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22 [ADDITIONAL COUNSEL LISTED ON FOLLOWING PAGE]

23 **BEFORE THE**
24 **CALIFORNIA STATE WATER RESOURCES CONTROL BOARD**

<p>25 HEARING IN THE MATTER OF 26 CALIFORNIA DEPARTMENT OF WATER 27 RESOURCES AND UNITED STATES 28 BUREAU OF RECLAMATION REQUEST FOR A CHANGE IN POINT OF DIVERSION FOR CALIFORNIA WATER FIX</p>	<p>WRITTEN REBUTTAL TESTIMONY OF BRANDON NAKAGAWA</p>
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24 San Joaquin County Flood Control and
25 Water Conservation District, and
26 Mokelumne River Water and Power Authority
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1 I, BRANDON NAKAGAWA, declare:

2 I am the Water Resources Coordinator for San Joaquin County. I received a
3 Bachelor's of Science Degree in Civil Engineering from the University of the Pacific (UOP) in
4 2002 with a minor in chemistry. I am a Registered Civil Engineer in the State of California;
5 License # C 67010. I have been employed by the San Joaquin County Department of Public
6 Works since January, 2001. My qualifications are further described in SJC-71.

7
8 As the Water Resources Coordinator for San Joaquin County, I am responsible for
9 making recommendations to the Public Works Director who reports directly to the Board of
10 Supervisors on matters relating to water, storm water and groundwater resources, and flood
11 protection. My work encompasses, without limitation, water management, water quality, water
12 education, water-related outreach, hydrology, hydrogeology, the Sacramento-San Joaquin
13 Delta (Delta), and other topics directly or indirectly related to water (e.g., local and regional
14 economics, agricultural viability, land use planning, development, invasive species
15 management, levees, coalition building, historical preservation, etc.).

16
17 My duties and responsibilities include direct oversight and/or direct involvement in a
18 number of programs, divisions, budget units and initiatives for the San Joaquin County
19 Department of Public Works. I am the division head for the San Joaquin County Public Works
20 Water Resources Division, which is directly responsible for the management of the following
21 budget units: San Joaquin County Flood Control and Water Conservation District - Water
22 Resources, Water Investigation Zone No. 2, Mokelumne River and Water Power Authority,
23 Delta Activities, Eastern San Joaquin County Groundwater Basin Authority, and the County
24 Service Area 54 Stormwater Water Pollution Prevention Program.

25
26 Throughout my 16-year career at the San Joaquin County Department of Public Works,
27 I have directly prepared technical documents, studies, environmental documentation, reports
28

1 and engineering plans and specifications, and numerical groundwater and surface water
2 models. I have also directed and supervised staff and consultants in the preparation, use,
3 and reporting of the same items.

4
5 As examples of prior projects relating to my current testimony, I have directly prepared
6 text, figures, and graphics for the following groundwater-related documents:

- 7 2004 - Eastern San Joaquin County Groundwater Management Plan
- 8 2007 – Eastern San Joaquin County Integrated Regional Water Management Plan
- 9 2008 – San Joaquin County Flood Control and Water Conservation District 1999-2007
- 10 Groundwater Report
- 11 2014 – Eastern San Joaquin County Integrated Regional Water Management Plan
- 12 2014 Update

13 San Joaquin County is designated by the California Department of Water Resources as
14 the California Statewide Groundwater Elevation Monitoring (CASGEM) monitoring entity for
15 the portion of the Tracy Subbasin within San Joaquin County which is a significant portion of
16 the legal boundaries of the Sacramento-San Joaquin Delta. Staff within the San Joaquin
17 County Department of Public Works Water Resources Division perform the tasks required of
18 the designated monitoring entity and enlist additional staff throughout the San Joaquin County
19 Department of Public Works in the spring and fall to perform the semi-annual monitoring
20 events required by CASGEM. Additionally, San Joaquin County Department of Public Works
21 has been monitoring well elevations semi-annually since 1971 throughout the entire County.
22 The semi-annual groundwater reports are published in the San Joaquin County Groundwater
23 Data Center at <http://www.sjwater.org/Groundwater%20Reports.htm>.

24 Petitioners have not identified the legal users and uses of groundwater within the
25 vicinity of the proposed tunnel alignment. (See generally, CWF Petition for Change (August
26 25, 2015) and CWF Addendum and Errata to Petition for Change (September 11, 2015); see
27 also DWR-57, pp. 15-18 (discussing effects on groundwater levels).) As a result, the impact
28 of the proposed WaterFix Project on such legal users and uses of groundwater has not been

1 determined. In order to perform this threshold analysis (identifying well-site locations near the
2 proposed alignment), the WaterFix Project proponents could have used well construction
3 information readily available to public agencies and retained within DWR, as well as mapping
4 tools also readily available and free of charge to the general public. However, Petitioners did
5 not do so.

6 The WaterFix Project proponents could readily have performed a search, locating wells
7 within the vicinity of the proposed tunnel alignment and other project features. This
8 information is relevant to the potential injury to legal users of groundwater near the proposed
9 tunnel alignment and related components of the proposed WaterFix project. As explained in
10 the Rebuttal Testimony of Marc Del Piero (SJC-76), this analysis would be necessary to
11 demonstrate a reasonable likelihood that the proposed change will not injure any other legal
12 user of groundwater.

13 DWR is the repository for well construction information as submitted by well drillers,
14 well owners, and well permitting agencies. The information is available to government
15 agencies in accordance with Water Code Section 13752 and subject to the Information
16 Practices Act of 1977, but is available by request for use in studies or analysis by public
17 agencies. Public agencies and the general public are instructed by DWR on how to obtain
18 well completion reports via the DWR Groundwater Information Center at
19 http://www.water.ca.gov/groundwater/wells/well_completion_reports.cfm.

20 To demonstrate the availability of well completion reports in the vicinity of the proposed
21 tunnel alignment, a Well Completion Request Form, available at the following link
22 http://www.water.ca.gov/groundwater/docs/WCRR_September2015.pdf, was completed at my
23 direction and under my supervision, requesting all well completion reports in the townships,
24 ranges, and sections along the proposed alignment of the Tunnels. At my direction, the
25 request was emailed to the Department of Water Resources ("DWR") on January 31, 2017.
26 DWR provided a compact disk containing one hundred thirty-four (134) well completion
27 reports and an indexed spreadsheet of records was received on February 14, 2017.
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The process of developing a map of wells in the vicinity of the proposed tunnels alignment starts with the identification of wells constructed for the purpose of producing water for various uses, including domestic, industrial, irrigation, or public supply. To demonstrate the process of culling the well completion reports received, DWR's index of well completion reports listed as monitoring or unused in the WaterUse column heading were withdrawn from further consideration. There are fifty-six (56) wells denoted as domestic, industrial, irrigation, or public supply. Of the fifty-six (56) wells denoted as domestic, industrial, irrigation, or public supply, there are two wells for which a location could not be determined. Additionally, there are thirty-three (33) blank records under the WaterUse column heading. All thirty-three (33) well completion reports were visually inspected to deduce if the well was a monitoring well or a well destruction. Eleven (11) additional wells in Sacramento County and nine (9) additional in San Joaquin County were added to the list. The total number of wells identified for mapping is 76.

To demonstrate the location of domestic, irrigation, and public supply wells in the vicinity of the tunnels, the following process was undertaken by San Joaquin County Department of Public Works Water Resources Division. A well's physical location is either listed as a situs address and/or hand-drawn or described directly on the well completion report. In some cases, a separate map may also be attached. Google Maps, a widely available internet webpage mapping application free to the general public, was used to approximate the location of the well near the proposed tunnel alignment. Google Maps is also capable of approximating the latitude and longitude of the well location, which is useful for mapping features in a Geographical Information System (GIS)-based mapping application. For example, Google Maps was used to determine the location of a public supply well on the premises of the local dining icon, Giusti's Place, 14743 Walnut Grove-Thornton Rd., Walnut Grove, CA 95690, which is marked as SAC1 on **Exhibit SJC-74**.

The resulting spreadsheet, titled Wellinformation-FINAL [**Exh. SJC-72**] contains well completion report information with personal information redacted, links to Google Maps


1 depicting approximate locations of wells, and the latitude and longitude of wells based on the
2 Google Maps mapping tool.

3 The latitudes and longitudes were used by San Joaquin County Public Works staff to
4 produce maps depicting the location of the identified wells in proximity to the Tunnels
5 alignment [**Exhibits SJC-73, SJC-74, and SJC-75**] using ArcMap 10.3. The base map is
6 ESRI World Imagery available through ArcGIS Online and the Tunnels alignment was based
7 on 2015 BDCP environmental and engineering documents. (See SWRCB-3; DWR-212.)

8 **Exhibits SJC-73, SJC-74, and SJC-75** demonstrate how the Petitioners could have easily
9 identified the locations of well sites near the proposed tunnel alignment. Without that
10 information, Petitioners cannot determine possible injuries from the WaterFix tunnels, intakes,
11 forebays and other project components on legal users and uses of groundwater.

12 In my experience, impacts to these wells could include, without limitation, reduced well
13 production capacity, degradation of water quality, reduced well pumping efficiency, and/or
14 possible destruction of wells directly in the path of or near the Tunnels. In addition, wells
15 besides those identified in the well completion reports provided by DWR may be present and
16 should be investigated as part of any groundwater injury analysis.

17 Executed at Stockton, California, on March 22, 2017.

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19 _____
20 BRANDON W. NAKAGAWA, P.E.