

Assisting Water Systems in Puerto Rico



Image Landsat / Copernicus

Locations of water systems visited to provide assistance with applications for funding.

From May 17 to 22 I had the privilege of traveling to Puerto Rico by request of the National Rural Water Association (NRWA) to assist water systems with obtaining their DUNS number, registering in SAM.gov, and registering and preparing an application for USDA Rural Development RD Apply On-line Application for funding improvements. This was in response to Hurricane Maria that struck the island on September 20, 2017. I joined Bill O’Connell, NRWA, Kirby Mayfield of the Mississippi Rural Water Association. We met the first evening with Apolonio and Jorge Morales from

Puerto Rico to discuss the plan of action for the next four days and what needed to be accomplished.

On Friday morning, May 18, Jorge Morales and I set out for the first system, Comunidad Asomante Seccion II, Las Piedras. There I could see the devastation in many areas caused by Hurricane Maria. I soon learned that most of the water systems in Puerto Rico would be what in the States are considered to be rural water districts. The water system that supplies most of the Island is a government-based company by the name, Puerto Rico Aqueduct and Sewer Authority (PRASA). About 96 percent of the

population receives water from PRASA. But the other four percent of the population is supplied by nearly 250 very small water systems. The water systems charge very little per month with total charges from \$5 to \$50 as a flat fee. One system doesn’t believe they should pay the monthly flat rate at all as

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Jorge Morales, KRWA Tech Rita Clary and President Angel Fonte, Comunidad Asomante, Seccion II, Inc. work on funding application requirements.

the operator is receiving “free” fuel from FEMA for the generator! Most of the water sources are either springs or wells. Storage tanks are made of concrete and system pressure is by gravity. A few of the water systems are metered. Many of the waterlines are pvc pipe laying on the ground because of the rugged, mountain terrain. The temperature only drops to the low 50’s or high 40’s so there is no concern for freezing pipelines. The water systems have no office buildings. They use either a local community center or operate from homes.

The second system we visited was in Yabucoa. There we met with the president of the water system. She graciously welcomed us into her home; we worked to seek a DUNS number for the system. On Saturday we traveled to Comerio to visit the Eladio Andreu system. That system is supplied by spring water, serves about 130 homes and is metered. Though the system is metered, the meters are not read. The system is maintaining power by a FEMA generator onsite. FEMA has installed a new electrical panel with a transfer switch. The system needs a new water well and a larger tank. We offered to help the operator with obtaining a USDA loan/grant to assist with installing a new well and tank, however, the system president does not want to get involved with government funding.

Next, we traveled to Barranquitas where we met with Cris D'Onofrio from US EPA and EPA contract employee Tamara De Le'on. EPA advised us of three systems that still needed assistance and asked that we focus on those systems.

We went to Acueducto Comunal Barrancas Centro Water System. This was one of the three systems that EPA had mentioned. We met with the secretary who was also treasurer and operator. The system sustained damage because of slope failure which destroyed 17 connections to the water main. The 17 homes are presently connected in a temporary manner and as a result have very little water. EPA identified the slope as still unstable and developed a plan to move a new 2-inch line, approximately 2,500 feet, to be installed down the center of the paved road to get the 17 connections back into full service. The system also needs a generator and transfer switch, new rooftops for the pump house and a chlorination building, new tablet chlorination system, and new fences around facilities. We explained the ECWAG grant to them and they wanted to move forward with the process of applying for the grant. The application process is underway.

Next, we went to Comuidad Dona Mayo system. We met with the board



(Left to right) Kirby Mayfield of the Mississippi Rural Water Association, EPA Contractor Tamara Dele'on, Operator Emiliano Alvelo, Acueducto Rural Comunidades Especiales Bayamocito, Inc., Jorge Morales and on-scene EPA coordinator Cris D'Onofrio discuss needs of the system.

president. They need a new generator and transfer switch, electrical controls, new line to tank, and possibly a new well due to a washout of the creek bank at the well. The DUNS and SAM.gov numbers were completed and the application is ready to be submitted. Only the preliminary engineering report remained.

The next stop was at the Los Muchos system. That system's needs include a generator and transfer switch. The last system for the day was Comunidades Especiales Bayamocito, Inc., Aguas Buenas. This system serves 125 connections and is currently operating on a FEMA generator. That system's rates are \$15 per month. The system

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This photo shows the water storage tank for Comunidad Asomante, Seccion II, Inc. Las Piedras.



The rugged terrain causes pipes to be laid on top of the ground as for the water system for Eladio Andreu, Comeno, Puerto Rico.

also supplies water to a school. The operator stated that this was an RCAP project but reported they came by one time after the storm and that he has not seen anyone since. The needs for this system include repair of a 22,000-gallon concrete tank that was damaged by Maria. The system also needs fencing at all facilities and a generator and transfer switch. Production tests need to be conducted on the wells as

pumping rate has been declining. I suggested they need to bring in their engineer to evaluate the existing wells and because of age, decide if drilling a new well might be more appropriate. That system also needs a new tablet chlorination system, and recoating of the ground storage tank. There is also a question if the tank is settling.

On Sunday, May 20, we visited Humatas Deep Water, Inc., Anasco.

This system needs a generator and fuel tank and transfer switch, electrical controls and a new tablet chlorination system. A long-term goal is to install meters on all services. The system serves 57 families; the rate is \$20 per month. The DUNS number for this system has been requested. Jorge is going to stay in touch with this system and get the information to me for completion of the application. Jorge's professor from college is also going to work with the system as their engineer to get the project application finished as soon as possible.

Next, we visited the Comunidad Rancho Grande system, Naguabo; this system serves 400 families. The rate is \$10 per month. The system needs a new fence around the tank, a new 4-inch master meter to monitor production, a new distribution line from the groundwater springs to the tank. The system also needs a new granular chlorination system and a new chlorine monitor. Some dirt is required due to a mud slide at the tank site, and a pad for

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a fuel tank for the generator. The DUNS number had already been obtained, so we completed the application for SAM.gov and will follow up as appropriate. Jorge and Apolonio are going to work with the system operator to provide the information to me so that the application can be completed.

On Monday, May 21, we traveled to the city of Jayuya and met with several systems at city hall. We first met with the Carmelita system. The system serves 250 families; the rate is \$5 per month. The water source is surface water that comes from spring water. The system had constructed a dam to capture the spring water. Hurricane Maria took out the dam. The system is in need of a new water well to replace the surface water source. Also needed is a generator, electrical controls and a transfer switch. The system is not metered. We met with the secretary/treasurer and completed the DUNS and SAM.gov process. The SAM.gov authorization letter is completed and was ready for a signature and notary.

Next, was the Santa Barbara system. This system serves 79 families; the rate is \$6 per month. The system is supplied by a surface water source, which is drying up. A new well is needed with associated controls, a generator and transfer switch, and possibly the purchase of land for the well site. The system is not metered. The DUNS number has been applied for and the necessary authorizations have been completed. The NRW Circuit Riders will work with this system to help them register through SAM.gov, complete a preliminary engineering report and then complete the funding application.

The next system was Alturas Piza. It serves approximately 60 families; the rate is \$50 per year. The system is supplied by a surface water source by way of spring heads which are starting to show signs of depletion. The system needs a new deep well, generator, electrical controls and transfer switch. A chlorination system is also needed as is fencing of the facilities. The system may also need to purchase land for a

well site. The system is not metered. The president did not have proper paperwork but will gather the necessary information for completion of the funding application. The system already has an engineer, as they are using the town's engineer to work up the preliminary engineering report.

We next visited with the Juan Diego system. It serves a population of 103 people. They have no fee for water used by customers. The system needs to have right-of-way cleared from the spring boxes to the tank site and a new 2-inch pipeline of about 1,500 feet. The tank needs to be re-coated and checked for leaks. Another concern is a washout and mudslide around the pump house; work needs to be done in order to stabilize the pump station. A new chlorination system is also needed. The distribution system has many leaks from the hurricane that need to be repaired. This may also require some right-of-way clearing before the leaks can be located. NRW Circuit Riders will work closely with this system and get the application process started.

As in the states, the water systems need board training to help the board

members gain confidence and be able to relate with the community members. I continue to work with the Puerto Rico team on a daily basis either by email, calls or Facetime calls. I was asked to participate because of my familiarity and use of RD Apply and also USDA views this help as the Circuit Rider program utilizing the disaster recovery portion of the contract to assist in Puerto Rico – which is a high priority for the agency at this time. We continue to work with the systems; it's been an experience and I appreciate the opportunity to have been asked to be involved.

Rita Clary's focus at KRWA is providing assistance with applications for funding for cities and rural water districts. Rita gained extensive municipal experience working at the city of Troy, Kansas for



eleven years prior to joining KRWA in 2009. She is a certified EMT and served as the Ambulance Director for two years and supervised the volunteer staff at Troy. She has worked on or completed most water and wastewater utility reporting requirements.

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