

**STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS**

MIAMI CORPORATION and
VERGIE CLARK,

Petitioners,

DOAH Case Nos. 05-0344
05-2607
05-2940

vs.

CITY OF TITUSVILLE and
ST. JOHNS RIVER WATER
MANAGEMENT DISTRICT,

SJRWMD F.O.R. 2004-88
2005-40
2005-52

Respondents.

FINAL ORDER

Pursuant to notice, the Division of Administrative Hearings, by its designated Administrative Law Judge, the Honorable J. Lawrence Johnson ("ALJ"), held a formal administrative hearing in the above-styled case on December 11-15 and 18-21, 2006, and January 16-19 and 22-26 and April 4-6 and 9-10, 2007, in Titusville, Florida.

On July 31, 2007, the ALJ submitted to the St. Johns River Water Management District and all other parties to this proceeding a Recommended Order, a copy of which is attached hereto as Exhibit A. Petitioners Miami Corporation and Vergie Clark (collectively "Petitioners") and Respondents St. Johns River Water Management District ("District") and City of Titusville ("City") timely filed Exceptions to the Recommended Order. The parties each timely filed Responses to Exceptions. This matter then came before the Governing Board on September 11, 2007, for final agency action and entry of a Final Order.

A. STATEMENT OF THE ISSUE

The general issue before the Governing Board is whether to adopt the Recommended Order as the District's Final Order, or to reject or modify the Recommended Order in whole or part, under Section 120.57(1)(I), Florida Statutes ("F.S."). The specific issue is whether the City's consumptive use permit ("CUP") application number 99052 meets the conditions for issuance of a permit as set forth in Section 373, F.S., Chapter 40C-2, Florida Administrative Code ("F.A.C."), and the Applicant's Handbook: Consumptive Uses of Water (February 15, 2006)("A.H.").

The CUP application is for the use of 1,003.75 million gallons per year ("mgd") (2.75 million gallons per day ["mgd"] annual average) of groundwater from the Upper Floridan aquifer at the proposed Area IV Wellfield for public supply, and 64.98 mgd (0.18 mgd average) of groundwater from the surficial aquifer for wetland hydration and aquifer recharge.

In the Recommended Order, the ALJ recommended issuance of a CUP for the use of 0.75 mgd annual average of groundwater from the Upper Floridan aquifer at the Area IV Wellfield for public supply and for 0.18 mgd annual average of groundwater from the surficial aquifer for wetland hydration and aquifer recharge. In recommending a lower allocation for public supply than that requested in the application, the ALJ recommended that the combined annual average for the Area II, Area III and Area IV Wellfields be reduced to 5.2 mgd in 2009 and 2010 in Other Condition 5 of the permit and that the combined maximum daily rates for these three wellfields be appropriately lowered in Other Condition 9. Conditions to implement the ALJ's recommendation have been proposed by District staff for the Governing Board's consideration.

B. STANDARD OF REVIEW

The rules regarding an agency's consideration of exceptions to a recommended order are well established. The Governing Board is prescribed by Section 120.57(1)(l), F.S., in acting upon a recommended order. The ALJ, not the Governing Board, is the fact finder. Goss v. Dist. Sch. Bd. of St. Johns County, 601 So.2d 1232, 1235 (Fla. 5th DCA 1992); Heifetz v. Dep't of Bus. Regulation, 475 So.2d 1277, 1281-82 (Fla. 1st DCA 1997). A finding of fact may not be rejected or modified unless the Governing Board first determines from a review of the entire record that the finding of fact is not based upon competent substantial evidence or that the proceedings on which the finding of fact was based did not comply with essential requirements of law. Section 120.57(1)(l), F.S. "Competent substantial evidence" is such evidence as is sufficiently relevant and material that a reasonable mind would accept such evidence as adequate to support the conclusion reached. Perdue v. TJ Palm Associates, Ltd., 755 So.2d 660 (Fla. 4th DCA 1999). The term "competent substantial evidence" relates not to the quality, character, convincing power, probative value or weight of the evidence, but refers to the existence of some quantity of evidence as to each essential element and as to the legality and admissibility of that evidence. Scholastic Book Fairs v. Unemployment Appeals Commission, 671 So.2d 287, 289 (Fla. 5th DCA 1996).

If a finding is supported by any competent substantial evidence from which the finding could be reasonably inferred, the finding cannot be disturbed. Freeze v. Dep't of Business Regulation, 556 So.2d 1204 (Fla. 5th DCA 1990); Berry v. Dep't of Env'tl. Regulation, 530 So.2d 1019 (Fla. 4th DCA 1998). The Governing Board may not reweigh evidence admitted in the proceeding, may not resolve conflicts in the evidence,

may not judge the credibility of witnesses or otherwise interpret evidence anew. Goss, 601 So.2d at 1235; Heifitz, 475 So.2d at 1281-82; Brown v. Criminal Justice Standards & Training Comm'n., 667 So.2d 977 (Fla. 4th DCA 1996). The issue is not whether the record contains evidence contrary to the findings of fact in the recommended order, but whether the finding is supported by any competent substantial evidence. Florida Sugar Cane League v. State Siting Bd., 580 So.2d 846 (Fla. 1st DCA 1991). Finally, the Governing Board is precluded from making additional or supplemental findings of fact. Florida Power & Light Co. v. State of Florida, Siting Board, 693 So.2d 1025, 1026-27 (Fla. 1st DCA 1997); Boulton v. Morgan, 643 So.2d 1103 (Fla. 4th DCA 1994).

With respect to conclusions of law in the recommended order, the Governing Board may reject or modify the conclusions of law over which it has substantive jurisdiction and interpretations of administrative rules over which it has substantive jurisdiction, provided the reasons for such rejection or modification are stated with particularity and the Governing Board finds that such rejection or modification is as or more reasonable than the ALJ's conclusion or interpretation. Section 120.57(1)(l), F.S. In interpreting the term "substantive jurisdiction," the courts have continued to interpret the standard of review as requiring deference to the expertise of an agency in interpreting its own rules and enabling statutes. See, e.g., State Contracting & Eng'g Corp. v. Dep't of Transp., 709 So.2d 607, 610 (Fla. 1st DCA 1998).

The Governing Board lacks subject matter jurisdiction to overturn an ALJ's rulings on procedural and evidentiary issues. Barfield v. Dep't of Health, 805 So.2d 1008, 1012 (Fla. 1st DCA 2001) (the agency lacked jurisdiction to overturn an ALJ's evidentiary ruling); Lane v. Dep't of Env'tl. Protection, DOAH 05-1609 (DEP 2007) (the

agency has no substantive jurisdiction over procedural issues, such as whether an issue was properly raised, and over an ALJ's evidentiary rulings); Lardas v. Dep't of Env'tl. Protection, 28 F.A.L.R. 3844, 3846 (DEP 2005) (evidentiary rulings of the ALJ concerning the admissibility and competency evidence are not matters within the agency's substantive jurisdiction).

The Governing Board's authority to modify a recommended order is not dependent on the filing of exceptions. Westchester General Hospital v. Dept. Human Res. Servs., 419 So.2d 705 (Fla. 1st DCA 1982). However, when exceptions are filed, they become part of the record before the Governing Board. Section 120.57(1)(f), F.S. In the final order, the Governing Board must expressly rule on each exception, except for any exception that does not clearly identify the disputed portion of the recommended order by page number or paragraph, that does not identify the legal basis for the exception, or that does not include appropriate and specific citations to the record. Section 120.57(1)(k), F.S. Thus, the Governing Board is not required to rule on an omnibus exception in which a party states that its exception to a particular finding of fact is also an exception to any portion of the Recommended Order where the finding of fact is restated or repeated. Similarly, an exception that simply refers to or attempts to incorporate by reference an exception to another finding of fact or conclusion of law fails to comply with the statutory requirements.

C. EXCEPTIONS AND RESPONSES

The Administrative Procedure Act provides the parties to an administrative hearing with an opportunity to file exceptions to a recommended order. Sections 120.57(1)(b) and (k), F.S. The purpose of exceptions is to identify errors in a recommended order for the

Governing Board to consider in issuing its final order. As discussed above in Section B (Standard of Review), the Governing Board may accept, reject, or modify the recommended order within certain limitations. When the Governing Board considers a recommended order and exceptions, its role is like that of an appellate court in that it reviews the sufficiency of the evidence to support the ALJ's findings of fact and, in areas where the District has substantive jurisdiction, the correctness of the ALJ's conclusions of law. In an appellate court, a party appealing a decision must show the court why the decision was incorrect so that the appellate court can rule in the appellant's favor. Likewise, a party filing an exception must specifically alert the Governing Board to any perceived defects in the ALJ's findings, and in so doing the party must cite to specific portions of the record as support for the exception. John D. Rood and Jamie A. Rood v. Larry Hecht and Department of Environmental Protection, 21 F.A.L.R. 3979, 3984 (DEP 1999); Kenneth Walker and R.E. Oswalt d/b/a Walker/Oswalt v. Department of Environmental Protection, 19 F.A.L.R. 3083, 3086 (DEP 1997); Worldwide Investment Group, Inc. v. Department of Environmental Protection, 20 F.A.L.R. 3965, 3969 (DEP 1998). To the extent that a party fails to file written exceptions to a recommended order regarding specific issues, the party has waived such specific objections. Environmental Coalition of Florida, Inc. v. Broward County, 586 So.2d 1212, 1213 (Fla. 1st DCA 1991).

In addition to filing exceptions, the parties have the opportunity to file responses to exceptions filed by other parties. Rule 28-106.217(2), F.A.C. The responses are meant to assist the Governing Board in evaluating and ultimately ruling on exceptions by providing the Governing Board with legal argument and citations to the record.

D. RULINGS ON EXCEPTIONS

Petitioners filed 103 exceptions, the District filed three exceptions and five proposed changes to permit conditions, and the City filed two exceptions to the ALJ's Recommended Order. Each party filed a response to the other parties' exceptions. In addition, Petitioners filed a response to the District's proposed changes to permit conditions.

Citations to page numbers in the transcript of the formal administrative hearing will be made by identifying the page number in the transcript (e.g., T: 2253). Citations to exhibits admitted by the ALJ will be made by identifying the party that entered the exhibit followed by the exhibit number (e.g., Pet. Ex. 2). Citations to the Recommended Order will be designated by "RO" followed by the page number of the abbreviation "FOF" (Finding of Fact) or "COL" (Conclusion of Law) and paragraph number (e.g., RO, FOF 13). Citations to the District's Applicant's Handbook: Consumptive Uses of Water (February 15, 2006) will be designated by the section number, followed by the abbreviation "A.H."

RULINGS ON PETITIONERS' EXCEPTIONS

Petitioners' Exception No. 1

Petitioners take exception to a portion of FOF 15 on the grounds that it is not "supported by competent substantial evidence." In support of their exception, they cite to evidence presented at the hearing and argue that:

The competent substantial evidence established that Area II is a healthy wellfield (Tr. 5753-5754), that Area III is also a healthy wellfield (Tr. 5756-5757), that both show positive chloride concentration trends (Tr. 5755-5757) and that, if properly managed, the combined safe yield of the Area II and Area III wellfields is 6.5 mgd (which is the combined presently permitted allocation for those two wellfields).

For the reasons described below, the Board finds that FOF 15 is based on competent substantial evidence and the exception is, therefore, rejected.

FOF 15 states:

For these reasons, it is not clear at this point in time whether it is possible to sustain more water production from Areas II and III than the City has pumped in recent years.

Stated another way, from the Board's review of the record, the ALJ concluded there was insufficient evidence to warrant an affirmative finding that more water can be withdrawn from the Area II and III wellfields than has been withdrawn in recent years. In FOF 4, the ALJ acknowledges the Petitioners' contention that the "safe yield" (the quantity of water the City can withdraw without degrading the water resource) and the "reliable yield" (the quantity of water the City can dependably withdraw) of the Area II and III wellfields are the currently permitted limits of 5.4 and 1.1 mgd, respectively. Petitioners presented evidence to support their contention. (T:5717, 5796-98). However, evidence was also presented that pumping at the most recent historical water withdrawal levels yields the most production that can be sustained from these wellfields without adverse water resource impacts (T: 2694-95) and that the current reliable yield of the two wellfields is significantly lower than the permitted allocation. (T:81-83). In FOF 13, which is supported by competent substantial evidence (T: 28-29, 33-35), the ALJ also found that there were limitations on the City's ability to expand the reliable yield of the Area II wellfield. All of this evidence and other evidence in the record supports the ALJ's finding in FOF 15 that it is not clear whether it is possible to sustain more water production from Areas II and III than the City has pumped in recent years. (T:554-56, 2694-95; City Ex. 19).

Petitioners' Exception No. 2

Petitioners take exception to FOF 56 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 56 states:

Petitioners' expert, Mr. Drake, calculated a per capita water use rate by averaging the actual rates for the most recent five years (2002-2006), which resulted in a per capita water use rate of 89.09 gpd, and a projected demand of 4.74 mgd at the end of 2010. He also calculated a per capita water use rate for 2006, which came to 88.65 gpd, which would give a slightly lower projected demand of 4.72 mgd.

Petitioners argue in this exception that the ALJ "fails to point out" that the calculations described in this finding, which were performed by Petitioner Miami Corporation's expert witness, "are consistent with and in compliance with A.H. 12.2.2, which describes how per capita daily water use shall be calculated." Petitioners further assert that the "importance of this issue cannot be overemphasized because Petitioners' expert was the only expert to rely upon the rule (A.H. 12.2.2) in his per capita use calculations..." Significantly, they do not except to any of the specific findings in FOF 56.

This finding is supported by competent substantial evidence. (T: 5729-5733, Pet. Ex. 184). It is the province of the ALJ to resolve conflicts and weigh the evidence for inclusion into the findings of fact, and the Board declines to make any additional findings of fact. Goss, 601 So.2d at 1235 (it is hearing officer's function to consider all evidence presented, resolve conflicts, judge credibility of witnesses, draw permissible inferences from the evidence, and reach ultimate findings of fact based on competent, substantial evidence). The ALJ has recommended an allocation based on Section 12.2, A.H. and

the Board accepts that recommendation as explained in its ruling on District Exception No. 2 to COL 274.

Petitioners reference Exception No. 3 to FOF 61, which was ruled upon elsewhere.

Petitioners' Exception No. 3

Petitioners take exception to FOF 61 on the grounds that it is not supported by competent substantial evidence. Further, they argue that the finding disregards their expert's testimony of what Petitioners believe was the only calculation of per capita water use rate that is consistent with Section 12.2.2, A.H. For the reasons described below, the Board finds that FOF 61 is based on competent substantial evidence and the exception is, therefore, rejected.

FOF 61 states:

Those calculated water allocations – i.e., either the 4.94 mgd or the 5.2 mgd—would then be compared to the probable safe and reliable yield of 4.5 mgd from Areas II and II to determine the deficit on an annual average basis. Allowing a reasonable margin of error for the uncertainties of the predictions involved, a reasonable maximum annual average allocation for the proposed Area IV Wellfield would be 0.75 mgd.

Notably, Petitioners have not taken exception to FOFs 12, 59 and 60, which provide the underpinnings for this finding. In FOF 12, the ALJ determined that the most production that can be sustained from the Area II and III wellfields combined is 4.5 mgd on an annual average basis. This finding is supported by competent substantial evidence. (T: 2693-95). In FOF 59, the ALJ determined that the average water use rate for the period 1999-2006 would result in a per capita water use rate of approximately 92.8 gpd and a projected demand of approximately 4.94 mgd by December 31, 2010. In FOF 60, the ALJ found that if the City's water allocation were based on demand during 2000, the

driest year on record, projected demand would be approximately 5.2 mgd on December 31, 2010. Both projected demand figures are based on competent substantial evidence. (City Ex. 32; Pet. Ex. 184; T: 2329-30, 5730-31, 5735-36).

The ALJ then determined that, given the limitations on sustainable production of the Area II and III wellfields and given the projected water demand, a reasonable maximum annual average allocation for the Area IV wellfield would be 0.75 mgd. This determination is a reasonable inference from the previous findings of fact to which Petitioners did not take exception and which are supported by competent substantial evidence. Freeze, 556 So.2d at 1206 Berry v. Dep't of Env'tl. Regulation, 530 So.2d 1019, 1021 (Fla. 4th DCA 1998).

Although the ALJ rejected the expert opinions of the Respondents, he was not then obligated to accept Petitioners' expert opinion on that subject. An ALJ need not accept an expert opinion over even a lay person's opinion so long as there is objective evidence (like the 2000 water use data) to support the ALJ's finding. Thompson v. Department of Children and Families, 835 So.2d 357 (Fla. 5th DCA 2003) (the hearing officer, as the trier of fact, may accept or reject all or any part of an expert's testimony, even if it is uncontroverted).

Finally, throughout this proceeding and in this exception, Petitioners argue that Section 12.2.2, A.H., requires that per capita daily water usage for public supply systems be calculated using one of two methods. This argument is not a basis for rejecting this FOF. The Board notes, however, that it disagrees with Petitioners' contention. An applicant for a CUP is not limited to calculating per capita daily water usage using the two methodologies described in Rule 12.2.2, A.H., for calculating

historical average per capita daily water use. This rule provides that “[i]n some cases the historical demand patterns will not be appropriate for projection purposes.... In such case, alternative per capita estimates may be appropriate and should be used, accompanied by appropriate documentation.”

Petitioners’ Exception No. 4

Petitioners take exception to FOF 63 on the grounds that this finding is “pure and total speculation and is not supported by competent substantial evidence.” Further, Petitioners take exception to the Recommended Order’s “failure to account in determining the sources of water available to the City, for (a) the Taylor Creek Reservoir Project, (b) the feasibility of a brackish groundwater or Upper Florida [sic] alternative or (c) the possibility of buying even more water from the city of Cocoa than the current bulk water agreement between the two cities currently reserves.” For the reasons described below, the Board finds that FOF 63 is based on competent substantial evidence and the exception is, therefore, rejected.

FOF 63 states:

For the past 12 years, the City of Titusville has been able to purchase water under a contract with the City of Cocoa to meet all of its demands, including any peak or emergency water demands. Under the take-or-pay provision in the contract currently in effect, the City must pay for 0.5 mgd and presumably would take and use at least that amount so long as the contract remains in effect. This would reduce the City’s projected water supply deficit through the end of 2010, and the City could rely on the Cocoa contract to cover any additional demand through the end of 2010 without Area IV. However, under the contract, the City can give notice on or before April 1 of the year in which it intends to terminate the contract effective October 1 of the same year. If a CUP for Area IV is issued, the City could terminate the current contract effective as early as October 1, 2008. It also is possible that the contract could be negotiated so that its termination would coincide with the time when the Area IV wellfield becomes operational if not near October 1 of the year.

The bulk water contract between the City and the City of Cocoa, including amendments, was entered into evidence. (City Ex. 296, 306, 313). Under the ALJ's interpretation of the contract, the City can opt out of the contract before water from Area IV becomes available for use simply by providing timely notice of its intent to terminate the contract. A reasonable inference from his findings in this FOF is that the ALJ considers water from Cocoa to not be guaranteed. The Board cannot overturn the ALJ's interpretation of the contract. Deep Lagoon Boat Club, Ltd. v. Sheridan, 784 So.2d 1140 (Fla. 2 DCA 2001) (Secretary correctly determined that he did not have authority to review legal determination not involving agency's area of expertise, but rather which required applying a legal concept typically resolved by judicial or quasi-judicial officers). Further, there is competent substantial evidence that the City could terminate the contract because the quantity of water provided to Titusville has been reduced over time (from 3 mgd annual average down to 0.5 mgd today). (City Ex. 296, 306, 313; T:2330-38). It would be a reasonable inference that the amount of water provided to the City by contract could decline further.

The issue of how and whether water available to the City from the City of Cocoa and other sources or projects must be taken into account in the review of the City's permit application for the Area IV Wellfield has been strongly contested throughout these proceedings. The amount of water available to the City from the City of Cocoa was considered in the review of this permit application in that proposed Other Condition 9 provides that "[i]n the event that the permittee receives water from the City of Cocoa for potable use, then the allocation for any year above shall be reduced to an amount

equivalent to the quality provided to the permittee by the City of Cocoa in that year.” (T:2741; City Ex. 291).

In this exception, Petitioners also argue that FOF 63 fails to take into account, in determining the sources of water available to the City, two alternative water supply sources. Competent substantial evidence exists in the record to show that these projects are not currently available and will not be available by the end of 2010. (T: 124-25, 2432-39, 2451-54, 2855-61, 3492-93, 143-45, 640-42). Moreover, with regard to water that is to be used for direct human consumption or food preparation, the District's rules do not require the use of lower quality sources unless higher quality sources are unavailable to meet projected demands. Rule 40C-2.301(4)(g) F.A.C.; Section 10.3(g), A.H.

Petitioners' Exception No. 5

Petitioners take exception to FOF 65 on the grounds that this finding is not supported by competent substantial evidence. Specifically, Petitioners state “there is no competent substantial evidence that the City's need in either 2009 or 2010 is 5.2 mgd” and that the finding “improperly speculates about future events, future filings and future determinations.” For the reasons described below, the Board finds that FOF 65 is based on competent substantial evidence and the exception is, therefore, rejected.

FOF 65 states:

Finally, as indicated, the existing CUP for Areas II and III is set to expire in February 2008. Although it is anticipated that the City will apply to renew the existing CUP for Areas II and III, and that the District will approve renewal at some level, it is not clear how much production will be approved for Areas II and III for the years 2009 and 2010. Meanwhile, the CUP proposed for Area IV provides that the combined annual groundwater withdrawals for Areas II, III, and IV may not exceed 5.79 mgd for 2009 and 6.01 mgd in 2010. Based on the findings in this case, those figures should be reduced to no more than 5.2 mgd,

and it must be anticipated that a similar condition would be placed on any renewal of the existing CUP for Areas II and III as well.

This finding is based on competent substantial evidence and by reasonable inferences therefrom. (T:542-44, 2329-30, 2806-07, 2825-26, 3229-30, 3474-75, 5735-36; City Ex. 32; Pet. Ex. 184). See also the Board's ruling on Petitioners' Exception No. 3 to FOF 61. If a finding is supported by any competent substantial evidence from which the finding could be reasonably inferred, the finding cannot be disturbed. Freeze, 556 So.2d at 1206; Berry, 530 So.2d at 1201.

Petitioners' Exception No. 6

Petitioners take exception to FOF 67 for its failure to "note that the City did not undertake additional hydrogeologic investigations subsequent to 2001, but the hydraulic parameters utilized for the modeling submitted in support of the Application changed significantly." The exception further argues that "[t]he ALJ erroneously limited Petitioners' ability to explore during cross-examination of the City's experts the inconsistencies between the aquifer parameters used in the different modeling scenarios." Finally, the exception alleges that the Recommended Order "fails to reconcile the differences between the hydraulic parameters in the multiple modeling versions prepared by the City's consultants."

Petitioners do not explain the legal basis for the exception to this finding of fact, and therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 67 states:

Because there was insufficient information to adequately evaluate the whether proposed Area IV, which was located along the Florida East Coast Railway (FEC) Right-of-Way (ROW), could be used for that purpose, the City's consultant,

Barnes, Ferland and Associates (BFA), designed a drilling and testing program to collect site-specific information in order to characterize the groundwater quality, identify the thickness of the freshwater zone in the UFAS, and determine hydraulic parameters for the groundwater system. In addition, DRMP conducted an environmental assessment of the Area IV Wellfield and surrounding property.

This FOF is supported by competent substantial evidence. (T:209-10, 654, 2106). To the extent that Petitioners seek to challenge an evidentiary ruling by the ALJ, the Board lacks jurisdiction to disturb this ruling. Barfield, 805 So.2d at 1012 (the agency lacked jurisdiction to overturn an ALJ's evidentiary ruling); Lane, DOAH 05-1609 (the agency has no substantive jurisdiction over procedural issues, such as whether an issue was properly raised, and over an ALJ's evidentiary rulings); Lardas, 28 F.A.L.R. at 3846 (evidentiary rulings of the ALJ concerning the admissibility and competency evidence are not matters within the agency's substantive jurisdiction). To the extent that Petitioners are requesting the Board to make additional findings of fact, it may not, and declines to do so. Florida Power & Light, 693 So.2d at 1026-27; Boulton, 643 So.2d at 1005.

Petitioners' Exception No. 7

Petitioners take exception to FOF 68 on the grounds that this finding is uncorroborated hearsay and not supported by competent substantial evidence. For the reasons described below, the Board finds that FOF 68 is based on competent substantial evidence and the exception is, therefore, rejected.

FOF 68 states:

The drilling and testing program designed by BFA for the Area IV wellfield was similar to other hydrogeologic investigations conducted in the region with respect to the wellfields operated by the City of Edgewater, the City of New Smyrna Beach, the City of Ormond Beach, the Orlando Utilities Commission and Orange County.

This finding is supported by competent substantial evidence (T:242-243). During the administrative hearing, Patrick Barnes, a professional geologist who testified on behalf of the City and is employed by the City's consultant, Barnes Ferland and Associates (BFA), gave the following testimony:

Q. Is the testing program that you implemented for the Area IV Wellfield standard practice in your fields of expertise for evaluating the water supply potential for a new area?

A. Yes, it is.

Q. Is it similar to testing programs that you have implemented for other wellfields?

A. Yes, it is.

Q. What other wellfield projects is this testing program similar to?

A. It's similar to testing programs that I've been involved in several of the cities I mentioned earlier, such as Edgewater, Utilities Commission, New Smyrna Beach, Ormond Beach, similar to programs that we've implemented for Orlando Utilities Commission, Orange County, to name some.

Petitioners did not object to this testimony and, even if they had, the Board would lack substantive jurisdiction to confirm, modify or overrule a procedural or evidentiary ruling of the ALJ. Barfield, 805 So.2d at 1012 (the agency lacked jurisdiction to overturn an ALJ's evidentiary ruling); Compass Envtl., Inc. v. Dep't of Envtl. Protection, 27 F.A.L.R. 3249, 3258 (DEP 2005) (even if a timely objection was made, the agency lacks jurisdiction over an ALJ's admissibility ruling).

To the extent that Petitioners take exception to this finding of fact for its failure to include certain findings, the Board notes that this is not a legal basis for rejecting a finding. The Board is only authorized to reject or modify findings of fact if after review of the entire record, there is no competent substantial evidence from which the finding could reasonably be inferred. It is precluded from making additional findings. Section 120.57, F.S. Florida Power & Light, 693 So.2d at 1026-27; Boulton, 643 So.2d at 1105.

Finally, the Board disagrees with Petitioners that adopting this finding would create a “one size fits all standard for hydrogeologic investigations.” It is simply a finding of fact supported by competent substantial evidence.

Petitioners reference their Exception No. 6 to FOF 67, which was ruled upon elsewhere.

Petitioners’ Exception No. 8

Petitioners take exception to FOFs 69 and 70 for their failure to “reconcile discrepancies” between two separate exhibits, a drilling and testing report and a report related to time domain electromagnetic mapping (TDEM), and they point out that “contrary to the ALJ’s Finding, the TDEM study referenced was not conducted as part of the drilling and testing program for the Area IV Wellfield.” Petitioners do not explain the legal basis for the exception to these findings of fact, and therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 69 states:

The drilling and testing program for the Area IV Wellfield included Time-Domain Electromagnetic Mapping (“TDEM”) performed by SDII Global, a consultant retained by the District. TDEM is not typically used for the hydrogeologic investigation of a new wellfield. The TDEM technique involves estimating the depth to the 250 mg/l and 5,000 mg/l chloride concentration in the groundwater system using electrical resistivity probes. The technique was applied at four locations along the FEC Right-of-Way.

FOF 70 states:

In addition to the TDEM study, BFA installed three test production wells along the FEC ROW, collected lithologic samples with depth, performed borehole aquifer performance and step drawdown tests at two test sites and recorded water quality with depth through grab and packer samples.

It is the ALJ's statutory function to sit as the fact finder and make findings resolving conflicting evidence. Further, as noted in the ruling on the previous exception, the Board is only authorized to reject or modify findings of fact if after review of the entire record, there is no competent substantial evidence from which the finding could reasonably be inferred. Thus, to the extent that Petitioners are asking the Board to resolve what they believe is conflicting evidence or to address what they believe is an omission, the Board declines to do so. Finally, there was competent substantial evidence to support the ALJ's finding that the drilling and testing program for the Area IV wellfield included TDEM. (T: 244-50, 900-13, 2699-2700; City Ex. 68, 209, 305). In fact, during the administrative hearing, Petitioners objected to this testimony as misleading for the same reason presented in this exception, and their objection was overruled by the ALJ.

Petitioners reference their Exception No. 29 to FOF 124, which was ruled upon elsewhere.

Petitioners' Exception No. 9

Petitioners take exception to FOF 77 on the grounds that the ALJ "failed to reconcile multiple years of conflicting depictions in the USGS reports and failed to address the historical records that indicate a shift in groundwater flow patterns during dry conditions." Petitioners further contend that the ALJ failed to make specific findings regarding "the extent to which the limited data accumulated by the City can be interpolated beyond boundaries of the abandoned railroad right-of-way." Finally, Petitioners contend that there is no competent substantial evidence to "establish the reliability and extent to which the limited measurements by the City can be used to

establish long-term groundwater flow direction in the region” and that acceptance of this finding would “establish a precedent that an applicant can disregard the cumulative historical understandings of groundwater flow without detailed, long-term studies. “ For the reasons described below, the Board rejects this exception.

FOF 77 states:

The site-specific hydrogeologic data collected by BFA as part of the drilling and testing program verified the groundwater basin and flow direction shown in Figure 15 of City Exhibit 523.

This finding is supported by competent substantial evidence. Expert witness Barnes testified that the groundwater basin as depicted in Figure 15 of City Exhibit 523 matched the field observations taken by his firm. (T:995-96,1000-04). The decision to believe one expert over another is left to the ALJ as the fact finder and cannot be altered absent a complete lack of competent substantial evidence from which the finding could be reasonably inferred. Fla. Chapter of Sierra Club v. Orlando Utility Comm., 436 So.2d 383, 388-89 (Fla. 5th DCA 1983). As a result, this exception amounts to an attempt by Petitioners to reargue their case and have the Governing Board reweigh evidence, judge the credibility of witnesses, and interpret evidence. However, the Governing Board is limited to determining whether any competent substantial evidence exists from which the finding may reasonably be inferred, and whether the proceedings complied with essential requirements of law. Goin v. Comm’n on Ethics, 659 So.2d 1131, 1138-39 (Fla. 1st DCA 1995); Heifetz, 475 So.2d at 1281.

Finally, the Board disagrees with Petitioners that adopting this finding would create a precedent regarding acceptable evidence to demonstrate the direction of

groundwater flow; it is simply a finding of fact in this case that is supported by competent substantial evidence.

Petitioners' Exception No. 10

Petitioners take exception to FOF 81 on the grounds that there is “no basis” for finding that the fish pond on the Clark property was thoroughly investigated. For the reasons described below, the Board finds that FOF 81 is based on competent substantial evidence and the exception is, therefore, rejected.

FOF 81 states:

In 2005, DRMP conducted a field assessment of the Clark property including a thorough investigation of the fish pond, which Petitioners claim was adversely impacted during one or more of the APTs conducted by the City at the Area IV Wellfield.

In this exception, Petitioners appear to be disputing the “thoroughness” of the investigations performed by the City. Indeed, in FOF 83, the ALJ acknowledges the dispute: “Petitioners contend that there were serious deficiencies in the investigation’s implementation and that additional investigation should have been performed.” (RO at FOF 83). However, the ALJ finds that the “scope of the City’s hydrological and environmental investigation of the Area IV Wellfield was adequate and consistent with industry standards... .” (Id.). There is competent substantial evidence to support the finding in FOF 81 that the fish pond was thoroughly investigated. (T:2106-40; City Ex. 41, 50, 151).

In their exception, Petitioners also state that the water levels (presumably in the fish pond) were not monitored during the testing program and that there is no competent substantial evidence to refute observations made (presumably of the fish pond) during the testing program. These statements are an attempt to re-argue the evidence

regarding the adequacy of the investigations. The Governing Board is limited to determining whether any competent substantial evidence exists from which the finding may reasonably be inferred, and whether the proceedings complied with essential requirements of law. Goin, 659 So.2d, 1138-39; Heifetz, 475 So.2d at 1281.

Petitioners' Exception No. 11

Petitioners take exception to FOF 83 on the grounds that the ALJ limited Petitioners' ability to cross-examine certain expert witnesses and failed to reconcile alleged "inconsistencies between the BFA hydrologic parameters determined through the hydrologic parameters determined through the hydrologic investigation and the parameters utilized in the latest round of the City's modeling." For the reasons described below, the Board rejects this exception.

FOF 83 states:

The scope of the City's hydrologic and environmental investigation of the Area IV Wellfield was adequate and consistent with industry standards and the District protocol for testing aquifers and characterizing aquifer performance and groundwater quality at the site. Nonetheless, Petitioners contend that there were serious deficiencies in the investigation's implementation and that additional investigation should have been performed.

This finding is supported by competent substantial evidence. (T:331-32; 2708, 2726).

Petitioners adopt their exceptions to FOFs 67, 68, 69, and 70 (Exception Nos. 6, 7, and 8), which are ruled upon elsewhere.

Petitioners' Exception No. 12

Petitioners take exception to FOFs 86 and 87 without alleging a legal basis for the exception. They simply make statements followed by citations to the record to argue that the drilling and testing program was "never designed to reach the MCU [Middle Confining Unit] and the results should not be used to establish a depth that

deviates from the consensus of professional publications.” Since Petitioners do not explain the legal basis for the exception to these findings of fact, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 86 states:

The UFAS at the Area IV Wellfield is a fairly homogenous limestone unit, which starts approximately 100 feet below land surface and extends to about 450 feet below land surface or 425 feet below mean sea level. It consists of the Ocala Group and grades into the upper portion of the Avon Park Formation.

FOF 87 states:

The middle confining unit (MCU) at the Area IV Wellfield starts at approximately 450 feet below land surface or 425 feet below mean sea level and ends approximately 1,000 feet below land surface. It comprises a denser, fine-grained dolomitic limestone within the Avon Park Formation. The MCU restricts the movement of water between the UFAS and LFAS.

This exception amounts to an attempt by Petitioners to reargue their case and have the Governing Board reweigh evidence, judge the credibility of witnesses, and interpret evidence. However, the Board is limited to determining whether any competent substantial evidence exists from which the findings may reasonably be inferred. The Governing Board is not the fact finder and cannot reweigh the evidence, or resolve asserted conflicts in the evidence. Goss, 601 So.2d at 1235; Rogers, 920 So.2d 27, 30 (Fla. 1st DCA 2006). Furthermore, Petitioners seek the Governing Board to make additional or supplemental findings, which the Board cannot do. Florida Power & Light, 693 So.2d at 1026-27; Boulton, 643 So.2d at 1105. Both of these findings are supported by competent substantial evidence. (T:4086, 2668, 3817; City Ex. 291, 86; 305 at p. 71-72.)

Petitioners' Exception No. 13

Petitioners take exception to FOF 88 on the grounds that the finding is based on "the hearsay conclusions" of a witness who was not called to testify at the hearing. Petitioners also take exception to this finding because "the drill cuttings were not retained and were not made available for inspection or examination" to Petitioners, and they argue, without citation to any legal authority, that "[n]o Finding of Fact can be predicated upon drill cuttings that were disposed of by the City while the Application was pending." For the reasons described below, the exception is rejected.

FOF 88 states:

The location of the MCU at the Area IV Wellfield was determined by examining cuttings and video logs collected during the drilling performed at Test Sites 1 and 3 and by measuring various properties of the aquifer with down-hole geophysical techniques.

This finding is based on competent substantial evidence. (T:3610-12; City Ex. 305 at 27). Further, during the hearing, Petitioners objected and moved to strike any testimony related to the cuttings arguing that it would be "based on evidence that does not exist." (T:3429). The ALJ overruled the objection and the Board may not disturb this evidentiary ruling. Barfield, 805 So.2d at 1012 (the agency lacked jurisdiction to overturn an ALJ's evidentiary ruling).

Petitioners reference their Exception No. 12 to FOFs 86 and 87, which were ruled upon elsewhere.

Petitioners' Exception No. 14

Petitioners take exception to FOF 89 on the grounds that no competent substantial evidence was presented "to support a conclusion that the notations of 'dolomitic limestone' in the lithologic logs was a sufficient basis to conclude that the

MCU had been penetrated by the BFA drilling program.” The remainder of the exception simply contains statements accompanied by citations to the record to argue that the testimony of Petitioners’ expert Missimer should be interpreted in a certain manner. The exception is rejected for the reasons set forth below.

FOF 89 states:

The MCU can be distinguished from the UFAS by the presence of both dolomite and limestone. The lithologic log for Test Site 1 indicates the presence of gray/tan limestone between 450 and 460 feet below land surface and light/gray limestone and dolomitic limestone between 460 and 470 feet below land surface. The lithologic log for Test Site 3 indicates the presence of tan dolomitic limestone between 450 and 460 feet below land surface and tan limestone and dolomitic limestone between 460 and 470 feet below land surface. After examining the video log for Test Site 1, Petitioners’ expert, Dr. Thomas Missimer, noted a “lithologic change” at 477 feet below land surface.

This finding is supported by competent substantial evidence. (T:3826-27, 4103-04; City Ex. 305 at 93-94, 98-99). To the extent that Petitioners are seeking to have the Board reinterpret or reweigh the evidence, the Board is precluded from doing so. Goss, 601 So.2d at 1235; Rogers, 920 So.2d at 30.

Petitioners reference their exceptions to FOFs 86-88 and 218-224, which were ruled upon elsewhere.

Petitioners’ Exception No. 15

Petitioners take exception to FOF 90 on the grounds that no competent substantial evidence was presented to “distinguish between the decrease in flow that occurred at approximately 450 feet below land surface from decreases in flow that occurred at other depths.” For the reasons described below, the exception is rejected.

FOF 90 states:

Other characteristics of the MCU are a lower resistivity and a sharp decrease in flow. The data collected at Test Site 1 shows a reduction in resistivity at

approximately 470 feet below land surface. The flow meter log for Test Site 1 exhibits a decrease in flow at approximately 450 feet below land surface.

This finding is based on competent substantial evidence. (T:771-72, 802-03, 3826-27; City Ex. 305 at 98, 108, 118).

Petitioners reference their exceptions to FOFs 86-89, which were ruled upon elsewhere.

Petitioners' Exception No. 16

Petitioners take exception to FOF 91 without stating a legal basis for the exception, and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 91 states:

Petitioners' experts, Thomas Missimer, Alge Merry, and Bruce Lafrenz contend that the top of the MCU at the Area IV Wellfield is located deeper than 450 feet below land surface or 425 feet below mean sea level. This contention is based on regional reports, the geophysical logs reported by BFA, and one of the packer tests conducted at the bottom of the test wells that showed a pumping rate of 85 gpm.

This finding is supported by competent substantial evidence. (T: 3835-38; 4461-64, 5311-12; Pet. Ex. 12114, 12115). Further, this exception does not assert that the finding lacks evidentiary support, but rather Petitioners appear to be requesting the Board to make additional or supplemental findings of fact regarding the bases of the contention by Petitioners' experts that the top of the MCU is located deeper than 450 feet below land surface. The Governing Board cannot make additional or supplemental findings. Florida Power & Light, 693 So.2d at 1026-27; Boulton, 643 So.2d at 1105.

Petitioners' Exception No. 17

Petitioners take exception to FOF 92 on the grounds that it is based upon uncorroborated hearsay. For the reasons described below, the exception is rejected.

FOF 92 states:

The greater weight of evidence indicates the top of the MCU at the Area IV Wellfield starts at the elevation identified by BFA. The regional reports are not based on data collected from the immediate vicinity of the Area IV Wellfield. Additionally, the BFA's professional geologists who determined the top of the MCU included Joel Kimrey, who was the former head of the local USGS office, and had more experience with the hydrogeology of the MCU in Brevard and Volusia than any of the Petitioners' geologic experts. Also, the BFA geologists had access to the drill cuttings, which were unavailable to the Petitioners' experts when they made their determination. Finally, the pumping rate recorded during the packer test could be explained by an area of higher permeability within the MCU. More likely, the packer may have been partially open to the bottom of the UFAS.

As determined in the ruling on Petitioners' Exception No.12 to FOFs 86 and 87, the ALJ's finding that the MCU starts at approximately 450 feet below land surface is supported by competent substantial evidence. The first sentence of this FOF simply reiterates the ALJ's decision as fact finder to accord greater weight to the evidence presented by the City regarding the location of the MCU.

The remainder of this finding is supported by competent substantial evidence. (T:771-74, 1342-44, 1383-86, 3443-44).

Petitioners reference their exceptions to FOF 86-91, and 200 and 208, which were ruled upon elsewhere.

Petitioners' Exception No. 18

Petitioners take exception to FOF 97 on the grounds that certain head measurements were performed after groundwater modeling was completed. The exception acknowledges that Petitioners objected to the introduction of these

measurements and then alleges that “[t]he after the fact development of additional measurements to support the calibration was improper and should not have been allowed into evidence.” For the reasons described below, the exception is rejected.

FOF 97 states:

BFA took static head measurements at SAS and UFAS monitor wells located at Test Sites 1, 2 and 3 in January 2004, April 2004, and July 2006 and calculated the head difference based on those measurements. District expert, Richard Burklew, was present when the measurements were taken in April 2004 and July 2006 and verified the readings made by the City's consultants. During all three sampling events a downward head gradient was noted at each site, which means the water table had a higher elevation than the potentiometric surface of the UFAS. In January 2004, the measured head difference at Test Sites 1, 2 and 3 were 6.2 feet, 5.5 feet and 5.9 feet, respectively. In April 2004, the measured head difference at Test Sites 1 and 3 were 8.1 feet and 8.1 feet, respectively. Finally, in July 2006, the measured head difference at Test Sites 1, 2 and 3 were 8.6 feet, 6.6 feet and 9.3 feet, respectively. The average of those observed head differences was 7.46 feet.

Essentially, Petitioners are disputing the ALJ's ruling on an evidentiary matter, a ruling which the Board is not permitted to disturb. Barfield, 805 So.2d at 1012, (the agency lacked jurisdiction to overturn an ALJ's evidentiary ruling). In any event, this finding is supported by competent substantial evidence. (T:317-20, 1732-34, 2704-05; City Ex.87).

Petitioners' Exception No. 19

Petitioners take exception to FOF 98 on the grounds that “[t]here is no competent substantial evidence to support a finding that the hydrologic system, in particular the UFAS, would have reached equilibrium after a major rainfall event occurring shortly before the measurements were taken.” For the reasons described below, the exception is rejected.

FOF 98 states:

At the time the head difference measurements were taken in July 2006, the region had experienced a rainfall deficit of 17 inches over the prior 12 months. Petitioners contend that the rainfall deficit may have skewed that head difference observation. However, according to the District's expert, Richard Burklew, this would not necessarily have affected the head difference measurements because the hydrologic system would seek equilibrium, and the head difference would be the same.

This finding is supported by competent substantial evidence. (T:2704-06).

Petitioners reference their Exception No. 44 to FOFs 154-158, which were ruled upon elsewhere.

Petitioners' Exception No. 20

Petitioners take exception to FOF 99 on the grounds that "[t]here is no competent substantial evidence to conclude that there are not significant differences between the wet and dry seasons." Further, they argue that the ALJ's conclusion regarding head difference data collected from the other sites is "uncorroborated hearsay" and that "accordingly, there is no competent substantial evidence to support the finding that static head differences remain fairly constant at the Area IV Wellfield year-around." For the reasons described below, the exception is rejected.

FOF 99 states:

BFA collected static head difference measurements from Test Sites 1, 2 and 3 during both wet and dry seasons. The measurements do not show significant differences between seasons. Head difference data collected from hundreds of other Florida locations also do not show significant differences between seasons. This suggests that static head difference remains fairly constant at the Area IV Wellfield year round.

Contrary to Petitioners' assertions, this finding is supported by competent substantial evidence. (T:318-20,1520-21, 2704-06).

Petitioners reference their exceptions to FOFs 97-98 and 154-158, which were ruled upon elsewhere.

Petitioners' Exception No. 21

Petitioners take exception to FOF 100 on the grounds that there is no competent substantial evidence to support the finding that the Clark property is located in a more elevated region than Test Sites I, II, and III. For the reasons described below, the Board finds that the disputed portion of FOF 100 is based on competent substantial evidence, and the exception is, therefore, rejected.

The relevant portion of FOF 100 states:

Finally, the Clark property is located in a more elevated region than Test Sites 1, 2, and 3, which means the water table will be lower and the head difference will be less than at the Area IV Wellfield.

This statement is based on competent substantial evidence. (T:3019-20; City Ex. 39 and 70; Pet. Ex. 12998, 13013, and 13034 [referred to as Ex. 31]).

Petitioners' Exception No. 22

Petitioners take exception to FOF 101 without stating a legal basis for the exception, and therefore the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 101 states:

Water level measurements reported in the driller's completion log for Wells 4175, 4176, 4177, and 5230 on Miami Corporation's property do not determine static head difference between the SAS and UFAS because critical information concerning the construction of these wells is unknown. Additionally, the wells are much shallower than test production wells at Test Sites 1, 2 and 3.

The finding is supported by competent substantial evidence. (T:988-89, 5512-16).

Petitioners argue that the finding "fails to acknowledge" that the wells referenced in the finding are located within the groundwater flow model used by the City and that measurements from these wells should have been used to assess the performance of

the City's modeling. These arguments amount to an attempt by Petitioners to reargue the evidence.

Petitioners' Exception No. 23

Petitioners take exception to FOF 102 on the grounds that it is not supported by competent substantial evidence and based on uncorroborated hearsay and speculation. The exception is rejected for the reasons set forth below.

FOF 102 states:

The water level measurements reported in the driller's completion log for Wells 4175, 4176, 4177, and 5230 are not necessarily inconsistent with head difference measurements collected by BFA at Test Sites 1, 2 and 3. The head differences at these four well sites could be 6, 4, 7, and 6 feet, respectively, depending how the water measurements were made. Also, the measurements made by a driller could not be expected to be as accurate as measurements made by trained hydrologists. Further, if the soils in the vicinity of Well 4177 indicated a depth to water table of 5 feet below land surface, that would not necessarily be inconsistent with the head difference measurements collected by BFA at Test Sites 1, 2 and 3.

Contrary to Petitioners' assertions, this finding is based on competent substantial evidence. (T:1471-78, 1972-74).

Petitioners' Exception No. 24

Petitioners take exception to FOF 104 and 105 on the grounds that the second sentence of FOF 104 is based on hearsay and not supported by competent substantial evidence and that these findings are inconsistent with other evidence in the record. The exception is rejected for the reasons set forth below.

FOF 104 states:

The water table in the Area IV Wellfield area is consistently close to land surface and often above land surface. The construction of numerous above-grade forest roads and roadside ditches on the property surrounding the Area IV Wellfield has had the effect of impounding surface water and raising the water table near land surface.

FOF 105 states:

The Area IV Wellfield and vicinity have a variety of soil types. The predominant wetland soil type is Samsula Muck, which is classified as a very poorly drained soil with a water table either at or above land surface. The predominant upland soil type is Myakka Fine Sand, which is characterized by a water table within a foot of land surface during four months of the year and within 40 inches of land surface during remainder of the year. The average depth to water table at the Area IV Wellfield is approximately 1 foot based on soil types.

Both findings are supported by competent substantial evidence. (T:212-14; City Ex. 74 at 64-67; City Ex. 745A at 459-460; T:2115-22, 1673-75; City Ex. 156). As noted previously, the Board's role with regard to findings of fact is limited to whether a finding of fact is supported by competent substantial evidence.

Petitioners' Exception No. 25

Petitioners take exception to FOF 106 on the grounds that it based on unsupported hearsay and that this finding regarding the location of the water table at the Area IV Wellfield is inconsistent with the last sentence in FOF 104. The exception is rejected for the reasons set forth below.

FOF 106 states:

SAS levels at the three Farmton Mitigation Banks were measured at piezometers installed by Miami Corporation's consultants from 2001 through 2005. This data confirms the water table at the Area IV Wellfield is consistently close to land surface and frequently above land surface. It indicates the depth to water table is typically less than 3 feet and in many cases within a foot or two. Also, it does not matter whether any of the piezometers were located near wetlands because they show seasonal variation in water levels, where the water table changes from slightly above land surface to below land surface over the course of a year.

This finding is supported by competent substantial evidence. (T:212-14, 1960-64, 3615-18; City Ex. 58). Petitioners raised a hearsay objection to some of the testimony and

the exhibit that support this finding, and the ALJ overruled the objection. The Board lacks jurisdiction to disturb this evidentiary ruling. Barfield, 805 So.2d at 1012.

Petitioners' Exception No. 26

Petitioners take exception to FOFs 109 and 110 without stating a legal basis for their exception and therefore the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 109 states:

An aquifer performance test (APT) is a pumping test where water is removed from the well at a set rate for a set period of time and drawdown is measured in the well and in neighboring monitor wells to calculate the hydraulic properties of the hydrologic formation. The main hydraulic properties determined through an APT are transmissivity, leakance, and storativity. These properties are used to characterize the water production capabilities of the hydrologic formations. These properties are also used in groundwater modeling to project impacts for longer periods of time and larger distances.

FOF 110 states:

Aquifer parameters can be determined from an aquifer performance test using analytical "curve-matching" techniques or a groundwater flow model such as MODFLOW. Curve-matching techniques involve the creation of a curve through measurement of drawdown and the matching of that curve to standard curves derived using analytical equations.

In this exception, Petitioners merely make a statement regarding how the aquifer performance tests (APTs) for the Area IV Wellfield were performed and then cite to testimony in the record. Both findings are supported by competent substantial evidence. (T:250-51, 3783-85).

Petitioners reference their Exception Nos. 6 and 7 to FOFs 67 and 68, which were ruled upon elsewhere.

Petitioners' Exception No. 27

Petitioners take exception to FOFs 113 and 114 without stating a legal basis for their exception to these findings and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 113 states:

Storativity is the term used to describe the amount of water that is released from any aquifer for a given unit change in head, or the compressability of the aquifer system. This value can normally be determined during a 4-5 day aquifer performance test.

FOF 114 states:

Specific yield is the term used to describe the long-term capacity of an aquifer to store water. This value cannot normally be determined during a 4-5 day aquifer performance test.

In this exception, Petitioners allege that the ALJ failed to make certain findings regarding the characteristics of an unconfined aquifer and failed to explain the justification for certain changes made to specific yield values used in the groundwater modeling performed by the City. They then argue that the values for specific yield were "extremely low and unreasonable for the area," which amounts to an attempt to reargue the evidence. As noted above, the Board is precluded from making additional findings of fact. Both findings are supported by competent substantial evidence and simply describe certain terms of art. (T: 260, 1320, 1727-29).

Petitioners reference their Exception No. 42 to FOF 151, which was ruled upon elsewhere.

Petitioners' Exception No. 28

Petitioners take exception to FOFs 116 and 122 without stating a legal basis for their exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 116 states:

APT's are standard practice for evaluating the suitability of a new area for development as a wellfield. Three APT's were conducted at Test Sites 1 and 3. No aquifer performance tests were conducted at Test Site 2. Petitioners question whether the APT's for the Area IV Wellfield were conducted by BFA in accordance with the applicable standard of care in the hydrogeologic profession. The District's expert, Richard Burklew, believes the three APT's conducted at Test Sites 1 and 3 were adequate for purposes of determining appropriate aquifer parameters.

FOF 122 states:

Leakance values determined by BFA from the APT's conducted at Test Sites 1 and 3 were based on the application of analytical curve-matching techniques. The leakance values determined through the conventional type curve-matching techniques employed by BFA are typically higher than the actual leakance values. They are also inherently limited because they assume the calculated leakance is due entirely to the ICU rather than a combination of the ICU and MCU as is the case at the Area IV Wellfield. The analytical techniques employed by BFA were unable to calculate separate leakance values for the ICU and the MCU. The best way to determine leakance values for each of these confining units was to use a MODFLOW model and observed head difference data. This was done by the City's consultant, SDI, and is described in greater detail, infra.

In this exception, Petitioners contend that FOF 116 incorrectly states that they question whether the APT's for the Area IV Wellfield were conducted in accordance with the applicable standard of care. Presumably, they are arguing that this finding is not supported by competent substantial evidence. In fact, both findings are supported by competent substantial evidence. (T:869-71, 1065-68, 1309-12, 3035-36, 3627-28, 3668-70, Pet. PRO at 162).

Petitioners further contend in this exception that:

The City was improperly allowed to modify its modeling approach throughout the litigation without having to maintain consistent parameters. The constantly changing models based on the same underlying data and the multiple versions of the TSR while the challenges were pending at DOAH were contrary to the requirements of Chapter 120, Fla. Stat. and Petitioners' due process rights.

This argument does not directly address the findings in FOFs 116 and 122. Rather, Petitioners appear to contend that the proceeding did not comply with the essential requirements of the law given the changes in modeling approach and three versions of the TSR during the 2.5 years of litigation. An administrative hearing is a *de novo* proceeding intended to formulate final agency action. Section 120.57(1)(k), F.S.; Dept. of Transp. v. J.W.C., Inc., 386 So.2d 778, 786-787 (Fla. 1st DCA 1981). The *de novo* nature of the hearing means that the evidence is presented anew, as if for the first time. As such, the City was not precluded from developing information to support its permit application after petitions for administrative hearing had been filed. Moreover, the Board notes that the hearing was continued at least once to afford Petitioners an opportunity to conduct additional discovery regarding new information or additional modeling developed by the City.

Petitioners' Exception No. 29

Petitioners take exception to FOF 124 without stating a legal basis for their exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 124 states:

Consistent with the general understanding of the freshwater groundwater tongue extending from Volusia into Brevard County, the TDEM performed by SDII Global indicated that the depths to the 250 mg/l and 5,000 mg/l chloride concentrations decrease as one proceeds south along the FEC ROW. For example, the depths to the 250 mg/l and 5,000 mg/l chloride concentrations were 442 feet and 542 feet,

respectively, at the northernmost test site, which is somewhat north of the City's Test Site 1. The depth to the 250 mg/l and 5,000 mg/l chloride concentrations were 406 feet and 506 feet, respectively, at the southernmost test site, which is somewhat south of the City's Test Site 2.

Petitioners contend that this FOF fails to distinguish between different methods for estimating the different isochlors and argue that conflicting evidence regarding isochlors was not reconciled. The finding is supported by competent substantial evidence.

(T:248-49, 2699-00; City Ex. 69, 86, 209). To the extent Petitioners are seeking to have the Board reinterpret or reweigh the evidence or make additional findings of fact, the Board is precluded from doing so.

Petitioners reference their Exception No. 8 to FOFs 69 and 70 which were ruled upon elsewhere.

Petitioners' Exception No. 30

Petitioners take exception to FOFs 125, 126, and 127 without stating a legal basis for their exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 125 states:

Sixteen water quality grab samples were collected every 20-30 feet as the test production well at Test Site 1 was drilled, beginning at 120 feet below land surface and ending at 500 feet below land surface. This type of sampling is referred to as drill-stem testing. The chloride concentrations in the samples collected from 120 feet and 480 feet below land surface were 59 mg/l and 879 mg/l, respectively. The chloride concentrations in these samples did not exceed 250 mg/l until a depth of 460 feet below land surface was reached.

FOF 126 states:

Six water quality grab samples (drill-stem tests) were collected every 20-30 feet as the test production well at Test Site 2 was drilled, beginning 120 feet below land surface and ending 210 feet below land surface. The chloride concentrations in the samples collected from 120 feet and 210 feet below land surface were 124 mg/l and 845 mg/l, respectively. The chloride concentrations in

these samples did not exceed 250 mg/l until a depth of 180 feet below land surface.

FOF 127 states:

Fourteen water quality grab samples (drill-stem tests), were collected every 20-30 feet as the test production well at Test Site 3 was drilled, beginning at 120 feet below land surface and ending at 500 feet below land surface. The chloride concentrations in the samples collected from 120 feet and 500 feet below land surface were 45 mg/l and 90 mg/l, respectively. The chloride concentrations in these samples never exceeded 90 mg/l.

Petitioners contend that these findings “fail to recognize the limited reliability of the drill stem measurements” and that the ALJ failed to reconcile evidence regarding drill stem measurements with the results of packer tests. In essence, Petitioners are requesting the Board to reweigh the evidence, and the Board is precluded from doing so. The findings are supported by competent substantial evidence. (T:2699-2700, 3821-23; City Ex. 305 at p. 25, 44, 62).

Petitioners’ Exception No. 31

Petitioners take exception to FOF 132 on the grounds that it is based on uncorroborated hearsay and speculation. Petitioners then argue that the finding is “contrary to elemental science” and would establish “a very bad precedent for purposes of evaluating water quality results as part of CUP applications.” The exception is rejected for the reasons set forth below.

FOF 132 states:

The packer test samples collected at Test Sites 1 and 3 were collected using a higher pumping rate than typically recommended by the DEP and the United States Environmental Protection Agency (EPA). Consequently, the chloride concentrations in these samples are probably higher than the chloride concentrations found in the undisturbed groundwater at those depths. Since the packer sits on top of the borehole and restricts flow from above, it generally is reasonable to assume that a packer test draws more water from below than from

above the packer. However, if transmissivity is significantly greater just above the packer, it is possible that more water could enter the packer from above.

The finding is based on competent substantial evidence. (T:922-28). Petitioners' arguments challenge the weight and credibility that was accorded the evidence by the ALJ, and the Board declines to reweigh or reinterpret the evidence.

Petitioners' Exception No. 32

Petitioners take exception to FOFs 133 through 136 without stating a legal basis for their exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 133 states:

Seven water quality grab samples were collected every 12 hours during the 2001 APT at Test Site 1. The chloride concentrations in the first and last grab sample were 59 mg/l and 58 mg/l, respectively.

FOF 134 states:

Seven water quality grab samples were collected every 12 hours during the 2001 APT at Test Site 3. The chloride concentrations in the first and last grab samples were 19 mg/l and 52 mg/l, respectively.

FOF 135 states:

Nine water quality grab samples were collected every 12 hours during the 2003 aquifer performance test at Test Site 1. The field-measured chloride concentrations in the first and last grab samples were 56 mg/l and 55 mg/l, respectively. The laboratory measured chloride concentrations in the first and last grab samples were 66 mg/l and 74 mg/l, respectively.

FOF 136 states:

The average chloride concentration for the water samples collected during the three APTs at Test Sites 1 and 2 was about 50 mg/l.

Petitioners' exception amounts to an attempt to reargue the evidence. For example, they state that "this testing provides no basis for assessing water quality in the lower

portions of the Upper Floridan Aquifer” and challenge the appropriateness of relying upon “short-term, shallow pumping tests” to determine inputs into groundwater models. It is the ALJ’s statutory function to find the facts, and this Board is bound by a finding if it is supported by any competent substantial evidence. All of the findings in these FOFs are supported by competent substantial evidence. (T: 264-65, 2699-2700; City Ex. 74; 305 at 25, 62; City Ex. 237).

Petitioners’ Exception No. 33

Petitioners take exception to FOF 138 without stating a legal basis for their exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 138 states:

With one exception, all the water quality samples collected by BFA from Test Sites 1-3 had an acceptable charge balance. The one exception was a sample collected from the packer interval of 270-295 feet below land surface at Test Site 3 with a chloride concentration of 74 mg/l. This sample has a positive charge balance of 32.30 percent.

Petitioners’ exception amounts to an attempt to reargue the evidence and thus have the Board reinterpret the evidence and make additional findings. The Board declines to do so. This finding is supported by competent substantial evidence. (T:292-96, 298-99, 915-17, 5307-11. Petitioners reference their Exception No. 33 to FOF 139, which was ruled upon elsewhere.

Petitioners’ Exception No. 34

Petitioners take exception to FOF 139 on the grounds that the cause of the charge imbalance referenced in this finding is not supported by competent substantial evidence. The exception is rejected for the reasons set forth below.

FOF 139 states:

The sample collected from the packer interval of 270-295 feet below land surface at Test Site 3 has an overabundance of cations probably caused by grouting and cementing of the packer prior to taking the sample. Since chloride is an anion and not a cation, any error associated with this sample would not effect the validity of the 74 mg/l chloride concentration measured in this sample. This conclusion is also supported by the fact that two samples were collected from the same well at a packer interval of 340-400 feet below land surface with acceptable charge balances and they contained chloride concentrations of 64 mg/l and 134 mg/l.

This finding is based on competent substantial evidence. (T:296-97, 914-17, 2730-33).

The exception also argues that the discarding of one packer test measurement is not supported by competent substantial evidence; however, the finding regarding the discarding of this packer test measurement is contained in FOF 140, to which Petitioners have not taken exception, but which also is supported by competent substantial evidence. (T: 2730-33). The remainder of this exception again amounts to an attempt by Petitioners to reargue the evidence.

Petitioners' Exception No. 35

Petitioners take exception to FOF 142 without stating the basis for the exception. Although the Governing Board need not rule on the exception (Section 120.57(1)(k), F.S.), the exception is rejected for the reasons described below.

The relevant portion of FOF 142 states:

Petitioners ... point to a regional report indicating that there is a groundwater basin divide just north of the Area IV Wellfield. This report is based on a 1980 USGS potentiometric surface map. However, another regional report indicates that the groundwater basin divide occurs south of the Area IV Wellfield. This report is likely based on a 1998 USGS potentiometric surface map. Because of the lack of data points in rural northwest Brevard County, the City did not rely on any groundwater basin divide maps, but rather collected site specific information regarding the proposed Area IV Wellfield.

Petitioners do not allege that FOF 142 lacks support. Rather, they appear to disagree with the ALJ's characterization of a report. For example, Petitioners state that the 1998 District report "did not attempt any analysis of long-term flow records" and "was not intended to designate a groundwater basin divide." The regional report indicating a groundwater basin divide north of the proposed wellfield is SJRWMD Technical Publication SJ90-10, Upper St. Johns Groundwater Basin Resource Availability Inventory (Pet. Ex. 12230), and the regional report indicating a groundwater divide south of the proposed wellfield is SJRWMD Technical Publication SJ99-1, Geostatistical Analysis: Water Quality Monitoring Network for the Upper Floridan Aquifer in East-Central Florida (City Ex. 523 at 38). Petitioners appear to prefer the report indicating that the groundwater basin divide is north of the proposed wellfield because it supports their position that the water from the Upper Floridan aquifer at the proposed wellfield is from local freshwater recharge only. Both reports were published by the District. When the report showing a divide south of the proposed wellfield was introduced as evidence, Petitioners questioned the report's co-author about the report's scope and purpose, and objected to its admission. (T:995-99, 3417-22). The duty of the ALJ is to admit evidence, sift and weigh it, and reach a conclusion regarding what is established by the preponderance of that evidence. The finding is based on competent substantial evidence. (T:994-7, 3417-8; City Ex. 523 at 38).

As a practical matter, it is unclear what Petitioners attempt to accomplish in taking exception, as the last sentence in FOF 142 finds that the City did not rely on either report.

Petitioners' Exception No. 36

Petitioners take exception to FOF 143 without stating a legal basis for their exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 143 states:

The District's expert and the Petitioners' own expert (the sponsor of Petitioners' potentiometric surface map exhibits) noted several errors in the flow direction arrows added by Petitioners to the maps. In addition, after reviewing the potentiometric surface maps presented by Petitioners, the District's expert concluded that, in addition to local freshwater recharge, the predominant flow into the vicinity of the Area IV Wellfield is generally from the northwest and southwest. To confirm his opinion, the District's expert examined the head difference data collected in July 2006. At well UF-1S, the UFAS observation well at site 1, the elevation in the well was 16.27 NGVD. At site 3, which is southeast of site 1, the elevation in the UFAS observation well was 15.68 NGVD. At site 2, which is southeast of site 3, the elevation in the UFAS well was 13.87 NGVD. Since water generally flows from the highest to lowest head measurements, these measurements indicated that water would have been flowing from the northwest to the southeast in the vicinity of Area IV. However, the potentiometric surface can change both seasonally and yearly; likewise, the basin boundaries may also change.

In this exception, Petitioners "object to the reliance upon head difference data collected in July 2006" and again attempt to reargue the evidence. This finding is supported by competent substantial evidence. (T:946-47, 994-97, 2714-18, 2720, 2725, 3417-18, 3943-44, 4173-78; City Ex. 59, 523; City Ex. 69; Dist. Ex. 128 at 8).

Petitioners reference their Exception No. 9 to FOF 77, which was ruled upon elsewhere.

Petitioners' Exception No. 37

Petitioners take exception to FOF 145 without stating a legal basis for their exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 145 states:

During the permit application review process, the City submitted a succession of models to provide reasonable assurance that the proposed Area IV Wellfield would not result in unacceptable drawdown. Initially, BFA prepared and submitted groundwater flow simulations of the Area IV Wellfield prepared using an analytical model known as the "Multi-Layer/SURFDOWN Model." Although the District initially accepted the submission as providing reasonable assurance to support the District's initial TSR, Miami Corporation petitioned and criticized the City's model as not actually providing reasonable assurance, both because of its predicted SAS drawdown and because it was an analytical model (which can only represent simple conditions in the environment, assumes homogenous conditions and simple boundary conditions, and provides only a model-wide solution of the governing equation).

In this exception, Petitioners do not take exception to any of the findings in this FOF.

Rather, they object to the ALJ's failure to include certain findings regarding the history of the City's application. The Board lacks jurisdiction to make additional findings of fact and declines to do so. The finding is supported by competent substantial evidence. (T:729-733, 3639-45).

Petitioners' Exception No. 38

Petitioners take except to an omission in FOF 147. Because Petitioners did not identify a proper legal basis for the exception, the Governing Board need not rule on the exception. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons described below.

The relevant portion of FOF 147 states:

Miami Corporation's petition was scheduled for a final hearing in June 2005 that was continued until September 2005 after the first revised TSR was issued in May 2005.

In the "preliminary statement" section of the Recommended Order, the ALJ summarized the procedural history. FOF 147 is consistent with the history presented on pages 3 and 4 of the Recommended Order.

Petitioners contend that FOF 147 “fails to acknowledge that the First Revised TSR [Technical Staff Report] issued in May 2005 attempted to correct numerous problems that were pointed out by Miami Corporation with respect to the initial TSR issued in December 2004.” Petitioners’ exception relates to the two TSRs developed by the District before the final TSR. The final TSR presented at the hearing that began on December 11, 2006, was the TSR dated May 1, 2006. (City Ex. 291). An administrative hearing is a *de novo* proceeding. Section 120.57(1)(k), F.S. The *de novo* nature of the hearing means that the evidence is presented anew, as if for the first time. The parties to the litigation, including the District, were not prohibited from conducting additional work and analysis after the petition for administrative hearing was filed. The purpose of the administrative hearing process is to formulate final agency action on the application offered at the final hearing, not to review previous versions of the application or the agency’s decision. Dept. of Transp. 386 So.2d at 786-87.

It is unclear what Petitioners attempt to accomplish in taking this exception. To the extent Petitioners wish to review the history of the case, we note that the Recommended Order covers the procedural history in some detail and mentions the District’s three TSRs dated December 15, 2004; May 25, 2005; and May 1, 2006. (RO at 3-6, FOFs 16-20). If Petitioners are asking the Governing Board to make additional findings of fact, the Board must decline because it has no authority to do so. Boulton, 643 So.2d at 1105. Even if the Governing Board had the authority to include Petitioners’ requested acknowledgement, it would not change any of the findings or the outcome of this proceeding.

Petitioners' Exception No. 39

Petitioners take exception to FOF 148 without stating a legal basis for their exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 148 states:

Unbeknownst to the District, BFA already had attempted to develop a MODFLOW Model of the Area IV Wellfield in 2004, with the assistance of Waterloo Hydrogeologic, Inc. (WHI) (which later was retained as Petitioners' consultant in this case in a reverse of the Hartman client switch). When BFA ended its efforts with WHI, their efforts to calibrate a MODFLOW model for Area IV that would predict acceptable drawdown was unsuccessful, and none of those modeling efforts were submitted or disclosed to the District.

In this exception, Petitioners object to the ALJ's failure to reconcile aquifer parameters used in the City's initial modeling with those used in the models that the City relied on at the administrative hearing. Petitioners' arguments challenge the weight and credibility that was accorded the evidence by the ALJ, and the Board declines to reweigh or reinterpret the evidence. Additionally, since this is a *de novo* proceeding intended to formulate final agency action and not to review action taken earlier or preliminarily, the only aquifer parameters that are relevant are those used in the final model offered at hearing, not those used in an earlier preliminary model. Dept of Transp., 396 So. 2d at 786-87. The finding is based on competent substantial evidence. (T:3535-36, 3541-49, 3551-52, 3555-58, 3574-76).

Petitioners' Exception No. 40

Petitioners take exception to FOF 149 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 149 states:

In the fall of 2005, the City turned to another consultant, SDI, to attempt to develop a calibrated MODFLOW Model of the Area IV Wellfield. SDI initially prepared a so-called MODFLOW model equivalent of the Multi-layer/SURFDOWN Model prepared by BFA. It was presented to District staff at a meeting held in January 2006 for the purpose of demonstrating to District staff that the MODFLOW model equivalent of the Multilayer/SURFDOWN Model generated results for the Area IV Wellfield that were not very different from the results obtained by BFA using their Multi-layer/SURFDOWN Model. Petitioners criticized several weaknesses in the MODFLOW equivalent model and maintained that the modeling efforts to date did not give reasonable assurance of no unacceptable SAS drawdown. By this time, the District had decided to retain Dr. Peter Huyakorn, a renowned modeling expert. Based on his recommendations, the District required the City to produce a calibrated MODFLOW model of Area IV (as well as numerical solute transport modeling, which will be discussed below). The scheduled final hearing was continued until September 2006 to allow time for this work to be completed, discovered, and evaluated.

Petitioners' exception constitutes argument regarding the results of a model on which the City is not relying in support of this permit application and regarding the purpose of a meeting held in January 2006. This finding is supported by competent substantial evidence. (T:1370-80, 1702, 1934-36,3561-62).

Petitioners' Exception No. 41

Petitioners take exception to FOF 150 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S.

Nevertheless, the exception is rejected for the reasons set forth below.

FOF 150 states:

After the continuance, the City had SDI prepare a calibrated MODFLOW model to predict the drawdown that would result from operation of Area IV. SDI produced such a model in March 2006. This model predicted less drawdown. Specifically, a steady-state simulation of a 2.75 mgd withdrawal from the proposed 15 UFAS production wells and a 0.18 mgd withdrawal from the four proposed SAS extraction/wetland augmentation wells predicted the maximum drawdown of the surficial aquifer to be less than 0.5 foot (which, as discussed *infra*, would be acceptable). (UFAS drawdown, which is not an issue, was predicted to be an acceptable 12 feet.) But Petitioners questioned the validity of the model for

several reasons, including its suspect calibration. Dr. Huyakorn also had questions concerning the calibration of SDI's March 2006 MODFLOW model, but subsequent work by SDI satisfied Dr. Huyakorn and the District, which issued the TSR and proposed CUP at issue in May 2006 based in part on SDI's March 2006 MODFLOW model, despite Petitioners' criticisms. The final hearing was continued until September 2006 to give Petitioners time to complete discovery on SDI's March 2006 MODFLOW model (as well as the City's new solute transport modeling, which is discussed, infra).

In this exception, Petitioners object to the admission of, and reliance on, testimony from Dr. Huyakorn, one of the District's expert witnesses. Petitioners objected to Dr. Huyakorn's testimony on several grounds at the hearing, and their objection was overruled by the ALJ. The Board lacks jurisdiction to disturb this evidentiary ruling. The finding is supported by competent substantial evidence. (T:1082-85,1891-99,1946-52, 2733; City Ex. 112).

Petitioners' Exception No. 42

Petitioners take exception to FOF 151 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below. The exception is rejected for the reasons set forth below.

FOF 151 states:

To calibrate its March 2006 MODFLOW, SDI first used a transient MODFLOW model to simulate data from the 4-day aquifer performance test (APT) from the Area IV Wellfield sites (the transient APT calibration). (A transient model is used to analyze time-dependent variable conditions and produces a time-series of simulated conditions.) Then, after calibrating to the APT data, SDI used a steady-state, non-pumping MODFLOW model (a time-independent model used to analyze long-term conditions by producing one set of simulated conditions) to simulate the static head difference between the SAS and UFAS (the steady state head difference calibration). If the head difference simulated in the steady-state calibration run did not match the measured head difference, the ICU leakance was adjusted, and then the revised parameters were rechecked in another transient APT calibration run. Then, another steady-state head difference calibration run was performed in an iterative process until the best match occurred

for both calibration models.

In this exception, Petitioners contend that the "District should not accept modeling that is based upon calibration to values that have no basis in reality" and that "[s]uch modeling cannot provide reasonable assurance." Petitioners do not allege that this finding of fact is not supported by competent substantial evidence. It is supported by such evidence. (T: 1389-90; City Ex. 107, City Ex. 288 at 10). Rather, Petitioners seem to be making an argument with regard to a conclusion of law without identifying the District rule criterion for which "such modeling" can not provide reasonable assurance.

Petitioners' Exception No. 43

Petitioners take exception to FOFs 152 and 153 on several grounds, but do not argue that these findings are not based on competent substantial evidence. The exception is rejected for the reasons set forth below.

FOF 152 states:

In order to achieve calibration, SDI was required to make the ICU leakance value several times tighter than the starting value, which was the value derived in the site-specific APT using conventional curve-matching techniques (and relatively close to the values ascribed to the region in general in the literature and in two regional models that included Area IV near the boundary of their model domains--namely, the District's East Central Florida (ECF) model, which focused on the Orlando area to the south and west, and its Volusia model, which focused on Volusia County to the north).

FOF 153 states:

SDI's calibrated ICU leakance value derived from calibration to observed static head differences is more reliable than an ICU leakance value derived from an APT using conventional curve-matching techniques. That leaves a question as to the quality of the static head difference measurements used for SDI's calibration.

Both findings are supported by competent substantial evidence. (T:1052-53,1303-06,1735-37, 1899; Dist. Ex. 17; Dist. Ex. 128 at 7-13). The ALJ's determination that

SDI's (the City's consultant) calibrated ICU leakance value was "more reliable" than a leakance value derived from an APT using conventional curve matching techniques is an evidentiary determination reflecting the ALJ's decision of which evidence to credit. The Board may not disturb this finding. Petitioners acknowledge as much by rearguing the evidence in this exception and complaining that they were prevented from exploring conflicting leakance values after the ALJ made an evidentiary ruling regarding the scope of cross-examination.

The Board disagrees with Petitioners' contention that "acceptance of the ALJ's findings would establish a precedent that groundwater water [sic] models do not have to accurately predict actual field conditions within the model domain." The adequacy of groundwater modeling for a permit application is a case-specific determination.

Finally, Petitioners contend that given their view of the deficiencies in the modeling, the ALJ "had no basis to conclude that reasonable assurances had been provided through the City's most recent round of modeling." They again seem to be making an argument with regard to a conclusion of law without identifying the District rule criterion for which "modeling" cannot provide reasonable assurance.

Petitioners incorporate their exceptions to FOFs 67-68, 122 and 151 (Exception Nos. 6, 7, 28 and 42) which are ruled upon elsewhere.

Petitioners' Exception No. 44

Petitioners take exception to FOFs 154-158 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 154 states:

BFA took static head measurements at SAS and UFAS monitor wells located at Test Sites 1, 2 and 3 in January 2004, April 2004, and July 2006. On each occasion, a downward head gradient was noted at each site, meaning the water table (i.e., the SAS) had a higher elevation than the potentiometric surface of the UFAS. In January 2004, the measured head difference at Test Sites 1, 2 and 3 were 6.2 feet, 5.5 feet and 5.9 feet, respectively. In April 2004, the measured head differences at Test Sites 1 and 3 were 8.1 feet and 8.1 feet, respectively. In July 2006, the measured head differences at Test Sites 1, 2 and 3 were 8.6 feet, 6.6 feet and 9.3 feet, respectively. The average of these observed head differences for the Area IV Wellfield was 7.46 feet.

FOF 155 states:

BFA's static head difference measurements included both wet and dry seasons. The measurements do not show significant differences between seasons and suggest that static head difference remains fairly constant at the Area IV Wellfield year round. This is typical of head difference data collected from hundreds of other Florida locations because the hydrologic systems seek equilibrium.

FOF 156 states:

Petitioners questioned taking an average of the head difference measurements because the region had experienced a rainfall deficit of 17 inches over the 12 months prior to time the measurements in July 2006 were taken. By itself, a rainfall deficit would not affect head difference measurements because the hydrologic system would seek equilibrium. But there was evidence of a possibly significant rainfall near Area IV not long before the July 2006 measurements. If significant rain fell on Area IV, it could have increased the static head differences to some extent. But there was no evidence that such an effect was felt by Area IV.

FOF 157 states:

Petitioners also contend for several other reasons that the static head differences used by SDI as a calibration target were "not what they are cracked up to be." They contend that "limited spatial and temporal extent . . . renders them inappropriate calibration targets." But while the site-specific static head difference measurements were limited, and more measurements at different times would have increased the reliability of the average static head difference used in SDI's steady-state calibration, the head difference measurements used were adequate. For a groundwater model of Area IV, they were as good as or better than the head differences used by Petitioners' expert modeler, Mr. LaFrenz of Tetrattech, who relied on SAS and UFAS head levels from the regional-scale ECF model, which were measured by the United States Geological Survey (USGS) in May and September 1995.

FOF 158 states:

Petitioners also contended that the measured head differences used by SDI for the steady-state calibration of the March 2006 MODFLOW model were significantly higher than other measured head differences in the general vicinity of Area IV. One such location is Long Lake, which has saltwater and an obviously upward gradient (i.e., a negative head difference between the SAS and UFAS), whereas SDI's MODFLOW depicts it as having a five-foot downward gradient (positive head difference). However, all but one of those measurements (including from Long Lake) were from locations five or more miles from Area IV. In addition, the accuracy of the measurements from the closer location (and all but one of the more distant locations) was not clear, so that the seemingly inconsistent head differences measurements may not be indicative of actual inconsistency with the head difference measurements used by SDI.

In this exception, Petitioners contend that the ALJ "failed to reconcile unrefuted testimony" regarding groundwater flow. Hence, Petitioners again seek to have the Board reconsider and reinterpret evidence, and the Board may not do so. These findings are supported by competent substantial evidence. (T:318-20, 1461-1467, 1520-22, 1732-1739, 1898-99, 2704-06, 5366-67, City Ex. 87, Pet. PRO at 79).

Petitioners reference their exceptions to FOFs 94 to 102, which were ruled upon elsewhere.

Petitioners' Exception No. 45

Petitioners take exception to FOF 159 by simply incorporating their exceptions to FOFs 113, 114, and 151 (Exception Nos. 27 and 42). Since Petitioners fail to state a legal basis for the exception to this finding, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 159 states:

Petitioners also accused the City and its consultants of "playing games with specific yield" to achieve calibration with a tighter-than-appropriate ICU leakance value. But the City and the District adequately explained that there was no merit

to the accusations. It was appropriate for SDI to use just the relatively small specific storage component of SAS storativity (the 0.001 value) in its transient calibration runs, instead of the larger specific or delayed yield component. Storativity is not utilized at all in the MODFLOW steady-state calibration runs and steady-state simulations.

This finding is supported by competent substantial evidence. (T:1717, 1753, 1983-87).

Petitioners' exceptions to FOFs 113, 114 and 115 (exception Nos. 27 and 42) are addressed elsewhere.

Petitioners' Exception No. 46

Petitioners take exception to FOF 160 because it fails to reconcile the District's regional planning models with the City's site-specific model. Because Petitioners did not identify a proper legal basis for the exception, the Governing Board need not rule on the exception. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons described below.

FOF 160 states:

Based on the foregoing, it is found that Petitioners' factual disputes regarding SDI's calibrated ICU leakance value do not make the City's assurance of no unacceptable drawdown provided by its MODFLOW simulations unreasonable. That leaves several other issues raised by Petitioner [sic] with regard to the SDI's March 2006 MODFLOW model.

Put another way, the ALJ finds that the factual disputes about the value assigned to the leakance of the Intermediate Confining Unit (ICU), which is an input to the SDI March 2006 MODFLOW model, do not make the model's conclusion unreasonable. There is competent substantial evidence to support this finding. (T:1719-29, 1322; Dist. Ex. 16).

Petitioners' exception is about the alleged failure of the ALJ to reconcile regional planning models with the site-specific model. However, FOF 160 is about a particular value for an input to the site-specific model. In any event, to the extent that Petitioners

are asking the Board to reconcile conflicting evidence or make additional findings of fact, the Board must decline as it lacks the authority to do so. Fla. Power & Light, 693 So.2d at 1026-27.

In this exception, Petitioners adopt the exceptions to FOFs 67, 68, 122, 151, 152, and 153 (exception nos. 6, 8, 28, 42 and 43). Those exceptions have been addressed elsewhere in this Final Order.

Petitioners' Exception No. 47

Petitioners take exception to FOF 161 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 161 states:

In calibrating its MODFLOW model, SDI utilized a value for the MCU leakance that was twice as leaky as the published literature values for the area, which Petitioners claim would reduce simulated SAS drawdown. Although the use of a higher MCU leakance value in the model may result in a prediction of less SAS drawdown, the actual effect, if any, on the predicted drawdown, was not made clear from the evidence.

This finding is supported by competent substantial evidence. (T:1719-29, 5939-41). In their exception, Petitioners reargue the evidence and in effect are requesting the Board to reweigh and reinterpret the evidence. As noted previously, the Board is precluded from doing so.

Petitioners adopt their exceptions to FOFs 122, 151, and 153 (Exception Nos. 28, 42, and 43), which are ruled upon elsewhere.

Petitioners' Exception No. 48

Petitioners take exception to FOF 162 on several grounds, including that the portion of the finding regarding the boundary conditions of the City's MODFLOW model

is not supported by competent substantial evidence. The exception is rejected for the reasons set forth below.

FOF 162 states:

Petitioners also accused the City and its consultants of using inappropriate or questionable boundary conditions, topography, and depth to the water table. They also contend that incorrect topography--namely, a nonexistent five-foot ridge or mound northwest of Area IV--provides an artificial source of water for SDI's March 2006 MODFLOW model. But the boundary conditions for SDI's March 2006 MODFLOW model were clear from the evidence and were appropriate; and SDI's topography and water table depth were reasonably accurate (and on a local scale, were as or more accurate than the USGS topographic maps Petitioners were comparing). Besides, Dr. Huyakorn ran the Tetrattech model with SDI's leakance value instead of Tetrattech's value and got virtually the same drawdown results, proving that differences in topography between the two models made virtually no difference to the drawdown predictions of either model. As for the so-called "flow from nowhere," particle-tracking simulations conducted by experts from both sides established that, with pumping at 2.75 mgd, no water would enter the Area IV production zone from anywhere near the five-foot ridge area for at least 100 years. This gave reasonable assurance that the five-foot ridge or mound had no effect on the simulated results from SDI's March 2006 MODFLOW model.

The entire finding is supported by competent substantial evidence. (T:1060-65, 1758-60, 1737-41, 1893-98, 1995-97, 3667-68, 4885-86; City Ex. 101; Dist. Ex. 127). In their exception, Petitioners reargue and seek to explain the evidence and renew their objection to the rebuttal testimony of one of the District's expert witnesses. The Board lacks authority to disturb the ALJ's evidentiary ruling regarding the admissibility of this testimony, and the Board declines to reweigh or reinterpret the evidence.

Petitioners reference their Exception No. 21 to FOF 100, which was ruled upon elsewhere.

Petitioners' Exception No. 49

Petitioners take exception to FOF 163 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 163 states:

Petitioners also contend that the City's failure to simulate drawdown from pumping during the dry season, as opposed to a long-term average of wet and dry seasons, constituted a failure "to provide reasonable assurances as to the conditions that can be expected as a result of the anticipated operation of the wellfields." But the evidence was clear that long-term, steady-state groundwater model simulations are appropriate and adequate to provide reasonable assurance for CUP permitting purposes. See "Drawdown Impacts," *infra*. By definition, they do not simulate transient conditions such as dry season pumping.

This finding is supported by competent substantial evidence. (T:1036, 2931, 3548,4074-76; Petitioners' PRO at 86). In this exception, Petitioners contend that the ALJ "failed to address" certain evidence and present argument that the District should have required the City to simulate a dry season period using the model on which the City relied during the hearing. The Board is precluded from engaging in fact-finding and reinterpreting the evidence and declines to do so.

Petitioners' Exception No. 50

Petitioners take exception to FOFs 165 and 167 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 165 states:

It is found that SDI's March 2006 MODFLOW model for Area IV is the best such model in evidence. That is not to say that the drawdown predicted by SDI's model is a certainty. The other models were not proven to be better than SDI's, but they did demonstrate that simulated results would vary significantly in some cases if SDI's calibration and calibrated ICU leakance values were incorrect. Having more

good hydrologic information would have made it possible to reduce the uncertainties present in SDI's model, but it is found that SDI's March 2006 MODFLOW model was sufficient to give reasonable assurance as to SAS and UFAS drawdown from pumping at 2.75 mgd from the UFAS and 0.18 mgd from the SAS for wetland augmentation.

FOF 167 states:

Using SDI's March 2006 MODFLOW model, the City gave reasonable assurance that the drawdown predicted from pumping at 2.75 mgd from the UFAS and 0.18 mgd from the SAS for wetland augmentation will not interfere with existing legal users. The nearest existing legal users are located about one mile northwest and two miles east/southeast of the nearest proposed production well. The City's MODFLOW modeling scenarios indicate that maximum drawdown in the SAS will be less than 0.5 feet and minimal (at most 2.2 feet) in the UFAS at the nearest active existing legal users. Obviously, drawdown would be much less at 0.5 to 0.75 mgd from the UFAS (with probably no wetland augmentation required).

Although labeled as a finding of fact, the first sentence of FOF 167 is actually a conclusion of law. The remainder of the findings in FOFs 165 and 167 are supported by competent substantial evidence. (T:845-47, 1111-12, 1121-24, 2761, 3615-18, 3668-70, 4886, 5338; City Ex. 153B, 169, 291). Based on the ALJ's findings and its review of the record, including the remainder of FOF 167 and FOFs 168 and 169, the Board concurs with the ALJ's recommended conclusion in the first sentence of FOF 167. (T:1358, 1614-17).

Petitioners reference their exceptions to FOFs 67, 68, 83, 116, 122, 151-153, and 160-162, which have been ruled upon elsewhere.

Petitioners' Exception No. 51

Petitioners take exception to FOFs 178 and 186 on the grounds that there was no competent substantial evidence about the potential environmental impact of withdrawals of 0.75 mgd. For the reasons described below, the exception is rejected.

FOF 178 states:

If the drawdown is of the magnitude predicted by the SDI's March 2006 MODFLOW model, unacceptable environmental impacts from drawdown would not be anticipated. At 0.5 or 0.75 mgd, there clearly would not be any unacceptable environmental impacts.

FOF 186 states:

The success of the augmentation plan depends on the extent of actual drawdown. If actual drawdown approximates Tetrattech's predictions, environmental impacts would not be acceptable, and there would not be reasonable assurance that the augmentation plan would be sufficient to mitigate the environmental impacts. If drawdown is of the magnitude simulated in the City's MODFLOW model, reasonable assurance was given that, if needed, the avoidance and minimization plan developed for the Area IV Wellfield would be capable of offsetting any adverse changes in wetlands and other waters detected through the environmental monitoring plan. If the City pumps not more than 0.75 mgd, the avoidance and minimization plan developed for the Area IV Wellfield probably would be unnecessary but certainly would be capable of offsetting any adverse changes in wetlands and other waters that would be detected through the environmental monitoring plan.

Both findings are supported by competent substantial evidence. (T:2128-29, 2148-52, 3062-72, 3087-88, 4974-75; City Ex. 288, 289, 290, 291).

The Board agrees with Petitioners to the extent that most of the evidence presented at hearing was about the environmental impact of withdrawals of 2.75 mgd, rather than the lower allocation of 0.75 mgd recommended by the ALJ. We do not, however, agree that this results in a lack of competent substantial evidence. The ALJ may reasonably infer from the evidence a factual finding. Freeze, 556 So.2d at 1206. In this case, the ALJ inferred that the environmental impact of withdrawing 0.75 mgd would be less than withdrawing 2.75 mgd. This is a reasonable inference, and even Petitioners acknowledge in their exception that the ALJ "could potentially extrapolate that there would not be harm at 0.75 mgd."

Petitioners' Exception No. 52

Petitioners take exception to FOFs 179, 180, and 181 not because of a lack of competent substantial evidence but because they believe that the evidence demonstrates that the City cannot implement its environmental monitoring program. Petitioners argue that the City's current lack of legal access to the monitoring locations means that the City cannot implement the environmental monitoring plan. The exception is rejected for the reasons below.

FOF 179 states:

In addition, "Other Condition" 12 of the proposed permit requires the City to perform extensive environmental monitoring. The environmental monitoring plan proposed for the Area IV Wellfield provides reasonable assurance that changes to wetland hydrology and vegetation due to groundwater withdrawals will be detected before they become significant.

FOF 180 states:

"Other Condition" 12 of the proposed permit prohibits the City from pumping any water from the production wells until the monitoring network is in place. The baseline monitoring will give a clear indication of the existing conditions prior to the production wells coming on-line.

FOF 181 states:

Once the production wells are online, the City will continue the same procedures that they conducted prior to the production wells coming online. This will allow the City and the District to monitor the effects of pumping. The City's proposed environmental monitoring plan is adequate to detect drawdown impacts and is consistent with environmental monitoring plans that have been developed for other wellfields throughout the State of Florida.

These findings are based on competent substantial evidence. (T:2138-9, 2146-47, 3084-6, 3160, 4959, 4970; City Ex. 288, 289, 290, 291).

Petitioners' Exception No. 53

Petitioners take exception to FOFs 182 and 185 not because of a lack of competent substantial evidence but because they believe that the evidence demonstrates that the City cannot implement its augmentation plan. Petitioners argue that the City's current lack of legal access to the augmentation areas and the lack of a detailed augmentation plan means that the City cannot implement the augmentation plan. For the reasons described below, the exception is rejected.

FOF 182 states as follows:

Since the City has given reasonable assurance that there will not be environmental harm from drawdown, the proposed permit does not propose mitigation. If unanticipated harm is detected, "Other Condition" 24 of the proposed permit requires the City to implement an avoidance and minimization plan¹ to rehydrate the wetlands and restore the water levels to normal levels and natural hydroperiods by augmenting the water in the affected wetlands with water pumped from SAS wells and piped to the affected wetlands. "Other Condition" 24 includes specific timeframes for implementing wetland rehydration in the event unanticipated impacts were to occur. In addition, the City could, on its own, change its pumping schedules. If an impacted wetland is near a particular well, the City could reduce or shut off water withdrawals from that well and thereby restore water levels in the wetland.

There is competent substantial evidence to support this finding. (T:2150-51, 3087-89; City Ex. 291, 288, 289, 290).

FOF 185 states as follows:

The City plans to have its augmentation plan in place prior to the production wells coming online. In that way, if changes are observed within the wetland systems, the augmentation plan could be implemented in relatively short order to alleviate any impacts that might be occurring as a result of the production wells.

¹ The terms "avoidance and minimization plan," "wetland hydration plan," and "augmentation plan" are used interchangeably in the Recommended Order. They refer to the Environmental Monitoring Plan and Avoidance/Minimization Plan dated March 15, 2006, which was admitted as City Ex. 288 at 39, and to the Addendum dated April 6, 2006, which was admitted as City Ex. 289.

Petitioners argue that there is no competent substantial evidence that the augmentation plan can be implemented “timely” or in “ninety days” or “prior to the wells coming online.” The finding states that the City plans to have the augmentation plan in place “prior to the production wells coming online” and that the augmentation plan could be implemented “in relatively short order.” These words are taken directly from expert witness testimony. (T:2150-51). In addition, the written plan submitted by the City states that the City plans to gain legal access to the property required for both monitoring and augmentation shortly after issuance of the permit. (City Ex. 288 at 39). The transmission line for augmentation of wetland A4-2 will be constructed at the same time the production line is constructed. (City Ex. 289 at 5). The smaller line from the transmission line to the wetland will be installed if impacts are observed. (Id.).

“Other Condition” 24 of the proposed permit can be summarized as follows: (1) If the District determines that unanticipated impacts occur to wetland A4-2, then the augmentation plan that was submitted specifically for that wetland must be implemented within 90 days of notice, and (2) if the District determines that unanticipated impacts have occurred to any other wetland, then the permittee shall submit an augmentation plan within 30 days of notice and shall implement the plan within 90 days of the District's approval. (City Ex. 291). Augmentation plans for each wetland, if needed, would be tailored to the specific needs and circumstances of that wetland. (City Ex. 288, 291). For all these reasons, there is competent substantial evidence to support this finding.

We note that the City has some flexibility in addressing any unanticipated impacts. As the ALJ found in FOF 182, the City could change its pumping schedules.

Petitioners' Exception No. 54

Petitioners take exception to a portion of FOF 187 that is actually more in the nature of a conclusion of law. For the reasons below, the exception is rejected.

FOF 187 states:

If unanticipated environmental harm occurs due to excessive actual drawdowns, and the harm cannot be avoided either by the augmentation plan or by altering the pumping schedule, or both, the District can revoke all or part of the permit allocation under "Other Condition" 23. *This ability gives reasonable assurance that no unacceptable environmental harm will occur even if actual drawdown approximates Tetrattech's predictions.* (Emphasis added.)

Petitioners argue that the District's ability to revoke a permit does not provide reasonable assurance that no unacceptable environmental harm will occur. Generally, the ultimate determination of whether the facts found by the ALJ constitute "reasonable assurance" of an applicant's entitlement to a regulatory permit is a decision that must be made, in the final analysis, by the agency head, rather than by an ALJ. Fla. Audubon Soc'y, Inc. v. South Fla. Water Mgmt. Dist., 26 F.A.L.R. 2173, 2198 (SFWMD 2002); Singer Island Civic Assn. v. Simmons, 24 F.A.L.R. 1295, 1301 (DEP 2002); Miccosukee Tribe of Indians v. South Florida Water Mgmt. Dist., 20 F.A.L.R. 4482, 4491 (DEP 1998), *affirmed*, 721 So.2d 389 (Fla. 3d DCA 1998); Fla. Bay Initiative v. Fla. Dep't of Transp., 19 F.A.L.R. 3712, 3796 (SFWMD 1997); Save Our Suwannee v. Piechocki, 18 F.A.L.R. 1467, 1471 (DEP 1996); Barringer v. E. Speer and Assoc., 14 FALR 3660, 3667 n.8 (DER 1992). Therefore, the Board has authority to reject or modify this COL in accordance with Section 120.57(1)(I), F.S.

In this case, District staff testified that to their knowledge the District has not revoked a permit for the purpose of halting unanticipated harm. (T:3143-47). Instead, other measures were implemented to abate the harm. (T:3088-89, 3145-47, 3155-58).

Ideally, permits will have measures in place to address unanticipated harm in order to avoid reaching a point where permit revocation becomes necessary (for example, make pumping changes, shut off certain wells).

We do not interpret the last sentence of FOF 187 to state that the District's ability to revoke a permit constitutes reasonable assurance on the part of the permittee. Such an interpretation would be illogical. When considered in the context of the other paragraphs in the Recommended Order, the finding is simply the following: Under the worst case scenario, if the consumptive use results in the drawdown predicted by Petitioners' model (which was based on a withdrawal of 2.75 mgd rather than the lower allocation recommended by the ALJ), and harm cannot be avoided or mitigated by augmentation and/or reduced pumping or other measures, then the District has the ability to revoke all or part of the permit. (T:3143-47; City Ex. 291).

Petitioners' Exception No. 55

Petitioners take exception to FOFs 189 and 193 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. These findings describe the City's modeling efforts with regard to saline water intrusion (chloride concentrations) and the efforts it undertook to respond to criticisms and deficiencies in the modeling raised by Petitioners. Petitioners do not contend that these findings are not supported by competent substantial evidence. The findings are supported by competent substantial evidence. (T:1525-29, 2672, 2910-13, 2933-34).

In their exception, Petitioners review the chronology of the models developed for the City's application and state that they:

object and take exception to any and all findings based upon modeling that was developed more than five years after the Application was submitted, several

years after the litigation was commenced and months after the deadline established by the Administrative Law Judge to submit new modeling.

The decision to admit evidence falls to the ALJ as fact finder in this proceeding and the Board may not disturb the ALJ's evidentiary rulings. In addition, the Board notes that an administrative hearing is a *de novo* proceeding intended to formulate final agency action. Section 120.57(1)(k), F.S.; Dept. of Transp., 386 So.2d at 786-787. The *de novo* nature of the hearing means that the evidence is presented anew, as if for the first time. As such, the City was not precluded from developing information to support its permit application after petitions for administrative hearing had been filed.

Petitioners' Exception No. 56

Petitioners take exception to FOF 194 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. This finding describes some of the case's procedural history, and Petitioners' exception alleges that the first sentence of the finding "incorrectly states the procedural history of the case." To the extent that Petitioners are requesting the Board to make additional findings of fact, the Board may not, and declines to do so. In any event, any ruling on this exception would not affect the outcome of the proceeding.

Petitioners' Exception No. 57

Petitioners take exception to FOF 195 on the grounds that the rebuttal evidence referenced in this FOF "does not provide competent substantial evidence for reaching any conclusions as to results that would be obtained if SDI [the City's consultant] correctly input TDS [total dissolved solids]." In this exception, Petitioners also "object and except to any findings based upon modeling they never had a chance to review." The exception is rejected for the reasons set forth below.

FOF 195 states:

Petitioners also criticized the City for not using a newer version of SEAWAT, called SEAWAT 2000, as well as for using chloride concentrations as inputs for its SEAWAT 2.1 model simulations instead of total dissolved solids (TDS). (SEAWAT 2.1 required input of TDS, not chlorides; SEAWAT 2000 allowed chlorides to be input. Not until the last day of the final hearing was it pointed out by Dr. Huyakorn that using chlorides instead of TDS caused SDI's SEAWAT 2.1 simulations to over-predict saltwater intrusion.) As a result of Petitioners' criticisms, the City had SDI re-run both the April and early August SEAWAT 2.1 models in late August 2006 using SEAWAT 2000 (which the City and the District also termed "sensitivity runs.")

This finding is supported by competent substantial evidence. (T:5961-62, Dist. Ex. 185 at 5, 6). The decision to admit evidence, including rebuttal testimony and exhibits, falls to the ALJ as fact finder in this proceeding and the Board may not, and it declines to, disturb the ALJ's evidentiary rulings.

Finally, the Board disagrees with Petitioners' contention that adopting this finding would "create a precedent that a model can be run incorrectly, calculate fluid densities incorrectly and still provide reasonable assurance." As noted previously, the adequacy of groundwater modeling for a permit application is a case-specific determination.

Petitioners' Exception No. 58

Petitioners take exception to FOF 197 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reason set forth below.

FOF 197 states:

During Petitioners' discovery of SDI's August SEAWAT 2000 model simulations, it came to SDI's attention that SDI was not calculating mass outputs from the model correctly. Those errors were corrected by SDI in September 2006.

This finding is supported by competent substantial evidence. (T: 1614-17, 1358).

Petitioners' only contention in this exception is that the corrections to the mass output

calculations “were not presented to them until after a deadline established by the ALJ for additional modeling ...and should not have been allowed so late in the process.”

The decision to allow the introduction of evidence falls to the ALJ as the fact finder in this proceeding and the Board may not, and declines to, disturb the ALJ's evidentiary rulings.

Petitioners' Exception No. 59

Petitioners take exception to FOF 200 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reason set forth below.

FOF 200 states:

That prediction does not, however, mean the chloride concentration in these wells will exceed 250 mg/l in actual operation. The SDI model contains several conservative assumptions that magnified the potential chloride concentrations in those wells. First, it was assumed all the production wells would be drilled to 250 feet below land surface, while the City will likely drill the southernmost wells to a shallower depth. Additionally, the wellfield production rate used in the model was not optimized for water quality. Finally, the model was not set up to simulate a wellfield operation plan that turned wells on and off based on the saline water monitoring plan. For the sake of simplicity, the model assumed that all the wells would operate 24 hours a day, 7 days a week, for the entire 15 year period.

This finding is supported by competent substantial evidence. (T:1168, 1171, 1203-07, 1828, 1830-31, City Ex.150). Petitioners' exception does not seem to address the findings in this FOF. Rather, they argue that the ALJ “fails to address” certain testimony presented by their expert witness and disregards other evidence, and that the District “should not accept a non-calibrated model as providing reasonable assurances.” The decision to believe one expert over another is left to the ALJ as the fact finder and cannot be altered absent a complete lack of competent substantial evidence from the finding could be reasonably inferred. Fla. Chapter of Sierra Club, 436 So.2d at 388-89.

The Board is precluded from making additional findings of fact and declines to do so. Moreover, competent substantial evidence was presented supporting the fact that the City's model was properly calibrated. (T: 6039-42, 6045, City Ex. 744.12).

Petitioners reference their exceptions to FOFs 124-136, 208, and 210, which have been ruled upon elsewhere.

Petitioners' Exception No. 60

Petitioners take exception to FOF 202 on substantially the same grounds as those stated in Exception No. 57 to FOF 195. Based on its ruling on Petitioners' Exception No. 57 (to FOF 195), the Board also rejects this exception.

Petitioners' Exception No. 61

Petitioners take exception to FOF 205 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reason set forth below.

FOF 205 states:

SDI used a chloride concentration of 0 mg/l for the SAS and ICU in its August 2006 SEAWAT model, which probably does not represent the actual initial condition but is probably close enough since the SAS is recharged by rainfall that typically has very low (1 to 2 mg/l) chloride levels. SDI used a chloride concentration of 2,500 mg/l for the MCU and a chloride concentration of 5,000 mg/l for the LFAS in its August 2006 SEAWAT model, which are reasonable initial chloride values for the Area IV Wellfield.

This finding is supported by competent substantial evidence. (T:1156, 1158-61, 1197-1198, 3407-08, 3410; City Ex. 131, 132, 305 at 21 and 22). In their exception, Petitioners argue that the ALJ "fails to reconcile" what Petitioners believe to be "nonconservative assumptions" regarding the surficial aquifer chloride concentrations used by the City with the "conservative assumptions" referenced in FOF 200. In

addition, Petitioners cite evidence that appears to conflict with the finding in this FOF regarding chloride concentrations in the SAS. The Board may not, and declines to, engage in making additional findings of fact.

Petitioners' Exception No. 62

Petitioners take exception to FOF 206 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reason set forth below.

FOF 206 states:

To develop the initial chloride concentration conditions of the UFAS for its August 2006 SEAWAT model, SDI first plotted the available water quality data (63 well-data points) on a map of the Area IV Wellfield area. After examining the distribution of the data, SDI divided the UFAS into two layers to represent the upper UFAS (above -200 feet NGVD) and the lower UFAS (below -200 feet NGVD). Then, using various scientific studies containing chloride concentration maps, groundwater recharge/discharge maps (recharge indicating an area is more likely to have low chlorides in the UFAS and discharge indicating an area is more likely to have high chlorides), and maps showing the shape and extent of the freshwater lens in the area, plus SDI's own knowledge of groundwater flows and expected higher chloride concentrations along the coast and St. Johns River, SDI used scientifically accepted hand-contouring techniques to represent the initial chloride concentration conditions of the upper and lower UFAS on maps. SDI's two hand-contoured chloride concentration maps were reviewed and accepted by the District's experts and reflect a reasonable representation of the initial chloride concentration conditions in the UFAS in the Area IV Wellfield. Using the two hand-contoured chloride concentration maps, SDI input the chloride concentration values from those maps into its August 2006 SEAWAT model. The chloride concentration values from the upper UFAS map were input into layers 3 through 7 of SDI's August 2006 SEAWAT model. The chloride concentration values from the lower UFAS map were input into layers 11 through 14 of SDI's August 2006 SEAWAT model.

This finding is supported by competent substantial evidence. (T:1174-78, 1180-91, 2040, 2670, 3268-78; City Ex. 142, 143, Dist. Ex. 108 at 12). In this exception, Petitioners allege that the ALJ's findings "are internally inconsistent" without explaining to which findings in the Recommended Order they are referring and argue that the ALJ

“improperly allowed SDI to disregard high chloride concentrations.” The Board declines to reinterpret the evidence or revisit the ALJ’s evidentiary rulings.

Petitioners reference their Exception No. 59 to FOF 200, which was ruled upon elsewhere.

Petitioners’ Exception No. 63

Petitioners take exception to FOF 208 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S.

Nevertheless, the exception is rejected for the reasons set forth below.

FOF 208 states:

Petitioners accuse SDI, the City, and the District of ignoring unfavorable chloride data in setting up its August 2006 SEAWAT 2000 model. The evidence was that all chloride data was considered and evaluated.

This finding is supported by competent substantial evidence. (T:2730, 2973-79, 1569-76). In this exception, Petitioners contend that:

[b]ecause all of the SEAWAT modeling submitted on behalf of the City fail [sic] to incorporate the actual measured chloride values at the bottom of the Area IV Wellfield, the models cannot reliably predict the anticipated saltwater intrusion that will experienced at the wellfield or the ability of the resource to produce the requested amount of water.

Petitioners also argue that accepting the City’s input values would establish a “detrimental” precedent to future CUP evaluations and establish “a precedent for disregarding Packer Test measurements.” The Board’s review of the record indicates that chloride values from the packer tests at test sites 1 and 3 were in fact used in the August 2006 SEAWAT modeling on which the City is relying. (T:1566, 1570-71, 3287-89; City Ex. 142, 143; City Ex. 293 at 6,7,9,10; City Ex. 305 at 25, 44, 62). In any event

and as noted previously, the adequacy of groundwater modeling for a permit application is a case-specific determination.

Petitioners reference their Exception No. 59 to FOF 200, which was ruled upon elsewhere.

Petitioners' Exception No. 64

Petitioners take exception to FOF 210 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 210 states:

Mr. Davis and the District's experts did not utilize the 2,336 mg/l and 2,717 mg/l chloride concentration packer test measurements at 442-500 feet below land surface at Test Sites 1 and 3 to prepare the chloride contour maps for the UFAS because they believed these measurements from the MCU.

This finding is supported by competent substantial evidence. (T:3316-17). In their exception, Petitioners essentially are rearguing the evidence and allege that the ALJ "failed to address" what Petitioners characterize as "undisputed evidence" and failed to reconcile certain evidence in the record. The Board may not, and declines to, reweigh the evidence.

Petitioners reference their exceptions to FOFs 124-136, 200, and 208, which were ruled upon elsewhere.

Petitioners' Exception No. 65

Petitioners take exception to FOF 211 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 211 states:

Mr. Davis and the District's experts deemed it inappropriate to utilize a 845 mg/l chloride value reported for Test Site 2 to prepare the chloride contour for the lower portion of the UFAS because this sample was collected at just 210 feet below land surface and because a 500 mg/l contour line separates a 882 mg/l measurement at Test Site 1 from a 134 mg/l measurement at Test Site 3. The decision not to include the Test Site 2 data also is supported by the particle tracking modeling prepared by the Petitioners and the City using the groundwater component of the SDI SEAWAT model and the TetraTech model, which show that water from Test Site 2 will not enter the Area IV production wells for at least 100 years with pumping at 2.75 mgd.

This finding is supported by competent substantial evidence. (T:3287-89, 6078-80; City Ex. 744.18, 744.21, 744.22). In their exception, Petitioners essentially are rearguing the evidence and argue that the ALJ "failed to reconcile" conflicting evidence. The Board may not, and declines to, reweigh the evidence.

Petitioners' Exception No. 66

Petitioners take exception to FOF 212 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reason set forth below.

FOF 212 states:

The chloride contour maps developed by Mr. Davis and the District experts were consistent with previous studies conducted by the USGS and the District in the region. For example, the chloride contours shown on City Exhibit 142 for the upper portion of the UFAS are generally consistent with Figure 35 of the 1990 USGS Report by Charles Tibbals and Figure 15 of the 1999 District Report by Toth and Boniol.

This finding is supported by competent substantial evidence. (T:1185-91, 3268-72; City Ex. 142, 521, 523).

Petitioners reference their exceptions to FOFs 124-132 and 200. However, Petitioners did not take exception to FOFs 128-131. The remaining exceptions were ruled upon elsewhere.

Petitioners' Exception No. 67

Petitioners take exception to FOF 213 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 213 states:

The two chloride contour maps developed by Mr. Davis and the District's experts are a reasonable representation of the existing water quality of the UFAS in the region of the Area IV Wellfield based on the available data.

This finding is supported by competent substantial evidence. (T:1184-85, 3271-78, City Ex. 142, 143, 293).

Petitioners adopt their exceptions to FOFs 124-132, 200 and 208. However, Petitioners did not take exception to FOFs 128, 129, 130 or 131. The Board has provided rulings elsewhere on those FOFs to which Petitioners did take exception (Exception Nos.30 and 31).

Petitioners' Exception No. 68

Petitioners take exception to FOF 214 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 214 states:

Mr. Davis used the 882 mg/l chloride concentration packer test measurement from the interval between 331 and 400 feet at Test Site 1 as the starting chloride concentration in four grid cells at the bottom of the UFAS, which Petitioners' experts referred to as a "pinnacle" or "column," that were assigned a chloride value of 700 mg/l. While the representation may not have been realistic, and the "pinnacle" or "column" quickly "collapses" when the model begins to run, the representation was a concession to the existence of the datum even though it appeared at odds with water quality collected from a packer test at Test Site 3 at the same depth interval, which was much fresher. District staff agreed with Davis'

approach to representing the saltier packer test measurement from Test Site 1.

This finding is supported by competent substantial evidence. (T:1605-07, 2050-51, 3358-59, 3999). In this exception, Petitioners attempt to reargue the evidence by challenging the data that was used in the City's modeling and contending that the ALJ "fails to reconcile" certain testimony. The Board may not, and declines to, reinterpret or reweigh the evidence or make additional findings of fact.

Petitioners' Exception No. 69

Petitioners take exception to FOF 215 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 215 states:

The initial chloride concentrations developed for the UFAS by Mr. Davis and District staff are not inconsistent with the water quality data collected by the Petitioners' consultants from Long Lake. The lake is located in an area of the map where the chloride concentration in the UFAS, which discharges into the lake at that location, is between 1,000 and 5,000 mg/l.

This finding is supported by competent substantial evidence. (T:1580-81; Pet. Ex. 110). In this exception, Petitioners again reargue the evidence and then state that "[t]he District should not establish a precedent of accepting modeling that inaccurately predicts known conditions within the model domain." Contrary to Petitioners' contention, the ALJ found that the City's modeling was reasonable. As noted previously, the adequacy of groundwater modeling for a permit application is a case-specific determination.

Petitioners' Exception No. 70

Petitioners take exception to FOF 216 only by adopting their exceptions to FOFs 124-136 and 200, 208, and 210. The Board notes that Petitioners did not take exception to FOFs 128-131. For the reasons set forth in its rulings on Exception Nos. 30, 31, 32, 59, 63, and 64, this exception is rejected.

Petitioners' Exception No. 71

Petitioners take exception to FOF 217 only by adopting their exceptions to FOFs 124-136 and 200, 208, and 210. The Board notes that Petitioners did not take exception to FOFs 128-131. For the reasons set forth in its rulings on Exception Nos. 30, 31, 32, 59, 63, and 64, this exception is rejected.

Petitioners' Exception No. 72

Petitioners take exception to FOF 218 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 218 states:

Related to the last point is Petitioners' claim that the top of the MCU (i.e., bottom of the UFAS) is incorrectly represented in SDI's SEAWAT models at 450 feet below sea level (approximately 425 feet below land surface). They point to literature values indicating that the depth to the MCU is up to 150 feet greater. However, these reports did not include site-specific data or test wells in the vicinity of the Area IV Wellfield or in northern Brevard County. It was reasonable to consider and rely on site-specific information regarding the depth to the MCU in this case.

Petitioners take exception to this finding by adopting their exceptions to FOFs 86-92. The remainder of the exception attempts to reargue the evidence. The finding is supported by competent substantial evidence, and the Board concurs with the ALJ's

ultimate finding in this FOF. (T:3427, 4887). In addition, the exception is rejected for the reasons set forth in the Board's rulings on Exception Nos. 13 through 17.

Petitioners' Exception No. 73

Petitioners take exception to FOF 219 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. In this exception, Petitioners simply adopt their exception to FOF 218. For the reasons set forth in its ruling on Exception No. 72, this exception is rejected. In addition, this finding is supported by competent substantial evidence. (T:789, 3317, 3426, 4103-4; City Ex. 86; City Ex. 305 at 27, 50, 93-94, 98-99, 108, 118).

Petitioners' Exception No. 74

Petitioners take exception to FOF 220 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. For the reasons, described below, the exception is rejected.

FOF 220 states:

The lithologic log for well site 1 indicates the presence of gray/tan limestone between 450 to 460 feet below land surface and light/gray limestone and dolomitic limestone from 460 to 470 below land surface. The lithologic log for well site 3 indicates the presence of tan dolomitic limestone from 450 to 460 feet below land surface and tan limestone and dolomitic limestone from 460 to 470 feet below land surface. According to Petitioners' own expert, Dr. Missimer, the change to a mixture of limestone and dolomite is evidence of the MCU. After examining the video log for well site 1, Dr. Missimer noted a "lithologic change" at 477 feet below land surface (while still disputing BFA's conclusion that the MCU started there).

In this exception, Petitioners simply adopt their exception to FOF 218 and essentially are requesting that the Board reinterpret the testimony of one of Petitioners' expert witnesses. The finding is supported by competent substantial evidence. (T: 3826-4100, 4103-04; City Ex. 305 at 93-94, 736.II.4). In addition, the exception is rejected for the

reasons set forth in the Board's ruling on Exception No. 72. Finally, the Board may not, and declines to, reinterpret the evidence presented to the ALJ.

Petitioners' Exception No. 75

Petitioners take exception to FOF 221 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Petitioners take exception to this finding only by adopting their exception to FOF 218 and rearguing the evidence regarding the City's groundwater modeling, testing program and flow zones. For the reasons described below, the exception is rejected.

FOF 221 states:

One characteristic of the MCU is a lower resistivity. At well site 1, a reduction in resistance occurred at approximately 470 feet below land surface. Another characteristic of penetrating the MCU is decrease in flow. The flow meter log for well site 1 suggests a decrease in flow at approximately 450 feet below land surface.

This finding is supported by competent substantial evidence. (T:771-72, 802-03, 3826-27; City Ex. 305 at 108). In addition, the exception is rejected for the reasons set forth in the Board's ruling on Exception No. 72 (FOF 218). Finally, the Board may not, and declines to, reinterpret the evidence presented to the ALJ.

Petitioners' Exception No. 76

Petitioners take exception to FOF 222 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. For the reasons described below, the exception is rejected.

FOF 222 states:

On the other hand, it also is true that wells drilled completely into the MCU probably would not produce more than approximately 5 gallons per minute (gpm), whereas the packer test at the bottom of Wellsite 1 was yielding 25 gpm, and the packer test at the bottom of Wellsite 3 was producing 85 gpm. It is

possible that the bottom packers were open to both the UFAS and the MCU, which could explain the higher flows.

Petitioners take exception to this finding only by adopting their exceptions to FOF 86-92 and contending that this finding is “inconsistent with the conclusions of the source of the low quality water contained in Finding of Fact 210 and 216.” This finding is supported by competent substantial evidence. (T: 225-26, 816, 1053-55, 1383-85, 2668-70; City Ex. 62, City Ex. 305 at 27, 50, 63, 83-84, 88-89, 98, 108). Petitioners adopt their exceptions to FOFs 86-92 (Exception Nos. 12, 13, 14, 15, 16, and 17) and these are ruled upon elsewhere. Given that there was competent substantial evidence to support the location of the MCU as found by the ALJ, the ALJ’s findings are not inconsistent as Petitioners contend.

Petitioners’ Exception No. 77

Petitioners take exception to FOF 223 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. They take exception only by adopting their exceptions to FOFs 200, 208, 210 and 214 and rearguing the sufficiency of the City’s modeling. For the reasons, described below, the exception is rejected.

FOF 223 states:

Petitioners maintain that BFA stopped drilling too soon (500 feet below land surface, or 475 feet below sea level) to ascertain the actual depth to the MCU. While it is true that drilling deeper would have made BFA’s determination as to the depth to the MCU more convincing and certain, BFA’s approximation of the depth to the MCU was reasonable for purposes of SDI’s SEAWAT model.

This finding is supported by competent substantial evidence. (T:225-26, 757-58, 794, 796-97, 1053-55, 2668-70, 3427-29, 3610-12; City Ex. 62; City Ex. 305 at 27, 50, 63, 83-84, 88-89, 98, 108).

Petitioners reference their exceptions to FOFs 200, 208, 210, and 214, which have been ruled upon elsewhere.

Petitioners' Exception No. 78

Petitioners take exception to FOF 224 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

FOF 224 states:

To the extent that BFA might have been wrong on the depth to the MCU, there was no convincing evidence that the error would have made SDI's SEAWAT model results unreliable. To the contrary, Dr. Huyakorn testified that, even if SDI put the MCU 75 feet too high, the label given to the interval is not critical to the reliability of the modeling results. More important are the parameters for transmissivity and leakance assigned to aquifers and confining units. Dr. Huyakorn testified that, given the aquifer parameters assigned to the intervals, SDI's SEAWAT modeling results would be reasonably reliable.

This finding is supported by competent substantial evidence. (T:1923-29). In the exception, Petitioners seek to reargue the evidence and, as noted previously, the Board may not, and declines to, reinterpret the evidence presented to the ALJ.

Petitioners' Exception No. 79

Petitioners take exception to FOF 228-230 by adopting their exceptions to FOFs 133-136, 200, 208, 210 and 214 and contend "there is no competent evidence to support a finding that a four day APT, even pumping at high rates, provides a reliable basis to assessing the long-term impacts from of pumping from a municipal wellfield." For the reasons, described below, the exception is rejected.

FOF 228 states:

The evidence was sufficient to provide reasonable assurance that the proposed consumptive use from the Area IV Wellfield will not cause significant saline water

intrusion; further aggravate currently existing saline water intrusion problems; induce significant saline water intrusion to such an extent as to be inconsistent with the public interest; or harm the quality of the proposed source of water.

FOF 229 states:

First, the long-term constant rate pump tests, which were conducted as part of the APT, give some indication of the potential for saltwater intrusion. While only one well was pumping during the tests, water quality did not degrade at pumping rates that far exceeded what would be approved as part of the proposed permit. During four-day pump tests in which the wells at sites 1 and 3 were pumped at approximately 1 mgd, chlorides never exceeded approximately 74 mg/l.

FOF 230 states:

Second, while (as with drawdown predicted by the groundwater flow modeling) saltwater movement predicted by the City's SEAWAT simulations is not a certainty, the simulations gave reasonable assurance that the requested allocation could be withdrawn from the Area IV Wellfield without excessive changes to water quality (specifically chlorides) and that there is an adequate thickness of freshwater at the Area IV Wellfield that could supply the requested allocations of water for 15 years without saline water intrusion, especially since it is unlikely that a number of the wells will actually be constructed to the 250-foot depth assumed in the model, particularly as one moves south along the railroad right-of way.

Although labeled as a finding of fact, FOF 228 is a conclusion of law. Battaglia Properties v. Fla. Land and Water Adjudicatory Commission, 629 So.2d 161, 168 (Fla. 5th DCA 1994). The conclusion of law is within the Governing Board's substantive jurisdiction and, therefore, may be rejected or modified in accordance with section 120.57(1)(l), F.S. FOF 229 is a finding of fact.

FOFs 229 and 230 are supported by competent substantial evidence. (T:811-12, 824-25, 1167-71, 1203-07, 1827-31, 1903-07, 5954-63, 2746-48, 2988-90, 3843-44 5954-63). Based on its review of the record and the ALJ's findings in FOFs 229 and 230, the Board concurs with the conclusion of law in the paragraph labeled FOF 228.

Petitioners reference their exceptions to FOFs 133-136, 200, 208, 210, and 214, which were ruled upon elsewhere.

Petitioners' Exception No. 80

Petitioners take exception to FOF 231 because “[i]t is inappropriate to evaluate the anticipated impacts of a multi-million dollar wellfield based upon approximately two years of withdrawals.” Because Petitioners did not identify a legal basis for the exception, the Governing Board need not rule on the exception. Section 120.57(1)(k), F.S. Nevertheless, for the reasons described below, the exception is rejected.

FOF 231 states:

Third, it is even more unlikely that saltwater intrusion will occur before the proposed permit expiration in 2010. Due to the time required to construct the facility, it is anticipated that the Area IV Wellfield will become operational in 2009. Assuming the City seeks to renew the permit, there would be more information on saltwater intrusion for the District to consider on permit renewal.

This finding is supported by competent substantial evidence. (T:1203, 2423-25, 2746-47, 2760, 3485-86; City Ex. 26, 150, 291).

Petitioners appear to be re-arguing their position that the District should evaluate saltwater intrusion for a period longer than the duration of the permit. The City requested a permit duration through December 31, 2010. (T:3107; City Ex. 291). To demonstrate compliance with the permitting criteria, applicants must provide reasonable assurance for the duration of the permit. (T:3158-59; 3482-83). Even so, in this case, the City’s SEAWAT model indicates that there would be no significant saltwater intrusion for at least 15 years, based on the requested allocation of 2.75 mgd (rather than the lower allocation recommended by the ALJ). (T:2746-47, 2760; City Ex. 150; FOFs 198-201, 230).

In this exception, Petitioners reference their exception to COL 281 (Petitioners’ Exception No. 92), which is ruled upon elsewhere.

Petitioners' Exception No. 81

Petitioners take exception to FOFs 240, 241, and 242 on the grounds that they are not supported by competent substantial evidence. For the reasons described below, the exception is rejected.

FOF 240 states:

Contrary to Petitioners' contentions, the District's rules do not require that an applicant own the property where the proposed production wells or monitoring wells are to be located. The District has issued many CUPs where either the subject property or the property associated with the monitoring requirements of the permit are not owned by the applicant. Recent examples include the CUPs for Orange County Utilities and the Orlando Utilities Commission. This makes sense when the applicant has the power of eminent domain or some other credible means of obtaining necessary ownership or control, such as an option contract.

FOF 241 states:

The District's permit application form has a section that requires the applicant to identify who owns or controls the land on which the facility will be located. The District uses this information for noticing and contact information. Contrary to Petitioners' contentions, this section of the permit application form is not intended to create a substantive permitting standard requiring property ownership before a consumptive use permit can be issued.

FOF 242 states:

Petitioners argue that proof of ownership or control is necessary to determine whether a drawdown from a proposed water use will adversely affect stages or vegetation on lands other than those owned, leased, or otherwise controlled by the applicant. However, the evidence was that these impacts can be assessed based on the facts of this case.

These findings are proper and are based on competent substantial evidence. (T:161-62, 2420-42, 2763, 3080-81, 3466-67, 3517-19).

In each of these findings, the ALJ acknowledges that his finding is contrary to Petitioners' position. Thus, Petitioners appear to be stating their disagreement with District rules rather than making exceptions in accordance with Section 120.57(1)(k),

F.S. In fact, there is nothing in Chapter 373, F.S., Chapter 40C-2, F.A.C., the Applicant's Handbook, or the application form (Form 40C-2-1082-1) that requires the applicant to have ownership or control of the property prior to issuance of a permit. For example, the application form contemplates that the applicant might not have ownership or control and therefore includes separate information blocks for the "applicant" and "owner." In another example, Section 373.2235, F.S., states that a CUP applicant can "elect" to acquire a wellfield before obtaining a CUP, which naturally means that an applicant can choose not to acquire the site before obtaining the CUP.

An applicant must be able to implement the permit. Otherwise, the applicant has not demonstrated that it needs the permit. (T:3518-19). In this case, the City will be able to obtain the necessary property interests by exercising its condemnation authority (if it is unable to negotiate a transaction). (T: 3518-19; Section 180.22, F.S.). For whatever reason, the City has chosen to seek the permit before commencing eminent domain proceedings. In another case, a city obtained a consumptive use permit from the District before condemnation proceedings in order to demonstrate that the use of eminent domain was for a public purpose. City of Cocoa v. Holland Properties, Inc., 625 So. 2d 17, 20 (Fla. 5th DCA 1993).

In this exception, Petitioners reference their exception to FOF 247 (Exception No. 84), which is ruled upon elsewhere.

Petitioners' Exception No. 82

Petitioners take exception to FOF 243 on the grounds that the last sentence is not supported by competent substantial evidence. For the reasons described below, the exception is rejected.

FOF 243 states:

The City's need to eventually obtain ownership or legal control to exercise the rights granted by the proposed CUP may be problematic in this case and is a factor to be considered in the next two issues raised and maintained by Petitioners: whether the Area IV Wellfield is an economically feasible option; and whether the City has provided reasonable assurances that its project can become operational before the expiration date of the proposed permit. *But it is not a reason to automatically deny the City's proposed CUP.* (Emphasis added.)

Petitioners object to the last sentence, which is supported by competent substantial evidence. (T:2420-42, 2763, 3080-81, 3466-67, 3517-19).

Petitioners argue that the District should consider the fact that obtaining ownership may be problematic when determining whether the project is consistent with the public interest and whether it can be implemented within the permit duration. The exception is confusing because the ALJ did not state that the District did *not* consider how the City would obtain ownership or control of the areas needed to implement the permit. Rather, the ALJ finds that the fact that obtaining ownership or control may be problematic "is not a reason to automatically deny the City's proposed CUP."

Ownership or legal control is not listed among the reasons for denial under Rule 40C-2.301(5), F.A.C., and Section 9.4, A.H.

An applicant must be able to implement the permit. Otherwise, the applicant has not demonstrated that it needs the permit. (T:3518-19). The record contains evidence regarding the District's consideration of how the City would obtain ownership or control of the property necessary for the permit. (T:161-62, 2420-42, 2763, 3080-81, 3466-67, 3517-19).

Petitioners' Exception No. 83

Petitioners take exception to FOF 244 for the reasons set forth in their exceptions to COLs 277 through 279 (Exception No. 90), which have been ruled on elsewhere. Rather than set forth a proper legal basis for this exception, Petitioners argue that the finding is "ill-conceived." Although the Governing Board need not provide a ruling (Section 120.57(1)(k), F.S.), the exception is rejected for the reasons below.

FOF 244 states:

Petitioners argue that the proposed Area IV Wellfield is too expensive and that the expense should be a factor in deciding whether it is in the public interest. But cost to the City is not a factor in determining whether to issue the CUP proposed in this case. Statutes and rules cited by Petitioners on this point do not apply to this CUP determination. See Conclusions of Law 277-279, infra.

As the ALJ pointed out, Petitioners argued at trial that the cost of the wellfield should be considered by the District when determining whether a consumptive use is consistent with the public interest. The Board finds that the ALJ properly rejected that argument for the reasons set forth in the rulings on Petitioners' Exception No. 90 (to COLs 277 through 279) and No. 98 (to COLs 301 through 303).

Petitioners' Exception No. 84

Petitioners take exception to FOF 247 on the grounds that it is not supported by competent substantial evidence. For the reasons described below, the exception is rejected.

FOF 247 states:

In an imprecise way, the time for eminent domain proceedings necessary to gain ownership or control of land for monitoring sites and wetland augmentation (without time for litigation of a contest over the legality and extent of the FEC easement, or for using eminent domain instead) was factored into the time estimated for implementation of the project. With this rough estimate, the evidence was that the project could be expedited and completed in 33 months

from issuance of a CUP. It is possible but not probable that the project could be implemented in less than 33 months. It is possible and more probable that it will take longer than 33 months to implement the project. In a worst case scenario, it could take as much as 59 months complete the project. But 33 months is a reasonable, if optimistic, estimate (without time for litigation of the legality and extent of the FEC easement, or for using eminent domain instead).

There is competent substantial evidence to support this finding. (T:339-40, 954-7, 2423-5, 2473-7, 2489-90, 2497-8, 2500-1; City Ex. 26).

As acknowledged by the ALJ, there is some uncertainty associated with the predictions for the time required to implement the project. The duty of the ALJ is to take all the evidence, sift and weigh it, and reach a conclusion regarding what is established by the preponderance of that evidence. Ultimately, the ALJ concluded that the evidence showed that the project could be implemented in 33 months from issuance of the CUP. The Board may not disturb this finding.

Petitioners' Exception No. 85

Petitioners take exception to FOFs 250, 251, and 252 on the grounds that there is no competent substantial evidence to support an inference that Petitioners make from these three findings. Petitioners claim that these findings suggest the conclusion that the priority water resource caution area designation "should not be considered during the permitting process." The exception is confusing, as it is directed to a finding that does not exist. In any event, the Board has tried to provide rulings where feasible, and the exception is rejected for the reasons described below.

FOF 250 states:

As part of its water supply planning process, the District designates priority water resource caution areas. A priority water resource caution area is an area where existing and reasonably anticipated sources of water and water conservation efforts may not be adequate to supply water for all existing legal uses and

anticipated future needs and to sustain the water resources and related natural systems.

FOF 251 states:

The area surrounding the Area IV Wellfield was designated as a priority water resource caution area in the District's 2003 Water Supply Assessment and 2005 Water Supply Plan based on groundwater modeling prepared by District planning staffing using the ECF and Volusia County Regional Models.

FOF 252 states:

The fact the Area IV Wellfield is located in a priority water use caution area does not mean a consumptive use permit cannot be issued for this facility. In fact, over one-third of the District is located within a priority water resource caution area, and permits continue to be issued in those areas. Rather, the essence of the designation is the recognition of a concern, based on the regional models, that the proposed consumptive use of water might violate the wetland and lake constraints and that water resources other than fresh groundwater will be needed to supply the expected need for water in the area and in the District over the next 20 years. That does not mean that no additional groundwater withdrawals should be permitted in a designated area. Rather, it means that other resources should be developed and used along with whatever remaining additional fresh groundwater can be permitted. It is not an independent reason, apart from the permitting criteria, to deny the City's application.

This finding is supported by competent substantial evidence. (T:2858-60, 3485-90², 4982-83; City Ex. 537; Pet. Ex. 277).

Petitioners complain that there is no discussion in the Recommended Order about how the priority water resource caution area designation should be considered by the District during the permitting process. Section 373.0361(6), F.S., provides as follows:

...Except as provided in s. 373.223(3) and (5),³ the [regional water supply] plan may not be used in the review of permits under part II unless the plan or an applicable portion thereof has been adopted by rule. However, this subsection does not prohibit a water management district from employing the data or other

² Line 20 of page 3487 of the hearing transcript references Section 373.0369, F.S. That statute does not exist. The citation should be to Section 373.0361, F.S.

³ Sections 373.223(3) and (5), F.S., are not applicable in this case. (T:3488).

information used to establish the plan in reviewing permits under part II, nor does it limit the authority of the department or governing board under part II.

The District's water supply plan addresses permitting requirements and reiterates the constraints imposed by statute on its use in the District's review of CUP applications. (City Ex. 537 at 75-76 [marked as 90-91]). The water supply plan has not been adopted by rule. (T:3498-99). To the extent Petitioners are asking the Board to make additional findings of fact, it is prohibited from doing so. Section 120.57, F.S.; Fla. Power & Light, 693 So.2d at 1026-27.

Petitioners' Exception No. 86

Petitioners take exception to FOF 253 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S.

FOF 253 states:

Petitioners contend that the proposed CUP for Area IV includes an impermissible modification of the existing CUP for Areas II and III because "Other Condition" 5 limits average annual withdrawals from the Area II, III, and IV Wellfields, combined, to 5.79 mgd in 2009 and 6.01 mgd in 2010. (As indicated, the limitations would have to be reduced to no more than 5.2 mgd based on the more reasonable projected need.) However, the City's current CUP for the Area II and III Wellfields expires in February 2008, which is before the Area IV Wellfield would become operational, so that "Other Condition" 5 will have no practical effect on the existing CUP for Areas II and III. In essence, "Other Condition" 5 serves to advise the City that it should not view the allocation for the Area IV Wellfield in addition to the City's existing allocations for the Area II and Area III Wellfields and that any renewal of the existing CUP for Areas II and III will have to take the Area IV allocation into account.

Petitioners' exception contends that:

[t]o the extent that Paragraph 253 of the Recommended Order purports to approve Other Condition 5 of the revised TSR (although with lower limitations), such action exceeds the ALJ's authority in this proceeding.

This finding is supported by competent substantial evidence. (T:354-55, 2739-41; City Ex. 201, 291). Moreover, the Board concurs that “Other Condition 5” does not constitute a modification of the City’s current CUP for Areas II and III.

Petitioners’ Exception No. 87

Petitioners take exception to FOFs 256 and 257 on the grounds that the sentence “Petitioners did not prove those allegations” in FOF 257 is not based on competent substantial evidence. For the reasons described below, the exception is rejected.

FOF 256 states:

As found, Miami Corporation owns property immediately adjacent to the proposed Area IV Wellfield, and Ms. Clark owns property a little more than a mile away. Both alleged and attempted to prove that SAS drawdown from the proposed CUP would degrade wetlands on their property and interfere with their legal use of groundwater, and that saline intrusion from the proposed CUP would degrade the water quality of the UFAS resource which they use for potable water.

There is competent substantial evidence to support this finding. (Clark 12/05 at 22, 33, 53, 78; Pet. Ex 170, 198, and 199; City Ex. 39).

FOF 257 states:

As found, *Petitioners did not prove those allegations*; however, the evidence was that both Petitioners have substantial interests (the quality of water in the aquifer from which their wells withdraw water and wetlands on their property) that would be affected by the proposed CUP at least to some extent. (Emphasis added.)

There is competent substantial evidence to support this finding; that is, there was evidence for the ALJ to conclude that the consumptive use would not (a) cause drawdown of the surficial aquifer such that wetlands on Petitioners’ property would be degraded, (b) interfere with Petitioners’ legal use of groundwater, and (c) degrade the water quality of the upper Floridan aquifer on Petitioners’ property. (T:2746, 2754-55, 2758-61, 3066-

69, 3070; City Ex. 153B, 169, 291). In support of their exception, Petitioners argue that they *did* prove the allegations in FOF 256 “for all the reasons set forth in Petitioners’ Proposed Recommended Order.” First, in ruling on exceptions, the Board is not obligated to comb through the Proposed Recommended Order to find support for Petitioners’ exception. Second, by referring to the entire Proposed Recommended Order, Petitioners are clearly rearguing their case. Much of the administrative hearing process focused on the issues in FOF 256. In any adversarial proceeding, conflicting evidence will be presented. The duty of the ALJ is to take all the evidence, sift and weigh it, and reach a conclusion regarding what is established by the preponderance of that evidence.

Petitioners’ Exception No. 88

Petitioners take exception to COL 264 on the grounds that the “omission in Conclusion of Law 264 of the reference to ‘economic’ utilization is material and significant given the issues in this case.” Petitioners point out that under Section 10.3(a), A.H., the Board is to determine whether a proposed water use is “in such quantity as is necessary for economic and efficient utilization.” While the Board agrees with Petitioners’ statement of the rule, the Board disagrees that the omission is material and significant under the facts of this case. The exception is denied, and the Board declines to modify or reject this conclusion of law for the reasons set forth below.

COL 264 states:

Under Rule 40C-2.301(4)(a) and A.H. Section 10.3(a), the District considers: (1) whether there has been a demonstration of need for the water requested; and (2) whether the requested amount of water will be used efficiently.

Section 40C-2.301(4)(a), F.A.C., provides that a proposed use of water “must be in such quantity as is necessary for economic and efficient utilization.” Similarly, the

Applicant's Handbook under Section 10.3, A.H., states that for a use to be considered reasonable-beneficial:

- (a) the use must be in such quantity as is necessary for economic and efficient utilization. The quantity applied for must be within acceptable standards for the designated use (*see Section 12.0 for standards used in evaluation of need/allocation*). (Emphasis added.)

Section 10.3(a), A.H. The ALJ correctly set forth this criterion both in COL 262 and in the heading directly above this COL. Sections 12.2-12.2.4, A.H., in turn set forth how compliance with this criterion may be demonstrated with regard to public supply type uses. For these types of uses, the District looks to the amount of water requested for each person in a projected population in determining whether the water will be used efficiently. (T: 3470-71; FOF 41). The quantity of water that is being requested for the demonstrated need has to be an amount that would supply the needs of what is being requested if it was used efficiently. (T:3468-69). As discussed further in the Board's rulings on Petitioners' Exception No. 90 below, the ALJ's interpretation of section 10.3(a), A.H., is consistent with the interpretation by the drafters of the term "reasonable-beneficial use," which states that economic efficiency is directed at whether the quantity of water requested is used in the most efficient manner with respect to the use itself and is not directed at the pecuniary costs to the user. Frank E. Maloney, et al., A Model Water Code at 170-71, Gainesville: University of Florida Press (1972); F. Maloney, et al., Florida's "Reasonable-Beneficial" Water Use Standard: Have East and West Met?, 31 Fla. L. Rev. 253, 269 (Winter 1979) (the term does not require a water use to be the most economical use).⁴

⁴ The Model Water Code was the archetype of Chapter 373 and the authors drafted the statutory language. F. Maloney, 31 Fla. L. Rev. at 275; R. Ausness, The Influence of the Model Water Code On Water Resources Management In Florida, 3 J. of Land Use & Envtl. L. 1, 18 (1987); R. Ausness, Water

The District does not consider costs or economic feasibility under Rule 40C-2.301(4)(a) or Section 10.3(a), A.H. Rather, economic feasibility is addressed in the reasonable-beneficial criterion under certain District rules regarding whether water conservation measures (Rule 40C-2.301(4)(e), F.A.C.), reclaimed water use (40C-2.301(4)(f), F.A.C.), and lowest acceptable quality water source (40C-2.301(4)(g), F.A.C.) are not economically feasible. Outside the context of these specific rules, costs are not a consideration under current District permitting requirements.

There is competent substantial evidence in the record to support this conclusion of law. (T: 3468-71).

Petitioners' Exception No. 89

Petitioners take exception to COL 272 on the grounds that it is “contrary to applicable law, contrary to sound policy, and contrary to common sense.” They contend that the Recommended Order fails to explain why the water that the City could buy from Cocoa under contract “should not be counted as part of the ‘Applicant’s requested quantity’ while the water the City of Titusville pumps from its existing wellfields should be thusly counted.” In essence, Petitioners are arguing that the Board in its determination of the City’s need for water should take into account in the same manner the amount of water available to the City (a) from its existing wellfields and (b) under its contract with the City of Cocoa. By not doing so, Petitioners argue the Board would be taking the water available to the City under its contract with Cocoa “out of the pool for other potential users.” The exception is denied for the reasons set forth below.

COL 272 states:

Rights Legislation In The East: A Program For Reform, 24 William & Mary L. Rev. 547, 557 n. 58 (1983); Southwest Florida Water Management Dist. v. Charlotte County, 774 So. 2d 903 (Fla. 2d DCA 2001) (the court used the Model Water Code to interpret Part II of Chapter 373).

Contrary to Petitioners' contention, the District's rules do not require the City to meet either its existing or future demands from water supplied by the City of Cocoa before it can develop its own supplemental source. There is nothing in A.H. Section 12.2 implying that the amount of water the City can buy from Cocoa under contract, even the take-or-pay portion of the contract, should be counted as part of "the applicant's requested quantity" to be compared to the amount of water required for reasonable-beneficial uses. Assuming that the other permitting criteria are met, the City may receive a CUP to supply its reasonable-beneficial uses without reference to Cocoa water. If such a CUP is granted to the City of Titusville, Cocoa's reasonable-beneficial use would decline accordingly.

Given the factual findings in this case, the Board disagrees with Petitioners for several related reasons. First, under the District's rules, the fact that the City of Cocoa obtained an allocation based on plans to provide water to the City of Titusville does not categorically preclude the City of Titusville from developing its own supply or require it to use existing third-party sources. (T:2696). Second, based on the evidence and the ALJ's finding in FOF 63, it can be reasonably inferred that the ALJ considers water from Cocoa to not be guaranteed and that the amount of water provided to the City could decline further. Under the ALJ's interpretation of the contract, the City of Titusville can opt out of the contract before water from the Area IV Wellfield becomes available for use simply by providing timely notice of its intent to terminate the contract. Third, in this instance, the entity withdrawing the water addressed in the City's bulk water contract is the City of Cocoa, not the City of Titusville. Issuance of a consumptive use permit for the Area IV Wellfield could affect the need demonstrated by the City of Cocoa and the Board could modify the City of Cocoa's allocation. (T:3510-11). This could be done, for example, as a result of a five-year compliance review. (T:3528). Finally, Petitioners' assertion that it is unsound policy to take water available to the City under its contract with Cocoa "out of the pool for other potential users, but fail to take it into consideration

as a portion of Titusville's available supply" is based on an incorrect factual premise. As the ALJ explained in COL 273, the District did take the Cocoa water into account in "Other Condition" 5 of the second amended TSR (City Ex. 291), by reducing the City of Titusville's combined allocation from Areas II, III, and IV by an amount equivalent to the quantity provided by Cocoa. Notably, Petitioners did not take exception to COL 273.

Petitioners rely on the case of West Coast Regional Water Authority v. Southwest Florida Water Management District (DOAH Case Nos. 84-2653 – 2654; Recommended Order 7/26/85, Final Order 9/4/85) to support their position. However, in that case the ALJ made very different factual findings which in turn led to different legal conclusions. The West Coast Regional Water Authority case involved two CUP applications by two separate entities, an individual and a regional water supply authority, to provide water to Pasco County. At the start of that case, Pasco County already had three sources of public water supply: a wellfield owned by one of the applicants, their own 13 permitted wells, and a contractual arrangement with Pinellas County to supply up to 10 mgd on demand. The parties admitted that existing sources of water were sufficient in raw quantity to satisfy Pasco County's demands through 1990. The ALJ found that (a) the amount of water available to Pasco County in 1985 from these existing sources was 21.5 mgd on an annual average basis and exceeded the County's need, based upon per capita use and estimates of population growth for that year, by 10.2 mgd ⁵and (b) that supply from these sources would continue to exceed the County's average annual water demand until 1995. Moreover, the water supply contract between Pinellas and Pasco counties was not placed into evidence and no evidence was presented as to whether Pasco County was either able to or desired to

⁵ This amounts to a redundancy or reserve capacity of 90%.

eliminate or change its contract with Pinellas County. A close reading of the entire paragraph quoted by Petitioners shows that the hearing officer presumed that SWFWMD considered the contractual arrangement when it issued the CUP covering the source of that water because the contract was not placed into evidence and no other evidence was presented that Pasco County could or wanted to terminate or modify the contract.⁶ Therefore, the CUP applicants in that case failed to demonstrate need for additional water. By stark contrast, in the instant case, the ALJ found in FOFs 61 and 62 that the City needed additional water beyond what Areas II and III could provide, and the City presented evidence that its contract with Cocoa can be terminated. (FOF 61-62; City Ex. 313).

Petitioners' Exception No. 90

Petitioners take exception to COLs 277, 278, and 279 because they believe that the District should consider costs to the City and its customers when determining whether the consumptive use is economic and efficient and consistent with the public interest. The Governing Board need not provide a ruling because Petitioners fail to take exception in conformance with Section 120.57(1)(k), F.S. Nevertheless, for the reasons below, the Board rejects the exception.

⁶ The paragraph states:

It is further argued that Pasco County desires to reduce its reliance on the Pinellas County contract and gain control of its own destiny with respect to adequate and affordable water supplies. It is urged that the concept of "need" includes more than raw quantity and that environmental and economic considerations must be included. However, there is no evidence to demonstrate that the Pinellas County supply is either inadequate, undependable, uneconomical or presents adverse environmental effects. It must be presumed that the District took into consideration the 10 mgd entitlement of water to Pasco County when it issued the CUP covering the source of that water [to Pinellas County]. There is no competent substantial evidence that the Board of County Commissioners of Pasco County intends to formally rescind or eliminate all or any portion of this contractual arrangement with Pinellas County. Should the District ignore this source of water to Pasco County and, at the same time, allow it to be preempted from other uses? To do so would be to disregard its responsibility to provide for the "management" of water resources and the "conservation" and "proper utilization" of groundwater. (Emphasis added). West Coast Regional Water Authority at COL 37.

Because this exception is so similar to Petitioners' exception number 98, some context may be helpful. To demonstrate compliance with consumptive use permitting criteria, an applicant must show that a proposed use of water (1) is a reasonable-beneficial use, (2) will not interfere with presently existing legal users, and (3) is consistent with the public interest. Section 373.223, F.S. In this exception, Petitioners object to the portion of the Recommended Order that addresses the first item – reasonable-beneficial use. To be considered reasonable-beneficial, a use must be in such quantity as is necessary for economic and efficient utilization. Rule 40C-2.301(4)(a), F.A.C. As acknowledged by the ALJ in COL 277, Petitioners believe that cost to the City and its consumers should be part of the analysis for compliance with Rule 40C-2.301(4)(a), F.A.C.

COL 277 states:

Petitioners contend that the City's proposed use of water is not economic and efficient because there are ways to obtain the water that would be less expensive for the City and its customers. Regardless whether Petitioners' contention is factually correct, the cost to the City and its customers is not relevant to a determination whether a use is economic and efficient under A.H. 12.2.2.

COL 278, which is lengthy, states in part:

The legislative history of the Florida Water Resources Act demonstrates the Legislature did not intend the type of economic comparisons urged by the Petitioners as a component of consumptive use permitting. ... The commentary does not suggest any legislative intent that the reasonable-beneficial test requires applicants to demonstrate they are pursuing the lowest cost option for the providing water.

COL 279 states in part:

When the Legislature specifically intends an administrative agency to perform the type of comparative economic analysis urged by the Petitioners, it explicitly defines such a requirement in the legislation. ... By contrast, no such specific requirement of a comparative economic analysis exists in the statutory or regulatory criteria for the issuance of a consumptive use permit by a water

management district; thus, there is no statutory basis for requiring the City to perform any comparative economic analysis as a prerequisite to obtaining the requested CUP, and the City has provided reasonable assurance that the allocations demonstrated to be needed will be used economically and efficiently.

The Board finds that the ALJ's conclusions are proper and that there is competent substantial evidence to support the conclusions. (T:3467-68, 3480, 3483-84, 3525-26; City Ex. 291).

Petitioners' Exception No. 91

Petitioners take exception to a portion of COL 280 on the grounds that it is "in fact a Finding of Fact not supported by competent substantial evidence." The exception is denied for the reasons set forth below.

COL 280 states:

In compliance with Rule 40C-2.301(4)(b), and A.H. Section 10.3(b), the City has provided reasonable assurance that the proposed use is for a purpose that is reasonable and consistent with the public interest. The requested allocation of 2.75 mgd of groundwater is largely for household and commercial uses that are considered to be purposes that are both reasonable and consistent with the public interest. *The possible use of up to 0.18 mgd of groundwater for wetland hydration and aquifer recharge is both reasonable and consistent with the public interest because this use of water serves to avoid impacts to wetlands that may occur from the development of the proposed Floridan wellfield.* This use of surficial aquifer groundwater makes it possible to withdraw higher quality groundwater from the Floridan aquifer for household and commercial uses.

The portion to which Petitioners take exception is italicized in the text above. The Board finds that this portion of the COL is not a finding of fact, as Petitioners contend, but is an "ultimate fact" lying in the realm of policy opinion rather than ordinary fact.

Berry, 530 So.2d at 1022; Baptist Hosp., Inc. v. State Dep't of Health & Rehab. Serv., 500 So.2d 620, 623 (Fla. 1st DCA 1986). The distinction between ordinary facts and ultimate facts has been described as:

. . . a distinction should be drawn between historical, objective, or “hard” facts, on the one hand, and ultimate factual determinations, on the other. The former are susceptible to proof by conventional methods. With regard to this kind of fact, the evidence may be hotly contested and highly in conflict, but in the end, the light was either red, yellow, or green. An ultimate factual determination, in contrast, is often a conclusion derived by reasoning from objective facts; it frequently involves the application of a legal principle or rule to hard historical facts: e.g. the driver failed to use reasonable care under the circumstances and therefore was negligent; and it may be infused with policy considerations. Reaching an ultimate factual finding requires that judgment calls be made which are unlike those that attend the pure fact finding functions of weighing evidence and choosing between conflicting but permissible views of reality.

Syslogic Tech. Serv., Inc. v. Southwest Fla. Water Mgmt. Dist., 26 F.A.L.R. 1364, 1383 (SFWMD), *dismissed*, 819 So.2d 771 (Fla. 2d DCA 2002). The Sierra Club v. Hines Interest Ltd. Partnership, DOAH No. 99-1907 (SJRWMD 2000) (finding that it is within the Board’s purview to make a determination of whether the public interest test has been met based upon the findings of fact determined by the ALJ).

The remainder of Petitioners’ exception is an attempt to have the Board reweigh the evidence which it may not, and declines to, do. The COL is supported by competent substantial evidence. The ALJ found in FOF 165 that the City’s March 2006 MODFLOW model was the best model in evidence for assessing drawdown impacts and in FOFs 178 and 186 found that under the City’s modeling a withdrawal of 2.75 mgd would not cause an environmental impact. If drawdown is of the magnitude predicted by the City’s (SDI’s) March 2006 MODFLOW model, unacceptable environmental impacts from drawdown would not be anticipated. (T:3067-68; City Ex. 153B, 291; FOF 178). Since the City has given reasonable assurance that there will not be environmental harm from drawdown, the proposed permit does not propose mitigation. (T: 3087; FOF 182). If unanticipated harm is detected, “Other Condition” 24

of the proposed permit requires the City to implement an avoidance and minimization plan to rehydrate the wetlands and restore the water levels to normal levels and natural hydroperiods by augmenting the water in the affected wetlands with water pumped from SAS wells and piped to affected wetlands. (T:3087; City Ex. 291; FOF 182). Based on the predicted drawdown, the City (SDI) estimated the quantity of water needed for implementation of the avoidance and minimization plan to be 0.18 mgd. (T: 1039, 1050-51, 1090-91; City Ex. 98, 106, 112, 115; FOF 184). In addition, the City could, on its own, change its pumping schedules. (T: 3088-89; FOF 182). If an impacted wetland is near a particular well, the City could reduce or shut off water withdrawals from that well and thereby restore water levels in the wetland. (T: 3088-80; FOF 182).

Petitioners' Exception No. 92

Petitioners take exception to COL 281 without stating a legal basis for the exception and, therefore, the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

COL 281 states:

In compliance with Rule 40C-2.301(4)(c), and A.H. Section 10.3(c), the City has provided reasonable assurance that the sources of water are capable of producing the requested amounts of water. First, the long-term constant rate pump tests performed as part of the hydrogeologic investigation of the Area IV Wellfield produced evidence that the freshwater lens in the Upper Floridan aquifer can be utilized for the quantity of water the City requested. During these tests, water quality did not degrade even at pumping rates that exceeded what would be approved as part of the proposed permit. Second, the City's MODFLOW simulation provided reasonable assurance that the requested allocations could be provided without excessive drawdown. Third, the City's SEAWAT simulations provided reasonable assurance that the requested allocations could be provided without excessive changes to water quality and specifically chlorides. A fortiori, reasonable assurance for UFAS withdrawals of 0.75 mgd was provided. As to the surficial aquifer system, the aquifer performance tests performed provided reasonable assurance that this aquifer is capable of producing the 0.18 mgd of water via the surficial aquifer extraction wells for any needed wetland hydration.

Petitioners take exception to this COL only by adopting their exceptions to FOFs 67, 68, 122, 151-153, 160-162, 200, 208, 210 and 228-230 and by extensively rearguing the evidence. Essentially, Petitioners are asking the Board to reconsider their earlier arguments regarding findings of fact (about whether the Area IV Wellfield is capable of producing the requested amount of water), but without any cites to the record to support their requested changes to those findings of fact. The Board disagrees with Petitioners' statement that adoption "of this finding would create a precedent that applicants can rely upon water quality test from APTs run for only a few days to determine whether the proposed source of water is capable of producing the requested amounts of water." In this COL, the ALJ refers to three separate evidentiary sources when concluding that the source (the UFAS at the Area IV Wellfield) is capable of producing the requested amount of water. The first evidentiary source is the 4-day pump tests (which the ALJ, in a harmless error, mis-described as "long-term" pump tests). The second and third evidentiary sources were the City's MODFLOW model (City Ex. 288) and the City's SEAWAT model (City Ex. 293). Based on the ALJ's findings of fact, which are supported by competent substantial evidence, the Board accepts this conclusion of law.

Petitioners' Exception No. 93

Petitioners take exception to COLs 282, 283, 284, 285, and 286 on the grounds that there is no competent substantial evidence to support the conclusion that the City provided reasonable assurance that the environmental or economic harm of the consumptive use is reduced to an acceptable amount. To explain their exception, Petitioners refer to "all of the reasons set forth in Petitioners' exceptions to Findings of Fact 67-231." However, of those 164 findings, Petitioners took exception to only 99 of

them. With respect to the findings to which Petitioners failed to take exception⁷, those objections have been waived. Environmental Coalition of Florida, Inc., 586 So.2d at 1213. For the remaining FOFs, the Board has ruled elsewhere in this Final Order that those findings are based on competent substantial evidence. The Board finds that COLs 282, 283, 284, 285, and 286 are proper.

Petitioners' Exception No. 94

Petitioners take exception to COL 289 only on the grounds that it "contains several mischaracterized Findings of Fact." The exception is denied for the reasons set forth below.

COL 289 states:

In compliance with Florida Administrative Code Rule 40C-2.301(4)(g) and Section 10.3(g), A.H., the City has provided reasonable assurance that the lowest acceptable quality water source is being utilized for the proposed use. The majority of water use under the proposed permit will be for direct human consumption or food preparation. Section 10.3(g), A.H., does not require the use of lower quality sources for direct human consumption or human food preparation unless higher quality sources are unavailable to meet projected demands. See also Marion County v. Greene and SJRWMD, DOAH Case No. 06-2464, SJRWMD Final Order Mar. 13, 2007, at www.doah.state.fl.us, 2007 Fla. Div. Adm. Hear. LEXIS 17 (DOAH Jan. 9, 2007). For uses other than human consumption and food preparation, the City is required to use the lowest acceptable quality water source unless it demonstrates that the use of a lower quality water source would not be economically, environmentally, or technologically feasible. See § 10.3(g), A.H. The applicant is proposing to use the lowest acceptable quality water source available, reclaimed water, for most of these uses and has aggressively implemented reuse of reclaimed water, and continues to expand its reuse system. In addition to reclaimed water, District staff evaluated whether additional lower quality sources are available and feasible for use within the City's service area. It is not feasible to utilize additional lower quality sources of water for the duration of the proposed permit. If more use of lower quality sources of water becomes available, the allocation can be adjusted if necessary during the permit renewal process.

⁷ Petitioners did not take exception to FOFs 71-76, 78-80, 82, 84, 85, 93-96, 103, 107, 108, 111, 112, 115, 117-121, 123, 128-131, 137, 140, 141, 144, 146, 164, 166, 168-177, 183, 184, 188, 190-192, 196, 198, 199, 201, 203, 204, 207, 209, or 225-227.

In this exception, Petitioners again reargue their case and essentially are requesting the Board to reweigh and interpret evidence. The underlying “findings of fact” supporting this COL are supported by competent substantial evidence. (T: 2745-46, 3481-82; City Ex. 291 at 13). Moreover, Petitioners fail to cite to the record to support their argument that “ready alternatives of lower quality are available to the City,” including Taylor Creek Reservoir Project and a Reverse Osmosis Project. In fact, the evidence in the record shows that these projects are not available at this time and the ALJ’s finding in FOF 40, to which Petitioners did not take exception, reflects that he credited this evidence.

(T:124-25, 143-45 2432-39, 2855-58, 640-42).

Petitioners’ Exception No. 95

Petitioners take exception to COL 290 only by adopting their exceptions to FOFs 200, 208, 210 and COL 281 and by referencing their exceptions to FOFs 67-231. The Board notes that Petitioners did not take exception to all the findings between FOFs 67 and 231. Therefore, they have not stated a legal basis for this exception and the Board need not rule on it. Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected for the reasons set forth below.

COL 290 states:

In compliance with Florida Administrative Code Rule 40C-2.301(4)(h) and Section 10.3(h), A.H., the City has provided reasonable assurance that the proposed CUP for the Area IV Wellfield will not cause significant saline water intrusion or further aggravate currently existing saline water intrusion problems. In compliance with Florida Administrative Code Rule 40C-2.301(5)(a)1. and Section 9.4.2, A.H., the City provided reasonable assurance that the proposed use will not induce significant saline water intrusion to such an extent as to be inconsistent with the public interest. A fortiori, reasonable assurance for UFAS withdrawals of 0.75 mgd was provided.

In this exception, Petitioners essentially are requesting the Board to reweigh evidence regarding the adequacy of the City's modeling and to reconsider its rulings on Petitioners' exceptions to the ALJ's findings of fact. The Board declines to do so. Based on the ALJ's findings of fact, which are supported by competent substantial evidence, the Board accepts this conclusion of law.

Petitioners' Exception No. 96

Petitioners' exception to COL 291 states only:

For all of the reasons set forth in Petitioners' exceptions to Finding of Fact 67-231, and to the extent, that this Conclusion of Law finds certain facts, Petitioners except.

Petitioners have not stated a legal basis for this exception and the exception fails to conform to section 120.57(1)(k), F.S. Without a more specific statement for the basis of this exception, the Board declines to rule on this exception. The Board notes that Petitioners did not, in fact, take exception to each finding of fact between FOFs 67 and 231. All of the findings of fact to which Petitioners took exception and that they refer to in this exception are supported by competent substantial evidence as explained in the Board's rulings on those exceptions.

Petitioners' Exception No. 97

Petitioners' exception to COL 293 states only:

For all of the reasons set forth in Petitioners' exceptions to Finding of Fact 67-231, and to the extent, that this Conclusion of Law finds certain facts, Petitioners except.

Petitioners have not stated a legal basis for this exception and the exception fails to conform to section 120.57(1)(k), F.S. Without a more specific statement for the basis of this exception, the Board declines to rule on this exception. The Board notes that

Petitioners did not, in fact, take exception to each finding of fact between FOFs 67 and 231. All of the findings of fact to which Petitioners took exception and that they refer to in this exception are supported by competent substantial evidence as explained in the Board's rulings on those exceptions.

Petitioners' Exception No. 98

Petitioners take exception to COLs 301, 302, and 303 because they believe that the District should consider the economic and financial ramifications of the Area IV Wellfield and its alternatives. Because Petitioners fail to take exception in conformance with Section 120.57(1)(k), F.S., the Board need not provide a ruling. Nevertheless, for the reasons below, the Board rejects the exception.

Because this exception is so similar to Petitioners' exception number 90, some context may be helpful. To demonstrate compliance with consumptive use permitting criteria, an applicant must show that a proposed use of water (1) is a reasonable-beneficial use, (2) will not interfere with presently existing legal users, and (3) is consistent with the public interest. Section 373.223, F.S. In this exception, Petitioners object to the portion of the Recommended Order that addresses the third item – consistency with the public interest. Rule 40C-2.301(2)(c), F.A.C. The public interest analysis contains some overlap with other consumptive use permitting criteria. The District considers whether the use will adversely affect water resources, qualifies as a reasonable-beneficial use, and triggers any of the reasons for denial of the permit (except for reasons for denial that relate to interference with existing legal uses; Section 9.2.3, A.H.). (City Ex. 291). As acknowledged by the ALJ in COL 300, Petitioners

believe that cost to the City and its consumers and the duration of the permit should be part of the analysis for compliance with Rule 40C-2.301(2)(c), F.A.C.

COL 301 states:

The District does not consider such financial interests when determining whether the proposed use is reasonable and consistent with the public interest. See Osceola County v. SJRWMD and South Brevard Water Auth., DOAH Case No. 91-1779, 1992 Fla. ENV LEXIS 83 (SJRWMD Jun. 10, 1992), 1992 Fla. Div. Adm. Hear. LEXIS 5960 (DOAH Mar. 12, 1992). As noted by the District's Governing Board in Osceola County v. SJRWMD, "Cost to the consumer is not a substantive factor considered under District rules in determining whether a proposed water use is reasonable-beneficial or in the public interest, but may be relevant in certain factual instances, ... such as when an applicant contends that water conservation measures, water reuse or use of the lowest acceptable quality water source otherwise required are not economically feasible. See paragraphs 40C-2.301 (4) (e) (f), and (g), F.A.C." (Emphasis added).

COL 302 states:

Thus, there are limited circumstances when the District examines economic feasibility. In Florida Administrative Code Rule 40C-2.301(4)(e), the applicant must establish that all available conservation measures be implemented unless shown not to be economically, environmentally or technologically feasible. In Florida Administrative Code Rule 40C-2.301(4)(f), the applicant must use readily available reclaimed water unless shown that it is not economically, environmentally or technologically feasible. In Florida Administrative Code Rule 40C-2.301(4)(g), for uses other than human consumption and food preparation, the City is required to use the lowest acceptable quality water source unless it demonstrates that the use of a lower quality water source would not be economically, environmentally, or technologically feasible.

COL 303 states:

Except as noted above, nothing in Chapter 373, and nothing in a District rule or policy, requires the District to act as a financial supervisor to the applicant. Therefore, the District need not consider the financial investment of the community in the proposed Area IV Wellfield to determine whether the proposed use is consistent with the public interest.

The Board finds that the ALJ's three conclusions are proper and that there is competent substantial evidence to support the conclusions. (T:3467-68, 3480, 3483-84, 3525-26; City Ex. 291).

Petitioners' Exception No. 99

Petitioners' exception to COLs 304 through 312 states only:

For all of the reasons set forth in Petitioners' exceptions to FOF 67-231, there is no competent substantial evidence that the City has provided reasonable assurances recommended to be found by Conclusions of Law 304-312.

Petitioners have not stated a legal basis for this exception and the exception fails to conform to section 120.57(1)(k), F.S. Without a more specific statement for the basis of this exception, the Board declines to rule on this exception. The Board notes that Petitioners did not, in fact, take exception to each finding of fact between FOFs 67 and 231. All of the findings of fact to which Petitioners took exception and that they refer to in this exception are supported by competent substantial evidence as explained in the Board's rulings on those exceptions.

Petitioners' Exception No. 100

Petitioners take exception to COLs 318, 319, 320, 321, 322, 323, 324, and 325, all of which address Petitioners' assertion that the City does not have ownership or legal control of the property that will be needed to implement the permit. Because Petitioners fail to take exception in conformance with Section 120.57(1)(k), F.S., the Board need not provide a ruling. Nevertheless, for the reasons below, the Board rejects the exception.

In COLs 318 through 325, the ALJ sets forth his conclusions regarding whether the City must demonstrate that it owns or has legal access to the wellfield, monitoring sites, and augmentation sites before it can obtain a consumptive use permit. He concludes that "no permitting criterion in Chapter 373, District rule, or District policy requires the City to have ownership or legal control." The Board concurs with his

conclusions and finds that they are based on competent substantial evidence. (T:3466, 3517-19).

Petitioners also filed an exception to FOFs 240, 241, and 242 (Exception No. 81), which were ruled on elsewhere.

Petitioners' Exception No. 101

Petitioners take exception to COL 331 because they believe that the City has not provided reasonable assurance that the Area IV Wellfield will be operational before the permit expires on December 31, 2010. They refer also to their exception to FOF 247 (Exception No. 84), which was ruled upon elsewhere. For the reasons below, the Board partly grants the exception and partly rejects the exception. COL 331 is modified as follows:

Petitioners take the position that the proposed CUP should be denied if the City cannot provide reasonable assurance that the Area IV Wellfield will be operational before its expiration at the end of 2010, taking into account the time for eminent domain and for litigation over the legality and extent of the City's FEC easement. There are ~~two three~~ reasons why the proposed CUP should not be denied on that ground. First, ~~it is likely that the City will apply to renew both the existing CUP for Areas II and III and the proposed CUP for Area IV.~~ Second, it would be bad policy for CUPs to be denied on the basis of delay resulting from litigation by an opponent of the proposed CUP. Second ~~Third~~, as found, given the reasonable 33-month estimate for implementation (without time for litigation of a contest over the legality and extent of the FEC easement), the CUP would have to be issued by March 2008 to be completed before expiration and probably would be in operation for approximately six months before expiration.

Petitioners state that the City's intent to apply for a permit renewal should not be a factor in determining whether the wellfield will be operational before the permit expires. The Board agrees. As the statutory agency head that grants or denies consumptive use permits, the Board has the authority to reject or modify this conclusion of law. Section 120.57(1)(I), F.S. The ability to implement the permit is related to the

demonstration of need. (T:3519). Whether the findings establish a “need” for a proposed water use is ultimately a legal conclusion for the agency head. Osceola County v. St. Johns River Water Mgmt. Dist., DOAH 91-1048 (SJRWMD 1992). There is competent substantial evidence in the record for the ALJ to infer that the City is likely to request a permit renewal. (T:543-4, 2825). However, in the Board’s view, to demonstrate need for a consumptive use, an applicant must be able to implement the permit independently of any plan to seek renewal. The Board finds that its conclusion is more reasonable than the ALJ’s conclusion. This modification does not change the outcome of the proceeding.

The Board concurs with the remainder of the COL 331 (as modified), which is based on competent substantial evidence. (T:338-40, 953-58, 972-75, 2423-26, 2473-28, 2489-90, 2500-01; City Ex. 26).

Petitioners’ Exception No. 102

Petitioners take exception to COL 333 because they believe that the permit duration is “illegal” under District rules. Although the Governing Board need not provide a ruling because Petitioners fail to take exception in conformance with Section 120.57(1)(k), F.S., the exception is rejected for the reasons below.

COL 333 states:

Petitioners argued in their PRO that the short duration of the proposed CUP is contrary to A.H. Section 6.5.2(a), which provides:

When an applicant fails to provide reasonable assurance to support a 20 year duration or when the applicant does not request a duration of 20 years, a consumptive use permit shall have a duration of 10 years unless the Governing Board determines that a different permit duration is warranted based on a consideration and balancing of the factors listed in section 6.5.3. However, in no case shall the duration of an individual permit exceed the life of the activity for which the water is used.

Petitioners did not raise this issue in their Amended Petitions or in the Joint Pre-hearing Stipulation, and it is not proper for them to raise it for the first time in their PRO. See Woodholly Associates v. Dept. of Natural Resources, 451 So. 2d 1002, 1004 (Fla. 1st DCA 1984) (it was too late in proposed order to raise a new issue which was not raised in the pleadings or the pretrial stipulation). Even if properly raised, the issue does not have merit.

The ALJ made two conclusions in the above COL. First, although Petitioners debated certain aspects of the permit duration, Petitioners did not raise this particular “illegal duration” topic until after the administrative hearing. The ALJ concluded that the issue was not properly raised, and the Board lacks jurisdiction to disturb evidentiary rulings. Barfield, 805 So.2d at 1012 (the agency lacked jurisdiction to overturn an ALJ's evidentiary ruling); Lane, DOAH 05-1609 (DEP 2007) (the agency has no substantive jurisdiction over procedural issues, such as whether an issue was properly raised, and over an ALJ's evidentiary rulings).

Second, the ALJ finds that the “illegal duration” argument does not have merit. The Board agrees. As the ALJ found in COLs 334, 335, and 336 (to which Petitioners make no exception), the District can issue permits for durations less than 10 years in a number of situations, including those where the applicant does not provide reasonable assurance of meeting permitting criteria beyond the permit duration.

Petitioners Exception No. 103

Petitioners take exception to COL 338 to the extent that it implies that Petitioners' standing was predicated on Section 403.412(5), F.S. They do not object to the conclusion itself, which is that Petitioners have standing in this case. The Governing Board need not provide a ruling because Petitioners fail to take exception in conformance with Section 120.57(1)(k), F.S. Nevertheless, the exception is rejected

because, in the Board's view, COL 338 does not find that Petitioners' standing is based on Section 403.412(5), F.S. It appears that the ALJ included the language of Section 403.412(5), F.S., because it codifies the substantial interest test of Section 120.569, F.S., which is applicable to this proceeding. See L. Sellers & C. Sellers, "Intervene" Means "Intervene": The Legislature Revises Citizen Standing Under F.S. § 403.412(5)," 76 Fla. B. J. 63, 65 (Nov. 2002). Although the Board has the authority to modify this conclusion of law, the Board declines because no modification is necessary. Billie v. St. Johns River Water Mgmt. Dist., DOAH 03-1881 (SJRWMD 2004) (agency has substantive jurisdiction to determine standing to initiate a proceeding under Section 120.569, F.S., since it is Chapter 373, F.S., that confers standing).

RULINGS ON CITY'S EXCEPTIONS

City's Exception No. 1

The City takes exception to COL 274 on the grounds that the ALJ erroneously interpreted Section 12.2, A.H., to conclude that this section does not allow CUP applicants to build redundancy into their water supply systems and have flexibility to rotate water use among several different facilities. Based on its exception, the City requests the Board to reject the ALJ's interpretation of Section 12.2 in COL 274 and to grant the City a CUP for the Area IV Wellfield as provided by the second revised TSR, except for limiting the combined annual average rate for Areas II, III and IV in "Other Condition" 5 to 5.2 mgd. For the reasons set forth below, the Board grants this exception in part and denies it in part.

COL 274 states:

The City and the District take the position that the District encourages water supply applicants to build redundancy into their water supply systems so they

have the flexibility to rotate water use among several different facilities. But there is nothing in the District's rules about building redundancy, or giving guidance as to how much redundancy should be encouraged. To the contrary, A.H. Section 12.2 is reasonably clear that "the applicant's requested quantity" may not exceed the amount of water required for reasonable beneficial uses, as calculated under A.H. Section 12.2. As found, the need as calculated under that rule for purposes of the pending application does not exceed 0.75 mgd.

For the reasons set forth in its ruling on District staff's Exception No. 2 to COL 274, the Board agrees with the City that providing redundancy ("reserve capacity") can be a reasonable-beneficial use under Rule 40C-2.301(4)(a)-(b), F.A.C. and grants the City's exception to the extent set forth in that ruling.

The Board denies for several reasons the portion of the City's exception that requests the Board to issue a CUP that would allow it to withdraw a maximum of 2.75 mgd annually from the Area IV Wellfield as long as the combined annual withdrawals for public supply from the Area II, III and IV Wellfields do not exceed 5.2 mgd.

First, the City's requested modification would conflict with the ALJ's findings in FOFs 61 and 62 to which the City did not take exception. In these findings, the ALJ found that: (a) "a reasonable maximum annual average allocation for the proposed Area IV Wellfield would be 0.75 mgd;" (b) "the evidence supports a reduction of the annual average limit from 2.75 mgd to 0.75 mgd;" and (c) "the probable safe and reliable yield" of Areas II and III is 4.5 mgd." All of these findings are supported by competent substantial evidence.

Second, the Board disagrees with the City's contention that the only reason why the ALJ recommended a lower allocation was based on his interpretation of Section 12.2, A.H. In its exception, the City argues that "the sole reason stated in the RO upon which the ALJ bases his reduction of the City's annual average allocation from the Area

IV wellfield from 2.75 mgd to 0.75 mgd is the ALJ's mistaken interpretation of District rules regarding redundancy or reserve capacity.” However, to support the requested allocation of 2.75 mgd, the City relied on a population projection method and a per capita water use rate to calculate water demand, both of which the ALJ rejected as less reasonable than those presented by Petitioners (see FOFs 57 and 58). As a result, the ALJ found the City had a projected demand for less water (5.2 mgd v. 6.12 mgd) than it claimed, and this finding in turn affected the recommended allocation.

The City attempts to eliminate these additional bases for the ALJ's recommendation by stating in its exception that it does not take exception to the ALJ's findings of fact that its 2010 system-wide demand is 5.2 mgd rather than 6.12 mgd. Thus, despite accepting the ALJ's recommendation for a decrease in the maximum combined annual average ground water allocation for the Area II, Area III and Area IV wellfields from 6.01 mgd to 5.2 mgd, the City is still asking the Board to increase the annual average allocation for the Area IV wellfield from 0.75 mgd to 2.75 mgd. As a result, and as District staff points out in its response to the City's exception, the City is now essentially asking for proportionally more redundancy in its capacity than what the City requested and offered in evidence at the final hearing. The City has not cited to any evidence to support its request for increased redundancy, the ALJ clearly did not make any finding that would support such an increase in redundancy, and the Board cannot, and declines to, now accept new evidence that would support the City's request for increased redundancy. Dept of Transp., 396 So.2d at 783 (applicant cannot offer new evidence after the administrative hearing closes).

Finally, the Board disagrees that rejection of the ALJ's ultimate recommendation is warranted based on the final order entered by this District in the case of The Corporation of the President of the Church of Jesus Christ of Latter Day Saints v. St. Johns River Water Management District and City of Cocoa, DOAH Case Nos. 89-0828, 89-5419, 90-1488 (SJRWMD Final Order December 12, 1990), *affirmed* 590 So.2d 427 (Fla. 5th DCA 1991)("Cocoa"). The Cocoa case is discussed in some detail in the Board's ruling on the District's Exception No. 2 to COL 274. In that case, the Board concurred with the ALJ's finding, based on the evidence, that a 20 percent reserve capacity was appropriate under the circumstances of the case. As explained above, modification would be inconsistent with the findings of fact in this case and would result in an amount of redundancy for which no evidence was presented.⁸

City's Exception No. 2

The City takes exception to FOFs 256 and 257 and COLs 337 and 338, which pertain to the ALJ's conclusion that Petitioners have standing to challenge the issuance of the CUP. The District has substantive jurisdiction to determine standing. Billie, DOAH 03-1881 (SJRWMD 2004). For the reasons below, the Board rejects the exception.

FOF 256 states as follows:

As found, Miami Corporation owns property immediately adjacent to the proposed Area IV Wellfield, and Ms. Clark owns property a little more than a mile away. Both alleged and attempted to prove that SAS drawdown from the proposed CUP would degrade wetlands on their property and interfere with their legal use of

⁸ The City also relies on the case of Harloff v. City of Sarasota, 575 So.2d 1324 (Fla. 2d DCA 1991) *rev. den.*, 583 So.2d 1035 to support its position. In that case, the Southwest Florida Water Management District rejected the water allocation recommended by the ALJ because it determined that the ALJ's findings of fact did not establish that the applicant had shown that his water use would not interfere with a legally existing use of water. It issued a CUP for an amount that was consistent with the ALJ's findings of fact. By contrast, the City in its exception is asking this Board to issue a CUP for an amount that would be inconsistent with the ALJ's findings of fact.

groundwater, and that saline intrusion from the proposed CUP would degrade the water quality of the UFAS resource which they use for potable water.

This finding is based on competent substantial evidence. Petitioners' tendered expert witnesses in the fields of geology, hydrogeology, groundwater modeling, water quality, biology and wetland ecology to substantiate the allegations of their petitions. (RO at 8-9). Petitioners attempted prove that the proposed use would impact wetlands on their property, interfere with their legal use of water, and lead to saline intrusion that would impact their water uses. (T: 3679-3705, 3713-3859, 3875-4004, 4012-4187, 4195-4353, 4361-4541, 4903-4984, 4984-5010, 5016-5101, 5112-5227, 5236-5267, 5255-5267, 5268-5412, 5425-5577, 5672-5737, 5742-5851, 5858-5863; Pet. Ex. 170 and 334 at 22, 29, 33, 34, 35, 41, 42 and Exhibit 3).

FOF 257 states as follows:

As found, Petitioners did not prove those allegations; however, the evidence was that both Petitioners have substantial interests (the quality of water in the aquifer from which their wells withdraw water and wetlands on their property) that would be affected by the proposed CUP at least to some extent.

This finding is based on competent substantial evidence. In FOF 164, the ALJ found that the City's (SDI's) model predicts a drawdown of 0.11 feet (approximately 1 inch) in the SAS and a drawdown of 2.2 feet in the UFAS at Ms. Clark's property. Petitioners' expert witness Dr. Dennis testified that based on the Petitioners' model, there would be adverse impacts to wetland functions and wildlife on Miami Corporation property from the proposed wellfield. (T:4938-39, 4959; Pet. Ex. 195, 196, and 334 at Ex. 3). While the ALJ found that it is not likely the drawdown from the proposed wellfield will have adverse impacts, his findings in FOFs 165 and 168 acknowledge that there is uncertainty.

As stated in the Recommended Order, a party does not have to prevail on the merits of the case to establish standing. Otherwise, every losing Petitioner would lack standing. Billie, DOAH 03-1881 (SJRWMD 2004) (the burden is not whether the Petitioners have or will prevail on the merits); Lane, DOAH No. 05-1609 (DEP 2007) (standing and the merits of a claim are different concepts); Sun States Utilities, Inc. v. Destin Water Users, Inc., 696 so.2d 944, 945 n.1 (Fla. 1st DCA 1997) (standing to maintain a lawsuit depends on whether the party has a personal stake in the outcome of the proceeding and should not be confused with the merits of a claim).

In this proceeding, it is uncontested that Petitioners own property near the proposed wellfield. The Petitioners alleged and attempted to prove that their personal interests as to their nearby properties, involving water quality, wetland impacts, and water use, would be adversely affected by the operation of the proposed wellfield. See Miakka Community Club v. El Jobean Philharmonic Group, Inc., 11 F.A.L.R. 5616, 5629 (even though the proof failed to show injury in fact, petitioner had standing to contest the CUP because of potential injury); cf. The Corp. of the President of the Church of Jesus Christ v. St. Johns River Water Mgmt. District, DOAH 89-0828 (SJRWMD 1990) (the petitioners lacked standing by failure to present any affirmative evidence of their alleged injuries and instead attempted only to discredit the opposing parties' evidence). In other words, Petitioners contended a personal stake, different in kind to the general public, that may be directly affected by the proposed wellfield. Gregory v. Indian River County, 610 So.2d 547, 554 (Fla. 1st DCA 1992) (the reason for the Agrico⁹ standing test is to ensure that a party has a "sufficient interest in the outcome of the litigation which warrants the court's entertaining it" and to assure that a party has a personal

⁹ Agrico Chemical Co. v. Dep't. of Environmental Regulation, 406 So.2d 478 (Fla. 2d DCA 1981).

stake in the outcome so he will adequately represent the interest he asserts); St. Joe Paper v. Dep't of Community Affairs, 657 So.2d 27 (Fla. 1st DCA 1995) (§ 120.57 requires an injury in a manner beyond the injury which might be sustained by the general public). FOFs 21 and 29 found that Titusville's proposed wellfield could commence operation as early as January 1, 2009. Consequently, Petitioners' contentions are therefore sufficiently real and direct to constitute an injury in fact to their personal interests. Town of Palm Beach v. Department of Natural Resources, 577 So. 2d 1383 (Fla. 4th DCA 1981) (the injury-in-fact part of the test focuses on whether the injury arising from the agency action is of a specific, real immediacy warranting relief and is not remote or speculative).

Finally, Petitioners' contended injuries fall within the zone of interest of Chapter 373, F.S., and Chapter 40C-2, F.A.C. The zone of interest component of the standing test focuses on whether the type of injury asserted falls within the scope of the agency's statutory authority to protect. Billie, DOAH 03-1881 (SJRWMD 2004); Boca Raton Mausoleum Inc., v. State Department of Banking and Finance, 511 So. 2d 1060 (Fla. 1st DCA 1987). Petitioners' contentions and evidence regarding interference with an existing water use, environmental harm, water quality impacts, and wetland impacts fall within the District's consumptive use permitting criteria. In short, Petitioners substantial interests are related to the issues that are to be resolved in the administrative proceedings. Gregory, 610 So.2d at 554 (the intent of Agrico was to preclude parties whose substantial interests are totally unrelated to the issues that are to be resolved in the administrative proceedings).

RULINGS ON DISTRICT'S EXCEPTIONS

District's Exception No. 1

The District takes exception to the first sentence of FOF 130 on the grounds that there is no competent substantial evidence to support the sentence as written. For the reason described below, the Board grants the exception. The first sentence of FOF 130 is modified as follows:

Several water quality grab samples were collected in packer tests at specific depth intervals at Test Site 3. At the interval of 270-295 feet below land surface, two samples were taken with chloride concentrations of 74 mg/l and 450 mg/l.

The evidence shows that the packer tests were taken at Test Site 3, not Test Site 3At, as stated in the Recommended Order. (City Ex. 305 at 62). It appears that a period was inadvertently left out between the number "3" and the word "At." Petitioners concur with the District's exception, and the City takes no position. Correcting this scrivener's error will not change the outcome of the proceeding.

District's Exception No. 2

District staff take exception to the second and third sentence of COL 274 to the extent that the ALJ "incorrectly concluded that no redundancy is allowed under the District's rules, including Section 12.2. et. Seq., A.H. " For the reasons set forth below, the Board grants the exception.

COL 274 states:

The City and the District take the position that the District encourages water supply applicants to build redundancy into their water supply systems so they have the flexibility to rotate water use among several different facilities. *But there is nothing in the District's rules about building redundancy, or giving guidance as to how much redundancy should be encouraged. To the contrary, A.H. Section 12.2 is reasonably clear that "the applicant's requested quantity" may not exceed the amount of water required for reasonable beneficial uses, as calculated under*

A.H. Section 12.2. As found, the need as calculated under that rule for purposes of the pending application does not exceed 0.75 mgd. (Emphasis added.)

A logical inference from the second and third sentences of this COL is that the District's rules, including Section 12.2, A.H., preclude redundancy or reserve capacity in a CUP applicant's water supply from being determined a reasonable-beneficial use of water. The Board disagrees with this inference and wishes to make clear that it continues to interpret its rules to allow redundancy ('reserve capacity') to be considered as part of the reasonable-beneficial use criterion in Rule 40C-2.301(4), F.A.C.¹⁰

The issue of whether water may be allocated to provide redundancy in a permittee's water supply was litigated and came before the Board of this District in the case of The Corporation of the President of the Church of Jesus Christ, DOAH Case Nos. 89-0828, 89-5419, 90-1488 (SJRWMD Final Order December 12, 1990), *affirmed* 590 So.2d 427 (Fla. 5th DCA 1991) ("Cocoa"). In that case, the hearing officer recommended that this District grant a CUP to the City of Cocoa with an allocation that included a 20% reserve capacity in excess of Cocoa's projected demand. One of the petitioners in the case filed an exception arguing that the allocation exceeded the quantity necessary for economic and efficient utilization of water. The Governing Board rejected the exception and determined that the entire allocation, including the 20 percent reserve capacity, was an economic and efficient use consistent with the District's rules.

¹⁰ The Board notes that pursuant to Section 120.68(7)(e)3., F.S., an appellate court may remand or overturn an exercise of agency discretion if "inconsistent with officially stated agency policy or a prior agency practice, if deviation therefrom is not explained by the agency." See e.g., Gessler v. Department of Business and Professional Regulation, 627 So.2d 501 (Fla. 4th DCA 1993); Bethesda Healthcare System, Inc. v. Agency for Health Care Administration, 945 So.2d 574 (Fla. 4th DCA 2006).

In the Recommended Order, the hearing officer made the following findings of fact:

32. The total capacity of the City's wellfield with all existing active wells operating is approximately 38 MGD. In 1989 the peak demands for water came close to exceeding capacity on several occasions, thus there is currently no reserve capacity in the wellfield.

33. Due to the lack of reserve, the District issued water shortage orders dated November 14, 1989 and April 10, 1990, imposing water shortage restrictions in the City's service area.

34. Reserve capacity is essential to sound wellfield management. It provides flexibility and the ability to meet water demands during routine maintenance or in the event of loss of a well due to pump breakdown or lightning strike. Additional wells will allow the city to redistribute pumpage to reduce the negative impacts of pumping in the eastern wellfield.

35. Twenty percent, the amount requested in the City's application, is a reasonable and appropriate reserve in excess of the City's projected maximum daily demand.

The hearing officer then expressly stated in her recommended conclusions of law that an allocation that included redundancy (reserve capacity) was a reasonable-beneficial use:

A. Reasonable-Beneficial Use

40C-2.301(4)(a), F.A.C.

126. The City's proposed usage is in a quantity necessary for economic and efficient utilization. The per capita usage figures for the service area are reasonable and the amounts requested are consistent with competent projections of the service areas growth and needs. The water is needed to meet existing and future demands, to provide a reserve capacity, and to alleviate water quality problems in the eastern wellfield.

40C-2.301(4)(b), F.A.C.

The purpose of the usage, to serve the areas' residents, and industrial and commercial community is reasonable and consistent with the public interest; as is the purpose of addressing the chloride problem in the eastern wellfield.
(Emphasis added)

The District's Governing Board adopted the entire Recommended Order, including this conclusion, as the final action of the St. Johns River Water Management District. This

final order regarding the City of Titusville's CUP application for the Area IV Wellfield should not be construed as a change in the Board's interpretation of its rules that providing redundancy ("reserve capacity") can be a reasonable-beneficial use under Rule 40C-2.301(4)(a)-(b), F.A.C.

District's Exception No. 3

The District takes exception to the citation in COL 328 on the grounds that that there is no competent substantial evidence to support the citation as written. For the reasons described below, the Board agrees and grants the exception. The citation in COL 328 is modified as follows:

See, e.g., Marion County v. Greene and SJRWMD, DOAH Case No. 06-2464 (SJRWMD Final Order 2007) at Appendix CD pp. 59 and 60 of the District's Proposed Recommended Order.

The District included a copy of the above-referenced final order in Appendix C of its Proposed Recommended Order. The Marion County final order does not itself contain an appendix. Therefore, it appears that the citation should be to Appendix C of the District's Proposed Recommended Order. Petitioners concur with the District's exception, and the City takes no position. Correcting this scrivener's error will not change the outcome of the proceeding.

FINAL ORDER

ACCORDINGLY, IT IS HEREBY ORDERED:

The Recommended Order dated July 31, 2007, attached hereto as Exhibit A, is adopted in its entirety except as modified by the final action of the Governing Board of the St. Johns River Water Management District in the rulings on Petitioners' Exception

No. 101 (COL 331) and District's Exception Nos. 1 and 3 (FOF 130 and COL 328).¹¹

The City's application number 99052 for a consumptive use permit is hereby issued under the terms and conditions contained in the Technical Staff Report dated May 1, 2006, attached hereto as Exhibit B, except that Other Conditions 4, 5, 7, 8 and 9 shall be modified to read as follows:

4. Maximum annual ground water withdrawals from the Floridan aquifer in the Area IV wellfield for public supply must not exceed 273.75 ~~1,003.8~~ million gallons (0.75 ~~2.75~~ mgd average) in 2009 through 2010.

5. Upon the Area IV wellfield being operational, the combined annual ground water withdrawals for public supply from the Area II, Area III, and Area IV wellfields must not exceed:

1,898.0 ~~2,113.4~~ million gallons (5.2 ~~5.79~~ mgd average) in 2009 and 2010.

~~2,193.7 million gallons (6.01) mgd average) in 2010.~~

In the event that the permittee receives water from the City of Cocoa for potable use, then the allocation for any year above shall be reduced an amount equivalent to the quantity provided to the permittee by the City of Cocoa in that year.

7. Maximum monthly ground water withdrawals from the Floridan Aquifer at the Area IV wellfield shall not exceed 36.1 ~~132.3~~ million gallons (1.20 ~~4.41~~ million gallons per day average) in 2009 through 2010.
8. Dry season pumping from the Floridan Aquifer at the Area IV Wellfield shall not exceed 126.08 ~~462.3~~ million gallons (1.05 ~~3.85~~ million gallons per day average) during any four consecutive months.
9. Upon the Area IV wellfield being operational, the combined maximum daily ground water withdrawals from the Area II, Area III, and Area IV Wellfields shall not exceed:
7.80 ~~8.88~~ million gallons in 2009 and 2010.
~~9.00 million gallons in 2010.~~

¹¹ In addition, the Board also granted, either in whole or in part, the following exceptions: City's Exception No. 1 and District's Exception No. 2. While the rulings on these exceptions did not result in a textual modification of the Recommended Order, the Recommended Order should be construed consistent with the Board's ruling on each of these exceptions.

The maximum daily ground water withdrawal from the Area IV Wellfield shall not exceed 1.77 6.5 million gallons and may be fully utilized only during severe drought periods when the existing water sources cannot be further used without inducing water quality degradation or exceeding maximum daily and annual rates listed herein.


In the event that the permittee receives water from the City of Cocoa for potable use, then the allocation in any year above shall be reduced an amount equivalent to the quantity provided to the permittee by the City of Cocoa in that year.

DONE AND ORDERED this 13th day of September, 2007, in Palatka, Florida.

ST. JOHNS RIVER WATER
MANAGEMENT DISTRICT

BY: 
KIRBY B. GREEN III
EXECUTIVE DIRECTOR

RENDERED this 13th day of September, 2007.

BY: 
ROBERT NAWROCKI
DISTRICT CLERK

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STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

MIAMI CORPORATION and VERGIE)	
CLARK,)	
)	
Petitioners,)	
)	
vs.)	Case Nos. 05-0344
)	05-2607
CITY OF TITUSVILLE and ST.)	05-2940
JOHNS RIVER WATER MANAGEMENT)	
DISTRICT,)	
)	
Respondents.)	
_____)	

RECOMMENDED ORDER

Pursuant to notice, the Division of Administrative Hearings, by its designated Administrative Law Judge, J. Lawrence Johnston, held a final hearing in the above-styled case on December 11-15, and 18-21, 2006, and January 16-19 and 22-26, and April 4-6 and 9-10, 2007, in Titusville, Florida.

APPEARANCES

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STATEMENT OF THE ISSUE

The issue in this case is whether the St. Johns River Water Management District (District) should issue a consumptive use permit (CUP) in response to Application Number 99052 filed by the City of Titusville and, if so, what CUP terms are appropriate.

PRELIMINARY STATEMENT

On March 6, 2001, the City of Titusville (City) submitted an application to modify CUP 10647. Included in this application was a proposal to add a new Area IV Wellfield in northwest Brevard County to the City's existing Area II and Area

III Wellfields. The District issued a series of seven Requests for Additional Information (RAIs) between April 5, 2001, and March 23, 2004.

The District accepted the City's RAI submissions, which included analytical groundwater flow and solute transport modeling ("Multi-Layer/SURFDOWN" and "UPCONE", respectively), as providing reasonable assurance that permit criteria were met. On December 15, 2004, the District issued its initial Technical Staff Report (TSR) for the application to modify CUP 10647. That TSR proposed to authorize the use of 2.75 mgd from the Upper Floridan Aquifer System (UFAS) and 0.18 mgd of groundwater from the surficial aquifer system (SAS) from the proposed Area IV Wellfield and 3.3 mgd of groundwater from the SAS from the existing Area II and Area III Wellfields to serve a projected population of 56,565 in 2008. There was no request to extend or renew the permit, which expires February 10, 2008.

Miami Corporation filed a petition challenging this TSR and proposed CUP, and the matter was referred to DOAH. Vigorous motion practice and discovery began, details of which can be obtained from DOAH's online docket if desired. Among other things, Miami criticized the City's models as not providing reasonable assurance, while the City and the District maintained reasonable assurance had been given. Miami Corporation's petition was scheduled for a final hearing in June 2005.

On May 13, 2005, the City submitted a revised application for a separate Individual CUP 99052 for the Area IV Wellfield, rather than modifying its existing CUP 10647 to include the new wellfield, with a permit expiration of December 31, 2010. On May 25, 2005, the staff issued a revised TSR. That TSR proposed a new permit to authorize up to 2.75 mgd of groundwater from the UFAS and 0.178 mgd of groundwater from the SAS from the proposed Area IV Wellfield to serve a projected population of 59,660 in 2010. The revised TSR noted that the proposed permit expiration date for the Area II and Area III Wellfields would remain February 10, 2008.

After the District issued the revised TSR, the final hearing scheduled in June 2005 was continued until September 2005. In July 2005, Vergie Clark filed a petition challenging the TSRs. Because notice of the initial TSR was insufficient to foreclose it, her petition survived motions to dismiss for being untimely, and the final hearing was continued again until February 2006 to allow her to conduct discovery and hearing preparation. As the case proceeded towards a February 2006 final hearing on the pending petitions, the City eventually attempted to develop additional numerical groundwater flow (MODFLOW) and solute transport (SEAWAT 2.1) modeling of the Area IV Wellfield to support its revised application, as described in more detail in the Findings of Fact. The scheduled final

hearing was continued until September 2006 to allow time for this work to be completed, discovered, and evaluated.

On March 14, 2006, the City again revised its application based on new modeling. Despite Petitioners' continued criticisms, the District issued a second revised TSR on May 1, 2006. This TSR recommended that a CUP be issued for 2.75 mgd of groundwater from the UFAS and .18 mgd of groundwater from the SAS for wetland hydration and aquifer recharge from the Area IV Wellfield on an annual average basis to serve a projected population of 63,036 in 2010. This TSR provided that the proposed permit would expire December 31, 2010.

Discovery of the new modeling and other matters continued during the summer of 2006. During a deposition in July 2006, the District's consultant recommended that the District require the City to perform another solute transport model simulation (also termed a "sensitivity run"). This simulation was produced in early August 2006.

Petitioners continued to criticize the City's modeling, including the use of SEAWAT 2.1 instead of the newer version, SEAWAT 2000, as well as the use of chloride concentrations as inputs for its SEAWAT 2.1 model simulations instead of total dissolved solids (TDS). As a result of Petitioners' criticisms, the City had SDI re-run its SEAWAT 2.1 models in late

August 2006 using SEAWAT 2000 (which the City and the District also termed "sensitivity runs.")

Because the SEAWAT 2000 simulations would be time-barred from use in the City's case-in-chief under pre-hearing requirements, and whether they could be used in rebuttal could not be determined at that point in time, the City requested another continuance, this time until December 2006, to give Petitioners time to discover and evaluate the SEAWAT 2000 model simulations.

On August 25, 2006, the District moved for official recognition of the pertinent Florida Statutes and Florida Administrative Code Rules, which was granted on November 20, 2006.

The final hearing was held in Titusville on December 11-15 and 18-21, 2006, and January 16-19 and 22-26, 2007, but could not be completed in that time. The rest of the hearing was rescheduled and held in Titusville on April 4-6 and 9-10, 2007.

At the final hearing, the City presented testimony from: Patrick A. Barnes, P.G., who was accepted as an expert in the fields of geology, hydrogeology, water resource evaluation, and water supply development; Phillip R. Davis, who was accepted as an expert in the fields of hydrology and modeling in general; George McLatchey, who was accepted as an expert in the fields of ecology, environmental science, soil and water science, and

wildlife biology; Courtney Harris, AICP, who was accepted as an expert in the fields of local and regional planning, land use and development and socioeconomic projections; John A. Peterson, who was accepted as an expert in the fields of water and wastewater utility management; Raynetta Curry Grant, P.E., DEE, who was accepted as an expert in the fields of environmental engineering, civil engineering, and water and wastewater utility management; and Gerald C. Hartman, P.E., DEE, who was accepted as an expert in the fields of environmental engineering, water resource evaluation, utility system analysis, and water and wastewater facility design. In addition, the City presented portions of deposition testimony of Miami Corporation's corporate representative, Earl Underhill.¹

The District presented testimony from: Peter S. Huyakorn, Ph.D., who was accepted as an expert in the fields of groundwater flow and solute transport modeling; Richard H. Burklew, Jr., P.G., who was accepted as an expert in the fields of hydrogeology and CUP permitting and regulations; Marc Minno, Ph.D., who was accepted as an expert in the fields of botany, biology, ecology, and St. Johns River Water Management District CUP permitting relating to environmental assessment; Richard L. Doty, who was accepted as an expert in the fields of forecasting population growth and water use; David Toth, Ph.D., P.G., who was accepted as an expert in the fields of hydrogeology and

groundwater quality; and Dwight Jenkins, J.D., P.G., who was accepted as an expert in the fields of hydrogeology, and consumptive use permitting and regulation.

Miami Corporation presented testimony from Robert C. Nixon, CPA, who was accepted as an expert in the fields of water and wastewater accounting, water and wastewater rate setting, and water and wastewater rate analysis; Scott Eckler, who was accepted as an expert in the fields of water and wastewater utility design and construction and water and wastewater cost estimates; Stanley K. Smith, Ph.D., who was accepted as an expert in the fields of Florida population estimates and projections, state and local demography in Florida; David W. Depew, Ph.D., AICP, who was accepted as an expert in the fields of planning, comprehensive planning and the development review process; William Michael Dennis, Ph.D., who was accepted as an expert in the fields of biology, ecology, wetlands mitigation, wetland permitting, and wetland ecology; William Bruce Lafrenz, P.G., who was accepted as an expert in geology, hydrogeology, groundwater modeling, APT design analysis and wellfield design; Richard H. Smith, who was accepted as an expert in surveying; and Charles Drake, P.G., who was accepted as an expert in geology, hydrogeology, water well construction, consumptive use permitting, groundwater resource evaluation and wellfield design. In addition, Miami Corporation presented the deposition

testimony of Gerardo Salsano, P.E.; Barbara Vergara, P.G.; James Dozier; and Michael Bagley.

Vergie Clark presented testimony from John Watson, who was not tendered as an expert in any specific field but who has expertise in hydrogeology; Stanley A. Williams, who was not tendered as an expert in any specific field but who is a District employee with expertise in groundwater flow modeling; Thomas M. Missimer, Ph.D., P.G., who was accepted as an expert in the fields of geology, hydrogeology, water quality, wellfield development, and reverse osmosis plants; Alge G. Merry, M.A.Sc., P.E., who was accepted as an expert in the fields of groundwater flow modeling, density-dependent modeling, solute transport modeling, hydrogeology, and water quality; Brian E. McGurk, P.G., who was not tendered as an expert in any specific field but who is a District employee with expertise in groundwater flow modeling; and Weixing Guo, Ph.D., who was accepted as an expert in the fields of groundwater modeling, including MODFLOW, MT3D, MT3DMS, SEAWAT, particle tracking, and water quality. In addition, Ms. Clark presented her own testimony and the testimony of Roy Farmer by deposition. Ms. Clark also was granted permission to depose James Dozier post-hearing due to his unavailability during the hearing for medical reasons and present his post-hearing testimony by deposition.

Before the hearing, thousands of exhibits were identified pre-marked by the parties. A relatively small percentage of the exhibits identified pre-hearing was used during the hearing, but those still numbered in the high hundreds. Ruling was deferred on objections to some exhibits, and the parties subsequently stipulated to the admission or exclusion of many of the deferred exhibits,² leaving a limited number of objections pending decision. Rather than list all the admitted exhibits,³ only the objections that remain pending will be addressed here; the admitted exhibits are reflected in the Transcript and in the stipulations filed by the parties, along with the following rulings on objections.

At this time, Petitioners' objections to City Exhibits 18, 37, 243, 294, 300, 304, 307, 744.4, 744.5, and 744.6, 745, 745A, and 745.1 through 745.112 are overruled, and those exhibits are admitted in evidence. In addition, the City had Petitioners' Exhibit 13,020 admitted in evidence without objection during the hearing, but Petitioners later objected after Petitioners withdrew pending Petitioners' Exhibits 12,968 through 12,979, which were based on Petitioners' Exhibit 13,020. At this time, Petitioners' objections are overruled, and Petitioners' Exhibit 13,020 is received in evidence as a City exhibit.

In light of the admission of City Exhibits 295, 300, 302, 304, and 307, Petitioners' Exhibits 263, 266, 267, 12,693,

12,695, and 13,025 also are received in evidence at this time, in accordance with the parties' stipulation.⁴ In addition, at this time, the pending objections to Petitioners' Exhibits 12915, 13031, 13033, 13038, 13052, 13053, 13054, 13055, 13056, 13057, 13068, 13073, 13075, 13076, and 13077 are overruled; and those exhibits are received in evidence.

The final hearing transcripts (Volumes 1-45) were filed with DOAH on April 12, 2007. The parties were given until May 14, 2007, to submit their proposed recommended orders and until June 5, 2007, to file responses to the PROs. All PROs and responses have been carefully considered in the preparation of this Recommended Order.

The post-hearing deposition of James Dozier was taken on June 15, 2007, but Petitioners decided not to file the deposition transcript and moved without objection to close the evidentiary record on July 11, 2007.

Finally, two motions for sanctions are pending: the City's Motion for Attorneys' Fees, Costs and/or Other Sanctions against Miami Corporation for its prosecution of this case; and Miami Corporation's counter Motion for Attorneys' Fees, Costs and/or Other Sanctions Pursuant to 57.105 filed against the City for the City's sanction filing. By agreement of the parties, jurisdiction is being reserved to hear and rule on those motions if necessary.

FINDINGS OF FACT

A. Area II and III Wellfields

1. On February 10, 1998, the District issued CUP 10647 to the City of Titusville, authorizing the withdrawal of an annual average of 6.5 mgd from the City's Area II and Area III Wellfields, 5.4 from Area II and 1.1 from Area III. These wellfields are owned and operated by the City and are located within its municipal boundaries. They produce water from the SAS.

2. The Area II Wellfield is located near I-95 in the northeastern portion of the City and consists of shallow wells primarily constructed between 1955 and 2002. It consists of 53 production wells, of which 31 are considered to be of primary use. The City replaced 16 Area II production wells in 1995 and 4 production wells in 2000 and is currently considering the replacement of 4 additional wells.

3. The Area III Wellfield is located in the south-central portion of the City's service area. It consists of 35 production wells, of which 18 are considered to be of primary use.

4. Petitioners contend that both the "safe yield" (the quantity of water the City can withdraw without degrading the water resource) and the "reliable yield" (the quantity of water the City can dependably withdraw) of the Area II and III

Wellfields are the permitted limits of 5.4 and 1.1 mgd, respectively. The City and the District contend that saline intrusion into the SAS has reduced the safe and reliable yields to significantly less than the permitted amounts at this time.

5. Historically, the Area II Wellfield was the most productive wellfield. Prior to 1988, the City relied entirely on the Area II Wellfield and pumped almost 5 mgd from it at times. Since then, several Area II wells have shown signs of water quality degradation that has resulted in a reduction in pumping to better stabilize water quality levels. For the past five years, the City has only pumped approximately 3 mgd on an annual average basis from the Area II Wellfield.

6. Chloride concentrations exceeding 250 mg/l have been recorded in 16 Area II production wells. Chloride concentrations exceeding 250 mg/l have been recorded in 22 Area III production wells. About 10 wells in the Area II and III Wellfields have been abandoned because of water quality degradation. At the Area II Wellfields there are 10 wells whose use is impaired because of water quality issues. At the Area III Wellfields there are 15 wells whose use is impaired because of water quality issues.

7. Area III has had serious chloride problems, with concentrations at or near 200 mg/l for much of the mid-90's. In the Area III Wellfield, the Anastasia wells have the best water

quality. However, these wells have also seen increasing concentrations of chlorides, with one well over 200 mg/l.

8. According to information introduced into evidence by the City, it appears that Area III began to have chloride problems primarily due to over-pumping.⁵ The City pumped far in excess of permit limits from Area III during the early 1990's, including almost twice the permit limit in 1990 and 1.5 times the limit in 1991. While chlorides were between 77 and 92 mg/l in 1990-92, they began to rise in 1993 and were between 192 and 202 mg/l for the rest of the decade. Area III production declined in 1997 to approximately 0.66 mgd and declined further to a low of approximately 0.5 mgd in 1999. In 2000, chlorides fell to approximately 138 mg/l and then rose to approximately 150 mg/l in 2002-04, while production gradually rose to close to the permit limit in 2002 and 2003, before dipping to 0.75 mgd in 2004. In 2005, production was back up to 1 mgd, and chlorides were approximately 87 mg/l. During the five years from 2001 through 2005, the City has pumped an annual average rate of approximately 1 mgd from Area III.

9. In contrast, Area II has not been over-pumped during the same time period. Area II production generally declined from a high of 4.146 mgd in 1992 to a low of 2.525 mgd in 2000, except for an increase of approximately 0.25 mgd between 1997 and 1998. During this time, chlorides generally declined from a

high of 124 mg/l in 1993 to approximately 68 mg/l in 2000, with the exception of a rise to approximately 111 mg/l in 1999. Area II production then generally increased through 2003 to approximately 3.000 mgd, where it remained in 2004 before declining to approximately 2.770 mgd in 2005. Area II chlorides were approximately 113 mg/l in 2001, 109 in 2002, 86 in 2003, 76 in 2004, and 83 in 2005. During the five years from 2001 through 2005, the City has pumped only an annual average rate of 2.86 mgd.

10. In 1995, the City entered into a contract with the City of Cocoa requiring the City to pay for at least 1 mgd each year, whether the City actually takes the water or not (the "take-or-pay" clause). Using the Cocoa water allowed the City to reduce production from Area III without a corresponding increase in production from Area II. Water conservation measures implemented since 1998, including conservation rates, have since reduced per capita water use. In 2002, the contractual take-or-pay requirement was reduced to 0.5 mgd. After 2002, purchases of Cocoa water have amounted to 0.576, 0.712, and 0.372 mgd on an annual average basis. As a result, since at least 1990 Area II has not been required to produce at its permitted limit.

11. It is not clear exactly what the City believes to be safe and reliable yields at this time from Areas II and III. In

its PRO, the City took the position that the total reliable yield is 3.5 to 4 mgd, of which 2.25 to 2.5 mgd is attributable to the Area II Wellfield and 0.75 mgd is attributable to the Area III Wellfield. However, its consultant, Mr. Patrick Barnes, testified that the City's current reliable yields are 3 mgd from Area II and 1 or 1.1 mgd from Area III. He testified that the safe yield from Area II would be approximately 3.5 mgd.

12. The District has not formulated an opinion as to the exact of amount of water that can be produced from the Area II and III Wellfields on a sustainable basis. However, the District believes that recent production levels, which have resulted in a stabilization of chloride concentrations, may be the most production that can be sustained from these facilities without adverse water resource impacts. That would mean approximately 4.5 mgd on an annual average basis from Areas II and III combined.

13. It might be possible for the City to expand the reliable yield of the Area II Wellfield by constructing additional wells or through some other measures. But Brevard County's North Brevard Wellfield, located immediately north of the City's Area II Wellfield, utilizes the same SAS used by the Area II Wellfield, and Brevard County recently received an increased permitted allocation from the District for this

facility. This would limit the City's ability to expand the current production of water from the Area II Wellfield.

14. Other limitations on expansion of production from Areas II and III include: the relatively high risk of contamination of the SAS from pollution sources such as underground petroleum storage tanks; the limited space available in an increasingly urbanized area for the construction of new wells; the chronic bio-fouling and encrustation of wells due to the high iron content of the SAS; and the low specific capacity of each production well.

15. For these reasons, it is not clear at this point in time whether it is possible to sustain more water production from Areas II and III than the City has pumped in recent years.

B. Area IV Application and TSR

16. On March 6, 2001, the City of Titusville submitted its application to modify CUP 10647. Included in this application was a proposal to add a new Area IV Wellfield in northwest Brevard County to pump up to 2.75 mgd from the UFAS. The District issued a series of seven Requests for Additional Information in between April 5, 2001, and March 23, 2004.

17. On December 15, 2004, the District issued its initial TSR for the CUP modification application. That TSR proposed to authorize the use of 2.75 mgd from the UFAS and 0.18 mgd of groundwater from the SAS from the proposed Area IV Wellfield and

3.3 mgd of groundwater from the SAS from the existing Area II and Area III Wellfields to serve a projected population of 56,565 in 2008. There was no request to extend or renew the permit, which expires February 10, 2008. Miami Corporation filed a petition challenging this TSR.

18. On May 13, 2005, the City submitted a revised application for a separate Individual CUP for the Area IV Wellfield, rather than modifying its existing CUP 10647 to include the new wellfield, with a permit expiration of December 31, 2010. On May 25, 2005, the staff issued a revised TSR. That TSR proposed a new permit to authorize up to 2.75 mgd of groundwater from the UFAS and 0.178 mgd of groundwater from the SAS from the proposed Area IV Wellfield to serve a projected population of 59,660 in 2010. The revised TSR noted that the proposed permit expiration date for the Area II and Area III Wellfields would remain February 10, 2008. Vergie Clark filed a petition challenging the revised TSR, as did Miami Corporation.

19. After various notices on the TSR and the revised TSR to interested persons in Brevard County, in August 2005 the District issued additional notice to interested persons in Orange, Seminole and Volusia Counties. As a result, all required public notices have been issued.

20. On March 14, 2006, the City again revised its application, and on May 1, 2006, the District issued its second

revised, and final, TSR--which is the TSR now at issue. The TSR at issue recommended that a CUP be issued to Titusville for 2.75 mgd of groundwater from the UFAS and .18 mgd of groundwater from the SAS for wetland hydration and aquifer recharge from the Area IV Wellfield on an annual average basis to serve a projected population of 63,036 in 2010. This TSR provided that the proposed permit would expire December 31, 2010.

C. TSR at Issue

(i) Water Use Allocation

21. The CUP recommended by the TSR would only grant the City a water allocation from the Area IV Wellfield for 2009 and 2010. The recommended CUP would allow the City to withdraw water from the Area IV Wellfield at an annual average rate of 2.75 mgd during those years for public supply. (Other Condition 4)

22. The CUP recommended by the TSR would limit the City's potable water allocation from the Area IV Wellfield to a maximum rate of 3.85 mgd during the four consecutive months of the dry season, which can occur during any time of the year. If 3.85 mgd is withdrawn during this four-month period, the withdrawal rate for the remaining 8 months cannot exceed 2.21 mgd. (Other Condition 8)

23. The CUP recommended by the TSR would limit the City's potable water allocation from the Area IV Wellfield to a maximum rate of 4.41 mgd during any single month. (Other Condition 7)

24. The CUP recommended by the TSR would limit the City's potable water allocation from the Area IV Wellfield to a maximum rate of 6.5 mgd during any single day during a severe drought, when the existing sources (meaning Areas II and III) cannot be used without inducing water quality degradation or exceeding permitted quantities. (Other Condition 9)

25. The CUP recommended by the TSR would allow the City to withdraw water from the SAS extraction wells at an annual average rate of up to 0.178 mgd in 2009 and 2010 for wetland hydration and surficial aquifer recharge. (Other Condition 6)

26. The CUP recommended by the TSR would limit the withdrawal of water from the Area II, III and IV Wellfields to a combined annual average rate of 5.79 mgd in 2009 and a combined annual average rate of 6.01 mgd in 2010. The CUP recommended by the TSR would limit the withdrawal of water from the Area II, III and IV Wellfields to a combined maximum daily rate of 8.88 mgd in 2009 and 9.0 mgd in 2010. (Other Conditions 5, 9)

27. The CUP recommended by the TSR would reduce Titusville's combined annual average and maximum daily allocations from the Area II, III and IV Wellfields in 2009 and

2010 by an amount equivalent to the quantity of water purchased from the City of Cocoa during each year. (Other Conditions 5, 9)

28. Other Condition 10 in the recommended by the TSR notifies the City that nonuse of the water supply allocated by the CUP for two years or more is grounds for revocation by the District's Governing Board, permanently and in whole, unless the City can prove that its nonuse was due to extreme hardship caused by factors beyond the City's control.

(ii) Permit Duration

29. The CUP recommended by the TSR would not allow the City to withdraw water from the Area IV Wellfield earlier than January 1, 2009; as indicated, it would expire on December 31, 2010. (Other Conditions 2, 4).

(iii) Saline Water Intrusion

30. The CUP recommended by the TSR contains a permit condition requiring the City to implement the proposed saline water monitoring plan by sampling and analyzing Saline Water Monitor Wells SWMW 1-6 and UFAS production wells 401, 403, 405, 407, 409, 411, 413 and 415 quarterly for water levels, chloride and total dissolved solids. (Other Condition 11)

31. The CUP recommended by the TSR contains a permit condition authorizing the District to modify the allocation granted to the City in whole or in part or to otherwise curtail

or abate the impact in the event of saline water intrusion.

(Other Condition 14)

32. The CUP recommended by the TSR contains a permit condition requiring the City to cease withdrawal from any UFAS production well, if any quarterly water sample from that well shows a chloride concentration exceeding 250 mg/l. That same condition would limit the operation of any UFAS production well with a quarterly sample exceeding 250 mg/l to six hours per day with a minimum 24 hours recovery between pumping cycles if subsequent samples contain chloride concentrations between 200 mg/l and 249 mg/l. (Other Condition 25)

(iv) Environmental Impacts and Avoidance and Minimization

33. The CUP recommended by the TSR contains a permit condition requiring the City to implement the proposed environmental monitoring plan for hydrologic and photo-monitoring at 16 wetland sites within one year of permit issuance and to establish a baseline prior to the initiation of groundwater withdrawals. That same condition requires the City to collect water level data at each wetland site either on a daily or weekly basis and report to the District every six months in District-approved, computer-accessible format. (Other Condition 12)

34. The CUP recommended by the TSR contains a permit condition authorizing the District to revoke the permit in whole

or in part or to curtail or abate impacts should unanticipated adverse impacts occur to wetlands, lakes and spring flow. (Other Condition 23)

35. The CUP recommended by the TSR contains a permit condition authorizing the District to require the City to implement the proposed avoidance and minimization plan should unanticipated impacts occur to Wetland A4-2 (a shallow marsh near the middle of the wellfield) within 90 days of notice by the District. That same permit condition authorizes the District to require the City to submit a wetland rehydration plan for any other adversely affected wetland within 30 days of notice by the District and to implement the plan without 90 days of approval by the District. The District would require the City to implement avoidance measures before the wetlands are actually allowed to suffer adverse impacts. (Other Condition 24)

(v) Impacts to Other Existing Legal Users of Water

36. The CUP recommended by the TSR contains a permit condition authorizing the District to require mitigation of any unanticipated interference to existing legal users of water due to withdrawals from the Area IV Wellfield. Mitigation may include installation of a new pump or motor, installation of additional drop pipe, new electrical wiring, connection with an existing water supply system, or other appropriate measures. (Other Condition 15)

D. Water Conservation Measures and Reuse

37. The City is implementing extensive water conservation measures. The City's water conservation plan includes public education measures (e.g., televised public service announcements, helping to create water conservation videos and distributing them to the public, commissioning an award winning native plant mural, providing exhibits and speakers for public events), toilet and showerhead retrofits, and a water conservation based rate structure. A water conservation rate structure provides the potable water customer with an economic incentive to use less water. The most common conservation rate structure is a tiered-rate whereby the cost per gallon of water increases as the customer uses more water. While the District reviews the rate structure to evaluate whether it will achieve conservation, it does not mandate the cost per gallon of water.

38. An audit of the City's potable water distribution system was conducted and recent water use records were evaluated to determine if all necessary water conservation measures were in place. The audit indicated that the potable water system has small unaccounted-for water losses, approximately 6.5 percent, and relatively low residential per capita water use.

39. The City has implemented a water conservation plan that implements rule requirements; as a result, the City has provided reasonable assurance that it is implementing all

available water conservation measures that are economically, environmentally, or technologically feasible.

40. The City cannot use reclaimed water to meet its potable water demands associated with direct human consumption and food preparation. However, reclaimed water can be used to replace that part of the City's allocation that is associated with irrigation-type uses. The City has operated a reclaimed water reuse system since 1996. It is projected that 67 percent of the available wastewater flows will be utilized by 2010 for irrigation, with the remainder going to a wetland system during wet weather periods when irrigation demands are low. The City is using reclaimed water to the extent it is economically, environmentally and technologically feasible.

41. In the case of public supply, the District looks to the amount of water requested for each person in a projected population in determining whether the water will be used efficiently. The metric that the District normally considers when conducting this part of the evaluation is the per capita usage.

E. Population Projections and Per Capita Water Use

42. As indicated, the proposed CUP would expire on December 31, 2010. Although the City and District would anticipate an application for renewal to be filed, demand for

water projected beyond December 31, 2010, is not relevant to the need for the proposed CUP.

43. In the case of public supply, projected demand for water usually is calculated by multiplying the projected population times per capita water use. Gross per capita ("GPC") use in gallons per day (gpd) is the type of metric normally used to project demand for public supply of water. It is based on residential use and all other water uses supplied by the utility, including commercial, industrial, hotel/motel, and other type uses. That includes supply necessary to meet peak demands and emergencies.

44. DEP requires that every public water supply system have an adequate water supply to meet peak demands for fire protection and health and safety reasons. If peak demands are not met, a major fire or other similar catastrophe could depressurize a public water system and possibly cause water quality problems. Projections of need for water in the future must take into account peak demands and emergency needs. Water used for those purposes is included in the historical average daily flows (ADF) from which historical GPC is derived.

45. Unless there is good information to the contrary, in projecting GPC one assumes that those uses will increase roughly in proportion to the residential use.

(i) City's Projection

46. Contending that the University of Florida Bureau of Economic and Business Research (BEBR) does not estimate or project population for municipalities, and that BEBR projections are based on historical trends that would under-project population in the City, the City used a different source and method to project population in the City's water service area on December 31, 2010.

47. For its method, the City had Courtney Harris, its Planning Director, project the number of dwelling units that would be developed and occupied in 2011, calculating the additional people associated with each unit (based on the 2000 Census, which identified 2.32 as the average number of persons per dwelling unit in the City), and adding the resulting number to the City's existing service area population as of 2005.

48. The City's method yielded various results depending on when proposed developments in the City were reviewed. Ultimately, the City projected a population of 60,990 at the end of 2010.

49. The City's method depends on the ability of its Planning Director to accurately predict the timing of new residential construction and sales, which is not easy to do (as indicated by the different results obtained by the City over time), since there are many factors affecting residential

development and the real estate market. The ultimate predictions of the City's Planning Director assume that residential development will continue at an extraordinarily high pace although there already was evidence of downturn. The City's method also assumed that all new units will be sold (which, again, is contingent on market conditions) and fully occupied (although a 90 percent occupancy rate would be a more realistic.) The method also does not account for decreases in population in a number of areas in the Titusville service area (while overall population increased, mostly as a result of growth that has been occurring in a single census tract.)

50. The City's witnesses then calculated a per capita water use rate by averaging the actual rates for the 11 years from 1995 through 2005, which resulted in projected per capita water use rate of 100.35, and a projected demand of 6.12 mgd at the end of 2010.

51. The justification for averaging over 11 years, instead of the last five years, was that the last five years have been unusually wet, which would depress demand to some extent. However, using 11 years also increased the average water use by taking into account the higher use rates common before conservations measures, including conservation rates, went into effect (in particular, 123.75 gpd for 1995, 122.36 gpd for 1996, and 109.94 gpd for 1998.) Since 1998, and implementation of the

conservation rates and other measures, water use rates have been significantly lower. While the average over the last 11 years was 100.35 gpd, the average over the last five years (from 2001-2005) was just 92.15 gpd. Averaged since 1998, the City's water use rate has been 93.34 gpd.

52. While wetter-than-normal conditions would be expected to depress water use to some extent due primarily to decreased lawn irrigation, many of the City's water customers have private irrigation wells for this purpose. Besides, Mr. Peterson, the City's Water Resources Manager, testified that not many of the City's water customers use potable water for lawn irrigation due to the new conservation rates.

(ii) Petitioners' Projection

53. Miami Corporation's population expert, Dr. Stanley Smith, is the Director of BEBR. Dr. Smith projected the population for the City's service area by first developing an estimate of the population of the water service area in 1990 and 2000 using block and block group data, and then using those estimates to create estimates from 2001-2005. Dr. Smith then projected population in the City's water service area using a methodology similar to what BEBR uses for county projections. Dr. Smith's methodology used three extrapolation techniques. He did not use a fourth technique, often used at BEBR, called shift-share, because he believed that, given Titusville's

pattern of growth, using shift-share might produce projections that were too low. In developing his final projections, Dr. Smith also excluded the data from 1990 to 2000 because growth during that period was so slow that he felt that its inclusion might result in projections that were too low. Dr. Smith's approach varied slightly from the typical BEBR methodology in order to account for the fact that the City's growth has been faster since 2000.

54. Dr. Smith applied an adjustment factor based on an assumption also used by the City's expert that 97.3 percent of the projected population within the City's water service area in 2010 would be served by the City. Using his method, Dr. Smith projected the population of the Titusville water service area to be 53,209 on December 31, 2010.

55. Based on recent population estimates, Dr. Smith believes that, if anything, his projections are too high. It was Dr. Smith's opinion from the data that the annual increases for Titusville and the Titusville water service area peaked in 2003 and that they had been declining since that time. That was especially true of 2006, when the increase was the smallest that it had been for many years.

56. Petitioners' expert, Mr. Drake, calculated a per capita water use rate by averaging the actual rates for the most recent five years (2002-2006), which resulted in a per capita

water use rate of 89.08 gpd, and a projected demand of 4.74 mgd at the end of 2010. He also calculated a per capita water use rate for 2006, which came to 88.65 gpd, which would give a slightly lower projected demand of 4.72 mgd.

(iii) Ultimate Finding of Projected Water Demand

57. Based on all the evidence, it is found that Dr. Smith's projection of the population that will use City water on December 31, 2010, is more reasonable than the City's projections.

58. The City and District contend that, regardless of the calculated per capita water use rate, it is appropriate to base the City's allocation on a rate of 100.35 gpd because 90 to 100 gpd is very conservative per capita water use rate for a public water supply utility. However, the allocation should be based on the best estimate of actual demand, not a general rate commonly assumed for water utilities, even if conservative.

59. The City and District also contend that it is appropriate to base the City's allocation on a higher use rate because the climatic conditions experienced in the City over what they considered to be the most recent five years (2001-2005) have been average-to-wet. More rainfall generally means less water use, and vice-versa, but the greater weight of the evidence proved that the City's demand for water has not varied much due to climatic conditions in recent years (after

implementation of conservation measures, including conservation rates.) (City Exhibit 19, which purported to demonstrate the contrary, was proven to be inaccurate in that it showed significantly more water use during certain drier years than actually occurred.) However, in 2000--which was after the implementation of conservation rates and also the City's driest year on record (in approximately 75 years)--the water use rate was approximately 97.5 gallons per person per day. An average of the last eight years (1999-2006), which would include all years clearly responsive to the conservation rates as well as the driest year on record, would result in a per capita water use rate of approximately 92.8 gpd, and a projected demand of approximately 4.94 mgd by December 31, 2010.

60. The District argues in its PRO that, because a CUP water allocation is a legal maximum, it would be inappropriate to base the City's water allocation on demand during a wet or even an average year (which, it says, would set the permittee up to violate its permit requirements 50 percent of the time). If, instead, the City's water allocation were based on demand during 2000, the driest year on record, projected demand would be approximately 5.2 mgd on December 31, 2010.

61. Those calculated water allocations--i.e., either the 4.94 mgd or the 5.2 mgd--would then be compared to the probable safe and reliable yield of 4.5 mgd from Areas II and III to

determine the deficit on an annual average basis. Allowing a reasonable margin of error for the uncertainties of the predictions involved, a reasonable maximum annual average allocation for the proposed Area IV Wellfield would be 0.75 mgd.

62. Mr. Jenkins suggested in rebuttal that, if the need for water is less than that set out in the proposed CUP in the TSR at issue, a CUP should nonetheless be issued but with lower water allocations. While the evidence supports a reduction of the annual average limit from 2.75 mgd to 0.75 mgd, there was insufficient evidence to show how the other water allocation limits in the proposed CUP should be changed.

63. For the past 12 years, the City of Titusville has been able to purchase water under a contract with the City of Cocoa to meet all of its demands, including any peak or emergency water demands. Under the take-or-pay provision in the contract currently in effect, the City must pay for 0.5 mgd and presumably would take and use at least that amount so long as the contract remains in effect. This would reduce the City's projected water supply deficit through the end of 2010, and the City could rely on the Cocoa contract to cover any additional demand through the end of 2010 without Area IV. However, under the contract, the City can give notice on or before April 1 of the year in which it intends to terminate the contract effective October 1 of the same year. If a CUP for Area IV is issued, the

City could terminate the current contract effective as early as October 1, 2008. It also is possible that the contract could be negotiated so that its termination would coincide with the time when the Area IV Wellfield becomes operational if not near October 1 of the year.

64. As indicated, even if the contract remains in place, to the extent that the City receives water from the City of Cocoa for potable use during either 2009 or 2010, the allocations under the proposed TSR will be reduced an amount equivalent to the quantity provided to the City by Cocoa in that year.

65. Finally, as indicated, the existing CUP for Areas II and III is set to expire in February 2008. Although it is anticipated that the City will apply to renew the existing CUP for Areas II and III, and that the District will approve a renewal at some level, it is not clear how much production will be approved for Areas II and III for the years 2009 and 2010. Meanwhile, the CUP proposed for Area IV provides that the combined annual groundwater withdrawals for public supply for the Areas II, III, and IV may not exceed 5.79 mgd for 2009 and 6.01 mgd in 2010. Based on the findings in this case, those figures should be reduced to no more than 5.2 mgd, and it must be anticipated that a similar condition would be placed on any renewal of the existing CUP for Areas II and III as well.

F. Site Investigation

66. At the time the City decided to apply for a CUP for Area IV, it was known that the UFAS in much of Brevard County was not suitable as a source of potable water supply, but there was believed to be a tongue of the UFAS in the northwest corner of the County and extending towards the southeast, and narrowing in that direction, that might be suitable for that purpose, particularly in the upper part of the aquifer.

67. Because there was insufficient information to adequately evaluate the whether proposed Area IV, which was located along the Florida East Coast Railway (FEC) Right-of-Way (ROW), could be used for that purpose, the City's consultant, Barnes, Ferland and Associates (BFA), designed a drilling and testing program to collect site-specific information in order to characterize the groundwater quality, identify the thickness of the freshwater zone in the UFAS, and determine hydraulic parameters for the groundwater system. In addition, DRMP conducted an environmental assessment of the Area IV Wellfield and surrounding property.

68. The drilling and testing program designed by BFA for the Area IV Wellfield was similar to other hydrogeologic investigations conducted in the region with respect to wellfields operated by the City of Edgewater, the City of New

Smyrna Beach, the City of Ormond Beach, the Orlando Utilities Commission and Orange County.

69. The drilling and testing program for the Area IV Wellfield included Time-Domain Electromagnetic Mapping ("TDEM") performed by SDII Global, a consultant retained by the District. TDEM is not typically used for the hydrogeologic investigation of a new wellfield. The TDEM technique involves estimating the depth to the 250 mg/l and 5,000 mg/l chloride concentration in the groundwater system using electrical resistivity probes. The technique was applied at four locations along the FEC Right-of-Way.

70. In addition to the TDEM study, BFA installed three test production wells along the FEC ROW, collected lithologic samples with depth, performed borehole aquifer performance and step drawdown tests at two test sites and recorded water quality with depth through grab and packer samples.

71. The northernmost test production well was Test Site 1, which corresponds to Area IV production well 401. The middle test production well was Test Site 3, which corresponds to either Area IV Well 412 or Area IV Well 413. The southernmost test production well was Test Site 2, which is located approximately 1.5 miles south of the southernmost Area IV production well. Test Sites 1 and 2 were constructed first and

Test Site 3 was drilled later because of unfavorable water quality conditions encountered at Test Site 2.

72. Test Site 1 is located on the FEC ROW approximately 430 feet southeast of the Volusia-Brevard County line. At Test Site 1, BFA installed a test-production well (UF-1D), a UFAS monitor well (UF-1S), and a SAS monitor well (SA-1) in 2001. In 2005 BFA installed two additional SAS monitor wells (MW-1 and RW-1) near Test Site 1. The test production well was drilled to a depth of 500 feet below land surface and then back-plugged to a depth of 250 feet below land surface and cased to a depth of 105-110 feet below land surface.

73. Test Site 2 is located on the FEC ROW approximately 2.8 miles southeast of the Volusia-Brevard County line. At Test Site 2, BFA installed a single UFAS Monitor Well (UF-2S). The monitor well was drilled to a total depth of 210-220 feet below land surface.

74. Test Site 3 is located on the FEC ROW approximately 1.4 miles southeast of the Brevard-Volusia County line. At Test Site 3, BFA installed a test production well (UF-3D), a UFAS monitor well (UF-3S), and a SAS monitor well (SA-3). The test production well was drilled to a depth of 500 feet below land surface and then back-plugged to a depth of 210 below land surface..

75. Since Test Site 3 is either Area IV Well 412 or 413, and assuming production well 415 will be located 1,200 feet southeast of Test Site 3, this means that Test Site 2 is located at least one mile southeast of the southernmost Area IV production well.

76. Test Sites 4 and 6 are located approximately three miles southeast of Brevard-Volusia County line. SAS test production wells were constructed at both sites to a total depth of about 20-30 feet below land surface.

77. The site-specific hydrogeologic data collected by BFA as part of the drilling and testing program verified the groundwater basin and flow direction shown in Figure 15 of City Exhibit 523.

78. DRMP's environmental assessment of the Area IV Wellfield spanned the period from 2002 through 2006. In Spring 2002, DRMP evaluated areas within the predicted 0.2 foot drawdown contour by assessing wetland vegetation, photographing wetlands, noting wetland hydrologic conditions, investigating soil condition and wildlife utilization and evaluating surrounding land uses and natural communities. In Fall 2002, DRMP evaluated potential monitoring sites both on and off Miami Corporation's property by assessing wetland vegetation composition and hydrologic conditions, investigating soil conditions and wildlife utilization, evaluating surrounding land

use and natural communities and locating suitable control sites. In Fall 2003, DRMP evaluated potential wetland monitoring sites near the southernmost Area IV production wells by assessing wetland vegetation composition and hydrologic conditions, investigating soil conditions and evaluating surrounding land uses and natural communities. In Spring 2005, DRMP assessed wetlands surrounding the Area IV Wellfield by evaluating wetland vegetation composition and hydrologic conditions, photographing wetlands, investigating soil conditions, evaluating surrounding land use and natural communities and collecting GPS points. In Fall 2005, DRMP investigated the Clark property by evaluating wetland vegetation and hydrologic conditions, photographing wetlands, investigating soil conditions and wildlife utilization and evaluating surrounding land uses and natural communities. In Spring 2006, DRMP developed a revised environmental monitoring plan and avoidance and minimization plan based on the new SDI MODFLOW Model by locating the final wetlands monitoring sites, developing the hydrologic and vegetative monitoring protocol, establishing the scope of the baseline study, reviewing the preliminary pipeline routing, construction and discharge inlet structures and preparing and submitting plan documents to the District.

79. DRMP evaluated the occurrence of listed animal and plant species in the vicinity of the Area IV Wellfield as part

of its environmental assessment. DRMP reviewed the Natural Areas Inventory for the Area IV Wellfield site, which identifies occurrences of listed species within a designated area. Additionally, DRMP made note of animal and plant species during the site visits in 2002, 2003, 2005, and 2006.

80. DRMP evaluated the Farmton Mitigation Bank as part of its environmental assessment. DRMP reviewed the permit files for the Farmton Mitigation Banks, including the annual environmental monitoring reports prepared by Miami's consultants.

81. In 2005, DRMP conducted a field assessment of the Clark property including a thorough investigation of the fish pond, which Petitioners claim was adversely impacted during one or more of the APTs conducted by the City at the Area IV Wellfield.

82. It was not necessary for the City's environmental consultants to visit each and every wetland in the vicinity of the proposed Area IV Wellfield. Typically, only representative wetland sites are visited during the environmental assessment process.

83. The scope of the City's hydrologic and environmental investigation of the Area IV Wellfield was adequate and consistent with industry standards and the District protocol for testing aquifers and characterizing aquifer performance and groundwater quality at the site. Nonetheless, Petitioners

contend that there were serious deficiencies in the investigation's implementation and that additional investigation should have been performed.

(i) Hydrostratigraphy

84. The SAS at the Area IV Wellfield is 40-to-50 feet deep and is composed primarily of unconsolidated sand, shell and silt.

85. The intermediate confining unit (ICU) at the Area IV Wellfield consists of the Hawthorne Group and ranges in thickness from 40 to 60 feet. The top of the ICU is located 40-50 feet below land surface and the bottom of the ICU is located 100 feet below land surface. This unit is composed of varying amounts of sand, shell, silt, indurated sandstone, clay, and some limestone. It tends to restrict the movement of water from the SAS to the UFAS.

86. The UFAS at the Area IV Wellfield is a fairly homogenous limestone unit, which starts approximately 100 feet below land surface and extends to about 450 feet below land surface or 425 feet below mean sea level. It consists of the Ocala Group and grades into the upper portion of the Avon Park Formation.

87. The middle confining unit (MCU) at the Area IV Wellfield starts at approximately 450 feet below land surface or 425 feet below mean sea level and ends approximately 1,000 feet

below land surface. It comprises a denser, fine-grained dolomitic limestone within the Avon Park Formation. The MCU restricts the movement of water between the UFAS and LFAS.

88. The location of the MCU at the Area IV Wellfield was determined by examining cuttings and video logs collected during drilling performed at Test Sites 1 and 3 and by measuring various properties of the aquifer with down-hole geophysical techniques.

89. The MCU can be distinguished from the UFAS by the presence of both dolomite and limestone. The lithologic log for Test Site 1 indicates the presence of gray/tan limestone between 450 and 460 feet below land surface and light/gray limestone and dolomitic limestone between 460 and 470 feet below land surface. The lithologic log for Test Site 3 indicates the presence of tan dolomitic limestone between 450 and 460 feet below land surface and tan limestone and dolomitic limestone between 460 and 470 feet below land surface. After examining the video log for Test Site 1, Petitioners' expert, Dr. Thomas Missimer, noted a "lithologic change" at 477 feet below land surface.

90. Other characteristics of the MCU are a lower resistivity and a sharp decrease in flow. The data collected at Test Site 1 shows a reduction in resistivity at approximately 470 feet below land surface. The flow meter log for Test Site 1

exhibits a decrease in flow at approximately 450 feet below land surface.

91. Petitioners' experts, Thomas Missimer, Alge Merry, and Bruce Lafrenz contend that the top of the MCU at the Area IV Wellfield is located deeper than 450 feet below land surface or 425 feet below mean sea level. This contention is based on regional reports, the geophysical logs reported by BFA, and one of the packer tests conducted at the bottom of the test wells that showed a pumping rate of 85 gpm.

92. The greater weight of evidence indicates the top of the MCU at the Area IV Wellfield starts at the elevation identified by BFA. The regional reports are not based on data collected from the immediate vicinity of the Area IV Wellfield. Additionally, the BFA's professional geologists who determined the top of the MCU included Joel Kimrey, who was the former head of the local USGS office, and had more experience with the hydrogeology of the MCU in Brevard and Volusia than any of the Petitioners' geologic experts. Also, the BFA geologists had access to the drill cuttings, which were unavailable to the Petitioners' experts when they made their determination. Finally, the pumping rate recorded during the packer test could be explained by an area of higher permeability within the MCU. More likely, the packer may have been partially open to the bottom of the UFAS.

93. The Lower Floridan Aquifer System (LFAS) starts at about 1,000 feet below land surface and ends approximately 2,300 feet below land surface.

(ii) Head Difference Data

94. Head refers to the pressure within an aquifer. In an unconfined aquifer, it is the water table. In a confined or semi-confined aquifer, it is the level to which water would rise in a well penetrating into the aquifer. Head difference refers to the numerical difference between two water levels either in different aquifer at the same location or different locations in the same aquifer.

95. In the context of the Area IV Wellfield, static head difference is the difference between the elevation of the water table in the SAS and the elevation of the potentiometric surface of the UFAS under non-pumping conditions at the same location.

96. The static head difference reflects the degree of confinement in the ICU. If the static head difference between the SAS and UFAS is a large number, this indicates a high degree of confinement between the two systems.

97. BFA took static head measurements at SAS and UFAS monitor wells located at Test Sites 1, 2 and 3 in January 2004, April 2004, and July 2006 and calculated the head difference based on those measurements. District expert, Richard Burklew, was present when the measurements were taken in April 2004 and

July 2006 and verified the readings made by the City's consultants. During all three sampling events a downward head gradient was noted at each site, which means the water table had a higher elevation than the potentiometric surface of the UFAS. In January 2004, the measured head difference at Test Sites 1, 2 and 3 were 6.2 feet, 5.5 feet and 5.9 feet, respectively. In April 2004, the measured head difference at Test Sites 1 and 3 were 8.1 feet and 8.1 feet, respectively. Finally, in July 2006, the measured head difference at Test Sites 1, 2 and 3 were 8.6 feet, 6.6 feet and 9.3 feet, respectively. The average of those observed head differences was 7.46 feet.

98. At the time the head difference measurements were taken in July 2006, the region had experienced a rainfall deficit of 17 inches over the prior 12 months. Petitioners contend that the rainfall deficit may have skewed that head difference observation. However, according to the District's expert, Richard Burklew, this would not necessarily have affected the head difference measurements because the hydrologic system would seek equilibrium, and the head difference would be the same.

99. BFA collected static head difference measurements from Test Sites 1, 2 and 3 during both wet and dry seasons. The measurements do not show significant differences between seasons. Head difference data collected from hundreds of other

Florida locations also do not show significant differences between seasons. This suggests that static head difference remains fairly constant at the Area IV Wellfield year round.

100. Water level measurements taken by the City's consultants from the wells on Clark's property and reported in City Exhibit 52 do not determine static head difference between the SAS and UFAS because the exact construction of the wells was unknown, the completion depth of certain wells was unknown, the operational history of the wells was unknown, and the putative SAS well was located several hundred feet away from the UFAS well. For example, the depth of one of the wells is reported as 57 feet, which could easily be located in the ICU. If that is the case, then the head difference measured by comparing to the water level in this well would only be the head differential between the ICU and the UFAS. Finally, the Clark property is located in a more elevated region than Test Sites 1, 2, and 3, which means the water table will be lower and the head difference will be less than at the Area IV Wellfield.

101. Water level measurements reported in the driller's completion log for Wells 4175, 4176, 4177, and 5230 on Miami Corporation's property do not determine static head difference between the SAS and UFAS because critical information concerning the construction of these wells is unknown. Additionally, the

wells are much shallower than test production wells at Test Sites 1, 2 and 3.

102. The water level measurements reported in the driller's completion log for Wells 4175, 4176, 4177, and 5230 are not necessarily inconsistent with head difference measurements collected by BFA at Test Sites 1, 2 and 3. The head differences at these four well sites could be 6, 4, 7, and 6 feet, respectively, depending how the water measurements were made. Also, the measurements made by a driller could not be expected to be as accurate as measurements made by trained hydrologists. Further, if the soils in the vicinity of Well 4177 indicated a depth to water table of 5 feet below land surface, that would not necessarily be inconsistent with the head difference measurements collected by BFA at Test Sites 1, 2 and 3.

(iii) Depth to Water Table

103. The depth to water table is defined as the difference between the land surface elevation and the head value in the SAS.

104. The water table in the Area IV Wellfield area is consistently close to land surface and often above land surface. The construction of numerous above-grade forest roads and roadside ditches on the property surrounding the Area IV

Wellfield has had the effect of impounding surface water and raising the water table near land surface.

105. The Area IV Wellfield and vicinity have a variety of soil types. The predominant wetland soil type is Samsula Muck, which is classified as a very poorly drained soil with a water table either at or above land surface. The predominant upland soil type is Myakka Fine Sand, which is characterized by a water table within a foot of land surface during four months of the year and within 40 inches of land surface during remainder of the year. The average depth to water table at the Area IV Wellfield is approximately 1 foot based on soil types.

106. SAS levels at the three Farmton Mitigation Banks were measured at piezometers installed by Miami Corporation's consultants from 2001 through 2005. This data confirms the water table at the Area IV Wellfield is consistently close to land surface and frequently above land surface. It indicates the depth to water table is typically less than 3 feet and in many cases within a foot or two. Also, it does not matter whether any of the piezometers were located near wetlands because they show seasonal variation in water levels, where the water table changes from slightly above land surface to below land surface over the course of a year.

107. A water table depth of 6-14 feet below land surface is not realistic at the Area IV Wellfield based on soil

conditions and vegetation communities. Such a depth to water would be indicative of a landscape composed primarily of xeric scrub communities with few, if any wetlands. These types of communities do not exist near the Area IV Wellfield.

(iv) Aquifer Performance Tests

108. The flow of water through an aquifer is determined by three primary hydraulic coefficients or parameters: transmissivity; storage; and leakance.

109. An aquifer performance test (APT) is a pumping test where water is removed from the well at a set rate for a set period of time and drawdown is measured in the well and in neighboring monitor wells to calculate the hydraulic properties of the hydrologic formation. The main hydraulic properties determined through an APT are transmissivity, leakance, and storativity. These properties are used to characterize the water production capabilities of the hydrologic formations. These properties are also used in groundwater modeling to project impacts for longer periods of time and larger distances.

110. Aquifer parameters can be determined from an aquifer performance test using analytical "curve-matching" techniques or a groundwater flow model such as MODFLOW. Curve-matching techniques involve the creation of a curve through measurement of drawdown and the matching of that curve to standard curves derived using analytical equations.

111. Hydraulic conductivity or "K" is the term used to describe the ability of a hydrogeologic unit to conduct fluid flow. It is usually expressed in terms of horizontal hydraulic conductivity or "Kx" and "Ky" and vertical hydraulic conductivity or "Kz."

112. Transmissivity is the term used to describe the rate of movement of water for a given thickness of a hydrogeologic unit. It is the hydraulic conductivity of an aquifer times its thickness.

113. Storativity is the term used to describe the amount of water that is released from any aquifer for a given unit change in head, or the compressability of the aquifer system. This value can normally be determined during a 4-5 day aquifer performance test.

114. Specific yield is the term used to describe the long-term capacity of an aquifer to store water. This value cannot normally be determined during a 4-5 day aquifer performance test.

115. Leakance is the term used to describe the vertical movement of water from above or below a given unit in response to changes in head or pumpage.

116. APTs are standard practice for evaluating the suitability of a new area for development as a wellfield. Three APTs were conducted at Test Sites 1 and 3. No aquifer

performance tests were conducted at Test Site 2. Petitioners question whether the APTs for the Area IV Wellfield were conducted by BFA in accordance with the applicable standard of care in the hydrogeologic profession. The District's expert, Richard Burklew, believes the three APTs conducted at Test Sites 1 and 3 were adequate for purposes of determining appropriate aquifer parameters.

117. Two APTs were conducted by BFA at Test Site 1. The first test was conducted on January 30-31, 2001, when Well UF-1D was pumped at about 700 gpm or approximately 1 mgd for 44-48 hours, and Wells UF-1S and SA-1 were used as monitor wells. The second test was conducted on April 8-12, 2003, when Well UF-1D was pumped at about 700 gpm or approximately 1 mgd for 96 hours, and Wells UF-1S and SA-1 were used as monitor wells.

118. Using several analytical curve-matching techniques, BFA calculated a transmissivity of $7,300 \text{ ft}^2/\text{day}$ and a storativity of about 0.00036 on the basis of the 2001 APT at Test Site 1. They were unable to calculate a leakance value because the drawdown data did not reasonably fit the curve-matching techniques. For that reason, BFA performed another APT at Test Site 1 in 2003.

119. Using several analytical curve-matching techniques, BFA calculated a transmissivity of $7,300 \text{ ft}^2/\text{day}$, a storativity

of 0.00045, and a leakance of 0.00029 day⁻¹ on the basis of the 2003 APT at Test Site 1.

120. One APT was conducted by BFA at Test Site 3 on April 10-13, 2001. Well UF-3D was pumped at about 700 gpm or approximately 1 mgd for 70 hours, and Wells UF-3S and SA-3 were used as monitor wells.

121. Using several analytical curve-matching techniques, BFA calculated a transmissivity of 7,450 ft²/day, a storativity of 0.0002, and a leakance of 0.00026 on the basis of the 2001 APT at Test Site 3. However, because of problems with the test, leakance was not considered a good match for the analytical techniques.

122. Leakance values determined by BFA from the APTs conducted at Test Sites 1 and 3 were based on the application of analytical curve-matching techniques. The leakance values determined through the conventional type curve-matching techniques employed by BFA are typically higher than the actual leakance values. They are also inherently limited because they assume the calculated leakance is due entirely to the ICU rather than a combination of the ICU and MCU as is the case at the Area IV Wellfield. The analytical techniques employed by BFA were unable to calculate separate leakance values for the ICU and the MCU. The best way to determine leakance values for each of these confining units was to use a MODFLOW model and observed

head difference data. This was done by the City's consultant, SDI, and is described in greater detail, infra.

123. In January 2004, several APTs were conducted using two SAS wells referred to as Test Sites 4 and 6. These test sites are located more than 3 miles from the Clark property. Constant rate and variable rate APTs were conducted at both sites. During the constant rate tests, 230 gpm or about 0.33 mgd was pumped from the SAS well. Using several analytical curve-matching techniques, BFA calculated a transmissivity of 2,500 ft²/day for the surficial aquifer at those locations.

(v) Water Quality Data

124. Consistent with the general understanding of the freshwater groundwater tongue extending from Volusia into Brevard County, the TDEM performed by SDII Global indicated that the depths to the 250 mg/l and 5,000 mg/l chloride concentrations decrease as one proceeds south along the FEC ROW. For example, the depths to the 250 mg/l and 5,000 mg/l chloride concentrations were 442 feet and 542 feet, respectively, at the northernmost test site, which is somewhat north of the City's Test Site 1. The depth to the 250 mg/l and 5,000 mg/l chloride concentrations were 406 feet and 506 feet, respectively, at the southernmost test site, which is somewhat south of the City's Test Site 2.

125. Sixteen water quality grab samples were collected every 20-30 feet as the test production well at Test Site 1 was drilled, beginning at 120 feet below land surface and ending at 500 feet below land surface. This type of sampling is referred to as drill-stem testing. The chloride concentrations in the samples collected from 120 feet and 480 feet below land surface were 59 mg/l and 879 mg/l, respectively. The chloride concentrations in these samples did not exceed 250 mg/l until a depth of 460 feet below land surface was reached.

126. Six water quality grab samples (drill-stem tests) were collected every 20-30 feet as the test production well at Test Site 2 was drilled, beginning 120 feet below land surface and ending 210 feet below land surface. The chloride concentrations in the samples collected from 120 feet and 210 feet below land surface were 124 mg/l and 845 mg/l, respectively. The chloride concentrations in these samples did not exceed 250 mg/l until a depth of 180 feet below land surface.

127. Fourteen water quality grab samples (drill-stem tests), were collected every 20-30 feet as the test production well at Test Site 3 was drilled, beginning at 120 feet below land surface and ending at 500 feet below land surface. The chloride concentrations in the samples collected from 120 feet and 500 feet below land surface were 45 mg/l and 90 mg/l,

respectively. The chloride concentrations in these samples never exceeded 90 mg/l.

128. A packer test is a procedure used to isolate a particular well interval for testing. It is performed using an inflatable packer on the drill stem, which is placed at the interval to be blocked. The packer is inflated with water or air to isolate the interval to be sampled. A packer test can be used to collect water samples for analysis.

129. Several water quality grab samples were collected in packer tests at specific depth intervals at Test Site 1. At the interval of 331-355 feet below land surface one sample was taken with a chloride concentration of 672 mg/l. At the interval of 331-400 feet below land surface, one sample was taken with a chloride concentration of 882 mg/l. Finally, at the interval of 442-500 feet below land surface two samples were taken with chloride concentrations of 2,366 mg/l and 2,2712 mg/l.

130. Several water quality grab samples were collected in packer tests at specific depth intervals at Test Site 3. At the interval of 270-295 feet below land surface, two samples were taken with chloride concentrations of 74 mg/l and 450 mg/l. At the interval of 340-400 feet below land surface, two samples were taken with chloride concentrations of 64 mg/l and 134 mg/l. Finally, at the interval of 445-500 feet below land surface, two

samples were taken with chloride concentrations of 1,458 mg/l and 2,010 mg/l.

131. No packer test samples were collected at Test Site 2, where it was clear that water quality was too poor to be used as a fresh groundwater source.

132. The packer test samples collected at Test Sites 1 and 3 were collected using a higher pumping rate than typically recommended by the DEP and the United States Environmental Protection Agency (EPA). Consequently, the chloride concentrations in these samples are probably higher than the chloride concentrations found in the undisturbed groundwater at those depths. Since the packer sits on top of the borehole and restricts flow from above, it generally is reasonable to assume that a packer test draws more water from below than from above the packer. However, if transmissivity is significantly greater just above the packer, it is possible that more water could enter the packer from above.

133. Seven water quality grab samples were collected every 12 hours during the 2001 APT at Test Site 1. The chloride concentrations in the first and last grab sample were 59 mg/l and 58 mg/l, respectively.

134. Seven water quality grab samples were collected every 12 hours during the 2001 APT at Test Site 3. The chloride

concentrations in the first and last grab samples were 19 mg/l and 52 mg/l, respectively.

135. Nine water quality grab samples were collected every 12 hours during the 2003 aquifer performance test at Test Site 1. The field-measured chloride concentrations in the first and last grab samples were 56 mg/l and 55 mg/l, respectively. The laboratory measured chloride concentrations in the first and last grab samples were 66 mg/l and 74 mg/l, respectively.

136. The average chloride concentration for the water samples collected during the three APTs at Test Sites 1 and 2 was about 50 mg/l.

137. Water is composed of positively charged analytes (cations) and negatively charged analytes (anions). When cations predominate over anions, the water is said to have a positive charge balance; when anions predominate over cations, the water is said to have a negative charge balance. Theoretically, a sample of water taken from the groundwater system should have a charge balance of zero. However, in real life this does not occur because every sample contains some small trace elements that affect its charge balance. Therefore, in the field of hydrogeology, a positive or negative charge balance of 10 percent or less is accepted as a reasonable charge balance error, and this standard has been incorporated in the

permit conditions recommended by the District for the City's permit.

138. With one exception, all the water quality samples collected by BFA from Test Sites 1-3 had an acceptable charge balance. The one exception was a sample collected from the packer interval of 270-295 feet below land surface at Test Site 3 with a chloride concentration of 74 mg/l. This sample has a positive charge balance of 32.30 percent.

139. The sample collected from the packer interval of 270-295 feet below land surface at Test Site 3 has an overabundance of cations probably caused by grouting and cementing of the packer prior to taking the sample. Since chloride is an anion and not a cation, any error associated with this sample would not effect the validity of the 74 mg/l chloride concentration measured in this sample. This conclusion is also supported by the fact that two samples were collected from the same well at a packer interval of 340-400 feet below land surface with acceptable charge balances and they contained chloride concentrations of 64 mg/l and 134 mg/l.

140. The District's experts, Richard Burklew and David Toth, believe the 450 mg/l chloride concentration measured in a sample taken from the packer interval of 270-295 feet below land surface at Test Site 3 is a faulty measurement and should be discarded as an outlier. Dr. Toth testified that the sodium to

chloride ratio indicates there was a problem with this measurement, which would call into question the reported chloride value.

141. In 2004 and 2005, the City collected SAS water quality samples from Test Sites 4 and 6 and Monitor Wells MW-1 and RW-1 near Test Site 1. The samples were analyzed for all applicable water quality standards, which might preclude use of water from the SAS extraction wells to directly augment wetlands. The analyses found that the SAS water quality near the proposed extraction wells was very similar to the SAS water quality near the Area IV production wells and that water could be applied to the wetlands without any adverse water quality consequences.

(vi) Area IV UFAS Flow Patterns and Basin Boundaries

142. Although the United States Geologic Survey (USGS) potentiometric surface maps do not show any data points in the vicinity of the proposed Area IV Wellfield, and they are not sufficient by themselves to formulate opinions regarding the future operation or impacts of the proposed wellfield, Petitioners contend that these potentiometric surface maps demonstrate that the freshwater found in the UFAS at the Area IV Wellfield is due to local freshwater recharge only and not freshwater flow from the northwest. They point to a regional report indicating that there is a groundwater basin divide just

north of the Area IV Wellfield. This report is based on a 1980 USGS potentiometric surface map. However, another regional report indicates that the groundwater basin divide occurs south of the Area IV Wellfield. This report is likely based on a 1998 USGS potentiometric surface map. Because of the lack of data points in rural northwest Brevard County, the City did not rely on any groundwater basin divide maps, but rather collected site specific information regarding the proposed Area IV Wellfield.

143. The District's expert and the Petitioners' own expert (the sponsor of Petitioners' potentiometric surface map exhibits) noted several errors in the flow direction arrows added by Petitioners to the maps. In addition, after reviewing the potentiometric surface maps presented by Petitioners, the District's expert concluded that, in addition to local freshwater recharge, the predominant flow into the vicinity of the Area IV Wellfield is generally from the northwest and southwest. To confirm his opinion, the District's expert examined the head difference data collected in July 2006. At well UF-1S, the UFAS observation well at site 1, the elevation in the well was 16.27 NGVD. At site 3, which is southeast of site 1, the elevation in the UFAS observation well was 15.68 NGVD. At site 2, which is southeast of site 3, the elevation in the UFAS well was 13.87 NGVD. Since water generally flows from the highest to lowest head measurements, these measurements

indicated that water would have been flowing from the northwest to the southeast in the vicinity of Area IV. However, the potentiometric surface can change both seasonally and yearly; likewise, the basin boundaries may also change.

G. SAS and UFAS Drawdown

144. Predicting drawdown in the SAS and UFAS in the vicinity of the proposed Area IV Wellfield is important to several permitting criteria, including interference with existing legal uses and impacts on wetlands, both of which relate to the public interest.

145. During the permit application review process, the City submitted a succession of models to provide reasonable assurance that the proposed Area IV Wellfield would not result in unacceptable drawdown. Initially, BFA prepared and submitted groundwater flow simulations of the Area IV Wellfield prepared using an analytical model known as the "Multi-Layer/SURFDOWN Model." Although the District initially accepted the submission as providing reasonable assurance to support the District's initial TSR, Miami Corporation petitioned and criticized the City's model as not actually providing reasonable assurance, both because of its predicted SAS drawdown and because it was an analytical model (which can only represent simple conditions in the environment, assumes homogenous conditions and simple

boundary conditions, and provides only a model-wide solution of the governing equation).

146. By comparison, a numerical model allows for complex representation of conditions in the environment, heterogeneous conditions and complex boundary conditions, and cell-by-cell iterative solutions of the governing equation that are typically performed by a computer. Over the past 10 to 15 years, a numerical model called MODFLOW has become the standard in groundwater modeling throughout the United States and much of the world. All of the Florida water management districts utilize MODFLOW or are familiar with it, so it is a model of choice today for groundwater flow modeling.

147. Despite Miami Corporation's petition, the City and the District maintained that reasonable assurance had been given that operation of Area IV would not result in unacceptable drawdown. Miami Corporation's petition was scheduled for a final hearing in June 2005 that was continued until September 2005 after the first revised TSR was issued in May 2005. The final hearing was continued again until February 2006 to allow discovery and hearing preparation by Vergie Clark, who filed her petition in July 2005. As the case proceeded towards a February 2006 final hearing on the pending petitions, the City eventually made what actually was its second attempt to develop a calibrated MODFLOW model of the Area IV Wellfield.

148. Unbeknownst to the District, BFA already had attempted to develop a MODFLOW Model of the Area IV Wellfield in 2004, with the assistance of Waterloo Hydrogeologic, Inc. (WHI) (which later was retained as Petitioners' consultant in this case in a reverse of the Hartman client switch). When BFA ended its efforts with WHI, their efforts to calibrate a MODFLOW model for Area IV that would predict acceptable drawdown was unsuccessful, and none of those modeling efforts were submitted or disclosed to the District.

149. In the fall of 2005, the City turned to another consultant, SDI, to attempt to develop a calibrated MODFLOW Model of the Area IV Wellfield. SDI initially prepared a so-called MODFLOW model equivalent of the Multi-layer/SURFDOWN Model prepared by BFA. It was presented to District staff at a meeting held in January 2006 for the purpose of demonstrating to District staff that the MODFLOW model equivalent of the Multi-layer/SURFDOWN Model generated results for the Area IV Wellfield that were not very different from the results obtained by BFA using their Multi-layer/SURFDOWN Model. Petitioners criticized several weaknesses in the MODFLOW equivalent model and maintained that the modeling efforts to date did not give reasonable assurance of no unacceptable SAS drawdown. By this time, the District had decided to retain Dr. Peter Huyakorn, a renowned modeling expert. Based on his recommendations, the

District required the City to produce a calibrated MODFLOW model of Area IV (as well as numerical solute transport modeling, which will be discussed below). The scheduled final hearing was continued until September 2006 to allow time for this work to be completed, discovered, and evaluated.

150. After the continuance, the City had SDI prepare a calibrated MODFLOW model to predict the drawdown that would result from operation of Area IV. SDI produced such a model in March 2006. This model predicted less drawdown. Specifically, a steady-state simulation of a 2.75 mgd withdrawal from the proposed 15 UFAS production wells and a 0.18 mgd withdrawal from the four proposed SAS extraction/wetland augmentation wells predicted the maximum drawdown of the surficial aquifer to be less than 0.5 foot (which, as discussed infra, would be acceptable). (UFAS drawdown, which is not an issue, was predicted to be an acceptable 12 feet.) But Petitioners questioned the validity of the model for several reasons, including its suspect calibration. Dr. Huyakorn also had questions concerning the calibration of SDI's March 2006 MODFLOW model, but subsequent work by SDI satisfied Dr. Huyakorn and the District, which issued the TSR and proposed CUP at issue in May 2006 based in part on SDI's March 2006 MODFLOW model, despite Petitioners' criticisms. The final hearing was continued until September 2006 to give Petitioners time to complete discovery on

SDI's March 2006 MODFLOW model (as well as the City's new solute transport modeling, which is discussed, infra).

151. To calibrate its March 2006 MODFLOW, SDI first used a transient MODFLOW model to simulate data from the 4-day aquifer performance test (APT) from the Area IV Wellfield sites (the transient APT calibration). (A transient model is used to analyze time-dependent variable conditions and produces a time-series of simulated conditions.) Then, after calibrating to the APT data, SDI used a steady-state, non-pumping MODFLOW model (a time-independent model used to analyze long-term conditions by producing one set of simulated conditions) to simulate the static head difference between the SAS and UFAS (the steady-state head difference calibration). If the head difference simulated in the steady-state calibration run did not match the measured head difference, the ICU leakance was adjusted, and then the revised parameters were rechecked in another transient APT calibration run. Then, another steady-state head difference calibration run was performed in an iterative process until the best match occurred for both calibration models.

152. In order to achieve calibration, SDI was required to make the ICU leakance value several times tighter than the starting value, which was the value derived in the site-specific APT using conventional curve-matching techniques (and relatively close to the values ascribed to the region in general in the

literature and in two regional models that included Area IV near the boundary of their model domains--namely, the District's East Central Florida (ECF) model, which focused on the Orlando area to the south and west, and its Volusia model, which focused on Volusia County to the north).

153. SDI's calibrated ICU leakance value derived from calibration to observed static head differences is more reliable than an ICU leakance value derived from an APT using conventional curve-matching techniques. That leaves a question as to the quality of the static head difference measurements used for SDI's calibration.

154. BFA took static head measurements at SAS and UFAS monitor wells located at Test Sites 1, 2 and 3 in January 2004, April 2004, and July 2006. On each occasion, a downward head gradient was noted at each site, meaning the water table (i.e., the SAS) had a higher elevation than the potentiometric surface of the UFAS. In January 2004, the measured head difference at Test Sites 1, 2 and 3 were 6.2 feet, 5.5 feet and 5.9 feet, respectively. In April 2004, the measured head differences at Test Sites 1 and 3 were 8.1 feet and 8.1 feet, respectively. In July 2006, the measured head differences at Test Sites 1, 2 and 3 were 8.6 feet, 6.6 feet and 9.3 feet, respectively. The average of these observed head differences for the Area IV Wellfield was 7.46 feet.

155. BFA's static head difference measurements included both wet and dry seasons. The measurements do not show significant differences between seasons and suggest that static head difference remains fairly constant at the Area IV Wellfield year round. This is typical of head difference data collected from hundreds of other Florida locations because the hydrologic systems seek equilibrium.

156. Petitioners questioned taking an average of the head difference measurements because the region had experienced a rainfall deficit of 17 inches over the 12 months prior to time the measurements in July 2006 were taken. By itself, a rainfall deficit would not affect head difference measurements because the hydrologic system would seek equilibrium. But there was evidence of a possibly significant rainfall near Area IV not long before the July 2006 measurements. If significant rain fell on Area IV, it could have increased the static head differences to some extent. But there was no evidence that such an effect was felt by Area IV.

157. Petitioners also contend for several other reasons that the static head differences used by SDI as a calibration target were "not what they are cracked up to be." They contend that "limited spatial and temporal extent . . . renders them inappropriate calibration targets." But while the site-specific static head difference measurements were limited, and more

measurements at different times would have increased the reliability of the average static head difference used in SDI's steady-state calibration, the head difference measurements used were adequate. For a groundwater model of Area IV, they were as good as or better than the head differences used by Petitioners' expert modeler, Mr. LaFrenz of Tetrattech, who relied on SAS and UFAS head levels from the regional-scale ECF model, which were measured by the United States Geological Survey (USGS) in May and September 1995.

158. Petitioners also contended that the measured head differences used by SDI for the steady-state calibration of the March 2006 MODFLOW model were significantly higher than other measured head differences in the general vicinity of Area IV. One such location is Long Lake, which has saltwater and an obviously upward gradient (i.e., a negative head difference between the SAS and UFAS), whereas SDI's MODFLOW depicts it as having a five-foot downward gradient (positive head difference). However, all but one of those measurements (including from Long Lake) were from locations five or more miles from Area IV. In addition, the accuracy of the measurements from the closer location (and all but one of the more distant locations) was not clear, so that the seemingly inconsistent head differences measurements may not be indicative of actual inconsistency with the head difference measurements used by SDI.

159. Petitioners also accused the City and its consultants of "playing games with specific yield" to achieve calibration with a tighter-than-appropriate ICU leakance value. But the City and the District adequately explained that there was no merit to the accusations. It was appropriate for SDI to use just the relatively small specific storage component of SAS storativity (the 0.001 value) in its transient calibration runs, instead of the larger specific or delayed yield component. Storativity is not utilized at all in the MODFLOW steady-state calibration runs and steady-state simulations.

160. Based on the foregoing, it is found that Petitioners' factual disputes regarding SDI's calibrated ICU leakance value do not make the City's assurance of no unacceptable drawdown provided by its MODFLOW simulations unreasonable. That leaves several other issues raised by Petitioner with regard to the SDI's March 2006 MODFLOW model.

161. In calibrating its MODFLOW model, SDI utilized a value for the MCU leakance that was twice as leaky as the published literature values for the area, which Petitioners claim would reduce simulated SAS drawdown. Although the use of a higher MCU leakance value in the model may result in a prediction of less SAS drawdown, the actual effect, if any, on the predicted drawdown, was not made clear from the evidence.

In any event, an MCU leakance value for Area IV calibrated to site-specific data is more reliable than regional values.

162. Petitioners also accused the City and its consultants of using inappropriate or questionable boundary conditions, topography, and depth to the water table. They also contend that incorrect topography--namely, a nonexistent five-foot ridge or mound northwest of Area IV--provides an artificial source of water for SDI's March 2006 MODFLOW model. But the boundary conditions for SDI's March 2006 MODFLOW model were clear from the evidence and were appropriate; and SDI's topography and water table depth were reasonably accurate (and on a local scale, were as or more accurate than the USGS topographic maps Petitioners were comparing). Besides, Dr. Huyakorn ran the Tetrattech model with SDI's leakance value instead of Tetrattech's value and got virtually the same drawdown results, proving that differences in topography between the two models made virtually no difference to the drawdown predictions of either model. As for the so-called "flow from nowhere," particle-tracking simulations conducted by experts from both sides established that, with pumping at 2.75 mgd, no water would enter the Area IV production zone from anywhere near the five-foot ridge area for at least 100 years. This gave reasonable assurance that the five-foot ridge or mound had no effect on the simulated results from SDI's March 2006 MODFLOW model.

163. Petitioners also contend that the City's failure to simulate drawdown from pumping during the dry season, as opposed to a long-term average of wet and dry seasons, constituted a failure "to provide reasonable assurances as to the conditions that can be expected as a result of the anticipated operation of the wellfields." But the evidence was clear that long-term, steady-state groundwater model simulations are appropriate and adequate to provide reasonable assurance for CUP permitting purposes. See "Drawdown Impacts," infra. By definition, they do not simulate transient conditions such as dry season pumping.

164. The SDI model predicts a maximum drawdown, from a 2.75 mgd withdrawal from all fifteen UFAS production wells and a 0.18 mgd withdrawal from the four SAS extraction wells, of slightly less than 0.5 feet in the SAS and of 12.0 feet in the UFAS in the immediate vicinity of the Area IV Wellfield. SDI's model predicts a drawdown of 0.11 feet (approximately 1 inch) in the SAS and a drawdown of 2.2 feet in the UFAS at Ms. Clark's property, which is located approximately 1 to 1.5 miles north of the Area IV Wellfield.

165. It is found that SDI's March 2006 MODFLOW model for Area IV is the best such model in evidence. That is not to say that the drawdown predicted by SDI's model is a certainty. The other models were not proven to be better than SDI's, but they did demonstrate that simulated results would vary significantly

in some cases if SDI's calibration and calibrated ICU leakance values were incorrect. Having more good hydrologic information would have made it possible to reduce the uncertainties present in SDI's model, but it is found that SDI's March 2006 MODFLOW model was sufficient to give reasonable assurance as to SAS and UFAS drawdown from pumping at 2.75 mgd from the UFAS and 0.18 mgd from the SAS for wetland augmentation.

H. Drawdown Impacts

166. As indicated, once drawdown is predicted with reasonable assurance, both interference with existing legal uses and impacts on wetlands, which relate to public interest, must be evaluated.

(i) Interference with Legal Uses

167. Using SDI's March 2006 MODFLOW model, the City gave reasonable assurance that the drawdown predicted from pumping at 2.75 mgd from the UFAS and 0.18 mgd from the SAS for wetland augmentation will not interfere with existing legal users. The nearest existing legal users are located about one mile northwest and two miles east/southeast of the nearest proposed production well. The City's MODFLOW modeling scenarios indicate that maximum drawdown in the SAS will be less than 0.5 feet and minimal (at most 2.2 feet) in the UFAS at the nearest active existing legal users. Obviously, drawdown would be much less at

0.5 to 0.75 mgd from the UFAS (with probably no wetland augmentation required).

168. As indicated, the drawdown predicted by SDI's March 2006 MODFLOW model is not a certainty. Although not likely based on the more persuasive evidence, if actual drawdown approximates the drawdown predicted by the Tetrattech model, there could be interference with existing legal users. (The Tetrattech model predicts that the long-term average reduction in the water table of approximately 1.6 feet of drawdown near the center of the wellfield and drawdown of 0.4 feet to 0.5 feet extending out more than a mile from the proposed Area IV Wellfield.) There probably still would be no interference with existing legal users with pumping at 0.5 to 0.75 mgd from the UFAS (with probably no wetland augmentation required).

169. In the event of that much actual drawdown and unanticipated interference from the City's pumping, "Other Condition" 15 of the proposed permit requires that it be remedied. See Finding 36, supra. There is no reason to think such interference could not be remedied.

(ii) Environmental Impacts from Drawdown

170. Miami Corporation's property in the vicinity of the proposed Area IV Wellfield is a mosaic of pine flatwoods uplands interspersed with wetlands. The wetlands are mostly cypress

swamps, with some areas of hardwood swamp, marshes, and wet prairies.

171. Miami Corporation's property is managed for timber and is also used for cattle grazing and hunting. Miami Corporation has constructed a network of roads and ditches on its property, but overall the wetlands are in good conditions.

172. The areas east and west of the proposed Area IV Wellfield consist of cypress strands, which are connected wetlands. Compared to isolated wetland systems, connected wetlands are typically larger, deeper, and connected to waters of the state. They tend to have hardwood wetland species.

173. Connected wetlands are less vulnerable to water level changes brought about by groundwater withdrawals because they tend to be larger systems and have a greater volume of water associated with them. They are able to withstand greater fluctuations in hydroperiods than isolated herbaceous wetland systems.

174. Isolated wetland systems are landlocked systems. They tend to be smaller in size and shallower than connected wetland systems. Isolated systems tend to be more susceptible to changes in hydrology than larger connected systems.

175. The upland plant communities present near the proposed Area IV Wellfield include pine flatwoods that have been altered by Miami Corporation's timber operations. There is a

large area surrounding the Area IV Wellfield to the north that consists of forest regeneration after timbering.

176. There was evidence of the presence of the following listed animal species at the site of the proposed Area IV Wellfield: wood storks, roseate spoonbills, ibis, bald eagles, Sherman fox squirrels, American alligator, sandhill cranes, wood storks, black bear, and indications of gopher tortoises. The habitat in the vicinity also supports a number of other listed species that were not observed. The following listed plants species were also observed during the environmental assessment and site visits: hooded pitcher plants, water sundew, pawpaw and yellow butterwort.

177. Ms. Clark's property adjoins a cut-over cypress swamp on the western side of her property, and there is also a small man-made fish pond in her backyard. Some clearing has taken place in the wetland system on the back portion of Ms. Clark's property. What appears to be a fire break on Ms. Clark's property encroaches upon the wetland system. The wetlands on Ms. Clark's property have experienced some human activities such as trash dumping and clearing, which have resulted in a degradation of those systems. Some trees within the wetland systems on the back portion of Ms. Clark's property have been logged. For the most part, the hydrology appears to be normal. However, some invasive species have encroached upon the system

due to the clearing that has taken place. There was no evidence of listed plant or animal species present on Ms. Clark's property.

178. If drawdown is of the magnitude predicted by the SDI's March 2006 MODFLOW model, unacceptable environmental impacts from drawdown would not be anticipated. At 0.5 or 0.75 mgd, there clearly would not be any unacceptable environmental impacts.

179. In addition, "Other Condition" 12 of the proposed permit requires the City to perform extensive environmental monitoring. The environmental monitoring plan proposed for the Area IV Wellfield provides reasonable assurance that changes to wetland hydrology and vegetation due to groundwater withdrawals will be detected before they become significant.

180. "Other Condition" 12 of the proposed permit prohibits the City from pumping any water from the production wells until the monitoring network is in place. The baseline monitoring will give a clear indication of the existing conditions prior to the production wells coming on-line.

181. Once the production wells are online, the City will continue the same procedures that they conducted prior to the production wells coming online. This will allow the City and the District to monitor the effects of pumping. The City's proposed environmental monitoring plan is adequate to detect

drawdown impacts and is consistent with environmental monitoring plans that have been developed for other wellfields throughout the State of Florida.

182. Since the City has given reasonable assurance that there will not be environmental harm from drawdown, the proposed permit does not propose mitigation. If unanticipated harm is detected, "Other Condition" 24 of the proposed permit requires the City to implement an avoidance and minimization plan to rehydrate the wetlands and restore the water levels to normal levels and natural hydroperiods by augmenting the water in the affected wetlands with water pumped from SAS wells and piped to the affected wetlands. "Other Condition" 24 includes specific timeframes for implementing wetland rehydration in the event unanticipated impacts were to occur. In addition, the City could, on its own, change its pumping schedules. If an impacted wetland is near a particular well, the City could reduce or shut off water withdrawals from that well and thereby restore water levels in the wetland.

183. Direct augmentation of wetlands has been used at other facilities such as those of Tampa Bay Water and Fort Orange. The direct augmentation at these other sites appears to be effective. Direct augmentation of wetlands has proven to be a feasible means of offsetting adverse changes in wetlands due to groundwater withdrawals, at least in some circumstances.

184. There is a viable source of water that can be utilized to augment these wetland systems, namely a large canal south of the production wells. Based on the predicted drawdown, SDI estimated the quantity of water needed for implementation of the avoidance and minimization plan to be 0.18 mgd. The water quality in the canal is comparable to the water quality within any wetland systems that would be affected by drawdown.

185. The City plans to have its augmentation plan in place prior to the production wells coming online. In that way, if changes are observed within the wetland systems, the augmentation plan could be implemented in relatively short order to alleviate any impacts that might be occurring as a result of the production wells.

186. The success of the augmentation plan depends on the extent of actual drawdown. If actual drawdown approximates Tetrattech's predictions, environmental impacts would not be acceptable, and there would not be reasonable assurance that the augmentation plan would be sufficient to mitigate the environmental impacts. If drawdown is of the magnitude simulated in the City's MODFLOW model, reasonable assurance was given that, if needed, the avoidance and minimization plan developed for the Area IV Wellfield would be capable of offsetting any adverse changes in wetlands and other waters detected through the environmental monitoring plan. If the City

pumps not more than 0.75 mgd, the avoidance and minimization plan developed for the Area IV Wellfield probably would be unnecessary but certainly would be capable of offsetting any adverse changes in wetlands and other waters that would be detected through the environmental monitoring plan.

187. If unanticipated environmental harm occurs due to excessive actual drawdowns, and the harm cannot be avoided either by the augmentation plan or by altering the pumping schedule, or both, the District can revoke all or part of the permit allocation under "Other Condition" 23. This ability gives reasonable assurance that no unacceptable environmental harm will occur even if actual drawdown approximates Tetrattech's predictions.

I. Saltwater Up-coning and Intrusion

188. Predicting saltwater movement towards the production zone of the proposed Area IV Wellfield is important to several permitting criteria, including interference with existing legal uses and the ability of the resource to provide the requested allocation of freshwater, both of which relate to the public interest.

189. During the permit application review process, the City submitted a succession of models to provide reasonable assurance that the proposed Area IV Wellfield would not result in unacceptable saltwater intrusion. Initially, BFA prepared

and submitted solute transport simulations using an analytical model known as the "UPCONE Model." The District initially accepted the submission as providing reasonable assurance to support the District's initial TSR. Despite Miami Corporation's petition, the City and the District maintained that reasonable assurance had been given that operation of Area IV would not result in unacceptable saltwater intrusion based on the "UPCONE Model." As indicated, supra, Miami Corporation's petition was scheduled for a final hearing in June 2005, but the hearing was continued until February 2006. As the case proceeded towards a final hearing in February 2006, the City not only turned to SDI to develop the numerical MODFLOW model, it also turned to SDI to develop a numerical solute transport model that would couple the MODFLOW groundwater flow equations with advection dispersion solute transport equations to simulate the movement of variable density saline groundwater in response to stresses.

190. In addition to the initial boundary conditions, aquifer parameters and stresses specified for a groundwater model, a solute transport model requires solute parameters such as chloride concentrations, dispersivity and effective porosity.

191. SEAWAT is a solute transport model code that combines the MODFLOW, which provides the groundwater flow component, with the MT3DMS code, which provides the mass transport component. When coupled with MODFLOW, the MT3DMS code tracks the movement

of variable density water and performs internal adjustments to heads in the flow model to account for water density. Like MODFLOW, SEAWAT is capable of simulating the important aspects of the groundwater flow system, including evapotranspiration, recharge, pumping and groundwater flow. It also can be used to perform both steady-state or transient simulations of density-dependent flow and transport in a saturated zone. It was developed in the late 1990s and is rapidly becoming the standard for solute transport modeling throughout the United States. It is used by many water management agencies in the State of Florida.

192. Initially, SDI used SEAWAT version 2.1 to simulate movement of saline water towards the Area IV Wellfield. The first such simulation was prepared in March 2006 using manually-adjusted head values along the eastern model boundary. It incorporated SDI's March 2006 MODFLOW model. The District, in consultation with Dr. Huyakorn, required SDI to perform what was termed a "sensitivity run" with reduced chloride concentrations in the eastern boundaries (5,000 mg/l versus 19,000 mg/l) to better match actual measurements recorded in wells in the vicinity. In April 2006 SDI prepared and submitted those simulations.

193. After reviewing the March and April 2006 SEAWAT 2.1 simulations, Petitioners' consultants criticized the manner in

which starting chloride concentrations in the vicinity of the Area IV Wellfield were input into the models. In those models, SDI had input initial chloride concentration at 50 mg/l throughout the depth of the UFAS. The model was then run for 100 years with no pumping to supposedly arrive at a reasonable starting chloride concentration for the UFAS. Then, the model was run for 25 years with pumping at 2.75 mgd. However, the initial chloride concentrations at the beginning of the pumping run still did not comport well with actual measurements that were available.

194. After Petitioners raised the issue of the starting chloride concentrations assigned to the UFAS in SDI's March and April 2006 SEAWAT 2.1 runs, the final hearing was continued until September 2006 to give Petitioners time to complete discovery on those models (as well as on SDI's March 2006 MODFLOW model, as discussed supra). During a deposition of Dr. Huyakorn in July 2006, he recommended that the District require SDI to perform another simulation (also termed a "sensitivity run") using starting chloride concentrations more closely comporting with known measurements. (There also were some changes in the constant chloride concentrations that were part of the boundary conditions on the western side of the model domain.) This resulted in SDI's early August 2006 SEAWAT 2.1 simulation of 15 years of pumping at 2.75 mgd.

195. Petitioners also criticized the City for not using a newer version of SEAWAT, called SEAWAT 2000, as well as for using chloride concentrations as inputs for its SEAWAT 2.1 model simulations instead of total dissolved solids (TDS). (SEAWAT 2.1 required input of TDS, not chlorides; SEAWAT 2000 allowed chlorides to be input. Not until the last day of the final hearing was it pointed out by Dr. Huyakorn that using chlorides instead of TDS caused SDI's SEAWAT 2.1 simulations to over-predict saltwater intrusion.) As a result of Petitioners' criticisms, the City had SDI re-run both the April and early August SEAWAT 2.1 models in late August 2006 using SEAWAT 2000 (which the City and the District also termed "sensitivity runs.")

196. Because the SEAWAT 2000 simulations would be time-barred from use in the City's case-in-chief under pre-hearing requirements, and whether they could be used in rebuttal could not be determined at that point in time, the City requested another continuance, this time until December 2006, to give Petitioners time to discover the SEAWAT 2000 model simulations.

197. During Petitioners' discovery of SDI's August SEAWAT 2000 model simulations, it came to SDI's attention that SDI was not calculating mass outputs from the model correctly. Those errors were corrected by SDI in September 2006.

198. SDI's corrected August 2006 SEAWAT 2000 simulation predicted that, after 15 years of pumping at 2.75 mgd, the chloride concentration in the Area IV production wells would increase from 54 mg/l to 227 mg/l.

199. After the 15-year pumping run, SDI's corrected August 2006 SEAWAT 2000 simulation predicted that the chloride concentration in several of the southernmost production wells would exceed 250 mg/l. At 17.5 years of the pumping run simulation, the simulation predicted that the entire wellfield would have chlorides in excess of 250 mg/l.

200. That prediction does not, however, mean the chloride concentration in these wells will exceed 250 mg/l in actual operation. The SDI model contains several conservative assumptions that magnified the potential chloride concentrations in those wells. First, it was assumed all the production wells would be drilled to 250 feet below land surface, while the City will likely drill the southernmost wells to a shallower depth. Additionally, the wellfield production rate used in the model was not optimized for water quality. Finally, the model was not set up to simulate a wellfield operation plan that turned wells on and off based on the saline water monitoring plan. For the sake of simplicity, the model assumed that all the wells would operate 24 hours a day, 7 days a week, for the entire 15 year period.

201. Petitioners continued to maintain for several reasons that SDI's SEAWAT models do not provide reasonable assurance that operation of the Area IV Wellfield will not result in unacceptable saltwater intrusion.

(i) Chlorides versus TDS

202. Petitioners criticized SDI's corrected SEAWAT 2000 model for still not inputting chlorides correctly. While SEAWAT 2000 allows the input of chlorides instead of TDS (and input of chlorides instead of TDS is recommended since chloride is a more stable chemical than some of the other components of TDS), they must be input correctly. However, while Petitioners demonstrated that the chlorides were not input correctly, causing the model to under-calculate fluid density, Dr. Huyakorn clarified in rebuttal that under-calculating fluid density caused SDI's SEAWAT 2000 models to over-predict saltwater intrusion into the wellfield.

(ii) Starting Chloride Conditions

203. Petitioners continued to question the representation of initial chloride concentrations in the SEAWAT models.

204. SDI's SEAWAT models included multiple vertical grid layers to represent conditions better than the layering used in the MODFLOW set-up. The SAS was represented by layer 1, the ICU by layer 2, the UFAS by layers 3 through 14, the MCU by layer 15, and the LFAS by layers 16 and 17.

205. SDI used a chloride concentration of 0 mg/l for the SAS and ICU in its August 2006 SEAWAT model, which probably does not represent the actual initial condition but is probably close enough since the SAS is recharged by rainfall that typically has very low (1 to 2 mg/l) chloride levels. SDI used a chloride concentration of 2,500 mg/l for the MCU and a chloride concentration of 5,000 mg/l for the LFAS in its August 2006 SEAWAT model, which are reasonable initial chloride values for the Area IV Wellfield.

206. To develop the initial chloride concentration conditions of the UFAS for its August 2006 SEAWAT model, SDI first plotted the available water quality data (63 well-data points) on a map of the Area IV Wellfield area. After examining the distribution of the data, SDI divided the UFAS into two layers to represent the upper UFAS (above -200 feet NGVD) and the lower UFAS (below -200 feet NGVD). Then, using various scientific studies containing chloride concentration maps, groundwater recharge/discharge maps (recharge indicating an area is more likely to have low chlorides in the UFAS and discharge indicating an area is more likely to have high chlorides), and maps showing the shape and extent of the freshwater lens in the area, plus SDI's own knowledge of groundwater flows and expected higher chloride concentrations along the coast and St. Johns River, SDI used scientifically accepted hand-contouring

techniques to represent the initial chloride concentration conditions of the upper and lower UFAS on maps. SDI's two hand-contoured chloride concentration maps were reviewed and accepted by the District's experts and reflect a reasonable representation of the initial chloride concentration conditions in the UFAS in the Area IV Wellfield. Using the two hand-contoured chloride concentration maps, SDI input the chloride concentration values from those maps into its August 2006 SEAWAT model. The chloride concentration values from the upper UFAS map were input into layers 3 through 7 of SDI's August 2006 SEAWAT model. The chloride concentration values from the lower UFAS map were input into layers 11 through 14 of SDI's August 2006 SEAWAT model.

207. SDI input the average of the chloride concentration values from the upper and lower UFAS layers into the middle UFAS (layers 8 through 10). It is appropriate to average the chloride values between the upper and lower UFAS in the Area IV Wellfield because the saline water interface is not that sharp and occurs near the bottom of the UFAS (unlike conditions 11 miles to the south).

208. Petitioners accuse SDI, the City, and the District of ignoring unfavorable chloride data in setting up its August 2006 SEAWAT 2000 model. The evidence was that all chloride data was considered and evaluated.

209. Mr. Davis and the District's experts did not rely on the 450 mg/l chloride packer test measurement taken from the interval between 270 and 295 feet at Test Site 3 in preparing the contour maps of the UFAS because the chloride measurement was deemed inaccurate because the sodium to chloride ratio is out of balance.

210. Mr. Davis and the District's experts did not utilize the 2,336 mg/l and 2,717 mg/l chloride concentration packer test measurements at 442-500 feet below land surface at Test Sites 1 and 3 to prepare the chloride contour maps for the UFAS because they believed these measurements from the MCU.

211. Mr. Davis and the District's experts deemed it inappropriate to utilize a 845 mg/l chloride value reported for Test Site 2 to prepare the chloride contour for the lower portion of the UFAS because this sample was collected at just 210 feet below land surface and because a 500 mg/l contour line separates a 882 mg/l measurement at Test Site 1 from a 134 mg/l measurement at Test Site 3. The decision not to include the Test Site 2 data also is supported by the particle tracking modeling prepared by the Petitioners and the City using the groundwater component of the SDI SEAWAT model and the TetraTech model, which show that water from Test Site 2 will not enter the Area IV production wells for at least 100 years with pumping at 2.75 mgd.

212. The chloride contour maps developed by Mr. Davis and the District experts were consistent with previous studies conducted by the USGS and the District in the region. For example, the chloride contours shown on City Exhibit 142 for the upper portion of the UFAS are generally consistent with Figure 35 of the 1990 USGS Report by Charles Tibbals and Figure 15 of the 1999 District Report by Toth and Boniol.

213. The two chloride contour maps developed by Mr. Davis and the District's experts are a reasonable representation of the existing water quality of the UFAS in the region of the Area IV Wellfield based on the available data.

214. Mr. Davis used the 882 mg/l chloride concentration packer test measurement from the interval between 331 and 400 feet at Test Site 1 as the starting chloride concentration in four grid cells at the bottom of the UFAS, which Petitioners' experts referred to as a "pinnacle" or "column," that were assigned a chloride value of 700 mg/l. While the representation may not have been realistic, and the "pinnacle" or "column" quickly "collapses" when the model begins to run, the representation was a concession to the existence of the datum even though it appeared at odds with water quality collected from a packer test at Test Site 3 at the same depth interval, which was much fresher. District staff agreed with Davis'

approach to representing the saltier packer test measurement from Test Site 1.

215. The initial chloride concentrations developed for the UFAS by Mr. Davis and District staff are not inconsistent with the water quality data collected by the Petitioners' consultants from Long Lake. The lake is located in an area of the map where the chloride concentration in the UFAS, which discharges into the lake at that location, is between 1,000 and 5,000 mg/l.

216. Mr. Davis decided not to use 2,000 mg/l to represent the bottom layer of the UFAS even though the bottom packer tests performed at Test Sites 1 and 3 showed an average value of 2,000 mg/l at the approximate boundary of the UFAS and the MCU.

Instead, he decided to associate this chloride concentration with the MCU because even if the packer had penetrated a portion of the UFAS, he did not believe the measurement was representative of static water quality conditions at that depth. The packers had been pumped for over 4 hours at 25 gpm at Test Site 1 and over 4 hours at 85 gpm at Test Site 3, which could have doubled or tripled the static chloride concentration. As was later shown in sensitivity runs by Petitioners' expert, Dr. Guo, if SDI had incorporated the 2,000 mg/l value at the bottom of the UFAS, the model simulation would have shown unrealistically high initial chloride concentrations in the production wells at the start of pumpage when compared to the

water quality measured during the APTs conducted at Test Sites 1 and 3. (While only one well was pumping at a time, versus the 15 in the model simulations, the single APT well was pumping at approximately three times the rate of the 15 wells in the model simulation.)

217. Based on all the evidence, it is found that the chloride concentrations used in SDI's August 2006 SEAWAT model reflect a reasonable representation of the initial chloride concentration conditions in the UFAS in the Area IV Wellfield and were properly input into that model using an appropriate method.

(iii) Location of the MCU

218. Related to the last point is Petitioners' claim that the top of the MCU (i.e., bottom of the UFAS) is incorrectly represented in SDI's SEAWAT models at 450 feet below sea level (approximately 425 feet below land surface). They point to literature values indicating that the depth to the MCU is up to 150 feet greater. However, these reports did not include site-specific data or test wells in the vicinity of the Area IV Wellfield or in northern Brevard County. It was reasonable to consider and rely on site-specific information regarding the depth to the MCU in this case.

219. BFA determined the approximate location of the MCU by examining cuttings collected during drilling at APT well sites 1

and 3 and by measuring various properties of the aquifer with down-hole geophysical techniques. Based on the site-specific information obtained, the depth to the MCU was determined to be approximately 450 to 475 feet below land surface or -425 to -450 feet NGVD.

220. The lithologic log for well site 1 indicates the presence of gray/tan limestone between 450 to 460 feet below land surface and light/gray limestone and dolomitic limestone from 460 to 470 below land surface. The lithologic log for well site 3 indicates the presence of tan dolomitic limestone from 450 to 460 feet below land surface and tan limestone and dolomitic limestone from 460 to 470 feet below land surface.

According to Petitioners' own expert, Dr. Missimer, the change to a mixture of limestone and dolomite is evidence of the MCU. After examining the video log for well site 1, Dr. Missimer noted a "lithologic change" at 477 feet below land surface (while still disputing BFA's conclusion that the MCU started there.)

221. One characteristic of the MCU is a lower resistivity. At well site 1, a reduction in resistance occurred at approximately 470 feet below land surface. Another characteristic of penetrating the MCU is decrease in flow. The flow meter log for well site 1 suggests a decrease in flow at approximately 450 feet below land surface.

222. On the other hand, it also is true that wells drilled completely into the MCU probably would not produce more than approximately 5 gallons per minute (gpm), whereas the packer test at the bottom of Wellsite 1 was yielding 25 gpm, and the packer test at the bottom of Wellsite 3 was producing 85 gpm. It is possible that the bottom packers were open to both the UFAS and the MCU, which could explain the higher flows.

223. Petitioners maintain that BFA stopped drilling too soon (500 feet below land surface, or 475 feet below sea level) to ascertain the actual depth to the MCU. While it is true that drilling deeper would have made BFA's determination as to the depth to the MCU more convincing and certain, BFA's approximation of the depth to the MCU was reasonable for purposes of SDI's SEAWAT model.

224. To the extent that BFA might have been wrong on the depth to the MCU, there was no convincing evidence that the error would have made SDI's SEAWAT model results unreliable. To the contrary, Dr. Huyakorn testified that, even if SDI put the MCU 75 feet too high, the label given to the interval is not critical to the reliability of the modeling results. More important are the parameters for transmissivity and leakance assigned to aquifers and confining units. Dr. Huyakorn testified that, given the aquifer parameters assigned to the

intervals, SDI's SEAWAT modeling results would be reasonably reliable.

J. Saline Movement Impacts

225. As indicated, once chloride concentration changes are predicted with reasonable assurance, both interference with existing legal uses and the ability of the resource to provide the requested allocation of freshwater, which relate to public interest, must be evaluated.

226. Significant saline water intrusion is defined as saline water encroachment which detrimentally affects the applicant or other existing legal users of water, or is otherwise detrimental to the public. (Rule 9.4.2, A.H.). Saline water may encroach from upconing or the vertical movement of saline water into a pumping well, and it may encroach laterally to the well from a saline waterbody like the ocean.

227. The proposed use associated with the four surficial aquifer extraction wells is so minimal that it clearly would not cause saline water intrusion or harm the quality of this proposed source of water. The focus of attention is the production wells.

228. The evidence was sufficient to provide reasonable assurance that the proposed consumptive use from the Area IV Wellfield will not cause significant saline water intrusion; further aggravate currently existing saline water intrusion

problems; induce significant saline water intrusion to such an extent as to be inconsistent with the public interest; or harm the quality of the proposed source of water.

229. First, the long-term constant rate pump tests, which were conducted as part of the APT, give some indication of the potential for saltwater intrusion. While only one well was pumping during the tests, water quality did not degrade at pumping rates that far exceeded what would be approved as part of the proposed permit. During four-day pump tests in which the wells at sites 1 and 3 were pumped at approximately 1 mgd, chlorides never exceeded approximately 74 mg/l.

230. Second, while (as with drawdown predicted by the groundwater flow modeling) saltwater movement predicted by the City's SEAWAT simulations is not a certainty, the simulations gave reasonable assurance that the requested allocation could be withdrawn from the Area IV Wellfield without excessive changes to water quality (specifically chlorides) and that there is an adequate thickness of freshwater at the Area IV Wellfield that could supply the requested allocations of water for 15 years without saline water intrusion, especially since it is unlikely that a number of the wells will actually be constructed to the 250-foot depth assumed in the model, particularly as one moves south along the railroad right-of way.

231. Third, it is even more unlikely that saltwater intrusion will occur before the proposed permit expiration in 2010. Due to the time required to construct the facility, it is anticipated that the Area IV Wellfield will become operational in 2009. Assuming the City seeks to renew the permit, there would be more information on saltwater intrusion for the District to consider on permit renewal.

232. Since the City provided reasonable assurance as to its proposed withdrawals from Area IV, there clearly is reasonable assurance that withdrawal of not more than 0.75 mgd from Area IV would not result in significant saline intrusion.

233. The TSR includes proposed "Other Condition" 11 which requires the installation of saline monitor wells. The spatial distribution of these wells is such that the beginning of water quality degradation or saltwater intrusion, either from upconing or lateral intrusion, would not occur without it being detected by these wells. In addition to these monitor wells, proposed "Other Condition" 14 requires water quality samples to be collected from each production well. These wells are to be sampled quarterly for a suite of parameters, including chlorides.

234. "Other Condition" 25 is proposed as a "safety net" should unanticipated saltwater intrusion occur. If any production well shows a concentration of 250 mg/l chlorides,

then this proposed condition would prohibit further use of the well until the chloride concentration drops. If the monitoring shows a chloride concentration in a production well of 200-to-249 mg/l, the well will be placed on restricted use. A production well may be placed back into regular service once the chloride concentration in the well is below 200 mg/l.

K. Other Issues

235. Other issues raised and maintained by Petitioners in this case include: whether the City has provided reasonable assurance that it owns or controls the property upon which the proposed wellfield will be located; whether the Area IV Wellfield is an economically feasible option; whether the City has provided reasonable assurance that it will be able to implement the project before the expiration date of the proposed permit; whether the proposed CUP is inconsistent with the District's designation of Priority Water Resource Caution Areas; whether the proposed CUP constitutes an impermissible modification of the existing CUPs for Areas II and III; and whether the City failed to pay the appropriate permit fee.

(i) Ownership or Control

236. The City has obtained an easement from the Florida East Coast Railway (FEC) to use FEC right-of-way for the City's proposed production wells. It does not yet have ownership or control of land needed for all wetland and saline monitoring

sites, or for wetland augmentation if necessary, but intends to acquire the right to use all land needed through negotiation or exercise of eminent domain.

237. Petitioners contend that the FEC easement is insufficient for several reasons: the easement is "without warranty or covenants of title of any kind"; it is impossible to define the precise boundaries of the easement because the easement is defined in terms of distance from the center of a railroad bed that existed in 1866 but no longer exists; and the precise location of proposed production wells is not definite.

238. While the easement is "without warranty or covenants of title of any kind," the evidence is that, if contested, the precise boundaries of the easement would be difficult but not necessarily impossible to define. It is reasonable to anticipate that at least Miami Corporation will contest the legality and extent of the FEC easement.

239. Petitioners allege that there is confusion about the location of the proposed wells because some well locations identified in the City's permit application did not match the coordinates assigned to certain production wells on the District's on-line database. Actually, there is no confusion regarding the location of the wells; the well locations identified in the permit application were the well sites used for modeling purposes and for review of the application.

District staff explained that the well site locations identified in the District's database would be finalized after the wells are constructed and the exact locations have been identified using GPS technology.

240. Contrary to Petitioners' contentions, the District's rules do not require that an applicant own the property where the proposed production wells or monitoring wells are to be located. The District has issued many CUPs where either the subject property or the property associated with the monitoring requirements of the permit are not owned by the applicant. Recent examples include the CUPs for Orange County Utilities and the Orlando Utilities Commission. This makes sense when the applicant has the power of eminent domain or some other credible means of obtaining necessary ownership or control, such as an option contract.

241. The District's permit application form has a section that requires the applicant to identify who owns or controls the land on which the facility will be located. The District uses this information for noticing and contact information. Contrary to Petitioners' contentions, this section of the permit application form is not intended to create a substantive permitting standard requiring property ownership before a consumptive use permit can be issued.

242. Petitioners argue that proof of ownership or control is necessary to determine whether a drawdown from a proposed water use will adversely affect stages or vegetation on lands other than those owned, leased, or otherwise controlled by the applicant. However, the evidence was that these impacts can be assessed based on the facts of this case.

243. The City's need to eventually obtain ownership or legal control to exercise the rights granted by the proposed CUP may be problematic in this case and is a factor to be considered in the next two issues raised and maintained by Petitioners: whether the Area IV Wellfield is an economically feasible option; and whether the City has provided reasonable assurances that its project can become operational before the expiration date of the proposed permit. But it is not a reason to automatically deny the City's proposed CUP.

(ii) Economic Feasibility

244. Petitioners argue that the proposed Area IV Wellfield is too expensive and that the expense should be a factor in deciding whether it is in the public interest. But cost to the City is not a factor in determining whether to issue the CUP proposed in this case. Statutes and rules cited by Petitioners on this point do not apply to this CUP determination. See Conclusions of Law 277-279, infra.

(iii) Implementation Before Expiration Date

245. Litigation of a case filed by Miami Corporation to contest the legality and extent of the City's FEC easement will add to the (cost and) time necessary to implement the project. This additional time was not specifically taken into account by the City in estimating the time it would take to implement the project.

246. The (cost and) time for litigation of the legality and extent of the City's FEC easement could be spared by exercising eminent domain instead. That probably would add to total the cost of eminent domain but might not add appreciably to the time necessary for acquisition of required ownership or control.

247. In an imprecise way, the time for eminent domain proceedings necessary to gain ownership or control of land for monitoring sites and wetland augmentation (without time for litigation of a contest over the legality and extent of the FEC easement, or for using eminent domain instead) was factored into the time estimated for implementation of the project. With this rough estimate, the evidence was that the project could be expedited and completed in 33 months from issuance of a CUP. It is possible but not probable that the project could be implemented in less than 33 months. It is possible and more probable that it will take longer than 33 months to implement

the project. In a worst case scenario, it could take as much as 59 months complete the project. But 33 months is a reasonable, if optimistic, estimate (without time for litigation of the legality and extent of the FEC easement, or for using eminent domain instead).

248. As found, the proposed CUP expires at the end of 2010. Given the 33-month estimate for implementation (without time for litigation of a contest over the legality and extent of the FEC easement), the CUP would have to be issued by March 2008 to be completed before expiration. Given that estimate, it would be in operation for six months before expiration. It is likely that the City will apply to renew both the existing CUP for Areas II and III and the proposed CUP for Area IV.

249. It appears from Petitioners' Response to the other PROs that one purpose for their arguments that the proposed CUP for Area IV cannot be implemented before its expiration is to buttress their arguments, already addressed, that there is no need for the proposed CUP for Area IV.

(iv) Priority Water Resource Caution Area Designation

250. As part of its water supply planning process, the District designates priority water resource caution areas. A priority water resource caution area is an area where existing and reasonably anticipated sources of water and water conservation efforts may not be adequate to supply water for all

existing legal uses and anticipated future needs and to sustain the water resources and related natural systems.

251. The area surrounding the Area IV Wellfield was designated as a priority water resource caution area in the District's 2003 Water Supply Assessment and 2005 Water Supply Plan based on groundwater modeling prepared by District planning staffing using the ECF and Volusia County Regional Models.

252. The fact the Area IV Wellfield is located in a priority water use caution area does not mean a consumptive use permit cannot be issued for this facility. In fact, over one-third of the District is located within a priority water resource caution area, and permits continue to be issued in those areas. Rather, the essence of the designation is the recognition of a concern, based on the regional models, that the proposed consumptive use of water might violate the wetland and lake constraints and that water resources other than fresh groundwater will be needed to supply the expected need for water in the area and in the District over the next 20 years. That does not mean that no additional groundwater withdrawals should be permitted in a designated area. Rather, it means that other resources should be developed and used along with whatever remaining additional fresh groundwater can be permitted. It is not an independent reason, apart from the permitting criteria, to deny the City's application.

(v) Impermissible Modification of Existing CUP

253. Petitioners contend that the proposed CUP for Area IV includes an impermissible modification of the existing CUP for Areas II and III because "Other Condition" 5 limits average annual withdrawals from the Area II, III, and IV Wellfields, combined, to 5.79 mgd in 2009 and 6.01 mgd in 2010. (As indicated, the limitations would have to be reduced to no more than 5.2 mgd based on the more reasonable projected need.) However, the City's current CUP for the Area II and III Wellfields expires in February 2008, which is before the Area IV Wellfield would become operational, so that "Other Condition" 5 will have no practical effect on the existing CUP for Areas II and III. In essence, "Other Condition" 5 serves to advise the City that it should not view the allocation for the Area IV Wellfield in addition to the City's existing allocations for the Area II and Area III Wellfields and that any renewal of the existing CUP for Areas II and III will have to take the Area IV allocation into account.

(vi) Appropriate Permit Fee

254. Petitioners have alleged that the City has not paid the correct permit processing fee. In March 2001, the City paid the District \$200 when it submitted its initial permit application to modify its existing CUP. In May 2005, the City paid the District an additional \$800 when it amended its

application and withdrew its request to modify its existing permit. All required permit processing fees have been paid for this CUP application 99052.

(vii) Miscellaneous

255. As to other issues raised by Petitioners in the case, the evidence did not suggest any danger of flooding, any proposed use of water reserved by rule for other uses, any effect on any established minimum flows or levels, or inadequate notice.

L. Standing

256. As found, Miami Corporation owns property immediately adjacent to the proposed Area IV Wellfield, and Ms. Clark owns property a little more than a mile away. Both alleged and attempted to prove that SAS drawdown from the proposed CUP would degrade wetlands on their property and interfere with their legal use of groundwater, and that saline intrusion from the proposed CUP would degrade the water quality of the UFAS resource which they use for potable water.

257. As found, Petitioners did not prove those allegations; however, the evidence was that both Petitioners have substantial interests (the quality of water in the aquifer from which their wells withdraw water and wetlands on their property) that would be affected by the proposed CUP at least to some extent.

CONCLUSIONS OF LAW

258. This is a de novo proceeding intended to formulate final agency action. Dept of Transp. v. J.W.C., Inc., 396 So. 2d 778, 786-87 (Fla. 1st DCA 1981). The burden of proof in a permitting hearing falls upon the applicant to prove entitlement by a preponderance of the evidence. J.W.C., 396 So. 2d at 788. To prove entitlement, the applicant must provide reasonable assurance through presentation of credible evidence of entitlement to the CUP. Id. at 789; Lake Brooklyn Civic Ass'n v. St. Johns River Water Mgmt. Dist., DOAH Case No. 92-5017, 1993 Fla. ENV LEXIS 118 (FLWAC Sept. 30, 1993), 1993 Fla. ENV LEXIS 93 (SJRWMD Jul. 14, 1993), 1993 Fla. Div. Adm. Hear. LEXIS 5210 (DOAH Jun. 4, 1993). The term "reasonable assurance" means a "substantial likelihood that the project can be successfully implemented." Metropolitan Dade County v. Coscan, Fla., Inc., 609 So. 2d 644 (Fla. 3d DCA 1992). Thus, the applicant's burden is one of reasonable assurances, not absolute guarantees. Lake Brooklyn Civic Ass'n, supra.

259. J.W.C. also refers to a procedural option of requiring the applicant to going forward with evidence initially to prove a prima facie case of entitlement, and then shifting of the burden to the petitioner to present contrary evidence of equivalent quality. J.W.C., 396 So. 2d at 789. In this case, the procedural option was not used because it was anticipated

that both the City and Petitioners would present competent, substantial evidence of equivalent quality in support of their positions, which is what occurred.

M. The Permitting Criteria

260. In order for the City to meet the burden of proof described above, it was required to demonstrate compliance with the criteria included in Section 373.223, Florida Statutes.⁶ This statutory provision establishes a three-prong test requiring that a proposed use of water: (1) is a reasonable-beneficial use of water; (2) will not interfere with any presently existing legal use of water; and (3) is consistent with the public interest. The District's Conditions for Issuance of Permits, which implement the three-prong test, are contained in Florida Administrative Code Rule 40C-2.301.⁷ The Criteria for Evaluation of Permits are found in Part II, Applicant's Handbook, Consumptive Uses of Water (A.H.), which has been adopted by reference in Rule 40C-2.101(1).

261. In many cases, the criteria in these sources are redundant or circular, making it difficult to apply them in a concise manner. As indicated in the Findings of Fact, several findings of fact pertain to several different criteria.

262. Rule 40C-2.301(2)-(4) provides in pertinent part as follows:

(2) To obtain a consumptive use permit for a use which will commence after the effective date of implementation, the applicant must establish that the proposed use of water:

- (a) Is a reasonable beneficial use; and
- (b) Will not interfere with any presently existing legal use of water; and
- (c) Is consistent with the public interest.

(3) For purposes of subsection (2) (b) above, "presently existing legal use of water" shall mean those legal uses which exist at the time of receipt of the application for the consumptive use permit.

(4) The following criteria must be met in order for a use to be considered reasonable-beneficial:

- (a) The use must be in such quantity as is necessary for economic and efficient utilization.
- (b) The use must be for a purpose that is both reasonable and consistent with the public interest.
- (c) The source of the water must be capable of producing the requested amounts of water.
- (d) The environmental or economic harm caused by the consumptive use must be reduced to an acceptable amount.
- (e) All available water conservation measures must be implemented unless the applicant demonstrates that implementation is not economically, environmentally or technologically feasible. Satisfaction of this criterion may be demonstrated by implementation of an approved water conservation plan as required in Section

12.0., Applicant's Handbook: Consumptive
Uses of Water.

(f) When reclaimed water is readily available it must be used in place of higher quality water sources unless the applicant demonstrates that its use is either not economically, environmentally, or technologically feasible.

(g) For all uses except food preparation and direct human consumption, the lowest acceptable quality water source, including reclaimed water or surface water (which includes stormwater), must be utilized for each consumptive use. To use a higher quality water source an applicant must demonstrate that the use of all lower quality water sources will not be economically, environmentally or technologically feasible. If the applicant demonstrates that use of a lower quality water source would result in adverse environmental impacts that outweigh water savings, a higher quality source may be utilized.

(h) The consumptive use shall not cause significant saline water intrusion or further aggravate currently existing saline water intrusion problems.

(i) The consumptive use shall not cause or contribute to flood damage.

(j) The water quality of the source of the water shall not be seriously harmed by the consumptive use.

(k) The consumptive use shall not cause or contribute to a violation of state water quality standards in receiving waters of the state as set forth in Chapters 62-3, 62-4, 62-302, 62-520, and 62-550, F.A.C., including any anti-degradation provisions of Sections 62-4.242(1)(a) and (b), 62-4.242(2) and (3), and 62-302.300, F.A.C., and any

special standards for Outstanding National Waters set forth in Sections 62-4.242(2) and (3), F.A.C. A valid permit issued pursuant to Chapters 62-660 or 62-670, F.A.C., or Section 62-4.240, F.A.C., or a permit issued pursuant to Chapters 40C-4, 40C-40, 40C-42, or 40C-44, F.A.C., which authorizes the discharge associated with the consumptive use shall establish that this criterion has been met, provided the applicant is in compliance with the water quality conditions of that permit.

(1) The consumptive use must not cause water levels or flows to fall below the minimum limits set forth in Chapter 40C-8, F.A.C.

263. In addition to the foregoing, Rule 40C-2.301(5) (a) highlights certain reasons for denial of a CUP application, providing:

(5) (a) A proposed consumptive use does not meet the criteria for the issuance of a permit set forth in subsection 40C-2.301(2), F.A.C., if such proposed water use will:

1. Significantly induce saline water encroachment; or
2. Cause the water table or surface water level to be lowered so that stages or vegetation will be adversely and significantly affected on lands other than those owned, leased, or otherwise controlled by the applicant; or
3. Cause the water table level or aquifer potentiometric surface level to be lowered so that significant and adverse impacts will affect existing legal users; or
4. Require the use of water which pursuant to Section 373.223(3), Florida Statutes, and Rule 40C-2.301(6), F.A.C., the Board has

reserved from use by permit; or

5. Cause the rate of flow of a surface watercourse to be lowered below any minimum flow which has been established in Chapter 40C-8, F.A.C.; or

6. Cause the level of a water table aquifer, the potentiometric surface level of an aquifer, or the water level of a surface water to be lowered below a minimum level which has been established in Chapter 40C-8, F.A.C.

These criteria are also found in A.H. Section 9.4.

N. Whether the Proposed Use is a Reasonable-Beneficial Use

- (i) Rule 40C-2.301(4)(a); A.H. §§ 10.3(a) and 12.0 - Whether the proposed quantity is necessary for economic and efficient utilization

264. Under Rule 40C-2.301(4)(a) and A.H. Section 10.3(a), the District considers: (1) whether there has been a demonstration of need for the water requested; and (2) whether the requested amount of water will be used efficiently.

(a) Demonstration of Need

265. A.H. Section 12.2 contains the need and use standards applicable to public supply type uses:

12.2 Public Supply-Type Uses

An amount of water required for reasonable-beneficial uses must be demonstrated by the applicant. For public water supply systems, this amount is calculated based upon the projected requirements of the population as to its industrial, commercial and other users supplied by the permittee. Population requirements are calculated by multiplying the 10-year projected population for an

authorized service area by calculated or estimated per capita daily water use. Projected population shall be determined using the methods and data sources specified in Subsection 12.4.1; use shall be calculated or estimated as prescribed in Subsection 12.4.2.[⁸] Other methods for determining water requirements may be used as approved by staff.

If the applicant's requested quantity exceeds the amount of water required for reasonable-beneficial uses as calculated pursuant to this Section, the staff will recommend a projected requirement based on its analysis of population projections for the service area and historical or design per capita use of water.

Reasonable-beneficial requirement for the public supply-type use is the highest allocation which staff can recommend. If all other criteria are satisfied, staff will recommend this amount as the annual allocation.

12.2.1 Population Projections

A ten-year population growth should be projected using accepted projection techniques. The following sources of growth projection are based on accepted techniques and may be used:

The appropriate local government adopted comprehensive plan

Detailed DER Population Studies

201/208 Planning Studies

University of Florida, Bureau of Economic and Business Research Population Data

Regional Planning Council Data
Special population studies (special
population studies should only be used if
the sources listed above are unavailable)

The District shall consider evidence
submitted in the application which indicates
appropriate adjustments to the population
base due to changes in the number of
residents in the service area actually
served by the utility. Evidence on the
location of large unique users not related
to population, such as golf courses and
industrial plants will also be considered.

12.2.2 Per Capita Daily Water Use

Historical average per capita water use will
generally be acceptable as evidence of total
daily water use. Historical average daily
per capita daily water use is calculated
either by dividing average day water
withdrawals for the current pumpage period
by the permanent population for the same
period of time or by determining the per
capita daily water use for the five most
recent years. The greatest or most accurate
per capita use derived from either of the
two methods may then be used in projecting
future water use. In some cases the
historical demand patterns will not be
appropriate for projection purposes. This
may occur, for instance, when there are
current large users whose growth is not
related to population or when future
development may take on characteristics very
different from those of present development.
In such cases alternative per capita
estimates may be appropriate and should be
used, accompanied by appropriate
documentation.

If the historical usage is greater than 150
per capita day (GPCD) the District shall
request specific information from the
applicant which explains the high per capita
use.

If no data or historical use of water exist, a design per capita use acceptable to the District staff may be used. For any proposed development the design per capita use must be explained.

266. There is nothing specific in A.H. Section 12.2.1 that authorizes the City to use the source of growth projections it used in this case. The only possible justification for the City's proposed source of growth projections is the statement in A.H. Section 12.2: "Other methods for determining water requirements may be used as approved by staff." Use of that justification begs the question whether staff's approval of those projections was reasonable.

267. As found, it was not reasonable for the District's staff to approve the City's calculation of projected population at the end of 2010; rather, the lower calculation by Petitioners' expert witness was reasonable.

268. As for per capita daily water use, the City and the District attempt to justify using an alternative calculation method based on 11 years of experience instead of five because the past five years were wetter than average, while the previous 11 years cover a good mix of wet and dry years. However, as found, per capita water use by the City's customers no longer varies by much between wet and dry years, and the City's alternative calculation overlooks the impact of water

conservation measures, especially conservation rates that were not implemented until 1998.

269. The City and District also take the position that the value selected by the City for its water demand projections is appropriate because it is less than 150 gallons per person per day, which they call the District's "per capita water use standard." Actually, under A.H. Section 12.2.2, 150 is not a "standard" but rather a threshold above which additional explanation would be required. In other words, it does not automatically sanction the use of any lower number.

270. The City and District also take the position that the 100.35 gallons per person per day is acceptable because the City's comprehensive plan includes a level of service standard of 100. But there is nothing in A.H. Section 12.2.2 that adopts the comprehensive plan level of service standard as a presumptively reasonable per capita daily water use standard.

271. As found, the appropriate calculations of projected population and per capita water use at the end of 2010 result in a demand for no more than 5.2 mgd.

272. Contrary to Petitioners' contention, the District's rules do not require the City to meet either its existing or future demands from water supplied by the City of Cocoa before it can develop its own supplemental source. There is nothing in A.H. Section 12.2 implying that the amount of water the City can

buy from Cocoa under contract, even the take-or-pay portion of the contract, should be counted as part of "the applicant's requested quantity" to be compared to the amount of water required for reasonable-beneficial uses. Assuming that the other permitting criteria are met, the City may receive a CUP to supply its reasonable-beneficial uses without reference to Cocoa water. If such a CUP is granted to the City of Titusville, Cocoa's reasonable-beneficial use would decline accordingly.

273. The City's existing permit for the Area II and III Wellfields expires in February 2008, before the City would begin pumping water from Area IV if authorized. If withdrawals from Areas II and III were not considered part of "the applicant's requested quantity," there clearly would be a need for 2.75 mgd from Area IV to meet the projected demand in 2009 and 2010. However, the proposed CUP recognizes that the existing permit for Areas II and III likely will be renewed at some level, and all parties accept that the safe and reliable yield for Areas II and III should be counted as part of "the applicant's requested quantity" for purposes of determining whether the proposed Area IV allocation is a "reasonable beneficial use." For that reason, "Other Condition" 5 of the proposed CUP for Area IV requires that if the City receives water from the City of Cocoa for potable use, then the City's combined allocation for Areas II, III, and IV shall be reduced in an amount equivalent to the

quantity provided to the City of Titusville by the City of Cocoa. The parties disagree as to the amount of the safe and reliable yield for Areas II and III. As found, the safe and reliable yield from Areas II and III is approximately 4.5 mgd.

274. The City and the District take the position that the District encourages water supply applicants to build redundancy into their water supply systems so they have the flexibility to rotate water use among several different facilities. But there is nothing in the District's rules about building redundancy, or giving any guidance as to how much redundancy should be encouraged. To the contrary, A.H. Section 12.2 is reasonably clear that "the applicant's requested quantity" may not exceed the amount of water required for reasonable-beneficial uses, as calculated under A.H. Section 12.2. As found, the need as calculated under that rule for purposes of the pending application does not exceed 0.75 mgd.

275. The City attempts to use the Florida Public Service Commission (PSC) Final Order granting Miami Corporation's wholly owned subsidiary, Farmton Water, an original water certificate to justify granting its application in this case "regardless of whether the City's existing water demands are projected to increase during the next 4 years." The District does not appear to join the City in this position. Indeed, the PSC's Final Order plays no part in deciding whether the City's "requested

quantity exceeds the amount of water required for reasonable-beneficial uses" as calculated in A.H. Section 12.2.1.

(b) Efficient Use

276. The evidence was clear and not seriously challenged that the City is efficient in treating and distributing potable water to its customers--the City delivers to its customers all but approximately 6.5 percent of the water it pumps from its Area II and III Wellfields. The ultimate use of water for human consumption (i.e., for drinking) is inherently efficient. With the conservation measures the City has imposed, including conservation rates, as little as reasonably possible of the potable water used by customers for other purposes is wasted. This makes the use economic and efficient for purposes of determining whether it is a reasonable-beneficial use.

277. Petitioners contend that the City's proposed use of water is not economic and efficient because there are ways to obtain the water that would be less expensive for the City and its customers. Regardless whether Petitioners' contention is factually correct, the cost to the City and its customers is not relevant to a determination whether a use is economic and efficient under A.H. 12.2.2.

278. The legislative history of the Florida Water Resources Act demonstrates the Legislature did not intend the type of economic comparisons urged by the Petitioners as a

component of consumptive use permitting. The Florida Water Resources Act was based primarily on "A Model Water Code" (Maloney et al., 1972). Because the Florida Water Resources Act closely tracks the Model Water Code, the Code and its accompanying commentary can be utilized to ascertain the meaning and intent behind provisions of Chapter 373. See Sheffield Briggs Steel Products, Inc. v. Ace Concrete Co., 63 So. 2d 924, 926 (Fla. 1953). The commentary to Chapter 2 of the Model Water Code, "Regulation of Consumptive Uses," explains the meaning of economic efficiency in the context of the reasonable-beneficial use standard:

The reasonable-beneficial use standard of the Model Water Code is an attempt to combine the best features of the reasonable use and beneficial use rules. First of all, the quantity of water used must be efficient with respect to the use itself. This is basically a test of economic efficiency with water being regarded as a raw material. Thus, if a particular crop can be grown properly with five acre-feet of water per year, it would be wasteful to use ten acre-feet, since no increase in value is obtained from the increased use of water. On the other hand, if it is technically feasible to use 5,000 gallons per day in an operation, but total costs can be reduced substantially by the use of 10,000 gallons per day, the reduction in overall cost may justify the increased use of water. It should be noted that this part of the reasonable-beneficial use test allows only that quantity of water to be used as is necessary for an economically efficient operation. The value of the use itself in relation to other uses is not considered initially. In an

agricultural operation, for example, the test does not require a farmer to raise one crop because it takes less water per dollar of crop value than another crop. Nor does the test require that a permit be denied to an agricultural operation because the ultimate dollar value produced per gallon of water used is greater for industrial operations than agricultural uses

The reasonable-beneficial use standard also requires that the water (regardless of amount) be used "for a purpose . . . which is both reasonable and consistent with the public interest." The requirement means that the purpose must be reasonable in relation to other uses. This criterion does not require that the use be the most economical use of water possible but only that the use not be detrimental to other users or totally inconsistent with the character of the watercourse from which the supply is taken.

"A Model Water Code", 171 (Maloney, et al., 1972). The commentary does not suggest any legislative intent that the reasonable-beneficial test requires applicants to demonstrate they are pursuing the lowest cost option for the providing water.

279. When the Legislature specifically intends an administrative agency to perform the type of comparative economic analysis urged by the Petitioners, it explicitly defines such a requirement in the legislation. For example, in the context of administrative rulemaking, Section 120.54(1)(d), Florida Statutes, requires that:

In adopting rules, all agencies must, among the alternative approaches to any regulatory objective and to the extent allowed by law, choose the alternative that does not impose

regulatory costs on the regulated person, county, or city which could be reduced by the adoption of less costly alternatives that substantially accomplish the statutory objectives.

Additionally, Section 120.541, Florida Statutes, requires that agencies consider proposals for a lower-cost regulatory alternative to a proposed rule that are submitted by a substantially affected person, and that agencies prepare a statement of estimated regulatory costs for the proposed rule. By contrast, no such specific requirement of a comparative economic analysis exists in the statutory or regulatory criteria for the issuance of a consumptive use permit by a water management district; thus, there is no statutory basis for requiring the City to perform any comparative economic analysis as a prerequisite to obtaining the requested CUP, and the City has provided reasonable assurance that the allocations demonstrated to be needed will be used economically and efficiently.

(ii) Fla. Admin. Code R. 40C-2.301(4)(b); § 10.3(b), A.H.
- The use is for a purpose that is reasonable and
consistent with the public interest

280. In compliance with Rule 40C-2.301(4)(b), and A.H. Section 10.3(b), the City has provided reasonable assurance that the proposed use is for a purpose that is reasonable and consistent with the public interest. The requested allocation of 2.75 mgd of groundwater is largely for household and

commercial uses that are considered to be purposes that are both reasonable and consistent with the public interest. The possible use of up to 0.18 mgd of groundwater for wetland hydration and aquifer recharge is both reasonable and consistent with the public interest because this use of water serves to avoid impacts to wetlands that may occur from the development of the proposed Floridan wellfield. This use of surficial aquifer groundwater makes it possible to withdraw higher quality groundwater from the Floridan aquifer for household and commercial uses.

(iii) Fla. Admin. Code R. 40C-2.301(4)(c); § 10.3(c), A.H.
- The source is capable of producing the requested
amount of water

281. In compliance with Rule 40C-2.301(4)(c), and A.H. Section 10.3(c), the City has provided reasonable assurance that the sources of water are capable of producing the requested amounts of water. First, the long-term constant rate pump tests performed as part of the hydrogeologic investigation of the Area IV Wellfield produced evidence that the freshwater lens in the Upper Floridan aquifer can be utilized for the quantity of water the City requested. During these tests, water quality did not degrade even at pumping rates that exceeded what would be approved as part of the proposed permit. Second, the City's MODFLOW simulation provided reasonable assurance that the requested allocations could be provided without excessive

drawdown. Third, the City's SEAWAT simulations provided reasonable assurance that the requested allocations could be provided without excessive changes to water quality and specifically chlorides. A fortiori, reasonable assurance for UFAS withdrawals of 0.75 mgd was provided. As to the surficial aquifer system, the aquifer performance tests performed provided reasonable assurance that this aquifer is capable of producing the 0.18 mgd of water via the surficial aquifer extraction wells for any needed wetland hydration.

- (iv) Fla. Admin Code R. 40C-2.301(4)(d) and 40C-2.301(5)(a)2.; §§ 9.4.3., 9.4.1(b), and § 10.3(d), A.H. - The environmental or economic harm is reduced to an acceptable amount

282. Assuming the drawdown predicted by SDI's March 2006 MODFLOW model, the unrebutted testimony of not only the City's and District's experts, but also Petitioners' own environmental expert, was that there would be no environmental harm on or in the vicinity of the Area IV Wellfield as a result of the proposed consumptive use. A fortiori, reasonable assurance for UFAS withdrawals of 0.75 mgd was provided.

283. As found, reasonable assurance was given that the City's proposed wetland monitoring program would detect any adverse change occurring in the wetlands and other waters surrounding the Area IV Wellfield and that the City's avoidance and minimization plan in the proposed CUP would be capable of

fully mitigating any unanticipated adverse impacts to wetlands and other waters detected.

284. As found, reasonable assurance also was provided that neither water stages nor vegetation on lands not owned, leased or otherwise controlled by the City would be adversely and significantly affected by the proposed CUP, which meets the criteria in Rule 40C-2.301(5)(a)2. and A.H. Section 9.4.1(b). A fortiori, reasonable assurance for UFAS withdrawals of 0.75 mgd was provided.

285. Pursuant to A.H. Section 10.3(d), the District looks to the criteria in A.H. Sections 9.4.3 and 9.4.4 in reviewing whether an applicant has provided reasonable assurance that the environmental or economic harm has been reduced to an acceptable amount. A.H. Section 9.4.4, regarding interference with existing legal uses, is discussed elsewhere, and the proposed use meets that criteria. A.H. Section 9.4.3 also serves as guidance regarding compliance with A.H. Section 9.4.1(b), which addresses affects on lands not controlled by the applicant. In order to address the environmental requirements of Rule 40C-2.301(4)(d), A.H. Section 10.3(d), Rule 40C-2.301(5)(a)(2), and A.H. Sections 9.4.1(b) and 9.4.3, the City performed an environmental assessment of Petitioners' properties, including the Area IV Wellfield site. The evaluation included consideration of SDI's MODFLOW model drawdown, topography,

- (vi) Fla. Admin. Code R. 40C-2.301(4)(f); § 10.3(f), A.H.
- Readily available reclaimed water will be used
unless shown not to be economically, environmentally
or technologically feasible

288. For that part of the City's allocation that is not associated with direct human consumption or food preparation, Florida Administrative Code Rule 40C-2.301(4)(f) and Section 10.3(f), A.H., require that readily available reclaimed water be used in the place of higher quality water, unless the applicant demonstrates that it is not economically, environmentally, or technologically feasible. The City will use 67 percent of available wastewater flows for irrigation, with the remainder going to a wetland system during wet weather periods when irrigation demand is low. The City has demonstrated that it is using reclaimed water to the extent it is economically, environmentally and technologically feasible. Therefore, the City has provided reasonable assurances that its proposed use complies with Florida Administrative Code Rule 40C-2.301(4)(f) and Section 10.3(f), A.H.

- (vii) Fla. Admin. Code R. 40C-2.301(4)(g); § 10.3(g), A.H.
- The lowest acceptable quality water source will be
utilized

289. In compliance with Florida Administrative Code Rule 40C-2.301(4)(g) and Section 10.3(g), A.H., the City has provided reasonable assurance that the lowest acceptable quality water source is being utilized for the proposed use. The majority of

water use under the proposed permit will be for direct human consumption or food preparation. Section 10.3(g), A.H., does not require the use of lower quality sources for direct human consumption or human food preparation unless higher quality sources are unavailable to meet projected demands. See also Marion County v. Greene and SJRWMD, DOAH Case No. 06-2464, SJRWMD Final Order Mar. 13, 2007, at www.doah.state.fl.us, 2007 Fla. Div. Adm. Hear. LEXIS 17 (DOAH Jan. 9, 2007). For uses other than human consumption and food preparation, the City is required to use the lowest acceptable quality water source unless it demonstrates that the use of a lower quality water source would not be economically, environmentally, or technologically feasible. See § 10.3(g), A.H. The applicant is proposing to use the lowest acceptable quality water source available, reclaimed water, for most of these uses and has aggressively implemented reuse of reclaimed water, and continues to expand its reuse system. In addition to reclaimed water, District staff evaluated whether additional lower quality sources are available and feasible for use within the City's service area. It is not feasible to utilize additional lower quality sources of water for the duration of the proposed permit. If more use of lower quality sources of water becomes available, the allocation can be adjusted if necessary during the permit renewal process.

(viii) Fla. Admin. Code R. 40C-2.301(4)(h); Fla. Admin. Code R. 40C-2.301(5)(a)1.; § 9.4.2, A.H. - The proposed use will not cause significant saline water intrusion or further aggravate existing saline water intrusion problems

290. In compliance with Florida Administrative Code Rule 40C-2.301(4)(h) and Section 10.3(h), A.H., the City has provided reasonable assurance that the proposed CUP for the Area IV Wellfield will not cause significant saline water intrusion or further aggravate currently existing saline water intrusion problems. In compliance with Florida Administrative Code Rule 40C-2.301(5)(a)1. and Section 9.4.2, A.H., the City provided reasonable assurance that the proposed use will not induce significant saline water intrusion to such an extent as to be inconsistent with the public interest. A fortiori, reasonable assurance for UFAS withdrawals of 0.75 mgd was provided.

291. First, the APT conducted as part of the hydrogeologic investigation give some indication of the potential for salt water intrusion. During those pump tests, water quality did not degrade even at pumping rates that exceeded what would be approved as part of the proposed permit (albeit with only one well pumping versus the entire Area IV Wellfield). Second, the City's SEAWAT simulations provided reasonable assurance that the requested allocation could be provided from the Area IV Wellfield without excessive changes to water quality and specifically chlorides for at least 15 years. A fortiori,

reasonable assurance for UFAS withdrawals of 0.75 mgd was provided. Third, the proposed permit expiration of December 31, 2010, and the anticipated pumping of the production wells for only two years during the term of the proposed permit make it unlikely that saltwater intrusion will occur during the period of the proposed permit, much less one for just .75 mgd. Fourth, the proposed permit conditions within the TSR include saline water monitoring requirements that will allow detection of the beginning of water quality degradation or saline water intrusion either from upcoming or lateral intrusion. Fifth, "Other Condition" 25 is proposed as a "safety net" should unanticipated saltwater intrusion occur. If any production well shows a concentration of 250 mg/l chlorides, this proposed condition would prohibit further use of the well until the chloride concentration drops. A production well may be placed back into regular service once the chloride concentration in the well is below 200 mg/l. Lastly, the proposed use associated with the four surficial aquifer extraction wells is so minimal that it will not cause saline water intrusion.

- (ix) Fla. Admin. Code R. 40C-2.301(4)(i); § 10.3(i), A.H.
- The proposed use will not cause or contribute to flood damage

292. The City has provided reasonable assurance that the proposed use of the production wells and surficial aquifer wells will not cause or contribute to flood damage, in compliance with

Florida Administrative Code Rule 40C-2.301(4)(i), and Section 10.3(i), A.H. (There also was no evidence to suggest that pumping 0.75 mgd would cause or contribute to flooding.)

- (x) Fla. Admin. Code R. 40C-2.301(4)(j); § 10.3(j), A.H. -
The quality of the water source will not be seriously harmed

293. In compliance with Florida Administrative Code Rule 40C-2.301(4)(j) and Section 10.3(j), A.H., the City has provided reasonable assurance, for the same reasons listed in the discussion of saline water intrusion above, that the quality of the water sources would not be seriously harmed by the proposed consumptive use. A fortiori, reasonable assurance for UFAS withdrawals of 0.75 mgd was provided.

- (xi) Fla. Admin. Code R. 40C-2.301(4)(k); § 10.3(k), A.H. -
The proposed use will not cause or contribute to a violation of state water quality standards in receiving waters of the state

294. Section 10.3(k), A.H., provides that:

The consumptive use shall not cause or contribute to a violation of state water quality standards in receiving waters of the state, as set forth in chapters 62-3, 62-4, 62-302, 62-520, and 62-550, F.A.C., including any anti-degradation provisions of sections 62-4.242(1)(a) and (b), 62-4.242(2) and (3), and 62-302.300, F.A.C., and any special standards for Outstanding National Resource Waters set forth in sections 62-4.242(2) and (3), F.A.C. A valid permit issued pursuant to chapters 62-660 or 62-670, F.A.C., or section 62-4.240, F.A.C., or a permit issued pursuant to chapters 40C-4, 40C-40, 40C-42, or 40C-44, F.A.C., shall establish that this criterion has been met,

provided the applicant is in compliance with the water quality conditions of that permit.

295. The first issue raised by this criterion is whether the City's discharge of wastewater will cause or contribute to a violation of state water quality standards in surface or groundwater; and the second issue is whether the operation of the proposed surficial aquifer wells for direct wetland hydration will cause or contribute to a violation of state water quality standards in the wetland or underlying SAS.

296. The unrebutted evidence established that the City has a valid DEP permit for its wastewater discharge, which will not cause or contribute to a violation of state water quality standards in surface or groundwater. Therefore, the City's discharge of wastewater meets Section 10.3(k), A.H. The evidence also established that the operation of the proposed surficial aquifer wells for direct wetland hydration will not cause or contribute to a violation of state water quality standards in the wetland or underlying SAS. Based on the above, the City has provided reasonable assurance that the proposed use complies with Rule 40C-2.301(4)(k), and Section 10.3(k), A.H. A fortiori, reasonable assurance for UFAS withdrawals of 0.75 mgd was provided.

O. Consistency with the Public Interest - Fla. Admin. Code R.
40C-2.301(2)(c); § 9.3, A.H.

297. Pursuant to Section 9.3, A.H., "public interest"

means:

. . . those rights and claims on behalf of people in general. In determining the public interest in consumptive use permitting decisions, the Board will consider whether an existing or proposed use is beneficial or detrimental to the overall collective well-being of the people or to the water resources of the area, the District and the State.

In this inquiry, the District considers whether the use is for a legitimate purpose, whether the use meets the reasonable-beneficial use requirements and whether any of the reasons for denial of a permit have been established.

298. As found, the proposed allocation of 2.75 mgd of groundwater is more than needed, but the intended largely household and commercial uses are considered to be purposes both reasonable and consistent with the public interest. The use of up to 0.18 mgd of groundwater as necessary for wetland hydration and aquifer recharge is both reasonable and consistent with the public interest because this use of water serves to avoid impacts to wetlands that may occur from the development of the proposed Floridan aquifer wellfield.

299. The City provided reasonable assurance that the proposed use will not interfere with any presently existing

legal use of water, and no reasons for recommendation of denial of a permit have been established in this case. The proposed consumptive use of water has been shown to be beneficial and not detrimental to the collective well-being of the public and water resources. Therefore, the City's consumptive uses of water are consistent with the public interest.

300. Petitioners contend that, in determining whether the use is reasonable and consistent with the public interest, the District must consider the potential financial investment that the community is making in the proposed wellfield and the fact that the permit would, if issued, expire at the end of 2010. Petitioners imply that the City should not make such a financial investment because of the relatively short duration of the proposed permit.

301. The District does not consider such financial interests when determining whether the proposed use is reasonable and consistent with the public interest. See Osceola County v. SJRWMD and South Brevard Water Auth., DOAH Case No. 91-1779, 1992 Fla. ENV LEXIS 83 (SJRWMD Jun. 10, 1992), 1992 Fla. Div. Adm. Hear. LEXIS 5960 (DOAH Mar. 12, 1992). As noted by the District's Governing Board in Osceola County v. SJRWMD, "Cost to the consumer is not a substantive factor considered under District rules in determining whether a proposed water use is reasonable-beneficial or in the public interest, but may be

relevant in certain factual instances, . . . such as when an applicant contends that water conservation measures, water reuse or use of the lowest acceptable quality water source otherwise required are not economically feasible. See paragraphs 40C-2.301(4)(e)(f), and (g), F.A.C." (Emphasis added).

302. Thus, there are limited circumstances when the District examines economic feasibility. In Florida Administrative Code Rule 40C-2.301(4)(e), the applicant must establish that all available conservation measures be implemented unless shown not to be economically, environmentally or technologically feasible. In Florida Administrative Code Rule 40C-2.301(4)(f), the applicant must use readily available reclaimed water unless shown that it is not economically, environmentally or technologically feasible. In Florida Administrative Code Rule 40C-2.301(4)(g), for uses other than human consumption and food preparation, the City is required to use the lowest acceptable quality water source unless it demonstrates that the use of a lower quality water source would not be economically, environmentally, or technologically feasible.

303. Except as noted above, nothing in Chapter 373, and nothing in a District rule or policy, requires the District to act as a financial supervisor to the applicant. Therefore, the District need not consider the financial investment of the

community in the proposed Area IV Wellfield to determine whether the proposed use is consistent with the public interest.

P. No Reasons for Denial

304. The City provided reasonable assurance that none of the reasons for recommendation of denial of a CUP application set out in Florida Administrative Code Rule 40C-2.301(5)(a), or Section 9.4, A.H., are present. To the contrary, all applicable permitting criteria have been met by the City.

- (i) Fla. Admin. Code R. 40C-2.301(4)(h), 40C-2.301(5)(a)1.; § 9.4.1(a), A.H., § 9.4.2, A.H. - The proposed use will not induce significant saline water intrusion to such an extent as to be inconsistent with the public interest

305. As explained previously, the City provided reasonable assurance that the proposed use will not cause significant saline water intrusion and that the proposed use complies with Florida Administrative Code Rule 40C-2.301(4)(h). None of the reasons for recommendation of denial in Florida Administrative Code Rule 40C-2.301(5)(a)1. or Sections 9.4.1(a) and 9.4.2, A.H., were established.

- (ii) Fla. Admin. Code R. 40C-2.301(5)(a)2.; §§ 9.4.1(b), A.H., 9.4.3, A.H. - The proposed use will not cause the water table or surface water level to be lowered so that stages or vegetation will be adversely and significantly affected on lands other than those owned, leased or otherwise controlled by the applicant

306. As explained previously, the City provided reasonable assurance that the proposed use will not cause the water table

or surface water level to be lowered so that stages or vegetation will be adversely and significantly affected on land not controlled by the applicant. A fortiori, reasonable assurance for UFAS withdrawals of 0.75 mgd was given. Reasonable assurance was given that none of the reasons for denial in Florida Administrative Code Rule 40C-2.301(5)(a)2., or Sections 9.4.1(b) and 9.4.3., A.H., were present.

(iii) Fla. Admin. Code R. 40C-2.301(2)(b) and 40C-2.301(5)(a)3.; §§ 9.2, A.H., 9.4.1(c), A.H., 9.4.4, A.H. - The proposed use will not interfere with a presently existing legal use of water

307. The City provided reasonable assurance that the proposed use will cause a predicted drawdown in the surficial aquifer of slightly greater than 0.4 feet and minimal drawdown in the Floridan aquifer of at most 2.2 feet at the nearest active existing uses of water, and that because of the small expected drawdown there will be no impact on any existing legal use of water. The City also provided reasonable assurance that its proposed use will not interfere with any existing legal use of water existing at the time of submission of its application.

307. The City has provided reasonable assurance that the proposed use complies with Florida Administrative Code Rule 40C-2.301(2)(b), and Section 9.2, A.H., and that none of the reasons denial in Florida Administrative Code Rule 40C-2.301(5)(a)3. and

Sections 9.4.1(c), and 9.4.4, A.H., were present. A fortiori, reasonable assurance for UFAS withdrawals of 0.75 mgd was given.

(iv) Fla. Admin. Code R. 40C-2.301(5)(a)4.; §§ 9.4.1(d), A.H., 9.4.5, A.H. - The proposed use will not use water reserved from use

309. The District presented un rebutted evidence that, due to the drawdown predicted for the proposed withdrawals and due to the distance between the site of the withdrawals and the one location within the District in Alachua County, where water has been reserved from use by rule, the proposed use will not require the use of water which has been reserved from use by rule. A fortiori, reasonable assurance for UFAS withdrawals of 0.75 mgd was given.

310. None of the reasons for recommendation of denial in Florida Administrative Code Rule 40C-2.301(5)(a)4., and Sections 9.4.1(d) and 9.4.5, A.H., regarding reservations of water were present.

(v) Fla. Admin. Code R. 40C-2.301(4)(1) and 40C-2.301(5)(a)5. & 6.; §§ 9.4.1.(e), A.H., 9.4.1.(f), A.H., 9.4.6., A.H., 9.4.7, A.H. - The proposed use will not cause surface water or aquifer levels, or surface water flow, to fall below the minimum limits set forth in Chapter 40C-8.

311. The District presented un rebutted evidence that, due to the drawdown predicted for the proposed withdrawals and due to the large distance between the site of the withdrawals and the closest water bodies where established minimum flows or

levels exist, the proposed use will not cause a minimum flow for a surface watercourse or a minimum level for an aquifer or a surface water body, established pursuant to Florida Administrative Code Chapter 40C-8,, to fall below the established minimum flow or level. A fortiori, reasonable assurance for UFAS withdrawals of 0.75 mgd was given.

312. Reasonable assurance has been provided that the proposed use complies with Florida Administrative Code Rule 40C-2.301(4)(1), and that none of the reasons for recommendation of denial in Florida Administrative Code Rules 40C-2.301(5)(a)5. and 6. and Sections 9.4.1(e) and (f), and 9.4.6, and 9.4.7, A.H., were established.

Q. Adequacy of the Notices Provided

313. Third-party noticing is required by Sections 120.60, 373.116, and 373.229, Florida Statutes.

314. Section 120.60 provides in pertinent part that:

(3) Each applicant shall be given written notice either personally or by mail that the agency intends to grant or deny, or has granted or denied, the application for license. The notice must state with particularity the grounds or basis for the issuance or denial of the license, except when issuance is a ministerial act. Unless waived, a copy of the notice shall be delivered or mailed to each party's attorney of record and to each person who has requested notice of agency action. Each notice shall inform the recipient of the basis for the agency decision, shall inform the recipient of any administrative hearing

pursuant to ss. 120.569 and 120.57 or judicial review pursuant to s. 120.68 which may be available, shall indicate the procedure which must be followed, and shall state the applicable time limits. The issuing agency shall certify the date the notice was mailed or delivered, and the notice and the certification shall be filed with the agency clerk.

315. Section 373.116, Florida Statutes, provides in pertinent part that:

(2) Upon receipt of an application for a permit of the type referred to in subsection (1) [water use applications under Part II, Chapter 373, F.S.], the governing board shall cause a notice thereof to be published in a newspaper having general circulation within the affected area. In addition, the governing board shall send by regular or electronic mail a copy of such notice to any person who has filed a written request for notification of any pending applications affecting this particular designated area. At the option of the applicable county or city government, notice of application for the consumptive use of water shall be mailed by regular or electronic mail to the county and appropriate city government from which boundaries the withdrawal is proposed to be made.

Subsection 373.229, Florida Statutes, requires that the notice under section 373.116(2), Florida Statutes, state that written objections to the proposed permit may be filed with the governing board or the department by a specific date.

316. The evidence of the notices that were published in newspapers and mailed to the public of the City's permit application and the District's intended agency action was

unrebutted, and Petitioners failed to present any evidence that the notices were inaccurate, misleading, or failed to comply with the requirements of the law.

317. The District provided the public with adequate and appropriate notice of the City's permit application and its intended agency action.

R. Other Issues Raised by Petitioners

(i) Ownership/Control of the Proposed Area IV Wellfield

318. In its Amended Petition, Miami Corporation, without citing to any rule, lists as a disputed issue "[w]hether Titusville possesses the requisite ownership or legal control over the property upon which the proposed Area IV Wellfield is to be located." See Amended Petition at paragraph 60.N.

319. Nothing in Chapter 373, Florida Statutes, and particularly Section 373.229 or 373.223(1), Florida Statutes, require ownership or legal control of the subject property as a prerequisite to obtain a CUP. Indeed, Section 373.2235, Florida Statutes, plainly states that a CUP applicant can "elect" to acquire a wellfield site prior to obtaining a CUP and that such choice is immaterial to the CUP permitting process--which naturally means that an applicant can also choose not to acquire a wellfield site prior to obtaining a CUP.

320. In this case, the City has condemnation authority to obtain all necessary property interests to implement the CUP and

any limiting conditions. See § 180.22, Fla. Stat.; City of Cocoa Beach v. Holland Properties, Inc., 625 So. 2d 17 (Fla. 5th DCA 1993) (the city obtained a CUP prior to condemnation of the wellfield locations as a necessary predicate for showing public necessity).

321. The District has no rule, unadopted rule, or nonrule policy requiring ownership or legal control of the subject property before a CUP may issue.

322. Petitioners seek to infer such requirement from various sources that mention ownership, legal control or impacts to adjacent properties. For instance, Florida Administrative Code Rule 40C-2.301(5)(a) and Section 9.4.3, A.H., highlight circumstances when a CUP application will be denied.

Petitioners seek to infer an ownership requirement because Florida Administrative Code Rule 40C-2.301(5)(a)2., prohibits a drawdown from a proposed water use that will adversely affect stages or vegetation on lands other than those owned, leased or otherwise controlled by the applicant.⁹ As found, the evidence was that these impacts can be assessed based on the facts of this case. Notably, the rule could have easily listed the lack of ownership or control as a basis for denial of an application, but it does not contain such language.

323. The limiting conditions set forth in Florida Administrative Code Rule 40C-2.381--involving the need for a

separate water well construction permit, allowance of District inspections, and transfer of ownership or control of the real property--are not criteria for issuance of a CUP, but rather are conditions placed on a permit that otherwise satisfies the conditions for permit issuance in Rule 40C-2.301. Noncompliance with the limiting conditions may serve as a basis for enforcement actions against a permittee, but have no relevance to reasonable assurance needed to obtain a CUP in the first instance. The limiting conditions contemplate that the permittee must eventually obtain ownership or legal control to actually exercise the rights granted by the CUP. See § 373.116(3), Florida Statutes (a CUP does not convey to a permittee any property rights).

324. Finally, while the CUP application form contains subsections entitled "Owner Information" and "Property Control And Location," this information is not related to conditions for permit issuance, which are contained in Rule 40C-2.301.¹⁰ In addition, the "Owner Information" subsection contains a checkbox for a CUP applicant who is not the owner and consequently the form clearly reflects that an applicant need not be the property owner.

325. Therefore, no permitting criterion in Chapter 373, District rule, or District policy requires the City to have ownership or legal control. Obviously, the City must eventually

obtain sufficient legal interest to exercise the water use rights granted by the permit, which would include the land and access needed for production and transmission, monitoring, and (if and when needed) mitigation augmentation. Otherwise, the CUP would be ineffectual. Section 373.243(4), Florida Statutes, and "Other Condition" 10 allow the Governing Board to revoke the permit permanently and in whole if the water supply allowed by the permit is not used for a period of two years or more unless the permittee can prove that its nonuse was due to extreme hardship caused by factors beyond the permittee's control. For these reasons, the City will not be allowed to "bank" water it does not use.

(ii) Consistency of the Proposed Area IV Wellfield with the 2005 District Water Supply Plan

326. In its Amended Petition, Miami Corporation, without citing to any rule, lists as a disputed issue "[w]hether the proposed Area IV Wellfield is consistent with the District's 2005 Water Supply Plan." See Amended Petition at paragraph 60.HH. Although not specifically articulated in the Amended Petition or Joint Pre-Hearing Stipulation, Petitioners appear to assert that the City's proposed water use is not consistent with the public interest as required by Florida Administrative Code Rule 40C-2.301(2)(c), because the proposed use is not consistent with the District's Water Supply Plan.

327. This contention is precluded by the express language of Section 373.0361(6), Florida Statutes, which states: "Except as provided in s. 373.223(3) and (5), the plan may not be used in the review of permits under part II unless the plan or an applicable portion thereof has been adopted by rule." The 2005 District Water Supply Plan has not been adopted by rule. Moreover, except for the types of water uses sought under Section 373.223(3) and (5) that are inapplicable to this proceeding, Section 373.0361(6), Florida Statutes, prohibits the District from using the plan in the review of the City's application, and states that the City was not required to use an alternative water supply project identified in the plan.¹¹ Therefore, nothing in the plan can legally serve as a basis for the issuance or denial of the City's application.

328. Finally, to the extent Petitioners rely on the plan's identified water supply development projects to argue that the City has available lower acceptable water quality sources for its public consumption allocation, this assertion also fails because Rule 40C-2.301(4)(g) states that a use intended for direct human consumption or human food preparation is not subject to the lowest acceptable quality water source criterion, unless higher quality water sources are unavailable to meet projected demands. See, e.g., Marion County v. Greene and SJRWMD, DOAH Case No. 06-2464 (SJRWMD Final Order 2007) at

Appendix D pp. 59 and 60. The evidence in this case established that a higher quality water source--namely, the UFAS--is available to meet the City's projected demands. In addition, the City is proposing to use the lowest acceptable water quality water source available--namely, reclaimed water--for uses other than human consumption and food preparation.

(iii) Priority Water Resource Caution Areas

329. In its Amended Petition, Miami Corporation suggests that the permit may not be issued because the proposed Area IV Wellfield is located in a priority water resource caution area. See Amended Petition at paragraph 58. As part of its water supply planning process, the District designates priority water resource caution areas in its Water Supply Plan. A priority water resource caution area is an area where existing and reasonably anticipated sources of water and water 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.

330. The City's proposed Area IV Wellfield is located in a priority water resource caution area. However, there is nothing in Chapter 373, and nothing in a District rule or policy, that prohibits the issuance of a CUP in an area which has been designated as priority water resource caution area.

Petitioners' contention that the permit must be denied because

the consumptive use is located within a priority water resource caution area in the District's Water Supply Plan is precluded by the express language of Section 373.0361(6), Florida Statutes, as described previously.

(iv) Timeframe for Construction

331. Petitioners take the position that the proposed CUP should be denied if the City cannot provide reasonable assurance that the Area IV Wellfield will be operational before its expiration at the end of 2010, taking into account the time for eminent domain and for litigation over the legality and extent of the City's FEC easement. There are three reasons why the proposed CUP should not be denied on that ground. First, it is likely that the City will apply to renew both the existing CUP for Areas II and III and the proposed CUP for Area IV. Second, it would be bad policy for CUPs to be denied on the basis of delay resulting from litigation by an opponent of the proposed CUP. Third, as found, given the reasonable 33-month estimate for implementation (without time for litigation of a contest over the legality and extent of the FEC easement), the CUP would have to be issued by March 2008 to be completed before expiration and probably would be in operation for approximately six months before expiration.

(v) Permit Processing Fee

332. Petitioners have alleged that the City has not paid the correct permit processing fee. Pursuant to Rule 40C-1.603(1)(a), the correct permit processing fee for a new consumptive use permit application requesting an allocation of greater than 500,000 gallons per day is \$1,000. The unrebutted testimony established that all required permit processing fees have been paid for CUP application 99052.

(vi) Legality of Duration of Permit

333. Petitioners argued in their PRO that the short duration of the proposed CUP is contrary to A.H. Section 6.5.2(a), which provides:

When an applicant fails to provide reasonable assurance to support a 20 year duration or when the applicant does not request a duration of 20 years, a consumptive use permit shall have a duration of 10 years unless the Governing Board determines that a different permit duration is warranted based on a consideration and balancing of the factors listed in section 6.5.3. However, in no case shall the duration of an individual permit exceed the life of the activity for which the water is used.

Petitioners did not raise this issue in their Amended Petitions or in the Joint Pre-hearing Stipulation, and it is not proper for them to raise it for the first time in their PRO. See Woodholly Associates v. Dept. of Natural Resources, 451 So. 2d 1002, 1004 (Fla. 1st DCA 1984) (it was too late in proposed

order to raise a new issue which was not raised in the pleadings or the pretrial stipulation). Even if properly raised, the issue does not have merit.

334. A.H. Section 6.5.2(a) contemplates a scenario where an applicant has requested a 20-year permit, but has failed to provide reasonable assurance to support that permit duration. It then contemplates the applicant who requests a permit duration of between 10 and 20 years. It does not prevent applicants from requesting, or the District from issuing, permits with durations of less than 10 years.

335. Where an applicant has requested a CUP with a duration of less than ten years, as here, it is logical for the District to begin its analysis regarding duration at the duration requested by the applicant, as opposed to ten years, as Petitioners argue A.H. Section 6.5.2(a) requires. Such an approach also is consistent with Section 373.236(1), Florida Statutes, which provides:

Permits shall be granted for a period of 20 years, if requested for that period of time, if there is sufficient data to provide reasonable assurance that the conditions for permit issuance will be met for the duration of the permit; otherwise, permits may be issued for shorter durations which reflect the period for which such reasonable assurance can be provided. The governing board or the department may base the duration of permits on a reasonable system

of classification according to source of supply or type of use, or both.

(Emphasis added).

336. Even if Petitioners' interpretation that the duration deliberation must begin at ten years is accepted, the consideration and balancing of factors within A.H. Section 6.5.3 leads to the same conclusion. The City applied for a CUP with a short duration and did not provide evidence of pertinent reasonable assurances beyond the requested permit duration. For that reason, issuance of a CUP with a longer duration is not warranted.

S. Standing

337. Petitioners make the argument that standing only requires sufficient allegations, not proof of standing allegations. This argument is rejected as contrary to statutory and case law. On the other hand, it is not necessary to successfully challenge a proposed permit on the merits in order to establish standing. While the evidence used to prove a permit challenger's standing usually is part of the case on the merits, standing is not dependent on the merits. Standing and the merits of a claim are different concepts. See, e.g.,

Village Park Mobile Home Ass'n., Inc. v. State Dept. of Business Regulation, 506 So. 2d 426, 433 (Fla. 1st DCA 1987); St.

Martin's Episcopal Church v. Prudential-Bache Securities, 613

So. 2d 108, 109, n. 4 (Fla. 4th DCA 1993). If standing were based on whether a claim was proved, every losing petitioner would lack standing.

338. Party status under Sections 120.569 and 120.57, Florida Statutes, is based on allegations and proof that "substantial interests will be affected by proposed agency action." § 120.52(12)(b), Fla. Stat. This requires allegations and proof of "an injury in fact which is of sufficient immediacy and is of the type and nature intended to be protected" by the substantive law. § 403.412(5), Fla. Stat. See also Agrico Chemical Co. v. Dept. of Environmental Reg., 406 So. 2d 478 (Fla. 2d DCA 1981). In addition, Section 403.412(5), Florida Statutes, provides:

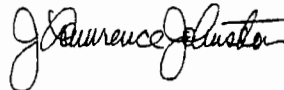
No demonstration of special injury different in kind from the general public at large is required. A sufficient demonstration of a substantial interest may be made by a petitioner who establishes that the proposed activity, conduct, or product to be licensed or permitted affects the petitioner's use or enjoyment of air, water, or natural resources protected by this chapter.

As found, the evidence was that both Petitioners have substantial interests (the quality of water in the aquifer from which their wells withdraw water and wetlands on their property) that would be affected by the proposed CUP at least to some extent, albeit not enough to prevent issuance of the proposed CUP under the permitting criteria.

RECOMMENDATION

Based on the foregoing Findings of Fact and Conclusions of Law, it is recommended that the District issue the City a CUP for Area IV as provided in the second revised TSR, except for a lower water allocation at this time, namely: 0.75 mgd on an annual average basis, with appropriately lower allocations on the other bases in the TSR, and with a combined annual average rate for Areas II, III, and IV in "Other Condition" 5 of 5.2 mgd for 2009 and 2010 instead of 5.79 mgd in 2009 and 2010, and appropriately lower combined maximum daily rates for Areas II, III, and IV in "Other Condition" 9. Jurisdiction is reserved to hear and rule on the pending motions for sanctions if renewed no later than 30 days after entry of the final order in this case.

DONE AND ENTERED this 31st day of July, 2007, in Tallahassee, Leon County, Florida.



J. LAWRENCE JOHNSTON
Administrative Law Judge
Division of Administrative Hearings
The DeSoto Building
1230 Apalachee Parkway
Tallahassee, Florida 32399-3060
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Filed with the Clerk of the
Division of Administrative Hearings
this 31st day of July, 2007.

ENDNOTES

1/ See City's Notice of Filing Deposition of Miami Corporation's Corporate Representative Earl Underhill and Identification of Testimony and Exhibits for Rebuttal Purposes filed with DOAH on April 12, 2007, and Petitioners' Joint Response and Objections filed on April 18, 2007.

2/ See Joint Stipulation Regarding Admission of Deferred Exhibits filed March 30, 2007, and Joint Stipulation Regarding Admission of Titusville's Deferred Cross-Examination Exhibits and Admission of Depositions filed April 26, 2007.

3/ Only the District and Petitioners attempted to list the admitted documents in their proposed recommended orders, and their lists do not match.

4/ See Joint Stipulation Regarding Admission of Deferred Exhibits filed March 30, 2007.

5/ At least some of this information, in City Exhibit 19, was demonstrated to be inaccurate, as reflected in Finding 59, infra. Specifically, some of the pumpage information in the 2000's was too high. Nonetheless, since the City introduced the evidence, it is being used to support a finding that chloride problems appear to have been caused by excessive pumping.

6/ Unless otherwise indicated, statutes refer to the 2006 codification of the Florida Statutes.

7/ Unless otherwise indicated, rules refer to the version of the Florida Administrative Code in effect during the final hearing, as reflected in Appendices to the Applicant's Handbook: Consumptive Uses of Water, dated February 15, 2006.

8/ The correct citations are to A.H. Sections 12.2.1 and 12.2.2. A.H. Section 12.4 only applies to mining-type uses.

9/ The rule implements the State water use policy identified in Rule 62-40.410(2)(g). See § 373.114(2), Fla. Stat. (the Department reviews water management district rules for

consistency with Rule Chapter 62-40). Rule 62-40.410 is not a regulatory permit criteria for the issuance of District CUPs. See Rule 62-40.410(4).

10/ The application form is adopted as a rule in Rule 40C-2.900(1) and is contained in Appendix C of the Applicant's Handbook.

11/ Although not required to do so in this case, District staff may consider or use the data or other information used to establish the plan in reviewing consumptive use permits. See § 373.0361(6), Fla. Stat.

COPIES FURNISHED:

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NOTICE OF RIGHT TO SUBMIT EXCEPTIONS

All parties have the right to submit written exceptions within 15 days from the date of this Recommended Order. Any exceptions to this Recommended Order should be filed with the agency that will issue the Final Order in this case.

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

MIAMI CORPORATION and
VERGIE CLARK,

Petitioners,

DOAH Case Nos. 05-0344
05-2607
05-2940

vs.

CITY OF TITUSVILLE and
ST. JOHNS RIVER WATER
MANAGEMENT DISTRICT,

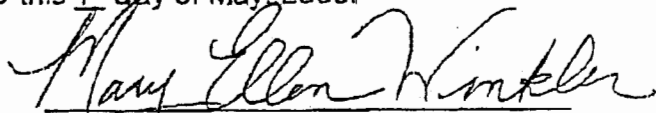
SJRWMD F.O.R. 2004-88
2005-40
2005-52

Respondents.

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT'S
NOTICE OF FILING REVISED TECHNICAL STAFF REPORT

The ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (District), by and through its undersigned counsel and pursuant to the Administrative Law Judge's Fourth (Interim) Order Amending Pre-Hearing Instructions, hereby files this Notice of Filing Revised Technical Staff Report ("Revised TSR"), with the Revised TSR attached hereto as Exhibit A.

RESPECTFULLY SUBMITTED this 1st day of May, 2006.




Mary Ellen Winkler
Assistant General Counsel
Fla. Bar No. 0153303
Karen C. Coffman
Assistant General Counsel
Fla. Bar No. 0011799
Attorneys for Respondent
St. Johns River Water
Management District
4049 Reid Street
Palatka, FL 32177-2529
(386) 312-2340

Exhibit "B"

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the foregoing has been furnished by Facsimile Transmission to the Division of Administrative Hearings, at (850) 921-6847, The DeSoto Building, 1230 Apalachee Parkway, Tallahassee, FL 32399-3060; and that a true and correct copy of the foregoing was furnished by Facsimile Transmission to: Chris H. Bentley, Esq., at (850) 656-4029, 2548 Blainstone Pines Drive, Tallahassee, Florida, 32301; Glenn D. Storch, Esq., at (386) 238-0988, 420 S. Nova Road, Daytona Beach, Florida, 32114-4514; J. Stephen Menton, at (850) 681-6515, P.O. Box 551, Tallahassee, Florida, 32302-0551; Edward de la Parte, Esq., at (813) 229-2712, P.O. Box 2350, Tampa, Florida, 33601-2350; and Dwight W. Severs, at (321) 383-5694, P.O. Box 2806, Titusville, Florida, 32781-2806, on this 1st day of May, 2006.


Mary Ellen Winkler

CONSUMPTIVE USE TECHNICAL STAFF REPORT
Public Supply Use
May 1, 2006
99052

**OWNER/
APPLICANT:**

City of Titusville
Attn: Raynetta Grant, P.E.
2836 Garden Street
Titusville, FL 32796
Ph: (321) 383-5650

AGENT:

Barnes, Ferland and Associates, Inc.
Attn: Patrick Barnes, P.G.
3655 Maguire Boulevard, Suite 150
Orlando, FL 32803
(407) 896-8608

**COMPLIANCE
CONTACT:**

City of Titusville
Attn: Rudy Khan
2836 Garden Street
Titusville, FL 32796
Ph: (321) 383-5651

PROJECT NAME:

City of Titusville Application to Install Area IV
Wellfield

LOCATION:

Brevard County
Proposed Wellfield IV
Sec. 4, 5, 9/ T20S/ R 34E
Longitude 80.9130 Latitude 28.7609 (decimal degrees)
based on USGS Quadrangle Map (Delespine Grant)
Longitude 80.9075 Latitude 28.7573 (decimal degrees)
based on USGS Quadrangle Map (Delespine Grant)

WATER USE:

Requested Use:

1,003.75 million gallons per year (mgy) (2.75 million gallons per day (mgd) average)
of ground water from the Floridan Aquifer for public supply.

64.98 million gallons per year (mgy) (0.18 mgd average) of ground water from the
surficial aquifer system for wetland hydration and aquifer recharge.

Recommended Allocation:

1,003.75 million gallons per year (mgy) (2.75 million gallons per day (mgd) average)
of ground water from the Floridan Aquifer for public supply.

64.98 million gallons per year (mgy) (0.18 mgd average) of ground water from the
surficial aquifer system for wetland hydration and aquifer recharge.

Allocation Based On:

Water demand projections, water use information, historic use, and upon a hydrogeologic evaluation including computer model simulations of aquifer responses to the proposed withdrawal rates and wetland assessments.

Recommended Permit Duration:

This is a new permit to utilize the Floridan Aquifer via fifteen public supply wells and to withdraw surficial aquifer ground water from four wells for wetland hydration and aquifer recharge at the Area IV wellfield site. Staff recommends that the water use at Area IV wellfield be authorized for a permit through 2010 with no compliance reports pursuant to Section 373.236(1), Florida Statutes (F.S.). Although no compliance reports are required, the permittee is required to comply with, and submit all information and data required by, the limiting conditions set forth in the permit. Permit No. 10647-4 for the City's Area II and III wellfields expires on February 10, 2008.

Objectors: Yes

Interested Persons: Yes

Associated Permits: None.

USE STATUS:

This is a new permit to withdraw ground water from fifteen Floridan aquifer public supply wells and four surficial aquifer wells and to allow water use from the new source through December 31, 2010.

AUTHORIZATION:

The District authorizes the use, as limited by the attached conditions, of up to 2.75 million gallons per day of ground water from the Floridan Aquifer System and 0.18 million gallons per day of ground water from the surficial aquifer system from the proposed Area IV wellfield to serve a projected population of 63,036 in 2010 with water for household, commercial/industrial, urban landscape, wetland hydration, and water utility type uses. This is new permit with a new wellfield through December 31, 2010.

Background

The City is currently operating under Permit No. 10647-4 which allocates 6.5 mgd from its Area II and III wellfields for public supply. This allocation was based on approximately 52,000 people living in the service area in 2007. The 2010 population projection for this area is projected to be approximately 63,036. Staff is recommending that upon the operation of the proposed Area IV wellfield the total allocation of all three wellfields, Areas II, III and IV, be limited to 6.01 mgd for public supply in 2010 to better reflect historical use and recent population projections.

Area II Wellfield

The Area II Wellfield is located near I-95 in the northeastern portion of the City and consists of 41 shallow wells primarily constructed between 1955 and 2002. Historically the most productive wellfield, several Area II wells are now starting to show signs of water quality degradation that has resulted in a corresponding reduction in pumping to

better stabilize water quality levels. Currently about one-quarter of the wells are not in active use due primarily to water quality degradation.

Area III Wellfield

The Area III Wellfield is located south of the City, around a small remnant sand ridge north of S.R. 405 (NASA Causeway), and consists of 35 shallow wells of which only about 15 are actively used now due to significant saltwater intrusion.

Proposed Area IV Wellfield

The Area IV Wellfield is to be located about 10 miles north/northwest of Titusville and several miles west of Highway I-95. The City proposes to install 15 water supply wells within the Florida East Coast (FEC) Railway right-of-way. The proposed Upper Floridan Aquifer wells are to be drilled to total depths ranging from 210 to 255 feet below land surface and will extend from just south of the Brevard/Volusia County line a little more than 1.6 miles to the southeast.

The City initially conducted a time domain electromagnetic survey within the FEC Railway right-of-way to estimate the depths to the saltwater interface to determine the approximate thickness of the freshwater lense in the Floridan Aquifer that could be utilized for public supply. Three exploratory wells were then installed and geophysically logged to further characterize the local hydrogeology and delineate the area where the freshwater lense in the Upper Floridan Aquifer is adequate for production. The surficial aquifer system was found to range in thickness from about 40 to 60 feet thick and is composed primarily of sand, shell, and silt deposits. The overlying Hawthorne Group also ranged in thickness from 40 to 60 feet and was determined to be fairly heterogeneous. This formation is composed of varying amounts of sand, shell, silt, indurated sandstone, clay, and some limestone and tends to restrict downward water movement to varying degrees.

The Floridan Aquifer is a fairly homogeneous limestone unit that begins at a depth of about 90 to 100 feet below land surface and grades to dolomitic limestone at depths greater than 300 feet. The denser limestone at depth is less permeable and restricts the upward flow of saline ground water. This aquifer has greater potential to produce water than the surficial aquifer because the limestone tends to be fairly permeable with interconnected moldic porosity and some fracturing which conveys water quickly through the limestone. Ultimately, this water originates from the overlying Hawthorne and surficial aquifer system since this region of Brevard County is a recharge area for the Floridan Aquifer.

Two of the sites were selected for aquifer testing to characterize the hydrogeology of the Floridan Aquifer in this area and water quality was monitored during the pump tests when the aquifer system was stressed. The aquifer parameters determined in the aquifer testing were then utilized in computer simulations to predict the long-term impacts of the proposed Area IV pumping on water quality and water levels in the surficial aquifer system and the Floridan Aquifer. The results of these tests are discussed later in the report.

Water Supply System Description

The Mourning Dove Water Treatment Plant has an existing capacity of 16 mgd. Relatively high quality, raw ground water is treated with lime softening, sand filtration, chlorine disinfection, and fluoridation. Finished water storage is 7.95 million gallons and raw water storage is 1 million gallons.

Water Use Information

	<u>2004</u>	<u>2010</u>
Population Served:	47,132	62,887
Average Daily Use - Household (mgd):	2.92	6.30
GPDC (average) - Household:	62.2	100.2
Maximum Daily Use - Total (mgd):	6.2	9.0
GPDC (maximum) - Household:	92.9	150.3
Reuse percentage	58	67

Use Classification:

Household:	68.7%
Commercial/Industrial:	22.3%
Unaccounted for:	6.5%
Irrigation:	2.5%

This permit is for a new wellfield and for the use of that water into 2010. District staff evaluated the potential resource impacts due to the proposed pumping from the Area IV Wellfield, the system water use efficiency, the water conservation program, and the reuse program. After a review of recent annual flow records and the revised water demand projections, staff is recommending a limitation in total allocation for all three wellfields once the proposed Area IV wellfield is operational to 6.01 mgd in 2010 for public supply and 0.18 mgd for wetland hydration and surficial aquifer recharge.

Pursuant to consumptive use permit number 50245 issued to the City of Cocoa; Cocoa is authorized to provide the City of Titusville water for potable use. The City of Titusville recently renegotiated their contract for additional potable water with the City of Cocoa to provide a maximum daily flow of 1.5 mgd and an average daily flow of 0.5 mgd. However, the City of Titusville has indicated that there is no assurance that the interconnection with Cocoa will be utilized in the future. If the City of Titusville receives potable water from the City of Cocoa, then the ground water allocation authorized by this permit shall be reduced an equivalent amount (Other Conditions 5 and 9).

STATION INFORMATION:

SITE NAME: City of Titusville

Well Information:

Well No.	GRS Station No.	Casing Diameter (inches)	Well Depth (feet)	Status	Source
Area IV Wellfield					
401	20091	12	255	Proposed	Floridan Aquifer

Well No.	GRS Station No.	Casing Diameter (inches)	Well Depth (feet)	Status	Source
402	20092	12	250	Proposed	Floridan Aquifer
403	20093	12	250	Proposed	Floridan Aquifer
404	20094	12	250	Proposed	Floridan Aquifer
405	20095	12	250	Proposed	Floridan Aquifer
406	20096	12	250	Proposed	Floridan Aquifer
407	20097	12	250	Proposed	Floridan Aquifer
408	20098	12	250	Proposed	Floridan Aquifer
409	36292	12	250	Proposed	Floridan Aquifer
410	36292	12	250	Proposed	Floridan Aquifer
411	36294	12	250	Proposed	Floridan Aquifer
412	36295	12	210	Proposed	Floridan Aquifer
413	36296	12	250	Proposed	Floridan Aquifer
414	36297	12	250	Proposed	Floridan Aquifer
415	36298	12	250	Proposed	Floridan Aquifer
A	36367	8	50	Proposed	Surficial Aquifer
B	36368	8	50	Proposed	Surficial Aquifer
C	36369	8	50	Proposed	Surficial Aquifer
D	39710	8	50	Proposed	Surficial Aquifer

PERMIT APPLICATION REVIEW:

Section 373.223, Florida Statutes (F.S.), and Section 40C-2.301, Florida Administrative Code (F.A.C.), require an applicant to establish that the proposed use of water:

- (a) is a reasonable-beneficial use;
- (b) will not interfere with any presently existing legal use of water; and,

(c) is consistent with the public interest.

In addition, the above requirements are detailed further in the District's Applicant's Handbook: Consumptive Uses of Water, April 10, 2002(A.H.).

District staff has reviewed this consumptive use permit application pursuant to the above-described requirements and have determined that the application meets the conditions for issuance of this permit. A summary of the staff's review is discussed below.

Water Quantity

- Issue:** Whether the proposed use of water is in such quantity as is necessary for economic and efficient utilization.
- Rule:** Section 10.3 (a), A.H., provides that the quantity applied for must be within acceptable standards for the designated use.
- Analysis:** Staff evaluated whether the quantity of water being requested for use is in such quantity as is necessary for economic and efficient utilization. In evaluating whether the use requested by the applicant is economic and efficient, staff evaluated water use information and compared this information to use guidelines associated with public water supply type uses. In performing the evaluation, staff looked at current population and growth projections, household type use per capita, distribution system efficiency, water use information associated with non-household type uses, and other use information. Based on staff's evaluation of the information, staff determined that the requested water quantities are within District-accepted guidelines for economic and efficient use of water by a public water supply utility.
- Conclusion:** Staff has concluded that the City has provided reasonable assurance the proposed use is an economic and efficient use of water pursuant to Section 10.3(a), A.H., provided the permittee complies with the conditions recommended for this permit.

Purpose of Use

- Issue:** Whether the proposed use of water at the Area IV Wellfield is for a purpose which is both reasonable and consistent with the public interest.
- Rule:** Section 10.3 (b), A.H., provides that the proposed use must be for a purpose which is both reasonable and consistent with the public interest.
- Analysis:** The proposed use of water is largely for household and commercial uses that are considered to be purposes both reasonable and consistent with the public interest. The use of water for wetland hydration and aquifer recharge is proposed to implement an impact avoidance plan for the Area IV Wellfield, if necessary. The use of water for this purpose serves to avoid impacts to wetlands that may occur from the development of the proposed Floridan wellfield.

Thus, the use of water for this purpose makes it possible to withdraw high quality ground water from the Floridan Aquifer for household and commercial uses. The use of water for this purpose is reasonable and in the public interest.

Conclusion:

Based on the above, staff has concluded that the City has provided reasonable assurance the proposed use is for a purpose which is both reasonable and consistent with the public interest pursuant to Section 10.3(b), A.H., provided the permittee complies with the conditions recommended for this permit.

Source Capability

Issue:

Whether the proposed sources of water are capable of producing the requested amounts of water.

Rule:

Section 10.3(c), A.H., provides that the source of the water must be capable of producing the requested amounts of water.

Analysis:

Extensive hydrogeologic testing and evaluation of the proposed Area IV wellfield has been conducted. The City first conducted a time domain electromagnetic survey within the FEC Railway right-of-way to estimate the depths to the 250 and 5,000 milligrams per liter (mg/l) isochlors to determine the approximate thickness of the freshwater lense in the Floridan Aquifer that could be utilized for public supply. Three exploratory wells were then installed to further evaluate the depth to the saltwater interface below the freshwater and to delineate the area where the freshwater lense in the Upper Floridan Aquifer is adequate for production. Two of the sites were found to have acceptable ambient water quality conditions. These sites had additional monitor wells installed and aquifer tests were performed to evaluate the local Upper Floridan Aquifer yield and to monitor chloride levels to ensure that water quality degradation did not occur with pumping.

The aquifer parameters determined in the aquifer testing were then utilized in a MODFLOW ground water flow model to predict the long-term impacts of the proposed Area IV pumping on water levels in the surficial aquifer system and the Upper Floridan Aquifer. In addition, the aquifer parameters were utilized in a SEAWAT salt water intrusion model to evaluate the long-term impacts of the proposed withdrawals on water quality in the hydrogeologic system in this area. Based on the results of these models received by the District on March 15, 2006, no adverse impacts are anticipated in the Upper Floridan Aquifer due to this proposed use of water.

Conclusion:

Based on the above, staff has concluded the City has provided reasonable assurance that the proposed source of water is capable of producing the requested amounts of water pursuant to Section 10.3(c), A.H., provided the permittee complies with the conditions recommended for this permit.

Environmental or Economic Harm

- Issue:** Whether the environmental or economic harm caused by the proposed consumptive use has been reduced to an acceptable amount.
- Rule:** Section 10.3(d), A.H., provides that environmental or economic harm caused by the consumptive use must be reduced to an acceptable amount. The methods for reducing harm include: reducing the amount of water withdrawn, modifying the method or schedule of withdrawal, or mitigating the damages caused (see also subsections 9.4.3 and 9.4.4, A.H.).
- Analysis:** District staff evaluated whether the proposed withdrawal of water will cause or contribute to environmental harm. As part of this evaluation, staff utilized the results of the MODFLOW model performed by the City's consultant, reviewed aerial photography, topographic maps, and vegetation maps of the site and environs, and performed site visits to evaluate the current conditions of the wetlands. MODFLOW simulations indicated that the proposed withdrawals from the Floridan and surficial aquifers at the proposed Titusville Area IV Wellfield site would induce drawdowns of slightly greater than 0.4 feet in the surficial aquifer near the production wells.

Staff inspected wetlands located within the zone of influence of the proposed withdrawals and assessed the vegetation types, water levels, soils, current condition, and potential sensitivity to ground water impacts. Based on conditions observed and the character of the on-site wetlands, staff has determined that the anticipated drawdown to the surficial aquifer by the proposed withdrawals will not cause unacceptable impacts to wetlands.

Staff evaluated whether the proposed withdrawals of water would harm uplands, such as pasture or pine plantations. Upland habitats are much less sensitive to surficial aquifer drawdowns than wetland habitats, and as such, staff has determined that the anticipated drawdown to the surficial aquifer will not cause unacceptable impacts to uplands.

The City conducted a wetland impact analysis and developed an environmental monitoring plan based on the drawdown in the surficial aquifer predicted by the model. Sixteen wetland sites distributed throughout the drawdown area are proposed for monitoring (see conditions below). In addition, the City has prepared a wetland rehydration plan for wetland A4-2 to be implemented if unanticipated impacts occur. If unanticipated impacts occur to other wetlands, the City will be required implement a similar wetland rehydration plan for those areas impacted. The four surficial wells located south of the production wells will supply water if a wetland rehydration plan needs to be implemented. These surficial wells are located next to an existing canal system to maximize the withdrawal capacity of the wells while minimizing potential drawdown. The use

of the Area IV Wellfield for water supply will not be authorized to begin until the surficial wells are constructed and operational (Other Condition No. 3).

Conclusion: Based on the above, staff has concluded that the City has provided reasonable assurance that the environmental or economic harm caused by the proposed consumptive use has been reduced to an acceptable amount pursuant to Section 10.3(d), A. H., provided the permittee complies with the conditions recommended for this permit.

Specifically, District staff recommends that the City be required to perform a hydrological monitoring program designed to verify that its withdrawals are not adversely affecting water levels in wetlands or surface waters. The monitoring program will include collection of rainfall and stage data at 16 wetlands for the duration of this permit. In addition, panoramic photos will be taken at these monitoring stations once per year.

Water Conservation

Issue: Staff evaluated whether the Water Conservation Plan prepared by the applicant makes use of all available water conservation measures unless the applicant demonstrates that implementation is not economically, environmentally or technologically feasible.

Rule: Section 10.3(e), A.H., provides that all available water conservation measures must be implemented unless the applicant demonstrates that implementation is not economically, environmentally or technologically feasible. Satisfaction of this criterion may be demonstrated by implementation of an approved water conservation plan as required in section 12.0, A.H.

Analysis: Staff reviewed the City's water conservation plan and evaluated whether all the elements of section 12.5.2 of the A.H. have been addressed. The plan includes extensive public education measures (e.g. televised public service announcements, helping create water conservation videos and distributing them to the public, commissioning an award winning native plant mural, providing exhibits and speakers for public events), toilet and showerhead retrofits, and a water conservation based rate structure. An audit of the Titusville potable distribution system and recent water use records were evaluated to determine if all necessary water conservation measures were in place. A review of the audit indicates the potable water system has small unaccounted for water losses and relatively low residential per capita water use. Based on all the information evaluated, staff determined that the applicant is complying with all the elements of section 12.5.2, A.H.

Conclusion: Based on the above discussion, staff has concluded that this existing use is utilizing all feasible water conservation measures pursuant to

Section 10.3(e), A.H., provided the permittee continues to comply with the conditions recommended for this permit.

Reclaimed Water

- Issue:** Whether the proposed consumptive use makes use of readily available reclaimed water unless the applicant demonstrates that its use is not economically, environmentally, or technologically feasible.
- Rule:** Section 10.3(f), A.H., provides that when reclaimed water is readily available it must be used in place of higher quality water sources unless the applicant demonstrates that its use is not economically, environmentally, or technologically feasible.
- Analysis:** Based on staff's evaluation, the City has demonstrated a commitment to maximizing the reasonable beneficial use of reclaimed water even though the growth of the reuse system was delayed by two factors. The City's historical wastewater flows did not increase as much as expected during the last permit renewal process. In addition, delays associated with the FDOT road-widening project on Cheney Highway in turn delayed the reclaimed water trunk line expansion to new residential service areas. It is projected that 67% of the available wastewater flows will be utilized by 2010 with the remainder going to a wetland system during wet weather periods when irrigation demands are low. The City maintains this wetland system for additional treatment prior to release to the St Johns River system and for enhanced environmental benefit.
- Conclusion:** Based on the above, District staff has concluded that the City has provided reasonable assurance that the proposed consumptive use will continue to effectively utilize reclaimed water to the extent it is economically, environmentally, and technologically feasible pursuant to Section 10.3(f), A.H. as long as the Permittee implements the conditions recommended for this permit.

Use of Lowest Acceptable Quality Water Source:

- Issue:** Staff evaluated whether the proposed consumptive use makes use of the lowest acceptable quality water source for each proposed consumptive use of water.
- Rule:** Section 10.3(g), A.H., provides that the lowest acceptable quality water source, including reclaimed water or surface water (which includes stormwater), which is addressed in paragraph 40C-2.301(4)(f), must be utilized for each consumptive use. To use a higher quality water source an applicant must demonstrate that the use of all lower quality water sources will not be economically, environmentally, or technologically feasible. Finally, subsection 10.3(g) provides that this criterion shall not be used to require the

use of lower quality sources for direct human consumption or human food preparation.

Analysis: The applicant is requesting a CUP to use water for public supply type uses. The majority of water use under this permit will be for direct human consumption or food preparation; the requirement to use the lowest acceptable quality water source does not apply to this use. However, the applicant is requesting water for uses other than human consumption and food preparation that do have to use the lowest acceptable quality source. The applicant is proposing to use the lowest acceptable quality water source available, reclaimed water, for most of these uses and has aggressively implemented reuse of reclaimed water, and continues to expand its reuse system. In addition to the reuse program, staff evaluated whether additional lower quality sources are available and feasible for use within the applicant's service area. Staff concluded that it is not currently feasible to utilize additional lower quality sources for the duration of this permit.

Conclusion: Staff has concluded that the proposed consumptive use makes use of the lowest acceptable quality water source for each proposed consumptive use of water to the extent such uses are economically, environmentally, or technologically feasible within the time frames of the proposed permit pursuant to Section 10.3(g), A.H., provided the permittee complies with the conditions recommended for this permit.

Saline Water Intrusion

Issue: Whether the proposed consumptive use will cause or exacerbate saline water intrusion.

Rule: Section 10.3(h), A.H., provides that the consumptive use should not cause significant saline water intrusion or further aggravate currently existing saline water intrusion problems.

Analysis: The City has taken several measures to stop water quality degradation in Areas II and III. The Areas II and III Wellfield withdrawals have been limited to about 3.5 mgd in recent years and the City now proposes developing up to an additional 2.75 mgd annually at the Area IV Wellfield. This proposed wellfield is located about ten miles to the north of Area II. The Area IV wellfield will allow the City to spread its pumping, thus reducing water quality degradation in the existing wellfields.

The City first conducted a time domain electromagnetic survey within the FEC Railway right-of-way to estimate the depths to the 250 and 5,000 mg/l isochlors to determine the approximate thickness of the freshwater lense in the Floridan Aquifer. Three exploratory wells were then installed to further evaluate the depth to saltwater interface below the freshwater. Two of the sites were found to have acceptable ambient water quality conditions. These sites had additional monitor wells installed and aquifer tests were performed to evaluate the local Upper Floridan Aquifer yield and to monitor

chloride levels to ensure that water quality degradation did not occur with pumping.

The aquifer parameters determined in the aquifer testing were then utilized in a SEAWAT saltwater intrusion computer simulation to predict the long-term impacts of the proposed Area IV pumping on water quality in the hydrogeologic system in this area. Model results indicated that the chloride concentration increase after 25 years of pumping is not significant. The proposed production well placement and rates of withdrawal are not anticipated to cause saline intrusion problems.

Six dedicated saline water quality monitor sites will be constructed in and around the Area IV wellfield in addition to monitoring eight production wells evenly dispersed throughout the wellfield to ensure that saline water upconing and lateral intrusion do not occur as a result of the proposed pumping.

Conclusion: Based on the above, staff has concluded that the City has provided reasonable assurance that the proposed consumptive use will not cause or contribute to significant saline water or further aggravate currently existing saline water intrusion problems within the time frames of the proposed permit pursuant to Section 10.3(h), A.H., provided the permittee complies with the conditions recommended for this permit. An additional condition (Other Condition 25) is recommended to ensure that unacceptable upconing of lower quality ground water does not occur.

Flooding

Issue: Whether the proposed consumptive use will cause or contribute to flood damage.

Rule: Section 10.3(i), A.H., provides that consumptive use should not cause or contribute to flood damage.

Analysis: The City withdraws ground water prior to treatment and distribution to its potable water customers. There is no flood potential from these withdrawals.

With regard to the surficial aquifer wells and the wetland hydration plan for the Area IV Wellfield, this use should not cause or contribute to flood damage because they are to operate within constraints designed to mimic natural hydrologic conditions. These operational constraints are described in a report received by the District on April 10, 2006.

Conclusion: Based on the above, staff has concluded that the City has provided reasonable assurance the proposed consumptive use will not cause or contribute to flood damage pursuant to Section 10.3(i), A.H., provided the permittee complies with the conditions recommended for this permit.

Water Quality Of Proposed Source

- Issue:** Whether the proposed consumptive use will harm the quality of the proposed source of water.
- Rule:** Section 10.3(j), A.H., provides that the water quality of the source of the water should not be seriously harmed by the consumptive use.
- Analysis:** The proposed pumping from the Area IV Wellfield should reduce pumping stress in the Area II and III Wellfields by allowing these wellfields to be rested more than is currently possible. The proposed use will allow withdrawals to be spread over a larger area and alleviate some of the water quality concerns and limitations on the existing wellfields by allowing for better overall wellfield management. A SEAWAT saltwater intrusion model was run which indicated that water quality in the Upper Floridan Aquifer should not be adversely impacted by the proposed withdrawals at the Area IV Wellfield.
- Aquifer testing and water quality testing during well construction have established baseline water quality conditions. Six dedicated saline water quality monitor sites will be constructed in and around the Area IV Wellfield in addition to monitoring eight production wells evenly dispersed throughout the wellfield to ensure that saline water upconing and lateral intrusion do not occur as a result of the proposed pumping.
- The proposed pumping from the four surficial aquifer wells located southeast of the Area IV wellfield is very minimal. Based on the negligible hydrogeologic potential for saline water intrusion in the Surficial Aquifer, staff concludes that the proposed withdrawal will not degrade water quality in that aquifer.
- Conclusion:** Based on the above, staff has concluded that the City has provided reasonable assurance that the proposed consumptive use will not cause harm to the proposed source of water pursuant to Section 10.3(j) and 9.4.2, A.H., provided the permittee complies with the conditions recommended for this permit.

Water Quality in Receiving Waters

- Issue:** Whether the proposed consumptive use will cause or contribute to a violation of state water quality standards.
- Rule:** Section 10.3(k), A.H., provides that the consumptive use shall not cause or contribute to a violation of state water quality standards in receiving waters of the state, as set forth in chapters 62-3, 62-4, 62-302, 62-520, and 62-550, F.A.C.
- Analysis:** There are two issues raised by the above criteria. Staff evaluated: (1) whether the applicant's discharge of waste water will cause or contribute to a violation of state water quality standards in surface or ground water; and (2) whether the operation of the proposed

surficial aquifer wells for direct wetland hydration will cause or contribute to a violation of state water quality standards in the wetland or underlying surficial aquifer system.

Disposal of Waste Water: The City's North Wastewater Treatment Plant (WWTP) has been upgraded to Public Access Treatment standards and the New South Advanced Water Treatment Facility (The Blue Heron Water Reclamation Facility) is now operational. Excess reclaimed water is discharged to a wetland system that ultimately drains to the St. Johns River just south of State Road 50. The Florida Department of Environmental Protection has permitted this discharge. Pursuant to section 10.3(k), A.H., a valid permit issued pursuant to "chapters 62-660 or 62-670, F.A.C., or section 62-4.240, F.A.C., . . ." shall establish that the consumptive use will not cause or contribute to a violation of state water quality standards in receiving waters of the state.

Operation of Surficial Aquifer Wells: As previously discussed, the City proposes to pump water from the surficial aquifer southeast of the Area IV Wellfield. The water will be used to directly rehydrate any wetlands the District determines have been adversely impacted from ground water withdrawals at the Area IV wellfield.

Water used to rehydrate the wetlands may also recharge the underlying surficial aquifer. This water used for wetland rehydration and surficial aquifer recharge would be withdrawn from the surficial aquifer wells in the same proximity as the potentially rehydrated wetlands. There are no known sources of pollution in the area of the surficial wells. District staff does not anticipate that the consumptive use will cause a violation of or significantly contribute to any pre-existing exceedances of state water quality standards in the surficial aquifer.

Conclusion: District staff has concluded that the City has provided reasonable assurance the proposed consumptive use will not cause or contribute to a violation of state water quality standards pursuant to Section 10.3(k), A.H.

Interference

Issue: Whether the proposed use of water will cause an interference with a legal use of water.

Rule: Section 9.2, A.H., provides that the consumptive use must not cause an interference with a legal use of water that existed at the time of the application for the initial consumptive use permit. An interference is defined as a decrease in the withdrawal capability of any individual withdrawal facility of a legal use of water which was existing at the time of the application for the initial permit such that the existing user experiences economic, health, or other type of hardship as specified in Section 9.4.4, A.H.

Analysis: Based upon the MODFLOW model, it is not anticipated that ground water withdrawals from the Area IV wellfield will interfere with

existing legal uses of water. Modeling scenarios indicate that drawdown in the surficial aquifer will be slightly greater than 0.4 feet and minimal (at most 2.2 feet) in the Floridan Aquifer at the nearest active existing legal users. The well inventory conducted indicates that the nearest existing legal users are located about one mile northwest and two miles east/southeast of the nearest proposed production wells. In the event that there is unanticipated interference with any wells by Titusville's pumping, Other Condition 15 requires that appropriate measures be taken to mitigate for the interference.

Conclusion: Based on the above, staff has concluded that the City has provided reasonable assurance the proposed pumping at the Area IV Wellfield will not cause an interference with an existing legal use of water pursuant to Section 9.2, A.H., provided the permittee complies with the conditions recommended for this permit.

Public Interest

Issue: Whether the proposed consumptive use is consistent with the public interest.

Rule: Section 9.3, A.H., defines "public interest" as those rights and claims on behalf of people in general. In determining the public interest in consumptive use permitting decisions, the Board will consider whether an existing or proposed use is beneficial or detrimental to the overall collective well being of the people or to the water resource in the area, the District, and the State.

Analysis: The proposed use of water will not adversely affect water resources, qualifies as a reasonable-beneficial use based on the factors listed in 40C-2.301(4), F.A.C., and none of the reasons for denial in 40C-2.301(5), F.A.C., relating to saline water intrusion, water use reservations, minimum flows and levels, and water table/surface water levels apply to the proposed use.

Conclusion: Based on the above, staff has determined that the proposed use is consistent with the public interest pursuant to Section 9.3, A.H., provided the permittee complies with the conditions recommended for this permit.

PERMIT DURATION:

The City requested a permit duration through 2010. The applicant has provided reasonable assurances demonstrating that its proposed use of water from the Area IV wellfield will meet District permitting requirements for this duration. Therefore, staff is recommending a permit for this requested duration.

RECOMMENDATION:

Staff has concluded that the proposed use, as limited by the attached permit conditions, is reasonable-beneficial, will not cause or contribute to interference with existing legal uses, and is consistent with the public interest. Staff, therefore, recommends approval of this application.

GENERAL CONDITIONS (see condition sheet): 1-9, 13

SPECIAL CONDITIONS (see condition sheet):**OTHER CONDITIONS:**

1. All submittals made to demonstrate compliance with this permit must include the CUP number 99052 plainly labeled on the submittal.
2. This permit will expire on December 31, 2010.
3. The permittee shall not withdraw water from any of the public supply wells in the Area IV Wellfield until the surficial aquifer wells and surficial aquifer transmission line, as described in the submittal received by the District on April 10, 2006, are constructed and operational.
4. Maximum annual ground water withdrawals from the Floridan aquifer in the Area IV wellfield for public supply must not exceed 1,003.8 million gallons (2.75 mgd average) in 2009 through 2010.
5. Upon the Area IV wellfield being operational, the combined annual ground water withdrawals for public supply from the Area II, Area III, and Area IV wellfields must not exceed:

2,113.4 million gallons (5.79 mgd average) in 2009 and

2,193.7 million gallons (6.01) mgd average) in 2010.

In the event that the permittee receives water from the City of Cocoa for potable use, then the allocation for any year above shall be reduced an amount equivalent to the quantity provided to the permittee by the City of Cocoa in that year.

6. Maximum annual ground water withdrawals from the surficial aquifer system near the Area IV wellfield for wetland hydration and surficial aquifer recharge at Area IV wellfield shall not exceed 64.98 million gallons (0.178 mgd average) in 2009 through 2010.
7. Maximum monthly ground water withdrawals from the Floridan Aquifer at the Area IV wellfield shall not exceed 132.3 million gallons (4.41 million gallons per day average) in 2009 through 2010.
8. Dry season pumping from the Floridan Aquifer at the Area IV Wellfield shall not exceed 462.3 million gallons (3.85 million gallons per day average) during any four consecutive months.
9. Upon the Area IV wellfield being operational, the combined maximum daily ground water withdrawals from the Area II, Area III, and Area IV Wellfields shall not exceed:

8.88 million gallons in 2009, and
9.00 million gallons in 2010.

The maximum daily ground water withdrawal from the Area IV Wellfield shall not exceed 6.5 million gallons and may be fully utilized only during severe drought periods when the existing water sources cannot be further used without inducing water quality degradation or exceeding maximum daily and annual rates listed herein.

In the event that the permittee receives water from the City of Cocoa for potable use, then the allocation in any year above shall be reduced an amount equivalent to the quantity provided to the permittee by the City of Cocoa in that year.

10. The permittee is notified that for nonuse for a period of 2 years or more of the water supply allowed by the permit, the Governing Board may revoke the permit permanently and in whole unless the permittee can prove that its nonuse was due to extreme hardship caused by factors beyond the permittee's control.
11. Saline monitor wells SWMW 1 through 6, and production wells 401, 403, 405, 407, 409, 411, 413, and 415 shall be monitored quarterly (i.e. March, June, September, and December) for water levels and chloride concentration. The samples shall be analyzed for chlorides and total dissolved solids and the results submitted to the District bi-annually with the water use submittals.
12. The permittee must conduct hydrologic and photo monitoring at each of the 16 wetland areas listed below and as identified on the map received by the District on April 25, 2006:
 - a. A4-1 Cypress dome, located east of RR,
(Sec. 5, T. 19 S., R. 34 E., Sec. 5, T. 20 S., R. 34 E.);
 - b. A4-2 Shallow marsh, east of RR (Sec. 5, T. 20 S., R. 34 E.);
 - c. A4-3 Cypress strand (Sec. 4 & 5, T. 20 S., R. 34 E.);
 - d. A4-4 Spartina marsh (Sec. 5, T. 20 S., R. 34 E.);
 - e. A4-5 Cypress strand (Sec. 4, T. 20 S., R. 34 E.);
 - f. A4-6 Cypress dome (Sec. 4 & 5, T. 20 S., R. 34 E.);
 - g. A4-7 Cypress dome (Sec. 5, T. 20 S., R. 34 E.);
 - h. A4-8 Cypress dome (Sec. 6, T. 20 S., R. 34 E.);
 - i. A4-9 Cypress dome/Shallow marsh (Sec. 5 & 8, T 20 S, R 34 E.);
 - j. A4-10 Cypress strand (Sec 9, T. 20 S., R. 34 E.);
 - k. A4-11 Cypress dome (Sec. 41, T. 20 S., R. 34 E.);
 - l. A4-12 Cypress strand (Sec. 41, T. 20 S., R. 34 E.);
 - m. A4-13 Cypress Dome (Sec. 8, T. 20 S., R. 34 E.);
 - n. A4-14 Cypress Dome/Marsh (Sec. 8, T. 20 S., R. 34 E.);
 - o. A4-15 Shallow Marsh (Sec. 5, T. 20 S., R. 34 E.);
 - p. A4-16 Shallow marsh (Sec. 31, T. 19 S., R. 34 E.).

I. Monitoring Procedures

The permittee must install 16 new shallow monitoring wells. The wells must be located near the normal pool elevation of the wetlands. The monitoring well design and specific locations must be approved in writing by District staff before the wells are installed. The monitoring wells must be installed and surveyed to NGVD (1929) to an accuracy of ± 0.01 foot. The permittee shall install these monitoring devices, and the monitoring devices shall be operational prior to withdrawing water from any of the public supply wells in the Area IV Wellfield. For each new monitoring well, the permittee must submit a well completion report, latitude/longitude coordinates of the well, location on a map, and a brief site description within 1 year of issuance of this permit.

II. Water Level Monitoring

Water level monitoring must be initiated within 1 year of issuance of this permit.

III. Baseline Data Establishment

At each of the 16 new wetland monitoring sites, an elevation profile along a transect 150 feet in length must be surveyed such that 50 feet of the adjacent upland is included. If the adjacent upland consists of placed fill, then the transect may be limited to 120 feet in length, such that 20 feet of the adjacent upland is included. The location of the transect must be reviewed and approved by the District prior to survey. Soil elevations must be recorded to an accuracy of ± 0.1 foot at 25-foot intervals and wherever there is a change in plant community. Other environmental features such as current water level, cypress buttress inflection points, lower extent of lichen lines or upper extent of moss collars, watermarks, and the lower edge of the saw palmetto (*Serenoa repens*) fringe must be surveyed, if present. A diagram of the elevations, plant communities, and hydric soils located along the transect must be made. Plant communities must be described, including a listing of all vascular plant species, by plant community, present within 10 feet of one side of the transect line, their relative abundance, and the diameter at breast height (d.b.h.) of any woody plants greater than 1" d.b.h. A description of soil color, texture, and hydric soil indicators must be made in the top 24 inches of soil at 25 foot intervals along the transect described above for a total of 7 stations. If the soil survey depicts the soils as open water, then the soil description will occur out to a water depth of 3 feet, and depth to sediment surface, and depth of organic substrate will be recorded for the remaining intervals. The data collection described in this paragraph is a one-time event. All of these data, maps, diagrams, etc. must be submitted to the District as a report within 1 year of permit issuance.

A permanent photo station must be installed at each of the 16 wells and panoramic photographs must be taken in September, starting in 2007 and annually thereafter. Specific locations of the photo stations must be approved by District staff.

IV. REPORTING

The following information must be recorded by the permittee for each monitoring site: water level (weekly without data loggers, daily with data loggers), rainfall (daily), and pumping volume (weekly by well). Data collection at all 16 sites must be daily at midday. Daily rainfall data must be obtained for each monitored location from the nearest existing rain gauge approved by the District. The same rainfall station may be used for more than one monitoring site.

Monitoring data must be submitted electronically as spreadsheets every six months in a District approved computer accessible format. Permittee must contact the District for specific details on how to submit the computer accessible information. This data must also be submitted as a legible paper copy (two copies) along with the EN-50 forms for the project.

On January 31st of each year, the permittee must submit an annual report summarizing the monitoring efforts. The report must include the panoramic photographs, and graphs summarizing the rainfall and monitoring data.

13. After installation, water levels in each production well shall be measured and recorded, by the permittee, quarterly (i. e. March, June, September, and December) for both stabilized pumping conditions and static water levels. The permittee shall submit the recorded data to the District on Form EN-10 bi-annually with the water use submittals.
14. Water samples shall be collected, by the permittee, from each production well including the 4 surficial wells "A", "B", "C", and "D" in accordance with a District approved QA/QC program on a quarterly basis (i.e. March, June, September, and December) and analyzed for the following parameters: pH, Ca, Mg, Na, K, Cl, SO₄, total dissolved solids, total alkalinity, and total hardness. The results will be submitted to the District bi-annually with the water use submittals.

All major ion analyses shall be performed on filtered samples, and shall be checked for a cation-anion balance of less than 10%. If a 10% error margin is exceeded in either sample, an additional sample shall be collected within 24 hours and reanalyzed.

Quality Assurance

Prior to sample collection a minimum of 3-5 casing volumes shall be removed from each well. All major ion analyses shall be checked for anion-cation balance and shall balance within 10%. It is recommended that duplicates be taken to allow for laboratory errors or data loss. If the data is lost or a laboratory error occurs and the holding time for the duplicate sample has expired, the permittee shall resample the well within 15 days of notification from the laboratory that a loss or laboratory error has occurred.

All sampling and water quality analysis shall be performed by organizations with approved comprehensive or generic quality assurance plans in accordance with the Department of Environmental Protection's standard operating procedures or a laboratory having DOH certification.

A written and electronic report including all sample analysis, anion-cation balance, chain of custody forms and an evaluation of the data shall be submitted to the District and collectively analyzed in the submission of a report to the District bi-annually with the water use submittals.

If significant saline water intrusion occurs in any of the permitted wells, as a result of the withdrawals authorized by this permit, the District shall modify the allocation of ground water in this permit in whole or in part to curtail or abate the impact caused by the saline water intrusion.

15. If unanticipated interference to existing legal uses of water occurs due to withdrawals authorized by this permit at the Area IV wellfield, then the permittee shall mitigate for the impact in a manner approved by the District. Mitigation may include installation of a new pump or motor, installation of additional drop pipe, providing new electrical wiring, connection with the existing water supply system, or other appropriate measures.
16. The permittee shall measure the quantity of water withdrawn from wells: 401 (20091), 402 (20092), 403 (20093), 404 (20094), 405 (20095), 406 (20096), 407 (20097), 408 (20098), 409 (36292), 410 (36293), 411 (36294), 412 (36295), 413 (36296), 414 (36297), 415 (36298), A (36367), B (36368), C (36369), D (39710) and from the potable interconnection with Cocoa, by in-line totalizing flow meters. The totalizing flow meters shall maintain 95% accuracy, be verifiable, and be installed according to manufacturer specifications. Documentation of proper installation of the flow meter (e.g. photograph) shall be submitted to the District within 30 days of meter placement. A site visit by staff can also serve as documentation.
17. Total withdrawal from wells: 401 (20091), 402 (20092), 403 (20093), 404 (20094), 405 (20095), 406 (20096), 407 (20097), 408 (20098), 409 (36292), 410 (36293), 411 (36294), 412 (36295), 413 (36296), 414 (36297), 415 (36298), A (36367), B (36368), C (36369), D (39710) and from the potable interconnection with Cocoa, shall be recorded continuously, totaled monthly, and reported to the District every six months for the duration of the permit using District Form No. EN-50. The reporting dates each year will be as follows:
- | Reporting Period | Report Due Date |
|------------------|-----------------|
| January - June | July 31 |
| July - December | January 31 |
18. The Permittee shall send annual reports to the District describing the implementation of water conservation and distribution of reclaimed water within the City's service area that has occurred during the previous year. These reports shall be submitted to the District annually starting on January 31, 2008.
19. The Permittee shall continue to maintain the existing leak detection program and continue auditing line flushings, fire hydrant use and testing, line breaks, and street cleaning. These reports shall be submitted to the District annually starting on January 31, 2008 with the water use reports.
20. If the actual volume of water withdrawn by the Permittee equals 95 percent or more of the amount of water allocated for use by this permit, the Permittee shall

submit a report to the District explaining why the withdrawal of water by the Permittee equals 95 percent or more of the amount of water allocated by the permit. The report shall evaluate the effect of the following items on the volume of water withdrawn by the Permittee:

- (a) Climatic shortfalls (drought);
- (b) Greater than anticipated growth in the Permittee's service area;
- (c) Inefficient usage within the service area;
- (d) Other factors that account for the withdrawal volume equaling 95 percent or more of the allocation.

The report shall include a breakdown of the population currently being served by the Permittee, an updated projection of the anticipated population that will be served for the following year, an evaluation as to whether the Permittee anticipates it will be able to meet the water needs of the revised projected population without violating the allocations set forth in this permit, and a corrective action plan setting actions that the Permittee intends to take if the evaluation indicates that allocations will be exceeded during the following year. The report shall be submitted to the District by February 15th of the year following the year wherein the Permittee experienced withdrawals of water that equal 95 percent or more of the amount of water allocated for use by this permit.

- 21. Landscape irrigation is prohibited between the hours of 10:00 a.m. and 4:00 p.m., except as follows:
 - (a) Irrigation using a micro-irrigation system is allowed any time.
 - (b) The use of reclaimed water for irrigation is allowed any time, provided appropriate signs are placed on the property to inform the general public and District enforcement personnel of such use. Such signs shall be in accordance with local restrictions.
 - (c) Irrigation of, or in preparation for planting, new landscape is allowed any time of day for one 30-day period provided irrigation is limited to the amount necessary for plant establishment.
 - (d) Watering in of chemical, including insecticides, pesticides, fertilizers, fungicides, and herbicides when required by law, the manufacturer, or best management practices is allowed any time within 24 hours of application.
 - (e) Irrigation systems may be operated any time for maintenance and repair purposes not to exceed ten minutes per hour per zone.
- 22. All irrigation systems shall be equipped with rain sensor(s) and/or soil moisture monitoring device(s). The rain sensors(s) and/or controller(s) shall be maintained and operational, pursuant to the manufacturer's specifications for permit duration.
- 23. Wetlands, lakes, and spring flows may not be adversely impacted as a result of the consumptive use authorized by this permit. If unanticipated significant adverse impacts occur, the District shall revoke the permit in whole or in part to curtail or abate the adverse impacts, unless the impacts can be mitigated by the permittee.
- 24. If the District determines that unanticipated impacts have occurred to the A4-2 wetland as a result of this consumptive use, the permittee shall implement the wetland rehydration plan contained in the Environmental Monitoring Plan and

Avoidance Minimization Plan received by the District on March 15, 2006, as amended by plan addendums received by the District on April 10, 2006, and April 25, 2006, within 90 days of notice by the District. If the District determines that unanticipated impacts have occurred to any other wetland(s) as a result of this consumptive use, then the permittee shall submit a wetland rehydration plan for the affected wetland(s) within 30 days of notice by the District. Within 90 days of the District's approval of the wetland rehydration plan, the permittee shall implement the approved plan.

25. If any quarterly water sample from a production well shows a chloride concentration exceeding 250 mg/l, that well will be taken out of service until a subsequent quarterly sample from the well shows a chloride concentration less than 250 mg/l. If an interim sample is taken from the well with results indicating a chloride concentration between 200 mg/l and 249 mg/l, then the well may be used in the limited manner as described in this condition. If any quarterly water sample from a production well shows a chloride concentration between 200 mg/l and 249 mg/l, then the pumping from that well shall either be limited to no more than 6 hours per day with a minimum 24 hours recovery between pumping cycles or be conducted in accordance with the protocol submitted by the permittee and approved by the District prior to operation of the Area IV Wellfield. This condition shall not restrict the operation of a production well whose quarterly water sample shows a chloride concentration of less than 200 mg/l.

REVIEWERS:

Rich Burklew, Robert Fewster, Marc Minno

Notice of Rights

1. Any substantially affected person who claims that final action of the District constitutes an unconstitutional taking of property without just compensation may seek review of the action in circuit court under section 373.617 of the Florida Statutes and the Florida Rules of Civil Procedure, by filing an action within 90 days of the rendering of the final District action.
2. Under section 120.68 of the Florida Statutes, a party who is adversely affected by final District action may seek review of the action in the district court of appeal by filing a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure within 30 days of the rendering of the final District action.
3. A District action or order is considered "rendered" after it is signed by the Chairman of the Governing Board, or his delegate, on behalf of the District and is filed by the District Clerk.
4. Failure to observe the relevant time frames for filing a petition for judicial review as described in paragraphs 1 or 2 will result in waiver of that right to review.

CERTIFICATE OF SERVICE

I CERTIFY that a true copy of the foregoing NOTICE OF RIGHTS has been furnished on this 13th day of September, 2007, to each of the following:

Via – Hand Delivery

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Mary Ellen Winkler, Esquire
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