Date: July 15, 2016

To: Kristine Morris, FDEP

From: Rebecca Elliott, FDACS

RE: Comments for CFWI Regulatory Team
Harm and Significant Harm / 40X-2.301 Conditions for Issuance of Permits

Harm and Significant Harm

Current CFWI concepts:

Harm means is an adverse impact to ecosystem structure or ecosystem functions as evaluated in the Applicant's Handbook.

Significant harm is more severe than harm and is the fundamental adverse alteration of ecosystem structure, ecosystem functions, or important environmental values recognized in the State Water Resources Implementation Rule (Rule62-40.473, F.A.C.).

The differentiation between harm and significant harm is an important concept for advancing CFWI's single, uniform definition of the term "harmful to the water resources" consistent with the term's usage in s. 373.219.

The use of the harm definition in the consumptive use permitting process separate from the use of the significant harm definition to set minimum flows and minimum water levels (MFLs) is also an important concept. However, the definitions themselves are a work in progress and terms such as "adverse impact to ecosystem structure or ecosystem functions" for harm and "fundamental adverse alteration of ecosystem structure, ecosystem functions…" are undefined conceptual placeholders until additional work for the Applicant's Handbook and rule language takes place.

40X-2.301 Conditions for Issuance of Permits - *(g) Will not cause harm to the water resources of the area in any of the following ways:*

General Comment: While the draft Conditions for Issuance document seeks to provide uniform concepts for the Central Florida Water Initiative (CFWI) area, a key part of uniformity is the provisions contained in the water management district's (WMD) Applicant's Handbook (AH) which the applicant must satisfy to receive a Consumptive Use Permit (CUP). The AH uniformity for CFWI needs to be addressed either concurrently with the Conditions for Issuance

language or in a separate process that is another step clearly stated and understood by the CFWI Regulatory Team. The conditions must be defined uniformly in the AHs for the three WMDs such that the applicant, agency, and third parties have direction on what the terms mean and what criteria can be used to meet the 40X-2.301 rule conditions.

1. *Will not cause harmful water quality impacts to the water source resulting from the withdrawal or diversion;* The issuance of a water use permit shall be denied if the withdrawals would cause significant degradation of surface water or groundwater quality through the induced movement of pollutants into a water resource that is not polluted. "Significant degradation of surface or groundwater quality" means: (a) the induced movement of pollutants into a water source that is not polluted, which causes a violation of water quality standards in areas that would have previously been unaffected; or (b) the alteration of the rate or direction of the movement of pollutants, as evidenced by the predicted influence the water withdrawals would have on inducing movement of the pollutants or as indicated by a sustained increase in background levels in pollutant concentrations.

The current concepts are a good starting point and this provision is defined similarly by the South Florida Water Management District (SFWMD) and Southwest Florida Water Management District (SWFWMD) in their AHs. Even though this language is protective of the resource, permit criteria is needed to provide direction via de minimus drawdown using analytical models that may generally be used by small agricultural producers. Larger projects with numerical models use drawdown contours and gradient to comply.

2. *Will not cause harmful water quality impacts from dewatering discharge to receiving waters;* The use must not cause harmful water quality impacts from dewatering discharge to receiving waters. Applicants who have obtained and are in compliance with a National Pollutant Discharge Elimination System (NPDES) or Environmental Resource Permit for dewatering shall be considered to not cause harmful water quality impacts from dewatering discharge to receiving waters.

The current concepts are a good start. All three WMDs allow the National Pollutant Discharge Elimination System (NPDES) Permit or Environmental Resource Permit (ERP) to be used to satisfy this factor. Where this addresses the offsite discharge of water, we need to develop criteria for evaluating the drawdown effects of the dewatering and the need to maintain on site if feasible etc. This may be in Conditions of Issuance 1 a and 2 f above and apply to wetlands, lakes and streams.

Dewatering activities may impact irrigation practices (primarily seepage) or reduction in yield by lowering of water levels in production wells.

3. Will not cause harmful saline water intrusion or harmful upconing;

(a) For purposes of this definition "upconing" means the process by which saline water underlying a fresh water zone in the same or different aquifers, rises into the fresh water zone as a result of pressure variations caused by withdrawals.

(b) For purposes of this definition "saline water interface" means any plane or surface within the transition zone between fresh water and saline water that is defined by a specific concentration of total dissolved solids.

© For purposes of this definition "saline water intrusion" means the movement of more saline water laterally inland into a fresh water aquifer from coastal areas; the movement of more saline water vertically upward into a fresh water aquifer; any other movement of saline surface water into a fresh water aquifer; or any movement of saline surface water or ground water into a fresh water surface water body.

"Adverse impact from saline water intrusion" means an impact caused by withdrawals of ~~fresh~~ water that results in the further movement of a saline water interface to a greater distance inland toward a freshwater source. The District shall take into consideration ~~except as a consequence of:~~ seasonal fluctuations, climatic conditions, such as a drought; or ~~operation of the Central and Southern Flood Control Project~~, secondary canals or stormwater systems ~~that adversely affects or is predicted to adversely affect other existing legal uses of water, the applicant or the public health, safety and general welfare~~.

"Adverse impact from saline water upconing" means an impact caused by withdrawals of fresh water that result in the sustained upward movement of saline ~~water that adversely affects or is predicted to adversely affect other existing legal uses of water, the applicant or the public health, safety and general welfare~~. Sustained upward movement of saline water is one that persists when the withdrawals have ceased.

The current concepts need to include a provision qualifying that an adverse impact is one that adversely affects or is predicted to adversely affect other existing legal uses of water, the applicant, or the public health, safety and general welfare. The crossed out language should remain to allow use of saline water.

Water quality terms need to be defined for CFWI. There should be fresh and saline definitions and the criteria should address TDS, Chloride, and Specific Conductance.

Currently, there are a variety of methods between the WMDs that the applicant can use to demonstrate such intrusion is not occurring. Uniform technical criteria should be incorporated into the rule such as SFWMD's criteria for use in providing reasonable assurances that the use of saline water on the surface is also allowable. See below.

“ In order to provide reasonable assurances that harmful saline water intrusion will not occur, the applicant shall demonstrate that:

1. A groundwater divide (mound of freshwater) greater than one foot higher than the potentiometric head at the saline water source exists between the withdrawal point and the saline water source (defined by the location of the 250 mg/L isochlor); or,

2. A hydrologic analysis of groundwater flow demonstrates that there will be no further net inflow of groundwater from the saline water source toward the withdrawal point; except as a consequence of seasonal fluctuations; climatic conditions, such as drought; or operation of the Central and Southern Flood Control Project, secondary canal systems, or stormwater systems, or,

3. Other evidence shows saline water intrusion will not cause harm to the wellfield and water resource, if pumpage is allowed or increased. Should the applicant’s proposed withdrawals occur in an area where the saline water interface is unstable (as demonstrated by increases in measured chloride concentration levels within the influence of the proposed use), the applicant shall determine the cause of the saline movement and the extent of future movement through the duration of the permit and shall demonstrate that the proposed withdrawal will not cause harmful
saline intrusion through the duration of the permit. AND

When the saline interface occurs beneath the point of withdrawal, the maximum amount of pumpage from any well shall be constrained as follows:

[EQUATION] “