Waterrights DNR <waterrights@utah.gov>

Attn - Teresa Wilhelmsen RE: Draft Parowan Valley Groundwater Management Plan

1 message

Alyssa Kirkman <akirkman@kmclaw.com> Wed, Jun 14, 2023 at 1:30 PM
To: Waterrights DNR <waterrights@utah.gov>

Mrs. Wilhelmsen,

Please find attached a letter regarding the Groundwater Management Plan for Parowan Valley for your records and review. Feel free to reach out to Chris Bramhall or me with any questions.

Thank you,

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June 14, 2023

Teresa Wilhelmsen, P.E.
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Re: Draft Parowan Valley Groundwater Management Plan

Dear Ms. Wilhelmsen:

On January 9, 2023, your Office conducted a public meeting held at the Parowan High School Auditorium in Parowan, Utah, for the purpose of "discuss[ing] the development of a groundwater management plan for Parowan Valley."[1] At the meeting, a draft Parowan Valley Groundwater Management Plan (the "Draft GMP" or "GMP"), was circulated and discussed. Comments on the Draft GMP were submitted on behalf of Roberts Legacy, LLC ("Roberts"), a water user in the Parowan Valley, on January 6, 2023 and February 21, 2023 (the "Roberts Comments"), which Roberts Comments are incorporated herein by this reference. On March 16, 2023, a group of water users (the "Respondents") submitted competing comments (the "Respondents' Comments") generally opposing the ideas included in the Roberts Comments and supporting the Draft GMP in its current form. This firm has been asked by Roberts to address the Respondents' Comments. We express our appreciation in advance for your attention to the issues raised herein.

[1] Meeting agenda, https://www.waterrights.utah.gov/meetinfo/2023/m20230109/20230109_agenda_parowan.pdf.

BACKGROUND

The Draft GMP proposes to encompass all of Area 75 ("Area 75" or the "Basin"). In general, the Draft GMP (i) estimates the safe yield for Basin to be 22,000 acre-feet, (ii) recites measured Basin depletions from 2010 to 2019 to be 33,000 acre-feet; (iii) concludes that average annual groundwater depletions within the Basin must therefore be reduced by 11,000 acre-feet (or 18,000 acre-feet of diversions) to balance depletions with recharge, and (iv) proposes a schedule of water right curtailments affecting all Area 75 water rights with priority dates later than December 5, 1951.

Roberts owns and operates farming operations situated primarily in the northern part of the Parowan Valley commonly known as the "Buckhorn" area, but also including operations in the southern part of the valley. Roberts owns and/or controls over 30 Area 75 water rights, representing roughly 8,150 acre-feet of water diversions. Under the Draft GMP, approximately 5,525 acre-feet of these rights (68%) will be subject to curtailment, representing approximately 31% of all water rights by volume curtailed under the Draft GMP. When added to the curtailment to be suffered by the three other principal water users in the Buckhorn area, these four property owners stand to lose 10,303 acre-feet of water rights, which represents approximately 57% of all curtailments under the Draft GMP.[2] Individually, Roberts bears the greatest burden of any single water right holder. As a group, the four Buckhorn area water users bear the majority of all curtailments under the Draft GMP. Two of the Respondents will suffer no curtailments whatsoever, and the group, collectively, will have approximately 2,956 acre-feet of water curtailed under the GMP, or 16%. It is little wonder that the Respondents support the Draft GMP in its current form.

As further background, it should be noted that of the water rights owned and/or controlled by Roberts, approximately 2,350 acre-feet of these rights (29% of Roberts' total rights) are in the southern portion of the valley, and will be curtailed whether or not the Basin is administered as two sub-basins, as proposed in this letter. The arguments made in this letter should therefore not be viewed as self-serving in favor of Roberts, because Roberts will be seriously affected either way. Instead, these arguments should be examined purely on their merits, regardless of where the ax happens to fall.

Of the water rights to be curtailed, 7,950 acre-feet are located in the Buckhorn area, representing 44% of the total to be curtailed under the GMP. This is significant, since only 22% of all Area 75 water rights are located in the Buckhorn area. This means that the burden of the GMP disproportionately impacts the north, by double. Some might consider this acceptable, based on the accident of history and the priority dates of the water rights. The fact is that farming in the Buckhorn area began much later than farming in the southern portion of the valley, and therefore relies on water rights with relatively junior priority within Area 75. Placing the burden on junior water right holders is justified under the harsh, but well understood principles of the prior appropriation doctrine. In times of shortage, junior rights are the first to be cut back. This is an unavoidable risk assumed by all water right holders, under normal circumstances.

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[2] In addition to Roberts' rights, Dutch Cowboy owns water rights for 643.65 acre-feet that will be curtailed under the GMP, Laubs owns water rights for 3,534.83 acre-feet that will be curtailed under the GMP and Mountain States owns water rights for 600 acre-feet that will be curtailed under the GMP.

UNIQUE HYDROGEOLOGY

However, these are not normal circumstances. The Basin does not consist of a homogeneous, uniform hydrogeology, where pumping in one area has a direct (if perhaps somewhat delayed) impact on other areas. Instead, great variations in transmissivity throughout the Basin create what is essentially a physical barrier between the Buckhorn area, to the north, and the balance of the Basin, to the south. This physical barrier greatly limits communication between the two sub-basins. This is well known, and is supported by existing hydrogeologic mapping.[3]

Transmissivity in the Buckhorn area is very high (in excess of 100,000 ft^2/day), resulting in the relatively free movement of subsurface water within the area. Along a gradient running through Township 32S, transmissivity rapidly decreases to below 1,000 ft^2/day on the west side of the valley, and to around 5,000 to 20,000 ft^2/day on the easternmost portions of the valley, creating a barrier to groundwater flow from north to south. Mountain recharge water entering the aquifer in the Buckhorn area freely moves south until it hits this underground barrier, essentially backing up the groundwater and resulting in shallower groundwater in the Chimney Meadows area (north and west of Paragonah). A measured amount of groundwater moves to the south through this "bottleneck," but it requires a significantly steeper groundwater gradient.

USGS Technical Publication No. 60 and USGS Scientific Investigation Reports 2017-5033 and 2017-5072 indicate that there is a relatively large groundwater mound at the mouth of Red Creek Canyon in Paragonah. This mound is caused by higher recharge contribution from the mountain bedrock within this canyon compared to north of Paragonah, and from seepage from Red Creek into the aquifer as it enters the alluvium at the mouth of the canyon. The groundwater mound acts as a barrier to groundwater flowing southward from the Buckhorn area. As groundwater moves south along the east side of the valley north of Paragonah, it encounters this mound and is forced to the west again into the lower transmissivity area.

These hydrogeologic factors, coupled with the fact that the Buckhorn area is physically separated from Paragonah by about 6 miles, create a condition that essentially isolates the Buckhorn aquifer from the main southern aquifer system in the vicinity of Parowan and Paragonah. The Buckhorn aquifer receives recharge primarily from the mountains to the north and groundwater then discharges to wells or to the Chimney Meadows and Little Salt Lake areas either through springs (historically) or underflow to the main Parowan/Paragonah aquifer. Although excess groundwater from the Buckhorn aquifer spills into the main Parowan/Paragonah aquifer, the aquifers functionally behave independently similar to the hydrogeologic conditions that separate the Parowan Valley aquifer from the Cedar Valley aquifer.

Groundwater levels in the Buckhorn area are already materially and consistently higher than in the rest of the Basin. Severely curtailing groundwater usage in the Buckhorn area by priority will raise groundwater levels in the north, but not enough to materially benefit the southern sub-basin. Groundwater declines documented in Scientific Investigations Report 2017-5033 indicate that the main Parowan/Paragonah aquifer water level dropped by more than 90 feet

[3] See for example Technical Publication 60.

between 1974 and 2013 compared to declines of around 30 feet in the Buckhorn area over the same time period--clear evidence that the sub-basins operate independently from each other.

The reason groundwater levels are dropping precipitously in the south is that pumping greatly exceeds recharge—*in the south*. This creates a deficit of usage over recharge that cannot be balanced by recharge from the north. Due to hydrogeologic restrictions, recharge from the north is so slow and so small that it cannot overcome this southern sub-basin deficit. At best, the curtailment of pumping in the north will only serve to slow the rate of decline in the south. It will not stop, or reverse, the decline.

What this means is that the Draft GMP ***will NOT achieve a balance of recharge versus discharge in the south.*** The GMP is based on the assumption that decreased pumping in one portion of Area 75 will translate to increased groundwater levels Area-wide. This is simply a flawed premise. While it looks fine on paper, and checks the box of administrative attention to over drafting in the Parowan Valley, it won't actually solve the problem. Because of this, it will not withstand judicial scrutiny.

STATUTORY PURPOSE

Pursuant to state law, the cumulative withdrawal of groundwater from a groundwater basin by all water users is limited to "safe yield."[4] There are many ways safe yield can be achieved, short of the implementation of groundwater management plans. For example, water users can enter into voluntary arrangements among themselves.[5] Water users can implement recharge and recovery projects.[6] Water conservation can play a role. As an additional tool, the State Engineer may curtail water rights, but only after adopting a groundwater management plan.[7] And, in fact, while the State Engineer *may* adopt a groundwater management plan to achieve safe yield, she is not *required* to do so unless and until more than one-third of the water right owners in a groundwater basin make such a request,[8] suggesting perhaps that other, less severe options should be considered before a rigid groundwater management plan is implemented. No such request has been made here. And, as discussed below, other less severe options have not been considered and implemented.

In any event, it is clear that the limited purpose of a groundwater management plan is to achieve safe yield. Section 73-5-15(2)(b) provides in pertinent part as follows:

> "(b) The objectives of a groundwater management plan are to:
> (i) limit groundwater withdrawals to safe yield . . ."[9]

To meet the statutory criteria, and thus qualify as a legal curtailment of groundwater rights, *a groundwater management plan must be designed to achieve safe yield.*

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[4] 73-5-15(4)(a)(i).
[5] 73-5-15(4)(c).
[6] 73-5-15(12).
[7] 73-5-15(4)(a)(ii)(B).
[8] 73-5-15(2)(c).
[9] The other two objectives, to protect the physical integrity of the aquifer and to protect water quality, are tied to safe yield and won't be discussed.

WILL THE DRAFT GMP ACHIEVE SAFE YIELD?

The simple answer is "No." "Safe yield" is defined as "the amount of groundwater that can be withdrawn from a groundwater basin over a period of time without exceeding the long-term recharge of the basin . . ."[10] Groundwater management plans are intended to achieve safe yield by balancing withdrawals with recharge. This definition assumes *as a fundamental but unstated premise* that both the recharge and the withdrawals are occurring in the same basin, such that reduced withdrawals will eventually balance with recharge to achieve a steady state *in that basin.*

We would postulate that because of the subsurface "barrier" described above, safe yield will *never be achieved* in the southern portion of Parowan Valley under the current Draft GMP. If the north and the south operate as two essentially isolated basins, only the curtailment of withdrawals in the south will serve to balance against recharge into the south. It is over drafting in the south that is the problem. Not over drafting in the north. Because most of the water rights in the south, by volume, are senior water rights, only 56% of all curtailments will occur in the south under the Draft GMP, while the south accounts for 78% of the water rights. The curtailment of junior rights in the north will raise groundwater levels in the north, where over drafting appears to be less severe, but not in the south, where over drafting is very severe. The proposed solution won't solve the identified problem.

The State Engineer has acknowledged, at some level, the hydrogeologic differences between the northern and southern parts of the Parowan Valley. The Division has, for over half a century,[11] separately administered two distinct sub-basins within Area 75, "generally delineated by the southern boundary line of 32S."[12] In its April 27, 2021 meeting with the Parowan Valley water users, the State Engineer presented materials acknowledging the merits of the arguments being made by Roberts. At page 7, the State Engineer states that the north and south sub-basins are connected "to some degree," without quantifying the degree of such connection. At page 12, the State Engineer states that the time for stabilization "may be long," and poses the question whether it will be "unreasonably long." Further at page 12, the State Engineer states that the water level changes in the two sub-basins will be "large," and then poses the question whether such change will be "unreasonably large." At page 13, the State Engineer concludes that if the valley is treated as a single basin, there is a "higher risk" that groundwater in the south will continue to decline before eventually stabilizing, and that phreatophytes and springs will return in the north. Further, both of these risks are lower if the two sub-basins are treated separately.

What the April 27, 2021 report does not do is quantify these risks and time periods. To our knowledge, no models have been prepared demonstrating how long it will take, if ever, for stabilization Area-wide to occur. The State Engineer concedes that it may be "unreasonably long." Roberts contends that stabilization will never occur, and that groundwater levels in the south will continue to decline indefinitely.

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[10] 73-5-15(1)(b).

[11] Since February 7, 1972.

[12] *See* Area Policy https://www.waterrights.utah.gov/wrinfo/policy/wrareas/area75.asp.

Either way, the GMP does not appear to be designed for optimal achievement of safe yield. The only reason we can see to justify the Draft GMP, in light of these acknowledged issues and risks, is an undue adherence to the principle of priority, applied on an Area-wide basis.

PRIORITY

Respondents correctly state that the relevant statute requires groundwater management plans to be administered according to priority.[13] However, this begs the ultimate question: priority among which rights? Which rights are to be included in the plan, and administered by priority? The answer is and must be: Priority among those rights that reasonably affect safe yield within the area that is not safe yield compliant. Specifically, Section 73-5-15(4)(a)(iii) provides that the State Engineer must regulate groundwater rights "based on the priority date of the *water rights under the groundwater management plan*."

And which rights are included under the groundwater management plan? Stated differently, what is the required geographic scope of a groundwater management plan? There is absolutely no mandate in state law to cast the net Area-wide. Area 75 is an artificial delineation created for administrative convenience. It does not describe what's happening below the surface. The State Engineer is not required to ignore what is happening below the surface, just because an arbitrary line exists on a map. To the contrary, the State Engineer, when considering a groundwater management plan, *must take into account* "(i) the hydrology of the groundwater basin; (ii) the physical characteristics of the groundwater basin, . . . and (viii) other relevant factors."[14] These can't be ignored simply because they create an inconvenient conflict with arbitrary Area boundaries and priorities. They must be taken into account, and the groundwater management plan must be designed consistent with these factors.

An example will serve to illustrate why this makes sense. Assume that a single water user has a groundwater right with a point of diversion at the far western edge of Area 75, near or even west of Little Salt Lake. Suppose further that this water right had the most junior priority in all of Area 75. Assume further that hydrogeologic data demonstrates that curtailing this water right would not contribute one drop of water to the central part of the valley experiencing over drafting. Under this fact scenario, it would be illogical and unreasonable to include this water right in the groundwater management plan and require the right to be forever curtailed.

In concept, these facts are similar to the ones presented with the Buckhorn area rights. While they may be junior relative to all rights within the arbitrary Area 75 delineation, they do not *materially* affect safe yield in the portion of the Area suffering from over drafting. Priority should be respected only as between and among those rights that affect safe yield. The Buckhorn rights are not part of that group.

This concept is similar to a "futile call." The prior appropriation doctrine does not require a "call" on junior rights if such call will not benefit senior water rights. Harming junior water right holders is not required under the doctrine of prior appropriation if doing so will not benefit senior water right holders.

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[13] 73-5-15(4)(a)(iii).
[14] 73-5-15(3)(a).

We are not suggesting that the State Engineer must individually evaluate each separate water right for inclusion in, or exclusion from, a groundwater management plan. The Buckhorn water rights are not incidental collateral damage, however. They constitute a disproportionately high percentage of the junior rights to be curtailed under the Draft GMP. And they will contribute, if at all, only a small fraction of the water necessary to achieve safe yield. This is a glaring defect in the Draft GMP, and must be rectified.

Finally, on the point of priority, we understand Respondents' argument that the mere fact that the State Engineer choses to administer separate parts of an Area separately does not mean those separate areas should necessarily be treated as separate sub-basins for purposes of groundwater management plans. Certainly, there are many examples of separate administration within larger basins based on localized interference and other factors unrelated to fundamental differences in geologic conditions. Conversely, however, Respondents' cited examples do not justify a one-size-fits-all, Area-wide approach where the actual geology does, in fact, justify—indeed compel—sub-basin treatment.

WASTE

Utah cases prohibiting the waste of water are almost too numerable to mention. It is and always has been the policy of the State to maximize the beneficial use of water. "Because of the vital importance of water in this arid region both our statutory and decisional law have been fashioned [to insure] the highest possible development and . . . the most continuous beneficial use of all available water with as little waste as possible." *Wayman v. Murray City*, 458 P.2d 861 (Utah 1969), at 863. The curtailment of one water right to achieve a marginal benefit to another water right is prohibited. *Wayman v. Murray City*.

Here, the State Engineer has conceded that including the Buckhorn area rights in the GMP would increase the risk of springs and phreatophytes emerging in this area. This means that water once used beneficially for crops and livestock would now be evaporating, transpiring through wild vegetation, and otherwise running to waste—contrary to long-standing state policy.

From a cost-benefit analysis point of view, the Draft GMP is tremendously inefficient. Has a cost-benefit analysis been conducted? How much water can legally be "wasted" per unit of water contributing to "safe yield?" Is it permissible to waste 9 acre-feet of water to achieve 1 acre-foot of recharge? At what point does this ratio become a regulatory taking? This question is addressed in greater detail below.

RECHARGE

Roberts has aggressively implemented recharge programs in the Buckhorn area that directly benefit the groundwater levels in that area. Recently, Roberts commissioned runoff flows to be measured, and documented 8.5 cfs being captured from Freemont Creek in a recharge pond operated by Roberts in the Buckhorn area. All of the runoff in Freemont Creek has been stored in the aquifer, and Freemont Creek is now dry. By stark contrast, measurements in the south documented that 160 cfs was flowing uncaptured to the Little Salt Lake. These stream sources,

unlike Freemont Creek, will flow all year. It seems manifestly unfair, and more importantly tremendously inefficient, to require the curtailment of 8,000 acre-feet of water in the north, and foregoing all of the associated economic benefit to the farmers and the surrounding communities, in order to achieve only a nominal contribution to safe yield in the south, when the senior priority water users in the south can achieve a direct, immediate one-to-one benefit by implementing recharge projects with free water, but choose not to do so. We don't know, because it has not been modeled, whether the 18,000 acre-foot deficiency can be partially, largely, or wholly offset through recharge efforts in the southern part of the valley. This needs to be explored.

BEST AVAILABLE SCIENCE

The Respondents argue that there is no science supporting the two sub-basin approach. This is not true. We know a hydrogeologic barrier exists. The State Engineer knows it exists, and has administered the Area accordingly for over 50 years. In fact, the existence of a hydrogeologic barrier is documented in the 1978 Technical Publication 60 performed by the U.S. Geologic Survey.[15] Plate 2 of that Publication shows the widely varying subsurface transmissivity in the valley, including the area of high transmissivity in the Buckhorn area in excess of 100,000 ft^2/day, juxtaposed next to bands of decreasing transmissivity, down to 1,000-5,000 ft^2/day near the southern boundary of Township 32 S. Which, coincidentally, is the boundary used by the State Engineer delineating its sub-basin administration. Plate 5 then shows the direction of subsurface water flows. USGS Scientific Investigations Report 2017-5033 specifically addresses the fact that the lower transmissivities resulted in the historic springs and artesian wells in the Chimney Meadows area. This same report clearly shows the recharge mound in Paragonah that creates a barrier to groundwater flow from the Buckhorn area to the south.

The existing publications that represent the "best available science" report evidence of the functional separation of the Buckhorn aquifer from the south area of the Parowan Valley. However, what the existing publications (best available science) do not do is to actually model the flow of groundwater within the alluvial aquifer systems based on the identified variation of aquifer transmissivity. The only groundwater model that has been presented in these reports is the Groundwater Model of the Great Basin Carbonate and Alluvial Aquifer System (USGS SIR 2017-5072). This model, while beneficial in describing general, regional groundwater flow regimes, is so regional in nature and its scale is too large to reflect local hydrogeologic variations, and is therefore not useful for determining local responses between the Buckhorn and south Parowan Valley aquifers. Accordingly, while raw data may exist, there is much we don't know. We don't know the *magnitude* of the impact on subsurface water flow. We don't know the quantity of Buckhorn area recharge water that flows into the southern portion of the aquifer, or the speed of that flow. We don't know how high the water table in the north will rise in response to the Draft GMP. We don't know whether 8,000 acre-feet of curtailment in the north will have any material impact on safe yield in the south. We don't know how long it will take to achieve safe yield through the method proposed in the Draft GMP. While curtailments are phased in over 57 years, we don't know whether safe yield will be achieved in that time span, or twice that, or twice *that*. Or ever. Similarly, we don't know how quickly and efficiently an alternative plan would achieve safe yield.

[15] https://www.waterrights.utah.gov/cgi-bin/libview.exe?Modinfo=Viewpub&LIBNUM=20-5-480.

We don't know any of these things because they have not been modeled. The critical questions that must be answered in connection with the design and implementation of a groundwater plan cannot be answered with the best available science because either the data is not available, or the available data has not been analyzed and modeled.

Roberts' position is that the State Engineer does not have the data to prove or even surmise that the Draft GMP will work. It is a shot in the dark. Worse, the State Engineer has reason to believe, based on long administrative practice, Technical Publication 60, and local experience, that the plan is flawed and won't achieve its intended purpose.

UNCONSTITUTIONAL TAKING

The constitutionality of the safe yield statute has never been tested. The statute assumes that the objectives to be achieved—protecting the integrity of the aquifer and protecting water quality—are sufficiently important that duly appropriated and certificated water rights can be regulated out of existence without compensation. This is a novel concept that is without precedent in Utah law, and perhaps elsewhere in the West. In other contexts, the State has relied on voluntary actions and market-based solutions to protect vital public water-related interests. For example, instream flow legislation requires the use of water rights that have been acquired by either the State or a private party through market-based means. Recent legislation to augment flows to the Great Salt Lake encourages private, voluntary contributions of water to the lake. Additionally, public funds have been appropriated to *purchase or lease* water rights on the open market for use in support of the identified public interests. In neither case has the State simply nullified valid, existing water rights by regulation. The State has not been willing to touch the "third rail" of protecting the Great Salt Lake by regulating water rights out of existence without compensation. Yet, for some reason, that's exactly the effect of the safe yield legislation. It may be time to challenge that approach.

It is well established that government regulatory action can, under certain circumstances, constitute the taking of private property in violation of the Fifth Amendment of the U.S. Constitution and Art. 1, Sec. 22 of the Utah Constitution. In *Penn Central Transp. Co. v. City of New York*, 438 U.S. 104, 124 (1978), the U.S. Supreme Court ruled that a regulation that deprived a property owner of "reasonable investment-backed expectations" constituted a taking of private property under the Fifth Amendment. The water right holders whose rights[16] are being curtailed under the GMP certainly had no "expectation" at the time those rights were acquired that they could be taken away without compensation by subsequent legislation. Based on then existing law and their reasonable expectations regarding the manner in which the water rights would be administered, they have not only invested in the water rights, but have purchased land, established farms, invested in equipment, taken out loans, and otherwise "invested" based on those expectations. In *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003 (1992), the U.S. Supreme Court ruled that regulation that deprived a property owner of "all economically viable use" of property constituted a taking. There is no "economically viable use" for a water right that has been regulatorily curtailed. Additionally, there is no "economically viable use" for farmland on which water cannot be used. The safe yield statute, applied in the manner contemplated in the GMP, violates both of these cases.

[16] Water rights are "property rights." *Cortella v. Salt Lake City*, 93 Utah 236, 72 P.2d 630 (Utah 1937).

ALTERNATIVES

There are several alternatives that should be considered before the GMP in its current form is adopted. A few of these are listed below:

1. As noted, modeling to determine the efficacy and efficiency of the current Draft GMP should be performed.

2. Conservation measures should be implemented. Already, the Buckhorn area water users have entered into a voluntary agreement to reduce consumption by 10% each year. Roberts has installed sprinkler equipment that will reduce water usage from 48 inches to 27 inches per acre. Individual and collective efforts like this adopted on an Area-wide basis would greatly contribute to safe yield.

3. Recharge programs should be implemented in the southern portion of the valley. This area enjoys by far the greatest volume of mountain runoff recharge, yet none of it is being stored and used to recharge the aquifer.

4. State funding for projects under 2 and 3 could be applied for.

5. Monitoring should be conducted to measure the success of such programs.

6. There will be little incentive for senior water users to implement recharge or conservation programs after the GMP is adopted, and *absolutely no* incentive for junior right holders whose rights have been curtailed to do so. Not only will the GMP fail to achieve the intended objectives, but it operates as a massive disincentive to any effective solutions.

7. After these programs have been implemented and monitored for a reasonable period of time, safe yield should be recalculated.

8. If modeling demonstrates that separate sub-basins are warranted, safe yield should be identified separately for each basin, and separate groundwater management plans should be adopted.

CONCLUSION

The groundwater level in the southern portion of the Parowan Valley has been dropping for over 75 years. Mining is clearly occurring, and pumping exceeds safe yield. Pumping must be reduced, or recharge increased. The Draft GMP proposes that groundwater pumping be curtailed throughout Area 75 based on priority. Unfortunately, the science does not support this approach. The well documented abrupt differentiation in transmissivity between the northern and southern portions of the Parowan Valley creates a physical barrier that greatly limits groundwater communication between these two areas. By accident of history, the junior water rights are predominantly located in the north (where groundwater levels are still very high), and the senior

rights are located in the south (where groundwater levels are low and dropping rapidly). The curtailment of pumping in the north will not, because of the physical barrier between the north and the south, translate during any reasonable period of time, if ever, into the achievement of safe yield in the area it is needed—the south. In other words, the GMP won't work. Because it won't work, it lacks statutory authorization. Because it won't work, it will result in a great waste of water, in violation of state policy. Even if it does work, but especially if it does not, it may violate both the U.S. Constitution and the Utah Constitution as an uncompensated taking of private property.

Before the GMP can be adopted by the State Engineer, modeling must be performed that demonstrates, first, that the curtailment of junior rights in the north will materially contribute to recharge in the south, and second, that such recharge will achieve safe yield in the south within a reasonable period of time. If the modeling shows the opposite, the GMP must be limited to the southern portion of Area 75, as administered by the State Engineer since 1972, and curtailment of water rights must be administered by priority among the water users in that sub-basin. Furthermore, other alternatives such as conservation measures and the implementation of recharge projects in the south must be examined, implemented and evaluated before taking the draconian measures called for in the GMP.

Thank you for your attention to this matter.

Sincerely,

KIRTON McCONKIE

Cameron M. Hancock

Christopher E. Bramhall

Legal Counsel to Roberts Legacy, LLC