

THE FULL TEXT OF THE PROPOSED RULE IS:

40E-2.011 Policy and Purpose.

(1) through (2) No Change.

(3) Additional rules relating to water use are found in Chapter 40E-5, F.A.C., (Artificial Recharge), Chapter 40E-8, F.A.C., (Minimum Flows and Levels), Chapter 40E-10, F.A.C., (Water Reservations), Chapters 40E-20, F.A.C., (General Water Use Permits), 40E-21, F.A.C., (The Water Shortage Plan), 40E-22, F.A.C., (Regional Water Shortage Plans) and 40E-23, F.A.C., (Water Resource Caution Areas).

(4) No Change.

Specific Authority 373.044, 373.113, 373.171 FS. Law Implemented 373.103(1), 373.203, 373.216, 373.249 FS. History–New 9-3-81, Formerly 16K-2.01, Amended 7-4-82, 2-24-85, 11-18-91, 8-1-02, 8-31-03, _____.

40E-2.091 Publications Incorporated by Reference.

The “Basis of Review for Water Use Permit Applications within the South Florida Water Management District – _____ ~~October 14, 2008~~”, is hereby published by reference and incorporated into this chapter. A current version of this document is available upon request.

Specific Authority 373.044, 373.113, 373.118, 373.171 FS. Law Implemented 373.042, 373.0421, 373.109, 373.196, 373.219, 373.223, 373.224, 373.229, 373.232, 373.233, 373.236, 373.239, 373.250 FS. History–New 9-3-81, Formerly 16K-2.035(1), Amended 2-24-85, 11-21-89, 1-4-93, 4-20-94, 11-26-95, 7-11-96, 4-9-97, 12-10-97, 9-10-01, 12-19-01, 8-1-02, 6-9-03, 8-31-03, 4-23-07, 9-13-07, 2-13-08, 10-14-08, _____.

(The following changes are proposed to the “Basis of Review for Water Use Permit Applications within the South Florida Water Management District”)

1.7.5.2 Modeling Data

Applicable modeling data may consist of basic analytic impact assessments or calibrated numeric system simulation models. The modeling impact assessments shall be conducted for the proposed withdrawal alone, as well as the proposed withdrawal combined with all other permitted uses and pending applications within the cone of depression of the proposed use. The cone of depression is defined by the 0.1 foot drawdown contour for the proposed withdrawal from the water table aquifer and the 1.0 foot contour for the proposed withdrawal from a confined aquifer.

A. Basic analytic impact assessments: Basic analytic impact assessments utilize an approved analytic equation(s), such as the Theis or Hantush-Jacob equation, applied to the requested maximum month allocation that simulates continued withdrawal for 90 days without recharge (which is considered for purpose of these simulations to be equivalent to a 1 in 10 year drought condition). Aquifer characteristics derived from approved aquifer performance tests (APT) or specific capacity tests (SFWMD, Part B Water Use Management System Design and Evaluation Aids, Part II Aquifer Performance Test) located within one mile of the project site are acceptable. If more than one set of aquifer characteristics data exists within one mile of the site, the value

measured closest to the proposed project will be used unless the applicant can demonstrate that hydrogeologic conditions at the project site are not represented by such data. If the location of the nearest site where aquifer characteristics were measured is greater than one mile from the project site, the average of the nearest three APT or specific capacity test sites is acceptable providing that two of the three values are within one standard deviation of the mean. If this is not the case, the applicant shall demonstrate that the conditions of permit issuance are met for the highest and lowest values of the three sites, or the applicant may opt to conduct an APT or specific capacity test at the site.

The use of numeric models such as Modflow without calibration is acceptable under the following configurations: (1) the model represents the aquifer or aquifer system as no more than two layers; (2) each layer uses a single value for transmissivity/permeability, storage/storativity and a single value is used for leakance between the layers; (3) the simulation time is 90 days with no recharge; and (4) surface water recharge features are not represented. The modeling shall include separate runs using the highest and lowest measured values of transmissivity/permeability, storage/storativity, and leakance from the region, based on published data and pump test values calculated as described above. The selected high and low aquifer values will be approved provided they significantly overestimate the withdrawal impacts that would occur on the site. The use of a numeric model without calibration is acceptable for representing seepage irrigation systems where the applicant models the portion of the irrigation water that returns to the water table aquifer, provided the model is configured as described in this paragraph and the change in the water table elevation predicted by the model is field verified with water level data from at least one water table piezometer located adjacent to the irrigated field.

(Subsection 1.7.5.2 B. remains unchanged)

1.8 Definitions

Allocation Coefficient through *Reclaimed Water* – No Change

Reservation water body - Areas within the District as identified in Rules 40E-10.021 and 40E-10.041, F.A.C., for which a water reservation has been established.

Resource Efficiency through *Xeriscape* – No Change

2.5.2 Dewatering General Water Use Permit

Dewatering General Water Use Permits, as described in Rule 40E-20.302(2), F.A.C., are for dewatering projects, which a) cannot meet the conditions of issuance and requirements for “No-Notice” permits, b) have a proposed duration of less than one year, and c) propose to pump less than 10 million gallons per day with a total project volume of less than 1800 million gallons. A dewatering general water use permit application must be submitted to the District and Staff must issue the General Permit prior to the applicant beginning dewatering, unless portions of the project qualify for dewatering

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under the “No-Notice” permit described above. The applicant may elect to begin dewatering for a single period of only 90 days in areas of the project, which meet the “No-Notice” criteria, once an application for a Dewatering General Water Use Permit has been submitted to the District.

Permit applications for a Dewatering General Water Use Permit must:

- (1) through (4) No change.
- (5) Demonstrate that reserved water will not be withdrawn pursuant to Rule 40E-20.301(1)(k), F.A.C., by retaining all water onsite. If the Applicant demonstrates that retaining the water on site is not feasible, the application shall be processed as an individual permit pursuant to Section 2.5.3.
- ~~(6)~~ Provide reasonable assurances that fresh dewatering water will not be discharged to saline tidal waters, unless the applicant demonstrates that it is not technically feasible to prevent discharge to saline water and requests specific authority from the District for discharge. Saline dewatering water, as defined in this Basis of Review, may be discharged to tidewater.
- ~~(7)~~ Provide an operational plan which describes how stormwater will be handled during dewatering operations.

Dewatering applications will be reviewed concurrently with Environmental Resource or Surface Water Management construction permit applications, and the dewatering application will not be considered complete until both applications are complete. An applicant may request that the dewatering permit include a later “start” date to coincide with the actual start of dewatering activities at the project. Staff will recommend a permit expiration date, based on the proposed “start” date. Any temporary dewatering water holding areas must be constructed and operated using sound engineering practices to protect public health, safety, and welfare and, as necessary, dewatering activities must meet all applicable Environmental Resource or Surface Water Management criteria.

2.5.3 Long-Term Dewatering Individual Permits

Long-term dewatering individual permits apply to projects that exceed the thresholds and criteria described in Sections 2.5.1 and 2.5.2 above. These permits must be approved by the District Governing Board. Two types of individual dewatering permits are available from the District. For projects where all the dewatering activities are defined at the time of the permit application, the applicant may apply for a “standard” Individual Permit. For long-term, multi-phased projects, with undefined activities or no contractor at the time of the permit application, the applicant may apply for a “master” Individual Permit.

Applicants for all individual dewatering permits must satisfy the conditions of issuance for Individual Permits (Rule 40E-2.301, F.A.C.), and may not commence dewatering prior to approval of the permit by the Governing Board. In order to provide reasonable assurances that water reserved in Rule 40E-10.041, F.A.C., will not be withdrawn, all

water from the dewatering activity shall be retained on site. If the applicant demonstrates that retaining the water on site is not feasible, the project shall be modified to demonstrate pursuant to Section 3.11 that reserved water will not be withdrawn. The applicant may elect to begin dewatering for a single period of only 90 days in areas of the project, that meet the No-Notice criteria specified in Section 2.5.1 of this Basis of Review, once an application for an Individual dewatering permit has been submitted to the District.

The applicant must provide the information required for the Dewatering General Permit, as specified in Section 2.5.2. In addition, the applicant shall provide estimates of the maximum monthly and annual dewatering withdrawals for the project and will be required to submit records of monthly withdrawals for each dewatering pump to the District. Staff shall not specify maximum monthly or annual withdrawal volumes in the recommended permit conditions presented to the Governing Board.

A. “Standard” Individual Permits
No Change.

B. “Master” Individual Permits
No Change.

3.11 Water Reservations

3.11.1 Picayune Strand and Fakahatchee Estuary

A permit applicant shall provide reasonable assurances that the proposed use will not withdraw water reserved under Rules 40E-10.041 (1) and (2), F.A.C., except that water uses less than 100,000 gallons per day associated with land management or public access/recreation shall be permittable. Compliance with the following criteria constitutes reasonable assurances that water reserved in Rules 40E-010.041 (1) and (2), will not be withdrawn. Water not reserved under Rules 40E-10.041 (1) and (2), F.A.C., shall be allocated pursuant to Subsections A and B.

For this section, the following definitions apply:

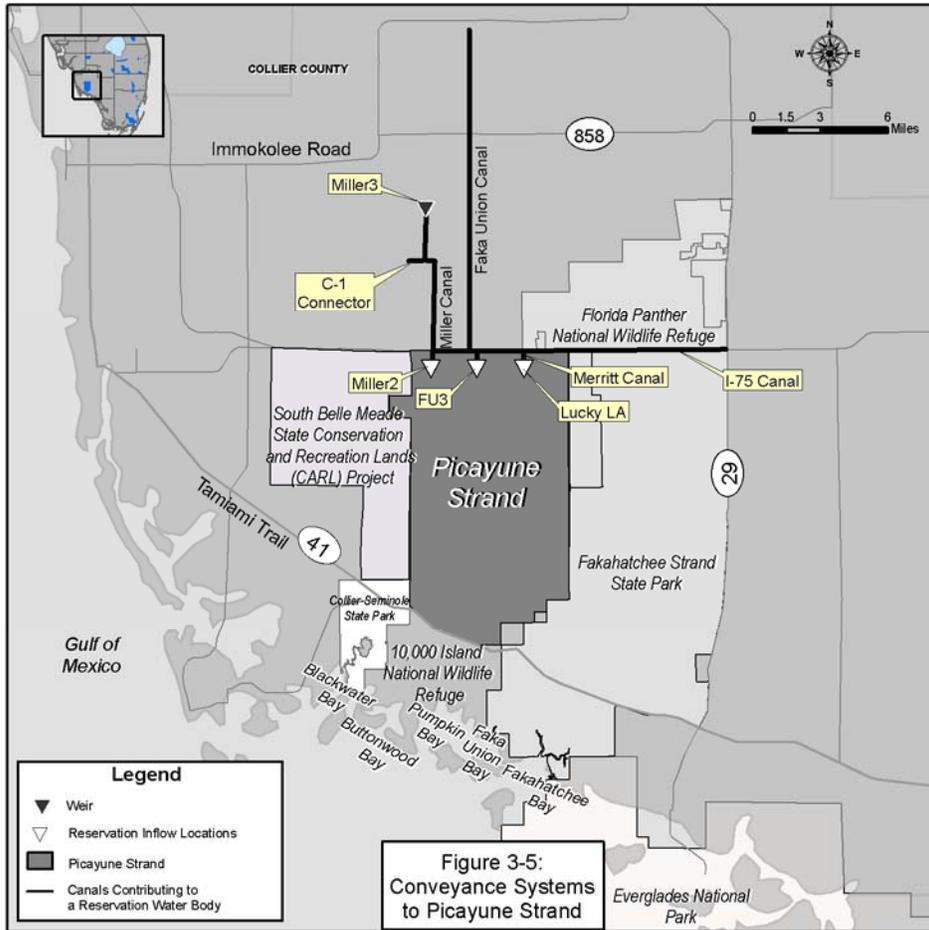
Direct Withdrawals from Groundwater: Water pumped from a well(s) constructed within the boundaries of the Picayune Strand or Fakahatchee Estuary into the water table or unconfined portions of the Lower Tamiami aquifer.

Indirect Withdrawals from Groundwater: a) a groundwater withdrawal from a well(s) constructed outside the boundaries of Picayune Strand and Fakahatchee Estuary into the water table or Lower Tamiami aquifer that results in a 0.1 foot or greater drawdown in the water table aquifer at any location underlying the Picayune Strand or the Fakahatchee Estuary, as determined by an evaluation conducted pursuant to Section 1.7.5.2.A.; or b) a groundwater withdrawal that causes a water table drawdown of 0.1 foot or greater underlying any canal

identified in Figure 3-5, as determined by an evaluation conducted pursuant to Section 1.7.5.2.A.

Direct Withdrawals from Surface Water: Withdrawal of surface water from facilities physically located within the Picayune Strand or Fakahatchee Estuary boundaries.

Indirect Withdrawal from Surface Water: Withdrawal of surface water from any canal identified in Figure 3-5.



A. The following uses do not withdraw reserved water:

1. Withdrawals from the Sandstone aquifer, Mid-Hawthorn aquifer or the Floridan Aquifer Systems;
2. Withdrawals authorized by Rule 40E-20.302(3), F.A.C. (No-Notice Short-Term Dewatering General Water Use Permit);
3. A renewal of a water use authorized by a permit existing on [effective date]. If the level of certainty under the permit being renewed is changed to a 1 in 10 year level of certainty pursuant to Section 2.3.2 (e.g. a golf course irrigation level of certainty changed from a 1 in 5 to a 1 in 10 year level of drought), the resulting 1 in 10 year allocation shall be authorized;
4. A permit modification that does not change the source, increase the allocation or change withdrawal locations, such as replacement of existing wells with similar construction and at similar locations, crop changes that do not change the allocation or timing of use, or decrease in allocation;
5. A permit modification that does not result in a direct or indirect withdrawal as demonstrated through an analysis conducted consistent with Section 1.7.5.2.A. When a modification to an existing permit is requested, the 0.1 foot threshold for determining a direct or indirect withdrawal will be applied to the effect of the modification only. The change in the drawdown solely associated with the applicant's proposed modification is calculated at the location of the 0.1 foot drawdown contour associated with the existing permit. If the change in drawdown associated with the proposed modification is less than 0.1 foot, the applicant's modification does not withdraw reserved water;
6. A proposed new use that does not result in a direct or indirect withdrawal as demonstrated through an analysis conducted pursuant to Section 1.7.5.2.A.
7. A proposed new use with a direct or indirect withdrawal and no greater impact, including changes in timing, on a reservation water body than the terminated or reduced permit existing on [effective date] within the same project site. This evaluation will be conducted pursuant to Section 1.7.5.2.
8. A proposed new use or proposed modification of a permit with an indirect withdrawal that does not withdraw reserved water from the Picayune Strand or the Fakahatchee Estuary. The determination that reserved water is not withdrawn shall be demonstrated by conducting the Model Impact Evaluation in Section B.

B. Model Impact Evaluation. If required by Section A, the applicant shall demonstrate water reserved for the Picayune Strand and Fakahatchee Estuary will not be withdrawn by conducting the following Model Impact Evaluation. A pre-application

meeting between the Applicant and District staff is strongly recommended to be conducted prior to initiating model development.

1. Defining Scope of Model Evaluation

- (a) For groundwater withdrawals, identify the cone of influence of the proposed withdrawal per Section 1.7.5.2.A. Based on this analysis, the Applicant shall identify which reservation inflow locations (set forth in Figures 1 and 2 in Rule 40E-10.021, F.A.C.) and conveyance system(s) identified on Figure 3-5 are potentially influenced by the proposed withdrawal.
- (b) For surface water withdrawals, identify the reservation inflow locations, reservation water body (set forth in Figures 1 and 2 in Rule 40E-10.021, F.A.C.), and conveyance system(s) identified on Figure 3-5 that are potentially influenced by the proposed withdrawal.

2. Conditions of Model Development

- (a) Boundary Conditions: The model domain and resolution of grid cell size shall be identified using professional standards for model development considering the area of influence, while avoiding boundary condition biases. At a minimum, boundaries shall be situated sufficiently distant from the area of interest or in such a manner as to prevent non-representative impacts from specified boundary conditions on predicted stages and/or flow in the area of interest.
- (b) Surface and groundwater interactions: Surface and groundwater model codes that have undergone professional peer review and are representative of the physical system being simulated shall be used. Where integrated surface water and groundwater models are applied, time steps will be selected with consideration given to the resolution of the available data and the resolution necessary for quantifying flow volumes. Surface waters and overland flow time steps not exceeding 4 hours in length, canal flows time steps not exceeding 3 minutes, and groundwater time steps not exceeding 6 hours in length shall be considered acceptable. Alternative time steps may be used providing they produce an acceptable calibration as described in Subsection 3.11.1B.2(f). For the purposes of model calibration, the time steps used for simulating stages shall be averaged and flows shall be summed to produce daily values for comparison to measured data.
- (c) Hydrologic Conditions: Rainfall and evapotranspiration shall be simulated based on data collected from 1988 through 2000 for the model domain.
- (d) Land Use/Water Use: The model shall simulate 2000 land use existing on December 31, 2000 within the model domain (as identified in Subsection (a), above). The water use withdrawal data used for the model calibration shall reflect actual use during the period of 1988 through 2000. In the case of irrigation type uses, a supplemental crop irrigation module from the model

code selected per Subsection (b) shall be acceptable for calculating variable demands.

- (e) Project Features and Operations: Model simulations shall include project features and operations of the Picayune Strand Restoration Project utilized to simulate the flows identified in Rule 40E-10.041, F.A.C.
- (f) Model Calibration: To calibrate the model, the model output shall be compared to the affected flow probability distribution(s) in Rule 40E-10.041 and surface water, groundwater stage, and flow data from monitoring sites located within the model domain. The model shall be considered calibrated when surface water and groundwater stage and flow are calibrated as required by Subsections (i), (ii) and (iii), below, and the resulting flow probability distribution curves from the Applicant's model are consistent with the magnitude and timing of flows in the flow probability distribution curves identified in Rule 40E-10.041, F.A.C., for the time period including 1988 through 2000. In the event that the simulated model output for a monitoring site(s) or the flow probability distribution(s) does not meet these criteria, the Applicant shall provide a justification of the deviation. If such justification adheres to documented physical conditions in the field and comports with professionally accepted principles of hydrology, the monitoring sites or flow probability distribution(s) that do not meet the criteria shall be accepted.
 - i. Groundwater Stage Data: The mean error determined by comparing the model calculated groundwater stage as described in Subsection 3.11.1.B.2.(b) with the corresponding measured data shall not exceed 1.0 foot for the time period including January 1, 1995 through December 31, 1999. If the mean error is exceeded at a monitoring location, the groundwater calibration shall be considered acceptable when the absolute mean error of all the groundwater monitoring locations within the model domain do not exceed 1.0 foot and the deviation between the model simulation value and the measured value is explained as set forth in Subsection 3.11.1.B.2.(f).
 - ii. Canal Stage Data: The average mean error determined by comparing the model simulated surface water stages as described in Subsection 3.11.1.B.2.(b) with the corresponding measured data should not exceed 0.3 foot for the time period including January 1, 1995 through December 31, 1999.
 - iii. Flow Data: The mean error determined by comparing the model simulated surface water flow as described in Subsection 3.11.1.B.2.(b) with the corresponding measured data shall not exceed ten percent for the time period including January 1, 1995 through December 31, 1999.

3. Impact Evaluation

Once the model is calibrated, Applicants shall demonstrate that water reserved for the Picayune Strand and Fakahatchee Estuary will not be withdrawn, based on the following:

- (a) “Without scenario”: All existing legal uses at the effective date of the rule shall be represented using the allocation in the permit. For the purposes of this evaluation and Subsection (b.), the annual allocation shall be distributed on a monthly basis based on the use type. For a public water supply use type, the monthly distribution shall be calculated based on the measured monthly pumpage divided by the annual total pumpage using the average of the three most recent representative years. Representative years shall not include years with water shortage restrictions, years with plant failures or other years that are not representative of normal pumpage. For an irrigation use type, the monthly distribution shall be determined using the Blaney-Criddle distribution calculated for each project per “Part B Water Use Management System Design and Evaluation Aids.” The annual allocation and the associated monthly distribution shall be simulated using the calibrated model developed in accordance with the criteria identified in Subsection 3.11.1.B.2 in order to generate a daily flow data for each represented inflow location identified in Subsection 3.11.1. These data shall be presented as daily hydrographs as well as seasonal and period of record flow probability curves.
- (b) “With Scenario”: The “with scenario” includes all existing legal uses at the time of the evaluation of the application and the proposed use and pending applications for which the evaluation under this subsection is being conducted. The annual allocation and the associated monthly distribution shall be simulated using the calibrated model developed in accordance with the criteria identified in Subsection 3.11.1.B.2 in order to generate a daily flow data for each represented inflow location identified in Subsection 3.11.1. These data shall be presented as daily hydrographs as well as seasonal and period of record flow probability curves.
- (c) The resulting flow volume distributions of the “with” and “without” scenarios shall be compared to determine whether the proposed use withdraws reserved water. Withdrawals of reserved water occur when the simulated flow volume probability curve(s) of the “with scenario” differs in flow distribution when compared to the “without scenario” at any of the inflow locations identified in Subsection 3.11.1.B.1

4. Alternative Model Evaluations

Applicants may propose alternative modeling evaluations in order to provide reasonable assurances that the proposed project does not withdraw water reserved under Rule 40E-10.041 F.A.C. Such modeling shall evaluate the impacts of the proposed project on the reservation water body under a representative range of hydrologic conditions for which the water reservations have been established (e.g. wet, average, dry hydrologic conditions). Proposed alternative modeling

evaluations shall be submitted in writing to the District for review and comment prior to conducting such modeling either in a pre-application meeting or as part of the permit application. District staff shall approve those model approaches which utilize documented model codes that have undergone professional peer review and accurately represent the physical system; are calibrated consistent with the criteria contained in subsection 3.11.1.B.2(f) i., ii., and iii. or other appropriate criteria; accurately represents impacts to inflows of reserved water into the reservation water body as described in Rule 40E-10.041 F.A.C.; and represents existing legal uses and the proposed project withdrawals.

5. Reduced or Terminated Permit Impacts

If an existing legal use at the effective date of the rule has been reduced or terminated and results in increased inflows that result from the reduced or terminated use into the reservation water body, the applicant may seek an allocation that withdraws such increased inflows at any of the inflow locations identified in subsection 3.11.1.B.1. provided that the waters reserved in Rule 40E-10.041, F.A.C. are not reduced as demonstrated through an analysis conducted pursuant to subsection 3.11.1.B.3. or 4.. The quantity of increased inflow shall be available for allocation unless the Governing Board determines that allocation of the water is not consistent with the public interest under Section 373.223(1)(c), F.S.

In the event these criteria cannot be met, the applicant shall modify the application to otherwise meet the requirements of this Section.

40E-2.301 Conditions for Issuance of Permits.

(1) (a) through (j) No change.

(k) Will not withdraw water reserved under Chapter 40E-10, F.A.C.

(2) No Change.

Specific Authority 373.044, 373.113, 373.118 FS. Law Implemented 373.036, 373.042, 373.103(4), 373.1501, 373.1502, ~~373.118~~, 373.223, 373.229, 373.2295, 373.470, FS. History—New 8-14-02, Amended 8-31-03, 4-23-07, 2-13-08, _____.

40E-2.331 Modification of Permits.

(1) through (3) No Change.

(4)(a) Modification of an existing water use permit shall be approved by letter, provided the permit is in compliance with all applicable limiting conditions and the modification request:

1. Does not result in an increase in the amount of the permit allocation;

2. Does not modify the existing permit expiration date, except that when the permit duration is based upon the current lease expiration date, the permit duration shall be extended by letter modification to the new lease date, but shall not exceed the applicable permit duration pursuant to Rule 40E-2.321, F.A.C.;

3. Does not potentially interfere with any presently existing legal use of water, cause environmental harm, saltwater intrusion, pollution of the water resources, harm to offsite land uses, does not withdraw water reserved under Chapter 40E-10, F.A.C., or does not

otherwise raise issues requiring a Staff determination of whether such impacts would occur pursuant to the “Basis of Review for Water Use Permit Applications within the South Florida Water Management District”, incorporated by reference in Rule 40E-2.091, F.A.C.; and

4. Does not change the permitted withdrawal source(s) or use classification.

5. Does not result in a modification of the permit which must be approved by the Governing Board pursuant to Section 373.239(2), F.S.

(b) No Change.

Specific Authority 373.044, 373.113 FS. Law Implemented 373.223, 373.229, 373.239 FS. History—New 9-3-81, Formerly 16K-2.09(1), Amended 4-20-94, 7-11-96, 4-9-97, 12-10-97, 8-1-02, 4-23-07, 2-13-08, _____.