

SAWS 2017 Draft Water Management Plan

Comments

Overall, the Water Management Plan (WMP) is clear and demonstrates a strong commitment to conservation and diversification to meet SAWS's customer needs. The plan is credible and, for the most part, straightforward, sensible, and well-presented. Given SAWS's strong track record on conservation, there is every reason to believe that it has the potential to deliver on the plan. Having said that, there are several areas that merit greater detail or explanation including areas with internal inconsistencies, logic concerns, unaddressed risks, and data gaps such as water quality.

Water Quality

As currently presented, the WMP addresses only water quantity. However, the protection and maintenance of water quality are also central to SAWS mission and vision in that SAWS is delegated authority and responsibility for enforcing the City of San Antonio's ordinances pertaining to protection of the Edwards Aquifer. Through its Water Resource Protection & Compliance section, SAWS carries out a series of programs comprising aquifer protection and evaluation; groundwater resource protection; industrial compliance; construction compliance; sampling & monitoring; fats, oils & grease abatement; and MedDropSA. A complete plan should include, at minimum, an overview of the issues and challenges faced and the risks posed in each of these areas and articulate SAWS's proposed approach to handling them. In addition, the WMP should specifically address a number of significant concerns related to water quality:

Consent Decree with the EPA Significant rate increases have been required to address actions required by the Decree. These plans should be outlined in the WMP.

Sewage spills in the EARZ and Contributing Area Between January 2008 and May 2012 eighty three spills totaling 809,000 gallons (2.5 acre/feet) of raw sewage occurred on Edwards Aquifer Recharge Zone in Bexar County. SAWS continues to approve new requests for sewage service on the Edwards Aquifer Recharge and Contributing Zones that are outside the areas that they are required to serve. Additional sewage infrastructure within this environmentally sensitive region has potential to diminish the quality of our primary source of water. To avoid the use of lift stations, which frequently malfunction, SAWS installs gravity feed sewage lines within creek beds and intermittent streams, which are major Edwards Aquifer recharge features. Thus, when leaks do occur, raw sewage is leaked in areas where the most prolific recharge of the Aquifer occurs. The passage during the 84th Legislature of SB 912 / HB 2051 diminished requirements for reporting sewage spills of less than 1,000 gallons. Under the new law, only monthly reporting to the TCEQ will be required. This will make it more difficult to address persistent failures in a timely manner. While improvements have been implemented to requirements for sewage infrastructure through SAWS's Utility Service Agreements, we believe a full discussion of this issue is warranted in the WMP.

Certificates of Convenience and Necessity (CCN) SAWS northeastern CCN's (Water CCN # 10640, Sewer CCN # 20285) include approximately 18,000 acres in Comal County inside the City of San Antonio's Extraterritorial Jurisdiction (ETJ). SAWS is required to approve service to projects within their CCN's regardless to potential negative impacts to water quality posed by transporting large volumes of untreated sewage effluent within the Edwards Aquifer Recharge Zone. We believe that the inclusion of land in Comal County in SAWS CCN #20285 is not necessary because the City of San Antonio has the right of first refusal for non-SAWS sewage systems within the ETJ and, SAWS can protest permits for

substandard projects. In areas outside the CCN, SAWS engineers have been able to require changes to the plans that will better protect the Aquifer as conditions of granting service. When they are required to provide service, they have no such leverage. Guarantee of SAWS service boosts the price of land within the CCN's, which results in higher density developments.

There are significant expenses associated with service in this area because SAWS must absorb the cost of State required inspection of sewer lines on the Edwards Aquifer Recharge Zone. The cost of compliance with TCEQ requirements for camera testing wastewater lines on the Edwards Aquifer Recharge Zone is estimated at \$37,000/mile. Currently, this cost is borne by all SAWS rate payers. Until such time as a more equitable method of financing inspections and other measures needed to protect the Recharge Zone are implemented, we oppose approval of additional wastewater infrastructure within the Edwards Aquifer Recharge Zone in areas that are not included within SAWS Waste Water CCN's and an amendment to CCN #20285 to exclude Comal County.

For the aforementioned reasons, we would like to see a serious discussion on the impacts of expanding of SAWS service into Comal County included in this WMP.

Adherence to principles of SA Tomorrow and anti-sprawl policies Growth and City Form (GCF) goals include GCF Goal 7: Development practices that minimize, mitigate or avoid negative impacts on the city's natural resources, water supply, water quality, surface waterways, and air quality. The WMP should address these recommendations.

To address issues of water quality, we recommend:

- The San Antonio Water System shall require, as condition of approval of service contracts for service in jurisdictions other than the City of San Antonio, compliance with conditions no less stringent than San Antonio's Water Quality ordinances, or in the event that the jurisdiction has ordinances to protect water quality, the application of whichever ordinance is provides greatest protection.
- The San Antonio Water Systems Board shall direct the San Antonio Water System to establish a policy prohibiting applications for extension of Certificates of Convenience and Necessity into areas eligible for Proposition 1 funds dedicated to the protection of the Edwards Aquifer.
- The San Antonio Water System shall require full compliance with San Antonio's water quality ordinances as a condition of service, regardless of category status as to previously vested rights.

We further recommend that SAWS Aquifer Division staff must consult with the San Antonio City Attorney's office prior to issuing Category 1 status exempting projects from City of San Antonio Water Quality ordinances - Aquifer Protection Ordinance No. 81491 (City of San Antonio Code of Ordinances, Chapter 34, Article VI, Division 6)

Principal Observations and Suggestions

At the SAWS board meeting, Mayor Nirenberg laid out four focal areas that he wished to see in the WMP. The following comments are organized under those focal areas.

AFFORDABILITYⁱ

“Waterful” and “WaterCitySA”? These may be useful as promotional and advertising slogans but they are not appropriate in a serious, professional water management plan; especially one that purports to have water conservation as a central pillar. Such terminology implies that San Antonio intends to promote a culture of use and/or attract water intensive industry that flourish where water is naturally abundant and inexpensive. Neither of these conditions are accurate for San Antonio.

San Antonio has a semi-arid to arid climate prone to drought. As such, sensible management dictates planning commiserate with this reality. The characterizations embedded in the ad campaign are not compatible with the culture of water conservation that SAWS wishes to promote and strengthen. As for cost, the Vista Ridge (VR) project cost will likely exceed \$2,500/ac-ft. These costs will be paid by existing ratepayers many of whom are lower income ratepayers.

All SAWS ratepayers pay for the cost of expanding water service into Comal County. This accrues no additional benefits to the City of San Antonio nor Bexar County through the collection of tax revenues.

EXERCISING FISCAL RESPONSIBILITYⁱⁱ

Excess Vista Ridge water, conservation and water sales. Additional information and clarity detailing the strategy for dealing with Vista Ridge’s excess water is required. Once the contract was completed, SAWS has stated that San Antonio will not need all of the water for the next decade or more, particularly during wet years; however, citizens are still obligated to receive and pay for it. Further, because of water volume, San Antonio will be obligated to prioritize the selling and distribution of VR costing \$80 million over pristine, inexpensive Edwards Aquifer water. The section on the Northern pipeline (pg. 46) lays out the dilemma, but the WMP provides no insight into the issue of how San Antonio will manage this problem. Significant financial risk generated from purchasing large quantities of unneeded water at a high cost could erode SAWS commitment to conservation unless there is a clear strategy to avoid that. What is this strategy?

One stated strategy is to sell some of the excess. *“SAWS may wholesale up to 15,000 acre-feet per year from the Vista Ridge pipeline or its existing water supply projects,”* This raises a number of serious questions require a response.

- *Is this a sale of water rights or a lease?*
- *Would SAWS insist on full recovery of the economic cost of that water or would SAWS ratepayers be forced to subsidize the buyer?*
- *If, as the statement implies, SAWS might sell water from other existing water supply projects, would that be costed at Vista Ridge prices or at some other price? Given that the Vista Ridge water is the source and cause of the surpluses driving the need to sell or lease water, arguably the sale price should be Vista Ridge water price. Otherwise, ratepayers are forced to absorb the higher VR price instead of benefitting from the more affordable water.*
- *What types of water rights would that sale or lease confer to the buyer? In a drought or, if regulatory risks materialized and only something significantly less than 50,000 ac-ft of Vista Ridge water could be delivered, would the buyers have senior rights in that reduced scenario at the expense of SAWS’ customers?*
- *If it is a short-term transfer, how does SAWS plan to ensure that the community receiving the water will not be left without a water resource at the termination of the sale or lease?*
- *What if any level of review would City Council over a water transfer?*

Intrinsic in this proposed strategy is that SAWS may become a de facto regional water provider. This constitutes a policy decision that should not be taken lightly or ignored. Further, this is a decision that should reside with the citizens of San Antonio through their City Council representative in a transparent manner. A careful assessment (by an independent entity) of the institutional, legal and financial implications of such a change should be done prior to a Council decision.

A separate, but certainly related, concern is the apparent shift in SAWS's internal goals as reflected in the *Waterful* campaign. This and other recent decisions approved by the SAWS Board of Directors, necessitate the creation of an organizational mission statement created in partnership by SAWS and City Council. Without clear objectives, it is impossible to ensure decision making is consistent with desired outcomes.

In addition, a significant and valid concern exists that selling VR water into the EARZ and contributing areas would encourage high density development in these areas and impact Edwards Aquifer water quality. A simple solution would be for SAWS to refrain from approving water service contracts not required by SAWS's current CCN's for projects on the Edwards Aquifer Recharge and Contributing zones. In the absence of such a commitment, the WMP should include an explicit strategy of how SAWS will mitigate the risk that its water sales would contribute to further land and water quality degradation in the EARZ and contributing zone.

A "no-regrets" strategy for water supply and infrastructure? SAWS aligned its demand projections with COSA's population projections. While that is sensible from the perspective of local planning, it should also be recognized that COSA's near term projections (2020 – 2030) of population growth, which are on the order of 24%, significantly exceed that of either TWDB's (13.2%) or UTSA's Texas Demographic Center (18.4%) predicted increases for Bexar Co. Given the inherent uncertainty, it would be useful to see the plan address the downside risks of overbuilding supply and infrastructure in the event that population projections are too high. Revisiting the WMP every few years is part of that but, also, a clear "no-regrets" approach to build out seems desirable.

Risk management. Achievement of the WMP faces a number of risks. Some of these are specific risks, such as the dependence on the Vista Ridge even with its regulatory risks for delivering the planned for volumes of water. Others risks are associated with underlying assumptions in the WMP, which may not materialize. It is good practice to identify the principle risks to the achievement of a plan, especially those outside the direct control of the plan implementer. For each identified risk, a proposed risk avoidance/mitigation strategy should be included. The WMP should be updated to include such a strategies.

Is SAWS investing enough in fixing leaks? SAWS target is to get below 10% real losses by 2025. It is not made clear how much water this actually is, but reading between the lines it appears to be an "acceptable" loss on the order of 25,000 ac-ft/yr, which is the equivalent of 50% of Vista Ridge water, which comes at a price (at the integration point into the SAWS system) of around \$54 million/yr. The plan talks of "leveraging" \$18.6 million for leak repairs between 2016 and 2020. Given the magnitude of the losses and the value of that water, is a more aggressive approach to fixing leaks justified?

TRANSPARENCY

SAWS's legislative agenda. The WMP raises a number of issues that may require legislative action at the state level to resolve. It would be appropriate to lay out that agenda in relation to the objectives and to risk management in its implementation. In the past, lack of transparency around this agenda creates reason for concern. For example, for the Vista Ridge project, SAWS and its Board maintained that it would not go to the state legislature to undermine local control of groundwater. Specifically, local citizens of the Post Oak Savannah Groundwater Conservation District (POSGCD) expressed concerns regarding SAWS "water

grab”. SAWS then violated this promise in the next legislative session by seeking a law to require automatic extension of water transport permits after the POSGCD refused to provide such.

WMP by Residential, General Class, Irrigation, Wholesale and Recycled. The WMP tends to lump all of these together, making it difficult to fully understand the plan and its details. For example, when “per capita residential use” and “per capita use” are used, it is not always clear what is being referenced. Since SAWS quantifies and manages water supply and rates by these categories, why doesn’t the WMP do the same? Clearly SAWS strategies and approaches differ across these user classes; therefore, in the interest of transparency and providing a clear picture of how our public utility operates, the WMP should discuss each of these separately as appropriate.

Provide the data. Annexes should be made available that contain the data upon which the tables and graphs report are based. Also, it would be useful for SAWS to include key assumptions that underlie that data. For example, Figures 5.2, 5.3 and 5.4 include inflection points in the graphs where a rate change is assumed; however, no assumptions are presented to support the change. Similarly Figure 1.6, 8-1 and 8-2 shows several variations in available water supplies without any explanation for a cause.

“Community input”. SAWS approach to consultation with stakeholders and affected peoples is weak. It relies on a supply-side approach of “public relations campaigns” and information dissemination thru its website. The stakeholder groups identified as relevant (pg. 58) – both COSA and non-government – comprise a subset of interest groups that would actively engage SAWS irrespective of SAWS outreach to them. Good practice dictates the identification of key stakeholder groups affected by a public entities policies and strategies who might not normally have a seat at the table and engage with them before a plan is drafted. SAWS should update its consultation processes and procedures and engage its broader set of stakeholders in a much more transparent, open and effective manner by actively reaching out and engaging stakeholders rather than the current process that relies on stakeholders coming to them.

A series of meaningful public hearings in all SAWS quadrants, such as those held prior to the 2012 WMP where the public was allowed to speak freely about their concerns, should be required. SAWS has recently substituted public meetings with only questions from the public are permitted. This stifles full discussion of the plan and denies SAWS and City Council the opportunity to hear and address the concerns of ratepayers.

SAWS’s representation of the transparent nature of some of their activities is misleading. For example, on page 9, the contract negotiations of VR are highlighted as an example of transparency; however, the substituted Garney contract, that now governs the project, was not provided for public or city council review despite the major changes that were included. If this bullet is going to remain in the plan, this additional information needs to be included.

REGIONAL RESPONSIBILITYⁱⁱⁱ

SAWS policy as regards “sustainable groundwater management”. The treatment of the issue of the Vista Ridge project and its exceeding the current Modeled Available Groundwater (MAG) limitations raises serious questions about SAWS’s views about what constitutes sustainable groundwater management. The draft states “*The MAG is a calculation that is determined through a policy driven process and is not a representation of the amount of water that is physically available within an aquifer.*” This is misleading.

Desired Future Conditions (DFCs) are policy-driven, MAGs are not. MAGs represent what is considered our best, science-based estimate of allowable pumping rates given the established DFC.^{iv} In the Vista Ridge case, the DFC established by the source Groundwater Conservation District (GCD) calls for 318 feet of drawdown, which is among the largest proposed drawdowns in the state. Yet, even when permitting such a

large drawdown, the current MAGs would allow Vista Ridge less than 40% of the proposed pumping in 2020 and only go to 70% by 2070. SAWS calls this “*a manageable risk.*” What does that mean? How would this be managed? Would SAWS promote and encourage drawdowns exceeding 318 feet contrary to the DFC commitment?

Recent runs (George Rice, 2017) of the TWDB’s Groundwater Availability Model (used to establish MAGs), estimates that by 2060 the drawdowns in Burleson Co. (where VR well field is located) could range from 1,200 feet near the well fields to 600 ft. at the county’s boundary as a result of the aggregate impacts of baseline plus Vista Ridge, End Op, Forestar, and LCRA pumping. What would SAWS position be if drawdowns began to exceed the DFC? Would it be acceptable to SAWS if San Antonio obtains water at the expense of leaving a damaged and depleted aquifer? Would SAWS promote and support a legislative agenda to allow extensive mining of groundwater around the state to meet today’s needs while passing the costs on to future generations?

Unfortunately, the draft WMP hints that this may be the case. It states that a truer indication of potential water supply would be “*the amount of water that is physically available within an aquifer.*” This is not supported by the physical hydrogeology of most aquifers. Further, this statement appears to condone the idea that “Total Estimated Recoverable Storage” (TERS) might be a rational basis for establishing limits to groundwater pumping; an idea being put forward by some water marketing and development interests in the state. Note, however, TWDB’s caution regarding TERS: “[it provides] *no consideration for water quality or potential effects of pumping (e.g., water levels dropping below pumps, land surface subsidence, degradation of water quality, changes to surface water - groundwater interaction, etc.)*.” In short, TERS does not consider social or environmental impacts of groundwater extraction.

If SAWS is going to engage in water transfers in a regionally responsible fashion, it should have a clear policy on what limits it’s willing to promote and not financially enable non-sustainable groundwater pumping. It is not sufficient to simply insist that SAWS will comply with state water laws and regulations. That is a requirement, not a policy. The WMP lacks, and would benefit from, an explicit policy or other guiding statement from SAWS on “sustainable groundwater management.”

OTHER OBSERVATIONS AND/OR SUGGESTIONS

Projected Demand. Demand projections are used by utilities to determine the design and operation of their system and new supply needs. As such, accurate predictions are imperative; however, demand is not fixed. In many cases, the accuracy of these numbers is predicated on the assumption that water will be used in the future the same way it was used in the past. SAWS’s continued efforts towards reducing GPCD (Figures 1-3 & 5-5) is laudable, as is their inclusion of variable demand projects on Figure 1-6, 8-1 and 8-2. However, the context of these figures is confusing. The captions of the latter two figures need to clarify if they represent water supplies during a drought of record (please see next section for corollary concerns). If so, it should be made clear through text that any projected shortfalls are limited to this scenario. Figures that show the projected supply/demand relationships in average years should be added for comparison.

Drought of Record. Page 14 of the Draft WMP states that “an innovative” feature combined the Drought of Record with the 2011 drought data; however, no support was given as to why this is necessary. By SAWS’s own admission, the 1950s Drought of Record is the benchmark used by the State of Texas and other governmental entities in water modeling because it is the worst extended drought in state history. The report states that the combination of data would lead to more conservatism, but without further explanation, it is possible that the purpose for this combined model is to create a sense that more water

supply is needed. SAWS should clarify why this additional data is necessary when it is not used by other comparable entities. Clarity also needs to be added throughout when “drought of record” is referenced. It is unclear whether this references the 1950s drought or the combined drought model. This is particularly important in Figures 8-1 and 8-2 and accompanying text.

Drought Management. San Antonio is a drought-prone area. As such, we can expect prolonged periods of below average rainfall. Individual summers have limited rainfall, which stresses water supplies and often increases demand, particular outdoors. The most effective way to deal with this situation is to reduce usage through drought restrictions. This is distinctive from conservation which references an overall shift towards more efficient uses. Drought rules reduce demand through additional prohibitions such as daily lawn watering. These responses are reasonable and appropriate for our climatic environment and they do not impact commercial usage. Despite the long history of success these measures have had for local sustainability during times of drought, they are barely mentioned in the WMP. An additional chapter should be added listing the drought stages and showing how they have historically reduced use almost immediately upon implementation.

SAWS accounting practices. In the past, it has been attempted to acquire a geographic breakdown of SAWS’s costs (e.g., capital improvements, O&M, regulatory compliance and other recurrent costs) within their service areas in order to identify what, if any, incremental costs might be associated with the expansion and maintenance of water and sewage services within the Edwards Aquifer Recharge Zone/Contributing Area (EARZ/CA) versus other portions of their service area. The purpose of doing so was to establish if SAWS ratepayers in general were subsidizing development within environmentally sensitive areas. Such a comparative analysis proved infeasible as SAWS budgeting and accounting does not allow for a comparison of costs between the EARZ/CA versus outside of these areas. This raises the question of if SAWS’s practices should be improved to allow for more accurate and precise strategic planning, budgeting and cost allocation to ensure that (i) the real costs of service provision and O&M in environmentally sensitive areas (such as the EARZ/CA) are better understood, and (ii) that any incremental costs are appropriately recovered from those customers generating the incremental costs.

According to American Water Works Association’s *Principles of Water Rates, Fees, and Charges* – a compendium/bible of industry-wide learning and good practices – environmental factors *per se* are not taken into consideration when establishing rate structures. However, the principles do establish that the objective is to have “*rate setting methodologies...that generate revenue from each class of customer in proportion to the cost to serve each class of customer...[such that] water rates are considered fair and equitable when each customer class pays the costs allocated to the class and thus cross-class subsidies are avoided...[including] fairness in the apportionment of total costs of service among the different ratepayers [and] avoidance of undue discrimination (subsidies) within the rates.*”

In the San Antonio context, it can be argued that there are reasonable equity concerns and questions regarding incremental costs associated with both infrastructure development (e.g., due to topography, geology and unit EDU demand) and regulatory costs, e.g., for utilization of cameras to monitor integrity of sewage lines on the Edwards Aquifer Recharge Zone. While this observation may not be strictly relevant as part of the WMP, it is relevant in terms of SAWS administration and management of water and sewage services. As such, it is recommended that a preliminary analysis be made as to the variable costs for provision of services to the EARZ/CA versus SAWS other service areas to ascertain if there is a justification to explore this topic in greater detail within the context of SAWS cost accounting.

SAWS contribution to urban sprawl. A clear objective of SA Tomorrow is to engender sustainable growth. Among others, it notes:

“If San Antonio continues to develop along recent trends and using existing development patterns, our quality of life will decrease significantly over time leading to increases in cost of living, commute times and congestion levels. development of new suburbs, with low home prices, new infrastructure, high-performing schools and favorable public financing for builders, has lured single-family home buyers out of the city’s core and into the unincorporated areas of Bexar County.”

SAWS has been a contributor to this situation through its seeking of CCN’s in outlying areas. Its provision under these CCN’s of sewage service has enabled high density development that contributes to sprawl and/or threatens environmentally sensitive areas. One clear example is the CCN that SAWS filed to extend services in CCN# 20285, which includes the Bracken Bat Cave. Ultimately, the City of San Antonio and its partners spent millions of dollars...a cost that could have been avoided if SAWS had excluded land in Comal County as recommended by GEAA in 2011 and again in 2015. The expansion of SAWS service area is a policy decision rather than a technical, decision, and is thus more appropriately decided by San Antonio City Council than by the SAWS Board.

Impact Fees. Impact fees are the legal tool to allow new users to pay for their portion of the increased infrastructure costs associated with the new demand. The WMP should include data on the current amount of impact fees as well as a breakdown of how such fees reduce rates for current ratepayers. Further, a chart of water supply projects should be included showing what portion is paid by such fees. This should include Vista Ridge.

Purple Pipe Water. A casual observer will see that the use of purple pipe water is not in line with water conservation principles. The most egregious examples are the watering of sports fields and other grassed areas during the heat of the midday in summer. This is a widespread and common occurrence. Why the conservation guidelines and norms for recycled water should be any different that for irrigation with potable water is not at all clear. That the restrictions on irrigation with potable water are not applied equally for recycled water raises the question of whether purple pipe water is being inappropriately valued and/or priced too low, such that users do not feel a sufficient incentive to use it wisely. Arguably, the economic value of recycled water is equivalent to SAWS marginal cost for obtaining another acre foot of water at today’s prices. The WMP should consider better management and conservation practices for recycled water, no differently from that for potable water.

Vista Ridge vs brackish desalination cost comparisons. In “Expansion of brackish groundwater desalination” (pg. 51), Vista Ridge’s costs are to be used as a benchmark (i.e., “similar cost as Vista Ridge”). A more factual statement would be that, while their NPVs are similar due to the upfront construction costs of the desalination facilities, in later years, desalination water becomes significantly less expensive – on the order of 30% - 50% – than Vista Ridge water provided under the WTPA. Rather than go into what would be too technical detail, it would be recommendable to simply delete such misleading statements.

ENDNOTES

- ⁱ The Mayor put this forward as a base principal to be included in decision-making that impacts on rates, water supply projects and management, with conservation a main pillar of a strategy/approach to maintaining affordability.
- ⁱⁱ The Mayor explained this in terms of ensuring that decisions taken for water supply and management are underpinned by adequate due diligence such that the city is comfortable that they represent the best possible alternatives. In addition, and specific to the Vista Ridge project, he stated that this also included ensuring that SAWS' contract amendments do not undermine the solidity of the original WTPA's protections for SAWS and its ratepayers or otherwise enable a project that will not perform in the long run.
- ⁱⁱⁱ In the Mayor's words, this is the recognition that by engaging in water transfers, the city becomes jointly responsible for any damages local people suffer due to the drawdown of their source aquifers to meet San Antonio's needs.
- ^{iv} TWDB: "Modeled available groundwater is determined by balancing acceptable consequences through policy (desired future conditions set by groundwater management areas) in conjunction with groundwater modeling".