Infrastructure Projects Update

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As part of a new series, from time to time, the Brownsville Public Utilities Board (BPUB) will shine the spotlight on some of its active infrastructure improvement projects. There are always many different projects going on at BPUB, so this list is not meant to be seen as complete. It will, however, provide some much needed information to the community about what's going on.

Market Square Revitalization Project – Complete

Where once there were above-ground power lines, now people passing through Market Square notice nothing but the classic buildings and shops that occupy these spaces.

The purpose of the project was to convert all overhead utilities to underground along the alley between Washington Street and Adams Street from 10th Street to 14th Street. Getting rid of those overhead utilities has helped beautify downtown, an area the city has been developing. BPUB put down 10,600 feet of underground cable, six padmounted transformers, 25 underground electric distribution enclosures, 25 lighting poles, and converted 94 electric services. This is in addition to 2,300 feet of overhead fiber optic communication lines that were converted and 4,050 feet of additional underground fiber optic cable that was installed.

The total investment in this project was $1.5 million. Some of the well-known buildings that benefited include Market Square, Stillman House, El Tapiz and Fire Station 1.

Aside from the aesthetics, there are other added benefits to underground power lines. Those lines won't have to weather storms, wind or ice. That should lead to fewer power outages and lower maintenance costs.

Brownsville Country Club Electric Project – In Progress

The purpose of this project is to replace underground primary electrical cable in the Brownsville Country Club (BCC) area. In some cases, the cable is as much as 40 years old. Over time, these cables degrade, and this can have a direct impact on electrical service reliability in that area. Replacing the aging cable will ensure greater electrical reliability for the BCC area for years to come.

The infrastructure improvement project will be conducted in 23 sections. Work began in November 2016. BPUB crews are using different types of machinery, most notably boring machines, to remove and put the new cable in place. The boring machines allow BPUB to create tunnels for the cable to be placed. During this project, it will be necessary for BPUB crews to work on customers' property. All customers who will be affected will be notified at least one day in advance before crews work on their property.

Some residents in the area may experience short periods without electrical service while crews replace

sections of underground power cable. To minimize outage time, crews will conduct all work preparations, including underground bores and cable run layout, before outages begin. Any outages are estimated to last between 10 minutes and one hour.

As of this writing, crews report that they are 71 percent complete with the project with an estimated completion date of December 2018. Crews have been able to speed up the underground boring in areas using 2-inch pipes to remove infrastructure, but the next big challenge will be the San Marcelo area because 6-inch pipes will be necessary to avoid obstructing other existing underground lines.

Water Valve Replacement Project – In Progress

The purpose of this project is to replace 64 water valves identified by BPUB's Water/Wastewater Operations & Construction Department throughout the water distribution system. These identified valves were inoperable or at their life expectancy. Replacing these valves will provide greater communication throughout the water distribution system and allow greater flexibility in isolating particular areas in the water distribution system. That means BPUB troubleshooters will be able to minimize the number of customers affected by service interruptions.

These water valve replacements will require some customers to be without water service while work is being completed. Crews are trying to schedule most of the work to be conducted overnight to limit the impact that these service interruptions can have on customers.

The project began Oct. 30, 2017, and is estimated to be completed in April 2018, but this could change depending on various conditions, including weather. Saenz Utility Contractor is the contractor conducting the work.

Palm Gardens Subdivision Electrical Project – In Progress

The purpose of this project is to replace the existing electrical cable in this area with cable in pipe. This will ensure a longer lifespan for these cables and will result in fewer outages for residents in the area. During this project, there will be times when electrical service will have to be shut off to some of the area's 240 customers to complete repairs. These outages are estimated to last about 30 minutes, and residents will be notified about service interruptions prior to shutting off power. To minimize outage time, crews will conduct all work preparations before outages begin.

It will also be necessary for crews to work on customer property during this project. BPUB asks that households in this area leave back yards accessible for repair crews from RM Walsdorf Inc. and the underground utility locators, USIC Utility Locate, who will need to mark existing underground services.

This project is very similar to previous cable replacement programs performed in the Brownsville Country Club and Land O' Lakes areas. These projects are part of BPUB's continued commitment toward maintaining the city's electrical infrastructure and improving the electrical reliability for BPUB customers.

Downtown Light Fixture Upgrade - Upcoming

With eyes on safety and energy conservation, BPUB is working with the city of Brownsville on the Downtown Light Fixture Upgrade. The purpose of the project is to upgrade downtown Brownsville lighting to LEDs.

The first benefit of an LED conversion would be a reduction of energy use, but even more important than that, LEDs last longer than any light source commercially available on the market. Lifespans are variable but typical values range from 25,000 hours to 200,000 hours or more before a lamp or fixture requires replacement. LEDs last longer than any other light source available on the market with lifespans ranging from 25,000 hours to 200,000 hours or more before a lamp or fixture requires replacement. That means greatly reduced maintenance costs over time.

Another added benefit to LEDs is that they require no warm-up period or cool down period. When it gets dark, the light can simply turn on and won't need to warm up before producing higher levels of light. The reduced heat that LEDs produce results in a cool down period not being necessary.

The first area to be worked on will be four city blocks from East Adams, Washington, Elizabeth and Levee streets from East Seventh Street to International Boulevard. This project will begin in 2018.

Lift Station Odor Control – In Progress

It's no secret that the things that wind up in the wastewater system don't often smell very good, but what might not be widely known is that BPUB has invested a lot of money and resources to prevent its customers from ever smelling those things. BPUB purchases calcium hydroxide to reduce sewage odors at various lift stations, but that will soon be a thing of the past.

BPUB already has put in place odor control system at its two wastewater treatment plants. The process works by targeting the compound primarily responsible for the odor in untreated water, hydrogen sulfide. The odorous gas is ultimately blown through a biological tower. Inside the biological structure are microorganisms naturally found in sewage that love to feed on hydrogen sulfide given the right temperature and moisture conditions. By the time those microorganisms do their job, 99% of the hydrogen sulfide in the air blown into the tower has been removed, along with the odors associated with a wastewater treatment plant.

Now lift stations are the next being targeted for a similar system. BPUB identified some of its largest lift stations, located throughout the city, to have biofilters installed. When put into action, it works similar to the odor control system at the wastewater treatment plants. When the odorous gas goes through the biofilter, hydrogen sulfide is removed, resulting in lift stations without such a strong odor.

BPUB has eight remaining lift stations in which to install these biofilters. Current timelines estimate that those biofilters should be in place by the end of 2018. Aside from the obvious benefit of less odor, the other

major benefit will come in cost savings. At the completion of this project, BPUB will no longer have a need to purchase calcium hydroxide, thereby lessening BPUB's dependence on chemicals and their expense.