Q. Did Mr. Rauschuber complete his engineering analysis of water service to the Rio Ancho Subdivision?

A. Yes. He prepared a report to the homeowners association outlining his opinion as to the inadequacy of the facility operated by Aqua Texas, Inc. to meet the demand of the subdivision and the proposed facilities and improvements necessary to eliminate the chronic service loss and inadequacy.

Q. Was this information provided to Agua?

A. Yes, after completion of the report, it was presented to Aqua Texas, Inc. by our attorney for their consideration.

Q. What happened next?

A. In response to these concerns and the engineering analysis, Aqua Texas, Inc. undertook some, but not all, of the improvements to their system recommended by Mr. Rauschuber.

Q. When were these improvements completed?

A. Aqua Texas, Inc. advised us of completion of these improvements in the spring of 2020.

Q. Did these improvements result in improved service and diminution in service interruptions and low water pressure within the community?

A. No, the community continued to experience, on a frequent basis, instances of extremely low water pressure or complete loss of service during the summer of 2020.

Q. Let me hand you what has been marked as Exhibit DGR-7 and ask you to identify that document and explain what it contains.

A. Exhibit DGR-7 is an Excel spreadsheet detailing the names, addresses and dates of homeowner issues with water service in the subdivision. The spreadsheet chronologically lists the homeowners, their address, the specific complaint and the date of that complaint.

Q. Can you summarize the information in this spreadsheet?

A. Yes, complete loss of water service was reported by homeowners on June 11, 2020, July 14, 2020, July 21, 2020, July 27, 2020 and August 7, 2020. In addition, low water pressure was reported by homeowners on June 8, 202, July 3, 2020, July 6, 2020, July 9, 2020, July 17 and 18, 2020, July 23, 2020 and August 10, 2020.

Q. As Community Manager, did water issues become a chronic and recurring issue within the subdivision after the improvements made by Aqua Texas, Inc. in the spring of 2020?

A. Chronic low pressure issues and recurring loss of service of the community's water supply became the dominant issue we had to deal with during the hotter months of 2020. These frequent issues consumed a great amount of my time and our inability to remedy the problem was extremely frustrating.

Q. In your opinion, are residents of Rio Ancho using excess amounts of water for maintaining outdoor landscaping?

A. No, to the contrary, residents are routinely abiding by drought restrictions and are struggling to prevent the loss of their outdoor landscaping. During the summer of 2020, numerous homes had damages or lost landscaping caused by their inability to supply it with water.

Q. Do you continue to serve as the Community Manager for the Rio Ancho Homeowners Association?

A. No. In September 2020, Spectrum reassigned me to other community associations and Justine Flores replaced me as Community Manager for the Rio Ancho Homeowners Association.

Q. During the three (3) years that you served as the community association manager on behalf of Spectrum for the Rio Ancho Homeowners Association, was the community subject to drought restrictions mandated by Aqua Texas, Inc.?

A. Yes. To the best of my knowledge, for the entire period of time that I was the community association manager, the residents of the Rio Ancho Subdivision were subject to restrictions on water use, particularly limitations on outdoor landscape watering.

Q. Did these restrictions appear to correspond with actual drought conditions in the area?

A. No. While declared drought conditions did occur during my tenure as community association manager, the imposition of drought restrictions by Aqua Texas, Inc. appeared to bear no relationship to those declared drought conditions. Specifically, the community was continuously under drought restrictions ranging from Stage 1 to Stage 3 restrictions.

Q. Would you communicate these directives by Aqua Texas, Inc. to the community?

A. Yes. We, on behalf of the homeowners association, advised all homeowners of the current declared drought restrictions imposed by Aqua Texas, Inc. We would also advise homeowners found to not be abiding by the imposed restrictions of their obligation to conform their water use to Aqua Texas, Inc.'s drought restriction requirements.

Q. Were these drought restrictions in place during the spring and summer of 2020?

A. Yes. The community was under Stage 3 drought restrictions until late spring of 2020, when they were reduced to Stage 1 drought restrictions by Aqua Texas, Inc. Shortly after this reduction and in response to loss of service in early July, Aqua Texas, Inc. imposed Stage 3 drought restrictions which remained in place through my tenure as the community manager for the Rio Ancho Homeowners Association.

Q. Does your employment with Spectrum Association Management include serving as community manager for other communities?

A. Yes.

Q. Have you ever, in your experience with Spectrum Association Management, experienced similar issues with water service in other communities contracting with Spectrum?

A. No. In all my years with Spectrum, I have never assisted in the management of a community with the kind of chronic water utility service problems experienced within the Rio Ancho Subdivision. Temporary loss of service typically occurs because of equipment failure or water main breakage. I have never, in all my career, experienced on behalf of a community, repeated and chronic loss of service and low water pressure issues of the type experienced in the Rio Ancho Subdivision.

Q. Does this conclude your testimony?

A. Yes.

BEFORE THE

STATE OFFICE OF ADMINISTRATIVE HEARINGS

PUC DOCKET NO. 51091

SOAH DOCKET NO. 473-21-0246.WS

FORMAL COMPLAINT OF RIO ANCHO HOMEOWNERS ASSOCIATION and DAVID AND DOREEN MEYERS AGAINST AQUA TEXAS, INC.

PRE-FILED REBUTTAL TESTIMONY OF

PATRICK SCHMIDT

ON BEHALF OF

RIO ANCHO HOMEOWNERS ASSOCIATION AND DAVID AND DOREEN MEYERS

August 6, 2021

Q. Please state your name and address.

A. Patrick Schmidt, 2242 Howry Drive, Georgetown, TX 78626.

Q. By whom are you employed?

A. I am a Community Manager with the company Spectrum Association Management.

Q. What is the business of Spectrum Association Management?

A. The company specializes in providing community management services to provide clients of the company day-to-day management of the functions of a homeowners association under the direction of the community association board.

Q. Is the Rio Ancho Homeowners Association a client of Spectrum Association Management?

A. Yes.

Q. What was your involvement for Spectrum Association Management in the functions of the Rio Ancho Homeowners Association?

A. I am responsible, on behalf of Spectrum Association Management, for managing the homeowners association associated with the Rio Ancho Subdivision.

Q. How long did you hold this position?

A. Since July 9, 2021. I began serving in that capacity for the Rio Ancho Homeowners Association on July 9, 2021, and am currently serving in this capacity.

Q. Generally describe your responsibilities and actions on behalf of the Rio Ancho Homeowners Association.

A. Generally, the company acts in a management capacity in connection with its homeowners association clients by providing assistance in performing the functions of a homeowners association. This includes maintaining and enforcing homeowners' association rules,

communicating with homeowners concerning matters of interest in the community and serving as the main point of contact for complaints, concerns or issues related to the subdivision.

Q. Does this include issues, concerns and problems with utility service providers?

A. Yes.

Q. When did you become aware of issues with reliability of service with Aqua Texas, Inc., the water utility providing service to the Rio Ancho Subdivision?

A. I was informed upon my take over of the community on July 9, 2021, that loss of water service and low water pressure issues were a chronic issue in the subdivision.

Q. Let me hand you what has been marked as Exhibit DGR-7 and ask you to identify that document and explain what it contains.

A. Exhibit DGR-7 is an Excel spreadsheet detailing the names, addresses and dates of homeowner issues with water service in the subdivision maintained by the previous community manager as a business record of the Rio Ancho Homeowners Association. The exhibit reflects reports received from residents of incidents of low water pressure or loss of water service. These entries were all made as the reports were received. The spreadsheet chronologically lists the homeowners, their address, the specific complaint and the date of that complaint.

Q: Have there been instances of low water pressure or loss of service since August 10, 2020, as reflected in the business records maintained by Spectrum Community Managers?

A: Yes, residents reported low water pressure and loss of service on May 10, 2021, as reflected in the business records maintained by Spectrum as the community manager.

Q. When you arrived to serve as the community association manager on behalf of Spectrum for the Rio Ancho Homeowners Association, was the community subject to drought restrictions mandated by Aqua Texas, Inc.?

A. Business records maintained by Spectrum as the Community Manager reflect that the community has been under Stage 3 Drought Restrictions since July 15, 2020, and are currently under these restrictions.

Q. Would the residents be informed of directives by Aqua Texas, Inc. to the community to abide by restrictions on water usage?

A. They should have been notified every time that Aqua Texas Inc. placed a restriction on the community.

Q. Does this conclude your testimony?

A. Yes.

BEFORE THE

STATE OFFICE OF ADMINISTRATIVE HEARINGS

PUC DOCKET NO. 51091

SOAH DOCKET NO. 473-21-0246.WS

FORMAL COMPLAINT OF RIO ANCHO HOMEOWNERS ASSOCIATION and DAVID AND DOREEN MEYERS AGAINST AQUA TEXAS, INC.

PRE-FILED DIRECT TESTIMONY AND EXHIBITS OF

DONALD G. RAUSCHUBER, P.E.

ON BEHALF OF

RIO ANCHO HOMEOWNERS ASSOCIATION AND DAVID AND DOREEN MEYERS

April 16, 2021

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EXHIBITS

Exhibit DGR-1: Donald. Rauschuber P.E. Resume and List of Work Experience

Exhibit DGR-2: PUC Water CCN No. 13254 – Rio Ancho Subdivision

Exhibit DGR-3: DGRA, Inc. January 30, 2020 Power Point Presentation

Exhibit DGR-4: Rio Ancho Subdivision (source: Google Earth)

Exhibit DGR-5: DGRA, Inc. December 19, 2019 Site Visit Notes

Exhibit DGR-6: Aqua Texas Customer Complaint Log for 2018 and 2019

Exhibit DGR-7: Rio Ancho HOA Complaint Log for June 8, 2020 Through August 12, 2020

Exhibit DGR–8: Rio Ancho Water System Areal Distribution of Customer Complaints

Exhibit DGR-9: Monthly Water Produced and Unaccounted for in 2018 and 2019

Exhibit DGR-10: Rio Ancho Water Customers use in the Months of July and August 2019

I. WITNESS BACKGROUND AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME.

A. My name is Donald G. Rauschuber, P.E.

Q. WOULD YOU PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND?

A. Yes. In 1970, I earned a Bachelor of Science Degree in Civil Engineering from Texas Tech University, and I earned a Master of Science in Civil Engineering from Texas Tech University in 1972. Since August 1975, I have been a Licensed Professional Engineer in Texas, holding license number 38068.

Q. PLEASE BRIEFLY DESCRIBED YOUR WORK EXPERIENCE.

A. From 1972 to 1977, I worked for the Texas Water Development Board as an Engineer and Hydrologist, focusing on the evaluation of the effects of water resource development on Texas bay and estuary systems. Also, while at the TWDB, I performed numerous statewide water resources planning studies, and I was a co-author of a state-wide water plan. In 1977, I joined Henningson, Durham, and Richardson, Inc., as Manager of the Austin Office, Director of the Water Resources Program, and Assistant Vice-President of the company. I managed and developed projects, environmental investigations, hydrological studies, and municipal engineering services. In 1981, I founded Donald G. Rauschuber and Associates, Inc. I have been a principal investigator and project manager on numerous water resources and environmental projects in the past 47 years. Since its inception, I have been a principal investigator and project manager on numerous water resources and environmental projects in the past 24 years. Since founding DGRA, Inc., I have provided water and wastewater consulting engineering services in the following fields:

- water and wastewater project planning and development;
- water rights permitting;
- development and evaluation of water and wastewater rates;
- preparation and assessments of water and sewer certificates of convenience and necessity (CCN) and Sale-Transfer-Merger (STM) applications;

- water and wastewater enforcement matters before the TCEQ and its predecessor agencies;
- formulation of developer agreements for water and sewer services among and between political subdivisions and developers for water, sewer, and other services;
- water and wastewater rate and impact fee assessments and design; and
- municipal engineering and water system planning and design.

My experience also includes preparation of water and wastewater system designs, rate studies and contracts/agreements for water and/or wastewater services between cities and developers. At DGRA, Inc., I have performed major surface and ground water rights permitting and assessment projects for the Public Utilities Board of Brownsville, Rio Grande Valley Municipal Water Authority, Sharyland Water Supply Corporation, Dallas County Park Cities Municipal Utility District, City of Irving, Lavaca-Navidad River Authority, City of Corpus Christi, High Plains Underground Water District No. 1, Upper Trinity Regional Water District, and Farm Bureau of Texas (San Antonio Segment of the Edwards Aquifer), and numerous other public and private entities.

I have provided water and wastewater consulting engineering services in the fields of water and wastewater system management, project planning and development, water rights permitting, water and wastewater rates, preparation and assessments of TCEQ water and sewer CCN and sale, transfer, and merger (STM) applications, enforcement matters before the TCEQ and its predecessor agencies, formulation of developer agreements among and between political subdivisions and developers for water, sewer, and other services, water and wastewater design and construction management services, and municipal engineering.

In summary, over the last four decades I have been involved with hundreds of projects on behalf of both public and private entities located throughout Texas. These projects have involved all aspects of water and wastewater development and management, water and wastewater rates, regulatory assessments and processing, contract preparations and evaluations. A copy of my professional resume is attached as ***Exhibit DGR-1***.

Q. MR. RAUCHUBER HAVE YOU BEEN EMPLOYED BY MAJOR WATER AND SEWER RETAIL PUBLIC UTILITIES?

A. Yes. During the period January 2000 through August 2010, I held the position of District Engineer and General Manager of the Chisholm Trail Special Utility District (*"CTSUD"*), Florence, Texas, and during the period for January 2012 through July 2017, I was General Manager for the West Travis County Public Utility Agency (the "*WTCPUA*"), Bee Cave, Texas. I have further retail water service experience as the Travis County 98th District Court appointed receiver for the Las Palomas Water Service Company (the "LPWSC"), a failed investor owned retail water utility located near La Vernia, Texas.

Q. **WHAT WERE YOUR DUTIES AND RESPONSIBILITIES AS CTSUD GENERAL MANAGER?**

A. As District Engineer and General Manager for the CTSUD, I was responsible for all water and sewer engineering, administration and operations matters. This included, among many other activities, working with and evaluating water customer water usage characteristics based on geographical and social economic levels.

Q. **WHAT WERE YOUR DUTIES AND RESPONSIBILITIES AS WTCPUA GENERAL MANAGER?**

A. As WTCPUA General Manager, I was responsible for all WTCPUA Administration and Operation activities including, but not limited to, day-to-day supervision and management of WTCPUA operations and its staff and consultants and oversee the preparation of contracts, agreements and reports, managing and overseeing Financial activities, such as approve purchases within approved budgets and assess, coordinate and implement WTCPUA rates and fees, Stewardship/Education including serving as the WTCPUA's central point of contact, and coordinating with other governmental units.

Q. **WHAT ARE YOUR DUTIES AND RESPONSIBILITIES AS RECEIVER OF THE LPWSC?**

A. As a Court appointed Receiver, I am responsible for correcting failed/TCEQ identified non-complaint water system operations and in-plant deficiencies created by owner and

previous operator of this investor owned utility. This has been a difficult process, since the Receiver must correct in-plant deficiencies without any financial assistance from the State of Texas or the owner of the Las Palomas water system.

Q. **IN REVIEWING YOUR PROFESSIONAL CAREER, WOULD YOU AGREE THAT YOU HAVE VAST EXPERIENCE WORKING WITH RETAIL WATER AND SEWER CUSTOMERS OVER A WIDE RANGE OF GEOGRAPHIC AND SOCIO-ECONOMIC SPECTRUM?**

A. Yes. In my career, I have had the privilege of representing thousands of retail water and/or sewer customers over a broad geographic and social-economic spectrum.

II. TEXAS WATER CODE SECTION 13.254 AND PUC SUBSTANTIAL RULE 24.205

Q. DOES THE TEXAS WATER CODE REQUIRE A CCN HOLDER TO PROVIDE CONTINUOUS AND ADEQUATE SERVICE WITHIN ITS WATER CCN?

A. Yes. Sec. 13.250 of the Texas Water Code states, "CONTINUOUS AND ADEQUATE SERVICE; DISCONTINUANCE, REDUCTION, OR IMPAIRMENT OF SERVICE. (a) Except as provided by this section or Section 13.2501 of this code, any retail public utility that possesses or is required to possess a certificate of public convenience and necessity shall serve every consumer within its certified area and shall render continuous and adequate service within the area or areas."

Q. **WHAT TEXAS STATE AGENCY REGULATES THE ISSUANCE OF A WATER CERTIFICATE OF CONVENIENCE AND NECESSITY (CCN)?**

A. The Public Utility Commission of Texas (PUC).

Q. **HAS THE PUC ISSUED A WATER CCN CERTIFICATE TO AQUA TEXAS TO PROVIDE RETAIL WATER SERVICE WITHIN THE RIO ANCHO SUBDIVISION?**

A. Yes. The PUC has issued Water CCN No. 13254 to Aqua Texas ***(see Exhibit DGR-2)*** to exclusively provide retail water service to and within the Rio Ancho Subdivision.

Q. **DOES AQUA TEXAS HOLD A TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) PUBLIC WATER SYSTEM NUMBER FOR THE RIO ANCHO SUBDIVISION LOCATED WITHIN CCN NO. 13254?**

A. Yes. Aqua Texas holds TCEQ PWS No. TX0270141 for sole purpose of providing public drinking water supply and related services within CCN 13254 – the Rio Ancho Subdivision.

Q. DOES AQUA TEXAS PROVIDE RETAIL WATER SERVICE TO OTHER TEXAS PUBLIC WATER SYSTEMS?

A. Yes. Aqua Texas is a subsidiary of Aqua America, a publicly regulated water and wastewater utility, reportedly provides public water service to 375 Texas water systems (source: Aqua Texas website: http://www.waterbyaqua.com/privatization-by-state/texas).

Q. DO THE PUC's RULES AND REGULATIONS REQUIRE A UTILITY LIKE AQUA TEXAS TO PROVIDE CONTINUOUS AND ADEQUATE SERVICE TO A CCN HOLDER?

A. Yes. The PUC's guidance document states, "A Certificate of Convenience and Necessity (CCN) grants a CCN holder the exclusive right to provide retail water and/or sewer utility service to and within an identified geographic area. Texas Water Code Chapter 13 requires a CCN holder to provide continuous and adequate service to the area within its CCN boundary…."

Q. DO APPLICABLE TEXAS STATUES PROVIDE A DEFINITION OF "CONTINUOUS AND ADEQUATE SERVICE"?

A. No. I cannot find a definition of "continuous and adequate service" in applicable Texas statues or in the PUC's substantive rules and regulations.

Q. MR. RAUSCHUBER, AS A TEXAS PROFESSIONAL ENGINEER BEING IN THE PUBLIC WATER SUPPLY INDUSTRY FOR OVER 50 YEARS, HOW DO YOU DEFINE CONTINUOUS AND ADEQUATE WATER SERVICE?

A. I define "continuous water service" as meaning continuing without stopping; happening or existing without a break or interruption. I define "adequate water service" meaning a constant access to a supply of clean, fresh, potable water provided in a sanitary manner meeting public drinking water standards.

Q. WHEN YOU SERVED AS THE GENERAL MANAGER AND DISTRICT ENGINEER OF CHISHOLM TRAIL SUD AND THE WTCPUA, DID THOSE ENTITIES HOLD STATE APPROVED WATER CCNS?

A. Yes.

Q. AS GENERAL MANAGER FOR THESE TWO ENTITIES, DID YOU ACQUIRE AN APPRECIATION OF THE VALUE OF A CERTIFICATE OF CONVENIENCE AND NECESSITY (CCN)?

A. Yes, I did.

Q. PLEASE EXPLAIN.

A. A water CCN provides retail public utilities an exclusive (unless an area has dual certification by one or more entities) right to provide retail water service to a defined geographical area. Besides providing an entity monopoly power to provide exclusive retail water service, a CCN establishes a utility's water planning area in which the utility has an obligation, under state law, to provide water service upon request from an applicant located within the CCN boundary. A CCN area is a designated, defined area for which a utility has the obligation to plan for and construct water improvements to serve, often, in advance of need.

Q. IN ORDER TO MEET ITS OBLIGATION TO PROVIDE CONTINUOUS AND ADEQUATE WATER SERVICE IN ITS CCN AREA, IN YOUR OPINION DOES A CCN HOLDER NEED TO PLAN FOR FUTURE GROWTH BEFORE THE GROWTH OCCURS?

A. Absolutely! Texas Water Code (TWC) § 13.250(a) and 16 Texas Administrative Code (TAC) § 24.102(a) require a CCN holder to provide continuous and adequate service within

its CCN area and to establish that it has a system capable of providing water service in compliance with health and safety standards and an adequate supply of water. To comply with these requirements, a retail public utility must plan for and construct water facilities in advance of need.

Q. WHY DOES A RETAIL PUBLIC UTILITY HAVE TO CONSTRUCT WATER SUPPLY AND INFRASTRUCTURE IMPROVEMENTS IN ADVANCE OF NEED?

A. Major water supply and infrastructure improvements require an extended period, sometime years, to plan, finance, design, obtain necessary local, state and/or federal authorizations, and construct. In contrast, water demands tend to increase or decrease based on short-term economic, housing, and commercial/industrial market conditions and on seasonal and climate changes. Since a utility must provide continuous and adequate water service, a utility must have more excess water supply, treatment, and transmission capabilities than demand for such services in advance of need.

Q. **MR. RAUSCHUBER DO THE PUC SUBSTANTIAL RULES HAVE PROVISIONS REQUIRING A RETAIL PUBLIC UTILITY LIKE AQUA TEXAS TO PROVIDE A CONTINUOUS AND ADEQUATE SUPPLY OF WATER WITHIN A UTILITY'S RETAIL WATER SERVICE AREA?**

A. Yes. The PUC has numerous substantial rules requiring retail public utility like Aqua Texas to provide continuous and adequate water service to retail customers located within a utility's water service area.

Q. DOES THE PUC HAVE A SPECIFIC RULE REGARDING "ADEQUACY OF WATER UTILITY SERVICE" THAT MUST BE PROVIDED WITHIN A RETAIL PUBLIC UTILITY'S WATER SERVICE AREA?

A. Yes. PUC Substantial Rule §24.205 states:

"§24.205. Adequacy of Water Utility Service. Sufficiency of service. Each retail public utility which provides water service shall plan, furnish, operate, and maintain production, treatment, storage, transmission, and distribution facilities

of sufficient size and capacity to provide a continuous and adequate supply of water for all reasonable consumer uses.(1) The water system quantity and quality requirements of the TCEQ shall be the minimum standards for determining the sufficiency of production, treatment, storage, transmission, and distribution facilities of water suppliers and the safety of the water supplied for household usage. Additional capacity shall be provided to meet the reasonable local demand characteristics of the service area, including reasonable quantities of water for outside usage and livestock."

The rule establishes minimum requirements for water utility systems but makes clear that additional capacity must be provided to meet the specific demand characteristics of the service area, including reasonable quantities of water for outside usage.

III. INVOLVEMENT IN PUC DOCKET NO. 51091

Q. HAVE YOU BEEN RETAINED BY RIO ANCHO HOA TO REVIEW AND PROVIDE TESTIMONY CONCERNING PUC DOCKET NO. 51091?

A. Yes. On two (2) occasions, I have been retained by Rio Ancho HOA to conduct investigations of Aqua Texas' frequent low pressure and water outages within the Rio Ancho water system.

Q. WHEN WERE YOU FIRST RETAINED BY RIO ANCHO HOA CONCERNING THIS MATTER?

A. On November 8, 2019, I was retained by Rio Ancho HOA to provide professional engineering services pertaining to the following work tasks:

1. Conduct engineering investigations to determine the possible causes of the low pressure/supply events, based on available water system engineering and water supply, production, and customer usage data;

2. Meet with and/or request information from Aqua Texas pertaining to Rio Ancho's water supply, storage, pressurization, and distribution systems;

3. Prepare engineering calculations regarding Aqua Texas existing water system capabilities to meet current and projected buildout water demands in the Rio Ancho's water service area and prepare an evaluation of whether Aqua Texas' planned upgrades will be sufficient to meet Rio Ancho's buildout water demands.

4. Prepared and submit an abbreviated engineering report to the Rio Ancho HOA describing engineer's findings and recommendations; and

5. Participated in meetings, as directed by Rio Ancho HOA Board of Directors, pertaining to this matter.

Q. AS PART OF YOUR FIRST ENGAGEMENT, DID YOU PREPARE AND SUBMIT TO THE RIO ANCHO HOA A WRITTEN OR ORAL REPORT?

A. Yes. I prepared a report in the form of a Power Point presentation and presented same along with an oral report to the Rio Ancho HOA membership on January 30, 2020. A copy of my Power Point presentation is shown in ***Exhibit DGR-3***.

Q. WHEN WAS YOUR SECOND PROFESSIONAL ENGAGEMENT WITH RIO ANCHO HOA?

A. My second professional engagement with Rio Ancho commenced on March 3, 2021, upon my telephone conversation with Russell Johnson, Attorney at Law, McGinnis Lochridge, Austin, Texas.

Q. WHAT IS THE NATURE OF YOUR SECOND RIO ANCHO HOA ENGAGEMENT?

A. I was engaged on behalf of the Rio Ancho HOA to update my engineering analyses that I conducted in late 2019 and early 2020 regarding Aqua Texas' potential public water supply deficiencies within the Rio Ancho Subdivision and to prepare written testimony pertaining to PUC Docket No. 51091.

Q. WHAT ARE THE PURPOSES OF YOUR DIRECT PRE-FILED TESTIMONY?

A. The purposes of my pre-filed testimony is to review, update and provide technical comments on the facts concerning Aqua Texas' public water supply operations within the Rio Ancho Subdivision (i.e., CCN 13254) with specific regards to frequent low pressure and water outages.

Q. WOULD YOU PLEASE DESCRIBE THE LOCATION AND PHYSICAL CHARACTERISTICS OF THE RIO ANCHO SUBDIVISION FOR THE ADMINISTRATIVE LAW JUDGE?

A. Yes. The Rio Ancho Subdivision, shown in ***Exhibit DGR-4*** is a gated hill country community located within the San Gabriel River Valley between the City of Liberty Hill, Texas, and the City of Bertram, Texas. Most lots average close to one acre. Rio Ancho is developed in two phases. Section 1 is comprised of 75 single-family lots totaling 75.83 acres platted in March 2008. Lot sizes range from 0.63 acres to 1.2 acres, and Section 1 rests in Burnet County. Rio Ancho Section 2 is made up of 132 single lots, approved for platting in 2014, totaling 192.91 acres and straddles the border of Burnet and Williamson counties. Lot size varies between three quarters of an acre to one large lot, which is 10.42 acres. The Rio Ancho Subdivision includes a private club house, basketball court, pool, and playground (source: website: http://pictureashome.com/neighborhood-insider/rio-ancho-insider). Home/lot values in the Rio Ancho Subdivision range from approximately $500,000 to near $1,000,000 (source: website: www.har.com/homevalues/findvalue/?subdivision2=RIO+ANCHO).

Q. WHAT IS THE POTENTIAL TOTAL NUMBER OF SINGLE-FAMILY HOMES THAT COULD BE BUILT IN THE RIO ANCHO SUBDIVISION?

A. Given the number of platted lots within Rio Ancho Sections 1 and 2, the total number of single-family homes that could be located within the Rio Ancho Subdivision is 207 (i.e., 75 single-family lots in Section 1 plus 132 single-family lots in Section 2).

Q. WILL ALL OF THESE LOTS BE LOCATED WITHIN AQUA TEXAS WATER CCN 13254?

A. Yes.

Q. BASED ON YOUR MANY YEARS OF EXPERIENCE IN PROVIDING PUBLIC WATER SUPPLY TO COMMUNITIES LOCATED THROUGHOUT TEXAS, HOW WOULD YOU DESCRIBE THE RETAIL WATER SERVICE AREA LOCATED WITHIN WATER CCN 13254/PWS TX0270141 – THE RIO ANCHO SUBDIVISION?

A. The Rio Ancho Subdivision is a large lot – single family, affluent residential subdivision located in the unincorporated portions of Williamson County and Burnet County, Texas.

Q. DO SINGLE FAMILY, AFFLUENT RESIDENTIAL SUBDIVISIONS AS A GENERAL RULE REQUIRE A PUBLIC DRINKING WATER SUPPLY THAT EXCEEDS THE TCEQ'S MINIMUM DRINKING WATER SUPPLY CRITERIA PROPAGATED IN 30 TAC CHAPTER 290?

A. Yes. Large lot, affluent residential subdivisions generally have a higher per connection water demand that exceeds the minimum drinking water supply criteria propagated in 30 TAC Chapter 290.

Q. WHY IS THIS FACTUAL?

A. Large lot, affluent neighborhoods, have more water using amenities such as, larger landscapes to maintain, individual swimming pools, outside water features, and more internal home water using fixtures. Because of having larger landscapes and private swimming pools to maintain, water supply requirements per connection increase dramatically in the spring, summer, and fall months. Such demands will exceed the minimum drinking water supply criteria propagated in 30 TAC Chapter 290.

Q. IS A PUBLIC WATER SUPPLY ENTITY, LIKE AQUA TEXAS, REQUIRED TO PROVIDE PUBLIC WATER SERVICE WITHIN A WATER SERVICE AREA, LIKE CCN 13254/PWS NO. TX0270141, MORE THAN THE MINIMUM DRINKING WATER SUPPLY STANDARDS PROPAGATED IN 30 TAC CHAPTER 290?

A. Yes, in accordance with the following 30 TAC provisions:

§290.45(a) General provisions. §290.45(a)(1) The requirements contained in this section are to be used in evaluating both the total capacities for public water systems and the capacities at individual pump stations and pressure planes which serve portions of the system that are hydraulically separated from, or incapable of being served by, other pump stations or pressure planes. The capacities specified in this section are minimum requirements only and do not include emergency fire flow capacities for systems required to meet requirements contained in §290.46(x) and (y) of this title (relating to Minimum Acceptable Operating Practices for Public Drinking Water Systems).

§290.45(a)(2) The executive director will require additional supply, storage, service pumping, and pressure maintenance facilities if a normal operating pressure of 35 pounds per square inch (psi) cannot be maintained throughout the system, or if the system's maximum daily demand exceeds its total production and treatment capacity. The executive director will also require additional capacities for a system that is unable to maintain a minimum pressure of 20 psi during fire fighting, line flushing, other unusual conditions, and systems that are required to provide fire flow as specified in §290.46(x) and (y) of this title.

§290.45(a)(3) The executive director may establish additional capacity requirements for a public water system using the method of calculation described in subsection (g)(2) of this section if there are repeated customer complaints regarding inadequate pressure or if the executive director receives a request for a capacity evaluation from customers of the system.

Q. MR. RAUSCHUBER, DO THE PUC AND TCEQ RULES HAVE PROVISIONS IN ADDITION TO THEIR MINIMUM DESIGN CRITERIA PERTAINING TO THE LEVEL OF PUBLIC WATER SERVICE A RETAIL WATER PURVEYOR LIKE AQUA TEXAS MUST PROVIDE TO AND WITHIN ITS PWS WATER SERVICE AREA(S)?

A. Yes. Both the PUC and the TCEQ have numerous rules and requirements that require a public water supplier like Aqua Texas to provide continuous and adequate water service within its water service area. PUC Substantive Rule § 24.205(1) specifically provides that capacity above the minimum requirements must be provided to meet the reasonable local demand characteristics of the service area including reasonable quantities of water for outside usage.

Q. MR. RAUSCHUBER DID YOU CONDUCT A SITE INVESTIGATION OF THE RIO ANCHO WATER SYSTEM IN LATE DECEMBER 2019?

A. Yes. On December 10, 2019, I conducted a site investigation of the Rio Ancho water system. During that site investigation, I was accompanied by two (2) Aqua Texas representatives. I was able to inspect Aqua Texas pump station and the three (3) well sites that provide water supply to the pump station.

Q. DID YOU OBTAIN PHOTOGRAPHS AND TAKE NOTES OF YOUR OBSERVATIONS AND FINDINGS AS PART OF THIS DECEMBER 10, 2019 SITE INSPECTION?

A. Yes. A representative sample of the photographs that I took is shown in ***Exhibit DGR-3***. My notes pertaining to my December 10, 2019 site inspection are shown in ***Exhibit DGR-5*** contains a summary of observations that I made on December 10, 2019.

Q. WHAT WERE YOUR FINDINGS FROM THE DECEMBER 10, 2019 SITE INVESTIGATION OF THE RIO ANCHO WATER SYSTEM?

A. Overall, I found the pump station site and associated facilities (i.e., ground storage tank, pump station and pressure tank) and each well site (i.e., Well No. 1, Well No. 3, and Well No. 3 to be very clean, orderly, and operationally functional. At the time of the inspection, Rio Ancho installed improvements included the following components:

1. One 42,000 gallon ground storage tank;
2. Three booster pumps: 2-10 horsepower driven pumps and 1-5 horsepower driven pump;

3. Chlorine gas water chlorination/disinfection system;
4. One 3,000 gallon pressure tank;
5. Pump/well controls and air compressor; and
6. Three water supply wells.

Q. HAS AQUA TEXAS INSTALLED ADDITIONAL RIO ANCHO WATER SYSTEM IMPROVEMENTS SINCE YOUR DECEMBER 10, 2019 SITE INSPECTION?

A. Yes. In 2020, Aqua Texas install a second 42,000 gallon ground storage tank at the Rio Ancho pumping plant site.

Q. DOES THE RIO ANCHO WATER SYSTEM HAVE AN INSTALLED WATER DISTRIBUTION SYSTEM?

A. Yes. Based on my review of Rio Ancho water distribution system "as-built" drawings provided to me by Mr. Brent C. Reeh, Aqua Texas, the Rio Ancho's water distribution system consists for 8-inch diameter and 6-inch diameter water distribution mains, along with 4-inch diameter water supply lines that extend along some the subdivisions short cul-de-sac streets.

Q. DURING YOUR DECEMBER 10, 2019, SITE INSPECTION, WHERE YOU ABLE TO MEASURE THE FLOW RATE FROM THE RIO ANCHO PUMP STATION WITH ONE OR MORE PUMPS RUNNING?

A. No. Since there is no installed water master meter to measure the total flow quantity or rate of flow from the pump station, I was not able to determine the in-site water production rate from this pumping facility.

Q. DO YOU RECOMMEND THAT AQUA TEXAS INSTALL A WATER MASTER METER AT THE PUMP STATION TO MEASURE WATER PRODUCTION FROM THIS PUMP STATION?

A. Yes. A water master meter measuring the flow rate from the Rio Ancho pump station would be an asset to determine the flow water rate to the water system during individual and combined booster pump operations.

Q. DID AN AQUA TEXAS OPERATOR GIVE YOU ANY INSIGHT ON HOW THE BOOSTER PUMPS HAVE OPERATED PRIOR TO DECEMBER 10, 2019?

A Yes. An Aqua Texas operator for the Rio Ancho water system indicated that prior to August 2019, the Rio Ancho booster pumps were not sequenced correctly. He stated that only one of the 10-horsepower motor and pump assembly would in sequence with the 5-horsepower motor and pump assembly. Thus, one of the 10-horsepower motor and pump assembly would not be in operation at all during high water demand periods.

Q. WITH ONLY TWO OF THE THREE BOOSTER PUMPS ASSEMBLIES IN OPERATION DURING HIGH WATER DEMAND PERIODS, COULD THIS RESULT IN LOW PRESSURE WITHIN THE RIO ANCHO WATER SYSTEM DURING HIGH WATER DEMAND USAGE PERIODS?

A. Yes.

Q. DURING YOUR DECEMBER 10, 2019, RIO ANCHO WATER SYSTEM SITE INSPECTION, WERE YOU ABLE TO MEASURE THE FLOW RATE FOR EACH OF THE THREE RIO ANCHO WATER WELLS?

A. Yes. Each Rio Ancho water well has a flow meter. I was able to "clock" each well meter during a brief well pumping/water production run.

Q. WHAT WERE YOUR FINDINGS REGARDING EACH WELL WATER PRODUCTION RATE?

A. The instantaneous well production rate clocked on a one minute period for each well was:

Well 1: 47.3 gallons per minute (gpm) to 48.7 gpm;
Well 2: 46.0 gpm to 49 gpm; and
Well 3: 46.2 gpm to 47.7 gpm.

Q. DO THE INSTANTANEOUS WELL FLOW RATES YOU MEASURED DURING YOUR DECEMBER 10, 2019, SITE INSPECTION PROVIDE YOU WITH AN GOOD INDICATION OF EACH WELLS WATER PRODUCTION RATE OVER

AN EXTENDED-CONTINUOUS PUMPING PERIOD THAT WOULD OCCUR DURING HIGH WATER SYSTEM DEMAND PERIODS?

A. No. Measuring water flow or production rate following an extended period of rest, only provides a "starting" flow water at the being of a well pumping cycle. Groundwater well production rates generally decline as the well pump continues to run over a long period of time.

Q. WHY IS THIS?

A. As a well pump operates, the ground water level over the pump declines or decreases in elevation over the pump resulting in the pump producing water at a slower rate.

Q. DID THE AQUA TEXAS OPERATOR GIVE YOU AN INDICATION OF HOW THE WELLS OPERATE OVER A GIVEN DAY?

A. Yes. The Aqua Texas operator stated that Well No. 3 only operates between the hours for 2:00 A. M. and 6:00 A. M. of each day and is off during all other hours for the day.

Q. DO YOU KNOW WHY AQUA TEXAS LIMITS WELL NO. 3 OPERATION AND DAILY WATER PRODUCTION TO ONLY 4 HOURS PER DAY?

A. No. The Aqua Texas operator did not know the reason for limiting the operation of Well No. 3 to only four (4) hours per day.

Q. WOULD LIMITING WELL NO. 3 OPERATION TO ONLY FOUR (4) HOURS PER DAY DECREASE AQUA TEXAS' AVAILABLE WATER SUPPLY TO THE RIO ANCHO WATER SYSTEM?

A. Yes. Such limitation would lower the Aqua Texas's available water supply to the Rio Ancho water system from approximately 120 gpm from three wells to approximately 87 gpm from 6:00 a.m. until 2:00 a.m. the next day.

Q. COULD SUCH REDUCTION IN TOTAL WELL PRODUCTION CAPACITY CONTRIBUTE TO WATER OUTAGES WITHIN THE RIO ANCHO WATER SYSTEM?

A. Yes, especially in high water demand periods.

Q. MR. RAUSCHUBER HAVE YOU EVALUATED RIO ANCHO WATER SYSTEM CUSTOMER COMPLAINTS PERTAINING TO "LOW PRESSURE" AND/OR "NO WATER"

A. Yes. I have evaluated the following two (2) data sets that contain listings of Aqua Texas Water CCN 13254/PWS TX0270141 customer complaints regarding "low pressure" and/or "no water" events during the calendar years of 2018, 2019, and 2020:

Aqua Texas Customer Complaint Logs for 2018 and 2019 shown in ***Exhibit DGR-6*** (source: Aqua Texas); and

Rio Ancho HOA Complaint Log for 2020 shown in ***Exhibit DGR-7*** (source: Rio Ancho HOA)

Q. IN REFERENCE TO *EXHIBIT DGR-6*, WHAT ARE YOUR FINDINGS REGARDING YOUR EVALUATION OF RIO ANCHO CUSTOMER COMPLAINTS DURING THE 2018 AND 2019 PERIODS?

A. During the period of April 18, 2018 through October 4, 2018, there were 25 complaints originating from 17 different Rio Ancho water system customers regarding low pressure or no water. During the period January 19, 2019 through December 17, 2019, there were 89 complaints originating from 38 different Rio Ancho water system customers regarding low pressure or no water. A graphic showing the 2018 and 2019 combined areal distribution of the customer complaints is shown in ***Exhibit DGR- 8.*** As shown in ***Exhibit DGR- 8***, the combined 2018 and 2019 low pressure or no water events are spatially distributed throughout the Rio Ancho Subdivision.

Q. IN REFERENCE TO *EXHIBIT DGR-7*, WHAT WERE YOUR FINDINGS REGARDING YOUR EVALUATION OF RIO ANCHO CUSTOMER COMPLAINS DURING THE 2020 PERIOD?

A. During the period of June 8, 2020 through August 12, 2020, there were 146 complaints originating from 63 different Rio Ancho water system customers regarding low pressure

(61 complaints) and no water (85 complaints). Visual examination of the addresses for these complaint customers reveals that they are located throughout the Rio Ancho subdivision as generally distributed as shown on ***Exhibit DGR-8.***

Q. YOU PREVIOUSLY TESTIFIED THAT AQUA TEXAS INSTALLED A SECOND 42,000 GALLON GROUND STORAGE TANK AT THE RIO ANCHO PUMP PLANT. IS THIS CORRECT?

A. Yes.

Q. IN COMPARING THE NUMBER OF RIO ANCHO CUSTOMER COMPLAINTS OF "LOW PRESSURE" AND "NO WATER" IN 2018, 2019 AND 2020, DOES IT APPEAR THAT ADDING THIS SECOND GROUND STORAGE TANK HELP REDUCED THE NUMBER OF COMPLAINTS?

A. No. It does not appear that the addition of a second 42,000 gallon capacity ground storage tank reduced the number of "low pressure" and "no water" complaints, since the number of complaints between 2018 and 2020 increased from 25 complaints to 146 complaints, respectively. Although, I do not know the date Aqua Texas second ground storage tank physically became on-line.

Q. HAVE YOU CONDUCTED AN ANALYSIS OF AQUA TEXAS WATER PRODUCED AND CUSTOMER WATER USE/DEMAND WITHIN THE RIO ANCHO WATER SYSTEM?

A. Yes. Aqua Texas provided me with monthly water produced from the three (3) Rio Ancho water wells and monthly water sold to Rio Ancho water customers for calendar years 2018 and 2019. A summary of this data set is shown in ***Exhibit DGR-9***.

Q. PLEASE EXPLAIN YOUR ANALYSIS SHOWN IN *EXHIBIT DGR-9.*

A. As shown in ***Exhibit DGR-9***, the number of customers (shown in Column F) in the Rio Ancho water system increased from 128 in January 2018 to 156 customers in December 2019. In calendar year 2018, Aqua Texas' three water wells collectively supplied 20,342,100 gallons of water compared to a reported 23,115,750 gallon of water sold to Rio

Ancho customers. In other words, and on a 2018 calendar year basis, Aqua Texas sold 13.6-percent more water in 2018 than was produced in 2018 for the three (3) wells. Selling more water than produced may be a result of inaccurate well meter reading and/or may be a result of difference in well meter(s) reading date versus customer meter reading dates. Using the average number of Aqua Texas water customers in 2018 of 137 (*i.e.*, (128 customers in January 2018 plus 146 customers in December 2018) divided by 2 then divided by 12 to obtain a monthly average use per customer per month), results in an average monthly water use per customer of 14,061 gallons or an average of 468 gallons per day per connection (*i.e.*, 14,061 divided by 30-days per month).

In calendar year 2019, Aqua Texas' three water wells collectively supplied 29,517,200 gallons of water compared to a reported 27,520,200 gallon of water sold to Rio Ancho customers. In other words and on a 2019 calendar year basis, the Rio Ancho water system experienced a water loss of 6.8-percent in 2019 (i.e., (29,517,200 gallons water produced – 27,520,200 gallons water sold) divided by 29,517,200 gallons water produced). An unaccounted for water loss of 6.8-percent is well within industry standards for a new water system such as Rio Ancho's. Using the average number of Aqua Texas water customers in 2019 of 151 (*i.e.*, 146 customers in January 2019, plus 156 customers in December 2019, divided by 2, then divided by 12, to obtain a monthly average use per customer per month), results in an average monthly water use per customer of 15,188 gallons or an average of 506 gallons per day per connection (*i.e.*, 15,188 divided by 30 days per month)..

Q. IS A MONTHLY AVERAGE WATER USE PER CUSTOMER IN A LARGE LOT-SINGLE FAMILY SUBDIVISION SUCH AS RIO ANCHO OF AROUND 15,000 GALLONS PER MONTH TYPICAL?

A. Yes. As I previously testified, a large lot–single family, affluent residential subdivision like Rio Ancho generally has a higher water demand per connection due to having larger landscapes, private swimming pools, and other in-door and outdoor water using fixings.

Q. OF THE RESIDENTIAL WATER USES IN A LARGE LOT-SINGLE FAMILY RESIDENTIAL SUBDIVISION LIKE RIO ANCHO, WHAT WATER USING FIXTURE REQUIRES THE MOST WATER OVER A CALENDAR YEAR?

A. The water use associated with maintaining outdoor landscapes generally places the highest water demand with regards to public water supply.

Q. DURING A CALENDAR YEAR, WHEN DOES THIS OUTDOOR LANDSCAPE WATER DEMAND OCCUR?

A. During the vegetative growing season. In Central Texas the average, frost-free growing season starts Feb 17 and ends Dec 6, totaling 293 days (source: https://garden.org/apps/calendar/?q=Austin-camp+Mabry%2C+TX).

Q. DURING THE CENTRAL TEXAS GROWING SEASON, TYPICALLY WHAT CALENDAR MONTHS HAVE THE HIGHEST WATER DEMANDS WITH RESPECT TO LANDSCAPE IRRIGATION AND MAINTENANCE OF OTHER OUTDOOR WATER FEATURES SUCH A SWIMMING POOLS?

A. Typically, the months of July and August have the highest water demands related to landscape irrigation and maintenance of other outdoor water features. Although, other months such as May, June, and September may have high outdoor water demands depending on air temperature and antecedent rainfall.

Q. HAVE YOU PREPARED AN ANALYSIS THAT REFLECTS RIO ANCHO WATER SYSTEM CUSTOMER WATER USE FOR MONTHS THAT OCCUR DURING THE PEAK OF THE CENTRAL TEXAS GROWING SEASON?

A. Yes. I prepared ***Exhibit DGR-10*** that illustrates Rio Ancho water customers use in the months of July and August 2019.

Q. PLEASE EXPLAIN YOUR FINDINGS IN *EXHIBIT DGR-10.*

A. As shown on Chart 5 of ***Exhibit DGR-10,*** during the month of July 2019 50-percent of the 149 Rio Ancho water customers used less than 20,000 gallons, while 50-percent of the Rio Ancho water customers used more than 20,000 gallons. As shown on Chart 7 of ***Exhibit DGR-10***, during the month of August 2019 25-percent of the 150 Rio Ancho water customers used less than 20,000 gallons, while 75-percent of the Rio Ancho water customers used more than 20,000 gallons.

Q. IS THE WATER USE SCENARIO YOU DESCRIBED IN YOUR RESPONSE TO MY QUESTION ABOVE UNUSUAL FOR A LARGE LOT SINGLE-FAMILY AFFLUENT SUBDIVISION?

A. Unfortunately for the water utility/water supply company, it is not unusual, and it is part and partial of the public water supply business.

Q. DOES THE GROWING SEASON/SUMMER MONTHS HIGH WATER DEMANDS, AS YOU EXPLAINED ABOVE FOR THE RIO ANCHO WATER SYSTEM, RESULT IN "LOW PRESSURE" AND "NO WATER" EVENTS THAT RIO ANCHO WATER CUSTOMERS HAVE EXPERIENCED OVER THE LAST SEVERAL YEARS?

A. Yes. If the water supplier does not have sufficient water production, water storage, water pumpage, and/or water pressurization facilities to meet or exceed its water service area summer demands, "low pressure" and "no water" events within the water supplier's water service will become common place and lead to both water supplier and customer frustration, and result in the supplier not being able to provide continuous and adequate service in accordance with PUC and TCEQ rules and regulations.

Q. IN YOUR PROFESSIONAL OPINION AND BASED ON YOUR ANALYSES, IS THIS WHAT IS HAPPENING WITHIN THE RIO ANCHO WATER SYSTEM?

A. Yes.

Q. WHOSE IS RESPONSIBLE AND REQUIRED TO RESOLVE THE "LOW PRESSURE" AND "NO WATER" ISSUE WITHIN THE RIO ANCHO WATER SYSTEM?

A. In accordance with PUC and TCEQ rules that I have summarized in this testimony, this is the responsibility of Aqua Texas.

Q. DOES A CUSTOMER WATER CONSERVATION PROGRAM HELP IN REDUCING CUSTOMER WATER DEMAND?

A. Yes to some extent. Water conservation, if followed by all or most of a utility's water customers, is a good tool to conserve water. However, in my professional experience, not all water customers embrace and/or adopt water conservation measures, such as, odd and even address lawn irrigation schedules and time of day watering restrictions. As such, enforcement of water conservation rules and regulations by an investor owned utility like Aqua Texas is very difficult and costly.

IV. CONCLUSIONS AND RECOMMENDATIONS

Q. MR. RAUSCHUBER BASED ON YOUR ASSESSMENTS AND STUDIES OF THE RIO ANCHO WATER SYSTEM THAT YOU HAVE PRESENTED IN THIS TESTIMONY, DO YOU HAVE CONCLUSIONS AND RECOMMENDATIONS REGARDING NEEDED WATER IMPROVEMENTS THAT AQUA TEXAS SHOULD IMPLEMENT TO ADDRESS THE CHRONIC "LOW PRESSURE" AND "NO WATER" PROBLEMS THAT EXIST IN THE RIO ANCHO WATER SYSTEM?

A. Yes.

Q. WHAT CONCLUSIONS DID YOU IDENTIFY AS A RESULT OF YOUR STUDY OF THE RIO ANCHO WATER SYSTEM?

A. Based on my evaluation of the currently installed Aqua Texas water system improvements that service the Rio Ancho Water System and based on evaluating available Rio Ancho Water System customers' water use during the calendar years 2018, 2019, and 2020, I find that:

1. Rio Ancho Water System customer water demands are dominated, from a utility's water supply standpoint, generally by outdoor water uses during the growing season months of May through September of each calendar year;
2. Rio Ancho Water System customer water demands are characteristics of other affluent, large lot-single family subdivisions located within the Central Texas region;

3. Although there are existing several high water using customers in the Rio Ancho Water System, overall customer demand is reasonable and expectable within an affluent lot-single family subdivision like Rio Ancho; and

4. The currently installed Aqua Texas water production, storage, and pressurization infrastructure is inadequate to provide water service to and within the Rio Ancho Water System without experiencing repetitive and frequent occurrences of "low pressure" and "no water" events, especially during the vegetative growing season.

Q. DOES THE TEXAS WATER CODE/TCEQ RULES DEFINE A WATER CONNECTION?

A. Yes. 30 TAC § 290.38(16) defines a connection as:

"(16) Connection--A single family residential unit or each commercial or industrial establishment to which drinking water is supplied from the system….."

Q. DO THE TCEQ 30 TAC CHAPTER 290 RULES AND REGULATIONS DEFINE THE AMOUNT OF WATER USE PER SINGLE FAMILY CONNECTION?

A. No. Not that I can find. The TCEQ 30 TAC Chapter 290 rules and regulations set forth minimum public water system supply standards based on equivalent a single family connection basis.

Q. WHAT IS THE AVERAGE TEXAS WATER USE PER SINGLE FAMILY RESIDENTIAL UNIT OR WATER CONNECTION?

A. The Texas Water Development Board (the "TWDB") in their report to the 84th Texas Legislature, dated January 2015, states:

"Single-Family Residential - All of the 304 analyzed water utilities were able to report single-family residential water use and such use represented on average 48 percent of metered water provided by water utilities, although the percentage varies quite significantly from a low of 11 percent to a high of 100 percent. The average water use per single-family residential connection per day is 246 gallons."

Q. HOW DOES THE TWDB AVERAGE WATER USE PER SINGLE-FAMILY RESIDENTIAL CONNECTION OF 246 GALLONS PER DAY COMPARE TO THE AVERAGE WATER USE PER SINGLE-FAMILY CONNECTION WITHIN THE RIO ANCHO WATER SYSTEM OWNED AND OPERATED BY AQUA TEXAS?

A. As I previously testified, the average daily water use per connection in the Rio Ancho Water System ranged from 468-gallons per day in 2018 to 506-gallons per day in 2019. This results in a ratio of 1.9 (i.e., 468 divided by 246) in 2018 and 2.05 (506 divided by 246) in 2019.

Q. MR. RAUSCHUBER BASED ON YOUR EXPERIENCE AND KNOWLEDGE OF THE TCEQ PUBLIC WATER SUPPLY MINIMUM STANDARDS, WHAT ARE YOUR RECOMMENDATIONS REGARDING THE FUTURE BUILDOUT WATER SYSTEM IMPROVEMENTS NEEDED TO CONTINUOUSLY AND ADEQUATELY SERVE THE RIO ANCHO WATER SYSTEM?

A. Given the order of magnitude of past and current "low pressure" and "no water" events and given the fact that the Rio Ancho Water System service area a real potential to add another 50 or so single family homes/water customers before to reach subdivision/water system "buildout", I recommend that Aqua Texas needs to design and construct a combination of water supply, water storage and water pressurization improvements, that uses a minimum factor of 2.0 times each respective TCEQ minimum requirement.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes. But I reserve the right to supplement, amend, or modify if additional data becomes available.

BEFORE THE

STATE OFFICE OF ADMINISTRATIVE HEARINGS

PUC DOCKET NO. 51091

SOAH DOCKET NO. 473-21-0246.WS

FORMAL COMPLAINT OF RIO ANCHO HOMEOWNERS ASSOCIATION and DAVID AND DOREEN MEYERS AGAINST AQUA TEXAS, INC.

PRE-FILED DIRECT TESTIMONY OF

DON KEVIN HAY

ON BEHALF OF

RIO ANCHO HOMEOWNERS ASSOCIATION AND DAVID AND DOREEN MEYERS

April 16, 2021

Q. Please state your name for the record.

A. Don Kevin Hay.

Q. Where do you reside?

A. My wife and I own a home located at 400 Pheasant Meadow in the Rio Ancho Subdivision.

Q. How long have you owned the home?

A. We purchased the home approximately six years ago.

Q. How large a tract does the home sit on?

A. Our home is on .91 acres.

Q. Is this a common lot size in the Rio Ancho Subdivision?

A. Yes.

Q. Does your home have a pool?

A. Yes, we have a pool.

Q. Are pools common in the subdivision?

A. There are many homeowners with pools.

Q. Describe what portion of the lot on which your home sits is landscaping requiring irrigation during the hotter months of the year?

A. Approximately one-third of our lot is landscaped and irrigated. The home has an irrigation system with eight zones covering the portion of the property landscaped with grass and plants requiring watering during dry, hotter months.

Q. From whom do you receive water service?

A. The water utility for the subdivision is Aqua Texas, Inc. The Aqua Texas, Inc. system serving the subdivision is a stand-alone system and is not connected to any other Aqua Texas, Inc. utility systems.

Q. Please describe your experiences with water service from Aqua Texas, Inc.?

A. As more homes were built in the Rio Ancho subdivision since our original purchase, water service has become less and less reliable. We frequently experienced very low water pressure and occasional loss of service. By 2019, instances of low water pressure and loss of service became quite frequent.

Q. Have you complained to Aqua Texas, Inc., the Public Utility Commission or the Texas Commission on Environmental Quality about loss of service?

A. Yes, we usually call Aqua Texas, Inc. when we experience low pressure or there is a service interruption and my wife and I have filed complaints with the Public Utility Commission and the Texas Commission on Environmental Quality concerning the unreliable service.

Q. How often do you operate your landscape irrigation system?

A. We operate our irrigation system in accordance with the drought reduction rules then in place established by Aqua Texas, Inc. Except for brief periods where Aqua Texas, Inc.'s restrictions were reduced to Stage 1, since 2019 the subdivision has consistently been declared to be in Stage 3 drought.

Q. Has the area been in severe drought conditions during this entire period of time?

A. No. Aqua Texas, Inc.'s imposition of drought restrictions bears no discernable relationship to declared drought conditions. Given the lack of relationship between actual drought and the restrictions, it is apparent that Aqua Texas, Inc. is imposing drought restrictions to limit service disruption cause by the inadequacy of their system to meet the Rio Ancho subdivision's water demand during hotter months of the year.

Q. Describe how Aqua Texas, Inc.'s service has affected your ability to maintain your landscaping with your landscape irrigation system.

A. It is quite common that water pressure diminishes considerably during the cycling of our landscape irrigation system. Many times, we will end up with the equivalent of "leopard spot" areas within the reach of the spray of the irrigation system, leaving areas capable of being watered by that sprinkler head not receiving sufficient pressure, dying.

Q. Is this common in the neighborhood?

A. Many homes, at times when rainfall is minimal and demand is at its highest, show this same type of pattern of water not reaching all areas due to low water pressure.

Q. Let me show what has been marked as Complainants' Exhibit DKH-1 and ask you to identify this photograph.

A. This is a picture I took of our lawn on August 22, 2020. It shows the dead areas of our lawn caused by low water pressure in the Aqua Texas, Inc. It was common for us to experience brown and dead areas of landscaping on our property in 2019 and 2020.

Q. Let me show what has been marked as Complainants' Exhibit DKH-2 and ask you to identify this photograph.

A. This is a picture I took of our lawn on August 22, 2020. It shows where low water pressure has resulted in brown and dead areas of landscaping on our property.

Q. Let me show what has been marked as Complainants' Exhibit DKH-3 and ask you to identify this photograph.

A. This is a picture I took of our lawn on August 22, 2020. It shows areas of our lawn that have turned brown due to chronic low pressure problems with Aqua's water service.

Q. Please identify what has been marked as Complainants' Exhibit DKH-4.

A. Exhibit DKH-4 is a video I took on July 14, 2020, inside my home at 400 Pleasant Meadow.

Q. Please describe what is shown in the video.

A. The video shows the flow from an indoor fixture with the water turned on to allow maximum flow. As you can see in the video, the water pressure is so low that there is barely any flow. The video shows what is a frequent occurrence during late spring, summer and early fall. Obviously, with the pressure this low was cannot shower or bathe or run any appliance using water.

Q. Please identify what has been marked as Complainants' Exhibit DKH-5.

A. Exhibit DKH-5 is a video I took on July 21, 2020, inside my home.

Q. What is the average price for a home and lot in the Rio Ancho Subdivision?

A. Currently, homes range from $550, 000 to as high as $900,000. All the homes and lots in the Rio Ancho subdivision are on lots of approximately one acre. Most homes have large lawns and landscape irrigation systems.

Q. How have the service issues affected how you use water in your home?

A. First, we purchase commercial drinking water from Sparkletts for all drinking and cooking and to insure we have drinking water when service from Aqua is inadequate or there is a complete loss of service. We have a filter on our ice machine for our refrigerator, given the fluctuations in quality due to low water pressure. We have learned that, particularly in the mornings, we cannot take a shower and run either the dishwasher or the washing machine at the same time. Likewise, only one of those appliances can be operated at any given time when water pressure is low.

Q. Do you serve on the homeowners' association board of directors?

A. Yes, I was elected to the board in January 2020.

Q. Has the board attempted to negotiate with Aqua Texas, Inc. to obtain improvements to the system to eliminate the frequent issues with water pressure?

A. Yes. The board engaged a professional engineer to analyze Aqua Texas, Inc.'s system and service issues experienced by Rio Ancho homeowners. His report also identifies inadequacies in Aqua Texas, Inc.'s system and makes recommendations concerning the improvements needed to meet the normal usage in the Rio Ancho subdivision. The board also hired attorneys to assist them in pursuing relief from these unacceptable conditions. The board provided the engineer's report to Aqua Texas, Inc.

Q. What was the result of these discussions with Aqua Texas, Inc.?

A. Aqua Texas, Inc. undertook some improvements to their system. They made some, but not all, of the improvements recommended by the professional engineer we engaged. These improvements were completed in the spring of 2020. We were assured by Aqua Texas, Inc. that these improvements would address the reliability issues with water service in the subdivision.

Q. Did these improvements eliminate the reliability issue?

A. No, quite the contrary. We had chronic issues with service in 2020 and frequently experience chronic low water pressure in the mornings and several instances of complete loss of service.

Q. [redacted]

A. [redacted]

Q. What relief to you seek from the Public Utility Commission?

A. We ask that the Public Utility Commission direct Aqua Texas, Inc. to make improvements to its system necessary to meet the known demand characteristics of the Rio Ancho Subdivision and that they be ordered not to impose their drought contingency plan as a

means of minimizing problems caused by the inadequacy of their facilities and only implement the drought management plan when drought conditions actually exist.

Q. Does this conclude your testimony?

A. Yes.

BEFORE THE

STATE OFFICE OF ADMINISTRATIVE HEARINGS

PUC DOCKET NO. 51091

SOAH DOCKET NO. 473-21-0246.WS

FORMAL COMPLAINT OF RIO ANCHO HOMEOWNERS ASSOCIATION and DAVID AND DOREEN MEYERS AGAINST AQUA TEXAS, INC.

PRE-FILED DIRECT TESTIMONY OF

DAVID MEYERS

ON BEHALF OF

RIO ANCHO HOMEOWNERS ASSOCIATION AND DAVID AND DOREEN MEYERS

April 16, 2021

Q. Please state your name for the record.

A. David Meyers.

Q. And where do you reside?

A. My wife Doreen and I reside at 103 Buffalo Trail in the Rio Ancho Subdivision.

Q. Briefly describe your educational background and the work you do.

A. I have a Bachelor of Science degree from Kennedy western University in Management of Technology. My background is in Product development and Mechanical Engineer and have worked in the field for 38 years.

Q. When did you purchase your home at 103 Buffalo Trail?

A. My wife and I purchased this home in February 2019.

Q. Does the Rio Ancho Subdivision have a homeowners association?

A. Yes it does.

Q. Do you serve on the Board of the Rio Ancho Homeowners Association?

A. Yes, I am currently the President of the Board of the Rio Ancho Homeowners Association.

Q. Generally describe the Rio Ancho Subdivision.

A. The Rio Ancho Subdivision contains 204 platted lots. Homes have been built and are occupied on 179 of these platted lots. Each lot in the subdivision is a minimum of .8 acres.

Q. Who supplies potable water to the subdivision?

A. Aqua Texas, Inc. is the water utility provider for the subdivision and maintains a stand-alone system dedicated to water service for the residents of the Rio Ancho Subdivision.

Q. Describe the lot upon which your home sits.

A. Our home is on a nine-tenths of an acre lot with a number of very mature trees. Approximately one-half of the lot is sodded in Zoysia grass, which is more shade tolerant than St. Augustine and requires less water to maintain during hot months of the year.

Q. Does your yard have an installed irrigation system?

A. Yes, that part of our lot that is sodded in grass is watered through a 12-zone irrigation system.

Q. When did you first experience issues with water service to your home?

A. Beginning in the spring of 2019, we began to notice instances, particularly in the morning, of low water pressure in our home. Shortly after that, as temperatures rose in the later spring and summer, we began to experience chronic low water pressure issues and instances of complete loss of service.

Q. Did you complain to Aqua Texas, Inc., the Public Utility Commission of Texas or the Texas Commission on Environmental Quality concerning these service issues?

A. Yes. We would notify Aqua Texas, Inc. of the service problems and, after these complaints yielded no results, we would notify both the Public Utility Commission of Texas and the Texas Commission on Environmental Quality by written complaint of instances of loss of water service.

Q. How much water do you use on average each month?

A. I would estimate that our average water use is approximately 20,000 gallons per month. Obviously, this number is higher in the hotter months and lower in the late fall and winter when no landscape watering is required.

Q. What did you do to further address the problems with water service to the subdivision?

A. The homeowners association board engaged Don Rauschuber, a professional engineer, to advise the board on the cause of issues with water service to the subdivision.

Q. Did Mr. Rauschuber prepare a report to the homeowners association?

A. Yes.

Q. Let me hand you what has been marked as Exhibit DGR-3 and ask if you will identify that please.

A. Exhibit DGR-3 is the report prepared by Mr. Rauschuber after his examination of the Aqua Texas, Inc. water system supplying potable water to the Rio Ancho Subdivision.

Q. Was this report furnished to Aqua Texas, Inc.?

A. Yes.

Q. What further action did you take?

A. We engaged your law firm to assist us in obtaining a remedy for the chronic water service issues the subdivision was experiencing.

Q. At that time, how frequent were water pressure and loss of service issues occurring?

A. Low water pressure issues were chronic throughout the late spring, summer and early fall of 2019. I would estimate that we lost service completely during that timeframe at least four times, perhaps more.

Q. Can you describe your experiences in these loss of service situations?

A. Yes. The problem would manifest in the morning after homeowner irrigation systems had run during the night. It was not uncommon for us to wake up and attempt to take showers and find that the water pressure was so low that it was barely flowing or we had lost service altogether.

Q. Has this affected how you use water in the home?

A. Yes. We have to time the use of our dishwasher or washing machine to times of less water demand. We do not run the dishwasher and the washing machine at the same time and

because of the uncertainty of service, do not take a shower and run either of those appliances at the same time.

Q. Was the homeowners association successful in convincing Aqua Texas, Inc. to take action to correct these service issues?

A. Aqua Texas, Inc., after we had hired an engineer and attorneys, agreed to undertake certain improvements to its system to address the service problems in the spring of 2020. Aqua Texas, Inc. undertook some, but not all, of the recommendation made in the engineering report commissioned by the homeowners association. These improvements were completed in the spring of 2020.

Q. Did these improvements address the low water pressure and loss of service issues?

A. No. The subdivision continued to experience instances of low water pressure and loss of service in the late spring, summer and early fall of 2020.

Q. Did the homeowners association keep track of the complaints of low water pressure and loss of service within the subdivision in 2020?

A. Yes, we did and we prepared a spreadsheet summary of the dates of these issues, the homeowners affected and the time of the complaint. That summary has been marked as Complainant's Exhibit DGR-7.

Q. Were complaints made to the Public Utility Commission of Texas and the Texas Commission on Environmental Quality concerning these service issues?

A. Yes. Numerous homeowners filed complaints at the Public Utility Commission and the Texas Commission on Environmental Quality concerning these low water pressure and loss of service issues. We also notified Aqua Texas, Inc. every time there was a problem.

Q. [redacted]

A. [redacted]

Q. Do residents of the Rio Ancho Subdivision use excessive amounts of water for irrigating their lawns.

A. Not to my knowledge. While there may be individual instances of higher than neighborhood average water use, the vast majority of the homeowners in the Rio Ancho Subdivision abide by drought plan restrictions imposed by Aqua Texas, Inc. for water use on the system. Many homeowners do have irrigation systems to maintain their landscaping and therefore use more water than the average home on a small lot.

Q. Since you have been there, has the subdivision been under drought restrictions imposed by Aqua Texas, Inc.?

A. Yes. We have always been under drought restrictions since we moved in and the stages have varied from stage one to stage three.

Q. Have these restrictions corresponded to actual drought conditions?

A. Rarely. Drought restrictions have been in place over the last two and one-half years, when no drought conditions have been declared for the region. After being under Stage 3 drought restrictions through 2019 and early 2020, Aqua Texas, Inc. reduced the drought restrictions to Stage 1 in the spring of 2020, after they had made some unsuccessful improvements. Stage 3 drought restrictions were reinstituted by Aqua Texas, Inc. shortly after this reduction in the summer of 2020. These drought restrictions did not correspond to actual droughts within the area.

Q. Despite these restrictions on use, have you still experienced instances of low water pressure and loss of service?

A. Yes. In the summer of 2020, after the system improvements made by Aqua Texas, Inc., the subdivision experienced loss of water service four times and reports of low water pressure at least a half a dozen times independent of instances of complete loss of service.

Q. Let me hand you what has been marked as Complainants' Exhibit DM-1 and ask you to identify that please.

A. Exhibit DM-1 is a report I prepared as an engineer on the Aqua Texas, Inc. water system status in the Rio Ancho Subdivision.

Q. Please describe what is in that report.

A. I examined the total number of addresses with the last digit of their address ending in each number. The first two columns on page two show the number of addresses in each county (the subdivision is bisected by the county line between Williamson and Burnet counties) with each number as the last digit of their address.

Q. What does the table below that on page two show?

A. The table shows the number of homes that are authorized to irrigate under Aqua Texas, Inc.'s Stage 1 mandatory watering restrictions for each address and day of the week. Watering is allowed between 8:00 p.m. and 12:00 a.m. or 12:00 a.m. to 4:00 a.m. on authorized watering days. This means that a whole group of homeowners can water between 8:00 p.m. and 12:00 a.m. under these restrictions and a new group can then water between 12:00 a.m. and 4:00 a.m. The totals on the right-hand side of that table show the total number of homes that could water on any given day of the week.

Q. What does the diagram on page three show?

A. The top flow chart shows the production capacity of the existing wells operated by Aqua Texas, Inc. and the storage facilities maintained by Aqua Texas, Inc. to supplement this production. My understanding is that this production capacity with storage allows Aqua Texas, Inc. to supply 575 gallons per minute to the subdivision. With this capacity, I have

calculated that the production and storage is sufficient to supply 57 homes with sufficient water to irrigate their lawns only with no other demands on the system.

Q. What does the bottom flow chart demonstrate?

A. Using these numbers, it demonstrates that after three hours and 20 minutes with that production capacity and storage and assuming 57 homes irrigating at the time, the system will run out of water.

Q. What do the flow charts on page four show?

A. At the top of page four I have calculated what will happen to the system if 57 homes are irrigating with no restrictions on water.

Q. What does that chart demonstrate?

A. It is clear that, under those circumstances, assuming 57 homes are irrigating, the system will experience pressure loss.

Q. What does the final flow chart show?

A. It just shows that if any number of homes above 57 are irrigating at any one time, there will be water pressure declines resulting in either low pressure and flow or loss of service altogether.

Q. Let me hand you what has been marked as Complainants' Exhibit DM-2 and ask you to identify that document please.

A. The tables in this exhibit show the number of homes with the correct address for watering on any given day when Aqua Texas, Inc. has imposed Stage 1 mandatory water restrictions. The totals are shown on the right-hand side. The numbers demonstrate that the total number of homes authorized to water on any given day exceed the capacity of the Aqua Texas, Inc. water system. The lowest number of homes during the week that can water are on Tuesday night and Wednesday in the early morning, totaling 68 homes. The highest

number of homes that can be irrigating at those times of day are on Thursday evening and Friday morning early, at 158 homes.

Q. What does the second table show?

A. The second table is similar to the first table showing similar numbers when Aqua Texas, Inc. has imposed Stage 3 mandatory water restrictions, which we are currently under. As can be seen, the number of homes authorized to water exceed the 57-home capacity of the system four out of the seven days of the week.

Q. Let me hand you what has been marked as Complainants' Exhibit DGR-7 and ask you to identify that document please.

A. Complainants' Exhibit DGR-7 is a summary of all low pressure and loss of service complaints occurring from June of 2020 through August of 2020, after the system improvements made by Aqua Texas, Inc. [redacted]

Q. [redacted]

A. [redacted]it is well-known that water service to the subdivision is inadequate, that instances of low pressure and loss of service are common and that water restrictions on use are in place full time. To the extent potential buyers inquire of the homeowners association concerning water utility service, we advise that there are issues with low water pressure and loss of service which the homeowners are attempting to address through the administrative agency responsible for regulation of water utility service, the Public Utility Commission. We further advise that they contact Aqua Texas, Inc. for further information.

Q. [redacted]

A. [redacted]

Q. Can you summarize the problems with the existing Aqua Texas, Inc. system in supplying the known demand of the residents of the Rio Ancho Subdivision?

A. Yes. There are two fundamental problems. The first is that the system is inadequate to meet the known flowrate demands of users within the subdivision. The second problem is that the system lacks sufficient storage capacity to meet peak demand for water during spring, summer and fall months when lawn watering is necessary.

Q. Does this conclude your testimony?

A. Yes.

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