



## City of Peoria

### *Public Works - Utilities*

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Doug Dunham  
Deputy Assistant Director  
Water Management Division  
Arizona Department of Water Resources  
3550 N. Central Ave  
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### **RE: COMMENTS ON DRAFT HYDROLOGIC STUDIES GUIDANCE DOCUMENT**

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Dear Mr. Dunham:

The City of Peoria (City) has reviewed the draft guidance document entitled "Hydrologic Studies Demonstrating Physical Availability of Groundwater for Assured and Adequate Water Supply Applications" prepared by the Arizona Department of Water Resources (ADWR) dated March 24, 2010. The City appreciates the opportunity to comment on this draft guidance document, which will become a substantive policy statement.

The City notes that ADWR devotes considerable discussion to demand, both the current, committed, and projected demand in the application and the existing and issued demand, all of which together comprise the total demand. This is a key concept, and supplements the concepts of current, committed, and projected demand embodied in the 2006 Assured and Adequate Water Supply (AAWS) rules. Some of the discussion appears to be dated, such as the reference on page 9 under *1. Existing Uses* to annual reports being available at AMA offices.

Under *3. Application Demand*, the demand for Designation applications is differentiated from demand for other applications. The City suggests that ADWR offer more explanation of why and how demand differs between Designations and all other types of applications. The discussion of Designation application demand invokes the 100-year demand whereas the other discussion does not. Most municipal providers seeking a Designation have prepared planning documents that predict growth patterns for a decade or more, and these should be explicitly added to the list of acceptable sources for projected demand.

Under the discussion of existing uses, pages 8-9, it is not made clear if volumes associated with wells that must be incorporated into existing uses are the total volume of withdrawals allowed for a specific well under its withdrawal permit or the actual pumped volume reported to ADWR

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in the previous year's annual report. The language suggests the latter. The statement that demand numbers may be derived from groundwater flow models developed by ADWR is also ambiguous. The City recommends an explicit statement recognizing the permit volume as the only acceptable volume for purposes of modeling and computing total demand.

On page 12, *8. Previous Studies*, a cautionary note against using information from older hydrologic reports is given. Although the desire for the most recent site-specific data is understandable, older information is often useful, and at the very least, discrepancies with newer studies must be explained. A pump test yields aquifer characteristics that derive from the aquifer itself, not the age of the data.

On page 15, *14. Groundwater Levels*, the requirement to drill one or more new wells in any area lacking sufficient existing or accessible wells is mentioned. The City commends ADWR on the this requirement, which will provide much more reliable information for the study area.

On pages 15-16, *15. Water Level Changes*, ADWR discusses declining groundwater levels but fails mention situations in which water levels are rising. Rising water levels occur in several areas of the Phoenix AMA as well as other areas of the state. The City recommends the addition of some discussion of how rising water levels should be handled.

On page 17, *IV.A.1. Determination of the Minimum Extent of the Hydrologic Model Area*, the City notes that when all existing and issued AAWS demands that are impacted by one foot or more of projected drawdown after 100 years of the applicant's proposed groundwater withdrawals will probably require inclusion of much of the entire AMA, particularly in the Salt River Valley. The City recommends ADWR specify that the current ADWR model for the AMA be run for each application located within that AMA due to the expected impacts on existing and projected AAWS demands.

On page 19, *IV.A.3. Conditions When an Analytical Model May be Used Without Prior Approval*, the City recommends adding a prohibition against using analytical models with prior approval when the project location is within 10 miles of the municipal boundaries of any municipality holding a Designation of Assured Water Supply. The requirement that no more than five issued AAWS determinations or general industrial use permits be located in the study area may preclude the use of analytical models in any event, if the entire AMA is considered as the study area.

On page 20, *IV.A.3.a. Proposed Project Demand*, the City notes that the suggested 100 acre-foot/year demand restriction may not be sufficient within an AMA. Although one Certificate application may not negatively impact existing AAWS demands, ten such Certificates would more likely have a negative impact. This restriction invites several small applications whereas larger, more comprehensive applications would be serve the AMA. The City recommends that ADWR cap the number of applications that will be allowed under the 100 acre-foot/year limit within any AMA to no more than one per section, and none within 10 miles of the municipal boundaries of any municipality holding a Designation of Assured Water Supply.

On page 23, *IV.A.4.a., No-Flow Boundaries*, ADWR has imposed a 400 foot depth to bedrock boundary condition in previous models. This may be unnecessarily restrictive in areas without deep alluvial basins or where basins become shallow for substantial distances. The City recommends that ADWR include language allowing consultations with ADWR concerning criteria for no-flow boundaries prior to running the numerical model with different no-flow boundaries.

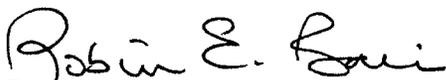
On page 24, *IV.A.4.c., Natural Recharge for Rivers and Streams and Along Mountain Fronts*, The City notes that several municipalities encompass long reaches of natural streams and mountain fronts within their municipal boundaries. Recharge factors vary with geomorphologic and hydrogeological factors. Such variation should be incorporated into any numerical model that covers a large area. The City recommends language allowing consultations with ADWR to assign the appropriate values where variation occurs.

On page 24, *IV.A.4.f., Recovery of Existing Long-Term Storage Credits*, a new requirement is presented for a schedule of recovery volumes and locations where recovery will occur. The City recommends that ADWR add language describing what this schedule should be, and specifying that the maximum permitted volume for recovery wells be simulated in any model run.

Overall, the City finds the proposed guidelines acceptable, and an excellent step forward in clarification of what is required in any hydrologic report in support of an AAWS application. The City commends ADWR on its efforts in preparing this document and seeking comment from stakeholders. The City remains ready to work with ADWR to bring greater efficiency and coherence to the Assured and Adequate Water Supply program.

If you have any questions, please contact Alan Dulaney, Water Resources Supervisor, at (623) 773-7357.

Sincerely,



Robin E. Bain, P.E., DEE

Water Resources and Environmental Manager

cc: William Mattingly, Director, Public Works-Utilities, City of Peoria  
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Sandy Fabritz, Assistant Director, Arizona Department of Water Resources