PROTEST

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April 27, 2022

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WATER RIGHTS
ONLINE

Protestant: Bureau of Land Management- Utah
c/o Elizabeth Schulte
125 South State St Suite 6201
Salt Lake City UT 84138

RE: Protest of Water Right Application 81-5491

A hearing is requested.

Please refer to the attached letter.

Elizabeth Schulte

Enclosure

SCANNED

United States Department of the Interior

OFFICE OF THE SOLICITOR
Intermountain Regional Office
125 S. State Street, Suite 6201
Salt Lake City, UT 84138

April 27, 2022

Ms. Teresa Wilhelmsen, Utah State Engineer
Utah Division of Water Rights
P.O. Box 146300
1594 West North Temple, Suite 220
Salt Lake City, UT 8114-6300
waterrights@utah.gov

Re: National Park Service and Bureau of Land Management Protest to Application to Appropriate Water No. A83170 (Water Right No. 81-5491) by the Washington County Water Conservancy District

Dear Ms. Wilhelmsen:

The following protest is submitted on behalf of the National Park Service (NPS) and the Bureau of Land Management (BLM) (collectively, DOI agencies) concerning Application to Appropriate Water No. A83170 (Water Right No. 81-5491) (Application). This Application was filed on March 4, 2022, by the Washington County Water Conservancy District (Applicant), 533 E. Waterworks Dr., St. George, UT 84770. A credit card payment in the amount of $15 is being made concurrently with this submission to cover the protest filing fee.

The Applicant is requesting approval to divert up to 12,900 acre-feet per year (afy) of groundwater from 18 yet-to be-constructed wells (Deep Wells A through I, I-1, and J through Q) located east of St. George, UT. The proposed wells are situated along a 25-mile trace of the Hurricane Fault from about two miles south of the Kolob Canyons entrance to Zion National Park southward to a point just north of the Arizona border. The Application states the proposed wells would be drilled to depths ranging between 1,000 to 5,500 feet deep and that groundwater would be withdrawn year-round and used for municipal purposes to supply the future water needs of Washington County.

The proposed wells target the geologic formations that comprise the regional "C" and "R" aquifers, which the Applicant claims underlie the shallower basin fill and the Navajo Sandstone and Kayenta Formation ("N" aquifer), which are currently developed for groundwater supplies and contribute discharge to springs and streams within Basin 81 – Virgin River. The Applicant states the targeted C and R aquifers are at greater depth than the current sources of groundwater supply, that no existing wells or water rights withdraw water from the C and R aquifers within Basin 81, and, therefore, that groundwater in these aquifers is "unappropriated."

The DOI agencies appreciate the Applicant's efforts to identify new groundwater sources that may be sustainable and avoid and minimize impacts and impairment to other water users. However, we are concerned that the Application is based on substantial conjecture regarding deep subsurface conditions and that there is insufficient information to determine if deep groundwater may be available for new uses. Therefore, we recommend that the Applicant work in cooperation with the DOI agencies, the Utah Division of Water Rights (DWR), Utah Geological Survey, and U.S. Geological Survey to evaluate the source of water in the proposed wells, the possible consequences of developing groundwater from the proposed wells, and analyze whether there are sustainable rates of pumping for deep aquifers along the Hurricane Fault in the Virgin River basin.

The Applicant's cited literature actually indicates there is hydrologic communication between the Navajo and Kayenta formations and the C aquifer and R aquifers and that at least some portion of groundwater in the C and R aquifers discharges to the Colorado and Virgin Rivers. This literature undercuts the Applicant's claim that there is unappropriated water in these deeper aquifers. Moreover, specific locations or volumes of discharge to these rivers and regional springs are unknown.

While the diversion of 12,900 acre-feet annually will eventually result in an equal reduction in groundwater discharge to streams, springs and adjacent aquifers, there is insufficient information to determine where or when these depletions will occur.

The literature reviewed to date (listed in this protest) does not provide specific information to determine whether pumping effects will impact water resources and groundwater-dependent ecosystems on DOI managed lands. As has been shown in carbonate aquifer systems (the literature describes the R aquifer as having a limestone/carbonate component) straddling the boundary between Nevada and Utah, pumping effects can create drawdown at distances tens of miles from pumping centers, and such effects may not be evidenced for decades (Masbruch, 2019). As a result, the DOI agencies are concerned that the proposed withdrawals, if permitted, would eventually affect groundwater levels and spring discharge across a wide area. In addition to possible depletions of streamflow in the Colorado and Virgin Rivers, NPS-managed resources that could potentially be impaired include spring discharge in Zion National Park, Pipe Spring National Monument, Grand Canyon National Park, Grand Canyon - Parashant National Monument, and Lake Mead National Recreation Area.

BLM-managed resources that could potentially be affected include but are not limited to: Red Cliffs National Conservation Area, as well as Grand Canyon - Parashant National Monument, Paiute Wilderness, and the Virgin River Area of Critical Environmental Concern in Arizona. BLM owns multiple state-based water rights in Utah that are in close proximity to the Hurricane Fault. These water rights could be impaired if the proposed pumping from the C and R aquifers induces changes to the shallower aquifer systems upon which BLM's water rights rely. BLM Utah state-based water rights, which may be at risk of impairment, include but are not limited to: 81-442 (Underground Water Well); 81-1485 (Swett Spring); 81-2868 (Willow Spring); 81-2919 (Unnamed Spring); 81-5237 (Ash Creek); 81-5238 (Leap Creek); 81-5239 (North Fork Ash Creek); and 81-5240 (Ash Creek). BLM also has Arizona state-based water rights that may also

be impaired by the proposed pumping, and these include water rights on the Shivwits Plateau, which rely upon discharge from the regional groundwater system.

While land use authorizations are not one of the statutory criteria for approval of an application to appropriate, the DOI agencies believe that land use authorization issues should be considered as part of the State Engineer's analysis under the feasibility criteria set forth under Section 73-3-8(1)(a) of the Utah Code. The DOI agencies have multiple concerns related to the land use authorizations that would be necessary to utilize the water in this Application:

- The Applicant has not consulted with BLM on the extensive land use authorizations that would be required to construct, operate, and maintain the proposed project. Accordingly, BLM has not had the opportunity to conduct a comprehensive screening to identify feasibility concerns. As part of the land use authorization process, BLM will be required to identify all potential short-term, long-term, and cumulative impacts from the proposed project. These will include potential impacts that may occur in Utah and in downgradient locations, such as aquifer discharge locations in Arizona and Nevada on DOI-managed lands. Given that land use authorizations for the proposed project may require BLM to prepare an Environmental Impact Statement consistent with the National Environmental Policy Act, it seems prudent for the Applicant and BLM to complete initial consultation and screening on feasibility issues before the proposed groundwater withdrawals may be approved by DWR.

- Seven of the 18 proposed well locations are on public lands managed by BLM's St. George Field Office, specifically Deep Wells A, B, C, M, N, P, and Q. Authorization of these wells will require site-specific analysis of potential impacts to sensitive resources, including wildlife species, cultural resources, and plant species. In addition, authorization of these wells will require site-specific analysis of impacts to water-dependent values, such as groundwater-dependent ecosystems and BLM water rights that depend upon groundwater discharge. Before approving water rights for wells in these locations, it seems prudent for the Applicant and BLM to complete initial consultation and screening on feasibility issues before the proposed groundwater withdrawals may be approved by DWR.

- It is likely that conveyance of water from the proposed well locations to the proposed places of storage (Sand Hollow Reservoir and Quail Creek Reserve) as well as to the proposed place of use (the Applicant's entire service area), will require extensive new land use authorizations from BLM for pipelines and pumping stations. Before assuming that conveyance facilities can be authorized to transport the pumped water, it seems prudent for the Applicant and BLM to complete initial consultation and screening on feasibility issues before the proposed groundwater withdrawals may be approved by DWR.

- If the Applicant proposes to utilize any facilities that are already authorized and constructed on BLM-managed lands for conveyance or storage of water, it is important to note that those authorizations did not specifically analyze the use of water from the proposed wells in this Application. Conveyance or storage of water from new

groundwater sources in those facilities would require amending the existing authorizations. Again, it seems prudent for the Applicant and BLM to complete initial consultation and screening on feasibility issues before the proposed groundwater withdrawals may be approved by DWR.

Because there is much uncertainty regarding the hydrologic connection between the C and R aquifers and other sources of groundwater which the DOI agencies rely on, and uncertainty as to the ecologic consequences of the proposed pumping should there be a connection, the DOI agencies respectfully request that this Application be denied unless and until such time that the Applicant can demonstrate its proposed significant withdrawal will not impair DOI water rights and resources. Moreover, given the current state of emergency that the Utah Governor has declared based on the persistent drought conditions in Utah, the DOI agencies recommend that the State Engineer require the Applicant to demonstrate that the proposed groundwater withdrawal will not harm DOI agencies' resources and senior water rights.

The DOI agencies also request a hearing before the State Engineer on the Application and reserve the right to submit additional information and evidence in support of this protest at the hearing. The DOI agencies would welcome the opportunity to work with the Applicant to address these concerns and would be amendable to considering a delayed hearing date if that might provide time to resolve these concerns, including the land use authorization issues described above.

Please have a copy of any notice, correspondence, or decision concerning the Application mailed to me at the Department of the Interior, Office of the Solicitor, Intermountain Region, 125 South State Street, Suite 6201, Salt Lake City, Utah 84138. I would also appreciate if a copy of the same would be mailed to Terry Fisk, NPS Water Rights Branch Chief, 1201 Oakridge Drive, Suite 250, Ft. Collins, CO 80525 and Gloria Tibbets, Manager, Bureau of Land Management, Color Country District, 176 East D.L. Sargent Drive, Cedar City, UT 84721.

Thank you for your consideration of this protest. Please contact me if you have questions at (801) 239-0552.

Sincerely,

Elizabeth A. Schulte
Attorney-advisor
Office of the Solicitor

cc: VIA EMAIL

Jeff Bradybaugh, Superintendent, Zion National Park
Amanda McCutcheon, Superintendent, Pipe Spring National Monument
Ed Keable, Superintendent, Grand Canyon National Park
Ben Roberts, Superintendent, Grand Canyon-Parashant National Monument
Brian Tritle, Acting Arizona Strip District Manager & Grand Canyon-Parashant Monument Manager
Stan Austin, Acting Superintendent, Lake Mead National Recreation Area
Randy Beckstrand, Acting Field Manager, BLM St. George Field Office
Gloria Tibbetts, Manager, BLM Color Country District

Literature Reviewed

Gardner, P.M., 2018. Effects of groundwater withdrawals from the Hurricane Fault zone on discharge of saline water from Pah Tempe Springs, Washington County, Utah: U.S. Geological Survey Scientific Investigations Report 20185040, 41 p., https://doi.org/10.3133/sir2018-5040

Heilweil, V.M., G.W. Freethey, C.D. Wilkowske, B.J. Stolp, and D.E. Wilberg. 2000. Geohydrology and Numerical Simulation of Ground-Water Flow in the Central Virgin River Basin of Iron and Washington Counties, Utah. Technical Publication No. 116, U.S. Geological Survey in cooperation with the Utah Department of Natural Resources, Division of Water Rights.

Inkenbrandt, Paul, Kevin Thomas, and J. Lucy Jordan. 2013. Regional Groundwater Flow and Water Quality in the Virgin River Basin and Surrounding Areas, Utah and Arizona. Report of Investigation 272, Utah Geological Survey, Utah Department of Natural Resources.

Masbruch, Melissa D. 2019. Numerical Model Simulations of Potential Changes in Water Levels and Capture of Natural Discharge From Groundwater Withdrawals in Snake Valley and Adjacent Areas, Utah and Nevada. U.S. Geological Survey Open File Report 2019-1083.

Rowley, Peter D., Gary L. Dixon, and Mark E. Layton. 2018. Hydrogeology of the Ash Creek drainage basin, Washington and Iron Counties, Utah, with implications from fracture-flow analysis on amounts, sources, and destinations of groundwater, *in* Emerman, S.H., Bowen, B., Schamel, S., and Simmons, S., editors, Geofluids of Utah: Utah Geological Association Publication 47, p. 23–53.

Truini, Margot. 2013. Preliminary Hydrogeologic Assessment near Tassi and Pakoon Springs, Western Part of Grand Canyon-Parashant National Monument, Arizona. U.S. Geological Survey Scientific Investigations Report 2012-5276.

Wilson, Jonathan W., Andrea M. Erhardt, and Benjamin W. Tobin. 2022. Isotopic and geochemical tracers of groundwater flow in the Shivwits Plateau, Grand Canyon National Park, USA. Hydrogeology Journal, https://doi.org/10.1007/s10040-022-02450-3.