San Antonio Water System

October 10, 2025

The Honorable Marina Alderete Gavito
San Antonio City Council, District 7
P.O. Box 839966
San Antonio, TX 78283

Councilmember Alderete Gavito:

This Memorandum is SAWS' response, requested by your office, stating our formal position and answering your questions pertaining to the Guajolote Ranch Development. This development is proposed within SAWS water service area (the boundaries of which are established by our Certificate of Convenience and Necessity, or CCN), which obligates SAWS to provide water services to the development by state law. The Guajolote development does not fall within our sewer CCN and therefore, does not obligate us to provide wastewater service, nor does it allow for us to dictate the wastewater services provided to the development.

SAWS takes the health and safety of our neighbors and customers' water as our utmost charge. There is no one more concerned with the health and well-being of the Edwards Aquifer than SAWS. We have numerous processes in place to ensure that the water we provide to our customers is of the highest quality.

In assessing the Guajolote development potential impacts, SAWS has considered the geology and hydrology of the various aquifer formations as well as the location and depth of our Edwards Aquifer wells, which are about 13 miles away from the proposed discharge point. We also took into consideration the unprecedented protections written into the SAWS water contract, as well as the settlement agreement negotiated by the San Antonio Metropolitan Health District on behalf of the City. Finally, we took into account the daily efforts spoken about earlier to monitor, regulate, treat and respond to water quality concerns.

Formal Position: Despite this development not being in our wastewater service area (CCN), SAWS anticipated the potential concerns about the wastewater discharge, as the Edwards Aquifer is still a major source of water for our customers and the region. This is a very complex issue. It is SAWS' position that the end result was the most appropriate action for the SAWS Board of Trustees after careful consideration and public discussion resulting in the approval of the Utility Service Agreement (USA) with Lennar in 2022 based on the following:

1. The safeguards that were negotiated and included in the USA agreement.
2. The physical conditions of Helotes Creek as it relates to the Edwards Aquifer.
3. The rigorous process and vetting that I described in my last memo that began in 2021.

As noted prior, SAWS negotiated nine stringent development controls into the water USA agreement for Guajolote Ranch that must be included into the design and development of the project. They include:

1. The developer will set aside 50% of the project as open space
2. The developer will restrict the site to 30% impervious cover
3. Any septic system will be an aerobic system to minimize impact to the Edwards Aquifer Contributing zone
4. Any wastewater treatment plant will meet all TCEQ standards for facilities discharging within five miles of the Edwards Aquifer Recharge Zone.
5. The developer will include increased treatment requirements to include advanced nutrient removal and effluent filtration
6. The discharge permit will not be increased in capacity or modified to a different type permit in the future and will only serve the 1160-acre development
7. The treatment plant effluent discharge location will be at least one mile upstream of any other property
8. The plant will be operated and managed by an "A" level wastewater operator
9. Any irrigation use of the wastewater discharge will include soil supplementation to allow enough soil to properly absorb the effluent.

All of the nine requirements played a role in SAWS staff reaching a comfort level to bring the water USA to the SAWS Board.

Given the body of protections and conditions that are in place regarding this particular development, SAWS does not believe that there is a risk to San Antonio residents' drinking water. This is particularly the case given the proposed TCEQ permit with enhanced water quality standards in combination with the additional conditions agreed to between the developer, SAWS and the City, all which mitigate risks posed by the proposed treatment plant for the Guajolote Ranch project.

Additionally, although SAWS has no regulatory authority over this development or the permit for the treatment plant, SAWS will monitor operations and potential issues that do not meet those conditions agreed to in our water USA. SAWS will enforce conditions through all available means should the need arise and will work with TCEQ as the regulatory agency that has the ultimate ability to ensure that water quality standards are met by this plant.

Impact of the wastewater treatment plant to the Edwards Aquifer Contributing Zone:

Assessment: The wastewater treatment facility will be located on the very north central portion of the property where it will discharge to Helotes Creek. Once the water is discharged from the plant, the water would encounter two different zones of the upper Glen Rose Aquifer Formation in the creek bed. The first would be a geologic unit (Camp Bullis unit) resistant to water leaching downward into other formations, and the second unit, a much more porous unit (Cavernous Unit), which is susceptible to forming Karst features. Based on the make-up of the geology, the confining Camp Bullis Unit will contain the water in the upper portion of the Trinity Aquifer. These two units at the surface continue to alternate within the creek bed until the discharge water reaches the Haby Crossing Fault by way of the Cavernous Unit in the subsurface.

To minimize any localized Trinity Aquifer impacts, the wastewater treatment level was negotiated to be of a higher standard. To manage the operation of a plant or a plant failure, the facility will also be required to have highly qualified operators, as well as continuous monitoring process to identify any plant operation failures. The discharge point was also negotiated to be further north into the development to be able to identify concerns before they reach more sensitive areas, particularly near the Edwards Aquifer.

Impact of the Wastewater Treatment Plant on the Edwards Aquifer Recharge Zone:

Assessment: The northern recharge zone boundary of the Edwards Aquifer is delineated by a major fault, known as the Haby Crossing Fault.

Geology:
The central question asked about this development, and that has been debated publicly, is how much of the water in Helotes Creek actually enters into the Edwards Aquifer Recharge Zone through the Haby Crossing Fault. There are a myriad of scientific investigations and reports that discuss this interaction. They range from the Haby Crossing Fault being a complete barrier, to the Fault allowing water to travel between the two aquifers, essentially the Trinity Aquifer and Edwards Aquifer acting as one. SAWS staff looked at the subsurface geology through cross-sections to see how the Glen Rose formation interacts geologically with the Edwards Geologic Group.

Attachment 1 is a cross-section produced from the Texas Water Development Board well data and USGS hydrostratigraphic data.

The Haby Crossing Fault is a major fault that has placed the two aquifers (the Trinity and the Edwards) side by side or juxtaposed. The cross-section shows that where the Cavernous meets the other side of the fault, it is side by side to the Buda Limestone, Del Rio Clay, and the Georgetown Formation. These are confining units and water will not travel through them. There is only a small portion of the upper Edwards adjacent to the Cavernous Unit. This portion of the Edwards Aquifer has very low porosity that would restrict the waters ability to travel through the rock matrix. If any water does travel through the rock matrix it would be through bedding planes or fractures and would be a minimal amount, if any.

Water Quality:

If the Trinity Aquifer and the Edwards Aquifer were acting as one unit with comingling waters, then the water chemistry on both sides of the fault should have more similarity or the water chemistry parameter values should be diluted to a midpoint. SAWS staff looked at water quality data from USGS wells on both sides of the Fault. A comparison found that the two waters seemed to exhibit significantly differing water qualities. (See Attachment 2).

Below are some of the parameters collected from both sides of the fault that could be used for comparison and indicators of aquifer water quality:

- Hardness
- Sulfate
- Magnesium
- TDS

The wells on either side of the Haby Crossing Fault, both in the Trinity Aquifer and the Edwards Aquifer, show stark differences in water chemistry parameters. As mentioned, if the water in the Helotes Creek were transmitting from the Trinity Aquifer into the Edwards Aquifer to any significant degree, the water chemistry of the wells would show more signs of mixing than they do.

Given the surrounding geology and the barrier faulting SAWS does not see any significant impact from this development on the Edwards Aquifer Contributing Zone or Recharge Zone, particularly that could pose impacts to the drinking water of SAWS customers. However, as a precaution, the higher level of treatment at the plant negotiated by SAWS will ensure additional levels of protection for the Edwards and Trinity Aquifers.

Operation of the Wastewater Treatment Facility to discharging contaminants to Trinity Aquifer and Edwards Aquifer:

SAWS has operated a wastewater treatment plant since its inception. It is one of SAWS' core businesses. A wastewater treatment plant requires daily inspections, maintenance and replacement of worn parts and equipment to keep a facility operating correctly. Regular water quality sampling will be required by the facilities permit. Personnel must be present on a daily basis, and the proper maintenance and work will be required to ensure plant upkeep and operations. This has also been agreed to by the developers.

A key component to the treatment level of the proposed discharge, and to obtain a very high level of water quality, is the advanced nutrient removal and effluent filtration negotiated by SAWS. The additional nutrient removal discharge treatment agreed to by Lennar in our discussions should yield a very low nitrate level of less than 1 ppm or better than Edwards Aquifer water.

Based on the USA's requirement to include advanced nutrient removal and effluent filtration, and the City's (Metro Health's) settlement requirement to use at least some the treated wastewater as Type 1 reclaimed water on common areas, the TCEQ staff has proposed a 0.15 mg/l phosphorous limit which will be considered by the TCEQ on October 22nd. That is the most stringent level of treatment recommended by TCEQ staff, and Type 1 reclaimed water is generally suitable for use as residential irrigation, and irrigation in public parks, on school grounds and food crops.

Additionally, restricting the impervious cover to 30% meets the requirements in the San Antonio Aquifer Quality Ordinance for the recharge zone, and it sets a limit where there would otherwise be no impervious cover restrictions. Impervious cover limits coupled with 50% of the project being set aside as open space will reduce the amount of potential development and waste produced.

The distance from the Wastewater Treatment Facility to the Edwards Aquifer Recharge Zone, being 5.4 miles, also allows the effluent to potentially naturally attenuate before entering the Edwards Aquifer Recharge Zone.

Alternatives to the proposed wastewater treatment facility:

- An alternative that was considered was an organized sewer collection system through SAWS. In this scenario sewer is collected, transported, and isolated within the sewer infrastructure from the sensitive zones of the Edwards Aquifer. However, this allows an increase in density in this development and future developments in this area, including an increase in impervious cover. A gravity sewer main would extend approximately nine miles and might cost $25 Million -$30 Million, or a Lift Station/Force Main wastewater option might cost over $40 Million. Installation of a gravity sewer line would require trenching and installation along 5+ miles of Helotes Creek. However, proper installation and operation of a sewer line would mitigate many concerns related to potential plant failures and unauthorized wastewater discharges from the plant. Pipelines also require scheduled cleaning periods that can run from once every 3 months to 10 years depending on type and issues. The gravity option would also require acquisition of over 80 easements, stretching the project construction timeline beyond one desired by Lennar.

  One risk of a collection system option is that notification of spills on remotely located sewer lines sometimes leads to un-noticed discharges that can potentially impact the creeks in which they reside, unlike treatment plants that personnel that would identify issues or problems at the plant daily.

- A potential alternative to a treatment plant would be to develop larger lots with septic systems. These individual septic systems would further pose risks to the underlying aquifer formations as septic systems often fail. Use of individual septic would discharge directly into soil and infiltrate the Trinity Aquifer Cavernous unit much more readily. Additionally, these individual septic systems would not be monitored or sampled like a proposed treatment plant, therefore impacts to the subsurface would be more likely and could potentially go uncorrected. SAWS does not generally promote greater use of septic systems given it relies on individuals to perform maintenance and due to the risks, that they can pose to sensitive aquifer features. Septic tanks also would not treat to the level expected from the Treatment Plant.

- To further eliminate any potential perceived risks, the City of San Antonio might consider an option to purchase the development from the property owners. This would likely be a significant unknown cost and would set a new precedent of City involvement of land use at this stage of development and would need to be discussed and vetted by the City.

Summary:

While the Guajolote Ranch development is not without its environmental risks, SAWS believes that numerous natural and negotiated safeguards are in place to protect the SAWS water system for the future. These safeguards are also coupled with the daily comprehensive efforts that are in place at SAWS to monitor, regulate, treat, and respond to water quality concerns. We do not believe that the development poses a risk to the Edwards Aquifer nor to SAWS customers.

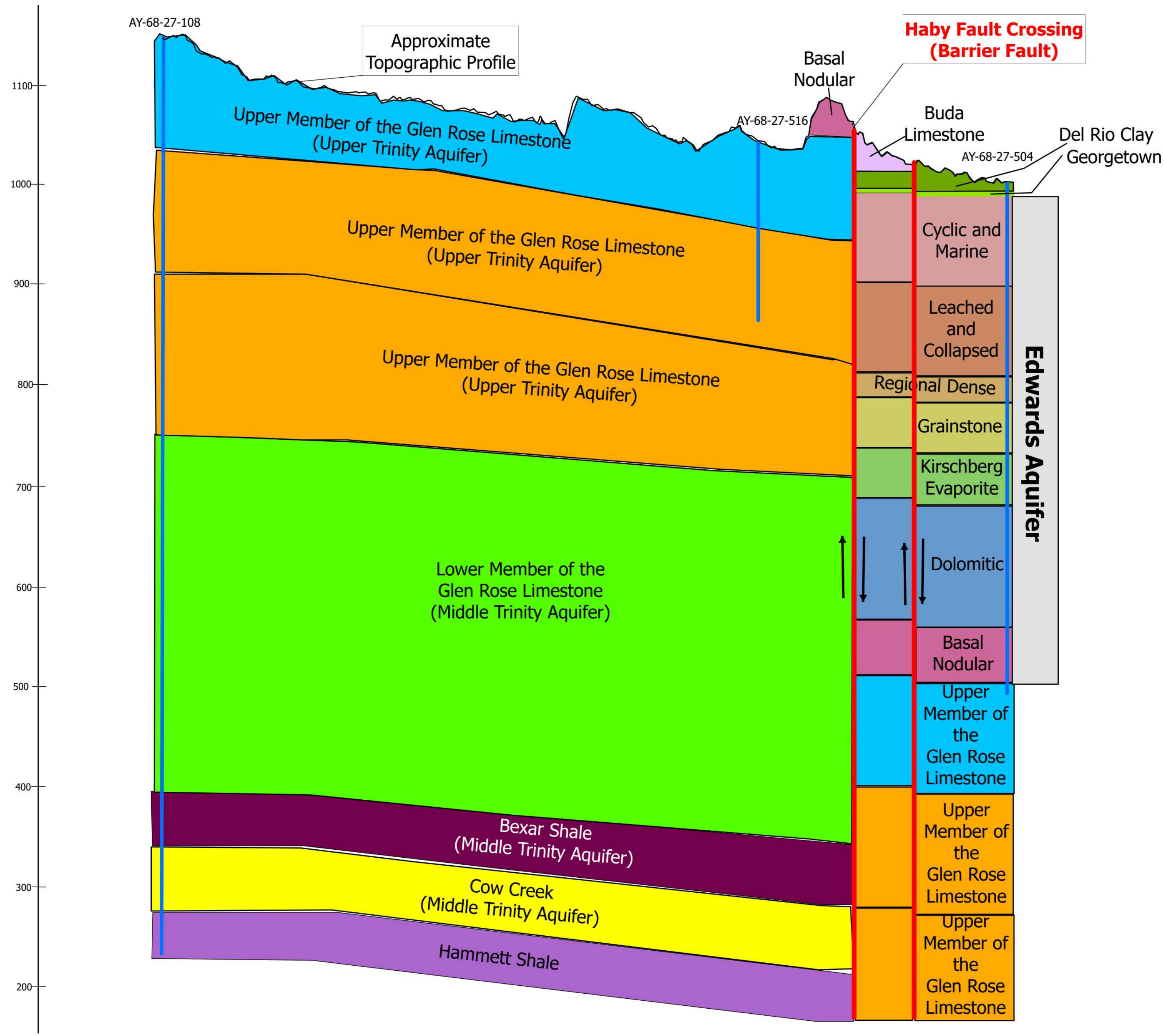
If you have any questions or need additional information, please feel free to contact me at your convenience at Robert.Puente@saws.org.

Sincerely,

Robert R. Puente
President/CEO

cc: Edward F. Guzman, Senior Vice President | Chief Legal and Ethics Officer

Attachment 1

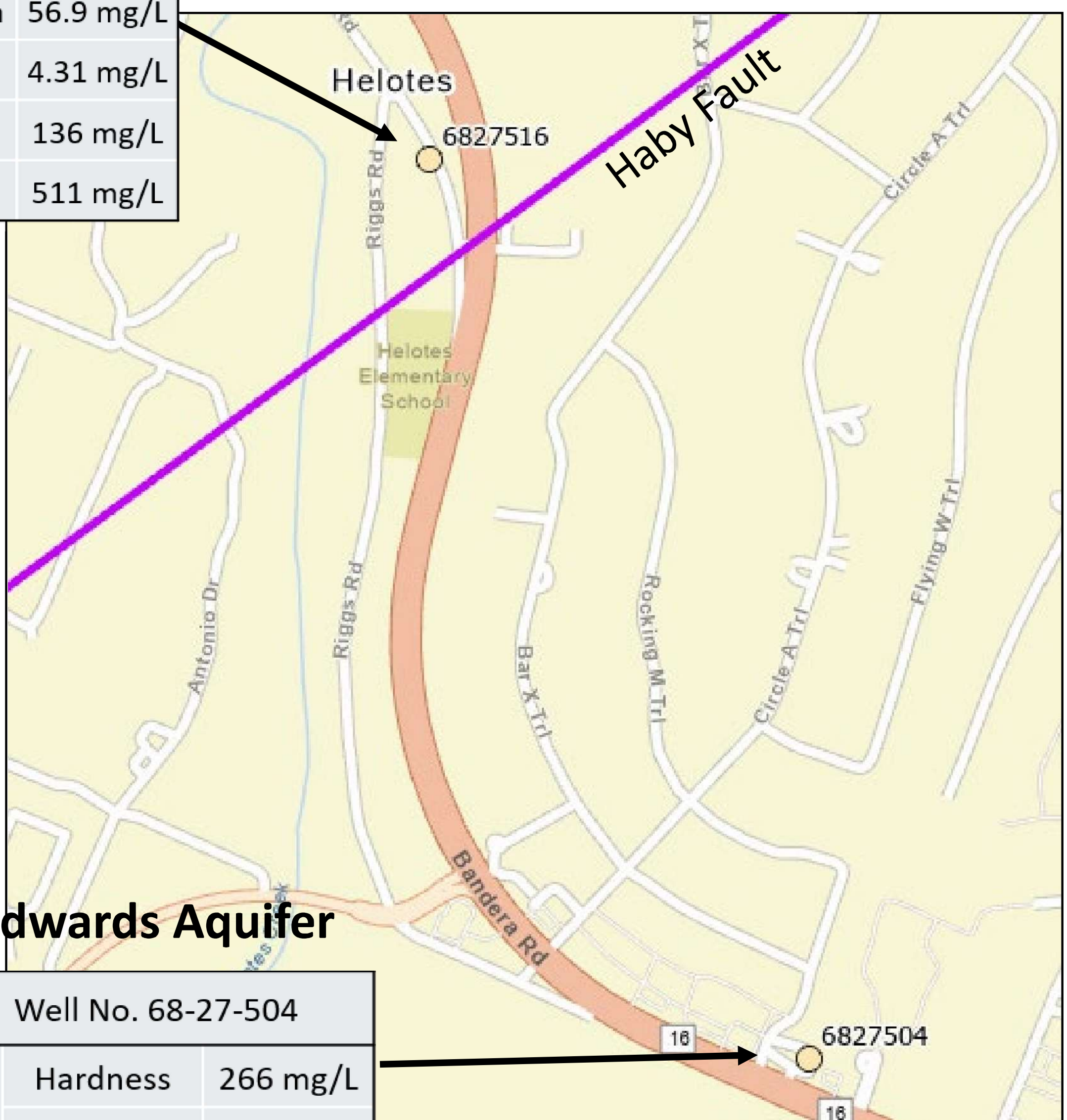


Attachment 2

Difference in Water Quality of Wells

Trinity Aquifer

Well No. 68-27-516		
Parameter	Hardness	413 mg/L
	Magnesium	56.9 mg/L
	Potassium	4.31 mg/L
	Sulfate	136 mg/L
	TDS	511 mg/L



Edwards Aquifer

Well No. 68-27-504		
Parameter	Hardness	266 mg/L
	Magnesium	3 mg/L
	Potassium	.06 mg/L
	Sulfate	25 mg/L
	TDS	308 mg/L