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IN THE SUPERIOR COURT OF THE STATE OF ARIZONA
IN AND FOR THE COUNTY OF MARICOPA

IN RE THE GENERAL ADJUDICATION
OF ALL RIGHTS TO USE WATER IN
THE GILA RIVER SYSTEM AND
SOURCE

W-1 (Salt)
W-2 (Verde)
W-3 (Upper Gila)
W-4 (San Pedro)
(Consolidated)

NO. W1-106

ORDER FOR PRODUCTION OF A
SUBFLOW ZONE DELINEATION
TECHNICAL REPORT FOR THE
VERDE RIVER WATERSHED

CASE NAME: *In re Subflow Technical Report, Verde River Watershed.*

HSR INVOLVED: None.

DESCRIPTIVE SUMMARY: Pursuant to A.R.S. § 45-256(A), the Special Master requests technical assistance from the Arizona Department of Water Resources to prepare a map of and report about the subflow zone of the Verde River Watershed.

NUMBER OF PAGES: 5.

DATE OF FILING: November 27, 2017.

1 This Order initiates the case that will delineate the subflow zone in the Verde River
2 Watershed. Pursuant to A.R.S. § 45-256(A), Arizona Department of Water Resources
3 (ADWR) is requested to develop a map of and a technical report regarding the subflow zone
4 of the perennial and intermittent¹ streams in the Verde River Watershed. The map shall also
5 include the subflow zone of ephemeral reaches of perennial and intermittent streams if: (1)
6 anthropological surface water diversions or groundwater pumping caused that portion of the
7 perennial or intermittent stream to become ephemeral; and (2) a saturated zone exists beneath
8 the ephemeral reach that is connected to the saturated zone beneath the adjoining perennial or
9 intermittent reaches. In conjunction with the map prepared in accordance with existing
10 legal guidelines, ADWR shall prepare a technical report that describes the methodology and
11 includes its analysis of the designation of the subflow zone.
12

13 In *Gila IV*,² the Arizona Supreme Court held that the saturated floodplain Holocene
14 alluvium defines the subflow zone. For purposes of its methodology applied to the Verde
15 River Watershed, ADWR shall assume that the entire lateral extent of the floodplain
16 Holocene alluvium is saturated. The subflow zone must be delineated as a continuous zone.
17 *Minute Entry*, Contested Case W1-103, October 12, 2012, p. 5. It must accurately reflect the
18 full extent of the floodplain Holocene alluvium including any portion covered by alluvial
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20 ¹ For purposes of the map and technical report, ADWR shall use the definitions of perennial, intermittent and ephemeral
21 streams set forth in Judge Goodfarb's June 30, 1994 Order. Perennial streams have a continuous flow of water
22 throughout the year. Direct runoff from precipitation and baseflow from the discharge of groundwater from an aquifer
normally supply perennial streams. Intermittent streams have a seasonal flow of water which can continue for a long
consecutive period of time during a given season. Ephemeral streams experience flow only in response to precipitation
and do not have a baseflow component at any time during the year.

23 ² *In re the General Adjudication of All Rights to Use Water in the Gila River System and Source*, 198 Ariz.
24 330, 334, 9 P.3d 1069, 1073 (2000), *cert. denied sub nom. Phelps Dodge Corp. v. U.S.*, 533 U.S. 941 (2001)
("Gila IV").

1 fans. *Id.* at p. 2, ¶9. Surficial exposures of geologic units should not be the sole criterion to
2 identify the lateral boundaries of the floodplain Holocene alluvium. Where necessary to
3 accurately define the boundaries of the floodplain Holocene alluvium, ADWR shall use the
4 criteria specified in *Gila IV*, appropriate geological and hydrological criteria, vegetation
5 patterns, aerial photography, topographic soil breaks and its professional judgment.

6 The subflow zone will remain as narrow as the saturated floodplain Holocene
7 alluvium. It cannot include the alluvial plains of a tributary aquifer or of an ephemeral
8 stream except as specifically permitted above with respect to ephemeral reaches of perennial
9 and intermittent streams. Order, June 30, 1994, affirmed in all respects in *Gila IV*. It also
10 cannot include areas of basin fill recharge. To avoid this result, ADWR shall apply the
11 setback rules adopted by Judge Goodfarb and subsequently supplemented by Judge
12 Ballinger, which include:

13
14 1. Where there are connecting tributary aquifers or floodplain alluvium of
15 ephemeral streams, the boundary of the subflow zone must be at least 200 feet inside of that
16 connecting zone except the 200-foot setback may not be used in those locations that ADWR
17 identifies as subsurface floodplain Holocene alluvium.

18 2. No setback assumptions shall be applied in bedrock canyons.

19 3. When a hydraulic connection exists between the underground flow associated
20 with tributary and surface flow of the primary watercourse, the following adjustments are
21 permitted:

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23 a. A 100-foot setback shall be applied except for large ephemeral streams that
24 have relatively frequent surface and underground flow.

1 b. The setbacks may not exclude portions of the active river channel.

2 c. Where setbacks cross or where basin fill is adjacent to the active channel,
3 use the active channel to continue the subflow zone.
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5 *Minute Entry*, Contested Case W1-103, dated October 12, 2012, p. 4.

6 ADWR shall determine the subflow zone based on conditions existing in the earliest
7 year or during “a range of years immediately prior to regular, discernable diversion or
8 depletion of stream flows resulting from human activity” for which reliable and reasonably
9 complete data exists. *Order*, Contested Case W1-103, dated September 5, 2005, p. 21.

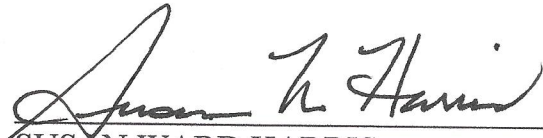
10 **IT IS ORDERED** initiating this case which shall be known as *In re Subflow*
11 *Technical Report, Verde River Watershed*, Case No. W1-106. The initial Court-approved
12 mailing list for this case shall include all persons listed on the Gila River Adjudication Court-
13 Approved Mailing List.

14 **IT IS FURTHER ORDERED** that ADWR shall prepare a map delineating the
15 subflow zone for the Verde River Watershed. ADWR shall submit the map, a description of
16 its methodology and its results in a technical report whose scope will be limited to
17 delineating the subflow zone.
18

19 **IT IS FURTHER ORDERED** that upon filing the technical report with the Court,
20 ADWR shall send a notice to all Claimants in the Verde River Watershed and to the persons
21 listed on the Court-Approved Mailing List for this case informing them of the availability of
22 the report and of a Claimant’s right to file written objections to the report and of the deadline
23 for filing objections. Any Claimant in the Verde River Watershed may file objections to
24

1 ADWR's technical report within one hundred and eighty (180) days of the date on which the
2 report is filed. Objections shall be limited to ADWR's findings regarding the lateral extent
3 of the subflow zone. This case will not determine proposed water right attributes for any
4 individual water right claim or use.

5 Filed this 27th day of November, 2017.

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9 SUSAN WARD HARRIS
Special Master

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11 The original report was filed with the Clerk of
12 the Maricopa County Superior Court on
13 November 27, 2017, and was delivered to the
Distribution Center for mailing to the persons
listed on the Court-Approved Mailing List