be driven on the Miami Tract.

Any member desiring to operate an unlicensed all-terrain vehicle on the Miami Tract must submit proof of general liability insurance in the minimum amount of $500,000 from an insurance company acceptable to the Lessor, with Lessor named as an additional insured.

11. Lessor Hunting Privileges. It is further understood and agreed that the officers, directors and employees of Lessor and their guests shall have the right to hunt on said premises at any time during the lease period.

12. No Recording. The parties hereto agree this lease will not be recorded.

13. Termination and Amendment of Lease. Either party may terminate this lease by written notice delivered to the other party on or before March 15 of each lease year and such termination will be effective as of May 15

of the lease year. This lease shall be amended only by a writing signed by both parties.

14. Members. Lessee agrees that it shall limit its members to 261, plus eight non-paying law-enforcement members. Family and guests shall be admitted to the Miami Tract only in accordance with the Hunt Club Rules. Specifically, it is understood that all guests will be non-paying, and that any member found to be accepting payment from guests for hunting privileges will immediately lose his or her membership. Lessor may ask to review a list of current or proposed members at any time and has the right to reject members in its sole discretion.

15. Fencing. Lessee agrees to spend $15,000 per lease year in construction of a perimeter fence consisting of three-strand barbed wire with a good grade of post.

16. Notices. Notices shall be made in writing by hand delivery or prepaid first class mail as follows:

If to Lessor:
Miami Corporation
Attention: Earl M. Underhill
1625 Maytown Road
Osteen, FL 32761

If to Lessee:
Miami Tract Hunt Club Inc.
Attention: Mike Thomas
1721 Royal Palm
Edgewater, FL 32132

Signed as of April 16, 2001.

MIAMI CORPORATION (LESSOR)

36 By: _____
Lawson E. Whitesides, Jr., President

MIAMI TRACT HUNT CLUB INC. (LESSEE)

By: _____
Mike Thomas, President

HOLD HARMLESS AND INDEMNITY AGREEMENT

THIS INDEMNITY AGREEMENT is between Miami Tract Hunt Club, Inc. ("Lessee") and Miami Corporation ("Lessor") under Hunting Lease dated May 12, 2001.

In consideration of the Lessor entering into the Hunting Lease dated May 12, 2001 for the right to hunt within designated areas of the Lessor's real property, Lessee hereby agrees to indemnify and hold harmless the Lessor for any injuries, death, loss, or property damage sustained by the Lessor, its representatives, agents or employees and for any injuries, death, loss or property damage sustained by any other persons including the undersigned Lessee, its officers, directors, members, employees and their guests while on the Lessor's property if the injuries, death, loss or property damage results from or in connection with the acts or omissions of the undersigned Lessee, its officers, directors, members, employees or their guests.

If any injury, death, loss or property damage occurs as a result of the acts of the undersigned Lessee, its officers, directors, members, employees or guests while on the property, the Lessor must give written notice to the Lessee of a claim under this Agreement within thirty days after the Lessor learns or reasonably should have learned of the occurrence of the act giving rise to a claim.

The Lessee agrees to pay the Lessor interest at the annual rate of twelve percent (12%) of the amount of any claim for injury, death, loss or property damage indemnified against, from the date of the claim until the full amount of the claim, plus interest, is paid. In addition, the Lessee agrees to reimburse the Lessor for any necessary expenses, attorney's fees, or costs incurred in the enforcement of any part of this Hold Harmless and Indemnity Agreement within thirty days after receiving written notice that the Lessor has incurred them.

This Agreement is incorporated by reference in Hunting Lease dated May 12, 2001 between Miami Corporation and Lessee.

Dated this 12th day of May, 2001, in Volusia County, Florida.

MIAMI TRACT HUNT CLUB, INC.

By: _____
Mike Thomas, President

MIAMI CORPORATION
Fermion Tract

EXHIBIT A

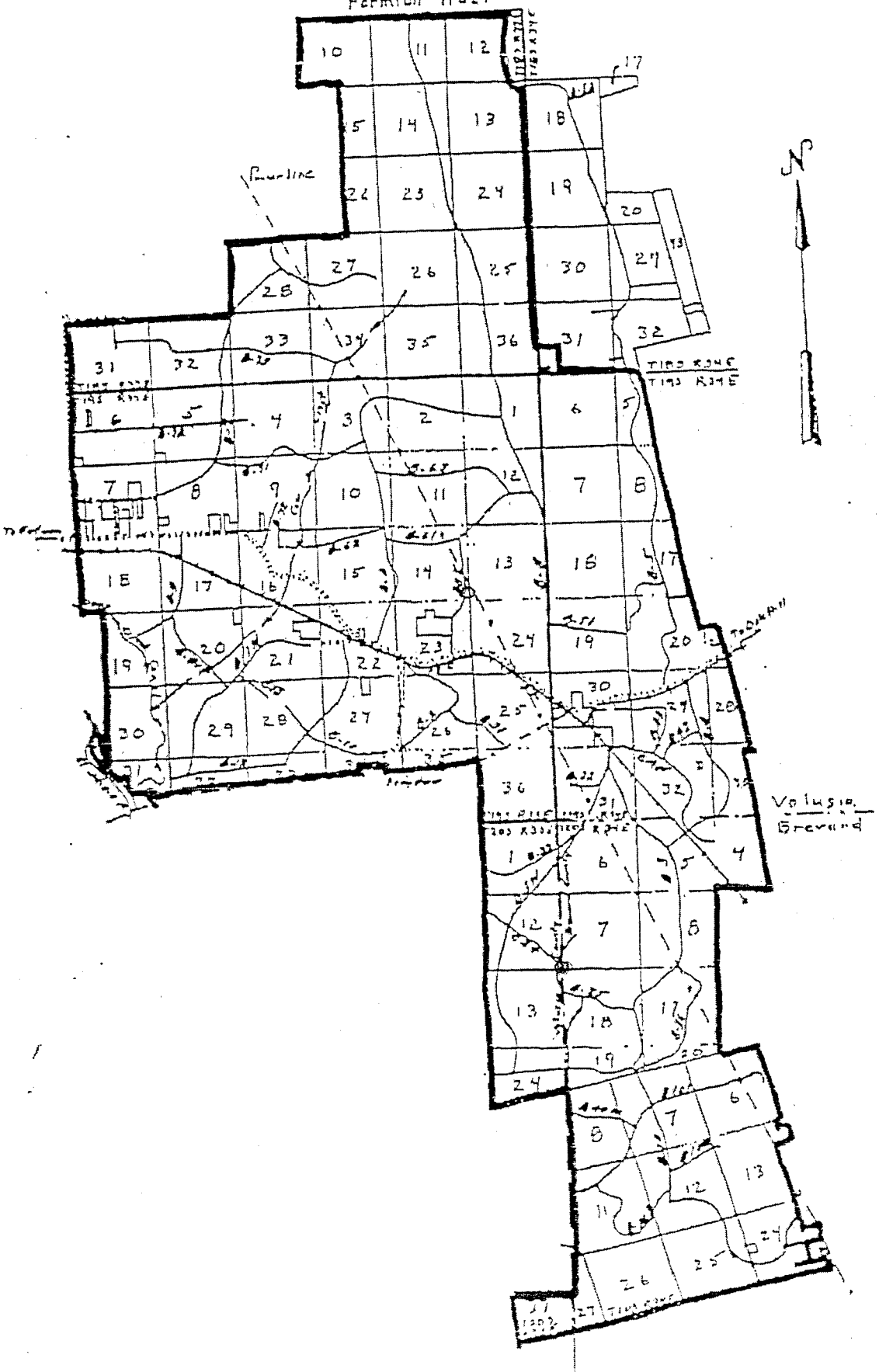


EXHIBIT B

MIAMI TRACT HUNT CLUB RULES

The purpose of initiating this private hunt club is to provide members with an area of quality hunting. Only responsible, sportsminded individuals will be invited to join this Club. All memberships are by invitation only and will reviewed annually by the Board of Directors. The lessor, Miami Corporation, has the right to reject members for any reason.

These rules form a part of the Hunt Club's lease with Miami Corporation. Therefore, compliance with the rules is essential.

HUNTING

A five year contract has been granted by the landowner. A game management plan will be immediately initiated to enhance the chance of taking trophy bucks in the future.

Rule # 1. The taking of spike buck is prohibited. Legal bucks will have at least one fork above the ears. (For definition purposes, a button buck will be considered a spike buck.)

The fine for violating Rule # 1 will be $100.00, payable to the Club General Fund.

Each member will be allowed to harvest one antlerless deer (doe) per season, whether it be during the archery season, the antlerless deer weekend, or by permit. All deer taken must be "checked in" and data recorded.

The above rules are necessary in order to achieve a proper buck/doe ratio.

Rule # 2. Hunting by the use of dogs will be allowed on Thursday through Sunday, on legal holidays, the first nine days and the last nine days of the deer season.

Training of deer dogs will be allowed during the period established for dog training of the deer season.

Rule # 3. Persons participating in a dog hunt must wear a florescent hat or vest.

Rule # 4. Hunting on a Wednesday between the hours of 8:00 am and 4:00 pm is prohibited.

Rule # 5. All State laws must be adhered to, including the rules and regulations of the Florida Fish and Wildlife Conservation Commission.

STANDS AND FEEDERS

Each member will be allowed two automatic feeding stations.

Rule # 6. Feeding stations shall be identified with the member's name. A number will be assigned each feeder location which will be located on an aerial photograph of the property. Members will not be allowed to place feeding stations closer than one quarter of a mile of another feeding station.

Rule #7. Hunting from another person's stand or feeding station is prohibited without written permission. Permission to hunt on your stand should include the date you allow that person to hunt from your stand.

Rule # 8. Members will be allowed to set up and hand feed as many stands as they wish.

Rule # 9. Stands are to be constructed of metal, plastic, or fiberglass. Stands may not be permanently attached to trees nor may they be placed in a manner to obstruct roads or firelines. Driving of metal objects into trees is prohibited. Destroying trees is prohibited.

MEMBERSHIP & GUESTS

Rule # 10. Dues must be paid by April 1.

Rule # 11. Memberships include and allow immediate family members to hunt. Children may continue to hunt as long as they are full time students and under the age of twenty-one. Verification (student ID) is required. (For definition purposes, immediate family means spouse and children living at home.)

Family members must be accompanied by the member while on the property. Only one vehicle is allowed on the property per member. Club decals will be provided.

All members who operate an unlicensed motor vehicle (Jeep, ATV, etc.) will be required to have liability insurance for said vehicle and must prove so to obtain a club decal.

A member is allowed to bring one guest. Should a member chose to invite a guest the following rules are applicable:

A) The member's family will not hunt.

B) The guest will sign a release form prior to hunting.

C) A fifty dollar guest fee is paid to the Club.

D) The member is responsible for the actions of his guest.

E) Guests will not be allowed during the first nine days of gun season.

Rule # 12 Members are allowed to use the property from Sept. 1st through April 30th.

Restricted access during the months May through August will be imposed at the request of the landowner because of the high probability of fire during that time.

If a member needs access the property during that time period, he must request a daily pass that will be issued by Club President, on an as – needed basis.

Members may also enter the property during this restricted time on the third weekend of each month (May, June, July, August) without a pass for the purpose of filling feeders only.

LAND USE

Rule # 13 Camping is allowed at designated primitive campsites by use of tents, trailers, or self - propelled camping vehicles.

Rule # 14 FIRE PROTECTION – Fire shall be limited to campfires at designated campsites only.

Rule # 15. Selected areas containing pine seedlings may be posted closed to hunting.

Rule # 16. If water condition is area become extreme, some roads may be closed to vehicular traffic.

Rule # 17. Littering is prohibited. Members are to pick up and carry out trash and keep area clean.

Rule # 18. Miami Corporation has the right to close any or all areas to hunting in the times of extreme fire danger.

GENERAL

Rule # 19. All members and guests agree to hold harmless The Miami Corporation, Miami Tract Hunt Club, fellow members and their family or guests, for any accidents or injuries that may occur while on this property. Members will be required to sign the attached Release and Hold Harmless, as well as proof of insurance, before entering the property.

Rule # 20. Any member found in violation of the club rules is subject to expulsion. Membership dues are not refundable. Remember, members are responsible for their guests and other family members while on the property.

I agree to abide by the above rules and accept the rulings of the Board of Directors. I have also read and signed the Release and Hold Harmless agreement.

Signed: _____

Date: _____

(40)

AFFIDAVIT

I, Christine M. Long, am Executive Vice President and Chief Financial Officer of Miami Corporation. Miami Corporation is the sole member of Farmton Management LLC. In that capacity, I am filing this Affidavit to state Miami Corporation wishes to assure the Florida Public Service Commission that it stands ready and intends to provide any reasonable and necessary infusion of capital to Farmton Management LLC as and when that additional capital is necessary, in order to allow that entity to provide any reasonable and necessary funding to Farmton Water Resources LLC in order to operate the Utility systems proposed.

BG

Christine M. Long
Position: Executive VP and CFO
Miami Corporation

STATE OF ILLINOIS)
COUNTY OF COOK)

The foregoing instrument was acknowledged before me this 11th day of MAY, 2004, by Cheistine M. Long, who is personally known to me ~~or who has produced~~ _____ ~~as identification.~~

Eleanor E. Bulmer
Print Name ELEANOR E. BULMER
Notary Public
State of ILLINOIS at Large
My Commission Expires:

"OFFICIAL SEAL"
ELEANOR E. BULMER
Notary Public, State of Illinois
My Commission Expires 2/5/05

farmton\2financial.aff

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO. 4D
COMPANY/ FARMTON
WITNESS: Earl M. Underhill - Affidavit - 5/11/04
DATE: 06/22-23/04

Docket No.: 021256-WU
Exhibit # 41
Title: Rate Calculation
Retail Water Supply 5/6/04

FARMTON WATER RESOURCES LLC
NON-TAXABLE ENTITY
RATE CALCULATION
RETAIL WATER SUPPLY

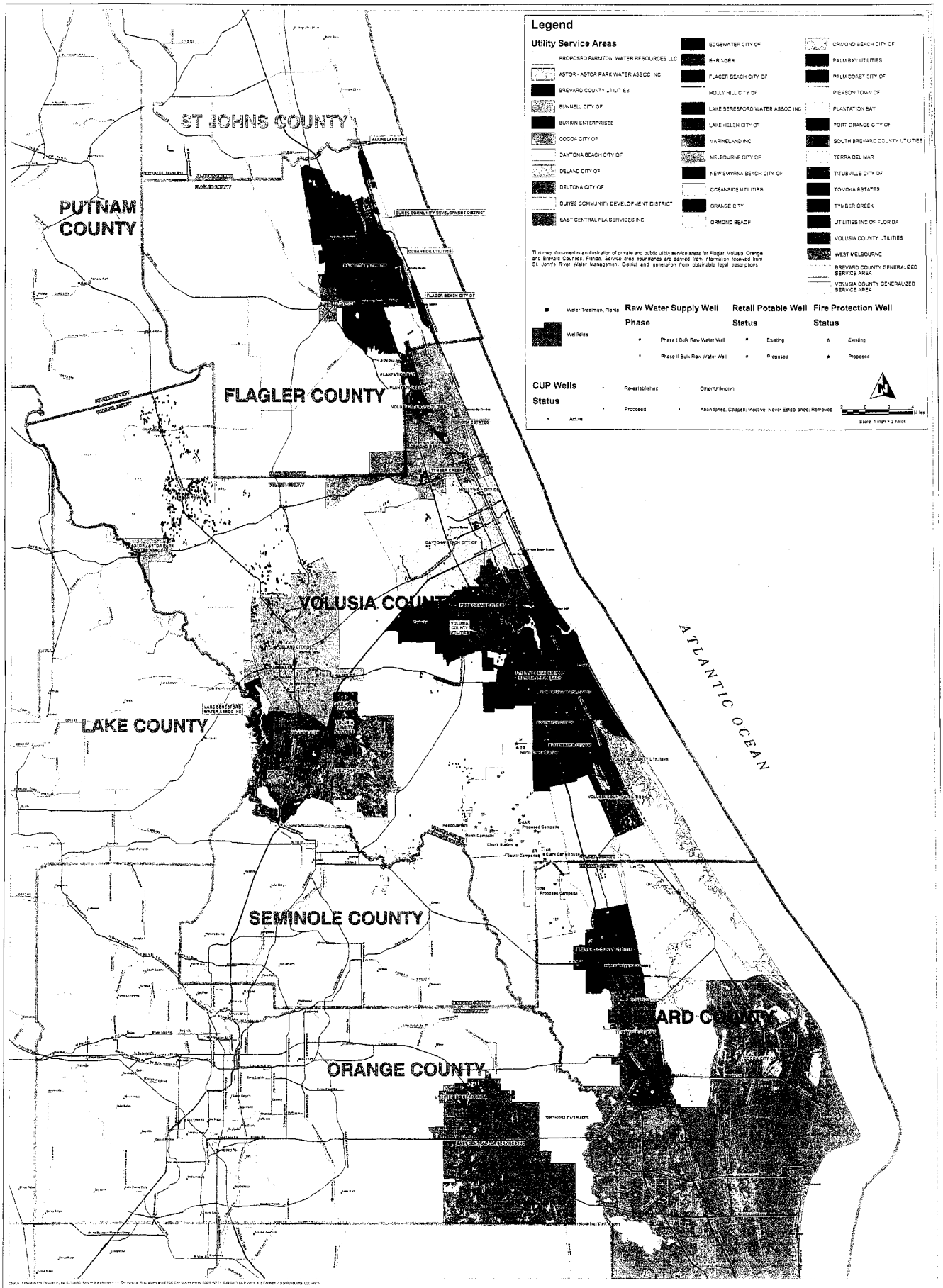
SUPPORT TABLE D-4

Account No.	Description	Test Year 2009	Base Facility Charge	Gallonage Charge	Base Facility Cost	Base Facility Charge	Gallonage Cost	Gallonage Charge
Operation and Maintenance Expenses								
601	Salaries and Wages - Employees	$ -	50%	50%	$ -	$ -	$ -	$ -
603	Salaries and Wages - Other	-	50%	50%	-	-	-	-
604	Employees Pensions and Benefits	-	50%	50%	-	-	-	-
610	Purchased Water	-	0%	100%	-	-	-	-
615	Purchased Power	90	0%	100%	-	-	90	0.01
616	Fuel for Power Production	-	0%	100%	-	-	-	-
618	Chemicals	-	0%	100%	-	-	-	-
620	Materials and Supplies	-	40%	60%	-	-	-	-
630	Contractual Services	5,200	50%	50%	2,600	2.26	2,600	0.41
640	Rents	630	100%	0%	630	0.55	-	-
650	Transportation Expense	-	30%	70%	-	-	-	-
655	Insurance Expense	-	100%	0%	-	-	-	-
665	Regulatory Expense	-	50%	50%	-	-	-	-
670	Bad Debt Expense	-	50%	50%	-	-	-	-
675	Miscellaneous Expense	592	40%	60%	237	0.21	355	0.06
Total Operation and Maintenance Expenses		$ 6,512			$ 3,467	$ 3.02	$ 3,045	$ 0.48
Depreciation and Amortization								
403	Depreciation Expense	$ 2,362	75%	25%	$ 1,771	$ 1.54	$ 590	$ 0.09
407	Amortization Expense - Other	(1,771)	75%	25%	(1,329)	(1.16)	(443)	(0.07)
Total Depreciation and Amortization		$ 590			$ 443	$ 0.38	$ 148	$ 0.02
Taxes Other Than Income Taxes								
408.10	Utility Regulatory Assessment Fees	$ 367	35%	65%	$ 128	$ 0.11	$ 239	$ 0.04
408.11	Property Taxes	-	100%	0%	-	-	-	-
408.12	Payroll Taxes	-	100%	0%	-	-	-	-
408.13	Other Taxes and Licenses	-	100%	0%	-	-	-	-
408.20	Other Income and Deductions	-	100%	0%	-	-	-	-
Total Taxes Other Than Income Taxes		$ 367			$ 128	$ 0.11	$ 239	$ 0.04
Income Taxes								
409	Federal, State, and Local Income Taxes	$ -	10%	90%	$ -	$ -	$ -	$ -
Total Income Taxes		$ -			$ -	$ -	$ -	$ -
Return on Investment		$ 685	10%	90%	$ 69	$ 0.06	$ 617	$ 0.10
Total Revenue Requirement		$ 8,155			$ 4,107	$ 3.57	$ 4,048	$ 0.64
Less: Miscellaneous Revenues		$ -	100%	0%	$ -	$ -	$ -	$ -
Total Revenues for Rate Setting		$ 8,155			$ 4,107	$ 3.57	$ 4,048	$ 0.64
Factored ERCs		1,150						
Factored Gallons (In Thousands)		6,315						
Base Facility Charge Calculation								
Residential Customers								
5/8"		$ 3.57						
1.0"		$ 8.93						
1.5"		$ 17.85						
2.0"		$ 28.56						
3.0"		$ 57.12						
4.0"		$ 89.25						
6.0"		$ 178.50						
8.0"		$ 285.60						
Hunt Camp								
2.0"		$ 83.00						

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO. 41
COMPANY/ FARMTON
WITNESS. Hollis- Rate Calculation-S-62
DATE 06/22-23/04

EXHIBIT 3
Tara Hollis
5/20/04

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 021256-WU EXHIBIT NO. 42
COMPANY/ FAMTON
WITNESS: MAP of Facilities & wells outside the service area
DATE: 06/22-23/04



HARTMAN & ASSOCIATES, INC.
A Tetra Tech Company
engineers, hydrogeologists, surveyors & management consultants
ORLANDO * JACKSONVILLE * ATLANTA * DESTIN * FT. MYERS
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UTILITY SERVICE AREAS
FPSC HEARING
BREVARD, FLAGLER, AND VOLUSIA COUNTY