



MEMORANDUM

Date: December 30, 2022

To: The Honorable Chair and Members
Pima County Board of Supervisors

From: Jan Lesher 
County Administrator

Re: **Additional Information on December 20, 2022 Agenda Item No. 10 – United States Geological Survey Contract**

At the December 20, 2022 Board of Supervisors meeting, Supervisor Rex Scott asked questions regarding the United States Geological Survey (USGS) contract. Specifically, whether without funding by the Regional Flood Control District (District), would the USGS discontinue the stream monitoring sites? Responses to Supervisor Scott's questions are as follows:

Is it typical for the USGS to discontinue the use of stream gages?

Unfortunately, yes. Over the past several decades, the USGS has abandoned dozens of streamflow gaging sites across Pima County, most often due to the loss of funding. In fact, the District's ALERT Flood Warning System (ALERT) operates several streamflow-monitoring sites at locations abandoned by the USGS during the 1970s and 80s. Currently, the USGS only completely funds approximately 10 percent of USGS gages with the remainder requiring some amount of cooperator support. Operating funds for USGS gages comes through a federal appropriation called the Federal Priority Streamgages network (FPS), which has remained essentially flat for a number of years. By law, the USGS cannot operate unfunded gages, so when cooperator support is removed, the gage will likely be discontinued.

The District's current funding relationship with the USGS began during the recession in 2008 when funding from the State of Arizona and other agencies dramatically scaled back. The USGS and the District worked together to identify key monitoring sites to preserve, and identified the 12 sites in this IGA as sites that were essential from the perspective of public safety and long-term monitoring. While it is unlikely that all of the 12 gage sites would have been abandoned, it is safe to say that the District rescued a number of these gages, and our partnership has been key to maintaining a viable streamflow monitoring program within Pima County.

Could it be anticipated that the District will have to fully fund these stream gages?

This is not anticipated. According to Daniel Evans who is with the USGS and is the Associate Director of Data with the Arizona Water Science Center, federal funding is flat. This means

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that over time, more of the funding burden may shift to cooperating agencies, but the current appropriation is extremely unlikely to decrease.

Considering the value of these gages for flood warning, why does USGS want to discontinue these?

The USGS has operated streamflow-monitoring sites in Pima County as early as 1905 and recognizes the value of maintaining gaging sites, both for science and public safety. The USGS almost never wants to discontinue a gage because of their value for flood warning and long-term environmental data collection. They recognize that the gages listed in this IGA are critical to flood warning in Pima County, and the length of record is extremely valuable and applicable to many different environmental scientists. However, because the USGS only directly funds a very small percentage of its network and relies on funding partnerships, if those partnerships are not maintained they cannot operate the gage.

From the County's perspective, this IGA has proven extremely beneficial beyond the data provided by the 12 supported USGS gages. Since the District is also in the business of streamflow monitoring, the ability to work directly with other experts in streamflow monitoring is very useful. It is noteworthy that the relationship with USGS is much more than simply providing funds; it extends to providing a real working partnership. The USGS and District staff work together regularly sharing their expertise and consult with each other regarding flood warning and issues that may affect streamflow monitoring.

Another key benefit to the District is that the USGS is able to take direct discharge measurements during flood events at the 12 supported sites, which allows them to verify the relationship between observed streamflow depth and streamflow volume. The District's ALERT system directly benefits from this data, which otherwise would typically rely on computer simulations to equate flood depth to flood volume. Additionally, the USGS provides technical expertise with the District in designing and installing ALERT streamflow monitoring sites. Ultimately, the partnership with the USGS has made the ALERT system more robust and reliable, which in turn provides a direct benefit to public safety.

JKL/anc

c: Carmine DeBonis, Jr., Deputy County Administrator
Eric Shepp, P.E., Director, Regional Flood Control District
Lynn Orchard, Chief Hydrologist, Regional Flood Control District