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November 13, 2019

*Via E-Mail and Hand Delivery*

Representative David L. Cook  
Arizona House of Representatives  
1700 West Washington Street, Suite H  
Phoenix, Arizona 85007-2844

Re: October 21, 2019 Pinal Groundwater Ad Hoc Committee Meeting Questions

Dear Representative Cook:

Thank you for inviting Arizona Department of Water Resources (ADWR) modeling staff to the Committee hearing on October 21, 2019. At the October 21<sup>st</sup> meeting, ADWR committed to providing answers to questions from the Committee. Below are answers to questions asked by the Committee as well as questions and answers on topics raised in public comment at the October 21, 2019 meeting. ADWR used its best efforts, including reviewing the October 21, 2019 meeting recording, to capture the essence of questions and comments raised.

## **1. Service Area Rights**

### **A. How are municipal service area rights established?**

In an active management area, a city, town, private water company, community facilities district or domestic water improvement district has the right to withdraw groundwater within its service area and deliver the groundwater to residents and landowners within its service area. A.R.S. § 45-492(A). The right of a city, town, private water company or district to withdraw and deliver groundwater within its service area is referred to as a service area right.

ADWR has adopted a substantive policy statement (originally adopted in mid-1980s and updated March 17, 2005) containing procedures that a city, town, private water company or district must

follow to establish a service area right (Substantive Policy GW 40). A city, town, private company or district that has been designated as having an assured water supply or that will serve a subdivision that has a certificate of assured water supply may establish a service area right by serving water to at least one customer pursuant to another water right or permit (typically a type 2 non-irrigation grandfathered right, but could also be surface water, CAP water, or effluent). A city, town, private water company or district that is not designated as having an assured water supply and that will not serve a subdivision that has a certificate of assured water supply may establish a service area right by serving water to at least four customers pursuant to another water right or permit. At least one of the four customers must be served for 90 consecutive days or more.

**B. What area is included in a municipal service area?**

The service area of a city, town, private water company or district is generally the area of land actually being served by the city, town, private water company or district, plus additions to such area that contain an operating distribution system owned by it. A.R.S. § 45-402(31). The service area of a city or town may extend beyond its corporate boundaries. A Certificate of Convenience and Necessity issued by the Arizona Corporation Commission generally limits the geographic extent of the area that the private water company may serve. For districts, the service area is limited by the district boundaries created pursuant to statute.

**C. Is there a limit on how much groundwater may be withdrawn pursuant to a municipal service area right?**

The right of a city, town, private water company or district to withdraw and deliver groundwater pursuant to a service area right is subject to conservation requirements developed by the Director of ADWR in the management plan for the active management area. A.R.S. § 45-492(A)(2). A city, town, private water company or district that has been designated as having an assured water supply and that is regulated under the total "gallons per capita per day" (GPCD) program in the management plan must limit its annual water deliveries to a maximum annual volume calculated based on the total GPCD rate assigned to it in the management plan.

A city, town, private water company or district that is not regulated under the total GPCD program is not required to limit its annual water deliveries, but it must comply with specific conservation measures established in the Non-Per Capita Conservation Program of the management plan. Those conservation measures are commonly referred to as Best Management Practices or BMPs.

**D. Can groundwater withdrawn pursuant to a municipal service area right be sold to another entity outside the service area?**

A city, town, private water company or district may not deliver groundwater withdrawn pursuant to its service area right to an entity outside of its service area. However, a city, town, private water company or district may supply groundwater to another city, town, private water company

or district in the same active management area if it is consistent with the management plan for the active management area and is approved by the Director of ADWR. A.R.S. § 45-492(C).

**2. How was the effluent volume included in the Global-Santa Cruz Water Company designation determined?**

In 2013, the Department designated Santa Cruz Water Company (also known as Global-Santa Cruz) as having an assured water supply through 2032 for both of its service areas in the Pinal AMA. That designation was based on an annual estimated water demand of 22,914.12 acre-feet per year. Santa Cruz demonstrated that 17,782.25 acre-feet per year of groundwater and 5,131.87 acre-feet per year of effluent (for a total of 22,914.12 acre-feet per year) would be physically, continuously, and legally available to meet the annual estimated water demand.

At the October 21 hearing of the Ad Hoc Committee, a question arose as to the limiting factor on the effluent volume determined to be available for purposes of the Global-Santa Cruz designation. The effluent is available to Global-Santa Cruz through an agreement with Palo Verde Utilities Company, LLC (Palo Verde) to provide effluent to Global-Santa Cruz's North Service Area. Although Palo Verde is expected to have the capacity to treat and deliver up to 6,716 acre-feet per year of effluent for non-potable use, the volume of effluent requested in the designation application and included in Global-Santa Cruz's 2013 designation was limited to the non-potable demand within the North Service Area. This is consistent with ADWR's standard practice. In the application materials, the 2032 non-potable effluent demand was estimated to be 5,131.87 acre-feet per year.

**3. Why are regional groundwater flow models developed and how are they used by ADWR?**

ADWR develops regional groundwater flow models, including the Pinal model, because they are the best available tool to understand regional groundwater conditions and groundwater pumping impacts. ADWR uses regional groundwater flow models as a projection tool for regional planning and for regulatory permitting, including the assured water supply program. The assured water supply statutes, rules, and substantive policy statement require that certain demand assumptions and other assumptions be included in assured water supply model runs. Many of the assured water supply assumptions differ from assumptions used in groundwater modeling for other permitting programs, such as the recharge program, because of the different program requirements and purposes. The numeric groundwater flow model can also be used for scenario planning with assumptions that represent possible future conditions.

**4. Why the immediate transition from agricultural use to AWS use?**

The assured water supply rules require the model to include the estimated water demand (the 100-year demand) for all issued AWS determinations. See A.A.C. R12-15-716(B)(3)(c). To avoid overlapping or duplicative pumping, the model eliminates agricultural pumping where issued AWS determinations overlap with agricultural uses. For agricultural lands with AWS

development overlays, agricultural pumping and incidental agricultural recharge are eliminated from the model and the full associated AWS pumping is started on the first day of the projection period.

**5. Why does ADWR require assured water supply applicants to ensure that their proposed demands do not negatively impact previously issued assured water supply determinations located in shallow parts of the aquifer?**

The purpose of the AWS program is to ensure that new subdivisions have a 100-year secure water supply. It would be inconsistent with this purpose to approve applications for AWS determinations that would negatively impact wells associated with previously issued AWS determinations, including wells located in shallow aquifers.

**6. How did ADWR modify the aquifer thickness in the model?**

As part of the 2019 Pinal Model effort, ADWR re-analyzed and revised the basin stratigraphy in the 2014 Pinal Active Management Area (AMA) groundwater flow model. Modifications were made to address discrepancies between the thickness of the aquifer materials in the 2014 Pinal model (original depth to model bottom) and well depth information. Additional modifications were made to assimilate new data from recent subsurface hydrogeologic investigation of the Superstition Vistas Planning Area performed by the Arizona Geological Survey (AZGS) and the Salt River Project (SRP). Appendix B of the *2019 Pinal Model and 100 Year Assured Water Supply Projection Technical Memorandum* describes the structural modifications made to the model.

Sincerely,

A handwritten signature in black ink, appearing to read 'Thomas Buschatzke', written in a cursive style.

Thomas Buschatzke  
Director