IN THE SUPREME COURT OF THE STATE OF NEVADA

SOUTHERN NEVADA WATER AUTHORITY, Appellant, vs. COYOTE SPRINGS INVESTMENTS, LLC, et al Respondents.	**SUPREME COURT** **CASE NO. 84741** **District Court Case No.** **A-20-816761-C**

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VOLUME ONE OF RESPONDENT COYOTE SPRINGS INVESTMENTS, LLC'S APPENDIX FOR OPPOSITION TO EMERGENCY MOTION TO STAY NRAP 27(E) OF DISTRICT COURT'S ORDER GRANTING PETITIONS FOR JUDICIAL REVIEW PENDING APPEAL

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MEMORANDUM OF AGREEMENT

This Memorandum of Agreement ("MOA") is entered into this 20th day of April, 2006, (the "Effective Date") by and between the Southern Nevada Water Authority ("SNWA"), a political subdivision of the State of Nevada, the United States Fish and Wildlife Service ("FWS"), Coyote Springs Investment LLC, a Nevada limited liability company ("CSI"), the Moapa Band of Paiute Indians ("Tribe") and the Moapa Valley Water District ("MVWD"), a political subdivision of the State of Nevada. For convenience, SNWA, FWS, CSI, the Tribe and MVWD are at times herein referred to individually as "Party" and collectively as "Parties."

RECITALS

A. In Order No. 1169 the Nevada State Engineer held in abeyance applications for new groundwater rights in certain groundwater basins, and mandated that SNWA, MVWD and other parties conduct a regional groundwater study including the pumping of at least 50 percent of the permitted water rights within the Coyote Spring Valley hydrographic basin for a period of at least two consecutive years ("Pump Test").[1] SNWA currently owns 9,000 afy of water rights with points of diversion within the Coyote Spring Valley hydrographic basin under Permit Nos. 49414, 49660 through 49662 and 49978 through 49987 ("SNWA Water Rights").

B. To facilitate the Pump Test and delivery of SNWA Water Rights, SNWA applied to the Bureau of Land Management ("BLM") for a right-of-way across Federal land for the

[1] Currently there are 16,100 acre-feet per year ("afy") of permitted groundwater rights in the Coyote Spring Valley hydrologic basin, including the SNWA Water Rights and CSI Water Rights, defined in Recitals A and D herein, and Order No. 1169 requires the continuous diversion of 8,050 acre-feet per year during the Pump Test.

construction and operation of a pipeline to deliver groundwater from the Coyote Spring hydrographic basin to either the Muddy River System or to MVWD's service system.

C. In Ruling No. 5115 the Nevada State Engineer granted Application No. 54075, filed by the Las Vegas Valley Water District ("District") on October 17, 1989, for a total duty of 2,500 afy with a diversion rate of 5.0 cubic feet per second ("cfs") within the California Wash hydrographic basin ("Permit No. 54075"). By separate agreement, the District has transferred ownership of Permit No. 54075 to the Tribe. The Tribe plans to divert and utilize groundwater under Permit No. 54075.

D. CSI is a private landowner in the Coyote Spring Valley hydrographic basin and owns 4,600 afy of water rights with points of diversion within the basin under Permit Nos. 70429 and 70430 ("CSI Water Rights").

E. MVWD is responsible for supplying the municipal water needs of Upper and Lower Moapa Valley located in Clark County, Nevada. MVWD owns several water rights within Upper Moapa Valley including surface rights to spring flows in the Muddy Springs area and groundwater rights (Permit Nos. 52520, 55450 and 58269) with points of diversion at the Arrow Canyon well and a right to 1.0 cfs of spring flow from the Jones Spring (Certificate No. 10060) ("Jones Water Right").

F. FWS is a Federal agency within the Department of the Interior. FWS' responsibilities include implementation of the Endangered Species Act and administration of the National Wildlife Refuge System. FWS holds a Nevada State water right certificate for a flow rate of not less than 3.5 cfs as measured at the Warm Springs West flume (Permit No. 56668; Certificate No. 15097 issued subject to the terms of Permit No. 56668) for the maintenance of habitat of the Moapa dace and other wildlife purposes ("FWS Water Right").

G. The Moapa dace (*Moapa coriacea*) is an endemic fish that inhabits the upper Muddy River and tributary thermal spring systems within the Warm Springs area in Clark County, Nevada. The Moapa dace was federally listed as endangered on March 11, 1967 (32 FR 4001). FWS manages the Moapa Valley National Wildlife Refuge established in 1979 as part of the National Wildlife Refuge System.

H. Based upon its evaluation of available data, FWS postulates that current groundwater pumping by MVWD at the Arrow Canyon well is causing a decline in spring flows in the Warm Springs area and that future withdrawals of groundwater by SNWA and/or CSI in the Coyote Spring Valley hydrographic basin and/or by the Tribe in the California Wash hydrographic basin may cause spring flows to decline. SNWA, CSI, and MVWD do not believe the available hydrologic data supports these conclusions.

I. The Tribe believes that regional groundwater monitoring and scientifically valid, but conservative, regional computer modeling have demonstrated and will continue to demonstrate that on-Reservation groundwater pumping authorized under Permit No. 54075 will not cause appreciable declines in spring flows in the Warm Springs area.

J. Prior to the issuance of Order No. 1169, a stipulation was executed on July 19, 2001, between Federal agencies and SNWA regarding protests filed by Federal agencies against SNWA applications for new groundwater rights in the Coyote Spring Valley hydrographic basin. The Federal agencies and SNWA agreed to implement a monitoring study that was clarified in a Monitoring, Management, and Mitigation Plan for Existing and Future Permitted Groundwater Development in Coyote Spring Valley ("3M Plan") attached to and incorporated in that stipulation.

K. As part of the approval of the MVWD water rights at the Arrow Canyon well, the Nevada State Engineer required a monitoring plan. A monitoring plan has been developed and agreed upon jointly by MVWD, Nevada Power Company, FWS and National Park Service, with the most recent amendments to that plan being submitted to the State Engineer in September 2002 ("MVWD Monitoring Plan").

L. State Engineer Ruling No. 5115 requires that "[a] monitoring program approved by the State Engineer prior to the diversion of any water [under Permit No. 54075] be prepared in conjunction with the [Pump Test] ordered in State Engineer's Order No. 1169."[2] The Tribe will develop, in coordination with the other Parties, a monitoring plan approved by the Nevada State Engineer prior to applying any groundwater to beneficial use under Permit No. 54075 ("Tribal Monitoring Plan").

M. On March 11, 2005, the Nevada State Engineer approved a document entitled "Southern Nevada Water Authority's Monitoring Plan for Groundwater Applications and Permits in Coyote Spring Valley, Hidden and Garnet Valleys, and California Wash Hydrographic Basin, Clark and Lincoln Counties March, 2005" ("SNWA Monitoring Plan"). The State Engineer directed that the SNWA Monitoring Plan serve as the monitoring plan required by the State Engineer for the SNWA Water Rights and the CSI Water Rights.

N. The Parties share a common interest in the conservation and recovery of the Moapa dace and its habitat. Each Party also has an interest in the protection, use and enjoyment of its water rights and entitlements. To serve these interests, the Parties have identified certain conservation measures with the objective of making measurable progress toward the conservation and recovery of the Moapa dace, and have agreed to coordinate the monitoring, management and mitigation measures included and to be included in the 3M Plan, MVWD

Monitoring Plan, SNWA Monitoring Plan, and Tribal Monitoring Plan (collectively the "Regional Monitoring Plans").

O. The Parties desire that FWS engage in consultation and prepare a formal biological opinion under the provisions of Section 7 of the Endangered Species Act and its implementing regulations prior to execution of this MOA. The consultation shall consider the effects on the Moapa dace from the pumping of 9,000 afy under the SNWA Water Rights, 4,600 afy under the CSI Water Rights, and 2,500 afy by the Tribe under Permit No. 54075, together with the implementation of the monitoring, management and conservation measures identified herein.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, the Parties do agree as follows:

I. Conservation Measures. The Parties agree that in order to make measurable progress toward protection and recovery of the Moapa dace and its habitat concurrent with the operation and development of water projects for human use, it is beneficial to the public interest to establish the following conservation measures:

1. Establishment of Recovery Implementation Program. To effectuate the goals of this MOA the Parties agree to establish a Recovery Implementation Program ("RIP") whereby measures necessary to accomplish the protection and recovery of the Moapa dace, the operation and development of regional water facilities, and the inclusion of necessary and interested third parties are outlined and implemented. To facilitate establishment of the RIP:

a. The Parties agree to cooperate in the selection of qualified personnel and/or contractors to oversee the development of the RIP.

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[2] Ruling No. 5115 at 40.

b. SNWA agrees to provide funding in the amount of $300,000.00 to develop the RIP. SNWA agrees to execute such documents as may be necessary to ensure that these funds are available to meet the needs of those persons designated by the Parties with the task of establishing the RIP.

c. The Parties agree to seek the cooperation of other parties within the region that have an interest in the development and management of water and biological resources. To achieve the goals of the RIP, the Parties agree to employ principles of adaptive management to further the current understanding of the habitat and aquatic needs of the Moapa dace. The Parties will jointly negotiate the participation of any other party in the RIP.

2. Dedication of the Jones Water Right. The Parties agree that the recovery of the Moapa dace will be enhanced by the guarantee of additional in-stream flows in areas of historical Moapa dace habitat. One such area is the Apcar Stream down gradient of the Jones Spring. The Parties concur that the dedication of the Jones Water Right to the purpose of providing in-stream flows will be beneficial to the Moapa dace population in this area and further the recovery of the species. To effectuate the dedication of the Jones Water Right to the provision of in-stream flows in the Apcar Stream, the Parties agree as follows:

a. MVWD agrees to record an agreement between MVWD and FWS ("Jones Springs Agreement") on the Jones Water Right with both the Nevada State Engineer and the Clark County, Nevada, Recorder's Office that requires the entire 1.0 cfs flow right under the Jones Water Right to be dedicated to the purpose of maintaining in-stream flows in the Apcar Stream subject to the provisions of paragraph 7 of the Jones Springs Agreement. MVWD shall retain ownership of the Jones Water Right. The Jones Springs Agreement shall be executed and recorded promptly upon execution of this MOA. A draft of the Jones Springs Agreement is

attached hereto as "Exhibit A." The Jones Springs Agreement ultimately recorded pursuant to this paragraph shall be in substantially the same form as Exhibit A.

b. SNWA agrees to transfer to MVWD, at no cost, a portion of Permit No. 49414 equal to 724 afy. This transferred portion of Permit No. 49414 shall remain of equal priority date with that portion of Permit No. 49414 retained by SNWA.

c. MVWD agrees to transfer to SNWA, at no cost, the first 724 afy, or any portion thereof if less than 724 afy is permitted, of any permit(s) issued by the Nevada State Engineer pursuant to Application Nos. 54055 through 54059, inclusive.

d. The Parties agree to cooperate with MVWD in the filing and processing of any change applications, including applications to change the manner or place of use that are filed by MVWD with the Nevada State Engineer in order to effectuate the Jones Springs Agreement referenced in paragraph I(2)(a) above.

e. Subject to paragraph 2 of the Jones Springs Agreement, the Parties agree to cooperatively determine the best methods to ensure that the Jones Water Right accomplishes the purpose stated in paragraph I(2)(a) above, as related to the recovery of the Moapa dace and other endemic species, including the possibility of restoration of the springhead at Jones Spring.

3. Dedication of Portion of CSI Water Rights.

a. CSI agrees to record a conservation easement with both the Nevada State Engineer and the Clark County, Nevada, Recorders Office dedicating 460 afy of the CSI Water Rights to the survival and recovery of the Moapa dace and its habitat. The use of this water would be at the discretion of the FWS in consultation with the CSI and the Parties.

b. In addition, CSI agrees to dedicate 5 percent of all water rights above 4,600 afy that CSI may in the future be entitled to withdraw from Coyote Spring Valley

hydrographic basin or any water rights that CSI imports into and uses in the basin. The Parties, consistent with the RIP, will determine the most effective method for utilizing such water rights. CSI shall execute and record such documentation, including conservation easements, deeds, change applications and reports of conveyance, as may be necessary to effectuate the dedication of that portion of such water rights that is subject to the terms and conditions contained herein.

4. Habitat Restoration and Recovery Measures. To restore the habitat necessary for the Moapa dace and take other steps to protect and recover the species, the Parties agree as follows:

a. SNWA agrees to provide funding in the amount of $750,000.00 for the restoration of Moapa dace habitat under the direction of FWS on the Apcar Unit of the Moapa National Wildlife Refuge or otherwise. All tasks funded under this paragraph I(4)(a) shall be agreed to in advance by SNWA and FWS in consultation with the other Parties. SNWA agrees to execute such documents as may be necessary in order to ensure that these funds are available for such habitat restoration.

b. FWS agrees to provide funding in the amount of $125,000.00 and SNWA agrees to provide funding in the amount of $125,000.00 to develop an ecological model designed to investigate the effects of habitat change on the ecology of the Moapa dace. FWS and SNWA shall, in consultation with the other Parties, agree upon the selection of a contractor to prepare the model.

c. SNWA agrees to provide funding in the amount of $50,000.00 to construct fish barriers to help eliminate the predacious Tilapia from areas of Moapa dace habitat. FWS and SNWA shall, in consultation with the other Parties, agree upon the selection of a contractor to perform such work.

d. SNWA agrees to provide funding in the amount of $25,000.00 to implement programs related to the eradication of non-native fish species, including predacious Tilapia, in the Warm Springs area. FWS and SNWA shall, in consultation with the other Parties, agree upon the selection of a contractor to perform such work.

e. CSI agrees to provide FWS with funding on an annual basis in the amount of $50,000.00 for a period of four years following the execution of this MOA for the restoration of Moapa dace habitat outside the boundaries of the Moapa National Wildlife Refuge along the Apcar Stream, or at such other locations as CSI and FWS, in consultation with the other Parties, agree.

f. The Tribe agrees to use a reasonable portion of the existing on-Reservation greenhouse facility for a reasonable period of years, for the purpose of cultivating native vegetation for use in RIP-approved habitat restoration. The Parties understand that the greenhouse is in a state of major disrepair and that such use of the greenhouse will require repairs and a water supply. FWS will work with the Tribe to obtain the funding necessary to provide for such repairs and to identify and secure a water supply adequate for such use. The Tribe reserves the right to pursue, and if feasible implement, separate arrangements for the improvement and commercial operation of the remainder of the greenhouse.

g. The Tribe agrees to provide access to the Tribe's Reservation for the construction and subsequent maintenance of at least one fish barrier, at a mutually agreeable location, to help eliminate the predacious Tilapia from Moapa dace habitat. FWS will work with the Tribe to obtain the funding necessary for construction, maintenance and repair of such barrier(s).

h. The Tribe agrees to provide the services of the Tribe's Environmental Director for in-kind staff services and participation in the RIP.

5. Protection of In-Stream Flows. The Parties recognize that maintenance of minimum in-stream flows in the Warm Springs area is essential for the protection and recovery of the Moapa dace. Although those flows are unknown at this time, the Parties agree as follows:

a. For purposes of this paragraph I(5), all "Average Flow Levels" specified herein shall be determined by flow measurements at the Warm Springs West flume. Average Flow Levels will be determined to have reached a particular level within a range specified in paragraphs I(5)(b) through (g) ("Trigger Range"): (1) if the daily average flow for each of 45 consecutive days decreases to an amount within the Trigger Range, or if the 90 day average flow over any 90 consecutive day period decreases to an amount within the Trigger Range; or (2) if the daily average flow for each of 90 consecutive days increases to an amount within the Trigger Range, or if the 135 day average flow over any 135 consecutive day period increases to an amount within the Trigger Range. If determined to be necessary by the Parties, the Parties will cooperate in removing phreatophytes, repairing or replacing the flume or taking any other steps to ensure the accuracy of flume measurements. Any adjustment in the rating curve for the Warm Springs West flume shall result in a pro-rata adjustment of the Trigger Ranges. The remaining provisions of this paragraph I(5) apply both during and after the Pump Test, except for paragraphs I(5)(c)(i) and (ii) which apply only during the Pump Test.

b. If the Average Flow Level decreases to an amount within the Trigger Range of 3.2 cfs or less, the Parties agree to meet as soon as practicably possible to discuss and interpret all available data and plan for mitigation measures in the event flows continue to decline.

c. If the Average Flow Level decreases to an amount within the Trigger Range of 3.0 cfs or less, the following Parties agree to take the following further actions:

i. During the pendency of the Pump Test, MVWD agrees to immediately cease pumping from the Arrow Canyon well; and

ii. While the Arrow Canyon Well is shut down pursuant to paragraph I(5)(c)(i) above, SNWA agrees to supply MVWD with all necessary municipal and domestic water supplies from the MX-5 and RW-2 wells or other sources available to the SNWA. Except for the express provision contained in paragraph I(2)(b) of this MOA, nothing in this MOA will obligate SNWA to supply MVWD with any water from SNWA's existing permits in the Coyote Spring Valley following the completion of the Pump Test; and

iii. SNWA and CSI agree to take necessary actions to prepare to geographically redistribute their groundwater pumping in the Coyote Spring Valley should flow levels continue to decline; and

d. If the Average Flow Level is within the Trigger Range of 3.0 cfs or less but greater than 2.9 cfs, the pumping of SNWA from the MX-5, RW-2, CS-1 and CS-2 wells in combination with the pumping of CSI from the MX-5, RW-2, CS-1 and CS-2 and CSI's pumping from other wells within the Coyote Springs Valley ("CSV") shall be restricted to 8,050 afy.

e. If the Average Flow Level is within the Trigger Range of 2.9 cfs or less but greater than 2.8 cfs, the pumping of SNWA from the MX-5, RW-2, CS-1 and CS-2 wells in combination with the pumping of CSI from the MX-5, RW-2, CS-1 and CS-2 and CSI's

pumping from other wells in CSV shall be restricted to 6,000 afy, and the pumping of the Tribe under Permit No. 54075 shall be restricted to 2,000 afy.

f. If the Average Flow Level is within the Trigger Range of 2.8 cfs or less but greater than 2.7 cfs, the pumping of SNWA from the MX-5, RW-2, CS-1 and CS-2 wells in combination with the pumping of CSI from the MX-5, RW-2, CS-1 and CS-2 and CSI's pumping from other wells in CSV shall be restricted to 4,000 afy, and the pumping of the Tribe under Permit No. 54075 shall be restricted to 1,700 afy.

g. If the Average Flow Level is within the Trigger Range of 2.7 cfs or less, the pumping of SNWA from the MX-5, RW-2, CS-1 and CS-2 wells in combination with the pumping of CSI from the MX-5, RW-2, CS-1 and CS-2 and CSI's pumping from other wells in CSV shall be restricted to 724 afy, and the pumping of the Tribe under Permit No. 54075 shall be restricted to 1,250 afy.

h. The Parties agree that any pumping of the 460 afy of CSI Water Rights dedicated to the survival and recovery of the Moapa dace pursuant to paragraph 3.a. of this MOA shall be at the discretion of FWS and not counted against the pumping restrictions set forth in paragraphs 5(d) through 5(g) of this MOA.

6. Hydrologic Review Team. Upon execution of this MOA, the Parties shall establish a Hydrologic Review Team ("HRT") which shall be constituted and function as follows:

a. Membership. Each Party shall appoint two representatives ("HRT Representatives"), including at least one with substantial formal training and experience in hydrogeology ("Technical Representative"). Except as otherwise provided herein, the two HRT Representatives shall together have one vote on HRT matters. By consensus, the HRT

Representatives may offer voting or non-voting HRT membership to others who provide regional monitoring records and analyses to the HRT.

b. Objectives. The objectives of the HRT shall be: (1) to identify opportunities and make recommendations for the purpose of coordinating and ensuring accuracy, consistency and efficiency in monitoring, other data collection, and analytical activities performed under the Regional Monitoring Plans; (2) to establish technically sound analyses of impacts on Muddy River Springs and Muddy River flows resulting from regional groundwater pumping; (3) to assess based thereon whether the pumping restrictions, but not the Trigger Ranges, under paragraphs I(5)(c) through (g) above (or any successors thereto) should be adjusted to better reflect the extent to which regional groundwater pumping by the respective Parties causes, or is likely to cause, impacts on Muddy River Springs and Muddy River flows; and (4) to adopt by consensus appropriate adjustments to such restrictions, if warranted.

c. Regional Baseline Pumping Analysis. Within one year following the execution of this MOA, the Technical Representatives shall prepare a written analysis of regional groundwater pumping data and impacts ("Regional Baseline Pumping Analysis"). In preparing such baseline analysis, the HRT shall consider all relevant and available data and analytical materials. The Regional Baseline Pumping Analysis shall set forth all shared and dissenting analyses, interpretations and recommendations of the participating Technical Representatives. All modeling analyses contained therein shall be based on modeling codes in the public domain and data files that are available for comprehensive review by all Technical Representatives.

d. Annual Determination. Based on the Regional Baseline Pumping Analysis, and no later than one year after preparation of that analysis and annually thereafter, the HRT shall endeavor to determine by consensus ("Annual Determination") whether the

groundwater pumping restrictions, but not the Trigger Ranges, under paragraphs I(5)(c) through (g) above (or any successors thereto) should remain in place, or whether and how any of such restrictions should be adjusted ("Pumping Restriction Adjustments") to better reflect the extent to which regional groundwater pumping by the respective Parties causes, or is likely to cause, impacts on Muddy River Springs and Muddy River flows. However, no Pumping Restriction Adjustments will be made within the first five years following the Effective Date of this MOA. All Annual Determinations (including any Pumping Restriction Adjustments adopted by HRT consensus) shall be final and binding on all Parties, except that by consensus the HRT may at any time modify or vacate any Annual Determination.

e. Annual Determination Reports. Each Annual Determination shall be set forth and explained in a written Annual Determination Report which includes as appendices the Regional Baseline Pumping Analysis, all previously submitted Annual Technical Representative's Reports, and any other data or analytical materials considered by the HRT. If the Annual Determination is not made due to lack of consensus or any other reason, the positions thereon of the HRT Representatives shall be set forth and explained in the Annual Determination Report. Furthermore, if the HRT fails to adopt Pumping Restriction Adjustments recommended in a timely submitted Annual Technical Representative's Report, the Annual Determination Report shall briefly explain why such recommendation was not adopted.

f. Annual Technical Representative's Reports. Within six months after the close of the year of this MOA and annually thereafter, based on the best available scientific data and information, any Technical Representative may submit to all other HRT Representatives a written report ("Annual Technical Representative's Report") containing both: (1) a well-

documented professional analysis of monitored regional pumping and pumping impacts; and (2) recommendations, if any, for Pumping Restriction Adjustments.

g. Provision for Peer Review. If the HRT Representatives are unable to reach consensus on an Annual Determination, the Parties shall refer the matter to a qualified panel of third party reviewers ("Panel") consisting of three scientists unaffiliated with any Party and having substantial formal training and experience in hydrogeology. If the Parties cannot agree by consensus on the make-up of the Panel, one member of the Panel shall be designated by each of the following from its own ranks: U.S. Geologic Survey, Desert Research Institute and a private firm with the requisite expertise designated by a majority of the Parties ("Appointing Entities"), provided that the Parties by consensus may designate different similarly qualified Appointing Entities. If any Appointing Entity for any reason is unable or refuses to designate a member of the Panel, the Parties by majority vote shall designate a qualified replacement Appointing Entity. The purpose of the referral to the Panel will be to obtain peer review of the then-current Annual Determination Report, the data upon which it is based, all previously submitted Annual Technical Representative's Reports, and any other relevant and available data and analytical materials. The Panel will be asked to make its recommendation based on the foregoing information concerning the appropriate content of the Annual Determination. All Parties shall have a fair and reasonable opportunity to present factual and analytical submissions in person and/or in writing to the Panel. The Parties contemplate that a determination of the Panel on the Annual Determination will constitute the best available scientific information concerning the impacts on Muddy River Springs and Muddy River flows resulting from regional groundwater pumping, and the appropriateness of any proposed Pumping Restriction Adjustments. The cost of the Panel shall be borne equally by the Parties.

7. Acquisition of Additional Land and Water Rights. As a potential conservation measure, the Parties agree to work cooperatively to identify both land and water rights that, if acquired and dedicated to the recovery of the Moapa dace, will assist in making measurable progress towards the recovery of the Moapa dace. SNWA agrees to make a good faith effort to acquire land and water rights identified by the Parties. The Parties expressly agree that the reasonableness of any terms and conditions for any acquisition of land or water rights by SNWA shall be determined by SNWA at SNWA's sole discretion, and that SNWA shall have no obligation to acquire any land or water rights upon terms and conditions that SNWA finds unreasonable. When such land or water rights are acquired by SNWA, SNWA will cooperate with FWS in establishing restrictions upon the use of such lands and water rights consistent with existing laws so as to effectuate the conservation of these resources and the recovery of the Moapa dace.

8. Operational Coordination Among FWS, SNWA, CSI and MVWD. Consistent with the terms of this MOA and to accomplish the goals of protecting and recovering the Moapa dace, and accommodating the operation of municipal water supply infrastructure, FWS, SNWA, CSI and MVWD agree to examine all reasonable water operational scenarios and agree to implement feasible scenarios that will minimize impacts to the Moapa dace and its habitat, including, but not limited to the provision of water to MVWD from the Coyote Spring Valley hydrographic basin during the Pump Test or other water supplies available to SNWA and MVWD. MVWD shall have the right during the Pump Test to use the Arrow Canyon Well only in the event and to the extent SNWA is unable to supply MVWD with "all necessary municipal and domestic water supplies" pursuant to the provisions of paragraph I(5)(c)(ii) of this MOA. Except for the express provision contained in paragraph I(2)(b) of this MOA, nothing in this

MOA will obligate SNWA to supply MVWD with any water from SNWA's existing permits in the Coyote Spring Valley hydrographic basin following the completion of the Pump Test.

SNWA and CSI agree, following the execution of this MOA, and in coordination with FWS, to cooperate in locating and drilling one or more production wells in the northern part of the Coyote Spring Valley hydrographic basin. The details of this cooperative effort shall be contained in a separate agreement between CSI and SNWA.

9. Adaptive Management Measures. The Parties agree to carry out additional conservation measures that will need to be taken to protect and recover the Moapa dace following the initiation of the RIP and as more data becomes available both as to the biology of the Moapa dace and regional hydrology. Thus, the Parties agree to cooperate in carrying out the following measures as may be appropriate:

a. Funding, preparation and implementation of biological and hydrological studies and activities supporting the recovery of the Moapa Dace; and

b. Establish a regional monitoring and management plan that will include science-based management and mitigation measures for RIP participants; and

c. Assessing the feasibility of augmenting and/or restoring in-stream flows and establishing those flows as deemed feasible.

d. Continue to re-evaluate necessary measures to protect and recover the Moapa dace.

II. Current Access Agreement. SNWA currently has an access agreement with the owners of the Warm Springs Ranch, which contains Moapa dace habitat, in order to conduct biological surveys of the Moapa dace. SNWA agrees to use its best efforts to seek to amend this access

agreement so that each of the Parties to this MOA will have similar rights of access to the Warm Springs Ranch.

III. Modification of MVWD Monitoring Plan. Pursuant to the MVWD Monitoring Plan, submitted to the Nevada State Engineer in September 2002, FWS and MVWD agreed to a monitoring plan for development of MVWD's water rights at the Arrow Canyon well that contained certain management and mitigation measures that would be taken if flows at the Warm Springs West flume reached 3.17 cfs and 2.94 cfs respectively. This monitoring plan was recognized by the Nevada State Engineer in Ruling No. 5161. The Parties agree that, in order to effectuate a uniform regional monitoring and management plan, that the flow level restrictions and mitigation measures contained in this MOA shall replace the flow and water level restrictions and mitigation measures contained in the MVWD Monitoring Plan.

IV. No Assertion of FWS State Water Right. Provided that the other Parties to this MOA are in full compliance with the terms of this MOA, FWS expressly agrees not to assert a claim of injury to the FWS Water Right against either MVWD for pumping at the Arrow Canyon Well, against the Tribe for pumping within the California Wash hydrographic basin or against SNWA or CSI for any pumping in the Coyote Spring Valley for any diminution in flows at the Warm Springs West flume above 2.7 cfs. This provision shall in no way prejudice the FWS' ability and/or right to assert any and all rights inherent to the FWS Water Right for any diminution in flows at the Warm Springs West flume below 2.7 cfs.

V. No Waiver of Statutory Duties or Legal Rights. This MOA does not waive any of the authorities or duties of the FWS or the United States, nor does it relieve SNWA, CSI, the Tribe and MVWD from complying with any Federal laws, including but not limited to, the National Environmental Policy Act, Endangered Species Act, National Wildlife Refuge System

Improvement Act of 1997, and Federal Land Policy and Management Act of 1976, and any and all rules and regulations thereunder. Except as provided in paragraph IV of this MOA, it is the expressed intention of the Parties that FWS and the United States are not waiving any legal rights or obligations of any kind, including obligations to consult or re-consult under the Endangered Species Act, by entering into this MOA. Further, this agreement is entered as a good faith resolution of certain issues and is not intended to waive any party's rights in a subsequent legal proceeding regarding those issues. In addition, except for the restrictions set forth in paragraphs I(5)(e) through (g) above, this MOA does not in any respect waive, limit, or diminish any rights or claims of the Tribe to any federally-reserved or State surface or groundwater rights.

VI. No Modification of Previous Agreements. The Parties recognize that CSI, SNWA and MVWD have previously entered into multiple agreements concerning the sale, purchase and settlement of water rights within the Coyote Spring Basin including a certain *Agreement For Settlement Of All Claims To Groundwater In The Coyote Spring Basin* entered into between MVWD, CSI, SNWA and the District on March 7, 2002, and a certain *Agreement For Option, Purchase and Sale of Water Rights, Real Property and Easements* entered into between SNWA and CSI on April 16, 1998. Nothing contained herein is intended to abrogate or modify in any manner any of the provisions contained in any of those agreements except as expressly provided in paragraphs I(2)(b) and I(2)(c) of this MOA.

VII. Miscellaneous Provisions.

1. Notices. If notice is required to be sent by the Parties, the addresses are as follows:

If to FWS:

Supervisor
Nevada Fish and Wildlife Office
Fish and Wildlife Service
1340 Financial Blvd., #234
Reno, Nevada 89502

If to SNWA:

General Manager
Southern Nevada Water Authority
1001 South Valley View Boulevard
Las Vegas, Nevada 89153

If to MVWD:

General Manager
Moapa Valley Water District
Post Office Box 257
Logandale, Nevada 89021

If to CSI:

Carl Savely, General Counsel
Wingfield Nevada Group
6600 North Wingfield Parkway
Sparks, Nevada 89436

If to the Tribe:

Chairperson, Moapa Band of Paiute Indians
Post Office Box 340
Moapa, Nevada 89025
Fax: 702-865-2875

With copies to:

Steven H. Chestnut
Richard M. Berely
Ziontz, Chestnut, Varnell, Berely & Slonim
2101 Fourth Avenue, Suite 1230
Seattle, Washington 98121
Fax: 206-448-0962

2. Choice of Law. This MOA shall be governed in accordance with applicable Federal laws, and the laws of the State of Nevada to the extent not inconsistent with Federal law.

3. Funding. Any commitment of funding by FWS, MVWD or SNWA under this MOA is subject to appropriations by the respective governing bodies of those entities.

4. Amendment. This MOA may be amended in writing by mutual agreement of the Parties.

5. Integration. This MOA sets forth the entire agreement of the Parties and supercedes all prior discussions, negotiations, understandings or agreements with respect to the subject matter hereof. No alteration or variation of this MOA shall be valid or binding unless contained in an amendment in accordance with paragraph VI(4) of this MOA.

6. Binding Effect, Withdrawal From MOA. The terms and conditions of this MOA shall be binding upon and inure to the benefit of the Parties hereto and their respective personal representatives, successors, transferees and assigns. However, the Parties expressly agree that should the execution of this MOA, or any consultation held or biological opinion issued under Section 7 of the Endangered Species Act which is premised thereon, be challenged in a court of competent jurisdiction and be found in violation of the Endangered Species Act or any other law, any of the Parties may withdraw from the MOA upon thirty days written notice to the other Parties. Upon such withdrawal, the withdrawing Party shall have no further obligation to perform any commitment contained in this MOA.

7. Effective Date, Counterparts. This MOA will become effective as between the Parties upon all Parties signing this MOA. The Parties may execute this MOA in two or more counterparts, which shall, in the aggregate, be signed by all Parties; each counterpart shall be deemed an original as against any party who has signed it.

8. Additional Parties. Other entities may become Parties to this MOA by mutual written assent of the Parties.

9. Headings. The underlined paragraph headings used in this MOA are for the convenience of the Parties only, and shall not be deemed to be of substantive force in interpreting the MOA.

10. No Third Party Beneficiaries. This MOA does not create any right or benefit, substantive or procedural, enforceable by any third parties against the Parties or against auy other person or entity. The terms of this MOA are not enforceable by any person or entity other than a Party.

IN WITNESS WHEREOF, the Parties have executed this Memorandum of Agreement on the 20th day of April, 2006.

MOAPA VALLEY WATER DISTRICT

Ivan B. Cooper

By: Ivan Cooper
Title: Chairman

U.S. FISH AND WILDLIFE SERVICE

for By: Steve Thompson
Title: Manager, California/Nevada Operations Office

SOUTHERN NEVADA WATER AUTHORITY

Amanda M. Cyphers

By: Amanda M. Cyphers
Title: Chair

COYOTE SPRINGS INVESTMENT, LLC

By: Robert R. Derck
Title: General Manager

MOAPA BAND OF PAIUTE INDIANS

By: Dalton Tom
Title: Chairman

When Recorded Mail To:

_____

_____

_____

Jones Springs Agreement

This Jones Springs Agreement ("Agreement") is entered into for the purposes described herein this 20th day of April, 2006 by between Moapa Valley Water District ("MVWD"), Muddy Valley Irrigation Company ("MVIC") and the U.S. Fish and Wildlife Service ("FWS").

RECITALS

1. MVWD was created in 1983 by an act of the Nevada Legislature and is the municipal water purveyor in upper and lower Moapa Valleys and serves the communities of Moapa, Glendale, Logandale and Overton, and the surrounding areas, located in Clark County, Nevada.

2. One of MVWD's water sources is a spring known locally as Pipeline Jones Spring ("Jones Spring"). Certificate No.10060 issued by the Nevada State Engineer provides MVWD the right to divert 1 c.f.s. of flow of water from Jones Spring for municipal purposes. The waters of Jones Spring and Certificate No.10060 constitute a portion of the Muddy River Decreed water rights.

3. Water from Jones Spring, as well as numerous other springs, form small streams which make up the Muddy River ("Tributary Streams").

4. There lives in the upper reaches of the Muddy River and in the Tributary Streams, a small minnow known as the Moapa Dace ("Dace"). The Dace was listed as endangered in 1967 under the Endangered Species Preservation Act of 1966 and continues to be so listed and protected under the Endangered Species Act of 1973 as amended.

5. MVWD needs the quantity of water represented by Certificate No.10060 to serve its municipal customers.

6. As an inducement to MVWD to grant this Agreement, the Southern Nevada Water Authority ("SNWA") has agreed to furnish to MVWD a quantity of water equal to MVWD's rights under Certificate No.10060 from SNWA's wells and water rights in Coyote Spring Valley ("Coyote Spring Water"). The terms and conditions of SNWA's obligations are set forth in a separate agreement.

7. MVWD desires to help in the recovery and preservation of the Dace.

NOW THEREFORE, for the purpose of aiding in the recovery and preservation of the Dace, MVWD and FWS hereby agree as follows:

1. Effective on MVWD receiving Coyote Spring Water from Southern Nevada Water Authority, the water from Jones Spring shall not be diverted for municipal purposes pursuant to Certificate No.10060, but shall be allowed to flow down the Tributary Streams to the Muddy River.

2. MVWD may, as soon as Coyote Spring Water is available and being furnished to MVWD for municipal purposes disconnect their existing pumping facilities from the Jones Spring diversion pipe and or otherwise affix appurtenances that will allow the entire flow of water from Jones Spring to flow down to the Muddy River, thus increasing the flow of water in one or more Tributary Streams.

3. MVWD shall file any necessary change applications with the State Engineer as may be required by Nevada Law as a result of this Agreement.

4. The Agreement herein granted shall be for a non-consumptive use of water, with no warranty as to quality or quantity of flow.

5. MVWD reserves the right to change the point of diversion for its consumptive use right to the water from Jones Spring to a point on the Muddy River below that site generally known as the White Tank Narrows and to utilize such water for any purpose permitted by the Nevada State Engineer. Any such change shall not affect the flow of water at Jones Spring for in-stream purposes.

6. This Agreement will be recorded with the Clark County Recorder and filed with the Nevada State Engineer.

7. So long as MVWD is in full compliance with the terms and conditions applicable to MVWD in the Memorandum of Agreement dated April 20, 2006 and attached hereto as Attachment 1, then, if for any reason, whether natural, man-made or otherwise, any portion of the Coyote Spring Water becomes unavailable or unusable to meet MVWD's municipal needs previously supplied by Certificate 10060 (Jones Spring), then MVWD shall have the right to utilize a like portion of water from Jones Spring to replace such portion of the Coyote Spring Water that remains unavailable to MVWD for so long as the Coyote Spring Water remains unavailable.

8. MVIC has joined in the execution of this Agreement to reflect MVIC's approval of the terms thereof.

IN WITNESS WHEREOF, MVWD, MVIC and FWS have executed this Agreement the date first above written.

MOAPA VALLEY WATER DISTRICT

By: _____
Ivan Cooper, Chairman of the Board

U.S. FISH AND WILDLIFE SERVICE

By: _____
for Steve Thompson, Manager
California/Nevada Operations Office

MUDDY VALLEY IRRIGATION COMPANY

By: _____
Todd Robison, Chairman of the Board

STATE OF NEVADA)
)
COUNTY OF CLARK)

This instrument was acknowledged before me on April 20, 2006, by Ivan Cooper as Chairman of the Board of MOAPA VALLEY WATER DISTRICT.

DIANNE K. WEST
Notary Public State of Nevada
No. 98-0443-1
My appt. exp. Dec. 16, 2009

Dianne K West
NOTARY PUBLIC in and for the State of Nevada
My Commission Expires: 12-16-09

[SEAL]

STATE OF NEVADA)
)
COUNTY OF CLARK)

This instrument was acknowledged before me on April 20, 2006, by Robert D. Williams as Field Supervisor of U.S. FISH AND WILDLIFE SERVICE

DIANNE K. WEST
Notary Public State of Nevada
No. 98-0443-1
My appt. exp. Dec. 16, 2009

Dianne K West
NOTARY PUBLIC in and for the State of Nevada
My Commission Expires: 12-16-09

[SEAL]

STATE OF NEVADA)
)
COUNTY OF CLARK)

This instrument was acknowledged before me on April 20, 2006, by Todd Robison as Chairman of the Board of MUDDY VALLEY IRRIGATION COMPANY.

DIANNE K. WEST
Notary Public State of Nevada
No. 98-0443-1
My appt. exp. Dec. 16, 2009

Dianne K West
NOTARY PUBLIC in and for the State of Nevada
My Commission Expires: 12-16-09

[SEAL]

FIRST AMENDMENT TO MEMORANDUM OF AGREEMENT

This First Amendment to Memorandum of Agreement ("First Amendment") is dated as of December 10, 2014, and entered into by and between Southern Nevada Water Authority, a political subdivision of the State of Nevada ("SNWA"), United States Fish and Wildlife Service ("FWS"), Coyote Springs Investment LLC, a Nevada limited liability company ("CSI"), the Moapa Band of Paiutes ("Tribe"), and the Moapa Valley Water District, a political subdivision of the State of Nevada ("MVWD"). For convenience, SNWA, FWS, CSI, the Tribe, and MVWD may be referred to individually as a "Party" and collectively, as the "Parties."

RECITALS

a. The Parties agreed upon, executed, and delivered to one another, that certain Memorandum of Agreement dated January 27, 2006 (the "MOA").

b. Based on circumstances unrelated to the MOA, CSI desires to modify the annual payment amount, payment term and payment due date. The total payment and purpose of the funding remains as stated in the MOA.

c. FWS does not object to these changes in payment terms as it does not affect the total funding amount or the purpose for which the funding is to be provided.

d. CSI also desires to change its address for notices related to the MOA.

NOW THEREFORE, for good and valuable consideration, the receipt of which is acknowledged, the Parties agree as follows:

1. Section 4(e) of the MOA is amended and restated in its entirety to read as follows:

   e. CSI agrees to provide FWS with the amount of Two Hundred Thousand Dollars ($200,000) for the restoration of Moapa dace habitat outside the boundaries of the Moapa National Wildlife Refuge along the Apcar Stream, or at such other locations as CSI and FWS, in consultation with the other Parties, agree. This funding amount will be paid over a five year period commencing with a $40,000 payment due on or before December 31, 2014, and continuing with a $40,000 payment on or before December 31st of each of the succeeding four years of 2015, 2016, 2017, and 2018, for a total amount of $200,000 paid.

Int. 12/23/14.

2. Section VII(1) is hereby amended to change CSI's notice address to the following:

If to CSI: Attn: Legal Department
4021 Port Chicago Highway
Concord, CA 94520

With a copy to: Attn: Legal Department
3100 SR 168
PO Box 37010
Coyote Springs, NV 89037

3. Except as expressly modified by this First Amendment, the MOA shall remain unmodified and in full force and effect.

4. This instrument may be executed in one or more counterparts, each of which when taken together shall constitute one and the same instrument.

THIS FIRST AMENDMENT was executed as of the day and year first written above.

MOAPA VALLEY WATER DISTRICT, a political subdivision of the State of Nevada

By: _____
Name: Joseph Davis
Its: General Manager

UNITED STATES FISH AND WILDLIFE SERVICE

By: _____ 01/08/2015
Name: Mike Senn
Its: ~~Assistant~~ Field Supervisor, Southern Nevada Field Office

(Signatures continue to next page)

12/23/14

SOUTHERN NEVADA WATER AUTHORITY, a political subdivision of the State of Nevada

By: John J. Entsminger
Name: John J. Entsminger
Its: General Manager

COYOTE SPRINGS INVESTMENT LLC, a Nevada limited liability company

By:
Name: Albert D. Seeno, III
Its: Authorized Agent

12/23/14.

MOAPA BAND OF PAIUTES

By: Darren Daboda
Name: Darren Daboda
Its: Chairman

SECOND AMENDMENT TO MEMORANDUM OF AGREEMENT

This Second Amendment to Memorandum of Agreement ("Second Amendment") is dated as of January 7, 2016, and entered into by and among Southern Nevada Water Authority, a political subdivision of the State of Nevada ("SNWA"), United States Fish and Wildlife Service ("FWS"), Coyote Springs Investment LLC, a Nevada limited liability company ("CSI"), the Moapa Band of Paiutes ("Tribe"), and the Moapa Valley Water District, a political subdivision of the State of Nevada ("MVWD"). For convenience, SNWA, FWS, CSI, the Tribe and MVWD may be referred to individually as a "Party" and collectively, as the "Parties".

Recitals

a. The Parties agreed upon, executed and delivered to one another that certain Memorandum of Agreement dated ~~January 27, 2006~~ April 20, 2006 ("Agreement").

b. The Parties agreed upon, executed and delivered to one another that certain First Amendment to Memorandum of Agreement dated December 10, 2014 ("First Amendment"). The Agreement and the First Amendment are collectively referred to herein as the "MOA".

c. The Parties to the MOA desire to modify the language of Section 3 of the MOA to accurately reflect the manner in which water rights are being dedicated to the survival and recovery of the Moapa dace.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. Section 3(a) of the MOA is hereby amended and restated in its entirety to read as follows:

   a. To provide for the dedication of a portion of the CSI water rights to support the survival and recovery of the Moapa dace and its habitat, CSI agrees to record an Affidavit To Relinquish Water Rights in the amount of 460 afa with the Clark County Recorder and the Lincoln County Recorder, and to file copies of the recorded affidavits with the Nevada State Engineer. Upon approval of the State Engineer, the 460 afa being relinquished will revert to its source but continue to be counted as an appropriated water right.

2. Section 3(b) of the MOA is hereby amended and restated in its entirety to read as follows:

   b. In addition, CSI agrees to record an Affidavit To Relinquish Water Rights in an amount equal to five percent (5%) of the quantity of water above the amount of 4,600 afa that CSI is entitled to and physically able to use, from

ORIGINAL STAMPED IN RED

time to time, within its Coyote Springs Master Planned Community development project located within the Coyote Spring Valley Basin (the "Community"). An Affidavit shall be recorded and filed in the manner as set forth in Section 3(a) above at the time each increment of additional water rights is transported to the basin and put to use within the Community.

3. A new Section 3(c) is hereby added to the MOA which reads as follows:

c. In the event any relinquishment provided in accordance with Sections 3(a) or 3(b) above is declared null and void in any administrative or judicial proceeding the subject water rights shall be restored to CSI and then CSI and FWS shall, in cooperation with the Nevada State Engineer, develop an acceptable means of dedicating the subject water rights specifically described in Sections 3(a) and 3(b) for the survival and recovery of the Moapa dace.

4. Except as expressly modified by this Second Amendment, the MOA shall remain unmodified and in full force and effect.

5. This instrument may be executed in one or more counterparts, each of which when taken together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties have caused this Second Amendment to be executed as of the date first written above.

MOAPA VALLEY WATER DISTRICT,
a political subdivision of the State of Nevada

ORIGINAL
STAMPED IN RED

By:_____
Joseph Davis, General Manager

UNITED STATES FISH AND WILDLIFE SERVICE

By: _____ 01/08/16
Michael J. Senn, Field Supervisor, Southern Nevada Fish and Wildlife Office

CDS/csi/muddy_recov/release
092515/2nd_amend_MOA.doc/3

time to time, within its Coyote Springs Master Planned Community development project located within the Coyote Spring Valley Basin (the "Community"). An Affidavit shall be recorded and filed in the manner as set forth in Section 3(a) above at the time each increment of additional water rights is transported to the basin and put to use within the Community.

3. A new Section 3(c) is hereby added to the MOA which reads as follows:

c. In the event any relinquishment provided in accordance with Sections 3(a) or 3(b) above is declared null and void in any administrative or judicial proceeding the subject water rights shall be restored to CSI and then CSI and FWS shall, in cooperation with the Nevada State Engineer, develop an acceptable means of dedicating the subject water rights specifically described in Sections 3(a) and 3(b) for the survival and recovery of the Moapa dace.

4. Except as expressly modified by this Second Amendment, the MOA shall remain unmodified and in full force and effect.

5. This instrument may be executed in one or more counterparts, each of which when taken together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties have caused this Second Amendment to be executed as of the date first written above.

MOAPA VALLEY WATER DISTRICT,
a political subdivision of the State of Nevada

By: _____
Joseph Davis, General Manager

ORIGINAL
STAMPED IN RED

UNITED STATES FISH AND WILDLIFE SERVICE

By: _____
Michael J. Senn, Field Supervisor, Southern Nevada Fish and Wildlife Office

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SOUTHERN NEVADA WATER AUTHORITY,
a political subdivision of the State of Nevada

By:_____
John J. Entsminger, General Manager

COYOTE SPRINGS INVESTMENT LLC,
a Nevada limited liability company

By:_____
Albert D. Seeno, III, Authorized Agent

MOAPA BAND OF PAIUTES

By:_____
~~Darren Daboda~~, Chairman
Robert Tom

ORIGINAL
STAMPED IN RED

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092515/2nd_amend_MOA.doc/3

SOUTHERN NEVADA WATER AUTHORITY,
a political subdivision of the State of Nevada

By:_____
John J. Entsminger, General Manager

COYOTE SPRINGS INVESTMENT LLC,
a Nevada limited liability company

By:_____
Albert D. Seeno, III, Authorized Agent

MOAPA BAND OF PAIUTES

By:_____
Darren Daboda, Chairman

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SOUTHERN NEVADA WATER AUTHORITY,
a political subdivision of the State of Nevada

By:_____
John J. Entsminger, General Manager

ORIGINAL
STAMPED IN RED

COYOTE SPRINGS INVESTMENT LLC,
a Nevada limited liability company

By:_____
Albert D. Seeno, III, Authorized Agent

MOAPA BAND OF PAIUTES

By:_____
Darren Daboda, Chairman

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IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA

INTERIM ORDER **#1303**

DESIGNATING THE ADMINISTRATION OF ALL WATER RIGHTS WITHIN COYOTE SPRING VALLEY HYDROGRAPHIC BASIN (210), A PORTION OF BLACK MOUNTAINS AREA BASIN (215), GARNET VALLEY BASIN (216), HIDDEN VALLEY BASIN (217), CALIFORNIA WASH BASIN (218), AND MUDDY RIVER SPRINGS AREA (AKA UPPER MOAPA VALLEY) BASIN (219) AS A JOINT ADMINISTRATIVE UNIT, HOLDING IN ABEYANCE APPLICATIONS TO CHANGE EXISTING GROUNDWATER RIGHTS, AND ESTABLISHING A TEMPORARY MORATORIUM ON THE REVIEW OF FINAL SUBDIVISION MAPS

I. PURPOSE

WHEREAS, the purpose of this Interim Order is to designate a multi-basin area known to share a close hydrologic connection as a joint administrative unit, which shall be known as the Lower White River Flow System (LWRFS).

WHEREAS, an adequate and predictable supply of groundwater within the LWRFS supports the health, safety and welfare of the area, and this Interim Order aims to protect existing senior rights and the public interest in an endangered species, recognize existing beneficial use, and limit development actions that are dependent on a supply of water that may not be available in the future.

WHEREAS, during the interim period that this Order is in effect, holders of existing rights and other interested parties are encouraged to submit reports to the Nevada Division of Water Resources (NDWR) analyzing the data available regarding sustainable groundwater development in the LWRFS, the geographic extent of the LWRFS, and considerations relating to groundwater pumping within the LWRFS and its effects on the fully decreed Muddy River. This collected and analyzed data is an essential step to optimize the beneficial use of the available water supply in the LWRFS.

WHEREAS, concurrent with this interim order, holders of existing rights and other interested parties are encouraged to participate in the public process to develop a conjunctive management plan.

I. BASIN DESIGNATIONS PURSUANT TO NRS § 534.030

WHEREAS, the Coyote Spring Valley Hydrographic Basin was designated pursuant to Nevada Revised Statute (NRS) § 534.030 by Order 905 dated August 21, 1985, which also declared municipal, power, industrial and domestic uses as preferred uses of the groundwater resource pursuant to NRS § 534.120.

WHEREAS, the Black Mountains Area Hydrographic Basin was designated pursuant to NRS § 534.030 by Order 1018 dated November 22, 1989, which also declared municipal, industrial, commercial and power generation purposes as preferred uses of the groundwater resource pursuant to NRS § 534.120, declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation purposes would be denied.

WHEREAS, the Garnet Valley Hydrographic Basin was designated pursuant to NRS § 534.030 by Order 1025 dated April 24, 1990, which also declared municipal, quasi-municipal, industrial, commercial, mining, stockwater and wildlife purposes as preferred uses pursuant to NRS § 534.120, and declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation purposes would be denied.

WHEREAS, the California Wash Hydrographic Basin was designated pursuant to NRS § 534.030 by Order 1026 dated April 24, 1990, which also declared municipal, quasi-municipal, industrial, commercial, mining, stockwater and wildlife purposes as preferred uses pursuant to NRS § 534.120, and declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation purposes would be denied.

WHEREAS, the Hidden Valley Hydrographic Basin was designated pursuant to NRS § 534.030 by Order 1024 dated April 24, 1990, which also declared municipal, quasi-municipal, industrial, commercial, mining, stockwater and wildlife purposes as preferred uses pursuant to NRS § 534.120, and declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation purposes would be denied.

WHEREAS, the Muddy River Springs Area was partially designated pursuant to NRS § 534.030 by Order 392 dated July 14, 1971, and was fully designated by Order 1023 dated April 24, 1990, which also declared municipal, quasi-municipal, industrial, commercial, mining, stockwater and wildlife purposes as preferred uses pursuant to NRS § 534.120, and declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation purposes would be denied.

II. ORDERS 1169 AND 1169A

WHEREAS, on March 8, 2002, the State Engineer issued Order 1169 holding in abeyance carbonate-rock aquifer system groundwater applications either pending or to be filed in Coyote Spring Valley (Basin 210), Black Mountains Area (Basin 215), Garnet Valley (Basin 216), Hidden Valley (Basin 217), Muddy River Springs Area (Basin 219), and Lower Moapa Valley (Basin 220) and ordering an aquifer test of the carbonate-rock aquifer system, which was not well understood, to determine whether additional appropriations could be developed from the carbonate-rock aquifer system. The Order required that at least 50%, or 8,050 acre-feet annually (afa), of the water rights then currently permitted in Coyote Spring Valley be pumped for at least two consecutive years.

WHEREAS, on April 18, 2002, in Ruling 5115, the State Engineer added the California Wash (Basin 218) to the Order 1169 aquifer test basins.

WHEREAS, prior to the Order 1169 aquifer test beginning, there were significant concerns that pumping 8,050 afa from the Coyote Spring Valley as part of the aquifer test would adversely impact the water resources at the Muddy River Springs, and consequently the Muddy River. Ultimately, the Order 1169 study participants agreed that even if the minimum 8,050 afa was not pumped, sufficient information would be obtained to inform future decisions relating to the study basins.

WHEREAS, on November 15, 2010, the Order 1169 aquifer test began, whereby the study participants began reporting to NDWR on a quarterly basis the amounts of water being pumped from wells in the carbonate and alluvial aquifer during the pendency of the aquifer test.

WHEREAS, on December 21, 2012, the State Engineer issued Order 1169A declaring the completion of the aquifer test to be December 31, 2012, after a period of 25½ months. The

State Engineer provided the study participants the opportunity to file reports with NDWR until June 28, 2013, addressing the information gained from the aquifer test and the water available to support applications in the aquifer test basins.

WHEREAS, during the Order 1169 aquifer test, an average of 5,290 acre-feet per year was pumped from carbonate wells in Coyote Spring Valley, and a cumulative total of approximately 14,535 acre-feet per year of water was pumped throughout the LWRFS. Of this total, approximately 3,840 acre-feet per year was pumped from the Muddy River Springs Area alluvial aquifer.[1]

WHEREAS, during the aquifer test, pumpage was measured and reported from 30 other wells in the Muddy River Springs Area, Garnet Valley, California Wash, Black Mountains Area, and Lower Meadow Valley Wash. Stream diversions from the Muddy River were reported, and measurements of the natural discharge of the Muddy River and several of the Muddy River's headwater springs were collected daily. Water-level data were collected from a total of 79 monitoring and pumping wells within the LWRFS. All of the data collected during the aquifer test was made available to each of the study participants and the public.

WHEREAS, during the Order 1169 aquifer test, the resulting water-level decline encompassed 1,100 square miles and extended from northern Coyote Spring Valley through the Muddy River Springs Area, Hidden Valley, Garnet Valley, California Wash, and the northwestern part of the Black Mountains Area.[2,3] The water-level decline was estimated to be 1 to 1.6 feet in this area with minor drawdowns of 0.5 feet or less in the northern part of Coyote Spring Valley north of the Kane Springs Wash fault zone.

WHEREAS, results of the two-year test demonstrated that pumping 5,290 acre-feet annually from the carbonate aquifer in Coyote Spring Valley, in addition to the other carbonate pumping in Garnet Valley, Muddy River Springs Area, California Wash and the northwest part

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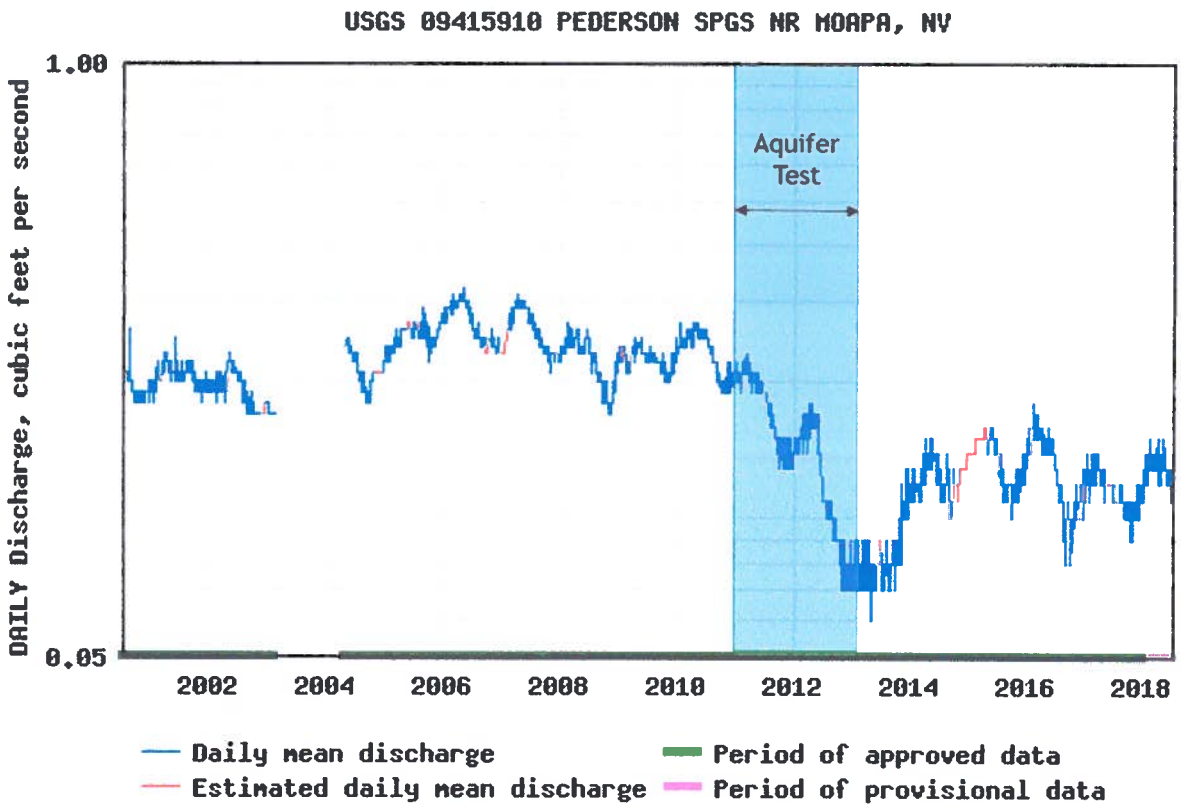
[1] *See, e.g.*, Ruling 6254, p. 17; Appendix B.
[2] *See, e.g.*, Ruling 6254. *See also* U.S. Fish and Wildlife Service, U.S. Bureau of Land Management and U.S. National Park Service Order 1169A Report, *Test Impacts and Availability of Water Pursuant to Applications Pending Under Order 1169*, June 28, 2013, official records in the Office of the State Engineer.
[3] There was no groundwater pumping in Hidden Valley but effects were still observed in the Hidden Valley monitor well.

of the Black Mountains Area, caused sharp declines in groundwater levels and flows in the Pederson and Pederson East springs. These two springs are considered to be sentinel springs for the overall condition of the Muddy River because they are at a higher altitude than other Muddy River source springs, and therefore are proportionally more affected by a decline in groundwater level in the carbonate aquifer.[4] The Pederson spring flow decreased from 0.22 cubic feet per second (cfs) to 0.08 cfs and the Pederson East spring flow decreased from 0.12 cfs to 0.08 cfs. The following hydrograph at Pederson spring illustrates the decline in discharge during the aquifer test and also demonstrates that in the five years since the end of the aquifer test, spring flow has not recovered to pre-test flow rates.



[4] *See* the 2006 Memorandum of Agreement among the Southern Nevada Water Authority, United States Fish and Wildlife Service, Coyote Springs Investments, Moapa Band of Paiutes, and the Moapa Valley Water District.

Additional headwater springs at lower altitude, the Baldwin and Jones springs, declined approximately 4% during the test.[5] All of the headwater springs contribute to the decreed and fully appropriated Muddy River and are the predominant source of water that supplies the habitat of the endangered Moapa dace, a fish federally listed as an endangered species since 1967.

WHEREAS, based upon the analysis of the carbonate aquifer test, it was asserted that pumping at the Order 1169 rate at well MX-5 in Coyote Spring Valley could result in both of the high-altitude Pederson and Pederson East springs going dry in 3 years or less.[6]

WHEREAS, based upon the findings of the aquifer test, the carbonate aquifer underlying Coyote Spring Valley, Garnet Valley, Hidden Valley, Muddy River Springs Area, California Wash and the northwest part of the Black Mountains Area[7] (the LWRFS as depicted in Appendix A) was acknowledged to have a unique hydrologic connection and share the same supply of water.[8]

III. RULINGS 6254, 6255, 6256, 6257, 6258, 6259, 6260, AND 6261

WHEREAS, on January 29, 2014, the State Engineer issued Ruling 6254 on pending applications of the Las Vegas Valley Water District (LVVWD) and Coyote Springs Investment, LLC (CSI) in the Coyote Spring Valley; Ruling 6255 on pending applications of Dry Lake Water, LLC (Dry Lake), and CSI in Coyote Spring Valley; Ruling 6256 on pending applications of Bonneville Nevada Corporation, Nevada Power Company (Nevada Power), Dry Lake, and the Southern Nevada Water Authority (SNWA) in the Garnet Valley; Ruling 6257 on pending applications of Nevada Power, Dry Lake, and SNWA in the Hidden Valley; Ruling 6258 on

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[5] U.S. Fish and Wildlife Service, U.S. Bureau of Land Management and U.S. National Park Service Order 1169A Report, *Test Impacts and Availability of Water Pursuant to Applications Pending Under Order 1169*, pp. 43-46, 50-51, June 28, 2013, official records in the Office of the State Engineer. *See also,* http://waterdata.usgs.gov/nv/nwis/.

[6] *See, e.g.*, Ruling 6254. *See also* U.S. Fish and Wildlife Service, U.S. Bureau of Land Management and U.S. National Park Service Order 1169A Report, *Test Impacts and Availability of Water Pursuant to Applications Pending Under Order 1169*, p. 85, June 28, 2013, official records in the Office of the State Engineer.

[7] That portion of the Black Mountains Area lying within the Lower White River Flow System is defined as those portions of Sections 29, 30, 31, 32, and 33, T.18S., R.64E., M.D.B.&M.; Section 13 and those portions of Sections 1, 11, 12, and 14, T.19S., R.63E., M.D.B.&M.; Sections 5, 7, 8, 16, 17, and 18 and those portions of Sections 4, 6, 9, 10, and 15, T.19S., R.64E., M.D.B.&M.

[8] *See, e.g.,* State Engineer Ruling 6254, p. 24, official records in the Office of the State Engineer.

pending applications by LVVWD, Nevada Power, Dry Lake, and the Moapa Band of Paiute Indians in the California Wash; Ruling 6259 on pending applications by the Moapa Valley Water District in the Muddy River Springs Area; and Ruling 6260 on pending applications by Nevada Cogeneration Associates #1, Nevada Cogeneration Associates #2, and Dry Lake, in the Black Mountains Area, upholding in part the protests to said applications and denying the applications on the grounds that there was no unappropriated groundwater at the source of supply, the proposed use would conflict with existing rights, and the proposed use of the water would threaten to prove detrimental to the public interest because it would threaten the water resources upon which the endangered Moapa dace are dependent.

IV. LOWER WHITE RIVER FLOW SYSTEM

WHEREAS, the total long-term average water supply to the LWRFS, from subsurface groundwater inflow and local precipitation recharge, is not more than 50,000 acre-feet annually.[9]

WHEREAS, the Muddy River, a fully appropriated surface water source, has its headwaters in the Muddy River Springs Area and has the most senior rights in the LWRFS. Spring discharge in the Muddy River Springs Area is produced from the regional carbonate aquifer. Prior to groundwater development, the Muddy River flows at the Moapa gage were approximately 34,000 acre-feet annually.[10]

WHEREAS, the alluvial aquifer surrounding the Muddy River ultimately derives virtually all of its water supply from the carbonates, either through spring discharge that infiltrates into the alluvium or through subsurface hydraulic connectivity between the carbonate rocks and the alluvium.[11]

WHEREAS, the State Engineer has determined that pumping of groundwater within the LWRFS has a direct interrelationship with the flow of the decreed and fully appropriated Muddy River, which has the most-senior rights.[12]

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[9] *Id.*
[10] United States Geological Survey Surface-Water Annual Statistics for the Nation, USGS 09416000 MUDDY RV NR MOAPA, NV, accessed at https://waterdata.usgs.gov/nwis/annual/?search_site_no=09416000&agency_cd=USGS&referred_module=sw&format=sites_selection_links.
[11] *See, e.g.,* State Engineer Ruling 6254, p. 24, official records in the Office of the State Engineer.
[12] *Id.*

WHEREAS, since the conclusion of the Order 1169 aquifer test, the State Engineer has jointly managed the groundwater rights within LWRFS.

WHEREAS, the State Engineer, under the joint management of the LWRFS, has not distinguished pumping from wells in the Muddy River Springs Area alluvium from pumping carbonate wells within the LWRFS.

WHEREAS, within the LWRFS, there exist more than 38,000 acre-feet of groundwater appropriations. Groundwater pumping from 2007 forward is included in Appendix B and is significantly less than the total appropriations.

WHEREAS, groundwater levels within the LWRFS have been relatively flat in the five years since the end of the Order 1169 aquifer test, but groundwater levels have not recovered to pre-test levels.[13]

IV. PUMPAGE INVENTORIES

WHEREAS, annual groundwater pumpage inventories in the Coyote Spring Valley have been published by the State Engineer since 2005. In the years 2005 through 2017 pumping has ranged from 665 acre-feet to 5,606 acre-feet, averaging 2,605 acre-feet. The average pumping in Coyote Spring Valley, excluding the years 2011 and 2012 when the aquifer test was being conducted, is 2,068 acre-feet.[14]

WHEREAS, annual groundwater pumpage inventories in the Black Mountains Area have been published by the State Engineer since 2001. In the years 2001 through 2017 pumping in the northwest portion of the basin has ranged from 1,137 acre-feet to 1,591 acre-feet, with an average of 1,476 acre-feet.[15]

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[13] *See, e.g., USGS water level data for Site 364650114432001 219 S13 E65 28BDBA1 USGS CSV-2.* waterdata.usgs.gov/nwis.

[14] *See, e.g., Nevada Division of Water Resources, Coyote Spring Valley Hydrographic Basin 13-210 Groundwater Pumpage Inventory*, 2017.

[15] *See, e.g., Nevada Division of Water Resources, Black Mountains Area Hydrographic Basin 13-215 Groundwater Pumpage Inventory*, 2017.

WHEREAS, annual groundwater pumpage inventories in the Garnet Valley have been published by the State Engineer since 2001. In the years 2001 through 2017 pumping has ranged from 797 acre-feet to 2,181 acre-feet, averaging 1,358 acre-feet.[16]

WHEREAS, the State Engineer does not conduct annual groundwater pumpage inventories in the Hidden Valley basin because there is no groundwater pumping in the basin.

WHEREAS, annual groundwater pumpage inventories in the California Wash have been published by the State Engineer since 2016. In the years 2016 and 2017 pumping has ranged from 88 acre-feet to 252 acre-feet, averaging 170 acre-feet.[17] Groundwater pumpage data have been reported by water right holders since 2009.

WHEREAS, annual groundwater pumpage inventories in the Muddy River Springs Area have been published by the State Engineer since 2016. In the years 2016 and 2017 pumping has ranged from 3,553 acre-feet to 4,048 acre-feet, with an average of 3,801 acre-feet.[18] Groundwater pumpage data have been reported by water right holders since 1976.

WHEREAS, total groundwater pumpage in Coyote Spring Valley, Muddy River Springs Area (MRSA), California Wash, Hidden Valley, Garnet Valley, and the northwest portion of the Black Mountains Area in calendar years 2007 through 2017, ranged from 9,090 acre-feet to 14,766 acre-feet. Pumpage in years 2011-2012 during the aquifer test averaged 14,535 afa. Pumpage in years 2015 through 2017, when alluvial pumping in the MRSA was greatly reduced because of the Reid Gardner Generating Station closure, ranged from 9,090 afa to 9,637 afa.

V. AUTHORITY AND NECESSITY

WHEREAS, NRS § 533.024(1)(c) directs the State Engineer "to consider the best available science in rendering decisions concerning the availability of surface and underground sources of water in Nevada."

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[16] *See, e.g., Nevada Division of Water Resources, Garnet Valley Hydrographic Basin 13-216 Groundwater Pumpage Inventory*, 2017.
[17] *See, e.g., Nevada Division of Water Resources, California Wash Hydrographic Basin 13-218 Groundwater Pumpage Inventory*, 2017.
[18] *See, e.g., Nevada Division of Water Resources, Muddy River Springs Area (AKA Upper Moapa Valley) Hydrographic Basin 13-219 Groundwater Pumpage Inventory*, 2017.

WHEREAS, NRS § 533.024(1)(e) was added in 2017 to declare the policy of the State to "manage conjunctively the appropriation, use and administration of all waters of this State regardless of the source of the water."

WHEREAS, given that the State Engineer must use the best available science and manage conjunctively the water resources in the LWRFS, consideration of any development of long-term, permanent, uses that could ultimately be curtailed due to water availability will be examined with great caution.

WHEREAS, as demonstrated by the results of the aquifer test, Coyote Spring Valley, Muddy River Springs Area, Hidden Valley, Garnet Valley, California Wash, and the northwestern part of the Black Mountains Area have a direct hydraulic connection, and as a result must be administered as a joint administrative unit, including the administration of all water rights based upon the date of priority of such rights in relation to the priority of rights in the other basins.[19]

WHEREAS, the pre-development discharge of 34,000 acre-feet of the Muddy River system, which is fully appropriated, plus the more than 38,000 acre-feet of groundwater appropriations within the LWRFS greatly exceed the total water budget within the flow system.

WHEREAS, the results from the aquifer test, the data from groundwater level recovery and spring flow, and climate data indicate to the State Engineer that the quantity of water that may be pumped within the LWRFS without conflicting with senior rights on the Muddy River or adversely affecting the habitat of the Moapa dace is less than the quantity pumped during the aquifer test.

WHEREAS, the current amount of pumping corresponds to a period of time in which spring flows have remained relatively stable and have not demonstrated a continuing decline.

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[19] *See, e.g.,* Southern Nevada Water Authority, *Nevada State Engineer Order 1169 and 1169A Study Report*, June 2013; Tom Meyers, Ph.D., *Technical Memorandum Comments on Carbonate Order 1169 Pump Test Data and Groundwater Flow System in Coyote Springs and Muddy River Springs Valley, Nevada*, June 25, 2013; U.S. Fish and Wildlife Service, U.S. Bureau of Land Management and U.S. National Park Service Order 1169A Report, *Test Impacts and Availability of Water Pursuant to Applications Pending Under Order 1169*, June 28, 2013; Johnson and Mifflin, *Summary of Order 1169 Testing Impacts, per Order 1169A*, June 28, 2013; Tetra Tech, *Comparison of Simulated and Observed Effects of Pumping from MX-5 Using Data Collected to the End of the Order 1169 Test, and Prediction of Recovery from the Test*, June 10, 2013, official records in the Office of the State Engineer.

WHEREAS, the precise extent of the development of existing appropriations of groundwater within the LWRFS that may occur without conflicting with the senior rights of the fully decreed Muddy River has not been determined.

WHEREAS, recognizing that there exists a need for further analysis of the historic and ongoing groundwater pumping data, the relationship of groundwater pumping within the LWRFS to spring discharge and flow of the fully decreed Muddy River, the extent of impact of climate conditions on groundwater levels and spring discharge, and the ultimate determination of the sustainable yield of the LWRFS, the State Engineer finds that input by means of reports by the stakeholders in the interpretation of the data from the aquifer test and from the years since the conclusion of the aquifer test is important to fully inform the State Engineer prior to setting a limit on the quantity of groundwater that may be developed in the LWRFS or to developing a long-term Conjunctive Management Plan for the LWRFS and Muddy River.

WHEREAS, the State Engineer finds that it is necessary to carefully monitor the effects of groundwater development within the LWRFS under current conditions, toward the goal of collaboratively (with stakeholders) evaluating the amount of groundwater that may ultimately be developed within the LWRFS without conflicting with senior decreed rights on the Muddy River or adversely affecting the public interest in maintaining the habitat of the endangered Moapa dace. The evaluation process will include public meetings, meetings of a stakeholder representative working group, and coordination with the Hydrologic Review Team (HRT) developed under the 2006 Memorandum of Agreement among the Southern Nevada Water Authority, United States Fish and Wildlife Service, Coyote Springs Investments, Moapa Band of Paiutes, and the Moapa Valley Water District. The process will provide the opportunity for the stakeholders to engage in the development of a conjunctive management plan that will be informed by the determination of the total quantity of groundwater that may be developed within the LWRFS and that will facilitate the continued use of groundwater by junior priority groundwater rights holders whom have perfected their water rights while protecting the senior decreed rights on the Muddy River.

WHEREAS, recognizing that an amount less than the full quantity of the appropriated groundwater rights within the LWRFS may be developed in a manner that will provide for a reasonably certain supply of water for future permanent uses without jeopardizing the economies of the communities reliant on the water supply within the LWRFS, the health and safety of those

whom are either presently reliant the water, existing public interests, or those who may in the future become reliant on a reliable and sustainable source of supply, the State Engineer, with the following exception, finds that it is necessary to issue a temporary moratorium on the review and decision by the Division of Water Resources regarding any final subdivision map or other construction or development submission requiring a finding that adequate water is available to support the proposed development. During the pendency of this Interim Order, the State Engineer may review and grant approval of a subdivision or other submission if a showing of an adequate and sustainable supply of water to meet the anticipated life of the subdivision, other construction or development can be made to the State Engineer's satisfaction.

WHEREAS, through continued monitoring of the LWRFS during the effective period of this Interim Order, the State Engineer seeks to maintain recent groundwater pumping amounts, while providing time for the submission of additional scientific data and analysis regarding the total quantity of water that may be sustainably withdrawn from the LWRFS over the long-term without conflicting with senior Muddy River decreed rights or jeopardizing the communities, water users, or public interests identified above.

WHEREAS, the State Engineer is empowered to make such reasonable rules and regulations as may be necessary for the proper and orderly execution of the powers conferred by law.[20]

WHEREAS, within an area that has been designated by the State Engineer, as provided for in NRS Chapter 534, where, in the judgment of the State Engineer, the groundwater basin is being depleted, the State Engineer in his or her administrative capacity may make such rules, regulations and orders as are deemed essential for the welfare of the area involved.[21]

WHEREAS, the State Engineer finds that additional data relating to the impacts of groundwater pumping from the LWRFS coupled with the public process will allow his office to make a determination as to the appropriate long-term management of groundwater pumping that may occur in the LWRFS by existing holders of water rights without conflicting with existing senior decreed rights or adversely affecting the endangered Moapa dace.

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[20] NRS § 532.120.
[21] *Id.*

VI. ORDER

NOW THEREFORE, the State Engineer orders:

1. The Lower White River Flow System consisting of the Coyote Spring Valley, Muddy River Springs Area, California Wash, Hidden Valley, Garnet Valley, and the portion of the Black Mountains Area as described in this Order, is herewith designated as a joint administrative unit for purposes of administration of water rights. All water rights within the Lower White River Flow System will be administered based upon their respective date of priorities in relation to other rights within the regional groundwater unit.

2. Any stakeholder with interests that may be affected by water right development within the Lower White River Flow System may file a report in the Office of the State Engineer in Carson City, Nevada, no later than the close of business on Monday, June 3, 2019.[22] Reports filed with the Office of the State Engineer should address the following matters:

    a. The geographic boundary of the hydrologically connected groundwater and surface water systems comprising the Lower White River Flow System;

    b. The information obtained from the Order 1169 aquifer test and subsequent to the aquifer test and Muddy River headwater spring flow as it relates to aquifer recovery since the completion of the aquifer test;

    c. The long-term annual quantity of groundwater that may be pumped from the Lower White River Flow System, including the relationships between the location of pumping on discharge to the Muddy River Springs, and the capture of Muddy River flow;

[22] For any stakeholder affected by the shut-down of the United States government beginning in December 2018, upon a request and showing of good cause to the satisfaction of the State Engineer, an extension of time may be granted to those affected parties.

d. The effects of movement of water rights between alluvial wells and carbonate wells on deliveries of senior decreed rights to the Muddy River; and,

e. Any other matter believed to be relevant to the State Engineer's analysis.

3. Any stakeholder with interests that may be affected by water right development within the Lower White River Flow System may file with the Office of the State Engineer no later than the close of business on Thursday July 18, 2019, a rebuttal to the Reports filed on June 3, 2019.

4. The State Engineer will schedule an administrative hearing within the month of September 2019 to take comment on the submitted reports.

5. During the pendency of this Interim Order:

   a. Permanent applications to change existing groundwater rights shall be held in abeyance pending the submission of the reports as required by Paragraph 2 of this Order and as authorized by NRS §§ 532.165(1), 533.368 and 533.370(4)(d). Temporary applications to change existing groundwater rights will be processed pursuant to NRS § 533.345.

   b. A temporary moratorium is issued regarding any final subdivision or other submission concerning development and construction submitted to the State Engineer for review, and such submissions shall be held in abeyance pending the conclusion of the public process to determine the total quantity of groundwater that may be developed within the Lower White River Flow System. The State Engineer may review and grant approval of a subdivision or other submission if a showing of an adequate and sustainable supply of water to meet the anticipated life of the subdivision, other construction or development can be made to the State Engineer's satisfaction.

c. Holders of water rights who maintain their water rights in good standing by filing all required applications for extension of time in conformity with the requirements of NRS §§ 533.390, 533.395 and 533.410 may cite this order in support of their applications for extension of time.

d. Holders of water rights who file all required applications for extension of time in conformity with the requirements of NRS § 534.090 may cite this order in support of their applications for extension of time to prevent the working of a forfeiture.

P.E.

JASON KING, P.E.
State Engineer

Dated at Carson City, Nevada this

11TH day of JANUARY, 2019.

Order 1303, Appendix A : LOWER WHITE RIVER FLOW SYSTEM

Coyote Spring Valley, Muddy River Springs Area, Hidden Valley, Garnet Valley, California Wash, and a portion of Black Mountains Area

0 5 10 20 Miles

Summer 2017 imagery from the
National Agriculture Imagery Program

Nevada Division of Water Resources
Office of the State Engineer
Jason King, P.E.
State Engineer

Order 1303, APPENDIX B: Groundwater Pumping in the Lower White River Flow System, 2007–2017

Basin No.	219				215		210	216	218	217	Total pumping in the LWRFS
Basin Name	Muddy River Springs Area				Black Mountains Area		Coyote Spring Valley	Garnet Valley	California Wash	Hidden Valley	
Year	Carbonate pumping (reported by MVWD)	Alluvial pumping (reported by NV Energy)	All other Alluvial Pumping[1]	Total Pumping in Basin 219[1]	Carbonate pumping in the Northwest Portion of Basin 215	Total Pumping in Basin 215					
2007	2,079	4,744	253	7,076	1,585	1,732	3,147	1,412	27[2]	0	**13,247**
2008	2,272	4,286	253	6,811	1,591	1,759	2,000	1,552	27[2]	0	**11,981**
2009	2,034	4,092	253	6,379	1,137	1,159	1,792	1,427	21[3]	0	**10,756**
2010	1,826	4,088	253	6,167	1,561	1,572	2,923	1,373	26[3]	0	**12,050**
2011	1,837	4,212	253	6,302	1,398	1,409	5,606	1,427	33[3]	0	**14,766**
2012	2,638	2,961	253	5,852	1,556	1,564	5,516	1,351	28[3]	0	**14,303**
2013	2,496	3,963	253	6,712	1,585	1,776	3,407	1,484	66[3]	0	**13,254**
2014	1,442	4,825	253	6,520	1,429	1,624	2,258	1,568	241[3]	0	**12,016**
2015	2,396	1,249	253	3,898	1,448	1,708	2,064	1,520	460	0	**9,390**
2016	2,795	941	312	4,048	1,434	1,641	1,722	2,181	252	0	**9,637**
2017	2,824	535	194	3,553	1,507	1,634	1,961	1,981	88	0	**9,090**

The LWRFS includes basins 210, 216, 217, 218, 219 and the northwest portion of 215.

All values in this table are from State Engineer basin pumpage inventory reports except as noted in the footnotes below:

1. Alluvial Pumping not reported by NV Energy for years 2007–2015 estimated as the average of inventoried years 2016–2017.
2. Estimated as the average of groundwater pumping in years 2009–2012.
3. Reported to the State Engineer but not published in a basin inventory report.

IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA

ADDENDUM TO INTERIM ORDER #1303

DESIGNATING THE ADMINISTRATION OF ALL WATER RIGHTS WITHIN COYOTE SPRING VALLEY HYDROGRAPHIC BASIN (210), A PORTION OF BLACK MOUNTAINS AREA (BASIN 215), GARNET VALLEY (BASIN 216), HIDDEN VALLEY (BASIN 217), CALIFORNIA WASH (BASIN 218), AND MUDDY RIVER SPRINGS AREA (AKA UPPER MOAPA VALLEY) (BASIN 219) AS A JOINT ADMINISTRATIVE UNIT, HOLDING IN ABEYANCE APPLICATIONS TO CHANGE EXISTING GROUNDWATER RIGHTS, AND ESTABLISHING A TEMPORARY MORATORIUM ON THE REVIEW OF FINAL SUBDIVISION MAPS

WHEREAS, the purpose of this Addendum is to modify the schedule for the submission of reports and rebuttal reports of interested stakeholders analyzing the data available regarding sustainable groundwater development in the Lower White River Flow System (LWRFS), the geographic extent of the LWRFS, and considerations relating to the movement of groundwater pumping between the alluvial wells and carbonate wells and its effects on the fully decreed Muddy River.

WHEREAS, NRS § 533.024(1)(c) directs the State Engineer "to consider the best available science in rendering decisions concerning the availability of surface and underground sources of water in Nevada."

WHEREAS, NRS § 533.024(1)(e) was added in 2017 to declare the policy of the State to "manage conjunctively the appropriation, use and administration of all waters of this State regardless of the source of the water."

WHEREAS, based upon the recognition that a need exists for further analysis of the groundwater pumping data, the relationship of groundwater pumping within the LWRFS to spring discharge and flow of the fully decreed Muddy River, the extent of impact of climate conditions on groundwater levels and spring discharge, and the ultimate determination of the sustainable yield of the LWRFS, and the interest in the stakeholders having sufficient time to prepare reports, the State Engineer finds that it is reasonable and appropriate to modify the schedule originally established in Interim Order 1303.

WHEREAS, the State Engineer is empowered to make such reasonable rules and regulations as may be necessary for the proper and orderly execution of the powers conferred by law.[1]

WHEREAS, within an area that has been designated by the State Engineer, as provided for in NRS Chapter 534, where, in the judgment of the State Engineer, the groundwater basin is being depleted, the State Engineer in his or her administrative capacity may make such rules, regulations and orders as are deemed essential for the welfare of the area involved.[2]

ORDER

NOW THEREFORE, the State Engineer orders:

1. The deadline for any stakeholder with interests that may be affected by water right development within the Lower White River Flow System to file a report in the Office of the State Engineer in Carson City, Nevada, is extended to no later than the close of business on Wednesday, July 3, 2019. The substance of the reports should include the same elements as established originally in Interim Order 1303.
2. Any rebuttal report to the Reports filed on July 3, 2019, to be submitted by a stakeholder with interests that may be affected by water right development within the Lower White River Flow System shall be submitted to the Office of the State Engineer no later than the close of business on Friday August 16, 2019.
3. All other matters contained in Interim Order 1303 remain unaltered.

Tim Wilson, P.E.

TIM WILSON, P.E.
State Engineer

Dated at Carson City, Nevada this 13th day of May, 2019.

[1] NRS § 532.120.
[2] *Id.*

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CASE NO: A-20-816761-C
Department 19

DISTRICT COURT
CLARK COUNTY, NEVADA

LAS VEGAS VALLEY WATER DISTRICT, and SOUTHERN NEVADA WATER AUTHORITY Petitioners, vs. TIM WILSON, P.E., Nevada State Engineer, DIVISION OF WATER RESOURCES, DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES, Respondent.	Case No. Dept. No. **PETITION FOR JUDICIAL REVIEW OF ORDER 1309**

Petitioners SOUTHERN NEVADA WATER AUTHORITY ("SNWA") and LAS VEGAS VALLEY WATER DISTRICT ("LVVWD"), by and through its counsel, PAUL G. TAGGART, ESQ. and TIMOTHY D. O'CONNOR, ESQ., of the law firm of TAGGART & TAGGART, LTD., hereby files this Petition for Judicial Review of Order 1309 issued by Respondent TIM WILSON, P.E., Nevada State Engineer, DIVISION OF WATER RESOURCES, DEPARTMENT OF CONSERVATION AND

NATURAL RESOURCES on June 15, 2020, attached hereto as Exhibit 1. This Petition for Judicial Review is filed pursuant to NRS 533.450(1).

JURISDICTIONAL STATEMENT

Under NRS 533.450(1), any order or decision of the State Engineer is subject to judicial review "in the proper court of the county in which the matters affected or a portion thereof are situated." The real property to which the water at issue in this appeal is appurtenant lies within Clark County, Nevada; therefore, the Eighth Judicial District Court of the State of Nevada in and for Clark County is the proper venue for judicial review.

Further, the subject matter of the appeal involves decreed waters of the Muddy River Decree. Under NRS 533.450(1), "on stream systems where a decree of court has been entered, the action must be initiated in the court that entered the decree." This court has proper jurisdiction of the Muddy River Decree, *Muddy Valley Irrigation Company, et al, vs. Moapa Salt Lake Produce Company, et al,* Case No. 377, which was entered in the Tenth Judicial District of the State of Nevada, in and for the County of Clark in 1920.[1]

FACTUAL BACKGROUND

I. SNWA and LVVWD have substantial interests in the Lower White River Flow System.

SNWA is a not-for-profit political subdivision of the State of Nevada consisting of seven member agencies (local municipalities and political subdivisions in Clark County) and is a wholesale water provider serving approximately 74 percent of Nevada's population. SNWA's water resource portfolio includes approximately 20,000 afa of senior Muddy River decreed water rights, 9,000 afa of groundwater in Coyote Spring Valley, and 2,200 afa of groundwater in Garnet and Hidden valleys. SNWA conducted the Order 1169 pumping test and is one of the primary participants in the 2006 Memorandum of Agreement concerning the Moapa dace. Clark County designated SNWA's largest member purveyor, LVVWD, to be the operating entity for the Coyote Springs Water Resources General Improvement District.

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[1] In 1920, the Tenth Judicial District consisted of Clark County and Lincoln County. In 1945, Clark County was designated as the Eighth Judicial District.

II. Order 1169 Pumping Tests

On March 8, 2002, the State Engineer issued Order 1169 to hold in abeyance all pending groundwater applications filed in Coyote Spring Valley, Black Mountains Area, Garnet Valley, Hidden Valley, Muddy River Springs Area, and Lower Moapa Valley. The California Wash was later added to the study area, making Order 1169 apply to the entire Lower White River Flow System ("LWRFS"). The purpose of Order 1169 was to require a large pumping study to determine whether pumping in the LWRFS would have detrimental impacts on existing water rights or the environment.

In 2006, a Memorandum of Agreement ("MOA") was signed among the Southern Nevada Water Authority ("SNWA"), Coyote Springs Investments ("CSI"), the United States Fish and Wildlife Service ("USFWS"), the Moapa Valley Water District ("MVWD"), and the Moapa Valley Band of Paiute Indians ("MBOP"). The MOA was created to ensure water usage in the LWRFS did not interfere with measurable progress toward protection and recovery of the endangered Moapa Dace and its habitat. The MOA contained triggers and actions for the various parties to take if flow levels in the Muddy River declined. Through the MOA, all parties recognized that pumping in Coyote Spring Valley could have a detrimental impact on existing water rights and the environment.

The State Engineer issued Order 1169A on December 21, 2012, in which he declared that the Order 1169 pump test was complete. Ultimately, the State Engineer concluded that the pumping had a direct connection to the fully appropriated Muddy River which is part of the source of water for the endangered Moapa Dace, and the decreed senior rights of the Muddy River. The State Engineer issued Rulings 6254-6258 on January 29, 2014, in which he denied all pending water right applications in the LWRFS basins. The State Engineer ruled in Rulings 6254-6258 that pumping of existing rights in the 1169 pump tests measurably reduced flows in headwater springs of the Muddy River. While the State Engineer denied the pending applications, he took no action to limit or reduce the existing water rights.

III. Public Workshops

Starting in 2018, the State Engineer held several public workshops review the status of groundwater use and recovery following the conclusion of the State Engineer Order 1169 pumping tests. The purpose of the workshops was to update the public on development in the LWRFS, address concerns relating to the effect of groundwater pumping, and to provide an opportunity to comment on how to

proceed in developing the water resources in the LWRFS.[2] In the 2018 Notice of Public Workshop, the State Engineer noted that pumping only 10,200 afa of the over 50,000 afa of permitted rights during the Order 1169 pumping test "yielded an unacceptable loss in spring flow and aquifer storage within the LWRFS." The State Engineer found that "only a small portion of the permitted water rights in the LWRFS may be fully developed without negatively affecting the endangered Moapa Dace and its habitat or the senior decreed rights on the Muddy River."[3]

As a result of the workshops, on August 30, 2018, the State Engineer drafted a proposed order. On December 14, 2018, the State Engineer held a hearing on the proposed order. The State Engineer received comments on the proposed order. On January 11, 2019, the State Engineer issued Interim Order 1303 as a result of the workshop and proposed order process. The State Engineer continued to hold several more workshops and meetings relating to the potential development of a conjunctive management plan on the LWRFS.[4]

IV. Order 1303

On January 11, 2019, the State Engineer issued Interim Order 1303 to obtain stakeholder input on four specific factual matters: 1) the geographic boundary of the LWRFS, 2) aquifer recovery since the 1169 pump test, 3) long-term annual quantity that may be pumped from the LWRFS, and 4) effects of moving water rights between the carbonate and alluvial system to senior water rights on the Muddy River.[5] After factual findings were made on those questions, the State Engineer was to evaluate groundwater management options for the Lower White River Flow System ("LWRFS").[6]

In Order 1303, the State Engineer made sound factual findings based on the Order 1169 pumping test. He found that groundwater rights within the LWRFS should be jointly managed because of a "unique" and "direct hydraulic connection" among basins that encompass over 1,100 square miles. He

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[2] June 14, 2018, Notice of Public Workshop at 2. Available at Available at http://water.nv.gov/news.aspx?news=LWRFS (Public Meetings, July 24, 2018). Last visited 6/17/2020.

[3] *Id.*

[4] *See* LWRFS Working Group Meeting Agenda for February 6, 2019, and Notice of Public Workshop on July 17, 2019, dated June 10, 2019. Available at http://water.nv.gov/news.aspx?news=LWRFS (Public Meetings). Last visited 6/17/2020.

[5] Exhibit 2.

[6] Exhibit 3 at 2 ("The State Engineer directed the participants to limit the offer of evidence and testimony to the salient conclusions, including directing the State Engineer and his staff to the relevant data, evidence and other information supporting those conclusions. The State Engineer further noted that the hearing on the Order 1303 reports was the first step in determining to what extent, if any, and in what manner the State Engineer would address future management decisions, including policy decisions relating to the [LWRFS] basins.")

also determined water was not available for additional applications and denied all the pending applications in the LWRFS through Rulings 6254-6260. The State Engineer also found that:

1. pumping has a direct interrelationship with the flow of the decreed and fully appropriated Muddy River, which are the most senior rights;
2. the Muddy River had a pre-development flow of approximately 34,000 acre-feet annually;
3. pumping from the test caused "sharp declines in groundwater levels and flows in the Pederson and Pederson East springs," and throughout the LWRFS; and
4. pumping in the LWRFS must be less than occurred during the test, otherwise pumping will conflict with senior Muddy River rights or adversely impact the Moapa dace.[7]

Order 1303 was issued to solicit input from experts on discrete issues to build on these foundational findings from Rulings 6254-6260 – not to "start over."

On May 13, 2019, the State Engineer amended Order 1303 and modified certain deadlines for filing reports. On July 25, 2019, the State Engineer issued a Notice of Pre-Hearing Conference. On August 23, 2019, the State Engineer held a prehearing conference. At the prehearing conference, Hearing Officer Fairbank unequivocally stated that "the purpose of the hearing is not to resolve or address allegations of conflict between groundwater pumping within the LWRFS and Muddy River decreed rights."[8] On August 23, 2019, the State Engineer issued a Notice of Hearing, and again clarified the limited scope of the hearing.

In July and August 2019, reports and rebuttal reports were submitted discussing the four matters set forth in Order 1303. Several parties filed objections to witnesses and evidence. Most of the objections were related to the scope of the topics in the submitted evidence. On August 23, 2019, the State Engineer issued an Order on Objections to Witnesses and Evidence. The State Engineer agreed that "the evidence presented in the hearing is to be limited to the four issues identified in the Notice of Hearing." The State Engineer allowed all evidence to be presented, but again warned that the "scope of the testimony shall be limited to the four issues identified in Order 1303" and cautioned that while some evidence could be submitted outside the specific scope but that the State Engineer "may order a line of questioning to cease or to remain limited to the relevant issues that are the subject of the hearing."[9]

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[7] Exhibit 2 at 7-11.
[8] Exhibit 4 at 12:6-15.
[9] August 23, 2019, Order on Objections.

Between September 23, 2019, and October 4, 2019, the State Engineer held a hearing on the reports submitted under Order 1303. As part of that hearing, SNWA offered very limited evidence of conflicts with its senior water rights.[10] SNWA repeatedly indicated that this evidence was limited because of the prior directions of the State Engineer, and because the question of conflicts was to be addressed at a latter administrative stage of the proceedings.[11]

V. Order 1309

On June 15, 2020, the State Engineer issued Order 1309. In Order 1309, the State Engineer determined that "reductions in flow that have occurred because of groundwater pumping in the headwaters basins is not conflicting with Decreed rights."[12]

GROUNDS FOR THE PETITION

The third factual inquiry the State Engineer sought input on was: "The long-term annual quantity of groundwater that may be pumped from the Lower White River Flow System, including the relationships between the location of pumping on discharge to the Muddy River Springs, and the capture of Muddy River flow."[13] The State Engineer specifically limited the evidence he would consider on this matter, stating that this hearing was not to address allegations of conflict.[14] During a prehearing conference, the State Engineer's staff stated that

> the purpose of the hearing is not to resolve or address allegations of conflict between groundwater pumping within the LWRFS and Muddy River decreed rights. That is not the purpose of this hearing and that's not what we are going to be deciding at this point in time. The purpose of the hearing is to determine what the sustainability is, what the impact is on decreed rights, and then addressing and resolving allegations of conflict should that be a determination that will be addressed in, at a future point in time.[15]

Thus, the majority of the evidence submitted related to the capture of Muddy River water by junior groundwater pumpers. The State Engineer agreed in Order 1309 that current pumping is capturing Muddy River flows.[16]

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[10] *See e.g.,* Hr'g on Order 1303 Tr. vol. 5, 942 (Burns), SNWA Ex.7 at 7-5 to 7-6. (SNWA has suffered a loss of approximately 12,040 afa over the last 10 years, equating to over $2 million in costs for replacement supplies.)
[11] Hr'g on Order 1303 Tr. 2019-09-07 at 1049:20-1050:3(Taggart); Tr. 2019-09-27 at 1072:9-23(Pellegrino).
[12] Exhibit 1 at 61.
[13] Exhibit 2 at 13.
[14] Exhibit 4 at 12:6-15.
[15] Exhibit 4 at 12:6-15.
[16] Exhibit 1 at 61.

However, the State Engineer incorrectly went beyond the scope of the hearing to determine that "capture or potential capture of flows of the waters of a decreed system does not constitute a conflict."[17] The State Engineer stated that "there is no conflict as long as the senior water rights are served."[18] The State Engineer then performed a coarse calculation to determine the consumptive use needs of the senior decreed rights holders and concluded that the capture of 8,000 acre-feet of Muddy River flows by junior groundwater users would not deprive the seniors of any portion of their water rights.[19] The calculation did not include consideration of water losses through the river system, such as losses in conveying the water or losses on water reservoirs.

By making these findings in Order 1309, the State Engineer violated the due process rights of SNWA and other senior water right owners because he indicated before the hearing that he would not be making a finding on this point, and evidence on this point would not be accepted. He also acted arbitrarily and capriciously because he ignored the only evidence that existed related to conflicts (SNWA's), and then applied an erroneous analysis that no party had an opportunity to review or comment on. Further, the State Engineer's method is contrary to law – particularly the Muddy River Decree.

SNWA owns and leases substantial water rights on the Muddy River and the capture of flow by junior groundwater pumping has deprived SNWA of use of its senior decreed water rights. Prior to groundwater development in the LWRFS, Muddy River flows were approximately 34,000 afa, and every acre-foot is apportioned in the Decree.[20] Since groundwater development began, Muddy River flows have declined by over 3,000 afa. This is an impermissible conflict with existing rights that can only continue if effective mitigation occurs for the impacts to senior water rights holders.

The difference between predevelopment flows and annual post-development flows represents the impacts from pumping, and the conflict with SNWA's rights, because SNWA is being deprived of the full beneficial use of its senior water rights at a significant cost to the organization.[21] The State Engineer failed to consider the impacts to non-irrigation uses and failed to consider direct evidence of

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[17] Exhibit 1 at 61

[18] Exhibit 1 at 60.

[19] Exhibit 1 at 60-61.

[20] Exhibit 2 at 7.

[21] Hr'g on Order 1303 Tr. vol. 5, 942 (Burns), SNWA Ex.7 at 7-5 to 7-6. (SNWA has suffered a loss of approximately 12,040 afa over the last 10 years, equating to over $2 million in costs for replacement supplies.)

conflict outside his hypothetical analysis. Current pumping has already conflicted with existing rights. Continued pumping at the current levels will only continue to conflict with existing rights and harm SNWA.

CONCLUSION

For the foregoing reasons, and for others that may be discovered and raised during the pendency of this Petition for Judicial Review, LVVWD and SNWA request that the Court order the State Engineer to amend Order 1309 to remove or strike findings made therein regarding conflicts with senior water rights. LVVWD and SNWA do not seek relief from any other portion of Order 1309.

DATED this 17 day of June, 2020.

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CERTIFICATE OF SERVICE

Pursuant to NRCP 5(b), I hereby certify that I am an employee of TAGGART & TAGGART, LTD., and that on the 18th day of June, 2020, I served, or caused to be served, a true and correct copy of the foregoing as follows:

[X] By **HAND-DELIVERY**:

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[X] By **U.S. POSTAL SERVICE, CERTIFIED, RETURN RECEIPT REQUESTED**, by placing a true and correct copy of the foregoing document in an envelope, with postage prepaid, in Carson City, Nevada, addressed as follows:

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Employee of TAGGART & TAGGART, LTD.

EXHIBIT INDEX

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1.	Order 1309	68
2.	Order 1303	17
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4.	Transcript of Proceedings, Public Hearing, Pre-Hearing Conference, Thursday, August 8, 2019, pp. 11-13.	8

Exhibit 1

Exhibit 1

IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA

#1309

ORDER

DELINEATING THE LOWER WHITE RIVER FLOW SYSTEM HYDROGRAPHIC BASIN WITH THE KANE SPRINGS VALLEY BASIN (206), COYOTE SPRING VALLEY BASIN (210), A PORTION OF BLACK MOUNTAINS AREA BASIN (215), GARNET VALLEY BASIN (216), HIDDEN VALLEY BASIN (217), CALIFORNIA WASH BASIN (218), AND MUDDY RIVER SPRINGS AREA (AKA UPPER MOAPA VALLEY) BASIN (219) ESTABLISHED AS SUB-BASINS, ESTABLISHING A MAXIMUM ALLOWABLE PUMPING IN THE LOWER WHITE RIVER FLOW SYSTEM WITHIN CLARK AND LINCOLN COUNTIES, NEVADA, AND RESCINDING INTERIM ORDER 1303

Table of Contents

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I. BACKGROUND OF THE ADMINISTRATION OF THE LOWER WHITE RIVER FLOW SYSTEM BASINS

WHEREAS, the State Engineer has actively managed and regulated the Coyote Spring Valley Hydrographic Basin (Coyote Spring Valley), Basin 210, since August 21, 1985; the Black Mountains Area Hydrographic Basin (Black Mountains Area), Basin 215, since November 22, 1989; the Garnet Valley Hydrographic Basin (Garnet Valley), Basin 216, since April 24, 1990; the Hidden Valley Hydrographic Basin (Hidden Valley), Basin 217, since April 24, 1990; the California Wash Hydrographic Basin (California Wash), Basin 218, since April 24, 1990; and the

Muddy River Springs Area Hydrographic Basin (Muddy River Springs Area), Basin 219, since July 14, 1971.[1]

WHEREAS, in 1984, the United States Department of Interior, Geological Survey (USGS), Water Services Division, proposed a ten-year investigation into carbonate-rock aquifers that underlay approximately 50,000 square miles of eastern and southern Nevada.[2] In 1985, a program for the study and testing of the carbonate-rock aquifer system of eastern and southern Nevada was authorized by the Nevada Legislature. In 1989, a report was published by the USGS summarizing the first phase of the study.[3] Included in the summary was a determination that:

> Large-scale development (sustained withdrawals) of water from the carbonate-rock aquifers would result in water-level declines and cause the depletion of large quantities of stored water. Ultimately, these declines would cause reductions in the flow of warm-water springs that discharge from the regional aquifers. Storage in other nearby aquifers also might be depleted, and water levels in those other aquifers could decline. In contrast, isolated smaller ground-water developments, or developments that withdraw ground water for only a short time, may result in water-level declines and springflow reductions of manageable or acceptable magnitude.
>
> Confidence in predictions of the effects of development, however, is low; and it will remain low until observations of the initial hydrologic results of development are analyzed. A strategy of staging developments gradually and adequately monitoring the resulting hydrologic conditions would provide information that eventually could be used to improve confidence in the predictions.[4]

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[1] *See* NSE Ex. 9, *Order 905*, Hearing on Interim Order 1303, official records of the Division of Water Resources. *See* NSE Ex. 8, *Order 1018*, Hearing on Interim Order 1303, official records of the Division of Water Resources. *See* NSE Ex. 5, *Order 1025*, Hearing on Interim Order 1303, official records of the Division of Water Resources. *See* NSE Ex. 6, *Order 1024*, Hearing on Interim Order 1303, official records of the Division of Water Resources. *See* NSE Ex. 4, *Order 1026*, Hearing on Interim Order 1303, official records of the Division of Water Resources. *See* NSE Ex. 7, *Order 1023*, Hearing on Interim Order 1303, official records of the Division of Water Resources; NSE Ex. 11, *Order 392*, Hearing on Interim Order 1303, official records of the Division of Water Resources.

[2] Memorandum dated August 3, 1984, from Terry Katzer, Nevada Office Chief, Water Resources Division, United States Department of Interior Geologic Survey, Carson City, Nevada to Members of the Carbonate Terrane Study.

[3] Michael D. Dettinger, *Distribution of Carbonate-Rock Aquifers in Southern Nevada and the Potential for their Development, Summary of Findings, 1985-1988*, Summary Report No. 1, U.S. Geological Survey, Department of Interior and Desert Research Institute, University of Nevada System, 1989, p. Forward. *See also* NSE Ex. 3, *Order 1169*, Hearing on Interim Order 1303, official records of the Division of Water Resources.

[4] *Id.*, p. 2.

WHEREAS, beginning in 1989 and through the early 2000s, numerous groundwater applications were filed in Coyote Spring Valley, Black Mountains Area, Garnet Valley, Hidden Valley, California Wash, and Muddy River Springs Area Hydrographic Basins seeking to appropriate more than 300,000 acre-feet annually (afa) of groundwater from the carbonate-rock aquifer underlying these basins.[5] The State Engineer held a hearing on July 12-20, 23-24, and August 31, 2001, for pending Applications 54055–54059, filed by Las Vegas Valley Water District (LVVWD) to appropriate 27,510 afa of water in Coyote Spring Valley.[6] The State Engineer conducted a hearing on Coyote Springs Investments LLC (CSI) Applications 63272–63276 on August 20-24, 27-28, 2001.[7]

WHEREAS, following the conclusions of these hearings, the State Engineer issued Order 1169 on March 8, 2002, requiring all pending applications in Coyote Spring Valley, Black Mountains Area, Garnet Valley, Hidden Valley, Muddy River Springs Area, and Lower Moapa Valley Hydrographic Basin (Basin 220), be held in abeyance pending an aquifer test of the carbonate-rock aquifer system to better determine whether the pending applications and future appropriations could be developed from the carbonate-rock aquifer.[8]

WHEREAS, in Order 1169, the State Engineer found that he did not believe that it was prudent to issue additional water rights to be pumped from the carbonate-rock aquifer until a significant portion of the then existing water rights were pumped for a substantial period of time to determine whether the pumping of those water rights would have a detrimental impact on existing water rights or the environment.[9]

WHEREAS, Order 1169 required that at least 50%, or 8,050 afa, of the water rights then currently permitted in Coyote Spring Valley be pumped for at least two consecutive years.[10] On April 18, 2002, the State Engineer added the California Wash to the Order 1169 aquifer test basins.[11]

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[5] *See* NSE Exs. 14–20, *Ruling 6254–Ruling 6260*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[6] *See* NSE Ex. 14.
[7] *Id.*
[8] *See* NSE Ex. 3.
[9] *Id.*
[10] *Id.*
[11] *See* State Engineer's Ruling 5115, dated April 18, 2002, official records of the Division of Water Resources.

WHEREAS, subsequent to the issuance of Order 1169, the United States Fish and Wildlife Service (USFWS) expressed concern that current groundwater pumping coupled with additional groundwater withdrawals in Coyote Spring Valley and California Wash may cause reduction of spring flow to the Warm Springs area, tributary thermal springs in the upper Muddy River, which serves as critical habitat to the Moapa dace (*Moapa corciacea*), an endemic fish species federally listed as endangered in 1967.[12] Due to these concerns, on April 20, 2006, the Southern Nevada Water Authority (SNWA), USFWS, CSI, the Moapa Band of Paiute Indians (MBOP) and the Moapa Valley Water District (MVWD) entered into a Memorandum of Agreement (MOA).[13]

WHEREAS, the MOA stated that all the parties shared "a common interest in the conservation and recovery of the Moapa dace and its habitat." The MOA established certain protections to the Moapa dace, including protocols relating to pumping from the regional carbonate-rock aquifer that may adversely impact spring flow to the dace habitat in the Warm Springs area. Specifically, the MOA identified conservation measures, which included protections for minimum instream flows in the Warm Springs area with trigger levels set at 3.2 cubic feet per second (cfs) at the Warm Springs West gage requiring initial action by the MOA parties, and the most stringent action required at a flow rate of 2.7 cfs.[14]

WHEREAS, the MBOP raised concerns that pumping 8,050 afa from the Coyote Spring Valley as part of the aquifer test would adversely impact the water resources at the Warm Springs area, and consequently the Moapa dace, and that the impacts would persist such that protective measures established in the MOA would be inadequate to protect the dace.[15] As a result, the Order 1169 study participants, which included the LVVWD, SNWA, CSI, Nevada Power Company,[16] MVWD, Dry Lake Water Company, LLC, Republic Environmental Technologies, Inc. (Republic),

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[12] USFWS, *Fish and Aquatic Conservation - Moapa dace*, https://bit.ly/moapadace (last accessed June 3, 2020). *See also* SNWA Ex. 8, p. 1-1.

[13] *See* NSE Ex. 236, *2006 Memorandum of Agreement between the Southern Nevada Water Authority, United States Fish and Wildlife Service, Coyote Springs Investment LLC, Moapa Band of Paiute Indians and Moapa Valley Water District*, Hearing on Interim Order 1303, official records of the Division of Water Resources.

[14] *Id.*

[15] *See* May 26, 2010, letter from Darren Daboda, Chairperson, Moapa Band of Paiutes, to Jason King, Nevada State Engineer, official records of the Division of Water Resources.

[16] Nevada Power Company, following the merger with Sierra Pacific Power Company and Sierra Pacific Resources subsequently began doing business as NV Energy. *See, e.g.*, NV Energy, *Company History*, https://bit.ly/NVEhistory (last accessed April 20, 2020).

Chemical Lime Company, Nevada Cogeneration Associates, and the MBOP, or their successors, agreed that even if the minimum 8,050 afa was not pumped, sufficient information would be obtained to inform future decisions relating to the study basins.[17]

WHEREAS, on November 15, 2010, the Order 1169 aquifer test began, whereby the study participants began reporting to the Nevada Division of Water Resources (Division) on a quarterly basis the amounts of water pumped from wells in the carbonate-rock and alluvial aquifers during the pendency of the aquifer test.

WHEREAS, on December 21, 2012, the State Engineer issued Order 1169A declaring the completion of the Order 1169 aquifer test to be December 31, 2012, after a period of 25½ months. The State Engineer provided the study participants the opportunity to file reports with the Division until June 28, 2013, to present information gained from the aquifer test in order to estimate water to support applications in the Order 1169 study basins.[18]

WHEREAS, during the Order 1169 aquifer test, an average of 5,290 acre-feet per year (afy) was pumped from carbonate-rock aquifer wells in Coyote Spring Valley, and a cumulative reported total of 14,535 afy of water was pumped throughout the Order 1169 study basins. Of this total, approximately 3,840 afy was pumped from the Muddy River Springs Area alluvial aquifer with the balance pumped from the carbonate-rock aquifer.[19]

WHEREAS, during the aquifer test, pumpage was measured and reported from 30 other wells in the Coyote Spring Valley, Muddy River Springs Area, Garnet Valley, California Wash, Black Mountains Area, and Lower Meadow Valley Wash Hydrographic Basin (Lower Meadow Valley Wash). Stream diversions from the Muddy River were reported, and measurements of the natural discharge of the Muddy River and from the Warm Springs area springs were collected daily. Water-level data were collected from a total of 79 monitoring and pumping wells within the Order 1169 study basins. All of the data collected during the aquifer test were made available to each of the study participants and the public.[20]

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[17] *See* July 1, 2010, letter from Jason King, Nevada State Engineer, to Order 1169 Study Participants, official records of the Division of Water Resources.
[18] *See* NSE Ex. 2, *Order 1169A*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[19] *See, e.g.*, NSE Ex. 1, Appendix B.
[20] *See* Division, *Water Use and Availability – Order 1169*, https://bit.ly/Order1169

WHEREAS, during the Order 1169 aquifer test, the resulting water-level decline encompassed 1,100 square miles and extended from southern Kane Springs Valley, northern Coyote Spring Valley through the Muddy River Springs Area, Hidden Valley, Garnet Valley, California Wash, and the northwestern portion of the Black Mountains Area.[21] The water-level decline was estimated to be 1 to 1.6 feet throughout this area with minor drawdowns of 0.5 foot or less in the northern portion of Coyote Spring Valley north of the Kane Springs Wash fault zone.[22]

WHEREAS, results of the two-year aquifer test demonstrated that pumping 5,290 afa from the carbonate-rock aquifer in Coyote Spring Valley, in addition to the other carbonate-rock aquifer pumping in Garnet Valley, Muddy River Springs Area, California Wash and the northwest portion of the Black Mountains Area, caused sharp declines in groundwater levels and flows in the Pederson and Pederson East springs, two springs considered to be sentinel springs for the overall condition of the Muddy River due to being higher in altitude than other Muddy River source springs, and therefore are proportionally more affected by a decline in groundwater level in the carbonate-rock aquifer.[23] The Pederson spring flow decreased from 0.22 cfs to 0.08 cfs and the Pederson East spring flow decreased from 0.12 cfs to 0.08 cfs. Additional headwater springs at lower altitude, the Baldwin and Jones springs, declined approximately 4% in spring flow during the test.[24] All of the headwater springs contribute to the decreed and fully-appropriated Muddy River and are the predominant source of water that supplies the habitat of the endangered Moapa dace.

WHEREAS, Order 1169A provided the study participants an opportunity to submit reports addressing three specific questions presented by the State Engineer: (1) what information was obtained from the study/pumping test; (2) what were the impacts of pumping under the pumping test; and, (3) what is the availability of additional water resources to support the pending applications. SNWA, USFWS, National Park Service (NPS) and Bureau of Land Management

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[21] USFWS Ex. 5, *Report in Response to Order 1303*, Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 21, 67. *See, e.g.*, NSE Ex. 14. *See also* NSE Ex. 256, *Federal Bureaus Order 1169A Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources. There was no groundwater pumping in Hidden Valley, but effects were still observed in the Hidden Valley monitor well.
[22] *See, e.g.*, NSE Ex. 14. *See also* NSE Ex. 256.
[23] *See* NSE Ex. No. 236.
[24] NSE Ex. 256, pp. 43–46, 50–51. *See also*, USGS, *Water Data for Nevada*, https://bit.ly/nvwater.

(BLM), MBOP, MVWD, CSI, Great Basin Water Network (GBWN) and Center for Biological Diversity (CBD) submitted either reports or letters.

WHEREAS, in its report, SNWA addressed water levels throughout the Order 1169 basins. SNWA acknowledged that hydrologic connectivity supported the potential need for redistribution of existing pumping, and indirectly acknowledged the limitation on availability of water to satisfy the pending applications.[25] SNWA further acknowledged declines to spring flow in the Pederson and Pederson East springs as a result of the aquifer test, but characterized the decline in spring flow at the Warm Springs West location as minimal. SNWA further correlated the declining trends as associated with climate but opined that Muddy River flow did not decline as a result of the aquifer test and carbonate-rock aquifer pumping; rather, impact to Muddy River flows were due to alluvial aquifer pumping.[26]

WHEREAS, CSI, through a letter, agreed with SNWA's report and asserted that additional water resources could be developed within the Coyote Spring Valley north of the Kane Springs Fault, which supported granting new appropriations of water.[27]

WHEREAS, the United States Department of Interior Bureaus (USFWS, NPS and BLM) concluded that the aquifer test provided sufficient data to determine the effects of the aquifer drawdown as well as identify drawdown throughout the region and was sufficient to project future pumping effects on spring flow. Based upon their analysis, the Department of Interior Bureaus concluded that water-level declines due to the aquifer test encompassed 1,100 square miles throughout the Order 1169 study basins. Additionally, the Department of Interior Bureaus' analysis found a direct correlation between the aquifer test pumping and flow declines at Pederson, Plummer and Apcar units and Baldwin Spring, all springs critical to the Moapa dace habitat, and asserted that pumping at the Order 1169 rate at well MX-5 in Coyote Spring Valley could result in both of the high-altitude Pederson and Pederson East springs going dry in 3 years or less.[28]

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[25] *See* NSE Ex. 245, *Southern Nevada Water Authority Order 1169 Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 23–25.
[26] *Id.*
[27] NSE Ex. 247, *Coyote Springs Investments, LLC Order 1169 Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[28] *See, e.g.*, NSE Ex. 14, pp.15–18. *See also* NSE Ex. 256.

WHEREAS, the Department of Interior Bureaus further found that the groundwater withdrawals that occurred in Coyote Spring Valley during the Order 1169 aquifer test represented approximately one-third of the then existing water rights within Coyote Spring Valley, concluding that even one-third of the existing water rights could not be developed without adversely impacting spring flow to the headwaters of the Muddy River and habitat for the Moapa dace.[29] Ultimately, the Department of Interior Bureaus concluded that there was insufficient water available for the pending applications, and that the area that was subject to the Order 1169 aquifer test behaved as one connected aquifer and pumping in one basin would have similar effects on the whole aquifer.[30]

WHEREAS, MBOP's report disagreed with the magnitude of drawdown resulting from the Order 1169 aquifer test, but ultimately concluded carbonate-rock aquifer pumping in Coyote Spring Valley and the Muddy River Springs Area would have a one-to-one impact on Muddy River flows.[31] MBOP opined to the existence of a southern flow field, which included California Wash, Hidden Valley, Garnet Valley, and the northwest portion of the Black Mountains Area, that could be developed without depleting spring flows. MBOP also argued that changes in the groundwater levels were directly tied to water level declines in Lake Mead.[32]

WHEREAS, MVWD's report was limited to water levels and flows within the Muddy River Springs Area. In its report, MVWD acknowledged the groundwater level declines resulting from the aquifer test, including decreased spring flow at the Pederson springs, Warm Springs West gage and Baldwin Spring, but not at Jones Spring or Muddy Spring.[33] Ultimately, MVWD concluded that additional water was available in the Lower Moapa Valley, as that aquifer did not appear hydrologically connected to the regional carbonate-rock aquifer.

WHEREAS, GBWN presented a report that recognized the decline in the groundwater levels in Coyote Spring Valley and discharge to the Muddy River Springs Area resulting from the

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[29] *Id.*
[30] *Id.*
[31] *See* NSE Ex. 252, *Moapa Band of Paiute Indians Order 1169 Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources, p. 25.
[32] *Id.*
[33] NSE Ex. 250, *Moapa Valley Water District Basin 220 Well Site Analysis*, Hearing on Interim Order 1303, official records of the Division of Water Resources; NSE Ex. 251, *Moapa Valley Water District Evaluation of MX-5 Pumping Test on Springs and Wells in the Muddy Springs Area*, dated June 24, 2013, Hearing on Interim Order 1303, official records of the Division of Water Resources.

aquifer test.[34] However, GBWN believed that the aquifer test failed to provide sufficient data to determine water availability throughout the other study basins. GBWN did assert that pumping of existing rights within all of the study basins would unacceptably decrease spring discharge.[35]

WHEREAS, CBD, relying on GBWN's technical report, opined that pumping existing water rights within the Order 1169 study basins would result in unacceptable decline in spring flow, ultimately threatening the Moapa dace and the habitat necessary for the species survival.[36]

WHEREAS, based upon the findings of the Order 1169 aquifer test, in denying the pending applications the State Engineer found: (1) that the information obtained from the Order 1169 aquifer test was sufficient to document the effects of pumping from the carbonate-rock aquifer on groundwater levels and spring flow and that the information could assist in forming opinions regarding future impacts of groundwater pumping and availability of groundwater in the study basins; (2) that the impacts of aquifer test pumping in Coyote Spring Valley was widespread throughout the Order 1169 aquifer test study basins and that the additional pumping in Coyote Spring Valley was a significant contributor to the decline in the springs that serve as the headwaters of the Muddy River and habitat for the Moapa dace; and, (3) that additional pumping from the then pending applications would result in significant regional water-level decline, and decreases in spring and Muddy River flows.[37]

WHEREAS, the basins that were included in the Order 1169 aquifer test were acknowledged to have a unique hydrologic connection and share the same supply of water.[38] The State Engineer further went on to find that the total annual supply to the basins could not be more than 50,000 acre-feet, that the perennial yield is much less than that because the Muddy River and the springs in the Warm Springs area utilize the same supply, and that the quantity and location of

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[34] NSE Ex. 246, *Great Basin Water Network Order 1169 Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[35] *Id.*
[36] NSE Ex. 248, *Center for Biological Diversity Order 1169 Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[37] NSE Exs. 14–21. The study basins include Coyote Spring Valley, Garnet Valley, Hidden Valley, Muddy River Springs Area, California Wash, and that portion of the Black Mountains Area lying within the LWRFS was defined as those portions of Sections 29, 30, 31, 32, and 33, T.18S., R.64E., M.D.B.&M.; Section 13 and those portions of Sections 1, 11, 12, and 14, T.19S., R.63E., M.D.B.&M.; Sections 5, 7, 8, 16, 17, and 18 and those portions of Sections 4, 6, 9, 10, and 15, T.19S., R.64E., M.D.B.&M.
[38] *See, e.g.*, NSE Ex. 14, p. 24.

any groundwater that could be developed without conflicting with senior rights on the Muddy River and the springs was uncertain.[39]

II. INTERIM ORDER 1303

WHEREAS, on January 11, 2019, the State Engineer issued Interim Order 1303 designating the Lower White River Flow System (LWRFS), a multi-basin area known to share a close hydrologic connection, as a joint administrative unit for purposes of administration of water rights. The Interim Order defined the LWRFS to consist of the Coyote Spring Valley, Muddy River Springs Area, California Wash, Hidden Valley, Garnet Valley, and the portion of the Black Mountains Area Hydrographic Basins as described in the Interim Order.[40] Pursuant to Interim Order 1303, all water rights within the LWRFS were to be administered based upon their respective dates of priority in relation to other rights within the regional groundwater unit.

WHEREAS Interim Order 1303 recognized the need for further analysis of the LWRFS because the pre-development discharge of 34,000 acre-feet of the Muddy River system plus the more than 38,000 acre-feet of existing groundwater appropriations within the LWRFS greatly exceed the total water budget, which was determined to be less than 50,000 acre-feet.[41] Stakeholders with interests in water right development within the LWRFS were invited to file a report with the Office of the State Engineer addressing four specific matters, generally summarized as: 1) The geographic boundary of the LWRFS, 2) aquifer recovery subsequent to the Order 1169 aquifer test, 3) the long-term annual quantity and location of groundwater that may be pumped from the LWRFS, and 4) the effect of movement of water rights between alluvial and carbonate wells within the LWRFS. Stakeholders were also invited to address any other matter believed to be relevant to the State Engineer's analysis.

WHEREAS, on May 13, 2019, the State Engineer amended Interim Order 1303 modifying the deadlines for the submission of reports and rebuttal reports by interested stakeholders. Reports

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[39] *Id.*
[40] *See* NSE Ex. 1, *Order 1303 and Addendum to Interim Order 1303*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[41] *Id.*, p. 7.

submitted by interested stakeholders were intended to aid in the fact-finding goals of the Division.[42]

WHEREAS, a public hearing was held in Carson City, Nevada between, September 23, 2019, and October 4, 2019. The purposes of this hearing were to afford stakeholder participants who submitted reports pursuant to the solicitation in Interim Order 1303 an opportunity to provide testimony on the scientific data analysis regarding the five topics within the Interim Order and to test the conclusions offered by other stakeholder participants.

WHEREAS, during the Interim Order 1303 hearing, testimony was provided by expert witnesses for the participants CSI, USFWS, NPS, MBOP, SNWA and LVVWD[43], MVWD, Lincoln County Water District and Vidler Water Company (LC-V), City of North Las Vegas (CNLV), CBD, Georgia Pacific Corporation (Georgia Pacific) and Republic, Nevada Cogeneration Associates Nos. 1 and 2 (collectively "NCA"), Muddy Valley Irrigation Company (MVIC), Western Elite Environmental, Inc. and Bedroc Limited, LLC (collectively "Bedroc"), and NV Energy.

WHEREAS, following the conclusion of the Interim Order 1303 hearing, stakeholder participants were permitted to submit written closing statements no later than December 3, 2019. The specific area evaluated, data analyzed, and methodology used varied by participant. Generally, participants relied on spring and streamflow discharge, groundwater level measurements, geologic and geophysical information, pumping data, climate data, and interpretations of aquifer hydraulics. Methodologies applied ranged from conceptual observations to statistical analysis to numerical and analytical models; the level of complexity and uncertainty differing for each.

WHEREAS, each of the participants' conclusions with respect to the topics set forth in Interim Order 1303 are summarized as follows:

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[42] *Id.*, pp. 16–17.

[43] SNWA is a regional water authority with seven water and wastewater agencies, one of which is LVVWD. References to SNWA include its member agency, LVVWD, which too retains water rights and interests within the LWRFS.

Center for Biological Diversity

The primary concern of the CBD was to ensure adequate habitat for the survival and recovery of the Moapa dace. CBD felt "that the Endangered Species Act is the primary limiting factor on the overall quantity of allowable pumping within the [LWRFS] and thus [...] geared [the] analysis toward that goal of protecting the dace." The Moapa dace primarily resides in the springs and pools of the Muddy River; protecting those areas of habitat are of the utmost importance to CBD's goal and have the collateral benefit of protecting the Muddy River decreed rights. Furthermore, CBD "believe[d] that withdrawals from the carbonate aquifer that cause a reduction in habitat quantity for the dace are a take under the Endangered Species Act and thus prohibited."[44]

CBD urges that Kane Springs Valley Hydrographic Basin (Kane Springs Valley) be included and managed as part of the LWRFS; otherwise CBD did not dispute the boundary as presented in Interim Order 1303. The inclusion of Kane Springs Valley was based on a shallow hydraulic gradient between Coyote Spring Valley and Kane Springs Valley; propagation of water level decline into Kane Springs Valley during the Order 1169 aquifer test; and a finding that the carbonate-rock aquifer extends into Kane Springs Valley. In CBD's opinion, adequate management of the LWRFS does not require that the administrative boundary include the White River Flow System north of Coyote Spring Valley.[45]

CBD identified a long-term, declining trend commencing in the 1990s in carbonate-rock aquifer water levels within the Muddy River Springs Area, which was accelerated by the Order 1169 aquifer test. Although CBD observed a partial, immediate recovery in the carbonate-rock aquifer water levels and spring flows, CBD finds that full recovery to pre-Order 1169 aquifer test conditions were never realized. Concurring with multiple other participants, CBD identified higher water levels in response to wet years despite the continued decline in the overall trend in the hydrographs. However, with regards to long-term drought, in their review of the Climate Division Data for southern Nevada, CBD saw no indication of a 20-year drought and disagreed with the conclusions and analysis presented by MBOP. Decreased spring flows in conjunction with

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[44] *See* CBD Ex. 3, *CBD Order 1303 Report by Dr. Tom Myers; 27 pp.*, Hearing on Interim Order 1303, official records of the Division of Water Resources, p. 1; Transcript 1504–1505.

[45] *See* CBD Ex. 3, pp. 1, 2, 12, 17, 19; *See* CBD Ex. 4, *CBD Order 1303 Rebuttal in Response to Stakeholder Reports by Dr. Tom Myers; 30 pp.*, Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 17–21; Tr. 1516; 1520–1521; 1526–1527; 1538–1539; CSI Ex. 2, p. 38; LC-V Ex. 2, pp. 11–14.

increased carbonate-rock aquifer pumping, led the CBD to infer the dependency of spring flows on carbonate-rock aquifer water supply.[46]

Again, with emphasis on protecting spring flows, and thus the Moapa dace habitat, CBD did not support any pumping of the carbonate-rock aquifer. CBD's desired outcome would be to avoid decreases in spring flow in the Warm Springs area attributed to continued carbonate-rock aquifer pumping. CBD postulated that surface water rights on the Muddy River will be protected by limiting carbonate-rock aquifer pumping.

Alternatively, CBD speculated that some alluvial aquifer pumping, within the Muddy River Springs Area and Coyote Spring Valley, could be sustained without significantly impacting the Warm Springs area. A preliminary estimate of 4,000 afa of sustainable alluvial aquifer pumping was proposed, based on the existing pumping within the Muddy River Springs Area and considering pumping in the 1990s near 5,000 afa when alluvial aquifer water levels were stable.[47]

Church of Jesus Christ of Latter-day Saints

The Church of Jesus Christ of Latter-day Saints (the Church) chose not to directly participate in the hearing but joined the evidentiary submissions of CNLV.[48] In response to the directives set forth in Interim Order 1303 and considering the testimony provided, the Church requests the continued administration and management of the LWRFS as identified in Interim Order 1303, and to allow for change applications throughout the LWRFS basins that move pumping of groundwater further away from the Muddy River Springs Area and from the alluvial aquifer to the carbonate-rock aquifer. The Church further requests that the testimony and recommendation of Dwight Smith, PE, PG on behalf of CNLV be considered and adopted.[49]

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[46] *See* CBD Ex. 3, pp. 1, 24; *See* CBD Ex. 4, p. 8–10, 21–25; Tr. 1508–1525; LC-V Ex. 2, p. 12, GP-REP Ex. 2, p. 3; CBD's expert suggest that the Palmer Drought Severity Index is more robust to evaluate for drought rather than using precipitation.
[47] *See* CBD Ex. 3, pp. 20–26; *See* CBD Ex. 4, p. 28–29; Tr. 1525-1528.
[48] *See* Letter from the Church, received August 15, 2019, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[49] *See Closing Brief of the Church of Jesus Christ of Latter-Day Saints* (Church closing), Hearing on Interim Order 1303, official records of the Division of Water Resources.

City of North Las Vegas

In CNLV's report submissions and closing statement it addressed four questions set forth in Interim Order 1303.[50] CNLV generally urges for more analysis and study of the LWRFS before administrative decisions are made due to lack of agreement on fundamental interpretations of the water availability and basin connectivity. It was agreed to by CNLV that most of Garnet Valley and a small portion of the Black Mountains area were within the larger carbonate-rock aquifer underlying the LWRFS basins, but that there is uncertainty in the boundaries of Garnet Valley with California Wash and Las Vegas Valley Hydrographic Basin (Las Vegas Valley).[51] With respect to the recovery of the groundwater aquifer following the Order 1169 aquifer test, CNLV concluded that the record and evidence demonstrates a long-term declining trend in the groundwater level since the late 1990s and that pumping responses can propagate relatively quickly through the carbonate-rock aquifer and drawdown is directly related to the pumping.[52]

While CNLV did consider the long-term quantity of groundwater that may be developed without adversely impacting discharge to the Warm Springs area, its opinions were limited to the sustainability of pumping within Garnet Valley.[53] CNLV concluded that the safe yield concept should be applied to the management of pumping within the LWRFS and that pumping between 1,500 afa to 2,000 afa does not appear to be causing regional drawdown within the LWRFS carbonate-rock aquifer and that pumping this quantity of water may be sustainable within the APEX Industrial Park area of Garnet Valley.[54] Finally, CNLV asserted that movement of alluvial water rights from the Muddy River Springs Area along the Muddy River would reduce the capture

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[50] *See* CNLV Ex. 5, *City of North Las Vegas Utilities Department: Interim Order 1303 Report Submittal from the City of North Las Vegas – July 2, 2019*, Hearing on Interim Order 1303, official records of the Division of Water Resources. *See* CNLV Ex. 6, *Rebuttal Document submitted on behalf of the City of North Las Vegas, to Interim Order 1303 Report Submittals of July 3, 2019 – Prepared by Interflow Hydrology – August 2019*, Hearing on Interim Order 1303, official records of the Division of Water Resources. *See* Tr. 1416–66, and *City of North Las Vegas' Closing Statement* (CNLV Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources.

[51] *See* CNLV Ex. 5, pp. 2–3. *See also* CNLV Ex. 3, *Garnet Valley Groundwater Pumping Review for APEX Industrial Complex, City of North Las Vegas, Clark County, Nevada- Prepared by Interflow Hydrology, Inc.- July 2019*, pp. 7–8, 38.

[52] *Id.*, p. 3, Technical Memo, pp. 14–16.

[53] *Id.*, pp. 3–4.

[54] *Id.*, p. 4., Technical Memo, p. 45.

of Muddy River flow, move more senior water rights into Garnet Valley to support a secure water supply for the municipal uses within the APEX area, and would support overall objectives relating to the management of the LWRFS.[55] CNLV advocated that transferring water rights between alluvial aquifer and carbonate-rock aquifer should be considered on a case-by-case basis with consideration given as to location, duration, and magnitude of pumping.[56]

CNLV disagreed with certain conclusions of the NPS relating to the inclusion of the entirety of the Black Mountains Area within the LWRFS boundaries and had concerns relating to the reliability of the Tetra Tech model for future water resource management within the LWRFS.[57] CNLV further disagreed with stakeholder conclusions that movement of groundwater withdrawals from the alluvial aquifer along the Muddy River to the carbonate-rock aquifer in Garnet Valley will not alleviate the conflicts to Muddy River flow, rather concluding that there may be benefits for overall management of the LWRFS.[58] Further, CNLV disagreed with certain findings regarding water flow through the carbonate-rock aquifer, finding that it is likely that some groundwater can be pumped within Garnet Valley without capturing groundwater that would otherwise discharge to the Warm Springs area and the Muddy River.[59] Finally, in its rebuttal the CNLV joined other stakeholders in supporting the conclusion that there is a quantity of water that may be sustainably developed within the LWRFS and that use of carbonate-rock aquifer groundwater in Garnet Valley is critical to the short-term and long-term management and development of the APEX Industrial Complex.[60]

Coyote Springs Investments

In presenting its opinions and conclusions CSI's focus was primarily on climate as the foundation for groundwater elevation declines after the Order 1169 aquifer test, and additional geophysical research that provided evidence of a structural block isolating the west side of Coyote Spring Valley.

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[55] *Id.*, Technical Memo, p. 48–49.
[56] *Id.*
[57] *See* CNLV Ex. 6, pp. 1–2.
[58] *Id.*, p. 2.
[59] *Id.*, pp. 2–3.
[60] *Id.*, p. 3.

CSI did a statistical analysis of climate data, and determined from the results that 1998, 2004, 2005, and 2010 were wetter than normal, with a drying trend from 2006 to 2017.[61] The Order 1169 aquifer test took place toward the end of an extended dry period when all water resources throughout the LWRFS were negatively affected.[62] Additionally, annual cyclical patterns of groundwater pumping should not be confused with long-term climate variability.[63]

CSI challenged the basic assumption that the LWRFS, as proposed in Interim Order 1303, is a homogenous unit.[64] CSI could not duplicate the results of the SeriesSEE, and its own Theis solution modeling concluded that a greater impact occurred from pumping at a well closer in proximity to Pederson Spring than pumping from a well further away, or the combined effect of both wells.[65] CSI also acknowledged that due to the fragmented nature of the LWRFS, the Theis solution is of limited utility.[66]

CSI presented geologic and geophysical information in support of the idea that the LWRFS administrative unit is a geophysically and hydrogeologically heterogenous area, characterized by multiple flow paths defined by faults and structural elements that control the occurrence and movement of regional and local groundwater along the western side of Coyote Spring Valley, the eastern side of Coyote Spring Valley, and from Lower Meadow Valley Wash into the LWRFS.[67] CSI stated that the LWRFS does not include Kane Springs Valley.[68]

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[61] CSI Ex. 1, *CSI July 3, 2019 Order 1303 Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 4–5; Tr. 53.
[62] CSI Ex. 1, p. 5.
[63] CSI Ex. 2, *CSI August 16, 2019 Rebuttal Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 2, 7.
[64] CSI Ex. 1, p. 7.
[65] CSI Ex. 1, p. 7; Tr. 131–132.
[66] Tr. 154.
[67] CSI Ex. 2, p. 2; *CSI Closing Statement* (CSI Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources; CSI recommended including Lower Meadow Valley Wash in its Rebuttal report. See CSI Ex. 2, p. 12; Mr. Herrema said Lower Moapa Valley, but the report said Lower Meadow Valley 10:10.
[68] CSI Ex. 1, p. 15; the outflow from Kane Springs Valley is included in the water budget, but due to isolating geologic features, groundwater elevations in Kane Springs Valley are not impacted by pumping in the LWRFS, Tr. 135:7–137:3, 160:2–12.

CSI engaged a geophysicist to conduct a CSAMT survey at multiple points in the valley.[69] CSI's CSAMT study showed evidence of a prominent carbonate block bounded on either side by normal faults.[70] CIS asserts that the carbonate block isolates recharge from the zone west of the block, such that it eliminates or limits contribution of local recharge to the Warm Springs area.[71] Faulting has created a preferred path for groundwater flow "from the east side Coyote Spring Valley to the Muddy River Springs Area".[72]

CSI relied on a water budget as the best method to determine available water in the LWRFS, accounting for recharge and subsurface flow as well as climatic variations.[73] Comparing several models of recharge, CSI estimated recharge at 5,280 afy from the Sheep Range to the western side of Coyote Spring Valley.[74] CSI stated that 30,630 afa can be pumped from the LWRFS, but there would be impacts from pumping the water, and that the Coyote Spring Valley can sustain 5,280 afa of pumping from the western side without impact to the Warm Springs area or the Muddy River.[75]

As asserted by CSI, groundwater pumping from the carbonate-rock aquifer in the Muddy River Springs Area affects flow in the carbonate-rock aquifer to the alluvial aquifer, which then affects flow from the alluvial aquifer to the Muddy River.[76] CSI argues that effects are dependent on well location, geologic formations, hydraulic gradients, and elevation.[77] Transfers between carbonate and alluvial pumping should be made on a case-by-case basis, analyzing place of use, points of diversion, and quantity of groundwater.[78] Movement of water rights between alluvial wells and carbonate-rock aquifer wells will only serve to shift the timing and location of impacts and not the amount of the impact.[79]

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[69] CSI Ex. 1, p. 25
[70] CSI Ex. 1, p. 25.
[71] CSI Ex. 1, p. 29; evidence of impermeability, Tr. 181.
[72] CSI Ex. 1, p. 29.
[73] CSI Closing.
[74] CSI Ex. 1, pp. 31–40.
[75] Tr. 221–223; CSI Closing, pp. 8–9.
[76] CSI Closing.
[77] CSI Closing, p. 19.
[78] CSI Closing.
[79] CSI Ex. 1, p. 58.

As a consequence of the heterogenous nature of the LWRFS, CSI recommended sustainable management of the LWRFS through the creation of "Management Areas" that recognize flow paths and their relative contributions to spring flow, surface flow, evapotranspiration, and sub-surface outflow.[80] For example, though pumping in the Muddy River Springs Area near the Warm Springs area would have a direct impact on available surface water resources, structural blocks and faults isolate the effect of groundwater pumping in other areas of the LWRFS.[81] Thus CSI does not recommend a blanket ban on carbonate-rock aquifer pumping, or a decrease in carbonate-rock aquifer pumping in exchange for alluvial aquifer pumping.

Georgia Pacific and Republic

Dry Lake Water, LLC, Georgia Pacific and Republic submitted initial and rebuttal responses to Interim Order 1303 and offered testimony during the hearing.[82] In their response, Georgia Pacific and Republic acknowledged impacts to groundwater elevations throughout the LWRFS, including wells in the Black Mountains Area and Garnet Valley, which does demonstrate a degree of hydraulic connectivity throughout the carbonate-rock aquifer. However, Georgia Pacific and Republic called for collection of more scientific evidence to further understand the LWRFS and its boundaries. Further, it was their opinion that climate, seasonal fluxes and pumping within Garnet Valley and the Black Mountains Area resulted in the groundwater declines observed during the Order 1169 aquifer test.[83] Ultimately, Georgia Pacific and Republic do not believe sufficient information exists to draw distinct conclusions as to the cause of the groundwater declines during the Order 1169 aquifer test and whether carbonate-rock aquifer pumping within

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[80] CSI Closing.
[81] CSI Ex. 2, p. 17.
[82] The initial response was submitted on behalf of Dry Lake Water, LLC, Georgia Pacific, and Republic. *See* GP-REP Ex. 1, *Broadbent July 2, 2019 Initial Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources. The rebuttal response was submitted on behalf of Dry Lake Water, LLC, Georgia Pacific Gypsum LLC, and Republic. *See* GP-REP Ex. 2, *Broadbent August 16, 2019 Rebuttal Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources. However, the expert only appeared at the Hearing on Interim Order 1303 on behalf of Georgia Pacific and Republic. *See* Tr. 1588-91.
[83] *See* GP-REP Ex. 01, GP-REP Ex. 02, and *Closing Argument of Georgia Pacific Corporation and Republic Environmental Technologies, Inc.* (Closing GP-REP), Hearing on Interim Order 1303, official records of the Division of Water Resources.

the Garnet Valley and the Black Mountains Area has a measurable impact to spring flow in the Warm Springs area.[84]

Great Basin Water Network

GBWN elected to pose procedural suggestions relating to public involvement, availability of documents and data, transparency, and decision making, and did not submit a report with an independent analysis addressing the questions in Interim Order 1303.[85] GBWN advocates for sustainable management of the entirety of the White River Flow System as one unit based on the interconnected nature of all of the hydrologically connected basins, although no analysis to support which areas this would include was provided. GBWN relies on conclusory statements to establish the interconnected nature of the system as support for its position. Later, GBWN chose not to participate in the hearing nor submit a rebuttal report, closing arguments, or public comment.

Lincoln County Water District and Vidler Water Company

LC-V's participation in the LWRFS hearing was driven by their existing and pending groundwater rights in Kane Springs Valley, and an interest in excluding Kane Springs Valley from the LWRFS management area.[86] They disputed that Kane Springs Valley should be included within the LWRFS boundary based on their assertion of: prior decisions of the State Engineer that acknowledged the separate nature of the basin from the rest of the LWRFS, groundwater elevation comparisons, precipitation and recharge data, groundwater chemistry, and geophysical study results. In general, Kane Springs Valley should be managed based on its perennial yield, recognizing that there is groundwater flow to the LWRFS as there are from other basins into the LWRFS, but where they are excluded from the proposed management area.[87]

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[84] *See* Closing GP-REP.

[85] *GBWN Report on Order 1303*, (GBWN Report), Hearing on Interim Order 1303, official records of the Division of Water Resources.

[86] LC-V Ex. 1, *Lower White River Flow System Interim Order #1303 Report Focused on the Northern Boundary of the Proposed Administrative Unit, prepared by Lincoln County Water District and Vidler Water Company in Association with Zonge International Inc., dated July 3, 2019*, Hearing on Interim Order 1303, official records of the Division of Water Resources, p. 2-1.

[87] LC-V Ex. 2, *Rebuttal Submittal to Reports Submitted in Response to Interim Order #1303, dated August 16, 2019 and Attachments A, B, C, D and E containing the reports or technical memorandums of Greg Bushner, Peter Mock, Thomas Butler, Todd Umstot and Norman Carlson.*, Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 7, 14–15.

Various rulings of the State Engineer have previously addressed whether appropriation of groundwater from Kane Springs Valley would affect the Muddy River Springs Area.[88] LC-V states that these findings have not been challenged by any of the Order 1169 participants.[89] However, to the extent that SNWA relied on multiple linear regression models to establish groundwater flow from Kane Springs Valley to the LWRFS, LC-V do not agree.[90]

LC-V identified a distinct "break," or local increase, in water levels in the regional hydraulic gradient between wells drilled in the LWRFS versus wells drilled in Kane Springs Valley and northern Coyote Spring Valley.[91] It attributed the break to geologic structures located throughout the carbonate-rock aquifer. Although wells within the LWRFS exhibit very consistent groundwater levels, indicative of high transmissivity values across the area, the gradient between well KPW-1 and down-basin wells is much steeper, implying an impediment to groundwater flow near the mouth of Kane Springs Valley.[92]

In a 2006 hearing for protested water rights applications, LC-V presented an analysis of the regional geochemistry data including stable isotopes, temperature, and carbon-14 data.[93] That analysis found that the groundwater pumped from Kane Springs Valley could not be identified in the source water for the Big Muddy Spring, nor other springs farther south and outside the boundaries of the LWRFS.[94] LC-V concluded that groundwater pumped from production well KPW-1 is on a different groundwater flow path from the springs, consistent with the differences in hydraulic gradients, groundwater levels, and geophysical data.[95] CSVM-4, a well located in Coyote Spring Valley, and KPW-1, in Kane Springs Valley, have similar temperatures compared to the other wells in the basin, and a lower percentage difference on other markers tracked throughout groundwater in the basin.[96] LC-V argues that the water from these wells is chemically

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[88] LC-V Ex. 1, pp. 2-2 through 2-3, citing State Engineer's Rulings 5712, 6254, 5712.
[89] LC-V Ex. 1, p. 2-3.
[90] Testimony generally at Tr. 1311–1318. "... simply having correlation is not proof of causation. Causation is neither proved nor evaluated in a regression analysis." Tr. 1303.
[91] LC-V Ex. 1, p. 3-1.
[92] LC-V Ex. 1, pp. 1-1, 3-1 through 3-4. LC-V went on to conclude that local groundwater recharge occurs in Kane Springs Valley that does not flow to the LWRFS, and therefore there is available unappropriated water in the basin. LC-V Ex. 1, p. 3-5.
[93] LC-V Ex. 1, Appendix C, pp. 111–153.
[94] *Id.*, pp. 124–125.
[95] "Gradient alone does not mean flow." Thomas Butler, witness on behalf of LC-V, Tr. 1281.
[96] Tr. 1281–1282; LC-V Ex. 1, pp. 3-7 through 3-11.

unique and does not appear in any other wells in the LWRFS.[97] LC-V concludes carbon isotope data also confirmed that the water from Kane Springs Valley does not appear in the Muddy River Springs area.[98]

LC-V engaged a geophysical company to perform a CSAMT survey across the boundary line between Kane Springs Valley and Coyote Spring Valley, and identified significant geologic structures in southern Kane Springs Valley and northern Coyote Spring Valley.[99] Several transect lines were conducted perpendicular to the axis of the Kane Springs Valley, and one was also conducted along the axis of the southern part of the basin.[100] Additional transects were run in Coyote Spring Valley.[101] The results of the geophysical data validated concealed faulting indicated on existing maps, and was ground-truthed with observations in the field.[102] Results indicated a previously unmapped fault at the mouth of Kane Springs Valley, which LC-V named the Northern Boundary LWRFS fault, with a potentially 2,500-foot offset of materials with different resistivities.[103] LC-V argues that the extensive faulting that occurs in southern Kane Springs Valley and northern Coyote Spring Valley form the basis for the exclusion of Kane Springs Valley from the LWRFS.[104]

LC-V gave no opinion on the long-term annual quantity of groundwater that could be pumped from the LWRFS.[105] LC-V attributes all reduction in flows of the Muddy River and its associated springs to carbonate-rock aquifer pumping within the Muddy River Springs Area, and finds no discernable effect from carbonate-rock aquifer pumping occurring in Coyote Springs

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[97] Tr. 1284.
[98] Tr. 1286.
[99] LC-V Ex. 1, pp. 1-1, 4-1 through 4-10.
[100] LC-V Ex. 1, p. 4-3.
[101] LC-V Ex. 1, p. 4-3.
[102] LC-V Ex. 1, p. 4-8, Tr. 1322.
[103] Tr. 1271–1272; LC-V Ex. 1, p. 4-9.
[104] LC-V Ex. 1, p. 7-1 through 7-2; Tr. 1408. Questions from the National Park Service and the State Engineer inquired whether the areas of high resistivity in the CSAMT necessarily implied low transmissivity, low permeability of the rock. LC-V conceded that the resistivity information alone does not provide data about the hydraulic properties of either side of the resistive area, but when considered with all available information, LC-V concluded that the fault is likely an impediment to groundwater flow. Tr. 1327–1328, 1363–1364.
[105] LC-V Ex. 1, p. 5-2.

Valley.[106] As a result, LC-V finds that the efforts to protect the Warm Springs area must focus on groundwater pumping within the Muddy River Springs Area itself.[107]

Moapa Band of Paiutes

The MBOP participated in the administrative hearing due to their interest in the outcome of the proceedings and how it may affect their pending water right applications within California Wash. A regional approach, spanning a large aerial expanse, was taken by MBOP; the analysis and modeling efforts extended into central Nevada and Utah. MBOP stands apart from other participants with their interpretation of the data.[108] MBOP opposed management of the LWRFS as one basin and argues the scientific consensus is lacking amongst participants.[109] Regarding the interpretation of other participants, MBOP disagreed with the methodology and application of the 2013 USFWS SeriesSEE analysis and SNWA's multiple linear regression and requests repudiation of both.[110]

While not agreeing with the proposed boundaries of the LWRFS, MBOP did not provide a clear suggestion for which basins or portions therein should be included or excluded. MBOP suggested that pumping in California Wash has little to no impact on the Warm Springs area.[111] MBOP further suggested there are two capture zones, separated by a hydrodynamic and hydrochemical divide, which transects the Moapa River Indian Reservation area and results in south-flowing groundwater into the Las Vegas Valley through the LWRFS, bypassing the Muddy

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[106] LC-V Ex. 1, p. 5-3.
[107] LC-V Ex. 1, p. 5-3.
[108] Tr. 772– 773; 839.
[109] *See Closing Statement by the Moapa Band of Paiute Indians for Order 1303 Hearing* (MBOP Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 1–2, 6.
[110] *Id.*, pp. 7–12, 15–16; *See* MBOP Ex. 3, *Johnson, C., and Mifflin, M. Rebuttal Report of the Moapa Band of Paiutes in Response to Stakeholder Technical Reports Filed under Order #1303: unpublished report and appendices, August 16, 2019. 27 p.*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[111] *See* MBOP Ex. 2, *Johnson, C., and Mifflin, M. Water Level Decline in the LWRFS: Managing for Sustainable Groundwater Development. Initial Report of the Moapa Band of Paiutes in Response to Order #1303: unpublished report and appendices, July 3, 2019. 84 p.*, Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 2, 4, 14, 35; Tr. 819.

River Springs Area.[112] This hydrodynamic divide theory was not shared by SNWA, CBD, CSI, and NPS.[113]

Several participants agree that climate impacts were observed in the hydrographs, e.g., periods of wet and dry; however, MBOP interpreted the existing data to show that climate-driven decline, specifically drought, as the primary response observed in the long-term declining groundwater levels.[114] Thus, MBOP concluded that no reduction in pumping will restore high-elevation spring flows.[115] MBOP did not agree with other participants that decreasing groundwater levels and spring flows were attributed to increased carbonate-rock aquifer pumping beginning in the early 1990s.[116]

A quantity available for sustainable pumping was not proposed, but MBOP presumed more water is available in California Wash than previously thought.[117] A flux of approximately 40,000 afy of south-flowing groundwater into the Las Vegas Valley, bypassing the Muddy River Springs Area, was postulated in the initial report as possible with the hydrodynamic divide; however, during the hearing this quantity was given a range of plus or minus an order of magnitude based on assumptions for calculations.[118]

MBOP acknowledged that the Muddy River is connected to the alluvial aquifer and thus pumping from the alluvial and carbonate-rock aquifers in the Muddy River Springs Area impact the Muddy River flows.[119] Therefore, to mitigate impacts to the Muddy River, MBOP proposed that alluvial aquifer pumping, specifically between Arrow Canyon and White Narrows, can be moved to the carbonate-rock aquifer in basins to the south, such as California Wash, with minimal anticipated impacts to the Muddy River flows, rather than moving alluvial aquifer pumping from the Muddy River Springs Area to the carbonate-rock aquifer in connected areas, where impacts

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[112] *See* MBOP Ex. 2, pp. 2, 4, 12, 14, 20, 35, 55; Tr. 812; 845.
[113] SNWA Ex. 9, pp. 12–13; CBD Ex. 4, p. 15; CSI Ex. 2, p. 23; NPS Ex. 3, *National Park Service's Response to July 2019 Interim Order 1303 Reports, Waddell, August 16, 2019*, Hearing on Interim Order 1303, official records of the Division of Water Resources, p. 4.
[114] *See* MBOP Ex. 2, pp. 3, 26–32, 35; Tr. 764–771; 805.
[115] *See* MBOP Ex. 2, pp. 3, 35; Tr. 821–826.
[116] *See* MBOP Ex. 2, p. 29; Tr. 775, 838–840; 848.
[117] *See* MBOP Ex. 2, pp. 2, 20, 35.
[118] *See* MBOP Ex. 2, pp. 6, 19, 35; Tr. 850–851.
[119] *See* MBOP Ex. 2, pp. 23–24, 35; Tr. 836.

proportional to pumping may be expected.[120] Thus, MBOP proposed favoring temporary over permanent uses and transferring of rights between the carbonate-rock and alluvial aquifers on a case-by-case basis.[121]

Moapa Valley Water District

MVWD was created by the Nevada legislature in 1983, pursuant to NRS Chapter 477, to provide water service "vital to the economy and well-being of Moapa Valley."[122] MVWD provides municipal water service to approximately 8,500 people with 3,250 metered service connections, including service to the MBOP.[123]

MVWD supported the inclusion of Kane Springs Valley within the LWRFS boundary.[124] Data indicated a direct connection between Kane Springs Valley and Coyote Spring Valley. This data included observations that the water level in KMW-1/KSM-1 decreased 0.5 foot over the duration of the Order 1169 aquifer test.[125] State Engineer's rulings have concluded that geochemical evidence and groundwater gradient data indicate that groundwater flows from the Kane Springs Valley into Coyote Spring Valley, and MVWD supports LVVWD's 2001 calculation of that quantity of water at approximately 6,000 afy.[126] MVWD performed its own calculations of the groundwater gradients from Kane Springs Valley at KMW-1 to EH-4, and concluded that the gradient was "an uninterrupted, continuous, exceptionally flat gradient," unlike gradients commonly seen in the western U.S., especially in highly fractured areas.[127] MVWD also

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[120] *See* MBOP Ex. 2, pp. 23, 35.
[121] *See* MBOP Closing.
[122] Tr. 1172.
[123] MVWD Ex. 3, *District July 1, 2019 Report in response to Interim Order 1303*, p.5, Hearing on Interim Order 1303, official records of the Division of Water Resources; MVWD Ex. 4, *District August 16, 2019 Rebuttal Report*, p, 1, Hearing on Interim Order 1303, official records of the Division of Water Resources. MVWD has 3,147 afa of water rights in Arrow Canyon. Tr. 1169–1170.
[124] MVWD Ex. 3, p. 1; Tr. 1175.
[125] MVWD Ex. 3, p. 1; MVWD Ex. 4, p. 2.
[126] MVWD Ex. 3, pp. 1–2, referring to State Engineer's Ruling 5712 (*see*, NSE Ex. 12, *Ruling 5712*, Hearing on Interim Order 1303, official records of the Division of Water Resources) and MVWD Ex. 8, *Las Vegas Valley Water District, Water Resources and Ground-Water Modeling in the White River and Meadow Valley Flow Systems, Clark, Lincoln, Nye, and White Pine Counties, Nevada (2001)*, Hearing on Interim Order 1303, official records of the Division of Water Resources, p. 6-3.
[127] Tr. 1177–1178.

introduced evidence of a stipulation between LC-V and the USFWS that bases a reduction in pumping in Kane Springs Valley on a lowering of spring discharges in the Warm Springs area, and introduced a letter from SNWA to the State Engineer, as additional support that the participants to the Interim Order 1303 hearing have previously recognized Kane Springs Valley is part of the LWRFS.[128]

MVWD disagreed that a hydrologic barrier exists between Coyote Springs Valley and Kane Springs Valley.[129] Relying on a 2006 report prepared by another consultant, MVWD said the evidence indicated that the fault at the mouth of Kane Springs Valley was not an impediment to flow, and that there was no evidence of having encountered hydraulic barriers to groundwater flow during a seven-day aquifer test.[130] Additionally, the "highly transmissive fault zone" is continuous across the basin boundary between Kane Springs Valley and Coyote Spring Valley.[131] MVWD found further support for its position from evidence that KMW-1 showed drawdown during both the seven-day aquifer test on KPW-1, as well as from the Order 1169 aquifer test pumping that occurred from MX-5.[132] MVWD considered the water level data collected before, during and after the Order 1169 aquifer test, and Warm Springs area spring discharge to support its finding that the fault is not interrupting groundwater flow.[133] MVWD found it "questionable" that the first suggestion of a fault that impedes southward groundwater flow would be prepared by LC-V for this hearing.[134]

Although water levels and spring discharge did not recover to the levels measured before the Order 1169 aquifer test, MVWD believed that the LWRFS is at or near steady-state conditions

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[128] Tr. 1195–1197.
[129] Tr. 1176–1177.
[130] Tr. 1181–1182. MVWD also quoted from the report that "the fracturing was so extensive that the fractured aquifer system really behaved as an equivalent porous media." *Id.* MVWD later agreed that this would behave like a sandy aquifer. Tr. 1224.
[131] Tr. 1185.
[132] Tr. 1250.
[133] Tr. 1219.
[134] *Post-Hearing Brief of Moapa Valley Water District* (MVWD Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources, p. 5.

regarding aquifer recovery.[135] MVWD viewed this as being consistent with the State Engineer's statements in Interim Order 1303.[136]

Finally, MVWD did not provide a specific quantity of available water but did acknowledge that the "actual safe pumpage" is less than current pumping rates, and recognized a direct relationship between pumping from the carbonate-rock aquifer, spring and Muddy River flows, and alluvial aquifer pumping.[137] The timing and magnitude of carbonate-rock aquifer pumping effects on spring discharge is dependent on the volume of water pumped and the proximity of a pumping center to the springs; however, all cumulative carbonate-rock aquifer pumping in the seven interconnected basins will eventually cause depletions on the Warm Springs area springs.[138] Further, if carbonate rights are transferred to the alluvial aquifer there will be depletions to Muddy River flows and impacts to senior Muddy River water right owners.[139]

MVWD raised additional matters that they believed relevant to the analysis under Interim Order 1303. First, they stressed the importance of municipal water rights, and the necessity for a reasonably certain supply of water for future permanent uses without jeopardizing the economies of the communities that depend on the water supply, and to protect the health and safety of those who rely on the water supply.[140] To that end, MVWD requested that the State Engineer consider designating municipal use as the most protected and highest use of water, and to give MVWD the perpetual right to divert 6,791 afa of permitted and certificated rights from its carbonate-rock aquifer wells.[141] Second, MVWD stated that it had already satisfied its obligation to protect Moapa dace habitat and senior water rights when it dedicated 1cfs/724 afa, or approximately 25% of the MVWD current diversions, from its most senior water right, to the enhancement of the Moapa dace habitat.[142]

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[135] Tr. 1198, MVWD Ex. 3, p. 4.
[136] Tr. 1199.
[137] Tr. 1199–1200; MVWD Closing, pp. 9–10.
[138] MVWD Ex. 3, p. 5.
[139] *Id.*
[140] MVWD Ex. 3, p. 5.
[141] MVWD Ex. 3, p. 6; Tr. 1203–1204; 6,791 afa constitutes an increase in the carbonate-rock aquifer pumping for MVWD. Tr. 1228.
[142] MVWD Ex. 3, pp. 6–7; Tr. 1202–1203.

Muddy Valley Irrigation Company

The MVIC is a non-profit Nevada corporation with the senior decreed water rights to the Muddy River, who provided testimony that SNWA is a majority shareholder while other participants such as CSI, LC-V, and MVWD are minority shareholders of the decreed rights.[143] MVIC concurred with SNWA's conclusions regarding aquifer recovery, long-term quantity of groundwater, and movement of water between the alluvial and the carbonate-rock aquifers.[144] Specifically, that any groundwater pumping, from both alluvial or carbonate-rock aquifers, within the Muddy River Springs Area impacts Muddy River flows, thus violating the Muddy River Decree.[145] MVIC did not dispute the geographic boundaries as identified in Interim Order 1303.[146] MVIC argued that the Muddy River and all of its sources are fully appropriated and emphasized the decreed seniority to groundwater rights, and further asserts that these surface water rights are protected by the Muddy River Decree and the prior appropriation doctrine.[147]

United States Department of the Interior, National Park Service

NPS submitted both an initial and rebuttal report in response to the Interim Order 1303 solicitation and presented testimony during the hearing.[148] Based upon NPS's evaluation of the evidence relating to the Order 1169 aquifer test, the use of an updated numerical groundwater flow model previously developed to predict conditions within the LWRFS, data compiled since the conclusion of the Order 1169 aquifer test, and review of other available data, NPS came to multiple conclusions relating to the delineation and management of the LWRFS. NPS advocates for the

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[143] Tr. 1693–1696, 1705.
[144] MVIC Ex. 1, *MVIC Rebuttal Report dated August 15, 2019*, Hearing on Interim Order 1303, official records of the Division of Water Resources. MVIC identified sections from the SNWA report, but the references do not correspond with sections in SNWA's report. The State Engineer assumes that these section numbers correspond to page numbers of the SNWA report; *See also*, SNWA Ex. 7, *Burns, A., Drici, W., Collins, C., and Watrus, J., 2019, Assessment of Lower White River Flow System water resource conditions and aquifer response, Presentation to the Office of the Nevada State Engineer: Southern Nevada Water Authority, Las Vegas, Nevada*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[145] MVIC Ex. 1, p. 5; Tr. 1698.
[146] *See* MVIC Ex. 1, p. 3; Tr. 1697–1968.
[147] *Muddy Valley Irrigation Company Post Hearing Closing Statement* (MVIC Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources; Tr. 1967, 1700–1708. *See also*, NSE Ex. 333, *Muddy River Decree*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[148] *See* NPS Ex. 2, *Prediction of the Effects of Changing the Spatial Distribution of Pumping in the Lower White River Flow System, Waddell, July 3, 2019*; Tr. 494–597.

inclusion of the entirety of the Black Mountains Area within the geographic boundary of the LWRFS based upon its review of geologic conditions that facilitate flow from the southern portion of the LWRFS through the Muddy Mountains thrust sheet and discharging in Rogers Spring and Blue Point Spring.[149] Further supporting this opinion, NPS cites to spring chemistry and isotopic composition of the water discharging from Rogers Spring and Blue Point Spring and the hydraulic head conditions that NPS believes supports the flow of groundwater beneath the Muddy Mountains from the carbonate-rock aquifer to those springs.[150] NPS acknowledge that there is a weak hydraulic connection between Rogers Spring and Blue Point Spring to the LWRFS based upon the geologic conditions within the Muddy Mountains, but argues that the entirety of the Black Mountains Area should be included to allow for management of the regional carbonate-aquifer to protect against diminished discharge to those springs.[151]

In addition to advocating for the inclusion of the entirety of the Black Mountains Area, the NPS provided evidence and analysis to support its conclusion that Kane Springs Valley too should be included within the geographic boundary of the LWRFS.[152] Based upon a review of the hydrologic data, geology of the Kane Springs Valley and basin boundaries, Coyote Spring Valley, and data from the Order 1169 aquifer test, NPS concludes that there is a clearly established hydrological connection between Kane Springs Valley and the other LWRFS basins, including discharge to the Warm Springs area.[153] While NPS advocates for the inclusion of the entire Black Mountains Area and Kane Springs Valley, it did not find any evidence to support the inclusion of the Las Vegas Valley within the LWRFS based upon a similar review of the geology and hydrological data.[154]

In interpreting data since the conclusion of the Order 1169 aquifer test, NPS reviewed the available data, concluding that the decades long decline of groundwater levels is not attributable to climate, but rather that the groundwater pumping within the LWRFS is the contributing

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[149] *See* NPS Ex. 2, p. 22. *See also*, Tr. 569–70; NPS, *Closing Statements Interim Order 1303 Hearing Testimony* (NPS Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources, p. 2.
[150] NPS Ex. 2, p. 22; NPS Closing, pp. 2–4.
[151] *Id.*
[152] NPS Ex. 2, p. 22; NPS Ex. 3, pp. 5–11; Tr. 550–551; NPS Closing, pp. 4–5.
[153] NPS Ex. 2, p. 22; NPS Ex. 3, pp. 5–11; Tr. 550–551; NPS Closing, pp. 5–6.
[154] NPS Ex. 2, p. 22; Tr. 552–554.

factor.[155] NPS opined that if recent pumping withdrawals continued, the current declining trend would be accelerated, adversely impacting spring discharge in the Warm Springs area and Muddy River flow.[156] Further, NPS's review of the data lead to its conclusion that it will take many years, if not decades for the LWRFS carbonate-rock aquifer to reach equilibrium, particularly at the current groundwater pumping withdrawals and even longer if pumping withdrawals occurred at Order 1169 aquifer test levels.[157] However, NPS did not provide an opinion as what rate of groundwater withdrawals would be sustainable within the LWRFS.

Finally, NPS concluded that the movement of groundwater withdrawals from the alluvial aquifer within the Muddy River Springs Area to the carbonate-rock aquifer within the LWRFS would ultimately have little impact on capture of Muddy River flow. Specifically, NPS found that while there may be near-term benefits to the Warm Springs area and Muddy River flow, those benefits would eventually disappear, as the impact would only be delayed and not eliminated.[158]

Nevada Cogeneration Associates

NCA submitted a Rebuttal Report Pertaining to Interim Order 1303 and provided testimony at the Interim Order 1303 hearing.[159] NCA objected to the inclusion of certain non-profit organizations on the basis that those organizations were not stakeholders and did not have an interest to protect as the non-governmental organizations did not have water rights within the LWRFS basins effected by the proceedings.[160]

With respect to the geographic boundary of the LWRFS, in its Rebuttal Report, NCA is of the opinion that the northwestern portion of the Black Mountains Area, as identified by the State Engineer, should be within the LWRFS basins, but expressed its disagreement with other opinions advocating for the inclusion of the entire Black Mountains Area based upon NCA's analysis of the geology and groundwater elevations.[161] During the Interim Order 1303 hearing and in its Post-Hearing Brief, NCA's opinion shifted to advocate for the boundary of the LWRFS to be adjusted

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[155] NPS Ex. 2, pp. 7, 22–23. *See also* NPS Closing, pp. 5–6.
[156] *Id.*
[157] *Id.*
[158] NPS Ex. 2, p. 23. *See also* NPS Closing, p. 6, and Tr. 593–594.
[159] NCA Ex. 1, *NCA Rebuttal Report Pertaining to Interim Order 1303 August 16, 2019,* Hearing on Interim Order 1303, official records of the Division of Water Resources; Tr. 1602–50.
[160] NCA Ex. 1, pp. 1, 23.
[161] *Id.*, pp. 2, 23.

to exclude its production wells in the Black Mountains Area; however, NCA did not alter its opinion regarding the remaining portion of the Black Mountains Area staying within the LWRFS.[162]

NCA further expressed that the Lower Meadow Valley Wash should not be included in the LWRFS boundaries based upon the fact that observed groundwater levels do not indicate a hydrologic response to carbonate-rock aquifer pumping and that insufficient data supports a finding of continuity between water level trends to support its inclusion in the LWRFS.[163] However, NCA advocated for the inclusion of the Kane Springs Valley within the LWRFS based upon its opinion that the groundwater data demonstrated hydrologic connectivity between Coyote Spring Valley and Kane Springs Valley, acknowledging that the data is slightly attenuated resulting from the Kane Springs fault.[164] Ultimately, NCA concluded that Kane Springs Valley is tributary to the Coyote Spring Valley and the other LWRFS basins, which justify its inclusion within the boundary of the LWRFS.[165]

Similarly, based upon the groundwater data from the northern portion of Coyote Spring Valley demonstrating similar water level responses as other wells throughout the LWRFS and pumping data demonstrating high hydrologic connectivity across all the LWRFS basins, NCA concluded that there was no basis to exclude the northern portion of Coyote Spring Valley.[166] Finally, NCA rejected a suggestion that the entirety of the White River Flow system, which extends into northeastern Nevada, be included within the management area.[167] Specifically, NCA concluded that the Pahranagat Shear Zone creates a significant barrier to the northwestern portion of the LWRFS and that review of groundwater levels does not support a finding that groundwater level declines propagate into the northern reaches of the White River Flow System.[168] NCA concluded, advocating that proper management of the LWRFS is appropriate and sufficient for the

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[162] *Post-hearing brief of Nevada Cogeneration Associates Nos. 1 and 2 pertaining to Amended Notice of Hearing Interim Order #1303 following the hearing conducted September 23, 2019, through October 4, 2019, before the Nevada State Engineer* (NCA Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 2–10. *See also* Tr. 1619–22.
[163] NCA Ex. 1 pp. 3–7, 23. *See also* NCA Closing, pp. 15–16.
[164] NCA Ex. 1, pp. 8–17, 23. *See also* NCA Closing, pp. 10–14, and Tr. 1629–44.
[165] NCA Ex. 1, pp. 11–16.
[166] *Id.*, pp. 17–18, 23.
[167] *Id.*, pp. 19, 24.
[168] *Id.*

purpose of managing discharge of groundwater to the Warm Springs area to support habitat for the Moapa dace and serve senior Muddy River decreed rights.[169]

In addressing the annual amount of groundwater that could be developed within the LWRFS without adversely impacting senior decreed rights on the Muddy River or Warm Springs area discharge supporting the habitat for the Moapa dace, NCA supported a target of 9,318 afa, a recent three-year average of annual pumping within the LWRFS,[170] as it did not believe there to be sufficient data to support either an increase or decrease from this amount.[171] However, in its post-hearing brief, NCA opined that if their production wells located within the northwestern portion of the Black Mountains Area were excluded from the LWRFS boundary, then the annual amount of water that could be sustainably developed was less than the 9,318 afa.[172]

Finally, NCA did not support movement of water rights from the Muddy River Springs Area alluvial aquifer to the carbonate-rock aquifer, as it was of the opinion that the movement of those rights would not mitigate impact to the Warm Springs area.[173] Rather, NCA concluded that movement of those rights would compound the impact of pumping from the carbonate-rock aquifer.[174] However, NCA did express some support for movement of senior alluvial water rights as a management tool to offset existing junior carbonate-rock aquifer pumping within the LWRFS.[175]

NV Energy

NV Energy submitted a rebuttal report outlining its responses to the five matters the State Engineer solicited in Interim Order 1303 and presented its opinions and conclusions during the Interim Order 1303 hearing.[176] In its rebuttal report, NV Energy opined that the geographic boundary of the LWRFS should be as established in Interim Order 1303.[177] NV Energy further

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[169] *Id.*
[170] NCA Ex. 1, p. 19. *See, e.g.* Draft order of the State Engineer distributed to LWRFS stakeholders at the LWRFS Working Group meeting, September 19, 2018, official records of the Division of Water Resources.
[171] *Id.*, pp. 18, 24.
[172] NCA Closing, pp. 14–15.
[173] NCA Ex. 1, pp. 19–23, 24.
[174] *Id.*
[175] *Id.*
[176] NVE Ex. 1, *NV Energy Rebuttal Report to State Engineer's Order 1303 Initial Reports by Respondents*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[177] *Id.*, pp. 1–2.

opined that the existence of subsurface outflow from Kane Springs Valley into the LWRFS basins was insufficient to support its inclusion.[178]

NV Energy, in its rebuttal report, disagreed with MBOP's conclusion that the groundwater level declines observed during and after the Order 1169 aquifer test were primarily caused by drought. Rather, NV Energy agreed with SNWA's and MVWD's conclusions that the groundwater recovery occurred between 2–3 years following the conclusion of the aquifer test, but that continued pumping within the carbonate-rock aquifer has inhibited recovery to pre-Order 1169 aquifer test groundwater levels, and that at the current rate of carbonate-rock aquifer pumping the aquifer has nearly reached steady-state conditions and discharge to the Warm Springs area has reached equilibrium.[179]

NV Energy further agreed in its rebuttal report with MBOP's and CNLV's conclusions that some groundwater flowing within the carbonate-rock aquifer bypassed the Muddy River Springs Area, and ultimately the Muddy River. NV Energy also agreed that groundwater development within the southern boundary of the LWRFS would likely have less of an effect on discharge to the Warm Springs area and the river. NV Energy did not opine as to the quantity of water that bypassed the springs, but inferred that the current 7,000–8,000 afy of carbonate-rock aquifer pumping appeared to support the conclusion that steady-state conditions had been reached.[180] NV Energy also opined that movement of senior certificated alluvial water rights in the Muddy River Springs Area to carbonate-rock aquifer wells located in the southern portion of the LWRFS may be considered acceptable as Nevada law allows for the reasonable lowering of the groundwater table, and such movement would not necessarily result in a conflict to existing rights.[181] NV Energy further concluded that, contrary to the conclusions of MBOP, drought was not a significant cause for the groundwater level declines observed.[182] Finally, NV Energy concluded with suggestions that the State Engineer either: (1) combine the LWRFS basins into a single hydrographic basin and declare the new basin to be a Critical Management Area pursuant to NRS 534.037 and 534.110; or, (2) for the State Engineer to, under his authority in NRS 534.020 and

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[178] *Id.*
[179] *Id.*, pp. 2–7.
[180] NVE Ex. 1, p. 8.
[181] *Id.*, pp. 8–9; *Nevada Energy's Closing Statements* (NV Energy Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 4–5.
[182] *Id.*, pp. 9–12.

534.120, require the water right holders within the LWRFS to develop a conjunctive management plan.[183]

After considering all of the evidence and testimony presented at the Interim Order 1303 hearing, NV Energy ultimately altered its opinion and found compelling arguments to both support the inclusion of Kane Springs Valley in the LWRFS as well as its exclusion.[184] Ultimately, NV Energy changed its opinion with respect to the geographic boundary of the LWRFS and in its closing statement expressed support for the inclusion of Kane Springs Valley within the LWRFS boundary due to the connection with Coyote Spring Valley and thus the potential for impacts to LWRFS from pumping within Kane Springs Valley.[185] NV Energy proposes that the current pumping regime of 7,000 to 8,000 afy be maintained to evaluate the potential for steady-state conditions and the continued monitoring of the Warm Springs West gage and agrees that moving pumping further south may reduce impact to the Muddy River and springs. With regards to moving water between the alluvial and carbonate-rock aquifers, similar to others, NV Energy agrees with the evaluation of change applications on a case-by-case basis with demonstration that impacts are reduced or unchanged by the proposed point of diversion compared to the existing point of diversion. NV Energy supports an agreement that would include all water users within the LWRFS for the purposes of not exceeding stresses within system and protecting the Moapa dace.[186]

Southern Nevada Water Authority and Las Vegas Valley Water District

The SNWA and LVVWD submitted multiple reports in response to the Interim Order 1303 solicitation.[187] SNWA and LVVWD supported the boundary of the LWRFS as identified in Interim Order 1303, and argued that there was a general consensus of the participants regarding the

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[183] *Id.*, p. 12.
[184] Tr. 1761–1762.
[185] NV Energy Closing, pp. 2–3.
[186] *Id.*, pp. 3–6.
[187] SNWA Ex. 7; SNWA Ex. 8, *Marshall, Z.L., and Williams, R.D., 2019, Assessment of Moapa dace and other groundwater- dependent special status species in the Lower White River Flow System, Presentation to the Office of the Nevada State Engineer: Southern Nevada Water Authority, Las Vegas, Nevada*, Hearing on Interim Order 1303, official records of the Division of Water Resources; SNWA Ex. 9, *Burns, A., Drici, W., and Marshall Z.L., 2019, Response to stakeholder reports submitted to the Nevada State Engineer with regards to Interim Order 1303, Presentation to the Office of the Nevada State Engineer: Southern Nevada Water Authority, Las Vegas, Nevada*, Hearing on Interim Order 1303, official records of the Division of Water Resources.

boundaries based upon the hydraulic connectivity within the identified basins.[188] Further, SNWA and LVVWD argued against the exclusion of the northern and western portions of Coyote Spring Valley, that management of adjoining basins should be done in a manner recognizing an impact on pumping from those basins on water availability in the LWRFS basins, and that the Las Vegas Valley should be excluded from the LWRFS.[189]

With respect to the evaluation of the carbonate-rock aquifer recovery since the conclusion of the Order 1169 aquifer test, SNWA and LVVWD concluded that the aquifer has not returned to pre-Order 1169 levels, and that the evidence demonstrates a continued declining trend within the carbonate-rock aquifer as a result of continued groundwater pumping.[190] SNWA and LVVWD concluded that the current pumping continues to capture groundwater storage and that based upon the current rate of groundwater withdrawals, water levels within the carbonate-rock aquifer will continue to decline for the foreseeable future.[191] Further, SNWA and LVVWD rejected the premise that climate was a significant factor over groundwater withdrawals for the observed groundwater level decline.[192]

Based upon a review of the evidence, SNWA and LVVWD concluded that current rate of groundwater withdrawals were not sustainable without adversely impacting senior Muddy River water rights and Moapa dace habitat.[193] Based upon the analysis performed by SNWA and LVVWD, examining the discharge from the Muddy River Springs Area and groundwater production within the carbonate-rock aquifer within the LWRFS, SNWA and LVVWD concluded that any groundwater development within the carbonate-rock aquifer resulted in a one-to-one (1:1) ratio of capture of Muddy River flow, and that regardless of where that pumping occurred, it still resulted in a 1:1 ratio of capture, only that the period of time that the capture was realized was longer.[194] Ultimately, SNWA and LVVWD concluded that while any amount of pumping results

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[188] SNWA Ex. 7, pp. 5-1 through 5-18, 8-1. *See also*, Tr. 953.
[189] *Closing Brief of Southern Nevada Water Authority and Las Vegas Valley Water District* (SNWA Closing), pp. 4–9, Hearing on Interim Order 1303, official records of the Division of Water Resources. *See also* SNWA Ex. 9 at sections 6, 7 and 12.
[190] SNWA Closing, pp. 9–12. *See also* SNWA Ex. 7, pp. 5-1 through 5-18, and SNWA Ex. 9, pp. 15–20.
[191] SNWA Closing, pp. 11–12. *See also* Tr. 932.
[192] SNWA Closing, pp. 12–14. *See also* SNWA Ex. 9, pp. 15–17.
[193] SNWA Ex. 7, pp. 6-3 through 6-4, 8-2 through 8-4.
[194] *Id.*, pp. 6-4 through 6-11, 8-2 through 8-4; SNWA Ex. 9, pp. 22–27.

in a conflict with senior decreed Muddy River rights, approximately 4,000 to 6,000 afa could be sustainably pumped from the aquifer.[195] In conjunction with SNWA and LVVWD's evaluation of the quantity of water that may be sustainably developed within the LWRFS, SNWA and LVVWD reviewed the interrelationship between discharge from the carbonate-rock aquifer underlying the LWRFS, groundwater pumping and the impact on the habitat and recovery of the Moapa dace.[196] SNWA and LVVWD ultimately concluded that the flow required to sustain the Moapa dace from adverse effects, including habitat loss and fish population declines was a minimum 3.2 cfs at the Warm Springs West gage.[197]

Finally, it was SNWA and LVVWD's opinion that movement of water rights from the Muddy River Springs Area alluvial aquifer to the carbonate-rock aquifer within the LWRFS may delay the capture of water serving senior decreed rights on the Muddy River, but that movement of water from the alluvial aquifer to the carbonate-rock aquifer would adversely impact the habitat of the Moapa dace.[198] Thus, SNWA and LVVWD concluded transfer of water rights from the Muddy River Springs Area alluvial aquifer to the LWRFS carbonate-rock aquifer would result in further depletion of flow to the Warm Springs area.[199]

Technichrome

Technichrome submitted a response and additional response to the Interim Order in July 2019 but did not participate in the hearing.[200] Technichrome stated that it had no objection to a "joint administrative basin" consisting of Coyote Spring Valley, Black Mountain Area, Garnet Valley, Hidden Valley, Muddy River Springs Area, and Lower Moapa Valley, expressed no comment regarding the inclusion of Kane Springs Valley, but questioned whether the entirety of the White River Flow System should be included in the State Engineer's analysis.[201] However,

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[195] Tr. 921–22. *See also* SNWA Ex. 7, pp. 8-1 through 8-5; SNWA Ex. 9, p. 27.
[196] *See* SNWA Ex. 8.
[197] *Id.*, pp. 8-1 through 8-2. *See also* SNWA Closing, pp. 17–19.
[198] *See* SNWA Closing, pp. 19–20. *See also* SNWA Ex. 7, pp. 6-3 through 6-11, 8-4; SNWA Ex. 9, pp. 21–22.
[199] SNWA Closing, p. 20. *See also* Tr. 904–05.
[200] *Response to Interim Order #1303 Submitted [sic] by Technichrome* (Technichrome Response), Hearing on Interim Order 1303, official records of the Division of Water Resources, and *Additional Comments from Technichrome* (Technichrome Addendum), Hearing on Interim Order 1303, official records of the Division of Water Resources.
[201] Technichrome Response, pp. 1–3.

Technichrome did note that it believed that combining all water rights into a single management structure reduced the State Engineer's ability to control groundwater withdrawals. Technichrome stated that it believed that the State Engineer should have the ability to control withdrawals in small areas to best manage the discharge to the Warm Springs area, and that more targeted control over the groundwater withdrawals would be more effective in managing the discharge.[202] Technichrome supported this opinion with some analysis of the results of the Order 1169 aquifer test and its opinion that pumping farther from the Warm Springs area had little to no impact on discharge to Pederson Spring.[203]

In Technichrome's additional comments, Technichrome addressed concerns regarding the injury that would result from a system-wide reduction of groundwater rights throughout the LWRFS.[204] Finally, Technichrome addressed concerns regarding reliance on the priority system, as utilization of the prior appropriation system would benefit senior irrigation uses over the junior industrial uses, and that removal of basin boundaries would remove limitations on movement of water rights between the existing hydrographic basins, which would disrupt junior uses in areas where senior rights may be moved.[205]

U.S. Fish and Wildlife Service

USFWS holds several water rights within the LWRFS and its mission is consistent with the scientific and management aspects of the LWRFS and the management area as established in Interim Order 1303.[206] USFWS opted to participate in the proceeding by submitting initial and rebuttal reports and providing testimony during the administrative hearing.[207] The approach of

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[202] *Id.*
[203] *Id.*, and Technichrome Addendum.
[204] Technichrome Addendum.
[205] *Id.*
[206] The USFWS' mission is to work with others to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people. *See also,* USFWS, *About the U.S. Fish and Wildlife Service*, https://bit.ly/aboutusfws (last accessed June 4, 2020).
[207] USFWS Ex. 5, *Report in Response to Order 1303*, Hearing on Interim Order 1303, official records of the Division of Water Resources; USFWS Ex. 7, *Rebuttal to: Water Level Decline in the LWRFS: Managing for Sustainable Groundwater Development by Cady Johnson and Martin Mifflin* [sic], *Mifflin & Associates, Inc., submitted by the Moapa Band of Paiutes in accordance with Order 1303*, Hearing on Interim Order 1303, official records of the Division of Water Resources.

USFWS was to review available data, develop a hydrogeologic conceptual model, and answer the specific questions posed in Interim Order 1303.

USFWS proposed that the boundary be based on geologic breaks rather than the surface drainage areas. The boundary would then encompass all Muddy River Springs Area, Hidden Valley, Garnet Valley, most of Coyote Spring Valley, most of California Wash, the northwest portion of the Black Mountains area, Kane Springs Valley, and most of Lower Meadow Valley Wash. The extent to which Kane Springs Valley and Lower Meadow Valley Wash are included would depend on the data from an aquifer test that has not yet been performed.[208]

Although, USFWS did not directly opine their view on recovery, their report discusses a conceptual model with insight into lag times and hydraulic connections, and how current conditions relate to sustainable pumping. An "undiminished state of decline" in water levels and spring flows indicated that the system was not in equilibrium at the end of the Order 1169 aquifer test. USFWS postulated there was generally good connectivity within the aquifer system with areas of higher and lower transmittivity. Trends in water levels and spring flows allude to the connection between high elevation springs and carbonate-rock aquifer pumping, with a time lag observed in the recovery of carbonate-rock aquifer water levels and spring flows following the cessation of the Order 1169 aquifer test. The exception is Big Muddy Spring where surface water level trends appeared to be unrelated to the carbonate-rock aquifer water levels.[209]

USFWS determined that the optimum method currently available to estimate the maximum allowable rate of pumping in the LWRFS is the average annual rate of pumping from 2015–2017.[210] USFWS considered the period from 2015 to 2017 because it found that the groundwater withdrawals, the discharge of the Muddy River Springs, and the flow of the Muddy River were all relatively constant; flow rates from Plummer, Pederson, Jones and Baldwin springs, though generally lower than before the Order 1169 aquifer test, were reasonably stable compared to earlier

[208] *See* USFWS Ex. 5, pp. 2, 28–36.
[209] USFWS Ex. 5, pp. 3, 32–33, 35, 37–45; Tr. 266–270, 273–281, 299-301, 433-435.
[210] USFWS Ex. 5, p. 3.

periods.[211] Using the pumpage inventories for this time period, USFWS estimated the sustainable groundwater withdrawals to be 9,318 afa. [212]

Even if total carbonate-rock and alluvial aquifer pumping is maintained at a "sustainable" overall level, USFWS did not support increased carbonated-rock aquifer pumping in exchange for reductions in alluvial aquifer pumping, nor did USFWS support increased alluvial aquifer pumping in exchange for reductions in carbonate-rock aquifer pumping. USFWS suggested that carbonate-rock aquifer pumping should not be moved closer to the springs or the river. Similarly, USFWS suggests that alluvial aquifer pumping in the vicinity of the river should not be moved closer to the river. USFWS opines that any movement of water nearer to the springs or the river is anticipated to decrease the lag time for observing responses from pumping and shorten the time to respond to unfavorable impacts.[213]

Moving forward with management of the LWRFS, USFWS supported the use of the triggers at the Warm Springs West gage, as established under the 2006 MOA. Continuing to use these Warm Springs West flows as a trigger for management will protect and provide habitat for the Moapa dace; a reduction in the flow translates to a reduction in habitat.[214]

USFWS did not deny that water levels were independent of a climate response signal. Using observed data for Nevada Climate Divisions, USFWS visually inspected hydrographs for climate signals. USFWS opined that response to wet periods are observed for wells in both the carbonate-rock and alluvial aquifers and springs that discharge from the carbonate-rock aquifer but stated that response to dry periods cannot be separated from the impacts of pumping. USFWS did not observe these same climate signals in the hydrographs for Jones and Baldwin Springs or the Big Muddy Spring. USFWS disagreed with the conclusion of the MBOP regarding long-term, regional drought, as well as the analytical methods.[215]

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[211] USFWS Ex. 5, pp. 3, 37; Tr. 269–270, 433–435.
[212] USFWS Ex. 5, pp. 3, 36–38; Tr. 268–270.
[213] *See* USFWS Ex. 5, pp. 3–4, 38–39; Tr. 272–273.
[214] *See* USFWS Ex. 5, pp. 4, 39–45; Tr. 273–282; *See also*, NSE Ex. 256; NSE Ex. 244, *2006 Memorandum of Agreement Trigger Levels agreed to by the Southern Nevada Water Authority, Moapa Valley Water District, Coyotes Springs Investments LLC and Moapa Band of Paiute Indians*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[215] *See* USFWS Ex. 5, pp. 24–28, 34–35; *See* USFWS Ex. 7, pp. 2–16; Tr. 258–260, 299–322, 429–432.

Western Elite Environmental/Bedroc

Bedroc is the land holding and water-right holding entity for Western Elite Environmental, Inc., a provider of construction and recyclable waste collection and disposal in Southern Nevada.[216] Bedroc submitted an undated rebuttal report signed by Derek Muaina, General Counsel, and a closing statement.[217] Bedroc presented Jay Dixon as its expert to give a presentation and to discuss the rebuttal report.[218] Mr. Dixon stated that he contributed to the report, and that he agreed with it, but he did not sign the report because he was working for another participant in the hearing (NCA).[219] Mr. Dixon did provide testimony consistent with the report, and adopted the findings of that report, and both the testimony and the report will be considered in this Order.[220]

Bedroc presented testimony and evidence that its source of groundwater is hydraulically disconnected from the regional carbonate aquifer of the LWRFS and that additional groundwater may be available for pumping in their part of Coyote Spring Valley. Bedroc also argued that its basin fill alluvial groundwater pumping should be managed outside of the proposed LWRFS joint administrative unit.[221]

To show the hydraulic disconnect, Bedroc presented geologic information demonstrating its unique location.[222] Bedroc showed that a confining shelf of sedimentary rock was noticeably absent in the vicinity of the Bedroc site where recharge from the Sheep Range rises toward the surface between two faults, which results in shallow groundwater that is subject to ET and capture from shallow groundwater wells at the Bedroc site.[223] Recharge from the Sheep Range was estimated to be 750 afy, an average of the high and low estimates of the maximum recharge

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[216] Bedroc Ex. 2, *Interim Order 1303- Rebuttal Report- Prepared by Bedroc and Dixon Hydrologic, PLLC- August 2019*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[217] Bedroc Ex. 2; *Western Elite Environmental Inc.'s and Bedroc Limited, LLC's Closing Statement* (Bedroc Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources.
[218] *See* Tr. 1718–1719.
[219] Tr. 1719, 1741.
[220] Tr. 1718–1757, 1749–1750.
[221] Bedroc Closing, pp. 13–14. Bedroc offered summary responses to the first four questions posed by Order 1303 but did no independent analysis. *See* Bedroc Closing, p. 12.
[222] Bedroc Closing, p. 2.
[223] *Id*; Tr. 1726–1733.

available.[224] SNWA challenged this calculation, pointing out that the estimated recharge could be as low as 130 acre-feet.[225]

Bedroc believes that it is capturing the recharge that would otherwise be lost to evapotranspiration.[226] Groundwater conditions at Bedroc's site show a rise in water levels between 2003 and 2006.[227] Bedroc attributed this rise in part to the installation of an unlined storage pond upgradient from the well, but also to the 2005 recharge event that was discussed by many participants to the proceeding.[228] Between 2006 and 2011, Bedroc showed that groundwater levels had been relatively stable even though pumping by Bedroc was fairly constant.[229] Bedroc showed photo evidence of evapotranspiration occurring around the Bedroc site, pointing to areas of white surface soils and green occurring in the photo as evidence of salt residue and phreatophytes, both occurring as a result of shallow groundwater evaporation.[230] The area is estimated to be about 2,200 acres, and the ET range is estimated to be 0.2 to 0.3 feet per year.[231] This results in an estimate of 400 to 600 afa of groundwater that potentially could be captured every year without pulling groundwater from storage.[232] If pumping in this area exceeded ET, water levels to the east of Bedroc would be dropping.[233]

Bedroc considered the alluvial system at its location to be a separate aquifer from the carbonate-rock aquifer in the LWRFS.[234] CBD in its report also supports this conclusion, suggesting that some groundwater can be withdrawn from the Coyote Spring Valley alluvial aquifer system because that system is disconnected from and not responsible for substantial recharge to the carbonate-rock aquifer.[235] SNWA testified similarly during the hearing.[236]

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[224] Tr. 1724–1725, 1755.
[225] Tr. 1755.
[226] Bedroc Closing, pp. 5–9.
[227] Tr. 1735.
[228] *Id.*
[229] Tr. 1735–1736.
[230] Tr. 1734, 1738.
[231] Tr. 1739.
[232] Tr. 1739.
[233] Tr. 1739. *See also* Bedroc Closing, p. 8.
[234] Tr. 1746.
[235] Bedroc Ex. 2, p. 5.
[236] Tr. 1024.

Relying on a lack of connection between pumping at Bedroc and the carbonate-rock aquifer, Bedroc asserted that there is no likely impact to the Warm Springs area caused by Bedroc.[237] Bedroc compared groundwater elevations over time in two alluvial wells, CSV-3009M and CSVM-7, and showed an upward trend in groundwater elevations.[238] But, when comparing groundwater elevations of two monitoring wells in different sources, CSVM-7 in the alluvium and CSVM-4 in the carbonate-rock aquifers, the carbonate-rock aquifer well elevations showed a decline during the Order 1169 aquifer test, but the alluvial well elevation rose during the same period and leveled off after the conclusion of the test.[239] Bedroc concluded that these data illustrate 1) the hydraulic disconnect between the local alluvial aquifer and carbonate-rock aquifer and 2) if historical alluvial pumping at Bedroc has not impacted water levels in nearby alluvial wells, then there is likely no impact to spring or streamflow in the Muddy River Springs Area.

Finally, Bedroc stated that managing all users in the region under the same system would arbitrarily impact users whose water neither comes from the regional carbonate-rock aquifer system nor impacts the springs of concern downstream.[240] It urged caution in allowing transfer of water rights between alluvial and carbonate-rock aquifers due to potential impacts on senior users that are using local recharge that may not sustain pumping from additional users.[241] Transfers of senior alluvial rights from the Muddy River Springs Area to the area near Bedroc should be considered on a case-by-case basis to protect Bedroc's senior water rights.[242]

III. PUBLIC COMMENT

WHEREAS, following the conclusion of the Interim Order 1303 hearing, opportunity for public comment was offered, including the opportunity to submit written public comment, which was due to be submitted to the Division no later than December 3, 2019. Lincoln County Board of

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[237] Bedroc Closing, p.11. *See also* SNWA testimony of Andrew Burns that pumping at Bedroc wells is not likely to impact the carbonate system or the Muddy River. Tr. 1024–1025.
[238] Bedroc Closing, p. 12. *See also* Tr. 1736–1737, 1752.
[239] Tr. 1737–1738.
[240] Bedroc Ex. 2, pp. 2–4.
[241] *Id.*, p. 6.
[242] Tr. 1740.

County Commissioners submitted written public comment in addition to the closing argument submitted by LC-V.[243]

IV. AUTHORITY AND NECESSITY

WHEREAS, NRS 533.024(1)(c) directs the State Engineer "to consider the best available science in rendering decisions concerning the availability of surface and underground sources of water in Nevada."

WHEREAS, in 2017 the Nevada Legislature added NRS 533.024(1)(e), declaring the policy of the State to "manage conjunctively the appropriation, use and administration of all waters of this State regardless of the source of the water."

WHEREAS, NRS 534.020 provides that all waters of the State belong to the public and are subject to all existing rights.

WHEREAS, as demonstrated by the results of the Order 1169 aquifer test and in the data collected in the years since the conclusion of the aquifer test, the LWRFS exhibits a direct hydraulic connection that demonstrates that conjunctive management and joint administration of these groundwater basins is necessary and supported by the best available science.[244]

WHEREAS, the pre-development discharge of 34,000 acre-feet of the fully appropriated Muddy River system plus the more than 38,000 acre-feet of groundwater appropriations within the LWRFS greatly exceed the total water budget that may be developed without impairment of senior existing rights or proving detrimental to the public interest.

WHEREAS, the available groundwater supply within the LWRFS that can be continually pumped over the long-term is limited to the amount that may be developed without impairing existing senior rights, rights on the Muddy River or adversely affecting the public interest in

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[243] *See* Board of County Commissioners, Lincoln County, Nevada, *Public Comment to Interim Order #1303 Hearing, Reports, and Evidence on the Lower White River Flow System,* Hearing on Interim Order 1303, official records of the Division of Water Resources.

[244] *See, e.g.,* NSE Ex. 245; NSE Ex. 248; NSE Ex. 256; NSE Ex. 252; NSE Ex. 282, *Federal Bureaus Order 1169 Report Selected References: Comparison of Simulated and Observed Effects of Pumping from MX-5 Using Data Collected to the Endo of the Order 1169 Test, and Prediction of the Rates of Recovery from the Test, TetraTech, 2013,* Hearing on Interim Order 1303, official records of the Division of Water Resources. *See also, e.g.,* CBD Ex. 3; MVWD Exs. 3– 4; MVIC Ex. 1; NCA Ex. 1, SNWA Exs. 7–9; USFWS Exs. 5–6; NPS Exs. 2–3.

protection of the endangered Moapa dace and the habitat necessary to support the management and recovery of the Moapa dace.

WHEREAS, pursuant to NRS 532.120, the State Engineer is empowered to make such reasonable rules and regulations as may be necessary for the proper and orderly execution of the powers conferred by law.

WHEREAS, pursuant to NRS 534.110(6) the State Engineer is directed to conduct investigations in groundwater basins where it appears that the average annual replenishment of the groundwater is insufficient to meet the needs of all water right holders, and if there is such a finding, the State Engineer may restrict withdrawals to conform to priority rights.

WHEREAS, within an area that has been designated by the State Engineer, as provided for in NRS Chapter 534, and specifically, NRS 534.120, where, in the judgment of the State Engineer, the groundwater basin is being depleted, the State Engineer in his or her administrative capacity may make such rules, regulations and orders as are deemed essential for the welfare of the area involved.[245]

WHEREAS, the State Engineer has the authority to hold a hearing to take evidence and the interpretation of the evidence with respect to its responsibility to manage Nevada's water resources and to allow willing participants to present evidence and testimony regarding the conclusions relating to the questions presented in Interim Order 1303. The State Engineer recognizes that the MBOP is a federally recognized tribe, and that its participation in the hearing was to facilitate the understanding of the interpretation of data with respect to the Interim Order 1303 solicitation.

V. ENDANGERED SPECIES ACT

WHEREAS, the Endangered Species Act (ESA), 16 U.S.C. §1531 et seq. is a federal law designed to serve the purpose of identifying, conserving and ultimately recovering species declining toward extinction.[246] Specifically, while the ESA is primarily a conservation program, a critical element of the conservation component seeks to encourage cooperation and coordination

[245] *See also* NRS 534.030, NRS 534.110.
[246] 16 U.S.C. § 1531(a)–(b).

with state and local agencies.[247] The responsibility of enforcement and management under the ESA rests predominately with the federal government; however, the ultimate responsibility is shared.[248]

WHEREAS, the ESA makes it unlawful for any person to "take" an endangered species – or to attempt to commit, solicit another to commit, or cause to be committed, a taking.[249] The term "person" is broadly defined to include the State and its instrumentalities.[250] "Take" encompasses actions that "harass, harm" or otherwise disturb listed species, including indirect actions that result in a take.[251] For example, a state regulator is not exempted from the ESA for takings that occur as a result of a licensee's regulated activity. States have been faced with the impediment of their administrative management actions being subservient to the ESA. For example, the Massachusetts Division of Marine Fisheries was subject to an injunction prohibiting it from issuing commercial fishing licenses because doing so would likely lead to the taking of an endangered species.[252] In *Strahan v. Coxe*, the court's decision relied on reading two provisions of the ESA— the definition of the prohibited activity of a "taking" and the causation by a third party of a taking— "to apply to acts by third parties that allow or authorize acts that exact a taking and that, but for the permitting process, could not take place."[253] Although Massachusetts was not the one directly causing the harm to the endangered species, the court upheld the injunction because "a governmental third party pursuant to whose authority an actor directly exacts a taking of an endangered species may be deemed to have violated the provisions of the ESA."[254] At least three other circuits have held similarly.[255] In each case, "the regulatory entity purports to make lawful an activity that allegedly violates the ESA."[256] Thus the action of granting the permit for the regulated activity has been considered an indirect cause of a prohibited taking under the ESA.

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[247] 16 U.S.C. § 1531(c); 16 U.S.C. § 1536.
[248] 16 U.S.C.A. § 1536.
[249] 16 U.S.C.A. § 1538(g).
[250] 16 U.S.C.A. § 1532(13).
[251] 16 U.S.C.A. § 1532(19). The term "harm" is defined by regulation, 50 C.F.R. § 17.3 (1999).
[252] *Strahan v. Coxe*, 127 F.3d 155 (1st.Cir.1997), *cert denied* 525 U.S. 830 (1998).
[253] *Id.*, p. 163.
[254] *Id.*
[255] *See Sierra Club v. Yeutter*, 926 F.2d 429 (5th Cir.1991); *Defenders of Wildlife v. EPA*, 882 F.2d 1294 (8th Cir. 1989); *Loggerhead Turtle v. County Council*, 148 F.3d 1231 (11th Cir.1998); *Palila v. Hawaii Dept. of Land & Natural Resources*, 852 F.2d 1106 (9th Cir.1988).
[256] *Loggerhead Turtle*, 148 F.3d at 1251.

WHEREAS, the use of water in Nevada is a regulated activity.[257] It is the responsibility of the State to manage the appropriation, use and administration of all waters of the state.[258] Based on *Strahan* and similar decisions, the act of issuing a permit to withdraw groundwater that reduces the flow of the springs that form the habitat of the Moapa dace and were to result in harm to the Moapa dace exposes the Division, the State Engineer and the State of Nevada to liability under the ESA.

WHEREAS, a USFWS biological opinion for the MOA found that the reduction in spring flow from the warm springs could impact the dace population in multiple ways. First, the USFWS found that declines in groundwater levels will reduce the flow to the Warm Springs area and allow for cooler groundwater seepage into streams. With reduced spring flow, Moapa dace habitat is reduced.[259] Additionally, USFWS determined that the reduced flows of warm water from the springs will also result in cooler water available throughout the dace habitat, reducing spawning habitat and resulting in a population decline.[260]

WHEREAS, based upon the testimony and evidence offered in response to Interim Order 1303, it is clear that it is necessary for spring flow measured at the Warm Springs West gage to flow at a minimum rate of 3.2 cfs in order to maintain habitat for the Moapa dace.[261] A reduction of flow below this rate may result in a decline in the dace population. This minimum flow rate is not necessarily sufficient to support the rehabilitation of the Moapa dace.[262]

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[257] NRS 533.030; 533.325; 534.020.
[258] NRS 533.325; 533.024(1)(e); 534.020.
[259] USFWS Ex. 5, pp. 50–52.
[260] SNWA Ex. 8, pp. 6-2 through 6-3; SNWA Ex. 40, *Hatten, J.R., Batt, T.R., Scoppettone, G.G., and Dixon, C.J., 2013, An ecohydraulic model to identify and monitor Moapa dace habitat. PLoS ONE 8(2):e55551, doi:10.1371/journal.pone.0055551.*, Hearing on Interim Order 1303, official records of the Division of Water Resources; SNWA Ex. 41, *U.S. Fish and Wildlife Service, 2006a, Intra-service programmatic biological opinion for the proposed Muddy River Memorandum of Agreement regarding the groundwater withdrawal of 16,100 acre-feet per year from the regional carbonate aquifer in Coyote Spring Valley and California Wash basins, and establish conservation measures for the Moapa Dace, Clark County, Nevada. File No. 1-5-05 FW-536, January 30, 2006.*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[261] Tr. 1127–1128.
[262] Tr. 401–402, 1147, 1157–1158.

WHEREAS, the ESA prohibits any loss of Moapa dace resulting from actions that would impair habitat necessary for its survival. Some groundwater users are signatories to an MOA that authorizes incidental take of the Moapa dace; however, the State Engineer and many other groundwater users are not covered by the terms of the MOA.[263] Not only would liability under the ESA for a "take" extend to groundwater users within the LWRFS, but would so extend to the State of Nevada through the Division as the government agency responsible for permitting water use.

WHEREAS, the State Engineer concludes that it is against the public interest to allow groundwater pumping from the LWRFS that will reduce spring flow in the Warm Springs area to a level that would impair habitat necessary for the survival of the Moapa dace and could result in take of the endangered species.

VI. GEOGRAPHIC BOUNDARY OF THE LWRFS

WHEREAS, the geographic boundary of the hydrologically connected groundwater and surface water systems comprising the LWRFS, as presented in Interim Order 1303, encompasses the area that includes Coyote Spring Valley, Muddy River Springs Area, California Wash, Hidden Valley, Garnet Valley and the northwest portion of the Black Mountains Area.[264] The rationale for incorporating these areas into a single administrative unit included the presence of a distinct regional carbonate-rock aquifer that underlies and uniquely connects these areas; the remarkably flat potentiometric surface observed within the area; the diagnostic groundwater level hydrographic pattern exhibited by monitoring wells distributed across the area; and the area-wide diagnostic water level response to pumping during the Order 1169 aquifer test. Each of these characteristics were previously identified and examined in the hydrological studies and subsequent hearing that followed the completion of the Order 1169 aquifer test. Indeed, these characteristics were the foundational basis for the State Engineer's determination in Rulings 6254–6261 that the

[263] NSE Ex. 236; SNWA Ex. 8, pp. 5-1 through 5-8.
[264] *See* NSE Ex. 1, p. 6.

close hydrologic connection[265] and shared source and supply of water in the LWRFS required joint management.[266]

WHEREAS, evidence and testimony presented during the Interim Order 1303 hearing indicated a majority consensus among stakeholder participants that this originally defined area is appropriately combined into a single unit.[267] Evidence and testimony was also presented on whether to add adjacent basins, or parts of basins to the administrative unit; to modify boundaries within the existing administrative unit; or to eliminate the common administrative unit boundaries. The State Engineer has considered this evidence and testimony on the basis of a common set of criteria that are consistent with the original characteristics considered critical in demonstrating a close hydrologic connection requiring joint management in Rulings 6254–6261 and more specifically, include the following:

1) Water level observations whose spatial distribution indicates a relatively uniform or flat potentiometric surface are consistent with a close hydrologic connection.

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[265] The State Engineer notes that the terminology "***hydrologic*** connection" and "***hydraulic*** connection" have been used by different parties sometimes interchangeably, and commonly with nearly the same meaning. The State Engineer considers a hydraulic connection to be intrinsically tied to the behavior and movement of water. With regard to aquifers, it may be thought of as the natural or induced movement of water through permeable geologic material. The degree of hydraulic connection can be considered a measure of the interconnection between locations as defined by a cause and effect change in potentiometric surface or a change in groundwater inflow or outflow that reflects characteristics of both the aquifer material and geometry, and groundwater behavior. It is commonly characterized by a response that is transmitted through the aquifer via changes in hydraulic head, ie., groundwater levels. Hydrologic connections may include hydraulic connections but can also represent more complex system interactions that can encompass all parts of the water cycle, and in some cases may focus on flow paths, water budgets, geochemical interactions, etc. The State Engineer's use of the term "***close*** hydrological connection" is intended to encompass and include a direct hydraulic connection that is reflected in changes in groundwater levels in response to pumping or other fluxes into or out of the aquifer system within a matter of days, months, or years. The closeness, strength, or directness of the response is indicated by timing, with more distinct and more immediate responses being more "close".

[266] *See* NSE Ex. 14, p. 12, 24.

[267] *See* Participant testimony from SNWA (Tr. 875–876), CNLV (Tr. 1418), and CSI (Tr. 95–96). Several other participants agreed, too, that the State Engineer's delineation of the LWRS as defined in Interim Order 1303 was acceptable. *See also* Bedroc Closing, p. 12, Church Closing, p. 1; Technichrome Response, p. 1. Other participants recommended larger areas be included within the LWRFS boundary. *See* Tr. 261–266 (USFWS), 1571–1572 (CBD), 1697–1698 (MVIC). *See also* NV Energy Closing, pp. 2–3; NPS Closing pp. 2–5.

2) Water level hydrographs that, in well-to-well comparisons, demonstrate a similar temporal pattern, irrespective of whether the pattern is caused by climate, pumping, or other dynamic is consistent with a close hydrologic connection.

3) Water level hydrographs that demonstrate an observable increase in drawdown that corresponds to an increase in pumping and an observable decrease in drawdown, or a recovery, that corresponds to a decrease in pumping, are consistent with a direct hydraulic connection and close hydrologic connection to the pumping location(s).

4) Water level observations that demonstrate a relatively steep hydraulic gradient are consistent with a poor hydraulic connection and a potential boundary.

5) Geological structures that have caused a juxtaposition of the carbonate-rock aquifer with low permeability bedrock are consistent with a boundary.

6) When hydrogeologic information indicate a close hydraulic connection (based on criteria 1-5), but limited, poor quality, or low resolution water level data obfuscate a determination of the extent of that connection, a boundary should be established such that it extends out to the nearest mapped feature that juxtaposes the carbonate-rock aquifer with low-permeability bedrock, or in the absence of that, to the basin boundary.

WHEREAS, some testimony was presented advocating to include additional areas to the LWRFS based principally on water budget considerations and/or common groundwater flow pathways.[268] Indeed, some participants advocate to include the entire White River Flow System, or other basins whose water may ultimately flow into or flow out of the system.[269] Other participants used, but did not rely on, water budget and groundwater flow path considerations to support their analysis. Like those participants, the State Engineer agrees that while water budget and groundwater flow path analysis are useful to demonstrate a hydrologic connection, additional information is required to demonstrate the relative strength of that connection. Thus, the State

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[268] *See e.g.*, CNLV Ex. 3, p. 33, Tr. 1430; NPS Closing, p. 2. *See also* Tr. 253–257; Sue Braumiller, *Interpretations of available Geologic and Hydrologic Data Leading to Responses to Questions Posed by the State Engineer in Order 1303 regarding Conjunctive Management of the Lower White River Flow System* (USFWS Braumiller presentation), slide 11, Item 6., bullet 1, official records of the Division of Water Resources; MBOP Ex. 2, p. 11.
[269] *See e.g.*, GBWN Report, pp. 1–2.

Engineer recognizes that while any hydrologic connection, weak or strong, needs to be considered in any management approach, many of the connections advocated based principally on a water budget or flow path analysis, including those between nearby basins like Las Vegas Valley and Lower Meadow Valley Wash, are not demonstrated to provide for the uniquely close hydraulic connection that require joint management.

WHEREAS, in their closing statement, NPS proposes that all adjacent hydrographic areas to the original Interim Order 1303 administrative unit where a hydraulic interconnection exists, whether weak or strong, be included in the LWRFS.[270] It does so to alleviate the need for developing new management schemes for the excluded remnants and to provide for appropriate management approaches based on new information and improved understanding of differing degrees of hydraulic interconnection in various sub-basins. The State Engineer agrees with this logic, up to a point, and has applied these concepts to the extent practical as demonstrated in his criteria for determining the extent of the LWRFS. However, the State Engineer also finds that there must be reasonable and technically defensible limits to the geographic boundary. Otherwise, if management were to be based on the entire spectrum of weak to strong hydraulic interconnection, then exclusion of an area from the LWRFS would require absolute isolation from the LWRFS; every sub-basin would have its own management scheme based on some measure of its degree of connectedness; and proper joint management would be intractable.

WHEREAS, evidence and testimony was also presented by the NPS regarding the specific inclusion of the entirety of the Black Mountains Area in the LWRFS.[271] The State Engineer recognizes that there may be a hydrologic connection between the Black Mountains Area and upgradient basins that are sources of inflow, and that outflow from the LWRFS carbonate-rock aquifer may contribute to discharge from Rogers and Blue Point Springs. However, the State Engineer does not find that this supports inclusion of the entirety of the Black Mountains Area. This determination is made based on the lack of contiguity of the carbonate-rock aquifer into this

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[270] NPS Closing, pp. 3–5.

[271] NPS Closing pp. 3–4. *See also* Tr.534, 555–569; Richard K. Waddell, Jr., *Testimony of Richard K. Waddell on behalf of the National Park Service*, presentation during hearing for Interim Order 1303 (NPS Presentation), slides 32–46, official records of the Division of Water Resources.

area,[272] the difference in observed water level elevations compared to those in adjacent carbonate-rock aquifer wells to the north and west,[273] and the absence of observed diagnostic hydrographic patterns and responses that define the uniquely close hydraulic connection that characterizes the LWRFS.[274]

WHEREAS, evidence and testimony presented by USFWS relied principally on SeriesSEE analysis of water level responses submitted by the Department of Interior Bureaus following the Order 1169 aquifer test to establish the general extent of the LWRFS. This was supported by the application of hydrogeology and principles of groundwater flow to define specific boundary limits to the LWRFS. It proposed that most of the Lower Meadow Valley Wash be considered for inclusion in the LWRFS based on the potential geologic continuity between carbonate rocks underlying the Lower Meadow Valley Wash and the carbonate-rock aquifer underlying Coyote Spring Valley, the Muddy River Springs Area, and California Wash.[275] Additionally, it asserted that the alluvial aquifer system in Lower Meadow Valley Wash contributes to and is connected to both the Muddy River and the alluvial aquifer system in California Wash. The State Engineer finds that while carbonate rocks may underlie the Lower Meadow Valley Wash and be contiguous with carbonate rocks to the south and west, data are lacking to characterize the potential hydraulic connection that may exist. Regarding the hydraulic connection between the Lower Meadow Valley Wash alluvial aquifer and the LWRFS, the State Engineer agrees with USFWS that a connection exists, but finds that any impacts related to water development in the Lower Meadow Valley Wash alluvial aquifer are localized, and unrelated to the carbonate-rock aquifer, and can be appropriately managed outside the LWRFS joint management process.

WHEREAS, NCA advocated for the exclusion of the portion of the Black Mountains Area from the LWRFS that contains their individual production wells. NCA premise this primarily on testimony and analysis performed by SNWA with respect to the impact of pumping from this area

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[272] *See* CSI Ex. 14, Plate 2, Map and Plate 4, Cross section K–K', in Peter D. Rowley et. al., *Geology and Geophysics of White Pine and Lincoln Counties, Nevada and Adjacent Parts of Nevada and Utah: The Geologic Framework of Regional Groundwater Flow Systems*, Nevada Bureau of Mines and Geology Report 56.
[273] *See, e.g.*, USFWS Ex. 5, p. 30.
[274] *Id.*, p. 17.
[275] *Id.*, pp. 19–24.

on discharge to the Warm Springs area.[276] It also used hydrogeologic and water level response information to conclude that strike-slip faulting and a weak statistical correlation between water levels at NCA well EBM-3 and EH-4 in the Warm Springs area support a boundary to the north of the NCA production wells. While the State Engineer finds logic in NCA's position, other testimony describing flaws in the SNWA analysis make for a compelling argument against relying on SNWA's statistically-based results.[277] The substantial similarity in observed water level elevation and water level response at EBM-3 compared to EH-4[278] and limitations in relying on poor resolution water level measurements for statistical or comparative analysis[279] requires a more inclusive approach that places the boundary to the south of the NCA production wells to a geological location that coincides with the projection of the Muddy Mountain Thrust. This more closely coincides with the measurable drop in water levels recognized to occur south of the NCA wells, between EBM-3 and BM-ONCO-1 and 2, that is indicative of a hydraulic barrier or zone of lower permeability.[280] It also better honors the State Engineer's criteria by acknowledging the uncertainty in the data while reflecting a recognized physical boundary in the carbonate-rock aquifer. Specifically, this shall be defined to include that portion of the Black Mountains Area lying within portions of Sections 29, 30, 31, 32, and 33, T.18S., R.64E., M.D.B.&M.; portions of Sections 1, 11, 12, 14, 22, 23, 27, 28, 33, and 34 and all of Sections 13, 24, 25, 26, 35, and 36, T.19S., R.63E., M.D.B.&M.; portions of Sections 4, 6, 9, 10, and 15 and all of Sections 5, 7, 8, 16, 17, 18, 19, 20, 21, 29, 30, and 31, T.19S., R.64E., M.D.B.&M.[281]

WHEREAS, numerous participants advocated to include Kane Springs Valley in the LWRFS basins.[282] Other participants advocated to exclude Kane Springs Valley.[283] Several expert witnesses recommended the exclusion of Kane Springs Valley based on their characterization of water level elevation data, temporal hydrographic response patterns, geochemistry, and/or the

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[276] *See,* Tr. 1622, 1624; NCA Closing.
[277] *See, e.g.*, Tr. 1467–1469 CNLV presentation, slides 21–23; Tr. 1784–1786; NV Energy presentation, slides 32–33.
[278] NCA Closing, p. 18, Figure 3.
[279] NCA Closing, p. 8.
[280] *See e.g.*, USFWS Ex. 5.
[281] See map of the LWRFS Hydrographic Basin as defined by this Order, Attachment A.
[282] *See, e.g.*, NV Energy Closing, p. 2; NCA Closing, p. 10–14; MVWD Closing, p. 2–8.
[283] *See e.g., Written Closing Statement of Lincoln County Water District and Vidler Water Company, Inc.* (LC-V Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources, p. 3–6; CSI Closing, p. 2.

geophysically-inferred presence of structures that may act as flow barriers. Others recommended inclusion based on the same or similar set of information. Water level elevations observed near the southern edge of Kane Springs Valley are approximately 60 feet higher than those observed in the majority of carbonate-rock aquifer wells within the LWRFS to the south; consistent with a zone of lower permeability.[284] Some experts suggested that the hydrographic response pattern exhibited in wells located in the southern edge of Kane Springs Valley is different compared to that exhibited in wells in the LWRFS, being muted, lagged, obscured by climate response, or compromised by low-resolution data.[285] In this regard, the State Engineer recognizes these differences. However, he finds that the evidence and testimony supporting a similarity in hydrographic patterns and response as provided by expert witnesses, like that of the NPS, to be persuasive.[286] Namely, that while attenuated, the general hydrographic pattern observed in southern Kane Springs Valley reflects a response to Order 1169 pumping, consistent with a close hydraulic connection with the LWRFS. The State Engineer also finds that occurrence of the carbonate-rock aquifer in the southern Kane Springs Valley indicates that there is no known geologic feature at or near the southern Kane Springs Valley border that serves to juxtapose the carbonate-rock aquifer within the LWRFS with low permeability rocks in Kane Springs Valley.[287] He also finds that while geologic mapping[288] indicates that the carbonate-rock aquifer does not extend across the northern portion of the Kane Springs Valley, there is insufficient information available to determine whether the non-carbonate bedrock interpreted to underlie the northern part of the Kane Springs Valley represents low-permeability bedrock that would define a hydraulic boundary to the carbonate-rock aquifer.[289] After weighing all of the testimony and evidence relative to his criteria

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[284] LC-V Closing, p. 7.

[285] *See, e.g.*, LC-V Closing, pp. 5–6; LC-V Ex. 1, pp. 3-3–3-4; CSI Closing, pp. 5–6.

[286] *See* Tr. 524–55. *See, e.g.*, NPS presentation, slides 23–27.

[287] Pursuant to the criteria requiring joint management of hydrographic basins and the sixth criteria establishing that the boundary should extend to the nearest mapped feature that juxtaposes the carbonate-rock aquifer with low-permeability bedrock, or where a mapped feature cannot be adequately identified, to the basin boundary, the State Engineer includes the entirety of Kane Springs Valley.

[288] *See, e.g.*, NSE Ex. 12; Page, W.R., Dixon, G.L., Rowley, P.D., and Brickey, D.W., 2005, *Geologic Map of Parts of the Colorado, White River, and Death Valley Groundwater Flow Systems, Nevada, Utah, and Arizona*: Nevada Bureau of Mines and Geology Map 150, Plate plus text.

[289] *See, e.g.*, SNWA Ex. 7, pp. 2-4, 2-5, 2-10, 2-11, and 4-1, that describe volcanic rocks as important aquifers, and calderas as both flow paths and barriers depending on structural controls

for inclusion into the LWRFS, the State Engineer finds that the available information requires that Kane Springs Valley be included within the geographic boundary of the LWRFS.

WHEREAS, limited evidence and testimony were provided by participants advocating to either include or exclude the northern portion of Coyote Spring Valley. The State Engineer finds that while information such as that provided by Bedroc is convincing and supports a finding that local, potentially discrete aquifers may exist in parts of the northern Coyote Springs Valley, his criteria for defining the LWRFS calls for the inclusion of the entirety of the basin in the LWRFS. However, the State Engineer also acknowledges that there may be circumstances, like in the northern Coyote Spring Valley, where case-by-case considerations for proper management are warranted.

WHEREAS, evidence and testimony from Georgia-Pacific and Republic, and MBOP advocated against creating a single LWRFS administrative unit. Their arguments were principally based on concerns that there was insufficient consensus on defining the LWRFS geographic boundaries and that there were inherent policy implications to establishing an LWRFS administrative unit. MBOP recommended continuing to collect data and focusing on areas of scientific consensus. Georgia-Pacific and Republic asserted that boundaries are premature without additional data and without a legally defensible policy and management tools in place. They expressed concern that creating an administrative unit at this time inherently directs policy without providing for due process. The State Engineer has considered these concerns and agrees that additional data and improved understanding of the hydrologic system is critical to the process. He also believes that the data currently available provide enough information to delineate LWRFS boundaries, and that an effective management scheme will provide for the flexibility to adjust boundaries based on additional information, retain the ability to address unique management issues on a sub-basin scale, and maintain partnership with water users who may be affected by management actions throughout the LWRFS.

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to flow, citing Peter D. Rowley, and Dixon, G.L., 2011, *Geology and Geophysics of Spring, Cave, Dry Lake, and Delamar Valleys, White Pine and Lincoln Counties, and Adjacent Areas, Nevada and Utah: The Geologic Framework of Regional Flow Systems*,.

WHEREAS, evidence and testimony support the delineation of a single hydrographic basin as originally defined by the State Engineer in Interim Order 1303, with the adjustment of the Black Mountain Area boundary and the addition of Kane Springs Valley. The State Engineer acknowledges that special circumstances will exist with regard to both internal and external management. Water development both inside and outside of the perimeter of the LWRFS will continue to be evaluated on the best available data and may become subject to or excluded from the constraints or regulations of the LWRFS.

WHEREAS, the geographic extent of the LWRFS is intended to represent the area that shares both a unique and close hydrologic connection and virtually all of the same source and supply of water, and therefore will benefit from joint and conjunctive management. In that light, the State Engineer recognizes that different areas, jointly considered for inclusion into the LWRFS, have been advocated both to be included and to be excluded by the different hearing participants based on different perspectives, different data subsets, and different criteria. For the Muddy River Springs Area, California Wash, Garnet Valley, Hidden Valley, Coyote Spring Valley, and a portion of the Black Mountain Area, there is a persuasive case previously laid out in Rulings 6254–6261, and the consensus amongst the participants support their inclusion in the LWRFS. For other sub-basins such as Kane Springs Valley and the area around the NCA production wells in the Black Mountain Area, there is persuasive evidence to support their inclusion or exclusion; however, the State Engineer's criteria and available data mandate their inclusion. Their inclusion in the LWRFS provides the opportunity for conducting additional hydrologic studies in sub-basins such as these, to determine the degree to which water use would impact water resources in the LWRFS and to allow continued participation by holders of water rights in future management decisions. Thus, these sub-basins, and any other portions of the LWRFS that may benefit from additional hydrological study, can be managed more effectively and fairly within the LWRFS. For other basins whose inclusion was advocated, such as the northern portion of Las Vegas Valley and the Lower Meadow Valley Wash, the State Engineer finds that data do not exist to apply his criteria, and therefore they cannot be considered for inclusion into the LWRFS. These types of areas may require additional study and special consideration regarding the potential effects of water use in these areas on water resources within the LWRFS.

VII. AQUIFER RECOVERY SINCE COMPLETION OF THE ORDER 1169 AQUIFER TEST

WHEREAS, during the Order 1169 aquifer test an average of 5,290 afa were pumped from the carbonate-rock aquifer wells in Coyote Spring Valley and a cumulative total of 14,535 afa were pumped throughout the Order 1169 study basins. A portion of this total, approximately 3,840 acre-feet per year, was pumped from the alluvial aquifer in the Muddy River Springs Area.[290] In the years since completion of the Order 1169 aquifer test, pumping from wells in the LWRFS has gradually declined.[291] Pumping in 2013-2014 averaged 12,635 afa; pumping in 2015-2017 averaged 9,318 afa.[292] Pumpage inventories for 2018 that were published after the completion of the hearing report a total of 8,300 afa.[293] Pumping from alluvial aquifer wells in the Muddy River Spring Area has consistently declined since closure of the Reid Gardner power plant beginning in 2014, while pumping from the carbonate-rock aquifer since the completion of the aquifer test has consistently ranged between approximately 7,000 and 8,000 afa.

WHEREAS, the information obtained from the Order 1169 aquifer test and in the years since the conclusion of the test demonstrates that while, following conclusion of the aquifer test, there was a recovery of groundwater levels, the carbonate-rock aquifer has not recovered to pre-Order 1169 test levels.[294] Evidence and testimony submitted during the 2019 hearing does not refute the conclusions made by the State Engineer in Rulings 6254–6261 regarding interpretations of the Order 1169 aquifer test results, which were based on observations and analysis by multiple technical experts. Groundwater level recovery reached completion approximately two to three years after the Order 1169 aquifer test pumping ended.[295]

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[290] NSE Ex. 1, p. 4.
[291] *See, e.g.* NSE Ex. 50, *Pumpage Report Coyote Spring Valley 2017*; NSE Ex. 67, *Pumpage Report Black Mountains Area 2017*; NSE Ex. 84, *Pumpage Report Garnet Valley Area 2017*; NSE Ex. 86, *Pumpage Report California Wash Area 2017*; Ex. 88, *Pumpage Report Muddy River Springs Area 2017*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[292] *Id.*
[293] *Id.*
[294] *See, e.g.*, SNWA Ex. 7, pp. 5-17–5-18, 8-2; NPS Closing, p. 4; MVWD Closing, p. 8. *See also* Tr. 1807; NV Energy presentation, p. 11.
[295] SNWA Ex, 7, pp. 5-17–5-18; NVE Ex. 1, p. 2

WHEREAS, several participants testified about the effects of drought and climate on the recovery of groundwater levels and spring discharge after the Order 1169 aquifer test. Droughts, or periods of drier than normal conditions that last weeks, months, or years can lead to declines in groundwater levels.[296] The LWRFS is within National Oceanic and Atmospheric Administration's Nevada Climate Division 4 (Division 4). Precipitation records for Division 4 from 2006 to the 2019 season records indicate that 10 of those 14 seasons received lower than average precipitation.[297] Despite low precipitation, several participants submitted evidence that water levels continue to rise under current climate conditions in other areas with a relative lack of pumping that are tributary to the LWRFS, such as Dry Lake Valley, Delamar Valley, Garden Valley, Tule Desert, Dry Lake Valley, and other areas.[298] These rises have been attributed to efficient winter recharge that has occurred despite low cumulative precipitation.[299] Based on these observations, it was argued that the continued stress of pumping in the LWRFS carbonate-rock aquifer is limiting the recovery of water levels.[300] The State Engineer acknowledges that spring discharge is affected by both pumping and climate, and finds that groundwater levels remain a useful tool for monitoring the state of the aquifer system in the LWRFS regardless of the relative contribution of climate and drought to the measured groundwater levels. The State Engineer only has the authority to regulate pumping, not climate, in consideration of its potential to cause conflict or to be detrimental to the public interest and must do so regardless of the relative contributing effects of climate.

WHEREAS, evidence and testimony during the 2019 hearing was divided on whether water levels in the Warm Springs area and carbonate-rock aquifer indicate the system has reached or is approaching equilibrium,[301] or is still in a state of decline.[302] Hydrographs and evidence presented show that water levels at well EH-4 near the Warm Springs area have been relatively stable for several years following recovery from the Order 1169 aquifer test.[303] However, other

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[296] *See* USGS, 1993, *Drought*, US Geological Survey Open File Report 93-642, accessible at https://bit.ly/93-642, (last accessed June 6, 2020).
[297] SNWA Ex. 7, pp. 4-1–4-4.
[298] Tr. 577, 304–307.
[299] NPS Ex. 3, Appendix A.
[300] *See, e.g.*, SNWA Closing, p. 11. NPS Closing, p. 4. *See also* Tr. 642, 644–45, 1545.
[301] MVWD Closing, pp. 8–9. *See also* NV Energy Closing, p. 3; CNLV Closing, pp. 5–7.
[302] SNWA Closing, pp. 11–12. NPS Closing, pp. 4–5.
[303] SNWA Ex. 7, pp. 5–7.

carbonate-rock aquifer wells located further away from the Warm Springs area such as CSVM-1, TH-2, GV-1, and BM-DL-2 appear to have reached peak recovery from the Order 1169 aquifer test in 2015-2016 and have exhibited downward trends for the past several years.[304] The State Engineer agrees that water levels in the Warm Springs area may be approaching steady state with current pumping conditions. However, the trend is of insufficient duration to make this determination with absolute assurance and continued monitoring is necessary to determine if this trend continues or if water levels are continuing to decline slowly.

VIII. LONG-TERM ANNUAL QUANTITY OF WATER THAT CAN BE PUMPED

WHEREAS, the evidence and testimony presented at the 2019 hearing did not result in a consensus among experts of the long-term annual quantity of groundwater that can be pumped. Recommendations range from zero to over 30,000 afa, though most experts agreed that the amount must be equal to or less than the current rate of pumping. There is a near consensus that the exact amount that can be continually pumped for the long-term cannot be absolutely determined with the data available and that to make that determination will require more monitoring of spring flows, water levels, and pumping amounts over time.

WHEREAS, evidence and testimony were presented arguing that the regional water budget demonstrates that far more groundwater is available for development within the LWRFS than is currently being pumped. CSI argues that the total amount of groundwater available for extraction from the LWRFS may be up to 30,630,[305] which is an estimate of the entirety of natural discharge from the system that occurs through groundwater evapotranspiration and subsurface groundwater outflow. Nearly all other experts disagreed that pumping to that extent could occur without causing harm to the Moapa dace or conflict with senior Muddy River decreed rights. The disagreement is not about the amount of the water budget, but rather the importance of the water budget in determining the amount of groundwater in the LWRFS that can continually be pumped,[306] not the amount of inflow and outflow to the system. In addition, availability of groundwater for pumping based on water budget should consider whether the same water is appropriated for use in upgradient and downgradient basins, and CSI did not account for this.

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[304] *Id.*
[305] CSI Closing, p. 2.
[306] *See e.g.*, SNWA Ex. 9, p. 24.; MVWD Ex. 3, p. 4; NPS Ex. 3, p. 23.

The State Engineer recognizes that the water budget is important to fully understand the hydrology of the regional flow system but also agrees with nearly all participants that the regional water budget is not the limiting measure to determine water available for development in the LWRFS. The potential for conflict with senior rights and impacts that are detrimental to the public interest in the LWRFS is controlled by aquifer hydraulics and the effect of pumping on discharge at the Warm Springs area rather than the regional water budget.

WHEREAS, evidence and testimony were presented arguing that the location of pumping within the LWRFS is an important variable in the determination of the amount that can be pumped. Participants representing groundwater users in Garnet Valley and the APEX area at the south end of the LWRFS testified that pumping within Garnet Valley does not have a discernable signal at wells near the Warm Springs area and that the hydraulic gradient from north-to-south within the LWRFS indicates that there is a component of groundwater flow in Garnet Valley that does not discharge to the Warm Springs area.[307] Several participants agreed that moving pumping to more distal locations within the LWRFS will lessen the effect of that pumping on spring flows. NV Energy testified that there would be a lesser effect because pumping areas around the periphery of the main carbonate-rock aquifer are less well-connected to the springs, and because of the likelihood that some amount of subsurface outflow occurs along and southern and southeastern boundary of the LWRFS and it is possible to capture some of that subsurface outflow without a drop-for-drop effect on discharge at the Warm Springs area[308] Others drew the same conclusion based on their review of the data and characterization of a heterogeneous system[309] or on weak connectivity between peripheral locations and the Warm Springs area.[310]

CSI argues that more groundwater development can occur in the LWRFS because subsurface fault structures create compartmentalization and barriers to groundwater flow that reduce the effects of pumping on discharge at the Warm Springs area.[311] They rebut the contention by others that spring flow is affected homogeneously by pumping within the LWRFS.[312] CSI used geophysical data to map a north-south trending subsurface feature that bisects Coyote Spring

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[307] *See* CNLV Ex. 3, pp. 45–47; GP-REP Ex. 1, pp. 2–3.
[308] NVE Ex. 1, pp. 8–9.
[309] *See e.g.* MBOP Ex. 2, p. 23; GP-REP Ex. 2, pp. 4–5. *See also* Technichrome Response.
[310] *See e.g.* NCA Closing, pp. 2–10; LC-V Closing, pp. 4–6; Bedroc Closing, pp. 9–11.
[311] CSI Closing, pp. 2–5.
[312] CSI Ex. 2, pp. 40–41.

Valley. They hypothesize that this structure is an impermeable flow barrier that creates an isolated groundwater flow path on the west side of Coyote Spring Valley from which pumping would capture recharge from the Sheep Range without spring flow depletion at the Warm Springs area.[313] MBOP also contends that the system is far too complex to characterize it as a homogeneous "bathtub" and that preferential flow paths within the region mean that pumping stress will greatly differ within the LWRFS depending on where the pumping occurs.[314] Rebuttals to MBOP and CSI contend that an emphasis on complexities in geologic structure is a distraction from the question at hand, and that the hydraulic data collected during and after the Order 1169 aquifer test clearly demonstrate close connectivity and disproves CSI's hypothesis.[315]

The State Engineer finds that the data support the conclusion that pumping from locations within the LWRFS that are distal from the Warm Springs area can have a lesser impact on spring flow than pumping from locations more proximal to the springs. The LWRFS system has structural complexity and heterogeneity, and some areas have more immediate and more complete connection than others. For instance, the Order 1169 aquifer test demonstrated that pumping 5,290 afa from carbonate-rock aquifer wells in Coyote Spring Valley caused a sharp decline in discharge at the springs, but distributed pumping since the completion of the aquifer test in excess of 8,000 afa has correlated with a stabilization of spring discharge. The data collected during and after the Order 1169 aquifer test provide substantial evidence that groundwater levels throughout the LWRFS rise and fall in common response to the combined effects of climate and pumping stress, which controls discharge at the Warm Springs area.[316] The State Engineer finds that the best available data do not support the hypotheses that variable groundwater flow paths and heterogeneous subsurface geology are demonstrated to exist that create hydraulically isolated compartments or subareas within the LWRFS carbonate-rock aquifer from which pumping can occur without effect on the Warm Springs area. However, there remains some uncertainty as to the extent that distance and location relative to other capturable sources of discharge either delay, attenuate, or reduce capture from the springs.

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[313] *Id. See also* CSI Ex. 1, pp. 31–40.
[314] MBOP Closing, p. 7.
[315] *See e.g.*, SNWA Ex. 9, pp. 23–24.
[316] NSE Exs. 15–21.

WHEREAS, evidence and testimony were presented to argue that no amount of groundwater can be pumped from the carbonate-rock aquifer or from the LWRFS without conflicting with the Muddy River decree or causing harm to the Moapa dace habitat. This argument is predicated on the interpretation that lowering of groundwater level anywhere within the LWRFS, whether caused by climate or pumping, eventually has an effect on spring discharge, and that any reduction in spring discharge caused by pumping conflicts with senior decreed rights or harms the Moapa dace or both.[317] MVIC and SNWA agree that capturing discharge from the Warm Springs area springs and the Muddy River are a conflict with the Muddy River decree, which appropriates "all of the flow of the said stream, its sources of supply, headwaters and tributaries."

The Muddy River Decree was finalized in 1920, decades before any significant amount of groundwater development within the Muddy River springs area or the LWRFS. The statement quoted above, or something similar to it, is a common conclusion in decrees to establish finality to the determination of relative priority of rights. By including this statement, the decreed right holders are afforded the assurance that no future claimants will interject a new priority right. However, it is also common on decreed systems for junior rights to be appropriated for floodwater or other excess flows, provided that no conflict occurs with the senior priorities. Similarly, groundwater development almost always exists in the tributary watersheds of decreed river systems, even though groundwater in a headwater or tributary basin is part of the same hydrologic system. There is no conflict as long as the senior water rights are served.

The State Engineer disagrees with SNWA and MVIC that the above quoted statement in the decree means that any amount of groundwater pumped within the headwaters that would reduce flow in the Muddy River conflicts with decreed rights. The State Engineer finds that capture or potential capture of the waters of a decreed system does not constitute a conflict with decreed right holders if the flow of the source is sufficient to serve decreed rights. Muddy River decreed rights were defined by acres irrigated and diversion rates for each user.[318] The sum of diversion rates greatly exceeds the full flow of the River, but all users are still served through a rotation schedule managed by the water master. The total amount of irrigated land in the decree is 5,614 acres.[319]

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[317] *See, e.g.*, CBD Ex. 3, p. 23; SNWA Ex. 7, p. 8-4; MVIC Ex. 1, p. 3.
[318] NSE Ex. 333.
[319] *Id.*

Flow in the Muddy River at the Moapa Gage has averaged approximately 30,600 afa since 2015,[320] which is less than the predevelopment baseflow of about 33,900.[321] If all decreed acres were planted with a high-water use crop like alfalfa, the net irrigation water requirement would be 28,300 afa, based on a consumptive use rate of 4.7 afa.[322] Conveyance loss due to infiltration is an additional consideration to serve all decreed users; however, this is limited in the Muddy River because the alluvial corridor is narrow and well defined so water stays within the shallow groundwater or discharges back to the river. The State Engineer finds that the current flow in the Muddy River is sufficient to serve all decreed rights in conformance with the Muddy River Decree, and that reductions in flow that have occurred because of groundwater pumping in the headwaters basins is not conflicting with Decreed rights.

WHEREAS, the majority of experts agree that there is an intermediate amount of pumping approximated by recent pumping rates that can continue to occur in the LWRFS and still protect the Moapa dace and not conflict with decreed rights. USFWS and NCA endorsed the use of average pumping over the years 2015-2017 (9,318 afa as reported by State Engineer pumpage inventories) as a supportable amount that can continue to be pumped, because the system appears to have somewhat stabilized.[323] CSI also endorsed this approach as an initial phase, though they suggested 11,400 afa, which was the average pumping reported by State Engineer inventories over the years 2010-2015 that included the period of the Order 1169 aquifer test.[324] CNLV makes a rough estimate that no more than 10,000 afa can be supported throughout the entire region, based on their professional judgment and review of the data.[325] NV Energy concludes that 7,000–8,000 afa can continue to be pumped, based on the amount of pumping in recent years from carbonate-rock aquifer wells and the observation that steady-state conditions in Warm Springs area spring

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[320] NSE Ex. 211, *USGS 09416000 Muddy River Moapa 1914-2013*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[321] SNWA Ex. 7, p. 5-4.
[322] *See, e.g.*, Huntington, J.L. and R. Allen, (2010), *Evapotranspiration and Net Irrigation Water Requirements for Nevada*, Nevada State Engineer's Office Publication, accessible at https://bit.ly/etniwr, (last accessed June 7, 2020), official records of the Division of Water Resources.
[323] USFWS Ex. 5, p. 3; NCA Ex. 1, p. 19.
[324] CSI Closing, p. 2.
[325] CNLV Ex. 3, p. 2.

flow are being reached.[326] SNWA estimates that only 4,000–6,000 afa of carbonate-rock aquifer pumping can continually occur within the LWRFS.[327]

WHEREAS, the State Engineer finds that the evidence and testimony projecting continual future decline in spring flow at the current rate of pumping is compelling but not certain. Several participants pointed out rising trends in groundwater levels at many locations in Southern Nevada, outside of the LWRFS, that are distant from pumping[328] even though total precipitation has been below average and since 2006 has been described as a drought.[329] This suggests that climate and recharge efficiency may have actually buffered the full effect of pumping on discharge at the Warm Springs area, and that the system could not support the current amount of groundwater pumping during an extended dry period with lesser recharge. In addition, slight declining trends that are observed in Garnet Valley monitoring wells are not evident in wells close to the Warm Springs area.[330] If drawdown in Garnet Valley has not yet propagated to the Muddy Springs area, then the resilience of the apparent steady state of spring flow is in doubt. Projections of continued future decline in spring discharge suggests that the current amount of pumping in the LWRFS is a maximum amount that may need to be reduced in the future if the stabilizing trend in spring discharge does not continue.

WHEREAS, there is an almost unanimous agreement among experts that data collection is needed to further refine with certainty the extent of groundwater development that can be continually pumped over the long term. The State Engineer finds that the current data are adequate to establish an approximate limit on the amount of pumping that can occur within the system, but that continued monitoring of pumping, water levels, and spring flow is essential to refine and validate this limit.

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[326] NVE Ex. 1, p. 8.
[327] SNWA Ex. 7, p. 8-4.
[328] NPS Ex. 3, Appendix A. *See also* Tr. 304–307, 577.
[329] Tr. 1292–1300. *See, also* LC-V Ex. 11, *PowerPoint Presentation of Todd G. Umstot, entitled Drought and Groundwater*, Hearing on Interim Order 1303, official records of the Division of Water Resources, slides 3–10.
[330] CNLV Ex. 3, pp. 45–46.

WHEREAS, pumping from wells in the LWRFS has gradually declined since completion of the Order 1169 aquifer test and is approaching 8,000 afa. This coincides with the period of time when spring discharge may be approaching steady state. The State Engineer finds that the maximum amount of groundwater that can continue to be developed over the long term in the LWRFS is 8,000 afa. The best available data at this time indicate that continued groundwater pumping that consistently exceeds this amount will cause conditions that harm the Moapa dace and threaten to conflict with Muddy River decreed rights.

IX. MOVEMENT OF WATER RIGHTS

WHEREAS, the data and evidence are clear that location of pumping within the LWRFS relative to the Warm Springs area and the Muddy River can influence the relative impact to discharge to the Warm Springs area and/or senior decreed rights on the Muddy River. The transfer of groundwater pumping from the Muddy River Springs Area alluvial wells to carbonate-rock aquifer wells may change the timing of any impact to Muddy River flows and amplify the effect on discharge to the Warm Springs area, thus potentially adversely impacting habitat for the Moapa dace. And the transfer of groundwater withdrawals from the carbonate-rock aquifer into the Muddy River alluvial aquifer may reduce the impact to the Moapa dace habitat but increase the severity of impact to the senior decreed rights on the Muddy River. The State Engineer recognizes that the LWRFS is fundamentally defined by its uniquely close hydrologic interconnection and shared source and supply of water. However, the State Engineer also recognizes that there can be areas within the LWRFS that have a greater or lesser degree of hydraulic connection due to distance, local changes in aquifer properties, or proximity to other potential sources of capturable water.

WHEREAS, Rulings 6254–6261 acknowledge that one of the main goals of Order 1169 and the associated pumping test at well MX-5 was to observe the effects of increased pumping on groundwater levels and spring flows. Coyote Spring Valley carbonate-rock aquifer pumping during the Order 1169 aquifer test was the largest localized carbonate-rock aquifer pumping in the LWRFS. In addition, concurrent carbonate-rock aquifer and alluvial aquifer pumping in Garnet Valley, Muddy River Springs Area, California Wash, and the northwest portion of the Black Mountains Area occurred during the test period. Rulings 6254–6261 described the data and analysis used to determine that additional pumping at the MX-5 well contributed significantly to decreases in high elevation springs (Pederson Springs) and other springs that are the sources to the

Muddy River. Evidence and reports provided under Interim Order 1303 do not challenge the findings in Rulings 6254–6261 that pumping impacts were witnessed. There is a strong consensus among participants that pumping during the Order 1169 aquifer test along with concurrent pumping caused drawdowns of water levels throughout the LWRFS.[331] However, the effects of pumping from different locations within the LWRFS on discharge at the Warm Springs area is not homogeneous.[332] The State Engineer finds that movement of water rights that are relatively distal from the Warm Springs area into carbonate-rock aquifer wells that have a closer hydraulic connection to the Warm Springs area is not favorable.

WHEREAS, evidence and testimony provided by participants during the Interim Order 1303 hearing provides a strong consensus that alluvial aquifer pumping in the Muddy River Springs Area affects Muddy River discharge.[333] There is also strong evidence that carbonate-rock aquifer pumping throughout the LWRFS affects spring flow but can also be dependent on proximity of pumping to springs.[334] No participant is a proponent of moving additional water rights closer to the headwaters of the Muddy River within the Muddy River Springs Area, and most participants agree that carbonate-rock aquifer and alluvial aquifer pumping in the Muddy River Springs Area captures Muddy River flow. The State Engineer finds that any pumping within close proximity to the Muddy River could result in capture of the Muddy River. The State Engineer also finds that any movement of water rights into carbonate-rock aquifer and alluvial aquifer wells in the Muddy River Springs Area that may increase the impact to Muddy River decreed rights is disfavored.

WHEREAS, the Order 1169 aquifer test demonstrated that impacts from the test along with concurrent pumping was widespread within the LWRFS encompassing 1,100 square miles and supported the conclusion of a close hydrologic connection among the basins.[335] While the effects of movement of water rights between alluvial aquifer wells and carbonate-rock aquifer wells on deliveries of senior decreed rights to the Muddy River or impacts to the Moapa dace may not be uniform across the entirety of the LWRFS, the relative degree of hydrologic connectedness

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[331] *See* SNWA Closing, pp. 10, 16; MVIC Closing, p. 6.
[332] *See, e.g.*, SNWA Closing, p. 10.
[333] CNLV Closing, p. 8; Tr. 1456–1457, 1458. *See also* SNWA Closing, p. 16; MVWD Closing, p. 11; MVIC Closing, p. 6.
[334] CNLV Closing, pp. 8–10; Tr. 1457, 1458; NV Energy Closing, p. 4; MVIC Closing, p. 6.
[335] NSE Ex. 256. *See also* NSE Ex. 14, pp. 20–21; NSE Ex. 17, p. 19; SNWA Closing pp. 2, 3.

in the LWRFS will be the principle factor in determining the impact of movement of water rights. The State Engineer recognizes that there may be discrete, local aquifers within the LWRFS with an uncertain hydrologic connection to the Warm Springs area. Determining the effect of moving water rights into these areas may require additional scientific data and analysis. Applications to move water rights under scenarios not addressed in this Order will be evaluated on their individual merits to determine potential impact to existing senior rights, potential impact to the Warm Springs area and Moapa dace habitat, and impacts to the Muddy River.

X. ORDER

NOW THEREFORE, the State Engineer orders:

1. The Lower White River Flow System consisting of the Kane Springs Valley, Coyote Spring Valley, Muddy River Springs Area, California Wash, Hidden Valley, Garnet Valley, and the northwest portion of the Black Mountains Area as described in this Order, is hereby delineated as a single hydrographic basin. The Kane Springs Valley, Coyote Spring Valley, Muddy River Springs Area, California Wash, Hidden Valley, Garnet Valley and the northwest portion of the Black Mountains Area are hereby established as sub-basins within the Lower White River Flow System Hydrographic Basin.

2. The maximum quantity of groundwater that may be pumped from the Lower White River Flow System Hydrographic Basin on an average annual basis without causing further declines in Warm Springs area spring flow and flow in the Muddy River cannot exceed 8,000 afa and may be less.

3. The maximum quantity of water that may be pumped from the Lower White River Flow System Hydrographic Basin may be reduced if it is determined that pumping will adversely impact the endangered Moapa dace.

4. All applications for the movement of existing groundwater rights among sub-basins of the Lower White River Flow System Hydrographic Basin will be processed in accordance with NRS 533.370.

5. The temporary moratorium on the submission of final subdivision or other submission concerning development and construction submitted to the State Engineer for review established under Interim Order 1303 is hereby terminated.

6. All other matters set forth in Interim Order 1303 that are not specifically addressed herein are hereby rescinded.

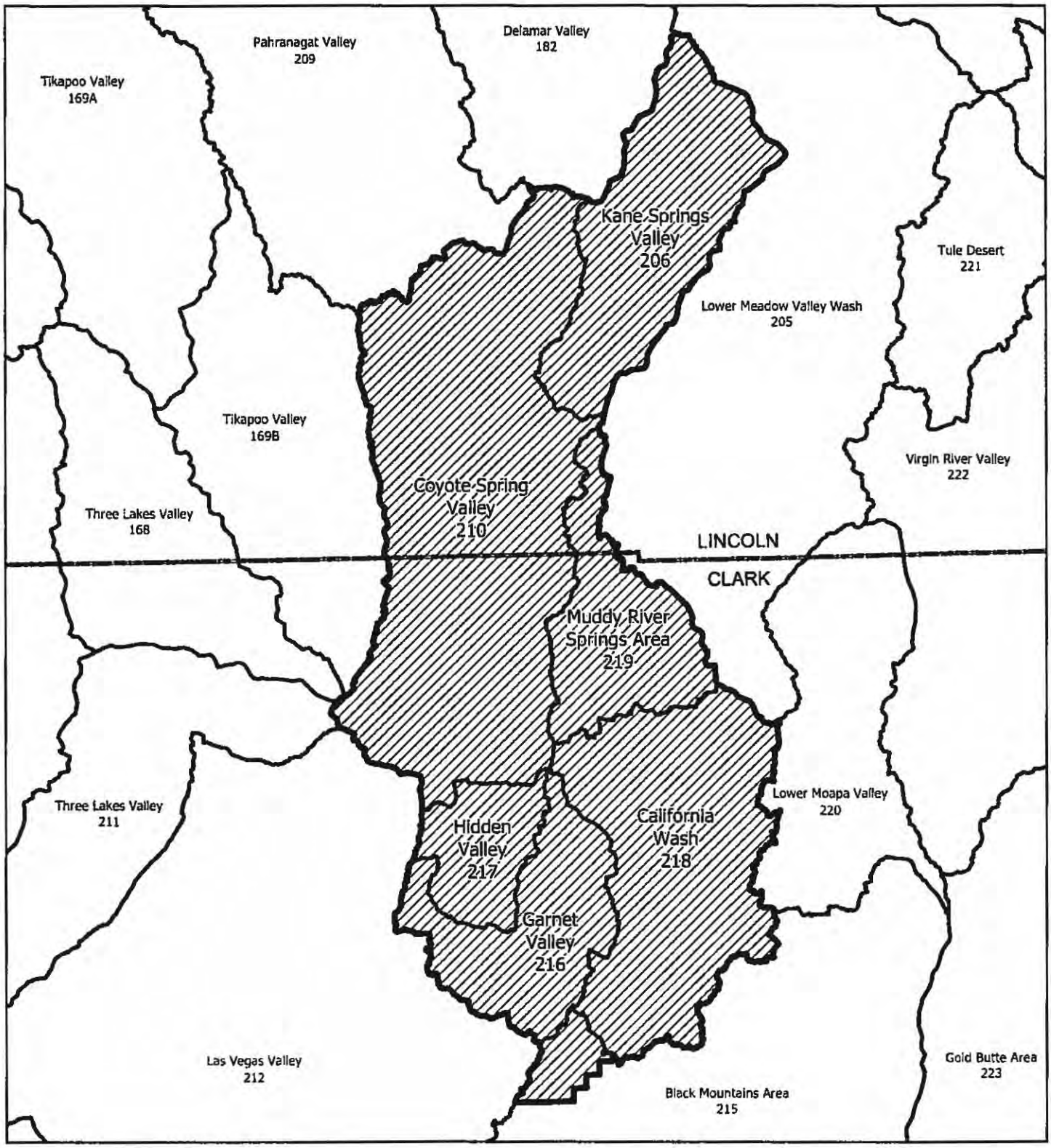
Tim Wilson, P.E.

TIM WILSON, P.E.
State Engineer

Dated at Carson City, Nevada this

15th day of June, 2020.

ATTACHMENT A



Location and Extent of LWRFS Hydrographic Basin, Clark and Lincoln Counties, Nevada

State of Nevada
Department of Conservation and Natural Resources
Office of the State Engineer
Division of Water Resources

Tim Wilson, P.E.
State Engineer

June 2020

LWRFS Boundary
Hydrographic Basin Boundary
County Boundary

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Exhibit 2

Exhibit 2

IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA

INTERIM ORDER **#1303**

DESIGNATING THE ADMINISTRATION OF ALL WATER RIGHTS WITHIN COYOTE SPRING VALLEY HYDROGRAPHIC BASIN (210), A PORTION OF BLACK MOUNTAINS AREA BASIN (215), GARNET VALLEY BASIN (216), HIDDEN VALLEY BASIN (217), CALIFORNIA WASH BASIN (218), AND MUDDY RIVER SPRINGS AREA (AKA UPPER MOAPA VALLEY) BASIN (219) AS A JOINT ADMINISTRATIVE UNIT, HOLDING IN ABEYANCE APPLICATIONS TO CHANGE EXISTING GROUNDWATER RIGHTS, AND ESTABLISHING A TEMPORARY MORATORIUM ON THE REVIEW OF FINAL SUBDIVISION MAPS

I. PURPOSE

WHEREAS, the purpose of this Interim Order is to designate a multi-basin area known to share a close hydrologic connection as a joint administrative unit, which shall be known as the Lower White River Flow System (LWRFS).

WHEREAS, an adequate and predictable supply of groundwater within the LWRFS supports the health, safety and welfare of the area, and this Interim Order aims to protect existing senior rights and the public interest in an endangered species, recognize existing beneficial use, and limit development actions that are dependent on a supply of water that may not be available in the future.

WHEREAS, during the interim period that this Order is in effect, holders of existing rights and other interested parties are encouraged to submit reports to the Nevada Division of Water Resources (NDWR) analyzing the data available regarding sustainable groundwater development in the LWRFS, the geographic extent of the LWRFS, and considerations relating to groundwater pumping within the LWRFS and its effects on the fully decreed Muddy River. This collected and analyzed data is an essential step to optimize the beneficial use of the available water supply in the LWRFS.

WHEREAS, concurrent with this interim order, holders of existing rights and other interested parties are encouraged to participate in the public process to develop a conjunctive management plan.

I. BASIN DESIGNATIONS PURSUANT TO NRS § 534.030

WHEREAS, the Coyote Spring Valley Hydrographic Basin was designated pursuant to Nevada Revised Statute (NRS) § 534.030 by Order 905 dated August 21, 1985, which also declared municipal, power, industrial and domestic uses as preferred uses of the groundwater resource pursuant to NRS § 534.120.

WHEREAS, the Black Mountains Area Hydrographic Basin was designated pursuant to NRS § 534.030 by Order 1018 dated November 22, 1989, which also declared municipal, industrial, commercial and power generation purposes as preferred uses of the groundwater resource pursuant to NRS § 534.120, declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation purposes would be denied.

WHEREAS, the Garnet Valley Hydrographic Basin was designated pursuant to NRS § 534.030 by Order 1025 dated April 24, 1990, which also declared municipal, quasi-municipal, industrial, commercial, mining, stockwater and wildlife purposes as preferred uses pursuant to NRS § 534.120, and declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation purposes would be denied.

WHEREAS, the California Wash Hydrographic Basin was designated pursuant to NRS § 534.030 by Order 1026 dated April 24, 1990, which also declared municipal, quasi-municipal, industrial, commercial, mining, stockwater and wildlife purposes as preferred uses pursuant to NRS § 534.120, and declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation purposes would be denied.

WHEREAS, the Hidden Valley Hydrographic Basin was designated pursuant to NRS § 534.030 by Order 1024 dated April 24, 1990, which also declared municipal, quasi-municipal, industrial, commercial, mining, stockwater and wildlife purposes as preferred uses pursuant to NRS § 534.120, and declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation purposes would be denied.

WHEREAS, the Muddy River Springs Area was partially designated pursuant to NRS § 534.030 by Order 392 dated July 14, 1971, and was fully designated by Order 1023 dated April 24, 1990, which also declared municipal, quasi-municipal, industrial, commercial, mining, stockwater and wildlife purposes as preferred uses pursuant to NRS § 534.120, and declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation purposes would be denied.

II. ORDERS 1169 AND 1169A

WHEREAS, on March 8, 2002, the State Engineer issued Order 1169 holding in abeyance carbonate-rock aquifer system groundwater applications either pending or to be filed in Coyote Spring Valley (Basin 210), Black Mountains Area (Basin 215), Garnet Valley (Basin 216), Hidden Valley (Basin 217), Muddy River Springs Area (Basin 219), and Lower Moapa Valley (Basin 220) and ordering an aquifer test of the carbonate-rock aquifer system, which was not well understood, to determine whether additional appropriations could be developed from the carbonate-rock aquifer system. The Order required that at least 50%, or 8,050 acre-feet annually (afa), of the water rights then currently permitted in Coyote Spring Valley be pumped for at least two consecutive years.

WHEREAS, on April 18, 2002, in Ruling 5115, the State Engineer added the California Wash (Basin 218) to the Order 1169 aquifer test basins.

WHEREAS, prior to the Order 1169 aquifer test beginning, there were significant concerns that pumping 8,050 afa from the Coyote Spring Valley as part of the aquifer test would adversely impact the water resources at the Muddy River Springs, and consequently the Muddy River. Ultimately, the Order 1169 study participants agreed that even if the minimum 8,050 afa was not pumped, sufficient information would be obtained to inform future decisions relating to the study basins.

WHEREAS, on November 15, 2010, the Order 1169 aquifer test began, whereby the study participants began reporting to NDWR on a quarterly basis the amounts of water being pumped from wells in the carbonate and alluvial aquifer during the pendency of the aquifer test.

WHEREAS, on December 21, 2012, the State Engineer issued Order 1169A declaring the completion of the aquifer test to be December 31, 2012, after a period of 25½ months. The

State Engineer provided the study participants the opportunity to file reports with NDWR until June 28, 2013, addressing the information gained from the aquifer test and the water available to support applications in the aquifer test basins.

WHEREAS, during the Order 1169 aquifer test, an average of 5,290 acre-feet per year was pumped from carbonate wells in Coyote Spring Valley, and a cumulative total of approximately 14,535 acre-feet per year of water was pumped throughout the LWRFS. Of this total, approximately 3,840 acre-feet per year was pumped from the Muddy River Springs Area alluvial aquifer.[1]

WHEREAS, during the aquifer test, pumpage was measured and reported from 30 other wells in the Muddy River Springs Area, Garnet Valley, California Wash, Black Mountains Area, and Lower Meadow Valley Wash. Stream diversions from the Muddy River were reported, and measurements of the natural discharge of the Muddy River and several of the Muddy River's headwater springs were collected daily. Water-level data were collected from a total of 79 monitoring and pumping wells within the LWRFS. All of the data collected during the aquifer test was made available to each of the study participants and the public.

WHEREAS, during the Order 1169 aquifer test, the resulting water-level decline encompassed 1,100 square miles and extended from northern Coyote Spring Valley through the Muddy River Springs Area, Hidden Valley, Garnet Valley, California Wash, and the northwestern part of the Black Mountains Area.[2,3] The water-level decline was estimated to be 1 to 1.6 feet in this area with minor drawdowns of 0.5 feet or less in the northern part of Coyote Spring Valley north of the Kane Springs Wash fault zone.

WHEREAS, results of the two-year test demonstrated that pumping 5,290 acre-feet annually from the carbonate aquifer in Coyote Spring Valley, in addition to the other carbonate pumping in Garnet Valley, Muddy River Springs Area, California Wash and the northwest part

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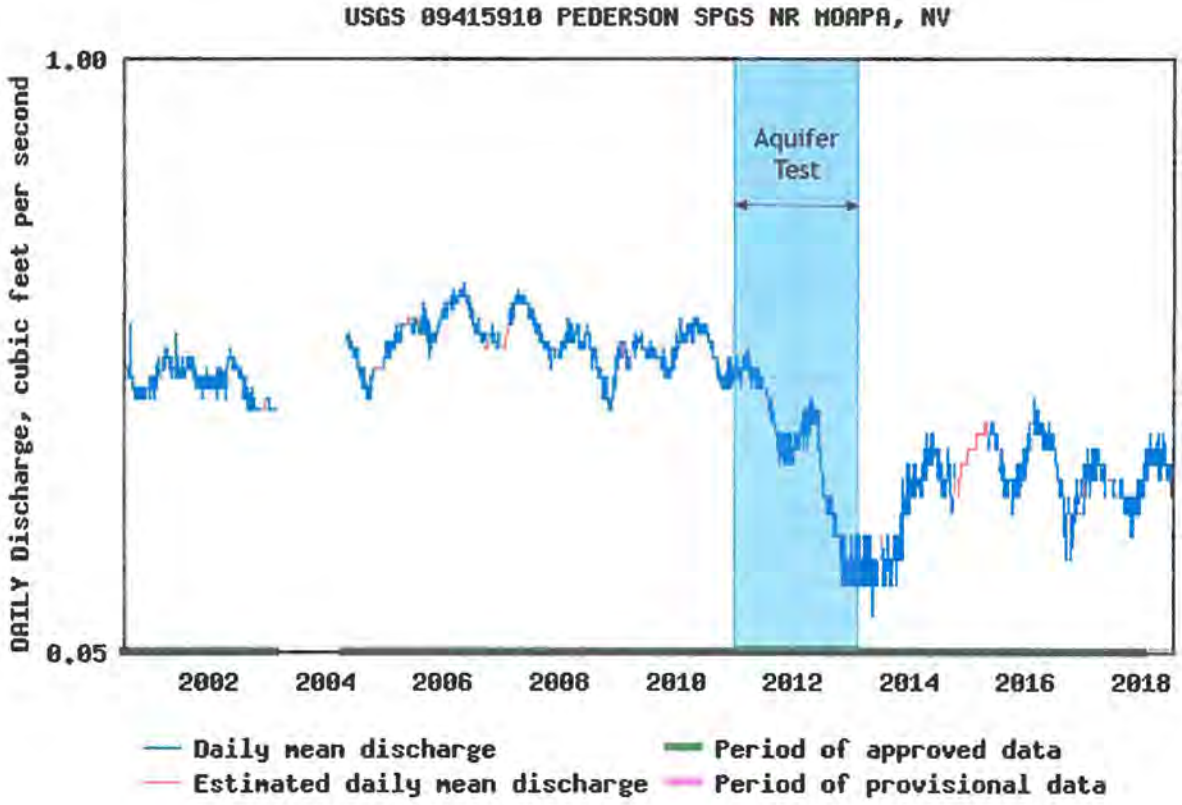
[1] *See, e.g.*, Ruling 6254, p. 17; Appendix B.

[2] *See, e.g.*, Ruling 6254. *See also* U.S. Fish and Wildlife Service, U.S. Bureau of Land Management and U.S. National Park Service Order 1169A Report, *Test Impacts and Availability of Water Pursuant to Applications Pending Under Order 1169*, June 28, 2013, official records in the Office of the State Engineer.

[3] There was no groundwater pumping in Hidden Valley but effects were still observed in the Hidden Valley monitor well.

of the Black Mountains Area, caused sharp declines in groundwater levels and flows in the Pederson and Pederson East springs. These two springs are considered to be sentinel springs for the overall condition of the Muddy River because they are at a higher altitude than other Muddy River source springs, and therefore are proportionally more affected by a decline in groundwater level in the carbonate aquifer.[4] The Pederson spring flow decreased from 0.22 cubic feet per second (cfs) to 0.08 cfs and the Pederson East spring flow decreased from 0.12 cfs to 0.08 cfs. The following hydrograph at Pederson spring illustrates the decline in discharge during the aquifer test and also demonstrates that in the five years since the end of the aquifer test, spring flow has not recovered to pre-test flow rates.



[4] *See* the 2006 Memorandum of Agreement among the Southern Nevada Water Authority, United States Fish and Wildlife Service, Coyote Springs Investments, Moapa Band of Paiutes, and the Moapa Valley Water District.

Additional headwater springs at lower altitude, the Baldwin and Jones springs, declined approximately 4% during the test.[5] All of the headwater springs contribute to the decreed and fully appropriated Muddy River and are the predominant source of water that supplies the habitat of the endangered Moapa dace, a fish federally listed as an endangered species since 1967.

WHEREAS, based upon the analysis of the carbonate aquifer test, it was asserted that pumping at the Order 1169 rate at well MX-5 in Coyote Spring Valley could result in both of the high-altitude Pederson and Pederson East springs going dry in 3 years or less.[6]

WHEREAS, based upon the findings of the aquifer test, the carbonate aquifer underlying Coyote Spring Valley, Garnet Valley, Hidden Valley, Muddy River Springs Area, California Wash and the northwest part of the Black Mountains Area[7] (the LWRFS as depicted in Appendix A) was acknowledged to have a unique hydrologic connection and share the same supply of water.[8]

III. RULINGS 6254, 6255, 6256, 6257, 6258, 6259, 6260, AND 6261

WHEREAS, on January 29, 2014, the State Engineer issued Ruling 6254 on pending applications of the Las Vegas Valley Water District (LVVWD) and Coyote Springs Investment, LLC (CSI) in the Coyote Spring Valley; Ruling 6255 on pending applications of Dry Lake Water, LLC (Dry Lake), and CSI in Coyote Spring Valley; Ruling 6256 on pending applications of Bonneville Nevada Corporation, Nevada Power Company (Nevada Power), Dry Lake, and the Southern Nevada Water Authority (SNWA) in the Garnet Valley; Ruling 6257 on pending applications of Nevada Power, Dry Lake, and SNWA in the Hidden Valley; Ruling 6258 on

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[5] U.S. Fish and Wildlife Service, U.S. Bureau of Land Management and U.S. National Park Service Order 1169A Report, *Test Impacts and Availability of Water Pursuant to Applications Pending Under Order 1169*, pp. 43-46, 50-51, June 28, 2013, official records in the Office of the State Engineer. *See also,* http://waterdata.usgs.gov/nv/nwis/.

[6] *See, e.g.*, Ruling 6254. *See also* U.S. Fish and Wildlife Service, U.S. Bureau of Land Management and U.S. National Park Service Order 1169A Report, *Test Impacts and Availability of Water Pursuant to Applications Pending Under Order 1169*, p. 85, June 28, 2013, official records in the Office of the State Engineer.

[7] That portion of the Black Mountains Area lying within the Lower White River Flow System is defined as those portions of Sections 29, 30, 31, 32, and 33, T.18S., R.64E., M.D.B.&M.; Section 13 and those portions of Sections 1, 11, 12, and 14, T.19S., R.63E., M.D.B.&M.; Sections 5, 7, 8, 16, 17, and 18 and those portions of Sections 4, 6, 9, 10, and 15, T.19S., R.64E., M.D.B.&M.

[8] *See, e.g.*, State Engineer Ruling 6254, p. 24, official records in the Office of the State Engineer.

pending applications by LVVWD, Nevada Power, Dry Lake, and the Moapa Band of Paiute Indians in the California Wash; Ruling 6259 on pending applications by the Moapa Valley Water District in the Muddy River Springs Area; and Ruling 6260 on pending applications by Nevada Cogeneration Associates #1, Nevada Cogeneration Associates #2, and Dry Lake, in the Black Mountains Area, upholding in part the protests to said applications and denying the applications on the grounds that there was no unappropriated groundwater at the source of supply, the proposed use would conflict with existing rights, and the proposed use of the water would threaten to prove detrimental to the public interest because it would threaten the water resources upon which the endangered Moapa dace are dependent.

IV. LOWER WHITE RIVER FLOW SYSTEM

WHEREAS, the total long-term average water supply to the LWRFS, from subsurface groundwater inflow and local precipitation recharge, is not more than 50,000 acre-feet annually.[9]

WHEREAS, the Muddy River, a fully appropriated surface water source, has its headwaters in the Muddy River Springs Area and has the most senior rights in the LWRFS. Spring discharge in the Muddy River Springs Area is produced from the regional carbonate aquifer. Prior to groundwater development, the Muddy River flows at the Moapa gage were approximately 34,000 acre-feet annually.[10]

WHEREAS, the alluvial aquifer surrounding the Muddy River ultimately derives virtually all of its water supply from the carbonates, either through spring discharge that infiltrates into the alluvium or through subsurface hydraulic connectivity between the carbonate rocks and the alluvium.[11]

WHEREAS, the State Engineer has determined that pumping of groundwater within the LWRFS has a direct interrelationship with the flow of the decreed and fully appropriated Muddy River, which has the most-senior rights.[12]

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[9] *Id.*
[10] United States Geological Survey Surface-Water Annual Statistics for the Nation, USGS 09416000 MUDDY RV NR MOAPA, NV, accessed at https://waterdata.usgs.gov/nwis/annual/?search_site_no=09416000&agency_cd=USGS&referred_module=sw&format=sites_selection_links.
[11] *See, e.g.*, State Engineer Ruling 6254, p. 24, official records in the Office of the State Engineer.
[12] *Id.*

WHEREAS, since the conclusion of the Order 1169 aquifer test, the State Engineer has jointly managed the groundwater rights within LWRFS.

WHEREAS, the State Engineer, under the joint management of the LWRFS, has not distinguished pumping from wells in the Muddy River Springs Area alluvium from pumping carbonate wells within the LWRFS.

WHEREAS, within the LWRFS, there exist more than 38,000 acre-feet of groundwater appropriations. Groundwater pumping from 2007 forward is included in Appendix B and is significantly less than the total appropriations.

WHEREAS, groundwater levels within the LWRFS have been relatively flat in the five years since the end of the Order 1169 aquifer test, but groundwater levels have not recovered to pre-test levels.[13]

IV. PUMPAGE INVENTORIES

WHEREAS, annual groundwater pumpage inventories in the Coyote Spring Valley have been published by the State Engineer since 2005. In the years 2005 through 2017 pumping has ranged from 665 acre-feet to 5,606 acre-feet, averaging 2,605 acre-feet. The average pumping in Coyote Spring Valley, excluding the years 2011 and 2012 when the aquifer test was being conducted, is 2,068 acre-feet.[14]

WHEREAS, annual groundwater pumpage inventories in the Black Mountains Area have been published by the State Engineer since 2001. In the years 2001 through 2017 pumping in the northwest portion of the basin has ranged from 1,137 acre-feet to 1,591 acre-feet, with an average of 1,476 acre-feet.[15]

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[13] *See, e.g., USGS water level data for Site 364650114432001 219 S13 E65 28BDBA1 USGS CSV-2.* waterdata.usgs.gov/nwis.

[14] *See, e.g., Nevada Division of Water Resources, Coyote Spring Valley Hydrographic Basin 13-210 Groundwater Pumpage Inventory*, 2017.

[15] *See, e.g., Nevada Division of Water Resources, Black Mountains Area Hydrographic Basin 13-215 Groundwater Pumpage Inventory*, 2017.

WHEREAS, annual groundwater pumpage inventories in the Garnet Valley have been published by the State Engineer since 2001. In the years 2001 through 2017 pumping has ranged from 797 acre-feet to 2,181 acre-feet, averaging 1,358 acre-feet.[16]

WHEREAS, the State Engineer does not conduct annual groundwater pumpage inventories in the Hidden Valley basin because there is no groundwater pumping in the basin.

WHEREAS, annual groundwater pumpage inventories in the California Wash have been published by the State Engineer since 2016. In the years 2016 and 2017 pumping has ranged from 88 acre-feet to 252 acre-feet, averaging 170 acre-feet.[17] Groundwater pumpage data have been reported by water right holders since 2009.

WHEREAS, annual groundwater pumpage inventories in the Muddy River Springs Area have been published by the State Engineer since 2016. In the years 2016 and 2017 pumping has ranged from 3,553 acre-feet to 4,048 acre-feet, with an average of 3,801 acre-feet.[18] Groundwater pumpage data have been reported by water right holders since 1976.

WHEREAS, total groundwater pumpage in Coyote Spring Valley, Muddy River Springs Area (MRSA), California Wash, Hidden Valley, Garnet Valley, and the northwest portion of the Black Mountains Area in calendar years 2007 through 2017, ranged from 9,090 acre-feet to 14,766 acre-feet. Pumpage in years 2011-2012 during the aquifer test averaged 14,535 afa. Pumpage in years 2015 through 2017, when alluvial pumping in the MRSA was greatly reduced because of the Reid Gardner Generating Station closure, ranged from 9,090 afa to 9,637 afa.

V. AUTHORITY AND NECESSITY

WHEREAS, NRS § 533.024(1)(c) directs the State Engineer "to consider the best available science in rendering decisions concerning the availability of surface and underground sources of water in Nevada."

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[16] *See, e.g., Nevada Division of Water Resources, Garnet Valley Hydrographic Basin 13-216 Groundwater Pumpage Inventory*, 2017.
[17] *See, e.g., Nevada Division of Water Resources, California Wash Hydrographic Basin 13-218 Groundwater Pumpage Inventory*, 2017.
[18] *See, e.g., Nevada Division of Water Resources, Muddy River Springs Area (AKA Upper Moapa Valley) Hydrographic Basin 13-219 Groundwater Pumpage Inventory*, 2017.

WHEREAS, NRS § 533.024(1)(e) was added in 2017 to declare the policy of the State to "manage conjunctively the appropriation, use and administration of all waters of this State regardless of the source of the water."

WHEREAS, given that the State Engineer must use the best available science and manage conjunctively the water resources in the LWRFS, consideration of any development of long-term, permanent, uses that could ultimately be curtailed due to water availability will be examined with great caution.

WHEREAS, as demonstrated by the results of the aquifer test, Coyote Spring Valley, Muddy River Springs Area, Hidden Valley, Garnet Valley, California Wash, and the northwestern part of the Black Mountains Area have a direct hydraulic connection, and as a result must be administered as a joint administrative unit, including the administration of all water rights based upon the date of priority of such rights in relation to the priority of rights in the other basins.[19]

WHEREAS, the pre-development discharge of 34,000 acre-feet of the Muddy River system, which is fully appropriated, plus the more than 38,000 acre-feet of groundwater appropriations within the LWRFS greatly exceed the total water budget within the flow system.

WHEREAS, the results from the aquifer test, the data from groundwater level recovery and spring flow, and climate data indicate to the State Engineer that the quantity of water that may be pumped within the LWRFS without conflicting with senior rights on the Muddy River or adversely affecting the habitat of the Moapa dace is less than the quantity pumped during the aquifer test.

WHEREAS, the current amount of pumping corresponds to a period of time in which spring flows have remained relatively stable and have not demonstrated a continuing decline.

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[19] *See, e.g.,* Southern Nevada Water Authority, *Nevada State Engineer Order 1169 and 1169A Study Report*, June 2013; Tom Meyers, Ph.D., *Technical Memorandum Comments on Carbonate Order 1169 Pump Test Data and Groundwater Flow System in Coyote Springs and Muddy River Springs Valley, Nevada*, June 25, 2013; U.S. Fish and Wildlife Service, U.S. Bureau of Land Management and U.S. National Park Service Order 1169A Report, *Test Impacts and Availability of Water Pursuant to Applications Pending Under Order 1169*, June 28, 2013; Johnson and Mifflin, *Summary of Order 1169 Testing Impacts, per Order 1169A*, June 28, 2013; Tetra Tech, *Comparison of Simulated and Observed Effects of Pumping from MX-5 Using Data Collected to the End of the Order 1169 Test, and Prediction of Recovery from the Test*, June 10, 2013, official records in the Office of the State Engineer.

WHEREAS, the precise extent of the development of existing appropriations of groundwater within the LWRFS that may occur without conflicting with the senior rights of the fully decreed Muddy River has not been determined.

WHEREAS, recognizing that there exists a need for further analysis of the historic and ongoing groundwater pumping data, the relationship of groundwater pumping within the LWRFS to spring discharge and flow of the fully decreed Muddy River, the extent of impact of climate conditions on groundwater levels and spring discharge, and the ultimate determination of the sustainable yield of the LWRFS, the State Engineer finds that input by means of reports by the stakeholders in the interpretation of the data from the aquifer test and from the years since the conclusion of the aquifer test is important to fully inform the State Engineer prior to setting a limit on the quantity of groundwater that may be developed in the LWRFS or to developing a long-term Conjunctive Management Plan for the LWRFS and Muddy River.

WHEREAS, the State Engineer finds that it is necessary to carefully monitor the effects of groundwater development within the LWRFS under current conditions, toward the goal of collaboratively (with stakeholders) evaluating the amount of groundwater that may ultimately be developed within the LWRFS without conflicting with senior decreed rights on the Muddy River or adversely affecting the public interest in maintaining the habitat of the endangered Moapa dace. The evaluation process will include public meetings, meetings of a stakeholder representative working group, and coordination with the Hydrologic Review Team (HRT) developed under the 2006 Memorandum of Agreement among the Southern Nevada Water Authority, United States Fish and Wildlife Service, Coyote Springs Investments, Moapa Band of Paiutes, and the Moapa Valley Water District. The process will provide the opportunity for the stakeholders to engage in the development of a conjunctive management plan that will be informed by the determination of the total quantity of groundwater that may be developed within the LWRFS and that will facilitate the continued use of groundwater by junior priority groundwater rights holders whom have perfected their water rights while protecting the senior decreed rights on the Muddy River.

WHEREAS, recognizing that an amount less than the full quantity of the appropriated groundwater rights within the LWRFS may be developed in a manner that will provide for a reasonably certain supply of water for future permanent uses without jeopardizing the economies of the communities reliant on the water supply within the LWRFS, the health and safety of those

whom are either presently reliant the water, existing public interests, or those who may in the future become reliant on a reliable and sustainable source of supply, the State Engineer, with the following exception, finds that it is necessary to issue a temporary moratorium on the review and decision by the Division of Water Resources regarding any final subdivision map or other construction or development submission requiring a finding that adequate water is available to support the proposed development. During the pendency of this Interim Order, the State Engineer may review and grant approval of a subdivision or other submission if a showing of an adequate and sustainable supply of water to meet the anticipated life of the subdivision, other construction or development can be made to the State Engineer's satisfaction.

WHEREAS, through continued monitoring of the LWRFS during the effective period of this Interim Order, the State Engineer seeks to maintain recent groundwater pumping amounts, while providing time for the submission of additional scientific data and analysis regarding the total quantity of water that may be sustainably withdrawn from the LWRFS over the long-term without conflicting with senior Muddy River decreed rights or jeopardizing the communities, water users, or public interests identified above.

WHEREAS, the State Engineer is empowered to make such reasonable rules and regulations as may be necessary for the proper and orderly execution of the powers conferred by law.[20]

WHEREAS, within an area that has been designated by the State Engineer, as provided for in NRS Chapter 534, where, in the judgment of the State Engineer, the groundwater basin is being depleted, the State Engineer in his or her administrative capacity may make such rules, regulations and orders as are deemed essential for the welfare of the area involved.[21]

WHEREAS, the State Engineer finds that additional data relating to the impacts of groundwater pumping from the LWRFS coupled with the public process will allow his office to make a determination as to the appropriate long-term management of groundwater pumping that may occur in the LWRFS by existing holders of water rights without conflicting with existing senior decreed rights or adversely affecting the endangered Moapa dace.

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[20] NRS § 532.120.
[21] *Id.*

VI. ORDER

NOW THEREFORE, the State Engineer orders:

1. The Lower White River Flow System consisting of the Coyote Spring Valley, Muddy River Springs Area, California Wash, Hidden Valley, Garnet Valley, and the portion of the Black Mountains Area as described in this Order, is herewith designated as a joint administrative unit for purposes of administration of water rights. All water rights within the Lower White River Flow System will be administered based upon their respective date of priorities in relation to other rights within the regional groundwater unit.

2. Any stakeholder with interests that may be affected by water right development within the Lower White River Flow System may file a report in the Office of the State Engineer in Carson City, Nevada, no later than the close of business on Monday, June 3, 2019.[22] Reports filed with the Office of the State Engineer should address the following matters:

    a. The geographic boundary of the hydrologically connected groundwater and surface water systems comprising the Lower White River Flow System;

    b. The information obtained from the Order 1169 aquifer test and subsequent to the aquifer test and Muddy River headwater spring flow as it relates to aquifer recovery since the completion of the aquifer test;

    c. The long-term annual quantity of groundwater that may be pumped from the Lower White River Flow System, including the relationships between the location of pumping on discharge to the Muddy River Springs, and the capture of Muddy River flow;

[22] For any stakeholder affected by the shut-down of the United States government beginning in December 2018, upon a request and showing of good cause to the satisfaction of the State Engineer, an extension of time may be granted to those affected parties.

d. The effects of movement of water rights between alluvial wells and carbonate wells on deliveries of senior decreed rights to the Muddy River; and,

e. Any other matter believed to be relevant to the State Engineer's analysis.

3. Any stakeholder with interests that may be affected by water right development within the Lower White River Flow System may file with the Office of the State Engineer no later than the close of business on Thursday July 18, 2019, a rebuttal to the Reports filed on June 3, 2019.

4. The State Engineer will schedule an administrative hearing within the month of September 2019 to take comment on the submitted reports.

5. During the pendency of this Interim Order:

   a. Permanent applications to change existing groundwater rights shall be held in abeyance pending the submission of the reports as required by Paragraph 2 of this Order and as authorized by NRS §§ 532.165(1), 533.368 and 533.370(4)(d). Temporary applications to change existing groundwater rights will be processed pursuant to NRS § 533.345.

   b. A temporary moratorium is issued regarding any final subdivision or other submission concerning development and construction submitted to the State Engineer for review, and such submissions shall be held in abeyance pending the conclusion of the public process to determine the total quantity of groundwater that may be developed within the Lower White River Flow System. The State Engineer may review and grant approval of a subdivision or other submission if a showing of an adequate and sustainable supply of water to meet the anticipated life of the subdivision, other construction or development can be made to the State Engineer's satisfaction.

c. Holders of water rights who maintain their water rights in good standing by filing all required applications for extension of time in conformity with the requirements of NRS §§ 533.390, 533.395 and 533.410 may cite this order in support of their applications for extension of time.

d. Holders of water rights who file all required applications for extension of time in conformity with the requirements of NRS § 534.090 may cite this order in support of their applications for extension of time to prevent the working of a forfeiture.

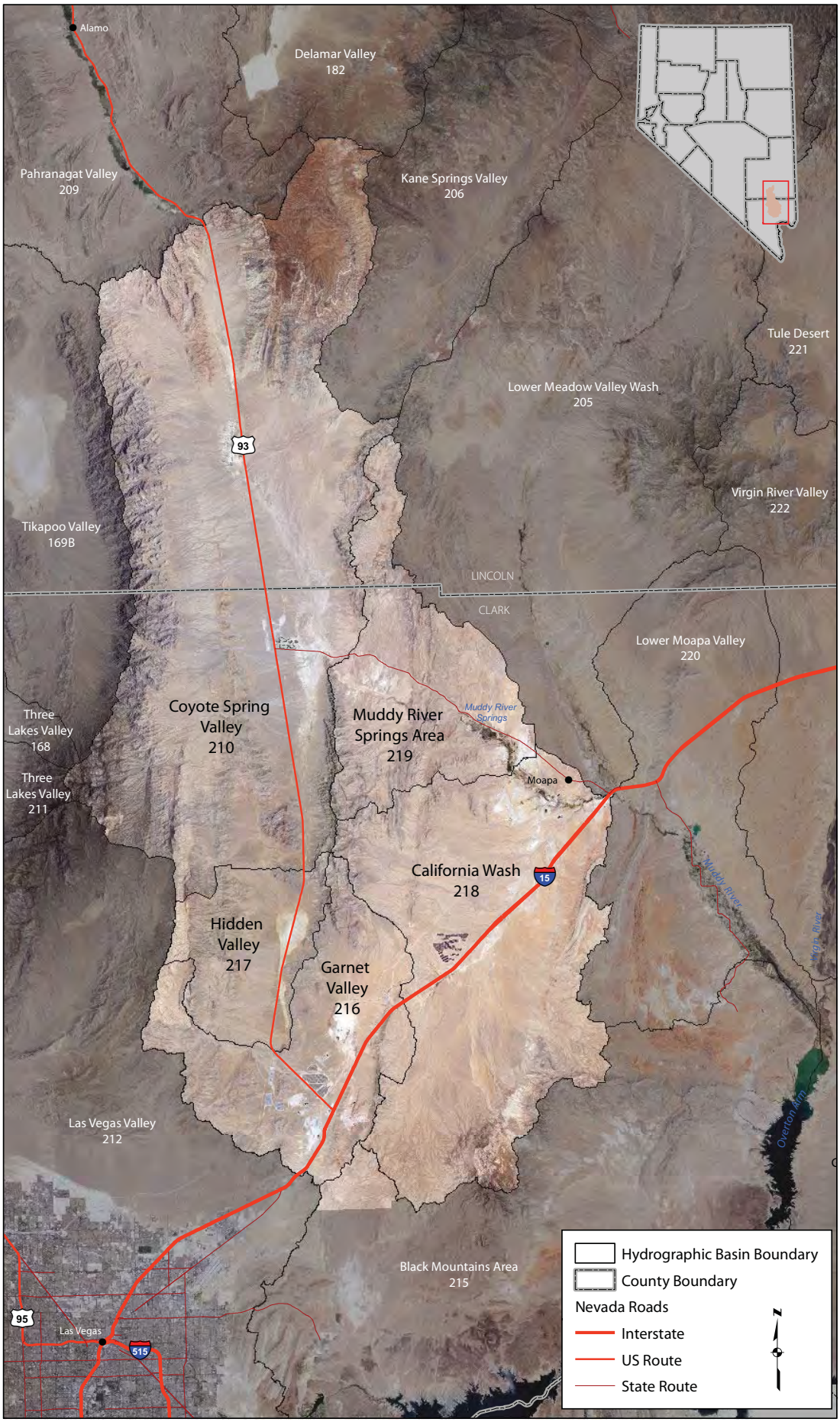
P.E.

JASON KING, P.E.
State Engineer

Dated at Carson City, Nevada this
11TH day of JANUARY, 2019.

Order 1303, Appendix A : LOWER WHITE RIVER FLOW SYSTEM

Coyote Spring Valley, Muddy River Springs Area, Hidden Valley, Garnet Valley, California Wash, and a portion of Black Mountains Area



0 5 10 20 Miles

Summer 2017 imagery from the
National Agriculture Imagery Program

Nevada Division of Water Resources
Office of the State Engineer
Jason King, P.E.
State Engineer

Exhibit 3

Exhibit 3

IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA

IN THE MATTER OF THE ADMINISTRATION AND MANAGEMENT OF THE LOWER WHITE RIVER FLOW SYSTEM WITHIN COYOTE SPRING VALLEY HYDROGRAPHIC BASIN (210), A PORTION OF BLACK MOUNTAINS AREA HYDROGRAPHIC BASIN (215), GARNET VALLEY HYDROGRAPHIC BASIN (216), HIDDEN VALLEY HYDROGRAPHIC BASIN (217), CALIFORNIA WASH HYDROGRAPHIC BASIN (218), AND MUDDY RIVER SPRINGS AREA (AKA UPPER MOAPA VALLEY) HYDROGRAPHIC BASIN (219), LINCOLN AND CLARK COUNTIES, NEVADA.	)	**NOTICE OF HEARING**

I. PROCEDURAL BACKGROUND

The State Engineer issued Interim Order 1303 on January 11, 2019, whereby the State Engineer designated the Lower White River Flow System, consisting of the Coyote Spring Valley, Muddy River Springs Area, California Wash, Hidden Valley, Garnet Valley, and a portion of the Black Mountain Area as a joint administrative unit for the purpose of administering water rights, and among other interim matters, solicited reports to be filed with the Office of the State Engineer addressing: (1) the geographic boundary of the hydrologically connected groundwater and surface-water system comprising the Lower White River Flow System; (b) the information obtained from the State Engineer's Order 1169 aquifer test and subsequent to the aquifer test and Muddy River headwater spring flow as it relates to aquifer recovery since the completion of the aquifer test; (c) the long-term annual quantity of groundwater that may be pumped from the Lower White River Flow System, including the relationships between the location of pumping on discharge to the Muddy River Springs, and the capture of Muddy River Flow; (d) the effects of movement of water rights between alluvial wells and carbonate wells on deliveries of senior decreed rights to the Muddy River; and, (e) any other matter believed to be relevant to the State Engineer's analysis. The deadline for the filing of reports was initially set for June 3, 2019, and rebuttal reports were permitted to be filed no later than July 18, 2019. The State Engineer further ordered that an administrative hearing would be held in the month of September 2019. The State Engineer issued an addendum to Interim Order 1303 on May 13, 2019, whereby the State Engineer extended the deadline for any interested stakeholder to submit a report to July 3, 2019, and rebuttal reports to August 16, 2019.[1]

Initial reports in response to the Order 1303 solicitation were filed with the Office of the State Engineer by the Center for Biological Diversity; City of North Las Vegas; Coyote Springs Investment, LLC; Dry Lake Water, LLC; Georgia Pacific Corporation and Republic

[1] *See* Interim Order 1303, and addendum, official records in the Office of the State Engineer.

Environmental Technologies; Great Basin Water Network; Lincoln County Water District and Vidler Water Company; Moapa Band of Paiutes; Moapa Valley Water District; United States National Park Service; Southern Nevada Water Authority and Las Vegas Valley Water District; Technichrome; and the United States Fish and Wildlife Service. Rebuttal reports were filed by Bedroc Limited and Western Elite Environmental, Inc.; Center for Biological Diversity; City of North Las Vegas; Coyote Springs Investment, LLC; Dry Lake Water, LLC, Georgia Pacific Gypsum and Republic Environmental Technologies; Lincoln County Water District and Vidler Water Company; Moapa Band of Paiutes; Moapa Valley Water District; Muddy Valley Irrigation Company; the United States National Park Service; Nevada Cogeneration Associates; Nevada Energy; Southern Nevada Water Authority and Las Vegas Valley Water District; and the United States Fish and Wildlife Service.

On August 9, 2019, the State Engineer held a pre-hearing conference regarding the hearing on the submission of reports and evidence as solicited in Order 1303. At the pre-hearing conference, the State Engineer set forth the purpose of the Order 1303 hearing, addressed the timing and length of the hearing, discussed the sequence of the presentation of evidence by the participants, addressed the procedures and other administrative matters relating to Order 1303, discussed the timing for disclosures of witnesses and evidence, including expert witnesses, and addressed other matters relating to the hearing. The State Engineer established that the purpose of the hearing on the Order 1303 reports was to provide the participants an opportunity to explain the positions and conclusions expressed in the reports and/or rebuttal reports submitted in response to the Order 1303 solicitation. The State Engineer directed the participants to limit the offer of evidence and testimony to the salient conclusions, including directing the State Engineer and his staff to the relevant data, evidence and other information supporting those conclusions. The State Engineer further noted that the hearing on the Order 1303 reports was the first step in determining to what extent, if any, and in what manner the State Engineer would address future management decisions, including policy decisions, relating to the Lower White River Flow System basins. On that basis, the State Engineer then addressed other related matters pertaining to the hearing on the Order 1303 reports, including addressing the date and sequence of the hearing, as set forth in this Notice of Hearing.

II. NOTICE OF HEARING

Please take notice, the State Engineer hereby sets the hearing on Order 1303, to begin at **8:30 a.m., on Monday, September 23, 2019, continuing through Friday, September 27, 2019, ending each day by 4:30 p.m. The hearing will reconvene at 8:30 a.m. on Monday, September 30, 2019, continuing through Friday, October 4, 2019, ending each day by 4:30 p.m., with the exception of October 3, 2019, where the hearing will reconvene at 11:00 a.m. and end at 4:30 p.m., at the Nevada State Legislature, 401 South Carson Street, Room 2135, Carson City, Nevada and will video be conferenced to the Legislative Counsel Bureau, Sawyer Office Building, 555 E. Washington Ave., Suite 4400, Las Vegas, Nevada.**

III. REPRESENTATION OF PARTICIPANTS BY ATTORNEYS OR AGENTS

Pursuant to NAC 533.200, any participant may be represented by either an attorney or other agent. Any attorney appearing on behalf of a participant must be an active member of the State Bar of Nevada or associated with an active member of the State Bar of Nevada. Any attorney not an active member of the State Bar of Nevada must comply with Nevada Supreme Court Rule 42, governing the practice of attorneys not admitted in Nevada. Further, **either** the attorney(s) **or** agent will be recognized as fully controlling the case on behalf of the participant, and in accordance with NAC 533.200, the attorney or agent must make an appearance and submit a **Notice of Appearance** with the State Engineer in this matter. Only the attorney or agent whom submits a Notice of Appearance on behalf of a participant shall be permitted to examine and cross-examine witnesses in the proceedings. The State Engineer will not permit a participant to have both attorneys and agents examine witnesses in this proceeding.

IV. SEQUENCE OF PRESENTATION OF EVIDENCE AND CROSS-EXAMINATION OF WITNESSES

Each participant who has submitted either a report, rebuttal report, or both a report and rebuttal report in response to the Order 1303 solicitation is hereby assigned the following dates and times for both the presentation of their submitted reports, and to present any other evidence, as outlined within the scope of the hearing. The time allocated to each participant shall be alloted such that the participant shall use half its time to present their evidence and testimony, and the other half shall be used by the other participants to cross-examine the witnesses. For example, 7 hours will be allocated to address the report and rebuttal report submitted by Coyote Springs Investment, LLC; accordingly, Coyote Springs Investments, LLC will be allowed not more than 3.5 hours to present its evidence and testimony and the other participants shall be allowed not more than 3.5 to cross-examine Coyote Springs Investments, LLC's witnesses.

The schedule for presentation of evidence by the parties is established as follows:

Date(s) and Time(s)	Participant
September 23, 2019, all day	Coyote Springs Investment, LLC
September 24, 2019, all day	United States Fish and Wildlife Service
September 25, 2019, all day	United States National Park Service
September 26, 2019, all day	Moapa Band of Paiutes
September 27, 2019, all day, and September 30, 2019, 8:30 a.m. to 10:30 a.m.	Southern Nevada Water Authority and Las Vegas Valley Water District
September 30, 2019, 10:30 a.m. to 12:30 p.m., and 1:30 p.m. to 3:30 p.m.	Moapa Valley Water District
September 30, 2019, 3:30 p.m. to 4:30 p.m., and October 1, 2019, 8:30 a.m. to 11:30 a.m.	Lincoln County Water District and Vidler Water Company

October 1, 2019, 11:30 a.m. to 12:30 p.m., and 1:30 p.m. to 4:30 p.m.	City of North Las Vegas
October 2, 2019, 8:30 a.m. to 12:30 p.m.	Center for Biological Diversity and Great Basin Water Network
October 2, 2019, 1:30 p.m. to 4:30 p.m., and October 3, 2019, 11:00 a.m. to 12:00 p.m.	Dry Lake Water, LLC, Georgia Pacific Corporation/Georgia Pacific Gypsum, LLC, and Republic Environmental Technologies
October 3, 2019, 12:00 p.m. to 2:00 p.m.	Technichrome
October 3, 2019, 2:00 p.m. to 4:30 p.m.	Nevada Cogeneration Associates
October 4, 2019, 8:30 a.m. to 10:30 a.m.	Moapa Valley Irrigation Company
October 4, 2019, 10:30 a.m. to 12:30 p.m.	Bedroc Limited/Western Elite Environmental, Inc.
October 4, 2019, 1:30 p.m. to 3:30 p.m.	Nevada Energy
October 4, 2019, 3:30 p.m. to 4:30 p.m.	Public Comment

A participant is not required to examine their witnesses or to use its full allocation of time. Any participant who has submitted a report or expert report to the State Engineer for consideration as written testimony or evidence must, pursuant to NAC 533.250, present the person who has prepared that report or expert report to affirm that it is their work product and that they personally prepared or directed its preparation, and submit to cross-examination. The State Engineer may, in his discretion, disregard any report or rebuttal report submitted pursuant to Order 1303 that is not affirmed and attested to by the individual who is identified as an author of the report or rebuttal report and is not made available for cross-examination.

V. DISCLOSURE OF EVIDENCE AND WITNESS LISTS

The disclosure of documents, witness lists and descriptions of witness testimony will take place as set forth and in the manner provided in this Notice of Hearing. The State Engineer requires that two copies of any of the documents referenced below be filed in the Office of the State Engineer in addition to the electronic copies, as applicable.

Evidentiary Disclosure. The participants are hereby ordered to serve on the State Engineer in Carson City, Nevada, **no later than Friday, September 6, 2019**, an exhibit list, a witness list, a reasonably detailed summary of the testimony of each witness, and copies of any documentary evidence intended to be introduced into the hearing record. If a witness is not identified as testifying on direct as to a certain topic, the witness may not be allowed to testify to the unidentified topic in his or her direct testimony. If a witness is to be presented to provide expert testimony, the evidentiary exchange shall identify the written report prepared and submitted to the State Engineer in response to the solicitations contained within Order 1303 and any exhibits to be used as a summary of or in support of the opinions and a statement of qualifications of the witness. For any

witness identified and designated as an expert witness, the evidentiary disclosure shall include the Curriculum Vitae and shall identify whether the expert has been previously admitted as an expert witness before the State Engineer, in what discipline(s) the expert has been so admitted before the State Engineer, and if the witness has not previously been admitted as an expert before the State Engineer, all other court or administrative proceedings in which the expert has been admitted. The Evidentiary Disclosure must include any relevant documents or evidence that the participant desires the State Engineer to consider in his examination of the five issues identified in Order 1303, and making any determination related to those issues.

In addition to two copies of the exhibit list, witness list, and documentary evidence, **the participants are required to also provide an electronic copy of: the exhibit list in Excel format, their witness summaries, and scanned copies of all their exhibits in pdf 200 dpi format**.

The State Engineer shall publish all timely served Evidentiary Disclosures on its website at *http://water.nv.gov/news.aspx?news=LWRFS.*

Objections to Evidentiary Disclosures: Any objection or challenge to evidence disclosed by another participant must be served on the State Engineer in Carson City, Nevada, **no later than 5:00 p.m., Friday, September 13, 2019.** The objection must include the basis for the evidence or expert to not be admitted.

Pre-Hearing on Challenged Experts: If a participant objects to the designation of an expert not previously admitted as an expert in the specified discipline before the State Engineer, the State Engineer shall hold a hearing commencing at **8:30 a.m., Thursday September 19, 2019**, to consider the admission of the challenged expert in the designated discipline at the hearing commencing on September 23, 2019.

Further, the Nevada State Engineer has taken administrative notice of those files and records of the Office of the State Engineer identified on Exhibit A to this Notice of Hearing, and which will be marked as exhibits of the Nevada State Engineer. The exhibits identified in Exhibit A will be published on the Division of Water Resources website at *http://water.nv.gov/news.aspx?news=LWRFS.*

VI. EXHIBITS

Nevada Administrative Code Chapter 533 requires that exhibits introduced into evidence must be in a readily reproducible form, on paper that is 8½" x 11" or foldable to that size.

Larger charts, maps, drawings and other material will not be admitted into evidence, but may be used for demonstrative purposes. The State Engineer recognizes that if hydrologic models are used that some evidence may need to be submitted in an electronic format. An original and one copy of each exhibit must be submitted to the State Engineer. Exhibits based on technical studies or models shall be accompanied by sufficient information to clearly identify and explain the logic, assumptions, development, and operation of the studies or models.

Each electronically submitted exhibit must be saved as a separate .pdf file, with the name of the participant presenting the document, the exhibit number and a short description of the document in the title. For example, a document identified as Exhibit No. 1 submitted by the Nevada State Engineer would be identified as "*NSE Ex. No. 1 Order 1303.*"

VII. RULES OF EVIDENCE NOT APPLICABLE

Pursuant to NRS 533.365(4), the technical rules of evidence do not apply to administrative hearings before the State Engineer.

VIII. COST OF REPORTING

As set forth in Nevada Administrative Code Chapter 533, the hearing will be reported by a certified court reporter. The court reporter will file an original and one copy of the transcript with the State Engineer. Anyone wanting a copy of the transcript should make arrangements with the court reporter. The costs of the transcript will be borne proportionally by all participants actively participating during the hearing.

IX. REASONABLE ACCOMMODATIONS

The Division of Water Resources is pleased to make reasonable accommodations for members of the public who are disabled and wish to attend the hearing. If special arrangements are necessary, please notify the Nevada Division of Water Resources, 901 South Stewart, Suite 2002, Carson City, Nevada, 89701, or by calling (775) 684-2800.

Micheline N. Fairbank
MICHELINE N. FAIRBANK
Deputy Administrator

Dated this 23rd day of

August, 2019.

Exhibit A

Documents and Records of the Nevada State Engineer Which Administrative Notice is Taken for the Purpose of the Order 1303 Administrative Hearing

NSE Ex. No. 1	Order 1303 and Addendum to Order 1303
NSE Ex. No. 2	Order 1169A
NSE Ex. No. 3	Order 1169
NSE Ex. No. 4	Order 1026
NSE Ex. No. 5	Order 1025
NSE Ex. No. 6	Order 1024
NSE Ex. No. 7	Order 1023
NSE Ex. No. 8	Order 1018
NSE Ex. No. 9	Order 905
NSE Ex. No. 10	Order 803
NSE Ex. No. 11	Order 392
NSE Ex. No. 12	Ruling 5712[1]
NSE Ex. No. 13	Ruling 5987[1]
NSE Ex. No. 14	Ruling 6254[1]
NSE Ex. No. 15	Ruling 6255[1]
NSE Ex. No. 16	Ruling 6256[1]
NSE Ex. No. 17	Ruling 6257[1]
NSE Ex. No. 18	Ruling 6258[1]
NSE Ex. No. 19	Ruling 6259[1]
NSE Ex. No. 20	Ruling 6260[1]
NSE Ex. No. 21	Ruling 6261[1]
NSE Ex. No. 22	Hydrographic Abstract Lower Meadow Valley Wash (Basin 205)
NSE Ex. No. 23	Hydrographic Abstract Kane Springs Valley (Basin 206)
NSE Ex. No. 24	Hydrographic Abstract Coyote Spring Valley (Basin 210)
NSE Ex. No. 25	Hydrographic Abstract Black Mountains Area (Basin 215)
NSE Ex. No. 26	Hydrographic Abstract Garnet Valley (Basin 216)
NSE Ex. No. 27	Hydrographic Abstract Hidden Valley (Basin 217)
NSE Ex. No. 28	Hydrographic Abstract California Wash (Basin 218)
NSE Ex. No. 29	Hydrographic Abstract Muddy River Springs Area (Basin 219)
NSE Ex. No. 30	Hydrographic Basin Summary Lower Meadow Valley Wash (Basin 205)
NSE Ex. No. 31	Hydrographic Basin Summary Kane Springs Valley (Basin 206)
NSE Ex. No. 32	Hydrographic Basin Summary Coyote Spring Valley (Basin 210)
NSE Ex. No. 33	Hydrographic Basin Summary Black Mountains Area (Basin 215)
NSE Ex. No. 34	Hydrographic Basin Summary Garnet Valley (Basin 216)

[1] While the State Engineer does not officially identify the permit and/or hearing files that were subject to the ruling, such records, should they be determined to be relevant to these proceedings may be included in the State Engineer's ultimate determination and will be so identified if relied upon.

NSE Ex. No. 35	Hydrographic Basin Summary Hidden Valley (Basin 217)
NSE Ex. No. 36	Hydrographic Basin Summary California Wash (Basin 218)
NSE Ex. No. 37	Hydrographic Basin Summary Muddy River Springs Area (Basin 219)
NSE Ex. No. 38	Pumpage Report Coyote Spring Valley 2005
NSE Ex. No. 39	Pumpage Report Coyote Spring Valley 2006
NSE Ex. No. 40	Pumpage Report Coyote Spring Valley 2007
NSE Ex. No. 41	Pumpage Report Coyote Spring Valley 2008
NSE Ex. No. 42	Pumpage Report Coyote Spring Valley 2009
NSE Ex. No. 43	Pumpage Report Coyote Spring Valley 2010
NSE Ex. No. 44	Pumpage Report Coyote Spring Valley 2011
NSE Ex. No. 45	Pumpage Report Coyote Spring Valley 2012
NSE Ex. No. 46	Pumpage Report Coyote Spring Valley 2013
NSE Ex. No. 47	Pumpage Report Coyote Spring Valley 2014
NSE Ex. No. 48	Pumpage Report Coyote Spring Valley 2015
NSE Ex. No. 49	Pumpage Report Coyote Spring Valley 2016
NSE Ex. No. 50	Pumpage Report Coyote Spring Valley 2017
NSE Ex. No. 51	Pumpage Report Black Mountains Area 2001
NSE Ex. No. 52	Pumpage Report Black Mountains Area 2002
NSE Ex. No. 53	Pumpage Report Black Mountains Area 2003
NSE Ex. No. 54	Pumpage Report Black Mountains Area 2004
NSE Ex. No. 55	Pumpage Report Black Mountains Area 2005
NSE Ex. No. 56	Pumpage Report Black Mountains Area 2006
NSE Ex. No. 57	Pumpage Report Black Mountains Area 2007
NSE Ex. No. 58	Pumpage Report Black Mountains Area 2008
NSE Ex. No. 59	Pumpage Report Black Mountains Area 2009
NSE Ex. No. 60	Pumpage Report Black Mountains Area 2010
NSE Ex. No. 61	Pumpage Report Black Mountains Area 2011
NSE Ex. No. 62	Pumpage Report Black Mountains Area 2012
NSE Ex. No. 63	Pumpage Report Black Mountains Area 2013
NSE Ex. No. 64	Pumpage Report Black Mountains Area 2014
NSE Ex. No. 65	Pumpage Report Black Mountains Area 2015
NSE Ex. No. 66	Pumpage Report Black Mountains Area 2016
NSE Ex. No. 67	Pumpage Report Black Mountains Area 2017
NSE Ex. No. 68	Pumpage Report Garnet Valley Area 2001
NSE Ex. No. 69	Pumpage Report Garnet Valley Area 2002
NSE Ex. No. 70	Pumpage Report Garnet Valley Area 2003
NSE Ex. No. 71	Pumpage Report Garnet Valley Area 2004
NSE Ex. No. 72	Pumpage Report Garnet Valley Area 2005
NSE Ex. No. 73	Pumpage Report Garnet Valley Area 2006
NSE Ex. No. 74	Pumpage Report Garnet Valley Area 2007
NSE Ex. No. 75	Pumpage Report Garnet Valley Area 2008
NSE Ex. No. 76	Pumpage Report Garnet Valley Area 2009
NSE Ex. No. 77	Pumpage Report Garnet Valley Area 2010
NSE Ex. No. 78	Pumpage Report Garnet Valley Area 2011

NSE Ex. No. 79	Pumpage Report Garnet Valley Area 2012
NSE Ex. No. 80	Pumpage Report Garnet Valley Area 2013
NSE Ex. No. 81	Pumpage Report Garnet Valley Area 2014
NSE Ex. No. 82	Pumpage Report Garnet Valley Area 2015
NSE Ex. No. 83	Pumpage Report Garnet Valley Area 2016
NSE Ex. No. 84	Pumpage Report Garnet Valley Area 2017
NSE Ex. No. 85	Pumpage Report California Wash Area 2016
NSE Ex. No. 86	Pumpage Report California Wash Area 2017
NSE Ex. No. 87	Pumpage Report Muddy River Springs Area 2016
NSE Ex. No. 88	Pumpage Report Muddy River Springs Area 2017
NSE Ex. No. 89	Water Level Data 205 S14 E66 15CA 1 Lower Meadow Valley Wash
NSE Ex. No. 90	Water Level Data 205 S14 E66 22DCAD Lower Meadow Valley Wash
NSE Ex. No. 91	Water Level Data 205 S14 E66 35CABA1 Lower Meadow Valley Wash
NSE Ex. No. 92	Water Level Data 205 S12 E66 12BBBD1 Lower Meadow Valley Wash
NSE Ex. No. 93	Water Level Data 205 S12 E66 12BBBD2 Lower Meadow Valley Wash
NSE Ex. No. 94	Water Level Data 205 S12 E66 12BBBD3 Lower Meadow Valley Wash
NSE Ex. No. 95	Water Level Data 205 S14 E66 04DB 1 Lower Meadow Valley Wash
NSE Ex. No. 96	Water Level Data 205 S14 E66 22DC 1 Lower Meadow Valley Wash
NSE Ex. No. 97	Water Level Data 205 S14 E66 26CD 1 Lower Meadow Valley Wash
NSE Ex. No. 98	Water Level Data 205 S14 E66 26CDAB1 Lower Meadow Valley Wash
NSE Ex. No. 99	Water Level Data 205 S14 E66 26CDBA1 Lower Meadow Valley Wash
NSE Ex. No. 100	Water Level Data 205 S14 E66 26DDCD1 Lower Meadow Valley Wash
NSE Ex. No. 101	Water Level Data 205 S14 E66 34ADCA1 Lower Meadow Valley Wash
NSE Ex. No. 102	Water Level Data 205 S14 E66 35BDAB1 Lower Meadow Valley Wash
NSE Ex. No. 103	Water Level Data 205 S14 E66 35CA 1 Lower Meadow Valley Wash
NSE Ex. No. 104	Water Level Data 205 S14 E66 35CABA2 Lower Meadow Valley Wash
NSE Ex. No. 105	Water Level Data 205 S14 E66 35CACC1 Lower Meadow Valley Wash
NSE Ex. No. 106	Water Level Data 205 S14 E66 35DACC1 Lower Meadow Valley Wash
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NSE Ex. No. 108	Water Level Data 206 S11 E64 06CACC1 Kane Springs
NSE Ex. No. 109	Water Level Data 210 S10 E62 25ACAD1 Coyote Spring Valley
NSE Ex. No. 110	Water Level Data 210 S10 E62 25CBCC1 Coyote Spring Valley
NSE Ex. No. 111	Water Level Data 210 S11 E62 13BDDC1 Coyote Spring Valley
NSE Ex. No. 112	Water Level Data 210 S11 E62 24BA 2 Coyote Spring Valley
NSE Ex. No. 113	Water Level Data 210 S11 E62 24BD 1 Coyote Spring Valley
NSE Ex. No. 114	Water Level Data 210 S11 E62 24DB 1 Coyote Spring Valley
NSE Ex. No. 115	Water Level Data 210 S11 E63 13CBAB1 Coyote Spring Valley
NSE Ex. No. 116	Water Level Data 210 S11 E63 19ABAA1 Coyote Spring Valley
NSE Ex. No. 117	Water Level Data 210 S11 E63 21ABCA1 Coyote Spring Valley
NSE Ex. No. 118	Water Level Data 210 S12 E63 29ADCC1 Coyote Spring Valley
NSE Ex. No. 119	Water Level Data 210 S12 E63 29DABC1 Coyote Spring Valley
NSE Ex. No. 120	Water Level Data 210 S13 E63 05ABCC1 Coyote Spring Valley
NSE Ex. No. 121	Water Level Data 210 S13 E63 10DCCA1 Coyote Spring Valley
NSE Ex. No. 122	Water Level Data 210 S13 E63 11BACD1 Coyote Spring Valley

NSE Ex. No. 123	Water Level Data 210 S13 E63 11BCCC1 Coyote Spring Valley
NSE Ex. No. 124	Water Level Data 210 S13 E63 22DCAC1 Coyote Spring Valley
NSE Ex. No. 125	Water Level Data 210 S13 E63 23BAAB1 Coyote Spring Valley
NSE Ex. No. 126	Water Level Data 210 S13 E63 23DDDC1 Coyote Spring Valley
NSE Ex. No. 127	Water Level Data 210 S13 E63 25BDBB1 Coyote Spring Valley
NSE Ex. No. 128	Water Level Data 210 S13 E63 26AAAA1 Coyote Spring Valley
NSE Ex. No. 129	Water Level Data 210 S13 E63 26AABD1 Coyote Spring Valley
NSE Ex. No. 130	Water Level Data 210 S13 E64 31DAAD1 Coyote Spring Valley
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NSE Ex. No. 134	Water Level Data 215 S19 E63 13AADD1 Black Mountains Area
NSE Ex. No. 135	Water Level Data 215 S19 E63 13ABCB1 Black Mountains Area
NSE Ex. No. 136	Water Level Data 215 S19 E63 13DAAB1 Black Mountains Area
NSE Ex. No. 137	Water Level Data 215 S19 E63 13DACA1 Black Mountains Area
NSE Ex. No. 138	Water Level Data 215 S19 E63 13DACA1 Black Mountains Area
NSE Ex. No. 139	Water Level Data 215 S20 E65 08CDBA1 Black Mountains Area
NSE Ex. No. 140	Water Level Data 215 S20 E65 08DCAA1 Black Mountains Area
NSE Ex. No. 141	Water Level Data 216 S16 E64 19DCDB1 Garnet Valley
NSE Ex. No. 142	Water Level Data 216 S17 E63 32AABA1 Garnet Valley
NSE Ex. No. 143	Water Level Data 216 S17 E63 32CCCB1 Garnet Valley
NSE Ex. No. 144	Water Level Data 216 S17 E63 33CBCB1 Garnet Valley
NSE Ex. No. 145	Water Level Data 216 S17 E64 09DDCD1 Garnet Valley
NSE Ex. No. 146	Water Level Data 216 S17 E64 10CBCC1 Garnet Valley
NSE Ex. No. 147	Water Level Data 216 S17 E64 21CBBD1 Garnet Valley
NSE Ex. No. 148	Water Level Data 216 S17 E64 21CCAB1 Garnet Valley
NSE Ex. No. 149	Water Level Data 216 S18 E63 04CBBA1 Garnet Valley
NSE Ex. No. 150	Water Level Data 216 S18 E63 05AADB1 Garnet Valley
NSE Ex. No. 151	Water Level Data 216 S18 E63 05DBCA1 Garnet Valley
NSE Ex. No. 152	Water Level Data 216 S18 E63 05DBCD1 Garnet Valley
NSE Ex. No. 153	Water Level Data 216 S18 E63 15AACC1 Garnet Valley
NSE Ex. No. 154	Water Level Data 216 S18 E63 15AACD1 Garnet Valley
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NSE Ex. No. 159	Water Level Data 217 S16 E63 09DDAB1 Hidden Valley
NSE Ex. No. 160	Water Level Data 218 S15 E66 31DACA1 California Wash
NSE Ex. No. 161	Water Level Data 218 S16 E64 02ABCD1 California Wash
NSE Ex. No. 162	Water Level Data 218 S16 E64 15AAAA1 California Wash
NSE Ex. No. 163	Water Level Data 218 S16 E64 15AADD1 California Wash
NSE Ex. No. 164	Water Level Data 218 S16 E64 15ADAA1 California Wash
NSE Ex. No. 165	Water Level Data 218 S16 E64 34CDBC1 California Wash
NSE Ex. No. 166	Water Level Data 219 S13 E64 35DCAD1 Muddy River Springs Area

NSE Ex. No. 167	Water Level Data 219 S13HE64 33DBBC1 Muddy River Springs Area
NSE Ex. No. 168	Water Level Data _219 S14 E65 07ADDA1 Muddy River Springs Area
NSE Ex. No. 169	Water Level Data 219 S14 E65 07ADDA2 Muddy River Springs Area
NSE Ex. No. 170	Water Level Data 219 S14 E65 08AB 1 Muddy River Springs Area
NSE Ex. No. 171	Water Level Data 219 S14 E65 08AB 2 Muddy River Springs Area
NSE Ex. No. 172	Water Level Data 219 S14 E65 08ABBD1 Muddy River Springs Area
NSE Ex. No. 173	Water Level Data 219 S14 E65 08AC 1 Muddy River Springs Area
NSE Ex. No. 174	Water Level Data 219 S14 E65 08AC 2 Muddy River Springs Area
NSE Ex. No. 175	Water Level Data 219 S14 E65 08ADBB1 Muddy River Springs Area
NSE Ex. No. 176	Water Level Data 219 S14 E65 08BD 1 Muddy River Springs Area
NSE Ex. No. 177	Water Level Data 219 S14 E65 08BDBD1 Muddy River Springs Area
NSE Ex. No. 178	Water Level Data 219 S14 E65 08BDCC1 Muddy River Springs Area
NSE Ex. No. 179	Water Level Data 219 S14 E65 08DB 1 Muddy River Springs Area
NSE Ex. No. 180	Water Level Data 219 S14 E65 08DB 2 Muddy River Springs Area
NSE Ex. No. 181	Water Level Data 219 S14 E65 08DD 1 Muddy River Springs Area
NSE Ex. No. 182	Water Level Data 219 S14 E65 09CA 1 Muddy River Springs Area
NSE Ex. No. 183	Water Level Data 219 S14 E65 09CBCC1 Muddy River Springs Area
NSE Ex. No. 184	Water Level Data 219 S14 E65 09CC 1 Muddy River Springs Area
NSE Ex. No. 185	Water Level Data 219 S14 E65 09CCBC1 Muddy River Springs Area
NSE Ex. No. 186	Water Level Data 219 S14 E65 09DC 1 Muddy River Springs Area
NSE Ex. No. 187	Water Level Data 219 S14 E65 09DD 1 Muddy River Springs Area
NSE Ex. No. 188	Water Level Data 219 S14 E65 14CD 1 Muddy River Springs Area
NSE Ex. No. 189	Water Level Data 219 S14 E65 14CDBB1 Muddy River Springs Area
NSE Ex. No. 190	Water Level Data 219 S14 E65 15AC 1 Muddy River Springs Area
NSE Ex. No. 191	Water Level Data 219 S14 E65 15BBCA1 Muddy River Springs Area
NSE Ex. No. 192	Water Level Data 219 S14 E65 16AACD1 Muddy River Springs Area
NSE Ex. No. 193	Water Level Data 219 S14 E65 21AB 1 Muddy River Springs Area
NSE Ex. No. 194	Water Level Data 219 S14 E65 21ACAA1 Muddy River Springs Area
NSE Ex. No. 195	Water Level Data 219 S14 E65 22AA 1 Muddy River Springs Area
NSE Ex. No. 196	Water Level Data 219 S14 E65 22AABB1 Muddy River Springs Area
NSE Ex. No. 197	Water Level Data 219 S14 E65 22AABB2 Muddy River Springs Area
NSE Ex. No. 198	Water Level Data 219 S14 E65 23AB 1 Muddy River Springs Area
NSE Ex. No. 199	Water Level Data 219 S14 E65 23BB 1 Muddy River Springs Area
NSE Ex. No. 200	Water Level Data 219 S14 E65 23BB 2 Muddy River Springs Area
NSE Ex. No. 201	Water Level Data 219 S14 E65 23BB 3 Muddy River Springs Area
NSE Ex. No. 202	Water Level Data 219 S14 E65 23BBBB1 Muddy River Springs Area
NSE Ex. No. 203	Water Level Data 219 S14 E65 23BC 1 Muddy River Springs Area
NSE Ex. No. 204	Water Level Data 219 S14 E66 35DD 1 Muddy River Springs Area
NSE Ex. No. 205	Nevada Climate Divisional 3, 4 and PRISM Precipitation Data 1985-2012
NSE Ex. No. 206	USGS 09415900 Muddy Springs LDS Moapa NV (all data)
NSE Ex. No. 207	USGS 09415908 Pederson E. Springs Moapa 2002-2012
NSE Ex. No. 208	USGS 09415910 Pederson Springs Moapa 1985-2013
NSE Ex. No. 209	USGS 09415920 Warm Springs West_1985-2012
NSE Ex. No. 210	USGS 09415927 Warm Springs Confluence at Iverson Flume 2001-10

NSE Ex. No. 211	USGS 09416000 Muddy River Moapa 1914-2013
NSE Ex. No. 212	USGS Partial Muddy River Springs 11, 12, 13, 19, 15, 16,
NSE Ex. No. 213	All Order 1169 Water Level Data
NSE Ex. No. 214	Baldwin Jones Monthly Data 2002-2019
NSE Ex. No. 215	Moapa Valley Water District Data Baldwin Jones Daily/Monthly 2010-2012
NSE Ex. No. 216	Order 1169 EH4 Data NDWR Dec. 2012
NSE Ex. No. 217	Order 1169 Daily Pumpage 2010-2013
NSE Ex. No. 218	Order 1169 Monthly Pumpage Data 2000-2012
NSE Ex. No. 219	Order 1169 Monthly Pumpage Data 2000-2019
NSE Ex. No. 220	*Intentionally Omitted*
NSE Ex. No. 221	Southern Nevada Water Authority Shallow Monitor Wells Muddy River Springs Area Periodic Measurements 2009-2012
NSE Ex. No. 222	Southern Nevada Water Authority Solver White River Flow System 10-11-2011
NSE Ex. No. 223	Order 1169 Nevada State Engineer Monitoring Well Site ID and Locations
NSE Ex. No. 224	Lower White River Flow System Water Rights by Priority
NSE Ex. No. 225	2016 Hydrologic Review Team Annual Determination Report with Appendices
NSE Ex. No. 226	2017 Hydrologic Review Team Annual Determination Report
NSE Ex. No. 227	Lower White River Flow System Rights by Priority with 2017 Pumpage Data
NSE Ex. No. 228	2018 Hydrologic Review Team Annual Determination Report with Appended Moapa Valley Water District and Moapa Band of Paiutes Reports
NSE Ex. No. 229	2016 Southern Nevada Water Authority Muddy River Intentionally Created Surplus Certification Report
NSE Ex. No. 230	2017 Southern Nevada Water Authority Muddy River Intentionally Created Surplus Certification Report
NSE Ex. No. 231	State of Nevada, Nevada Water Resources Water Planning Report No. 3, Water for Nevada, October 1971
NSE Ex. No. 232	State of Nevada, Department of Conservation and Natural Resources, Ground-Water Resources – Reconnaissance Series Report 25: Ground-Water Appraisal of Coyote Spring and Kane Spring Valleys and Muddy River Springs Area, Lincoln and Clark Counties, Nevada, by Thomas E. Eakin, February 1964
NSE Ex. No. 233	State of Nevada, Department of Conservation and Natural Resources. Ground-Water Resources – Reconnaissance Series Report 50: Water-Resources Appraisal of the Lower Moapa-Lake Mead Area, Clark County, Nevada, by F. Eugene Rush, December 1968
NSE Ex. No. 234	State of Nevada, Department of Conservation and Natural Resources, Division of Water Resources, Nevada Water Resources-Informational, Nevada Streamflow Characteristics, October 1978
NSE Ex. No. 235	State of Nevada, Department of Conservation and Natural Resources, Water Resources Bulletin No. 33, A Regional Interbasin Ground-Water System in the White River Area, Southeastern Nevada, by Thomas E. Eakin, 1966

NSE Ex. No. 236	2006 Memorandum of Agreement between the Southern Nevada Water Authority, United States Fish and Wildlife Service, Coyote Springs Investment LLC, Moapa Band of Paiute Indians and Moapa Valley Water District.
NSE Ex. No. 237	2001 Stipulation for Dismissal of Protests between Las Vegas Valley Water District, Southern Nevada Water Authority and Federal Bureaus
NSE Ex. No. 238	4/20/2006 Southern Nevada Water Authority Agenda Item Re: Memorandum of Agreement, Water Supply Agreement and Back-Up Water Rights Agreement
NSE Ex. No. 239	4/18/2006 Las Vegas Valley Water District Board of Directors Agenda Item Re: Water Supply Agreement and Water Supply Agreement
NSE Ex. No. 240	4/13/2006 Letter from Nevada Department of Conservation and Natural Resources Re: Supporting Water Settlement Agreement
NSE Ex. No. 241	April 2006 Back-Up Water Rights Agreement Between Southern Nevada Water Authority, Moapa Valley Water District, Moapa Valley Irrigation Company and Coyote Springs Investments LLC
NSE Ex. No. 242	April 2006 Surface Water Lease Between Moapa Valley Irrigation Company and Moapa Band of Paiute Indians
NSE Ex. No. 243	2006 Water Rights Deed Between Las Vegas Valley Water District and Moapa Band of Paiute Indians
NSE Ex. No. 244	2006 Memorandum of Agreement Trigger Levels agreed to by the Southern Nevada Water Authority, Moapa Valley Water District, Coyote Springs Investments LLC and Moapa Band of Paiute Indians
NSE Ex. No. 245	Southern Nevada Water Authority Order 1169 Report
NSE Ex. No. 246	Great Basin Water Network Order 1169 Report
NSE Ex. No. 247	Coyote Springs Investments, LLC Order 1169 Report
NSE Ex. No. 248	Center for Biological Diversity Order 1169 Report
NSE Ex. No. 249	Moapa Valley Water District Order 1169 Report
NSE Ex. No. 250	Moapa Valley Water District Basin 220 Well Site Analysis
NSE Ex. No. 251	Moapa Valley Water District Evaluation of MX-5 Pumping Test on Springs and Wells in the Muddy Springs Area
NSE Ex. No. 252	Moapa Band of Paiute Indians Order 1169 Report
NSE Ex. No. 253	Hydrogeologic and Groundwater Modeling Analysis for the Moapa Paiute Energy Center by Mifflin and Associates
NSE Ex. No. 254	PowerPoint Presentation Re: Lewis Well Field Production Effects on Groundwater Temperatures
NSE Ex. No. 255	Cover Letter Federal Bureaus Order 1169 Report
NSE Ex. No. 256	Federal Bureaus Order 1169 Report
NSE Ex. No. 257	Federal Bureaus Order 1169 Report Appendix A
NSE Ex. No. 258	Federal Bureaus Order 1169 Report Selected References: Water-Surface Elevations, Discharge, and Water-Qualify Data for Selected Sites in the Warm Springs Area near Moapa, Nevada, Beck et. al., 2006

NSE Ex. No. 259	Federal Bureaus Order 1169 Report Selected References: Hydraulic-Property Estimates for Use with a Transient Ground-Water Flow Model of the Death Valley Regional Ground-Water Flow System, Nevada and California, Belcher et. al., 2001
NSE Ex. No. 260	Federal Bureaus Order 1169 Report Selected References: Ground Water Development – The Time to Full Capture Problem, Bredehoeft and Durbin 2009
NSE Ex. No. 261	Federal Bureaus Order 1169 Report Selected References: It Is the Discharge, Bredehoeft, 2007
NSE Ex. No. 262	Federal Bureaus Order 1169 Report Selected References: Basic Principles and Ecological Consequences of Altered Flow Regimes for Aquatic Biodiversity, Bunn & Arthington, 2002
NSE Ex. No. 263	Federal Bureaus Order 1169 Report Selected References: Extinction Rates in North American Freshwater Fishes, 1900-2010, Burkhead, 2012
NSE Ex. No. 264	Federal Bureaus Order 1169 Report Selected References: The Disconnect Between Restoration Goals and Practices: A Case Study of Watershed Restoration in the Russian River Basin, California, Christian-Smith and Merenlender, 2010
NSE Ex. No. 265	Federal Bureaus Order 1169 Report Selected References: Quantifying Ground-Water and Surface-Water Discharge from Evapotranspiration Processes in 12 Hydrographic Areas of the Colorado Regional Ground-Water Flow System, Nevada, Utah, and Arizona, Demeo et. al., 2008
NSE Ex. No. 266	Federal Bureaus Order 1169 Report Selected References: A Regional Interbasin Groundwater System in the White River Area, Southeastern Nevada, Eakin, 1966
NSE Ex. No. 267	Federal Bureaus Order 1169 Report Selected References: Detecting Drawdowns Masked by Environmental Stresses with Water-Level Models, Garcia et. al., 2013
NSE Ex. No. 268	Federal Bureaus Order 1169 Report Selected References: Advanced Methods for Modeling Water-Levels and Estimating Drawdowns with SeriesSEE, and Excel Add-In, Halford et. al., 2012
NSE Ex. No. 269	Federal Bureaus Order 1169 Report Selected References: An Ecohydraulic Model to Identify and Monitor Moapa Dace Habitat, Hatten et. al., 2013
NSE Ex. No. 270	Federal Bureaus Order 1169 Report Selected References: The Myths of Restoration Ecology, Hilderbrand et. al., 2005
NSE Ex. No. 271	Federal Bureaus Order 1169 Report Selected References: Technical Memo Re: Analysis of Evapotranspiration for the Muddy River Springs Area, Huntington et. al., 2013
NSE Ex. No. 272	Federal Bureaus Order 1169 Report Selected References: The AEM and Regional Carbonate Aquifer Modeling, Johnson and Mifflin, 2006
NSE Ex. No. 273	Federal Bureaus Order 1169 Report Selected References: Evaluating Climate Variability and Pumping Effects in Statistical Analyses, Mayer and Congdon, 2008
NSE Ex. No. 274	Federal Bureaus Order 1169 Report Selected References: Vanishing Fishes of North America, Ono et. al., 1983

NSE Ex. No. 275	Federal Bureaus Order 1169 Report Selected References: Life History, Abundance, and Distribution of Moapa Dace, Scoppettone et. al., 1992
NSE Ex. No. 276	Federal Bureaus Order 1169 Report Selected References: Geology of White Pine and Lincoln Counties and Adjacent Areas, Nevada and Utah: The Geologic Framework of Regional Groundwater Flow Systems, Southern Nevada Water Authority, 2007
NSE Ex. No. 277	Federal Bureaus Order 1169 Report Selected References: Water-Resources Assessment and Hydrogeologic Report for Gave, Dry Lake, and Delamar Valleys, Southern Nevada Water Authority, 2007
NSE Ex. No. 278	Federal Bureaus Order 1169 Report Selected References: Hydrologic Data Analysis Report for Test Well 184W105 in Spring Valley Hydrographic Area 184, Southern Nevada Water Authority, 2009
NSE Ex. No. 279	Federal Bureaus Order 1169 Report Selected References: Warm Springs Natural Area Stewardship Plan, Southern Nevada Water Authority, 2011
NSE Ex. No. 280	Federal Bureaus Order 1169 Report Selected References: Development of a Numerical Groundwater Flow Model of Selected Basins within the Colorado Regional Groundwater Flow System, Southeastern Nevada, Tetra Tech 2012
NSE Ex. No. 281	Federal Bureaus Order 1169 Report Selected References: Predictions of the Effects of Groundwater Pumping in the Colorado Regional Groundwater Flow System Southeastern Nevada, Tetra Tech, 2012
NSE Ex. No. 282	Federal Bureaus Order 1169 Report Selected References: Comparison of Simulated and Observed Effects of Pumping from MX-5 Using Data Collected to the Endo of the Order 1169 Test, and Prediction of the Rates of Recovery from the Test, TetraTech,2013
NSE Ex. No. 283	Federal Bureaus Order 1169 Report Selected References: Geochemistry and Isotope Hydrology of Representative Aquifers in the Great Basin Region of Nevada, Utah, and Adjacent States, Thomas et. al.,1996
NSE Ex. No. 284	Federal Bureaus Order 1169 Report Selected References: Federal Register, Vol. 32, No. 48, p. 4001, Department of the Interior Fish and Wildlife Service Endangered Species Listing (Moapa Dace), 1967
NSE Ex. No. 285	Federal Bureaus Order 1169 Report Selected References: United States Fish and Wildlife Service, 2013 Moapa dace survey data (1994-2013)
NSE Ex. No. 286	Federal Bureaus Order 1169 Report Selected References: Analysis and Management of Animal Populations, Modeling, Estimation, and Decision Making, Williams et. al., 2002
NSE Ex. No. 287	Federal Bureaus Order 1169 Report Selected References: Prospects for Recovering Endemic Fishes Pursuant to the U.S. Endangered Species Act, Williams et. al., 2005
NSE Ex. No. 288	Federal Bureaus Order 1169 United States Fish and Wildlife Service Desert National Wildlife Refuge Complex, Ash Meadows, Desert, Moapa Valley, and Pahranagat National Wildlife Refuges, Final Comprehensive Conservation Plan and Environmental Impact Statement Summary, August 2009

NSE Ex. No. 289	Federal Bureaus Order 1169 United States Fish and Wildlife Service Desert National Wildlife Refuge Complex, Ash Meadows, Desert, Moapa Valley, and Pahranagat National Wildlife Refuges, Final Comprehensive Conservation Plan and Environmental Impact Statement, Volume 1, August 2009
NSE Ex. No. 290	Federal Bureaus Order 1169 United States Fish and Wildlife Service Desert National Wildlife Refuge Complex, Ash Meadows, Desert, Moapa Valley, and Pahranagat National Wildlife Refuges, Final Comprehensive Conservation Plan and Environmental Impact Statement, Volume 2, Appendix A Index
NSE Ex. No. 291	Federal Bureaus Order 1169 United States Fish and Wildlife Service Desert National Wildlife Refuge Complex, Ash Meadows, Desert, Moapa Valley, and Pahranagat National Wildlife Refuges, Final Comprehensive Conservation Plan and Environmental Impact Statement, Volume 2, Appendix B References
NSE Ex. No. 292	Federal Bureaus Order 1169 United States Fish and Wildlife Service Desert National Wildlife Refuge Complex, Ash Meadows, Desert, Moapa Valley, and Pahranagat National Wildlife Refuges, Final Comprehensive Conservation Plan and Environmental Impact Statement, Volume 2, Appendix C List of Preparers
NSE Ex. No. 293	Federal Bureaus Order 1169 United States Fish and Wildlife Service Desert National Wildlife Refuge Complex, Ash Meadows, Desert, Moapa Valley, and Pahranagat National Wildlife Refuges, Final Comprehensive Conservation Plan and Environmental Impact Statement, Volume 2, Appendix D Distribution List
NSE Ex. No. 294	Federal Bureaus Order 1169 United States Fish and Wildlife Service Desert National Wildlife Refuge Complex, Ash Meadows, Desert, Moapa Valley, and Pahranagat National Wildlife Refuges, Final Comprehensive Conservation Plan and Environmental Impact Statement, Volume 2, Appendix E Laws and Regs
NSE Ex. No. 295	Federal Bureaus Order 1169 United States Fish and Wildlife Service Desert National Wildlife Refuge Complex, Ash Meadows, Desert, Moapa Valley, and Pahranagat National Wildlife Refuges, Final Comprehensive Conservation Plan and Environmental Impact Statement, Volume 2, Appendix F GOS
NSE Ex. No. 296	Federal Bureaus Order 1169 United States Fish and Wildlife Service Desert National Wildlife Refuge Complex, Ash Meadows, Desert, Moapa Valley, and Pahranagat National Wildlife Refuges, Final Comprehensive Conservation Plan and Environmental Impact Statement, Volume 2, Appendix G CDs
NSE Ex. No. 297	Federal Bureaus Order 1169 United States Fish and Wildlife Service Desert National Wildlife Refuge Complex, Ash Meadows, Desert, Moapa Valley, and Pahranagat National Wildlife Refuges, Final Comprehensive Conservation Plan and Environmental Impact Statement, Volume 2, Appendix H Biological Resources

NSE Ex. No. 298	Federal Bureaus Order 1169 United States Fish and Wildlife Service Desert National Wildlife Refuge Complex, Ash Meadows, Desert, Moapa Valley, and Pahranagat National Wildlife Refuges, Final Comprehensive Conservation Plan and Environmental Impact Statement, Volume 2, Appendix I Wilderness Review
NSE Ex. No. 299	Federal Bureaus Order 1169 United States Fish and Wildlife Service Desert National Wildlife Refuge Complex, Ash Meadows, Desert, Moapa Valley, and Pahranagat National Wildlife Refuges, Final Comprehensive Conservation Plan and Environmental Impact Statement, Volume 2, Appendix J Bighorn Sheep
NSE Ex. No. 300	Federal Bureaus Order 1169 United States Fish and Wildlife Service Desert National Wildlife Refuge Complex, Ash Meadows, Desert, Moapa Valley, and Pahranagat National Wildlife Refuges, Final Comprehensive Conservation Plan and Environmental Impact Statement, Volume 2, Appendix K Implementation
NSE Ex. No. 301	Federal Bureaus Order 1169 United States Fish and Wildlife Service Desert National Wildlife Refuge Complex, Ash Meadows, Desert, Moapa Valley, and Pahranagat National Wildlife Refuges, Final Comprehensive Conservation Plan and Environmental Impact Statement, Volume 2, Appendix L Moapa LPP-CMP
NSE Ex. No. 302	Federal Bureaus Order 1169 United States Fish and Wildlife Service Desert National Wildlife Refuge Complex, Ash Meadows, Desert, Moapa Valley, and Pahranagat National Wildlife Refuges, Final Comprehensive Conservation Plan and Environmental Impact Statement, Volume 2, Appendix M Response to Comments
NSE Ex. No. 303	Federal Bureaus Order 1169 Detailed Production Data w CHECKS
NSE Ex. No. 304	Federal Bureaus Order 1169 Groundwater level & production data
NSE Ex. No. 305	Federal Bureaus Order 1169 Baldwin Jones Monthly Data_2002-2019
NSE Ex. No. 306	Federal Bureaus Order 1169 NV Climate Divisional 3, 4 and PRISM pcp data 1985-2012
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NSE Ex. No. 309	Federal Bureaus Order 1169 Southern Nevada Water Authority shallow monitor wells MRSA periodic measurements 2009-2012
NSE Ex. No. 310	Federal Bureaus Order 1169 Muddy Springs LDS Moapa NV (all data)
NSE Ex. No. 311	Federal Bureaus Order 1169 Pederson E. Springs near Moapa 2002-2012
NSE Ex. No. 312	Federal Bureaus Order 1169 Pederson Springs near Moapa 1985-2013
NSE Ex. No. 313	Federal Bureaus Order 1169 Warm Springs West all data 1985-2012
NSE Ex. No. 314	Federal Bureaus Order 1169 Warm Springs Confluence at Iverson Flume 2001-2010
NSE Ex. No. 315	Federal Bureaus Order 1169 Muddy River near Moapa all data 1914-2013
NSE Ex. No. 316	Federal Bureaus Order 1169 Muddy River Springs Partial
NSE Ex. No. 317	2/27/2014 Tetra Tech Cover Letter
NSE Ex. No. 318	Responses Tetra Tech Model final

NSE Ex. No. 319	Lincoln County/Vidler Water Company Response to National Park Service
NSE Ex. No. 320	Settlement Agreement between the Nevada State Engineer, Lincoln County and Vidler Water Company
NSE Ex. No. 321	Clearing the Waters: Unraveling Hydrologic Trends in the Muddy River Springs Area, Tim Mayer, U.S. Fish and Wildlife Service, March, 2008, NWRA Annual Meeting
NSE Ex. No. 322	Geologic Map of Lincoln County
NSE Ex. No. 323	Geologic Map of Clark County
NSE Ex. No. 324	April 26, 2019, United States Fish and Wildlife Service Request for Extension of Time to submit Order 1303 Reports
NSE Ex. No. 325	May 2, 2019, NDWR Letter Seeking Responses to Request for Extension of Time to submit Order 1303 Reports
NSE Ex. No. 326	May 2, 2019, Coyote Springs Investment, LLC Response to Request for Extension of Time to submit Order 1303 Reports
NSE Ex. No. 327	May 2, 2019, Moapa Band of Paiutes Response to Request for Extension of Time to submit Order 1303 Reports
NSE Ex. No. 328	May 6, 2019, Centers for Biological Diversity Response to Request for Extension of Time to submit Order 1303 Reports
NSE Ex. No. 329	May 8, 2019, Las Vegas Valley Water District and Southern Nevada Water Authority Response to Request for Extension of Time to submit Order 1303 Reports
NSE Ex. No. 330	May 9, 2019, Dry Lake Water Response to Request for Extension of Time to submit Order 1303 Reports
NSE Ex. No. 331	March 5, 2018, Memorandum by Stetson Engineer Inc. to Coyote Spring Investment, LLC Re: Review of Nevada State Engineer's Ruling #6255 and Order 1169 Pumping Test in the Coyote Spring Valley
NSE Ex. No. 332	Evaluation of boundary fluxes for the ground-water flow model being prepared as part of the NDPLMA-5 project by James R. Harrill, December 31, 2007
NSE Ex. No. 333	Muddy River Decree
NSE Ex. No. 334	8/21/2019 Vidler Water Company Quarterly Update of Ongoing Data Collection in Kane Springs Valley Hydrographic Basin (206)

CERTIFICATE OF SERVICE

I hereby certify that a copy of **Notice of Hearing in the Matter of the Administration and Management of the Lower White River Flow System** was served:
By E-mail, on **August 23, 2019,** on the following:

8milelister@gmail.com;
ablack@mcdonaldcarano.com;
admin.mbop@moapabandofpaiutes.org;
alaskajulie12@gmail.com;
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Order 1303, APPENDIX B: Groundwater Pumping in the Lower White River Flow System, 2007–2017

Basin No.	219				215		210	216	218	217	Total pumping in the LWRFS
Basin Name	Muddy River Springs Area				Black Mountains Area		Coyote Spring Valley	Garnet Valley	California Wash	Hidden Valley	
Year	Carbonate pumping (reported by MVWD)	Alluvial pumping (reported by NV Energy)	All other Alluvial Pumping[1]	Total Pumping in Basin 219[1]	Carbonate pumping in the Northwest Portion of Basin 215	Total Pumping in Basin 215					
2007	2,079	4,744	253	7,076	1,585	1,732	3,147	1,412	27[2]	0	**13,247**
2008	2,272	4,286	253	6,811	1,591	1,759	2,000	1,552	27[2]	0	**11,981**
2009	2,034	4,092	253	6,379	1,137	1,159	1,792	1,427	21[3]	0	**10,756**
2010	1,826	4,088	253	6,167	1,561	1,572	2,923	1,373	26[3]	0	**12,050**
2011	1,837	4,212	253	6,302	1,398	1,409	5,606	1,427	33[3]	0	**14,766**
2012	2,638	2,961	253	5,852	1,556	1,564	5,516	1,351	28[3]	0	**14,303**
2013	2,496	3,963	253	6,712	1,585	1,776	3,407	1,484	66[3]	0	**13,254**
2014	1,442	4,825	253	6,520	1,429	1,624	2,258	1,568	241[3]	0	**12,016**
2015	2,396	1,249	253	3,898	1,448	1,708	2,064	1,520	460	0	**9,390**
2016	2,795	941	312	4,048	1,434	1,641	1,722	2,181	252	0	**9,637**
2017	2,824	535	194	3,553	1,507	1,634	1,961	1,981	88	0	**9,090**

The LWRFS includes basins 210, 216, 217, 218, 219 and the northwest portion of 215.

All values in this table are from State Engineer basin pumpage inventory reports except as noted in the footnotes below:

1. Alluvial Pumping not reported by NV Energy for years 2007–2015 estimated as the average of inventoried years 2016–2017.
2. Estimated as the average of groundwater pumping in years 2009–2012.
3. Reported to the State Engineer but not published in a basin inventory report.

Exhibit 4

Exhibit 4

In The Matter Of:

State of Nevada

Department of Conservation and Natural Resources

August 8, 2019

Capitol Reporters

123 W. Nye Lane, Ste 107

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Original File 8-8-19wtrcoyot_1.txt

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STATE OF NEVADA

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF WATER RESOURCES

BEFORE MICHELINE N. FAIRBANK, HEARING OFFICER

IN THE MATTER OF THE ADMINISTRATION AND MANAGEMENT OF THE LOWER WHITE RIVER FLOW SYSTEM WITHIN COYOTE SPRING VALLEY HYDROGRAPHIC BASIN (210), A PORTION OF BLACK MOUNTAINS AREA HYDROGRAPHIC BASIN (215), GARNET VALLEY HYDROGRAPHIC BASIN (216), HIDDEN VALLEY HYDROGRAPHIC BASIN (217), CALIFORNIA WASH HYDROGRAPHIC BASIN (218), AND MUDDY RIVER SPRINGS AREA (AKA UPPER MOAPA VALLEY HYDROGRAPHIC BASIN (219).
_____/

TRANSCRIPT OF PROCEEDINGS

PUBLIC HEARING

PRE-HEARING CONFERENCE

THURSDAY, AUGUST 8, 2019

Reported by: Michel Loomis, RPR

NV CCR #228

CAPITOL REPORTERS (775) 882-5322

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24 Patrick Donnelly
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of these findings and determinations, really this is more about a scientific analysis and data analysis.

MR. FLANGAS: Thank you for that clarification.

HEARING OFFICER FAIRBANK: So second, the purpose of the hearing is limited to those issues I've outlined and these particular issues must be addressed to decide the threshold matter.

So, kind of to follow up on Alex's question, to the extent participants intend or desire to spend time addressing future policy considerations which are not encompassed within the issues specifically identified in the solicitation of the reports, those matters will not be considered during these proceedings.

The State Engineer anticipates that any future decision will address -- that the future decision coming out of this Order 1303 hearing will address the following issues.

The geographic boundary of the hydrologically connected water system comprising the Lower White River Flow System. To whether or not that's a singular basin, whether or not it's encompassing multiple basins, that's going to be a decision that is ultimately determined by the State Engineer following this hearing.

The quantity of water that may be sustainably developed within the Lower White River Flow System without

conflicting with senior rights, and whether there should be any restrictions or limitations on the movement of points of diversion within the LWRFS and other issues which will provide the framework for making future management decisions within the LWRFS.

And the purpose of the hearing is not to resolve or address allegations of conflict between groundwater pumping within the LWRFS and Muddy River decreed rights. That is not the purpose of this hearing and that's not what we are going to be deciding at this point in time.

The purpose of the hearing is to determine what the sustainability is, what the impact is on decreed rights, and then addressing and resolving allegations of conflict should that be a determination that will be addressed in, at a future point in time.

Also, I want to provide a little bit of kind of a framework for parties to understand what our office is looking at when we're reviewing the reports received in response to our solicitation.

Our office is looking for the following, and this is not a comprehensive list, but this is just kind of a framework.

We're looking for how conclusions are supported by the available data.

How those conclusions differ from positions our office has previously taken.

Whether there's new interpretations of data based upon what has been observed since the conclusion of the Order 1169 aquifer test.

Whether the conclusions that are drawn are sufficiently supported by the available data and cited to data.

Whether the conclusions and data and evidence relied upon in rendering those conclusions are independently reproducible and verifiable.

So if our office can't go through and reproduce the data that you're relying upon in terms of making your conclusions, it's going to be difficult for us to go ahead and substantiate those findings. And we're also going to be looking for commonalities and conclusions amongst the various participants.

So, again, that's a general overview, it's not an exhaustive list of what we're looking for.

So that I just kind of wanted to provide everybody a little bit of a framework of what we anticipate the Order 1303 hearing to be encompassing and the little bit about what the direction and the lane in which we're intending to operate in.

STATE OF NEVADA)
) ss.
CARSON CITY)

I, MICHEL LOOMIS, a Certified Court Reporter, do hereby certify;

That on the 8th of August, 2019, in Carson City, Nevada, I was present and took stenotype notes of the hearing held before the Nevada Department of Conservation and Natural Resources, Division of Water in the within entitled matter, and thereafter transcribed the same into typewriting as herein appears;

That the foregoing transcript, consisting of pages 1 through 80 hereof, is a full, true and correct transcription of my stenotype notes of said hearing.

Dated at Carson City, Nevada, this 11th day of August, 2019.

_____
MICHEL LOOMIS, RPR
NV CCR #228

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DISTRICT COURT

CLARK COUNTY, NEVADA

LAS VEGAS VALLEY WATER DISTRICT, and SOUTHERN NEVADA WATER AUTHORITY, Petitioners, vs. ADAM SULLIVAN, P.E., Nevada State Engineer, DIVISION OF WATER RESOURCES, DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES, Respondents.	Case No. A-20-816761-C Dept. No: 1 Consolidated with Cases: A-20-817765-P, A-20-818015-P, A-20-817977-P, A-20-818069-P, A-20-817840-P, A-20-817876-P, A-21-833572-J Hearing Requested **OPENING BRIEF FROM PETITIONERS' LAS VEGAS VALLEY WATER DISTRICT AND SOUTHERN NEVADA WATER AUTHORITY**

Petitioners LAS VEGAS VALLEY WATER DISTRICT ("LVVWD") and SOUTHERN NEVADA WATER AUTHORITY ("SNWA") by and through their counsel of record, file their Opening Brief pursuant to EDCR 2.15.

NRAP RULE 26.1 DISCLOSURE

The undersigned counsel of record certifies that the LAS VEGAS VALLEY WATER DISTRICT and the SOUTHERN NEVADA WATER AUTHORITY are governmental agencies and political subdivisions of the State of Nevada.

DATED this 27th day of August 2021.

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RES CSI 000190

AFFIRMATION: The undersigned does hereby affirm that the preceding document and/or attachments do not contain the social security number of any person. Dated this 27th day of August 2021.

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JURISDICTIONAL STATEMENT

This is a petition for judicial review of Nevada State Engineer Order 1309 ("Order 1309") issued June 15, 2020.[1] Under Nevada law "any person feeling aggrieved by any order or decision" of the State Engineer may have the order or decision reviewed "in the proper court of the county in which the matters affected or a portion thereof are situated."[2] SNWA and LVVWD timely filed a petition for judicial review of Order 1309 in the Eighth Judicial District of Nevada in and for Clark County on June 17, 2020.[3] Order 1309 addressed water availability in the Lower White River Flow System ("LWRFS"), which is primarily located in Clark County, Nevada, making the Eighth Judicial District the proper venue for judicial review of Order 1309. Additionally, the Eighth Judicial District Court is the court with jurisdiction over the Muddy River Decree, which is at issue in these related cases. Several other parties filed petitions for judicial review of Order 1309, and their petitions were consolidated with SNWA and LVVWD's petition.[4]

STATEMENT OF ISSUES

1. Whether the State Engineer incorrectly re-quantified decreed water rights in Order 1309 because that re-quantification was legally impressible.

2. Whether the State Engineer's re-quantification of decreed water rights was based on incorrect factual findings that are not supported by substantial evidence.

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[1] SE ROA 67. Filed concurrently with the opening brief is an appendix that includes excerpts of the record of appeal that are cited to in this opening brief.
[2] NRS 533.450(1).
[3] Petition for Judicial Review (Eighth Judicial Dis. Court, Case No. A-20-824381-P).
[4] Order Granting Consolidation, August 17, 2020, Case No. A-20-824381-P.

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3. Whether the State Engineer improperly made findings regarding conflicts between junior groundwater pumping in the LWRFS and senior decreed Muddy River water rights because those findings were outside the scope of the administrative proceeding below.

STATEMENT OF THE CASE

The LWRFS is an over-appropriated group of groundwater basins in southern Nevada, north of the Las Vegas valley. To date, the State Engineer's office has granted rights to pump approximately 50,000 acre-feet annually ("afa") of water from the LWRFS basins. However, only about 4,000 to 8,000 afa of groundwater can be sustainably pumped in the LWRFS without adversely impacting senior water rights in the Muddy River. Additionally, the Muddy River is home to the endangered Moapa dace that depend on the flows and quality of water in the Muddy River. Muddy River surface water rights are unquestionably senior in priority to the groundwater rights issued in the LWRFS. Current groundwater pumping has already, and continues to, impact senior decreed Muddy River surface water rights and threatens to reduce the habitat of the endangered Moapa dace.

For at least two decades, regulators have questioned whether groundwater is available for a massive residential development that is proposed by Coyote Springs Investment's ("CSI") because of groundwater pumping impacts on the Muddy River. In 2002, the State Engineer ordered an aquifer test (the "Aquifer Test") to evaluate the impact of groundwater pumping in the LWRFS to better understand the connection between groundwater pumping and flow in the Muddy River. The Aquifer Test demonstrated that large-scale groundwater pumping in the LWRFS is unsustainable. If

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the CSI project is developed using unsustainable LWRFS groundwater as a water source, homeowners would face a substantial likelihood of investing in a home without a sustainable water supply. The same is true for any non-residential development.

Order 1309 is the latest administrative action relating to the problem of over-pumping in the LWRFS. In 2020, the State Engineer issued Order 1309 after the two-year Aquifer Test, years of observing aquifer recovery and evaluating data, and an evidentiary hearing to interpret the data ("Order 1303 Hearing"). In Order 1309, the State Engineer correctly recognized that the LWRFS basins are hydrologically connected, and need to be managed as one administrative unit to avoid conflicts to senior water rights and adverse impacts to the environment. The State Engineer also recognized that far less water is available for appropriation in the LWRFS than once contemplated, and existing groundwater rights need to be curtailed. The State Engineer determined that 8,000 afa is the "maximum amount" of groundwater that can be pumped from the LWRFS.[5] He also ruled that even the 8,000 afa pumping limit "may need to be reduced in the future" if spring flows continue to decline due to groundwater pumping.[6]

Most of Order 1309 was correct. The State Engineer properly provided protection against further development of non-existent groundwater in the LWRFS. However, in Order 1309, the State Engineer failed to recognize the ongoing impact of junior groundwater pumping on senior surface water rights in the Muddy River. He unlawfully reduced the total duty of senior decreed Muddy River water rights to support the erroneous finding that current junior groundwater pumping is not conflicting with senior

[5] SE ROA 63.
[6] SE ROA 64.

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rights. Even if the State Engineer could re-quantify decreed surface water rights (which he cannot), the calculations the State Engineer relied upon when re-quantifying the total duty of the senior decreed rights were erroneous. What is more troubling is that the State Engineer, on multiple occasions, indicated he *would not* be ruling on conflicts in the Order 1303 proceedings, and that conflicts would be specifically addressed in a future proceeding.

This Court should uphold the bulk of Order 1309 because the State Engineer's conclusions regarding LWRFS hydrologic connections and water availability were all based upon much more than substantial evidence. However, the State Engineer's wholly inconsistent conclusion that existing junior LWRFS groundwater pumping does not conflict with senior Muddy River surface water rights must be reversed because it was arbitrary, capricious, contrary to law, and made without substantial evidence.

STATEMENT OF FACTS

I. Muddy River Decree

In 1920, the entire flow of the Muddy River was adjudicated by the district court in Clark County, Nevada, through the Muddy River Decree.[7] The Muddy River Decree identifies each water right holder on the Muddy River and quantified each water right.[8] The decree court also directed how water is to be distributed in times of surplus and shortage. A unique feature of the Muddy River Decree is that the Muddy Valley Irrigation Company ("MVIC") is entitled to "divert and use upon its lands *all the waters*

[7] SE ROA 33770-816.
[8] SE ROA 33798-806.

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of the [Muddy River] except the amounts specifically awarded and allotted to other parties" above an area known as Wells Siding.[9]

Put simply, instead of a specific duty of water, MVIC is entitled to all water in the Muddy River that is not owned by others with decreed rights. The decree fully appropriated all flows in the Muddy River to senior vested water right holders. Any reduction in flow – caused by groundwater pumping, upstream surface water diversions not included in the decree, or otherwise – necessarily conflicts with existing rights by reducing the amount of water delivered to the vested water right owner. Such conflicts are a violation of Nevada's prior appropriation system.

II. History Of LWRFS Administration

A. Order 1169

Beginning in 1989, and through the early 2000s, various parties (including CSI and LVVWD) filed applications to appropriate additional groundwater in various LWRFS basins - Coyote Spring Valley, Black Mountains Area, Garnet Valley, Hidden Valley, California Wash, and Muddy River Springs Area Hydrographic Basins.[10] In 2001, the State Engineer held hearings on pending water right applications in Coyote Spring Valley.[11] Following the 2001 hearings, on March 8, 2002, the State Engineer issued Order 1169, which required a large-scale Aquifer Test under which fifty percent of existing groundwater rights in the subject basins would be pumped for at least two (2) consecutive years to determine the effects of groundwater pumping on senior water

[9] SE ROA 33812-33813 (emphasis added).
[10] SE ROA 4.
[11] SE ROA 4.

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rights and the environment.[12] During the Aquifer Test, the State Engineer held all pending groundwater applications in the LWRFS (excluding the Kane Springs basin) in abeyance.[13]

In Order 1169, the State Engineer expressed concern about how groundwater pumping was impacting the area. He found that he needed additional information to determine if existing groundwater rights "will have any detrimental impacts on existing water rights or the environment,"[14] because existing rights include Muddy River water rights that are senior to all groundwater rights. The State Engineer's environmental concern was related to the Moapa dace. Moapa dace are small, thermophilic fish that only exist in the warm spring headwaters of the Muddy River, known as the Muddy River Spring Area.[15] The Moapa dace is listed as "endangered" by the United States Fish and Wildlife Service ("USFWS") and is protected under the Endangered Species Act.[16] Since the 1990's, SNWA, LVVWD and other stakeholders have been actively involved in efforts to protect and benefit the Moapa dace.[17] Protecting the Moapa dace necessarily involves protecting the warm spring sources of the Muddy River.[18]

Following the issuance of Order 1169, SNWA, USFWS, CSI, the Moapa Band of Paiute Indians ("Tribe"), and the Moapa Valley Water District ("MVWD") entered into a Memorandum of Agreement ("MOA"). The purpose of the MOA was to minimize the impact of groundwater pumping on the endangered Moapa dace.[19] The MOA

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[12] SE ROA 4.
[13] SE ROA 665-66.
[14] SE ROA 665.
[15] SE ROA 42087.
[16] SE ROA 42087.
[17] SE ROA 42087.
[18] SE ROA 42087.
[19] SE ROA 5.

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established minimum in-stream flow levels and identified trigger flow levels at specific springs to mandate the parties to reduce groundwater pumping. Actions to protect in-stream flows (in and to the Muddy River) were also required if flows at a specific gauge (the Warm Springs West gauge) falls below 3.2 cfs.[20] Greater pumping reductions are required if spring flows fall below 2.7 cfs.[21]

B. Common Concerns with CSI's Groundwater Rights

Groundwater issues in the LWRFS were brought to a head by CSI's residential development proposal. CSI planned to use existing groundwater rights, in addition to pending groundwater applications, to develop a large scale residential and commercial development fifty miles north of the Las Vegas valley.[22] CSI recognized it was taking a significant risk.[23] CSI recognized that the water source for its development would be independent of water used in the balance of Clark County, and consequently assumed the risk regarding the sustainability of Coyote Spring Valley groundwater as its water source.[24] CSI's groundwater source was all the more risky because CSI's groundwater permits had been protested by the Nevada Department of Wildlife due to the negative

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[20] SE ROA 5.
[21] SE ROA 5.
[22] SE ROA 47860-61.
[23] SE ROA 47861 (one of the original developers stated "[i]t's the developers who are assuming all of the risk . . . [w]hether it's for acquisition of water rights, subsidy of operating costs . . . [and] the cost of the infrastructure.").
[24] SE ROA 47861-62 ("I also feel like it's important to point out that the water source that we are expecting to use out here is one that is outside of existing allocations within Clark County. We are living on our own water resources that don't have to take away from any of the water rights that would otherwise be used for the rest of Clark County residents.").

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impact of increased groundwater pumping on senior water rights and the Moapa dace – forecasting the exact issues outlined in the cases at hand.[25]

III. State Engineer Rulings 6254-6261

The Aquifer Test commenced on November 15, 2010 and concluded on December 21, 2012.[26] The Aquifer Test participants were LVVWD, SNWA, CSI, Nevada Power Company, MVWD, Dry Lake Water Company, LLC, Republic Environmental Technologies, Inc., Chemical Lime Company, Nevada Cogeneration Associates, and the Tribe. Each participant was given the opportunity to submit reports to the State Engineer to present evidence about the results of the Aquifer Test and how those results related to the amount of water available for appropriation in the subject basins.[27]

Based on the findings of the Aquifer Test, the State Engineer issued Rulings 6254-6261 on January 29, 2014. In these rulings, the State Engineer found, in part, that Aquifer Test pumping in the LWRFS caused widespread impacts throughout the LWRFS area, even though only a portion of the existing rights in the region were pumped during the Aquifer Test. The State Engineer also found that Aquifer Test pumping reduced flows in the warm springs which feed the Muddy River and provide habitat to the Moapa dace.[28] Based on these findings, the State Engineer denied all pending applications in the subject basins.[29]

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[25] SE ROA 48114-30.
[26] SE ROA 6.
[27] SE ROA 5-6.
[28] SE ROA 10.
[29] SE ROA 752-53.

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The State Engineer also found in Rulings 6254-6261 that "[t]he vast majority of the scientific literature supports the premise that, unlike other separate and distinct basins in Nevada that do not feature carbonate-rock aquifers, all of the Order 1169 basins share virtually all of the same supply of water."[30] With regards to existing water rights in the subject basins, the State Engineer found that "the amount and location of groundwater that can be developed without capture of and conflict with senior water rights on the Muddy River and springs remains unclear."[31]

The issuance of Rulings 6254-6261 caused several parties to recognize that the system could not even support *existing* groundwater rights, including the existing rights needed to support CSI's project. Rather than leave future residents with an uncertain supply of water, on November 16, 2017, LVVWD, as manager of the Coyote Springs Water Resources General Improvement District, sent a letter to the State Engineer inquiring whether the State Engineer would be signing CSI subdivision maps given the Aquifer Test results showing widespread pumping impacts.[32]

On May 16, 2018, the State Engineer replied to LVVWD, stating that pumping in the region adjacent to the Muddy River will be "limited to the amount that will not conflict with the Muddy River Springs and the Muddy River . . . [and] carbonate pumping will have to be limited to a fraction of the 40,300 acre-feet already appropriated in the five-basin area."[33] To answer the question of how much water can sustainably be

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[30] SE ROA 749.
[31] SE ROA 749.
[32] SE ROA 48040.
[33] SE ROA 48041-42 (The State Engineer later withdrew this letter as part of a settlement agreement with CSI in which the CSI agreed to participate in the ongoing conjunctive management of the LWRFS basins.).

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pumped in the LWRFS region, the State Engineer promptly initiated administrative proceedings to gather the necessary scientific data and engage stakeholders.[34]

IV. Interim Order 1303

On January 11, 2019, the State Engineer issued Interim Order 1303, which designated Coyote Spring Valley, Muddy River Springs Area, California Wash, Hidden Valley, Garnet Valley, and a portion of the Black Mountains Area Hydrographic Basins as a joint administrative unit called the LWRFS.[35] The State Engineer further found in Order 1303 that all water rights in the LWRFS would "be administered based upon their respective dates of priorities in relation to other rights within the regional groundwater unit."[36] In Order 1303, the State Engineer invited all stakeholders to submit reports to address four factual matters: (1) the geographic boundary of the LWRFS, (2) aquifer recovery since the Aquifer Test, (3) long-term annual quantity of groundwater that may be pumped from the LWRFS, and (4) the effects of moving water rights between the carbonate and alluvial system to senior water rights on the Muddy River.[37]

Critical to LVVWD and SNWA's petition here, the State Engineer did not ask for information regarding legal conflicts between junior groundwater pumping and senior water rights in the Muddy River. Rather, the exercise focused on how much water can be pumped, not who can pump it. The State Engineer also ruled that, during the pendency of the Order 1303, all permanent applications to change existing groundwater rights in the LWRFS would be held in abeyance. He also placed a temporary

[34] SE ROA 11-12.
[35] SE ROA 82.
[36] SE ROA 82.
[37] SE ROA 82-83.

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moratorium on the State Engineer's review of proposed subdivisions and developments in the LWRFS pending the Order 1303 proceedings.[38]

V. Scope Of Order 1303 Hearing

During a pre-hearing conference on August 8, 2019, the State Engineer's hearing officer and the parties discussed the scope of the Order 1303 Hearing, and specifically whether the hearing would address the issue of conflicts between water rights.[39] The hearing officer stated that:

> [T]he purpose of the hearing is *not to resolve or address allegations of conflict between groundwater pumping within the LWRFS and Muddy River decreed rights*. This is not the purpose of this hearing and that's not what we are going to be deciding at this point in time. The purpose of this hearing is to determine what the sustainability is, what the impact is on decreed rights, and then addressing and *resolving allegations of conflict should that be a determination that will be addressed in, at a future point in time*.[40]

The hearing officer also stated at the pre-hearing conference that the hearing is part of a "multi-tiered process in terms of determining the appropriate management strategy"[41] in the LWRFS, and legal conflicts are part of "larger substantive policy determinations [that are] not part of this proceeding."[42]

On August 26, 2019, the hearing officer issued a Notice of Hearing.[43] In the Notice of Hearing, the hearing officer pointed out that "[t]he State Engineer further noted that the hearing on the Order 1303 reports was the first step in determining to what

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[38] SE ROA 83.
[39] SE ROA 522.
[40] SE ROA 522 at 12:6-15 (Fairbank) (emphasis added).
[41] SE ROA 522 at 10: 8-10 (Fairbank).
[42] SE ROA 522 at 10:18-22 (Fairbank).
[43] SE ROA 285.

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extent, if any, and in what manner the State Engineer would address future management decisions, including policy decisions, relating to the [LWRFS] basins."[44]

Numerous parties participated in the Order 1303 Hearing.[45] This participation included submitting expert reports, testimony, and written closing arguments regarding the four issues presented by the State Engineer in Order 1303.

VI. Order 1309

On June 15, 2020, the State Engineer issued Order 1309 based on the evidence presented at the Order 1303 Hearing.[46] The State Engineer found that (1) Kane Springs Valley hydrographic basin should be included in the LWRFS administrative boundary, (2) the maximum amount of groundwater that can be pumped in the LWRFS without causing further flow declines in the Muddy River Springs Area and the Muddy River is 8,000 afa, and may be less, (3) the maximum amount of groundwater that may be pumped from the LWRFS may be reduced if it is determined that pumping will adversely impact the Moapa dace, and (4) movement of existing groundwater rights in the LWRFS will be processed in accordance with NRS 533.370.[47] The State Engineer rightfully determined that much less water is available for CSI's development than is

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[44] SE ROA 285.

[45] The following parties submitted expert reports and participated in the Order 1303 Hearing; Center for Biological Diversity, The Church of Jesus Christ of Latter-day Saints, City of North Las Vegas, CSI, Georgia Pacific and Republic, Lincoln County Water District and Vidler Water Company, the Tribe, MVWD, MVIC, United States National Park Service, USFWS, Nevada Cogeneration Associates, NV Energy, SNWA and LVVWD, and West Elite Environmental and Bedroc. The Church of Jesus Christ of Latter-day Saints did not directly participate in the hearing but joined in the City of North Las Vegas's evidentiary submissions.

[46] SE ROA 2-69.

[47] SE ROA 66.

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currently permitted, and any increase in existing groundwater pumping will impact senior water rights and the Moapa dace. These are important findings that speak directly to the viability of Coyote Spring Valley groundwater as a source for CSI's proposed development.

Despite the hearing officer and State Engineer making clear that the Order 1303 hearing would not address conflicts between water users, in Order 1309 the State Engineer expressly and inexplicably did just that. He stated:

> [C]apture or potential capture of the waters of a decreed system *does not constitute a conflict with decreed right holders* [. . .]. The State Engineer finds that the current flow in the Muddy River is sufficient to serve all decreed rights in conformance with the Muddy River Decree, and that reductions in flow that have occurred because of groundwater pumping in the headwater basins is not conflicting with Decreed rights.[48]

The State Engineer based this finding on the flawed rationale that "[i]f all decreed acres were planted with a high-water use crop like alfalfa, the net irrigation water requirement ("NIWR") would be 28,300 afa, based on a consumptive use rate of 4.7 afa."[49]

Instead of accepting the quantity of water rights based on the Muddy River Decree, as he is required to do, the State Engineer reduced the total duty necessary to fulfill decreed surface water rights from approximately 34,000 afa to approximately 28,300 afa. Without reference to any statute or regulation which permits him to do so (because none exists), the State Engineer ignored the actual quantification of water rights in the Muddy River decree and recalculated the amount of water needed to fulfill those

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[48] SE ROA 61-62 (emphasis added).

[49] SE ROA 62. The NIWR is the total amount of water that is needed to grow a crop after subtracting the amount of water used to grow the crop that is recharged back into the aquifer.

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rights based on a hypothetical alfalfa crop, and a hypothetical water consumption rate. The State Engineer also ignored other relevant factors about the quantity of water necessary to fulfill the Muddy River's senior decreed surface water rights, including the fact not all decreed rights are used for irrigation.

Put simply, the State Engineer altered the Muddy River Decree, even though he is expressly prohibited from doing so under Nevada law. The State Engineer used this reduction in total water duty to find that junior groundwater pumping does not conflict with senior decreed water rights, even though he recognized junior pumping reduces the flow of the Muddy River.[50]

VII. SNWA's and LVVWD's Interests In The LWRFS

SNWA is a non-profit political subdivision of the State of Nevada consisting of seven members (local municipalities and political subdivisions in Clark County) and is a wholesale water provider serving approximately 75 percent of Nevada's population. SNWA's water resource portfolio includes approximately 20,000 afa of senior Muddy River decreed water rights, 9,000 afa of groundwater in Coyote Spring Valley, and 2,200 afa of groundwater in Garnet and Hidden valleys.[51] This portfolio includes control of water rights with points of diversion in five of the seven hydrographic basins that make up the LWRFS.[52] SNWA was a participant in the Order 1169 Aquifer Test and is one of the primary participants in the 2006 MOA concerning protection for the Moapa dace.

LVVWD is a member agency of SNWA. Additionally, LVVWD is the general manager of the Coyote Springs Water Resources General Improvement District, which

[50] SE ROA 62.
[51] SE ROA 40603-04.
[52] SE ROA 40604.

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is the entity responsible for providing water and wastewater services for CSI's development in Coyote Spring Valley if a sustainable water resource exists.[53]

SNWA's decreed surface water rights include both decreed Muddy River water rights and shares in MVIC, which controls additional decreed surface water rights.[54] SNWA relies on these surface water rights to create Tributary Conservation Intentionally Created Surplus ("ICS") credits, which can then be stored in Lake Mead or delivered from Lake Mead to water purveyors in Las Vegas Valley.[55] The creation of ICS credits was established by the United States Bureau of Reclamation ("USBOR") in 2007.[56] To create ICS credits, the USBOR requires SNWA to submit ICS plans of creation, and certification reports.[57] The ICS program provides a significant benefit to southern Nevada, because it allows water purveyors to use water from the Muddy River without having to construct an expensive pipeline to deliver water directly to Las Vegas.[58]

In Nevada, the legislature declared ICS to be a beneficial use of water under NRS 533.030. The State Engineer requires annual reports to be submitted that provide a full accounting of the water rights used to create ICS credits.[59] The State Engineer then reviews these reports and provides the party creating ICS credits (such as SNWA) with a letter confirming that the party controls the water rights used to create ICS credits.

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[53] SE ROA 48007-034.
[54] SE ROA 42007.
[55] SE ROA 42007.
[56] SE ROA 42007.
[57] SE ROA 42007.
[58] SE ROA 53387 at 998:8-12 (Pellegrino).
[59] SE ROA 42007.

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The State Engineer has provided SNWA with a letter verifying the use of its decreed surface water rights for creation of its Muddy River ICS credits annually since 2009.[60] Importantly, when the State Engineer verifies SNWA's decreed Muddy River water rights, he recognizes the full duty of the water rights awarded under the decree and does not limit the water rights based on NIWR, as he did in Order 1309.[61] SNWA has created 157,824 afa of Muddy River Tributary Conservation ICS credits since 2009.[62] However, over that same period, LWRFS groundwater pumping has caused SNWA's ICS creation to be approximately 12,040 acre-feet less than it should have been.[63]

SUMMARY OF THE ARGUMENT

While the State Engineer correctly decided most of Order 1309, he failed to recognize the full impact of ongoing groundwater pumping on senior decreed water rights. The State Engineer is prohibited by law from reducing the amount of decreed water rights,[64] or taking any action that impairs vested rights.[65] The State Engineer is also prohibited by law from using a consumptive use analysis to reduce decreed Muddy River surface water rights.[66] Yet in Order 1309, the State Engineer violated each of these legal mandates and reduced the amount of Muddy River rights he would recognize and protect.

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[60] SE ROA 42007.
[61] SE ROA 46349-50.
[62] SE ROA 42007.
[63] SE ROA 42007-08.
[64] *See* NRS 533.0245.
[65] NRS 533.085.
[66] *See* NRS 533.3703(2)(b).

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In addition, the State Engineer made a series of factual errors in his ruling regarding Muddy River water rights. These errors include: (1) incorrectly calculating the originally irrigated acreage in the Muddy River Decree, (2) incorrectly finding the decree overestimated the availability of supply, (3) failing to account for conveyance and evaporation loss of the river and ditches, (4) assuming all decreed rights continue to be used for irrigation, and (5) applying a duty inconsistent with the decree.

Finally, the State Engineer erred in conducting a conflicts analysis because it was outside the scope of the Order 1303 Hearing. The State Engineer and hearing officer stated on multiple occasions that conflicts between water rights holders would not be addressed at the Order 1303 Hearing. SNWA and LVVWD rightfully relied on the State Engineer's limitation of the scope of the Order 1303 proceedings and did not present significant evidence on conflicts. Instead of following his own guidance on conflicts, the State Engineer performed an unlawful conflicts analysis based on his unlawful reduction of the total duty of Muddy River water rights. The State Engineer's conflicts analysis was therefore erroneous, arbitrary, capricious, an abuse of discretion, and a violation of LVVWD and SNWA's right to due process.

ARGUMENT

I. Standard Of Review

Judicial review is "in the nature of an appeal."[67] When reviewing a State Engineer's decision, the role of the reviewing court is to determine if the State Engineer's decision was arbitrary, capricious, or an abuse of discretion, or it was otherwise affected

[67] NRS 533.450(1); *Revert v. Ray*, 95 Nev. 782, 786, 603 P.2d 262, 264 (1979).

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by prejudicial legal error.[68] A decision is arbitrary if it was made "without consideration of or regard for facts, circumstances, fixed rules, or procedures."[69] A decision is capricious if it is "contrary to the evidence or established rules on law."[70] The reviewing court's focus must be "on whether the record includes substantial evidence to support the State Engineer's decision."[71] The Nevada Supreme Court has defined 'substantial evidence' as "that which a reasonable mind might accept as adequate to support a conclusion."[72]

In *Revert v. Ray*, the Nevada Supreme Court articulated the procedural safeguards the State Engineer must employ prior to issuing an order.[73] First, the State Engineer must provide affected parties with a "full opportunity to be heard" and "must clearly resolve all the crucial issues presented."[74] Next, the State Engineer's order or decision must include "findings in sufficient detail to permit judicial review."[75] Finally, if such procedures are not followed and "the resulting administrative decision is arbitrary, oppressive, or accompanied by a manifest abuse of discretion," a court should "not hesitate to intervene and block the enforcement of the order or decision."[76]

The Nevada Supreme Court has recently recognized that Nevada law prohibits the reallocation of decreed water rights, "[t]he statutory water scheme in Nevada therefore

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[68] *Pyramid Lake Paiute Tribe of Indians v. Washoe Cty.*, 112 Nev. 743, 751, 918 P.2d 697, 702 (1996), citing *Shetakis Dist. v. State, Dep't of Taxation*, 108 Nev. 901, 903, 839 P.2d 1315, 1317 (1992).
[69] BLACK'S LAW DICTIONARY 125 (10th ed. 2014).
[70] BLACK'S LAW DICTIONARY 254 (10th ed. 2014).
[71] *Bacher v. Office of the State Engineer of State of Nevada*, 122 Nev. 1120, 1121 (2006)
[72] *Id.* (internal quotations omitted).
[73] *Revert*, 95 Nev. at 786, 603 P.2d at 264.
[74] *Revert*, 95 Nev. at 787, 603 P.2d at 264-65.
[75] *Revert*, 95 Nev. at 787, 603 P.2d at 265.
[76] *Id.*

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expressly prohibits reallocating adjudicated water rights that have not been abandoned, forfeited, or otherwise lost pursuant to an express statutory provision."[77] The 9th Circuit has also recognized the finality of water right decrees, "[p]articipants in water adjudications are entitled to rely on the finality of decrees as much as, if not more than, parties to other types of civil judgments."[78]

II. The State Engineer's Decision To Re-Quantify Decreed Water Rights Was Arbitrary, Capricious, And An Abuse Of Discretion Because The Re-Quantification Was Unlawful.

A. Re-quantifying decreed water rights based on the NIWR of alfalfa is unlawful because it reduces the amount of water rights recognized under the decree.

The State Engineer's use of a hypothetical alfalfa-irrigation formula to measure the duty of decreed Muddy River's already-adjudicated water rights violates Nevada law. The 1920 Muddy River Decree already fully and finally adjudicated water rights on the Muddy River. Under Nevada law and the doctrine of res judicata, water rights recognized under that decree cannot be relitigated over a century later.[79] The State Engineer himself recognized in Order 1194 that the Muddy River was fully appropriated: "The Muddy River Decree adjudicated the entire flow of the Muddy River and its tributaries, and there is insufficient flow in the Muddy River to grant any new

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[77] *Mineral County v. Lyon County*, 136 Nev. Adv. Op. 58, ___, 473 P.3d 418, 429 (2020) (expressly provides that decreed water rights 'shall' be final and conclusive.").

[78] *United States v. Alpine Land & Reservoir, Co.*, 984 F.2d 1047, 1050 (9th Cir. 1993).

[79] *See Nevada v. U.S.*, 463 U.S. 110 (1983) (The Supreme Court ruled that water rights recognized under the *Orr Ditch* decree could not be reallocated by the federal government because of the doctrine of res judicata), *Mineral County v. Lyon County*, 136 Nev. Adv. Op. at ___, 473 P.3d at 429 (2020).

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appropriations."[80] The total amount of water recognized under the decree is approximately 34,000 afa.[81]

The State Engineer is also prevented by statute from reducing the amount of decreed water rights, as decreed water rights are under the jurisdiction of the judicial, not executive, branch because the decreed water rights were put to beneficial use prior to the existence of the State Engineer's office. Under NRS 533.0245, the State Engineer is prohibited from carrying out his duties in any way that conflicts with a decree issued by a state of federal court.[82]

In Order 1309, instead of using approximately 34,000 afa as the measure of water rights awarded in the decree, the State Engineer re-quantified the decreed rights by first assuming a hypothetical situation where all decreed water right users would be growing alfalfa, and then using the NIWR of the hypothetical alfalfa crop to calculate the amount of water needed to fulfill the decreed rights. The State Engineer's NIWR for alfalfa in Order 1309 was 4.7 af/acre, while the Muddy River decree uses 8.54 af/acre.[83] The obvious flaw in the State Engineer's process is that not all decreed water rights are used

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[80] SE ROA 46471.

[81] SE ROA 33798 (original table, later supplemented to add winter use), 33813 (amendment to add winter use to original table), 33787-33789 (final decree), 33799-33806 (acreage per claimant). The total summer acreage is approximately 3,261 acres and the total winter acreage is approximately 4,700 acres. When the respective winter and summer duties are applied, and a weighted average taken, the result is approximately 34,000 afa of year-round flow necessary to satisfy the decreed rights. This amount does not account for non-irrigation use recognized in the decree, which total less than 100 afa.

[82] NRS 533.0245 ("The State Engineer shall not carry out his or her duties pursuant to this chapter in a manner that conflicts with any applicable provision of a decree or order issued by a state or federal court, an interstate compact or an agreement to which this State is a party for the interstate allocation of water pursuant to an act of Congress.").

[83] SE ROA 33788. Under the Muddy River decree the diversion rates equate to 10.34 af/acre in summer (153 irrigation days) and 7.24 af/acre in winter (212 irrigation days). These diversion rates have a weighted average of 8.54 af/acre.

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to grow alfalfa, and some uses (such as ICS credits) utilize more water than the State Engineer's hypothetical alfalfa crop would utilize requiring the full duty of 8.54 af/acre. By using the NIWR of alfalfa, instead of the amounts of water recognized in the Muddy River Decree, the State Engineer, in effect, reduced the total amount of water allocated to the senior decreed water right holders from approximately 34,000 afa to 28,300 afa. This reduced the amount of water allocated to decreed senior water rights by almost 6,000 afa.[84]

The State Engineer's re-quantification runs afoul of the court's decreed duty of the water rights, as well as the State Engineer's own statutory limitations which prevent him from carrying out his duties in any way that conflicts with a decree issued by a state of federal court.[85] No law or regulation exists that gives the State Engineer authority to re-quantify decreed water rights, let alone employ a hypothetical crop calculation like the NIWR to determine the water requirements of decreed water rights.[86] Notably, NRS

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[84] *See* SE ROA 62 (The calculated volume is notable for its convenience and coincidence – essentially giving the senior decreed vested rights holders a haircut of roughly the same amount currently being pumped by junior groundwater rights holders.).

[85] NRS 533.0245 ("The State Engineer shall not carry out his or her duties pursuant to this chapter in a manner that conflicts with any applicable provision of a decree or order issued by a state or federal court, an interstate compact or an agreement to which this State is a party for the interstate allocation of water pursuant to an act of Congress.").

[86] NRS 533.210(1); NRS 533.220 ("the distribution of water by the State Engineer or by any of the State Engineer's assistants or by the water commissioners or their assistants shall, at all times, be under the supervision and control of the district court. Such officers and each of them shall, at all times, be deemed to be officers of the court in distributing water under and pursuant to the order of determination or under and pursuant to the decree of the court").

533.3703 impliedly forbids such a calculation on the Muddy River.[87] As such, his re-quantification was arbitrary and capricious, and an abuse of discretion.

The State Engineer's attempt to re-quantify the decreed Muddy River water rights also violates MVIC's right to all leftover water flows under the Muddy River Decree.[88] By re-quantifying the total water necessary to fulfill decreed water rights at about 28,300 afa, the State Engineer ignored the plain language of the Muddy River Decree which gives MVIC the senior priority right to all remaining water in the system. The State Engineer effectively re-quantified MVIC's water rights from *all water left in the river* to *all water left in the river under 28,300 afa* which is harmful to MVIC shareholders like SNWA. This action was therefore arbitrary, capricious, and an abuse of discretion by the State Engineer.

B. <u>The State Engineer's re-quantification of decreed Muddy River water rights is arbitrary and capricious because it ignores the State Engineer's past practices without adequate justification.</u>

The State Engineer's has previously administered Muddy River water rights with full recognition of the duty of the water rights in the decree rather than reducing the duty of decreed rights as he did in Order 1309. For example, the State Engineer approved Applications 23600 and 22603,[89] which changed the manner of use of decreed Muddy

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[87] Under NRS 533.3703 the State Engineer is allowed to consider consumptive use when evaluating change applications except for decreed Muddy River and Virgin River water rights.

[88] SE ROA 33790 (MVIC is decreed "all the waters of said Muddy River, its headwaters, sources of supply and tributaries, save and except the several amounts and rights hereinbefore specified and described as awarded and decreed to the other [decreed owners]").

[89] SNWA and LVVWD request this Court take judicial notice, pursuant to NRS 47.130(2)(b), of Applications 23600 and 22603. Application 23600 available at

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River water rights from irrigation to industrial use without reducing the duty of the water right recognized under the decree. Also, the State Engineer approved Application 22739, which changed the manner of use of decreed Muddy River water rights from irrigation to municipal use without reducing the duty of the decreed water right.[90] In Order 1309, the State Engineer ignored his prior practice of honoring the full duty of decreed Muddy River water rights when he re-quantified the duty of decreed Muddy River water rights to a lower duty.

The State Engineer's finding in Order 1309 is also inconsistent with his ICS determinations. The State Engineer has continuously recognized that SNWA can use the total duty of the decreed Muddy River water rights it controls to create ICS credits. Since 2009, SNWA has utilized its decreed Muddy River water rights to create ICS credits which require a 100% consumptive use because these water rights must be left in the river and reach Lake Mead. In SNWA's annual ICS certification reports, SNWA explains that it uses the entire duty of the decreed Muddy River water rights it controls for the creation of ICS credits.[91] In other words, when calculating its ICS Credits, SNWA uses its fully-decreed annual duty of 8.54 afa/acre for its Muddy River water rights, which is the weighted average annual duty recognized in the Muddy River

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http://images.water.nv.gov/images/Book_Records/23000/23600.pdf (last visited May 27, 2021). Application 22603 available at http://images.water.nv.gov/images/Book_Records/22000/22603.pdf (last visited May 27, 2021).

[90] SNWA and LVVWD request this Court take judicial notice, pursuant to NRS 47.130(2)(b), of Application 22739. Application 22739 available at http://images.water.nv.gov/images/Book_Records/22000/22739.pdf (last visited May 27, 2021).

[91] SE ROA 46349, 8971.

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Decree.[92] On an annual basis, the State Engineer certificated the correctness of this quantification when he stated:

> [t]hese Certification Reports demonstrate that the amount of Tributary Conservation ICS created by the Authority and conveyed to Lake Mead are consistent with Nevada Water Law and State Engineer's Order 1193 and 1194.[93]

In ICS credit accounting, the State Engineer recognizes that decreed Muddy River water right holders are entitled to the full duty of their water rights. In Order 1309, without any legal authority to do so, the State Engineer failed to adhere to past practices and did not recognize the full duty of decreed Muddy River water rights. Instead, he chose to cut the duty nearly in half, from 8.54 af/acre to 4.7 af/acre. Furthermore, the State Engineer did not provide any justification for this change in practice.

The State Engineer's past practices regarding the consumptive use of decreed Muddy River water rights are also reflected in statutory limitations on the State Engineer's ability to consider the consumptive use of a water right. NRS 533.3703 permits the State Engineer to consider the consumptive use of a water right when evaluating a change application, but decreed Muddy River water rights are specifically excluded from NRS 533.3703.[94] The legislature enacted a statute that expressly allowed the State Engineer to consider consumptive use, but importantly excluded Muddy River

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[92] SE ROA 8971.

[93] SE ROA 46349.

[94] NRS 533.3703(2)(a) ("the provisions of this section do not apply to any decreed, certified or permitted right to appropriate water which originates in the Virgin River or the Muddy River"); *Andersen Fam. Assocs. v. Hugh Ricci, P.E.,* 124 Nev. 182, 192, 179 P.3d 1201, 1207 (2008) ("[a]lthough Carson City changed the use of its vested rights, those rights remained of the same character – i.e., they remained vested and did not become solely permitted rights just because the holder obtained a permit changing the use of the rights.").

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decreed water rights. Therefore, the State Engineer's re-quantification of the Muddy River decreed water rights was arbitrary and capricious.

C. **The State Engineer violated the non-impairment doctrine by reducing the amount of water recognized and protected under the decree.**

The State Engineer is prohibited from taking any action that would impair a pre-statutory water right, such as any Muddy River decreed water right.[95] This doctrine on non-impairment has been upheld by Nevada courts since the water law was first litigated in 1914.[96] By failing to properly recognize the full extent of existing decreed rights, including the current-day uses under valid change applications and ICS creation, the State Engineer impaired the use of those rights. But for Order 1309, SNWA and LVVWD's Muddy River water rights would be recognized under their full duty as set forth in the Muddy River decree. Such an action is barred by statute, making the State Engineer's Order 1309 arbitrary, capricious, and an abuse of discretion.

D. **The State Engineer violated the prior appropriation doctrine by using the NIWR of alfalfa to re-quantify decreed Muddy River water rights.**

By not recognizing the full duty of decreed Muddy River water rights, the State Engineer was, in effect, preferencing junior groundwater users in violation of Nevada law. Prior appropriation has been the basis of Nevada's water law since statehood. This doctrine applies a "first in time, first in right" principle to all appropriations of water.[97]

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[95] NRS 533.085(1) ("Nothing contained in this chapter shall impair the vested right of any person to the use of water, nor shall the right of any person to take and use water be impaired or affected by any of the provisions of this chapter where appropriations have been initiated in accordance with law prior to March 22, 1913.").

[96] *Ormsby County v. Kearney*, 37 Nev. 314, 142 P. 803 (Nev. 1914).

[97] *Lobdell v. Simpson*, 2 Nev. 274, 277 (1866) ("he has the best right who is first in time.").

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Priority is one element in the bundle that makes up a water right.[98] Every water right, whether vested or permitted, is assigned a relative priority date. This priority date is an essential component of the water right that cannot be stripped away without diminishing the right itself.[99]

Under NRS 533.430(1), all permitted water rights are subject to existing rights. Therefore, junior water right holders are prohibited from conflicting with senior water right holders. In Order 1309, the State Engineer held that junior groundwater pumping that captures Muddy River flow did not conflict with decreed Muddy River rights because he reduced the total duty of senior decreed water rights by using the NIWR of alfalfa to calculate the water demand of these rights.[100] By reducing the total duty of decreed Muddy River water rights in order to find that some amount of junior groundwater can be pumped without impacting the senior decreed rights, the State Engineer is allowing junior groundwater pumpers to continue to capture senior Muddy River water rights. For example, between 2008 and 2017, junior groundwater pumping captured 12,040 acre-feet of Muddy River flow.[101] Instead of recognizing that fact, the State Engineer reduced the total duty of the decreed water rights to support his finding that junior groundwater pumping does not illegally interfere with Muddy River flow. By failing to recognize the impact of junior groundwater pumping on senior decreed water rights, the State Engineer violated Nevada law. Therefore, the State Engineer's finding

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[98] *Wilson v. Happy Creek, Inc.*, 135 Nev. 301, 313, 448 P.3d 1106, 1115 (2019).
[99] *Happy Creek*, 135 Nev. at 312, 448 P.3d at 1115.
[100] SE ROA 62.
[101] SE ROA 42009 (SNWA compared the pre-development baseflow of the of the Muddy River to the annual flood adjusted natural flow of the river to determine the amount of river capture caused by junior groundwater pumping).

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regarding the capture of decreed Muddy River water rights by junior groundwater pumpers is arbitrary, capricious, and an abuse of discretion.

III. The State Engineer's Re-Quantification Of Decreed Muddy River Water Rights Was Based On Erroneous Calculations.

Even if the State Engineer had the authority to re-quantify decreed rights, the State Engineer cites to no substantial evidence in the record to support his calculated duty of Muddy River decreed water rights. And, while the State Engineer cites to the Muddy River Decree to support his assertion that the decree sets forth specific quantities of water per user,[102] the decree, by its plain terms, does not support any of the facts used in his analysis.

A. Irrigated acres

The State Engineer erroneously states that the total amount of irrigated land in the decree is 5,614 acres.[103] However, the acreages adjudicated in the Muddy River decree simply do not add up to this total. The acreage listed in the decree is divided by season with a "winter" season and a "summer" season.[104] The total winter acres in the decree is approximately 4,700 acres.[105] The total summer acres in the decree is approximately

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[102] SE ROA 61.

[103] SE ROA 61.

[104] The winter season includes the months of October through April. The summer season includes the months of May through September.

[105] *See* SE ROA 33798 (original table, later supplemented to add winter use), 33813 (amendment to add winter use to original table), 33787-33789 (final decree), 33799-33806 (acreage per claim). The winter acreages are calculated as follows: George and Aletha Baldwin 16 ac, Moapa and Salt Lake Produce Company 155 ac, Livingston and Smith 160 ac, Joseph and Kathryn Perkins 30 ac, G.S. Holms & Julia Knox 95 ac, Isaih & Anna Cox 10 ac, Cox/J.H. Mitchel 3 ac, W. J. and Mary Powers 29 ac, Sadie George 2.1 ac, Jacob Bloedel 2 ac, John Perkins 2 ac, MVIC (Certificate 58) 398.11 ac, MVIC (Certificate 59W) 846.6 ac, MVIC (Certificate 60) 80 ac, MVIC (Permit 1611) 2,784.75 ac, and Tribe 87 ac.

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3,261 acres.[106] The State Engineer provided no explanation for how he calculated this number. Thus, the State Engineer's calculation is completely unsupported in the record and therefore cannot withstand judicial scrutiny.

B. <u>Muddy River flow</u>

The State Engineer also claimed that the total diversion rates in the decree far exceed the full the flow of the river.[107] This claim is unsupported by the record. In 1920, the Muddy River flowed more than current day because groundwater development since 1920 has reduced the river flows. In 1920, the court reviewed evidence submitted and determined that the listed acreages were irrigated, leading to the duties described in the Muddy River Decree. The total diversion rates under the Muddy River Decree equate to approximately 34,000 afa,[108] which is roughly the same quantity as the estimated pre-development flow of the Muddy River and 10% more than the current flow.[109] However, current river flow is logically lower than the decreed amount due to junior groundwater pumping interfering with senior rights. Thus, the evidence supports that the amounts in the decree accurately reflect a full appropriation of the base flow of the river. No evidence supports the State Engineer's contrary position.

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[106] ROA 33798, 33799-33806. The summer acres are calculated as follows: George and Aletha Baldwin 16 ac, Moapa and Salt Lake Produce Company 155 ac, Livingston and Smith 160 ac, Joseph and Kathryn Perkins 30 ac, G.S. Holms & Julia Knox 95 ac, Isaih & Anna Cox 10 ac, Cox/J.H. Mitchel 3 ac, W. J. and Mary Powers 29 ac, Sadie George 2.1 ac, Jacob Bloedel 2 ac, John Perkins 2 ac, MVIC 2,244.8 acres, MVIC (certificate 59S) 425.2 ac, and Tribe 87 ac.

[107] *See* SE ROA 61.

[108] This amount is derived by applying the summer duty to the summer acres, the winter duty to the winter acres, and taking a weighted average based on days per season to establish the annual average diversion of all rights.

[109] SE ROA 42009.

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C. Conveyance losses

The State Engineer's decreed water right duty calculation is also flawed because it does not account for water conveyance losses to the hypothetical alfalfa fields. Instead, he concludes that there is no conveyance loss because "the alluvial corridor is narrow and well defined so water stays within the shallow groundwater or discharges back to the river."[110]

When water is moved to a field through a ditch network or similar conveyance, losses of water occur such as seepage into the ground and evaporation. Those losses are included as part of the total duty of the water right, because those losses are often necessary to ensure water reaches its end place of use. The State Engineer assumed that the pre-1905 irrigation of the Muddy River was 100% efficient, with no evaporation or conveyance loss. The State Engineer cites no evidence to support this optimistic, but nearly impossible contention. Never has the State Engineer considered a water right based on a 100% efficiency factor because it is nearly impossible, if not impossible, to achieve 100% efficiency.[111] To the contrary, the State Engineer has consistently and historically used an irrigation efficiency multiplier to estimate the additional water needed to deliver the water to the plants.[112] The State Engineer cites to no evidence or

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[110] SE ROA 62.

[111] The State Engineer's own NIWR evidence (which provided the 4.7 acre-feet per acre value) undermines his determination. Ditches and reservoirs are used to convey water to irrigate fields. These conveyance structures are shallow open water features. The NIWR for shallow open water is approximately 5.1 acre-feet per acre. So there is unquestionably some conveyance loss of water. Thus, not only are the State Engineer's findings not supported by substantial evidence, his findings are contrary to his own limited evidence cited in his Order, being the NIWR calculations and the decree.

[112] SNWA and LVVWD request this Court take judicial notice, pursuant to NRS 47.130(2)(b), of the State Engineer's 2017 Statewide Groundwater Pumpage Inventory.

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reasoning why he abandoned his long-standing and tested efficiency calculation in this instance.

The State Engineer cites to no evidence that supports his flawed calculations, and in fact the limited evidence he cites in the ruling undermines his findings. Therefore, the dearth of evidence in the record on the diminishment of senior decreed rights means that the State Engineer's decision regarding the impact of junior groundwater pumping on senior decreed water rights is not sound.[113]

D. <u>Manner of use</u>

The State Engineer arbitrarily and capriciously assumed all decreed water rights are used for growing alfalfa instead of relying on his own records showing the current and lawful beneficial use of the decreed Muddy River water rights. These uses include municipal, industrial, and ICS credit creation. In the same way that it would be improper for the State Engineer to reduce an irrigation right based on some other hypothetical use, such as municipal, it was improper for the State Engineer to review all decreed rights through an irrigation lens when decreed rights are not all used for irrigation.

The State Engineer relied solely on one hypothetical manner of use when conducting his conflicts analysis. However, the State Engineer's own records show that the decreed water rights are not being used to solely irrigate alfalfa crops. In fact, much of the decreed water has lawfully been changed to other uses, such as power or municipal use. For example, Permits 23600 and 22603 changed the manner of use of decreed Muddy River water rights from irrigation to industrial use using the full duty awarded

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Located at http://water.nv.gov/documents/Nevada_Groundwater_Pumpage_2015.pdf at 4 (last visited August 27, 2021).

[113] *Revert,* 95 Nev. at 786, 603 P.2d at 264.

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under the decree.[114] Similarly, Permit 22739 changed the manner of use of decreed Muddy River water rights from irrigation to municipal use.[115] Additionally, SNWA has created 157,824 afa of Muddy River Tributary Conservation ICS credits since 2009 using decreed Muddy River rights.[116] The priority date and nature of these new uses relate back to the decreed amount.[117] The NIWR does not apply to these non-irrigation uses, so it was arbitrary for the State Engineer to use NIWR to estimate the duty of decreed Muddy River water rights. Nor did the State Engineer account for these water rights in his hypothetical calculation, although he was aware of the existence of these rights and the quantity of water committed to their beneficial use. By ignoring these relevant facts, the State Engineer acted arbitrarily and capriciously, and abused his discretion.

E. Duty of decreed water rights

In Order 1309, the State Engineer re-quantified decreed Muddy River water rights using the NIWR of alfalfa when he performed his conflicts analysis.[118] In effect, this reduced the duty of decreed Muddy River water rights to 4.7 af/acre which is

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[114] Application 23600 available at http://images.water.nv.gov/images/Book_Records/23000/23600.pdf (last visited May 27, 2021). Application 22603 available at http://images.water.nv.gov/images/Book_Records/22000/22603.pdf (last visited May 27, 2021).

[115] Application 22739 available at http://images.water.nv.gov/images/Book_Records/22000/22739.pdf (last visited May 27, 2021).

[116] SE ROA 42007.

[117] *Andersen Fam. Assocs. v. Hugh Ricci, P.E.,* 124 Nev. at 192, 179 P.3d at 1207 ("[a]lthough Carson City changed the use of its vested rights, those rights remained of the same character – i.e., they remained vested and did not become solely permitted rights just because the holder obtained a permit changing the use of the rights.").

[118] SE ROA 62.

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significantly less than the duty recognized in the decree. The use of the NIWR also neglects to account for the winter use expressly recognized in the decree, as it is based on the water needs of alfalfa, which is typically grown only in the summer. All water rights adjudicated in the Muddy River Decree have a duty of 1 cubic feet per second ("cfs") for 70 acres in the summer irrigation season and 1 cfs for 100 acres for the winter irrigation season.[119] These diversion rates equate to 10.34 af/acre in summer (153 irrigation days) and 7.24 af/acre in winter (212 irrigation days).[120] The weighted average duty is thus 8.54 af/acre.[121] This duty is the vested amount of water to which each claimant is entitled to receive on an annual basis. In Order 1309 the State Engineer disregarded the duty recognized in the Muddy River Decree and instead reduced the duty of decreed Muddy River water rights to 4.7 af/acre. Therefore, the State Engineer's conflict analysis was arbitrary, capricious, and an abuse of discretion.

IV. <u>The State Engineer's Conflicts Analysis Was Arbitrary, Capricious, And An Abuse Of Discretion Because A Conflicts Analysis Was Beyond The Scope Of The Order 1303 Hearing.</u>

A. <u>The purpose of the Order 1303 Hearing was for parties to submit evidence pertaining to an impacts analysis, not a conflicts analysis.</u>

The State Engineer's conflicts determination in Order 1309 was arbitrary and capricious because it went beyond the scope of the administrative hearing. The 1303

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[119] SE ROA 33808.

[120] SE ROA 33796.

[121] The duty reduction from 8.54 af/ac to 4.7af/ac represents a 45% reduction to the duty established and protected under the Muddy River Decree. The calculations of reduction above based on acre feet are of a lesser degree due to the jumble of contradictory and unsupported numbers provided by the State Engineer in the Order. The State Engineer found an acreage of 5,614 acres, a duty of 4.7 af/ac, but a total of 28,300 afa. These numbers simply do not add up. The estimated degree of error varies based on which of these three incorrect numbers are used for the comparison against the decreed amounts.

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Hearing was supposed to be the initial step in a "multi-tiered process" to develop a management strategy in the LWRFS.[122] The State Engineer and the hearing officer made clear on several occasions that the purpose of the Order 1303 Hearing was not to address conflicts and that conflicts would be addressed at a later stage of the administrative process.[123] The 1303 Hearing was expressly "not to resolve or address allegations of conflicts between groundwater pumping within the LWRFS and Muddy River decreed rights."[124] Parties were told that the issue of conflicts would be addressed in a later phase of the proceeding.[125] Accordingly, the issue of conflicts was not fully litigated in the Order 1303 Hearing, and the State Engineer should not have included findings related to conflicts in the resulting Order.

Instead, the purpose of the Order 1303 Hearing was to conduct, in part, a sustainability analysis in order to determine how much water could be pumped, if any, before impermissible impacts occurred to the natural resources.[126] The distinction between an impacts analysis and a conflicts analysis is an important concept in water law. A conflict occurs when the impact prevents the full beneficial use of a senior right or is otherwise unreasonable. A conflicts analysis necessarily determines a review into whether the impact rises to the level of a conflict as well as a legal review of whether the water right being impacted has priority over the water right causing the impact. On the other hand, an impacts analysis looks at the general impact of a project while a conflicts analysis focuses on whether an impact rises to the level of a conflict. The

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[122] SE ROA 522 at 10: 8-10 (Fairbank).
[123] SE ROA 522 at 12:6-9 (Fairbank), SE ROA 285.
[124] SE ROA 522 at 12:6-15 (Fairbank).
[125] SE ROA 522 at 12:6-15 (Fairbank).
[126] SE ROA 522 at 10:18-22 (Fairbank) "The purpose of the hearing is to determine what the sustainability is, *what the impact is on decreed rights*." (emphasis added).

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distinction between impacts and conflicts is reflected in Nevada law, which recognizes that some impacts are reasonable, where other impacts would cause a conflict with a water right.[127] The State Engineer's determination that the impacts to senior water rights were not conflicts went beyond a mere impacts analysis and made a legal determination about whether those impacts constituted a conflict. SNWA and LVVWD were never afforded an opportunity to put on conflicts evidence, such as a legal review of whether impacts rose to the level of conflicts, because the State Engineer limited the hearing from conflicts evidence.

As part of the impacts analysis, the State Engineer found that pumping over 8,000 afa caused declines in springs.[128] The State Engineer found that pumping decreased since 2014, and that at the pumping range of around 7,000 to 8,000 afa may be allowing the system to approach steady state.[129] Based on the State Engineer's statements about scope, the analysis should have ended there. Instead, the paragraphs on page 60 and the first paragraph on page 61 of Order 1309 expanded the impacts analysis to one of conflicts, which the State Engineer said he would not be conducting in this proceeding. These paragraphs should be stricken as being outside the scope of this proceeding. Their exclusion has no impact on the remainder of the Order or any of the final conclusions of the State Engineer.

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[127] NRS 534.110(5) (allows for a reasonable lowering of the static water level at a water applicant's place of diversion. Therefore, the Nevada legislature recognized that one can impact a senior water right without necessarily conflicting with the water right); NRS 533.014(1)(b) (protects domestic wells from "unreasonable adverse effects." You can impact domestic wells without reaching the level of unreasonable adverse effects).

[128] *See* SE ROA 64.

[129] SE ROA 58, 60 ("distributed pumping since the completion of the Aquifer Test in excess of 8,000 afa has correlated with a stabilization of spring discharge.").

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The State Engineer's conflicts analysis in Order 1309 contradicted his own guidance regarding the scope of the Order 1303 Hearing. These actions make his decision to perform a conflicts analysis in Order 1309 arbitrary, capricious, and an abuse of discretion.

B. **The State Engineer's conflicts analysis violated Nevada law because it was beyond the scope of the Order 1303 Hearing.**

The State Engineer violated Nevada law by performing a conflicts analysis that was outside the scope of the Order 1303 Hearing. The State Engineer must allow parties a "full opportunity to be heard" and "must clearly resolve all the crucial issues presented … [w]hen these procedures, grounded in the basic notions of fairness and due process, are not followed, and the resulting administrative decision is arbitrary, oppressive, or accompanied by a manifest abuse of discretion, [the courts] will not hesitate to intervene."[130] However, when setting the scope of the Order 1303 Hearing, the State Engineer's office explained "the purpose of the hearing is not to resolve or address allegations of conflict between groundwater pumping within the LWRFS and Muddy River decreed rights."[131]

SNWA and LVVWD did not get the opportunity to provide meaningful input at the hearing regarding conflicts because the scope of the Order 1303 Hearing was not supposed to include a conflicts analysis.[132] SNWA and LVVWD did not have a full and fair opportunity to present evidence of how Muddy River water rights should be calculated and how increased groundwater pumping would impact those rights. Instead,

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[130] NRS 533.450(2) (requiring a full opportunity to be heard); *Revert*, 95 Nev. at 787, 603 P.2d at 264-65.

[131] SE ROA 522 at 12:6-15 (Fairbank) (emphasis added).

[132] SE ROA 522 at 12:6-15 (Fairbank) (emphasis added).

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they presented evidence on the general impact of groundwater pumping on Muddy River flows, but stopped short of addressing whether conflicts existed because parties were specifically told not to do so.[133]

If SNWA and LVVWD knew the State Engineer was going to recalculate the volume of decreed Muddy River water rights and make conflict determinations, the agencies would have presented legal and scientific evidence concerning (1) the proper method of calculating rights under the Muddy River decree, (2) how groundwater pumping in the LWRFS has conflicted with senior decreed rights, and (3) which rights are causing conflicts, and which are not. Instead, SNWA and LVVWD presented limited evidence and purposely avoided a more thorough presentation of conflicts to comply with the State Engineer's orders on the limited scope of the proceeding in anticipation of a later hearing to address conflicts. Therefore, by performing a conflicts analysis that was outside the scope of the Order 1303 Hearing, the State Engineer did not afford SNWA and LVVWD a full opportunity to be heard, in violation of Nevada law.

C. **The State Engineer's conflicts analysis violated SNWA's and LVVWD's due process rights because it was outside the scope of the hearing.**

The State Engineer's conflicts analysis violated SNWA and LVVWD's due process rights because it was beyond the scope of the Order 1303 Hearing and parties had no notice of the expanded scope or opportunity to be heard on the issue. The Nevada Supreme Court has recently affirmed that "[p]rocedural due process requires that parties

[133] *See* SE ROA 53400 at 1048:24-1049:14 (Burns).

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receive notice and an opportunity to be heard."[134] The Nevada Supreme Court has explained that "a hearing is not meaningful without awareness of the matters to be considered."[135] The Court has also recognized that "[i]nherent in any notice and hearing requirement are the propositions that notice will actually reflect the subject matter to be addressed and that the hearing will allow full consideration of it."[136]

Here, Order 1303, the Notice of Pre-Hearing Conference, and the hearing officer's subsequent statements, made clear that the Order 1303 Hearing was limited to the questions presented in the order and was not intended to address conflicts between water users in the LWRFS.[137] The State Engineer disregarded his own limitation and performed a *sua sponte* post-hearing conflicts analysis in Order 1309 that relied on the NIWR of alfalfa to support his finding that junior groundwater pumping did not conflict with senior decreed Muddy River water rights.[138] Furthermore, the NIWR method and data used by the State Engineer to make this finding were not part of the record or presented at the hearing. Indeed, no party had the opportunity to present evidence rebutting the State Engineer's use of the NIWR of alfalfa to calculate the water requirement of decreed Muddy River water rights.

By performing a conflicts analysis beyond the scope of the Order 1303 Hearing, the State Engineer failed to provide SNWA and LVVWD with a meaningful hearing in which the agencies understood the subject matter in play. In fact, the State Engineer

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[134] *Eureka Cnty. v. Seventh Judicial Dist. Ct.*, 133 Nev. 275, 279, 417 P.3d. 1121, 1124 (2018) (internal quotations omitted).

[135] *Nevada Power Co. v. Public Service Commission*, 91 Nev. 816, 824, 544 P.2d 428, 434 (1975).

[136] *Public Service Commission of NV v. Southwest Gas*, 99 Nev. 268, 662 P.2d 624, 626 (1983).

[137] *See* SE ROA 82-83, SE ROA 513, SE ROA 522 at 11:4-12:15 (Fairbank).

[138] SE ROA 62.

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affirmatively represented on numerous occasions that this subject *would not be addressed through the hearing*. The failure to provide SNWA and LVVWD with a meaningful hearing manifestly violated the agencies' due process rights and requires that the State Engineer's conflicts analysis be reversed by this Court.

CONCLUSION

For the reasons stated herein, the State Engineer's finding in Order 1309 that junior groundwater pumping in the LWRFS does not conflict with senior decreed Muddy River water rights should be reversed.

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ATTORNEY CERTIFICATE

Pursuant to NRAP 28.2, undersigned counsel certifies that:

1. I have read this entire opening brief.

2. To the best of my knowledge, information, and belief, it is not frivolous or interposed for any improper purpose.

3. This answering brief complies with all applicable Nevada Rules of Appellate Procedure, in particular NRAP 28(e)(1), which requires every assertion in the brief regarding matters in the record to be supported by a reference to the page and volume number, if any, of the transcript or appendix where the matter relied on is to be found.

4. This opening brief complies with the formatting requirements of NRAP 32(a)(4), the typeface requirements of NRAP 32(a)(5), and the type style requirements of NRAP 32(a)(6) because this answering brief has been prepared in a proportionally spaced font using Microsoft Word in 14-point Times New Roman font.

5. I further certify that this answering brief complies with the page-volume limitations of NRAP 32(a)(7) because, excluding the parts exempted by NRAP 32(a)(7)(C), it is proportionately spaced, has a typeface of 14 points, and contains less than 14,000 words.

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I understand that I may be subject to sanctions in the event that the accompanying answering brief is not in conformity with the requirements of the Nevada Rules of Appellate Procedure.

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I certify that on the 6th day of June 2022, I served a copy of **VOLUME ONE OF RESPONDENT COYOTE SPRINGS INVESTMENTS, LLC APPENDIX FOR OPPOSITION TO EMERGENCY MOTION TO STAY NRAP 27(E) OF DISTRICT COURT'S ORDER GRANTING PETITIONS FOR JUDICIAL REVIEW PENDING APPEAL** Volume 1 of 2 upon all counsel of record:

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IN THE SUPREME COURT OF THE STATE OF NEVADA

SOUTHERN NEVADA WATER AUTHORITY, Appellant, vs. COYOTE SPRINGS INVESTMENTS, LLC, et al Respondents.	**SUPREME COURT CASE NO. 84741** **District Court Case No. A-20-816761-C**

VOLUME TWO OF RESPONDENT COYOTE SPRINGS INVESTMENTS, LLC'S APPENDIX FOR OPPOSITION TO EMERGENCY MOTION TO STAY NRAP 27(E) OF DISTRICT COURT'S ORDER GRANTING PETITIONS FOR JUDICIAL REVIEW PENDING APPEAL

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Opening Brief from Petitioners' Las Vegas Valley Water District and Southern Nevada Water Authority	8.27.21	1	RES CSI 000189-000238
Petition for Judicial Review of Order 1309 filed by Las Vegas Valley Water District, and Southern Nevada Water Authority	6.17.20	1	RES CSI 000055-000188

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DISTRICT COURT

CLARK COUNTY, NEVADA

LAS VEGAS VALLEY WATER DISTRICT, and SOUTHERN NEVADA WATER AUTHORITY Petitioners, v. ADAM SULLIVAN, P.E., Acting Nevada State Engineer, DIVISION OF WATER RESOURCES, DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES Respondent. _____/	Case No.: A-20-816761-C (Lead Case) Dept. No.: 1 **COYOTE SPRINGS INVESTMENT, LLC'S OPPOSITION TO LVVWD AND SNWA'S MOTION FOR STAY PENDING APPEAL**

IN THE MATTER OF THE PETITION OF COYOTE SPRINGS INVESTMENT, LLC _____/	**CONSOLIDATED WITH:** Case No.: A-20-817765-P (Sub Case) Dept. No.: 1
IN THE MATTER OF THE PETITION OF APEX HOLDING COMPANY, LLC _____/	Case No.: A-20-817840-P (Sub Case) Dept. No.: 1
IN THE MATTER OF THE PETITION OF CENTER FOR BIOLOGICAL DIVERSITY _____/	Case No.: A-20-817876-P (Sub Case) Dept. No.: 1
IN THE MATTER OF THE PETITION OF MUDDY VALLEY IRRIGATION COM PANY _____/	Case No.: A-20-817977-P (Sub Case) Dept. No.: 1
IN THE MATTER OF THE PETITION OF NEVADA COGENERATION ASSOCIATES NOS. 1 AND 2 _____/	Case No.: A-20-818015-P (Sub Case) Dept. No.: 1
IN THE MATTER OF THE PETITION OF GEORGIA-PACIFIC GYPSUM, LLC AND REPUBLIC ENVIRONMENTAL TECHNOLOGIES, INC. _____/	Case No.: A-20-818069-P (Sub Case) Dept. No. 1
IN THE MATTER OF THE PETITION OF LINCOLN COUNTY WATER DISTRICT AND VIDLER WATER COMPANY, INC.	Case No.: A-21-833572-J Dept. No. 1

COYOTE SPRINGS INVESTMENT, LLC'S OPPOSITION TO LVVWD AND SNWA'S MOTION FOR STAY PENDING APPEAL

Coyote Springs Investment, LLC, Petitioner in Case No. A-20-817765-P ("CSI"), opposes LVVWD and SNWA's Motion for Stay Pending Appeal (the "Motion"). This motion is based upon the pleadings on file herein, Rule 8 of the Nevada Rules of Appellate Procedure, and is also supported and based upon the attached points and authorities.

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MEMORANDUM OF POINTS AND AUTHORITIES

CSI opposes the Motion for Stay Pending Appeal filed in these consolidated matters by the Las Vegas Valley Water District ("LVVWD") and the Southern Nevada Water Authority ("SNWA") (collectively, "SNWA") and supports its opposition with the following points and authorities

I. INTRODUCTION

Predictably, they have once again created a procedural quagmire riddled with inconsistences and contradictions.

- SNWA challenged Order No. 1309 in a superficial and meaningless way. It simply wanted a seat at the table. Throughout the proceedings, SNWA

provided support to the State Engineer's effort to validate Order 1309 and they formed an alliance with the Respondent, even though they disguised their allegiance by and through a Petition for Judicial Review. Their Petition is moot, and their case has been closed.

- After supporting the State Engineer in its effort to create an illegal mega-basin, the State Engineer boldly pronounced that it had settled case A-20-816761-C with SNWA. The settlement was either a farse or an effective maneuver to remove LVVWD and SNWA from these proceedings.
- SNWA and the Muddy Valley Irrigation Company ("MVIC") chose to put their phony settlement "on the record" while obtaining permission to argue the merits of their petitions. This was simply an effort to curry favor, while challenging the positions of other petitioners. Nonetheless, it was a procedure that removed LVVWD, SNWA, MVIC, and the Center for Biological Diversity ("CBD") as active participants in these proceedings.
- They led all other petitioners to believe that they would be pursuing an order declaring the alleged settlement as one entered into and processed in good faith. That never happened. The reasons are obvious. CSI served the "settling parties" with a spoilation letter. See **Exhibit 1**. The settlement evidently became effective.
- After the alleged settlement was put on the record, the State Engineer, LVVWD, SNWA, and CBD (who also allegedly settled) went silent.
- The Court entered its Findings of Fact, Conclusions of Law, and Order in this matter on April 19, 2022. Neither LVVWD, SNWA, MVIC, nor CBD received a ruling on their petitions. The Court's Order granted the petitions of petitioners CSI, Vidler Water Company/Lincoln County Water District, Apex Holding Company, Nevada Co-Generation Association, and Georgia Pacific Gypsum.

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- Evidently, the petitions of SNWA, MVIC, and CBD were denied, unresolved, or were dismissed. The records of the Eighth Judicial District reflect that the petitions of SNWA and CBD are "closed". See **Exhibit 2**.
- There is no appeal pending. No party has filed a notice of appeal. Accordingly, the Motion to Stay falls into the familiar category of nonsense and improper procedural contortions.
- The procedural gymnastics, albeit improper and manipulative, being pursued by SNWA and the CBD to assist the State Engineer in its clumsy efforts to breathe life into Order 1309 should be disregarded.
- Neither LVVWD nor SNWA are "petitioners". They have placed themselves in the position wanting out of the litigation, while still wanting to control every aspect of the litigation. The hypocrisy is self-evident.
- To date, the State Engineer has signaled no intent or desire to appeal. Accordingly, the alien and fugitive efforts of LVVWD and SNWA to allegedly protect senior surface rights and the Moapa dace habitat is futile. Neither SNWA nor LVVWD have standing to assert the rights of "senior surface water rights" when they challenged the State Engineer's Order 1309, which has been declared void. And they are not the saviors of endangered species.
- Neither LVVWD nor SNWA have any protectable interests that have been harmed by Order 1309 being declared void.
- The gamesmanship of filing a motion to stay pending appeal when no notice of appeal has been filed, makes it glaringly obvious that procedural shenanigans are afoot, and these manipulative procedural machinations should be rejected.

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II. LEGAL ARGUMENT

A. The Motion is Premature as SNWA has not Appealed

In a clear act of gamesmanship, SNWA moves to stay pending appeal when it has not even filed a notice of appeal. SNWA represents that it will be filing a notice of appeal by May 19, 2022. SNWA's representation of its future litigation plans is reminiscent of its statement to this Court that it settled its issues with the State Engineer and planned to file a motion for good faith settlement. Such motion was never filed.

SNWA has prematurely filed the Motion to attempt to avoid enforcement of this Court's order while simultaneously delaying the time to file the notice of appeal until the last possible day in order to try and prevent CSI from utilizing its water rights as long as possible. This Court should reject SNWA's improper litigation tactics.

NRCP 62(d) applies to stays of proceedings pending appeal. Each of NRCP 62(d)'s subsections includes the conditional phrase, "*If an appeal is taken . . . .*" *See* NRCP 62(d)(1)-(2) (emphasis added). The same is true for stays concerning appeals by state agencies or its political subdivisions. *See* NRCP 62(e) ("*When an appeal is taken . . . .*") (emphasis added). SNWA cannot skip the procedural step of filing an appeal simply because it does not want this Court's order to take effect. The Motion must be denied.

B. SNWA Lacks Standing to Appeal

The Nevada Supreme Court has reiterated that it "has consistently taken a restrictive view of those persons or entities that have standing to appeal as parties." *Valley Bank of Nevada v. Ginsburg*, 110 Nev. 440, 446, 874 P.2d 729, 734 (1994). Therefore, under NRAP 3A(a), "only 'aggrieved parties' may appeal." *Las Vegas Police Protective Ass'n Metro, Inc. v. Eighth Jud. Dist. Ct.*,

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122 Nev. 230, 239, 130 P.3d 182, 189 (2006) (footnote omitted).

The Court reiterated that "[a] party is 'aggrieved' within the meaning of NRAP 3A(a) 'when either a personal right or right of property is adversely and substantially affected' by a district court's ruling." *Id.* at 239-40, 130 P.3d at 189 (quoting *Valley Bank*, 110 Nev. at 446, 874 P.2d at 734). Moreover, the Court explained that "[a]s we recognized in the 1913 case of *Esmeralda County v. Wildes,* a substantial grievance also includes '[t]he imposition of some injustice, or illegal obligation or burden, by a court, upon a party, or the denial to him of some equitable or legal right.'" *Id.* (quoting *Esmeralda County v. Wildes*, 36 Nev. 526, 535, 137 P. 400, 402 (1913)).

Here, SNWA not only purportedly settled with the State Engineer, but SNWA's Petition for Judicial Review was neither granted nor denied. Presumably, SNWA's Petition for Judicial Review was rendered moot by this Court's Findings of Fact and Conclusions of law given that this Court ruled that the State Engineer lacked authority to issue Order 1309. However, that does not mean that SNWA is an aggrieved party under NRAP 3(A)(a) because the challenges raised by SNWA in its Petition for Judicial Review (due process, prior appropriation, conflicts issues) are addressed by Order 1309 being declared void.

SNWA's Answering Brief does not implicate any equitable or legal right. Rather, SNWA's Answering Brief is simply an attempt to support or supplement the State Engineer's Answering Brief as though the brief was done as an amicus curiae. But SNWA's desire to be the State Engineer's co-counsel does not mean that Order 1309 being declared void actually impacts or effects SNWA's *legal or equitable interests.*

SNWA's Motion references the need to protect the Moapa dace and senior rights. But SNWA has no special connection to the Moapa dace that would afford it the ability to advocate for the dace or that would cause *SNWA* to have a legal or equitable interest that is impacted by Order 1309 being declared void. SNWA's

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interest in protecting the dace is no greater than any member of the public. Moreover, Order 1309 being declared void does not mean that senior water rights holders are immediately harmed. There are several tools available to the State Engineer to manage ground and surface water. Declaring Order 1309 void simply means the State Engineer has to use the available tools within the bounds of his statutory authority. SNWA cannot establish an equitable or legal interest that will be harmed as a result of this Court's Findings of Fact and Conclusions of law. Therefore, SNWA is not an aggrieved party and cannot be party to any appeal. The Motion should be denied.

C. Even if SNWA has Standing to Appeal, a Stay is Not Warranted

"In deciding whether to issue a stay, th[e Nevada Supreme Court] generally considers the following factors:

> (1) Whether the object of the appeal or writ petition will be defeated if the stay is denied;
> (2) Whether appellant/petitioner will suffer irreparable or serious injury if the stay is denied;
> (3) Whether respondent/real party in interest will suffer irreparable or serious injury if the stay is granted; and
> (4) Whether appellant/petitioner is likely to prevail on the merits in the appeal or writ petition.

Hansen v. Eighth Jud. Dist. Ct., 116 Nev. 650, 657, 6 P.3d 982, 986 (2000). These factors weigh against a stay in this case.

i. The Object of the Appeal Will Not be Defeated if the Stay is Denied.

SNWA characterizes the object of the appeal as "the protection of senior surface water rights and habitat for the Moapa dace." Motion, p. 3. SNWA argues that because the State Engineer concluded in Order 1309 that pumping in excess of 8,000 afa *could* conflict with Muddy River decreed rights, that, absent a stay, pumping will occur that will harm SNWA's rights. However, declaring Order 1309 void does not mean that pumping in excess of 8,000 afa will automatically occur. There is a process that water rights holders and the State Engineer must follow. And as Order 1309 makes clear, the State

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Engineer will only continue to halt CSI's use of its water rights. In fact, the State Engineer has already refused to sign CSI's maps. *See* **Exhibit 3**. A stay order will only allow the State Engineer additional time to delay in following his statutory mandates and duties. This Court should refuse to allow Order 1309 to have any further impact on CSI's water rights. Notably, the State Engineer's joinder to SNWA's Motion to Stay does not even indicate an intent to appeal.

Order 1309 is certainly not the only mechanism to avoid any purported and hypothetical harm to senior water rights holders or the dace. SNWA's hyperbolic narrative to the contrary should be rejected.

ii. SNWA will Not Suffer Any Injury if the Stay is Denied.

Similarly, SNWA will not suffer irreparable injury without a stay because Order 1309 is not the sole tool available to the State Engineer to ensure that senior water rights are protected. SNWA ironically contends that without Order 1309, "[i]ncreased groundwater pumping will continue to capture SNWA's senior Muddy River decreed water rights, thereby endangering SNWA's property and causing irreparable injury." Motion, p. 4. But SNWA specifically argued in its opening brief that the State Engineer was "allowing junior groundwater pumpers to continue to capture senior Muddy River water rights" in Order 1309. *See* SNWA Opening Brief, p. 26. Now, SNWA tells this Court that only Order 1309 can avoid this issue. SNWA's changing positions highlight the gamesmanship and improper tactics being employed to delay enforcement of this Court's proper order. The Motion must be denied.

iii. CSI will Suffer Irreparable and Serious Injury if the Stay is Granted.

CSI has already suffered irreparable injury because its use and enjoyment of the water rights it holds has been impaired and degraded by the State Engineer for years. The State Engineer has taken every opportunity to contrive reasons that CSI cannot use its water rights and continue with its development. This Court's Findings of Fact and Conclusions of Law were the first glimpse of justice that CSI has seen in over a decade. Regardless of whether this Court stays enforcement of its order, the State Engineer will

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likely contrive yet another ploy to prevent CSI from using its water rights. Notwithstanding, this Court should not allow Order 1309 to fulfil that role in the interim.

Order 1309 is so blatantly improper and contrary to Nevada law that it should have no ability to impact CSI's significant and substantial interests in its water rights. The stay should be rejected.

iv. CSI is Likely to Prevail on the Merits in the Appeal.

As this Court aptly determined, the State Engineer does not have authority to combine multiple basins into one for "joint administration". Unlike the State Engineer and SNWA, this Court actually conducted a proper statutory interpretation analysis, which unequivocally demonstrates that the State Engineer did not have authority to issue Order 1309. Moreover, this Court acknowledged the fundamental errors in the process the State Engineer afforded to the petitioners in the underlying proceedings.

Given that the State Engineer (and SNWA in support thereof) utterly failed to justify Order 1309 with any legal authority, it is clear that CSI will prevail on appeal. This Court's Findings of Fact and Conclusions of law are thorough and demonstrate how arbitrary and capricious Order 1309 is. There is no reason to further delay CSI from attempting to use its water rights given everything the State Engineer has put CSI through over the years. The Motion should be denied.

III. CONCLUSION

SNWA has not met its burden to demonstrate that a stay is warranted in this case. Accordingly, CSI respectfully requests that this Court deny the Motion.

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AFFIRMATION: The undersigned does hereby affirm that the preceding document and/or attachments do not contain the social security number of any person.

DATED this 9th day of May, 2022.

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Exhibit List

Exhibit List	Description	Pages
Exhibit 1	Spoiliation Letter	3
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Exhibit 3	May 2nd Emails between Kayla and Christi Cooper	2

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CERTIFICATE OF SERVICE

Pursuant to NRCP 5(b), I hereby certify that I am an employee of Robison, Sharp, Sullivan & Brust, and that I served, or caused to be served, a true and correct copy of the foregoing **COYOTE SPRINGS INVESTMENT, LLC'S OPPOSITION TO LVVWD AND SNWA'S MOTION FOR STAY PENDING APPEAL** to be served on all parties to this action by:

_____ placing an original or true copy thereof in a sealed, postage prepaid, envelope in the United States mail at Reno, Nevada, addressed to:

__X__ emailing an attached Adobe Acrobat PDF version of the document to the email addresses below/facsimile (fax) and/or E-Filing pursuant to Section IV of the District of Nevada Electronic Filing Procedures:

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DATED: This 9th day of May, 2022.

Ashley DeHaven
An Employee of Robison, Sharp, Sullivan & Brust

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EXHIBIT 1

EXHIBIT 1

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February 18, 2022

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RE: Spoilation of Evidence/Litigation Hold

Dear Counsel:

This is a Spoilation of Evidence communication and demand that a Litigation Hold be placed on your files and communications regarding the alleged settlement you announced to the Court on February 17, 2022. You have informed the Court that your respective clients have entered into a settlement. You have announced to the Court that the Nevada State Engineer, SNWA, LVVWD, MVIC, and CBD have individually or collectively entered into a settlement with the Nevada State Engineer. SNWA, LVVWD, and MVIC insisted on putting the terms of the settlement on the record to be "transparent" but also insisted that MVIC could perpetuate a pretext enabling it to precede

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a closing argument. The bizarre effort to tell the Court that settlement had been agreed upon while still advocated in a pretextual context was clearly an attempt to prejudice the Court's impartiality and objectivity.

This is a formal demand on each of you and your respective clients to maintain, save, and otherwise protect from destruction all documents, photographs, emails, texts, or internet communications to each other that in any way pertain to, address, explain, summarize, or describes the desire to settle, intent to settle, conditions for settlement between your respective clients and the State Engineer. This Spoilation of Evidence and Litigation Hold admonition includes all writings, including personal handwritten, letters, memoranda, emails, mobile telephone texts, or any other form of written or electronic communications that pertain to the reasons for proposals concerning terms and conditions of a proposed settlement, negotiations, documentation, and formation of the alleged settlement disclosed to the Court on February 17, 2022.

This Spoilation of Evidence and Litigation Hold demand pertains to the State Engineer, its officers', representatives', and attorneys' communications to counsel for SNWA, LVVWD, MVIC, and the CBD that in any way address, mention, or pertain to the settlement negotiations, settlement documents, settlement proposals, of the settlement announced to the Court on February 17, 2022 including all documents, photographs, emails, texts, drafts of agreements, letters, handwritten notes, computer generated or typed notes, and other evidence of the State Engineer's principles and lawyers communicating with SNWA, LVVWD, MVIC, and CBD and or any one of them concerning any possible settlement, negotiated settlement, consummated settlement, or discussion associated therewith.

Your respective clients through your representations have informed the Court that your clients intend to seek Court approval of the settlements addressed at the closing arguments conducted on February 17, 2022. Please be advised that CSI will oppose any motion made to approve a settlement that in any way requires or necessitates that Order 1309 be validated or determined as legal, effective and/or binding. It appears that there has been closed door communications between and among the State Engineer, SNWA, LVVWD, MVIC, and the CDC which impermissibly deceived the Court into believing that the parties on which this demand is made were adversaries, when in fact they

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were making joint presentations against CSI while there was no conflict or dispute between the State Engineer and Petitioners with whom he has now settled.

We will be requesting an evidentiary hearing. We will be seeking permission to conduct limited discovery concerning what appears to be a false and fabricated conflict that enabled the State Engineer to solicit and obtain cooperation, advocacy assistance, and other valuable concessions in exchange for conceding various points to the settling Petitioners. The appearance of impropriety stains the entire closing argument process. The State Engineer made concessions in exchange for assistance to specifically harm CSI's legitimate legal objectives.

Destruction or loss of any evidence including texts that were exchanged between any of you during the closing argument process will be highly improper, inappropriate, and frankly unethical.

Finally, we are respectfully asking each of you to confirm this Spoilation of Evidence/Litigation Hold demand has been adequately communicated to all clients who participated in any way in the settlement negotiations including all efforts to initiate settlement discussions from the inception of any settlement comments or discussions.

Thank you for your courtesy and anticipated cooperation.

Should you have any questions, please do not hesitate to contact me.

Yours very truly,

KENT R. ROBISON

KRR:ad

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EXHIBIT 2

EXHIBIT 2

Case Information

A-20-816761-C | Southern Nevada Water Authority, Plaintiff(s) vs. Nevada State Engineer, Division of Water Resources, Defendant(s)

Case Number	Court	Judicial Officer
A-20-816761-C	Department 1	Yeager, Bita
File Date	Case Type	Case Status
06/17/2020	Other Civil Matters	Closed

Party

Plaintiff
Southern Nevada Water Authority

Active Attorneys ▾
Lead Attorney
Taggart, Paul G.
Retained

Attorney
O'Connor, Timothy D
Retained

Plaintiff
Las Vegas Valley Water District

Active Attorneys ▾
Lead Attorney
Taggart, Paul G.
Retained

Attorney
O'Connor, Timothy D
Retained

EXHIBIT 3

EXHIBIT 3

From: Kayla Cassella <kaylac@vtnnv.com>
Sent: Monday, May 02, 2022 3:36 PM
To: Ken Nicholson <kenn@vtnnv.com>
Subject: FW: Map Appointment - Coyote Springs

Please see below for the email from DWR.

Thank you!

Kayla Cassella
VTN Nevada
2727 S. Rainbow Blvd.
Las Vegas, NV 89146
702-253-2411

From: Christi Cooper <ccooper@water.nv.gov>
Sent: Monday, May 2, 2022 3:21 PM
To: Kayla Cassella <kaylac@vtnnv.com>; Annjanett Medina <a.medina@water.nv.gov>; Jenifer Davis <jidavis@water.nv.gov>
Subject: RE: Map Appointment - Coyote Springs

Hi Kayla,
Please feel free to drop off the map but we not be able to sign it at this time.
Regards,

Christi Cooper
Water Commissioner
Nevada Division of Water Resources - Southern Nevada Branch Office
Department of Conservation and Natural Resources
400 Shadow Lane, Suite 201
Las Vegas, NV 89106
ccooper@water.nv.gov
(O) 702-486-2770 | (F) 702-486-2781

NEVADA DIVISION OF WATER RESOURCES | Nevada Department of CONSERVATION & NATURAL RESOURCES
Connect with us:

From: Kayla Cassella <kaylac@vtnnv.com>
Sent: Thursday, April 28, 2022 2:48 PM
To: Christi Cooper <ccooper@water.nv.gov>; Annjanett Medina <a.medina@water.nv.gov>; Jenifer Davis <jidavis@water.nv.gov>
Subject: Map Appointment - Coyote Springs

WARNING - This email originated from outside the State of Nevada. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Good morning,

May we please request an appointment for the signature of the large lot final map of COYOTE SPRINGS Village A for this upcoming Tuesday 5/3/2022 at 9:00AM? This is associated to the Tentative Map 13216T.

Thank you!

Kayla Cassella

VTN Nevada
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702-253-2411

CERIFICATE OF SERVICE

I certify that on the 6th day of June 2022, I served a copy of **VOLUME TWO OF RESPONDENT COYOTE SPRINGS INVESTMENTS, LLC APPENDIX FOR OPPOSITION TO EMERGENCY MOTION TO STAY NRAP 27(E) OF DISTRICT COURT'S ORDER GRANTING PETITIONS FOR JUDICIAL REVIEW PENDING APPEAL** Volume 2 of 2 upon all counsel of record:

☐ BY MAIL: I placed a true copy thereof enclosed in a sealed envelope addressed as follows:

☐ BY FACSIMILE: I transmitted a copy of the foregoing document this date via telecopier to the facsimile number shown below:

X BY ELECTRONIC SERVICE: by electronically filing and serving the foregoing document with the Nevada Supreme Court's electronic filing system:

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DATED: This 6th day of June, 2022.

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