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A little over three years ago we published our first issue of *IVT Magazine*.

Our goal in the publication is to highlight the accomplishments of our greatest asset - the individuals, companies, and communities that comprise the Vac-Con family.

Over the past three years we have featured stories of success, opportunities, and growth that our customers have taken on, conveying their stability and integrity in a competitive market.

We hope that those of you who have been with us on the *IVT* journey since the beginning have found these stories to be encouraging, and that those of you just now joining us in issue six are inspired by the attributes that we treasure for both ourselves and our customers - innovative, invested, genuine, quality, and loyalty.

It's an exciting time to be a part of the Vac-Con family, as we head into the back half of 2018. The articles in issue six continue to echo our mantra of "More power to you," as we cover custom-designed machines, new opportunities, steady growth, and environmentally conscious efforts. If you're looking to learn more about our company and the people who have made us who we are over the past 32 years, you're in the right place. For more information on how to join our team, look us up at www.vac-con.com.

Now grab a cup of coffee, turn off the noise, and enjoy a good read.

Darrell LeSage

President, Vac-Con, Inc.



IVT is a specialty publication produced by COLE Publishing, Inc. on behalf of Vac-Con, Inc. and is distributed to nearly 8,000 private, industrial and municipal vacuum truck owners throughout North America. This publication is dedicated to showcasing Vac-Con's outstanding products and industry leading customer service through its extensive network of authorized dealers. For more information on Vac-Con or feedback on this publication, our products, employees or dealers, please contact us at (904) 493-4969, or online at vac-con.com.

President

Darrell LeSage

(904) 529-1311

darrell@vac-con.com

Inside Sales Manager

Mike Selby

(904) 529-1323

mikes@vac-con.com

Executive Vice President

Todd Masley

(904) 529-1318

toddm@vac-con.com

National Service Manager

Aaron Gonzalez

(904) 529-1373

agonsalez@vac-con.com

National Sales Manager

Bryce Rieger

(904) 284-4200

brycer@vac-con.com

T

he Plainfield Area Regional Sewer Authority had a plan. It just needed the power to execute it.

As a small organization serving a broad swath of central New Jersey, PARSA must plan carefully to assure it can deliver the wastewater transmission services needed by its eight member communities. Facing a possible wave of retirements, the authority's future leader has spent the past two years seeking ideas to maintain a team equipped with the skills and resources to meet the challenges to come.

PARSA's primary function is the operation of a regional interceptor system moving untreated wastewater from eight small towns and cities spread across three counties to a treatment plant operated by the Middlesex County Utilities Authority. The PARSA interceptor includes nearly 24 miles of pipe ranging from 24 to 54 inches and has a capacity of 14 mgd flowing by gravity to the MCUA plant.

Left to right, the PARSA team includes: Rob Vilee, Jack Ricker, Steve Grosso, John Malavasi, Frank Kunz and Bob Snyder.

In addition to its primary responsibilities, PARSA also offers member communities flow monitoring, CCTV inspection, and in-flow and infiltration remediation at no cost. Bob Snyder, who is in line to lead PARSA when Rob Vilee retires as executive director in early 2019, says the authority's efforts have helped reduce annual flows by 330 million gallons and eliminated sanitary sewer overflows, helping member communities return to compliance with New Jersey standards for wastewater disposal and avoid possible sanctions from state regulators.

Snyder, one of three assistant operations managers on the seven-member staff, says PARSA's lean workforce has kept the interceptor system in good condition thanks to the expertise of the longtime employees and their commitment to the credo that no individual is too important to tackle any task at the regional organization and that no job is below the responsibility of any individual.

Snyder says the staff has a total of almost 200 years' combined experience in the wastewater industry and all but the office manager hold New Jersey's highest C4 license for wastewater collections operators. Several members of the PARSA staff also hold the state's S4 license, the highest ranking for wastewater treatment.

SUCCESSION PLAN

As Vilee's designated successor in PARSA's succession plan, Snyder has taken a proactive approach to staffing over the past two years. Snyder finds himself facing the possibility of multiple retirements among senior operators. He says he isn't alone as many other managers in the wastewater field are facing similar problems because there aren't many qualified people in the job market to replace them.

Power to Grow

New Jersey sewer authority doubles down on Vac-Con trucks with focus on more power

By Pete Litterski

PHOTOS BY SARAH YENESEL



PARSA crew members Steve Grosso (left) and John Malavasi clean out a manhole with their Van-Con truck. The PARSA staff has almost 200 years' combined experience in the wastewater industry.

The experience of the PARSA team means the operators are able to tackle breakdowns, interruptions and back-ups without panic or delay. Snyder says senior crew members have the background and skills to recognize a problem and determine the best response. When there were rare openings on the staff in the past, PARSA leaders focused on hiring operators who were already experienced and licensed in wastewater collections. Snyder says PARSA tried to hire people who required minimal training and could hit the ground running.

That was the past, however, and Snyder has accepted the fact that many wastewater operations now focus on finding new employees with great potential rather than extensive experience.

Snyder, who will even have to find his own replacement on the frontline, says that one fall afternoon in 2016 he was mowing the lawn at his home when the possible loss of half his staff emerged as his biggest challenge ahead. The future executive director spent hours contemplating the problem and possible solutions before he developed an idea that would help PARSA ride the wave of retirements. Rather than shy away from the challenge of recruiting new employees, Snyder came up with a plan to not only fill the anticipated openings, but also create a need for additional employees by broadening the services PARSA offers to member communities.

Snyder presented the PARSA board and Villem with a plan to offer optional annual contracts to clean and maintain the members' sewer lines. He told the board that as cities began to sign up for the new service, the contracts would increase PARSA revenues more than enough to hire four new operators.



Plainfield Area Regional Sewer Authority

Established: 1995

Office: 200 Clay Ave., Middlesex, New Jersey 08846

Serves: 135,000 people in three counties

Vac-Con Equipment: 2018 Vac-Con Model V312/1500 dual-engine combination truck on a Kenworth T800 chassis; 2001 Model V316-1500 combination truck

Snyder says that by adding the new service line, PARSA will be able to pay for the additional staffing without increasing rates for existing services. And the additional employees will be available for interceptor operations as well as the contracted services. At first glance, the staffing plan might seem counter-intuitive in the current job market, but Snyder says it is actually working better than expected. By May this year, PARSA had already added one operator to the team and Snyder was looking for a second new operator to bolster the roster ahead of schedule. Essentially, Snyder has found a way to hire and train replacement operators before losing half of his existing staff to retirement.

ADDING MUSCLE

Just as important as adding new people to help tackle PARSA's new line of service, Snyder told the board that the authority would need to upgrade its fleet with a new vacuum truck to

join the 2001 truck already in use. The board voted and approved the purchase of a new truck.

Out of the proposals submitted, Snyder says Vac-Con's was the most competitive. PARSA decided to purchase the new truck from Peirce-Eagle Equipment Co., a Vac-Con distributor located just 13 miles away in Branchburg, New Jersey. Snyder says he was pleased with the flexibility of the manufacturer and distributor reps who were able to fine-tune some of the features he deemed important to his crew's needs.

Snyder says PARSA's new Vac-Con Model V312/1500 dual-engine combination truck is the perfect complement to the 2001 Vac-Con rig used by its operators for nearly two decades. One of the key specifications was sufficient power to overcome the hilly terrain that crews often face when working on the interceptor lines. They also specified an independent power source for the water pump. The new Vac-Con V312/1500 delivered to PARSA in January is built on a Kenworth T800 chassis and powered by a 510 hp Paccar diesel, more than doubling the horsepower of the

primary power plant in the older Vac-Con V316/1500 already used by the PARSA crews.

The Paccar power plant impressed even Brett Gerard, the owner of Peirce-Eagle who says, "That's one of the highest horsepower units I've ever seen."

The truck has a 12-cubic-yard debris capacity and a three-stage vacuum compressor powered by the Paccar engine. Gerard says the added power of the primary power plant gives the vacuum unit more power to clean the interceptor lines and pump station wet wells that are designed to intercept and hold debris passing through the pipes.

The truck's jetting system is outfitted with an 80 gpm, 20,000 psi water pump powered by a 6-cylinder, 174 hp John Deere engine and draws water from a 1,500-gallon tank.

The 2001 vacuum truck – a Model V316/1500 – will remain in service alongside the new rig, Snyder says. That will allow PARSA crews to tackle the new maintenance contracts without interfer-



Assistant Operations Manager Bob Snyder (above) says the authority's efforts have helped reduce annual flows by 330 million gallons and eliminated sanitary sewer overflows.



ing with the organization's system of maintaining and repairing the interceptor line. He says having two trucks in the fleet also gives PARSA a backup plan if one of its trucks needs service or repairs. The proximity of Peirce-Eagle makes it easier and quicker to get service for the Vac-Con trucks, but having at least one of the vehicles available at all times will make it easier for PARSA crews to deal with emergencies that arise.

INSTANT GROWTH

Snyder originally expected gradual growth of the new maintenance agreements that would allow him to implement his plan in stages, particularly by hiring new employees one at a time and getting them trained and ready to take over key roles before the retirement wave begins to swell. What happened instead is that six of PARSA's eight members decided to sign up for maintenance agreements right away, prompting Snyder to hire two new operators this year instead of just one.

The two towns that haven't contracted for the maintenance services are the larger systems in the PARSA network and have had the resources to develop their own preventive work plans.

Because most of the systems are in small communities, their budgets and staffing are limited, Snyder says, so the local collections systems received little preventive maintenance. Repairs and cleaning were generally done in reaction to sewer line failures.

"They were more reactive as opposed to a preventive approach to maintenance," Snyder says.

services have also proven popular because the individual systems are facing the same hiring challenges as the interceptor operator.

To prepare for the expansion of services, Snyder proposed using the contract revenues to hire new employees who lacked experience but demonstrated potential. This is allowing PARSA to hire operators before the wave of retirement crests and get the replacements trained by the experienced operators.

Without the revenues generated by the new optional services offered to member communities, Snyder says PARSA would not have the flexibility to phase in the new employees who will work on the PARSA system as well as the individual community systems. He says he is now able to anticipate vacancies and prepare new hands to step up and fill the shoes of the departing operators.

That is even proving true on PARSA's two vacuum trucks. Although normal staffing will call for two operators on each truck, Snyder says they now have new recruits rounding out three-man teams so they can learn the operations of the trucks without impeding the stepped-up schedule of maintenance and repairs.

Snyder says the PARSA staff has accepted the challenge of finding and training the additional personnel, and the crews have done well with addressing the additional work generated by the contracted maintenance. The plan established a five-year cycle with PARSA crews cleaning 20 percent of a member's sewer lines each year. By late spring, the crews had completed the maintenance of two members' sewer lines and were close to completing a third. ■

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HOLDEN INDUSTRIES



VAC-CON
MORE POWER TO YOU

Bob Connell, general manager of U.S. Municipal & Supply, uses demonstrations of Vac-Con equipment to show customers the efficiency and safety of their products.

THE RIGHT FIT

Vac-Con dealer matches machines to customer applications

BY SARAH UMHOEFER | PHOTOS BY JOSEPH KACZMAREK



Product diversity is the difference maker for U.S. Municipal of Pennsylvania, according to general sales manager Bob Connell. That's one of the biggest reasons he likes Vac-Con.

"We go through the process with a customer to find out what their actual application is — what are they trying to accomplish, what are some of their trouble areas, what are they using now — and then we match them with what would be the best for that application," he says.

U.S. Municipal goes the extra length to show customers how a Vac-Con unit can make their lives easier. Take, for example, a utility contractor who had been using a backhoe and three workers for water services. "They would probably do about four a day," says Connell. "We brought in a hydroexcavator and did a daylong demonstration for them. We ended up doing nine services compared to his four in one day, so it showed how much more efficient utilizing that piece of equipment was."

That contractor changed his business philosophy on the spot. "He put a machine on site, and has been using it ever since."

And Connell says the pros of incorporating a Vac-Con unit

Below, the employees of U.S. Municipal & Supply pose at their offices. Right, service manager Dennis Buseck works on a Vac-Con truck. Bottom right, Connell discusses the day with employees. For Connell, finding innovative solutions to unique problems is the best part of being a Vac-Con dealer.



“AFTER THE SALE, WE GIVE [THE CUSTOMER] A FULL DAY OF TRAINING. WE PREP THE MACHINE, GET IT READY AND THEN DELIVER IT WITH A TRAINED MECHANIC AS WELL AS THE SALESMAN ON SITE.”

Bob Connell

have gone beyond efficiency. “It’s also a lot safer, it’s cleaner, you don’t have as much of an open area, and you’re not breaking up the street as much. There are a lot of different benefits.”

CUSTOMER AND EMPLOYEE EDUCATION

Specialized equipment, training and hands-on experience come as a package deal for U.S. Municipal customers.

“We usually will have done a demonstration with a customer’s guys beforehand to get the sale, so they have an idea of the equipment,” Connell says. “After the sale, we give them a full day of training. We prep the machine, get it ready and then deliver it with a trained mechanic as well as the salesman on site.”

A lot of times, there will be a Vac-Con representative on site too, according to Connell. “We go through safety, go through the operation, and go through the maintenance. And then in the afternoon, we’ll run the machine with the guys.”

To provide the best training for its customers, U.S. Municipal works closely with Vac-Con to keep its employees’ education up to date. “We work very closely with Vac-Con on all sides — sales, service and parts,” says Connell, adding that he sends employees to Vac-Con’s annual meeting. “They get to see the factory, go over any new innovations they have, see how they’re resolving current issues and moving forward.”

There’s a good training program in place for U.S. Municipal’s mechanics, too. “This year we’re sending four guys down

at two different times for service training at the factory. We have a close relationship with Vac-Con. Whenever we need troubleshooting, we’re on the phone with them as needed.”

VERSATILITY LEADS TO INNOVATION

With a little creativity, you can find new applications for a versatile piece of equipment. One of U.S. Municipal’s customers did just that with their Vac-Con unit.

“One of our townships had a line break in the middle of the night, and they had their Vac-Con out there,” says Connell. “They have a pump-off system on the back, so they put a line in the hole, sucked out the water as it was flowing, ran a hose 200 yards to the next line, and turned on the pump-off system. They were able to do the work just using the Vac-Con to bypass the water flow.

“They didn’t have time to go get a pump, but they had the Vac-Con there.”

For Connell, finding innovative solutions to unique problems is the highlight of being a Vac-Con dealer. “Every day is different. Working together as a partnership year in and year out, working through issues and helping to solve problems — that’s what makes being a Vac-Con dealer so great.” 🚧



Southern Directional
Vice President
Matt Calma (left)
and President Tina
Calma launched the
company in 1999
to fill a niche in the
construction industry.

Equipped to Adapt

Alabama contractor embraces new
equipment and new opportunities

By Pete Litterski

PHOTOS BY KAYLINN GILSTRAP

The name of Tina Calma's family business points south, but the key to the company's success has often been its ability to move in new directions when economic conditions and market demands shift.

Calma and her husband Matt, the founders and owners of Southern Directional in Alabaster, Alabama, decided to launch the company in 1999 after the sale of her brother's equipment rental business to a national chain. Tina had been a branch manager for her brother but was not retained by the new owners.

Instead of seeking a new job, Tina wanted to see if there was a niche to be filled in construction because she had worked in the industry her whole life. Matt, who had also worked in construction for years, joined Tina in the search for a business opportunity.

Tina, the president of Southern Directional, began talking to people familiar with the construction industry in northern Alabama as she tried to identify an area where there was potential for rapid

growth. Matt, the vice president of the family company, helped in the process while still working for an electrical contractor.

"Through some contacts, we started focusing on directional boring for fiber optics," she says. The Calmas could see there was a big demand for contractors to install the fiber optic lines that were the most effective pipeline for moving data, phone calls and more. The fiber optic networks that companies were building across the nation were needed to handle a massive increase in data use for the rapidly growing internet and communications industries, and in 1999 there was a flurry of fiber optic installation projects around Birmingham.

So they invested in some directional boring equipment, buying it from a vendor with whom they had a longtime relationship through the rental business.

That relationship proved important when their friend made

Southern Directional

Location: Alabaster, Ala.

Serves: Primary market is northern Alabama, but serves entire state plus some areas in Tennessee and Georgia.

Services: Underground utility construction, including directional drilling and open trench construction; waterline/main installation, repair, replacement; natural gas line installation, repair, replacement; electrical duct bank installation.

Vac-Con equipment: Three Vac-Con X-Cavator (two 2016 and one 2015) trucks on Freightliner 114 SD chassis. Equipped with 12-yard vacuum capacity, 1300-gallon water capacity.

Website: www.southerndirectional.com



Operator Christopher Grafe works in the field with the Vac-Con X-Cavator. The company has grown from a staff of three to about 90 employees.



them aware of a fiber optics company seeking contractors to install lines. Contracts with that company helped fuel a good start for Southern Directional. Initially, the crew included just three people: Tina and Matt along with Matt's father Gerald, who had retired after selling his pharmacy. The booming market kept the three of them busy with Matt taking the lead on learning the process of operating the directional drilling equipment while Tina focused on the business details. It is a division of labor that has worked well for the company as it expanded its services in underground construction.

FIBER OPTIC UNRAVELS

The need to expand and adapt came early for the Calmas. The lucrative fiber optics installation contracts went away two years after the company that hired Southern Directional was sold in 2001 to new owners who didn't honor the former owners' contracts. It was a setback, but not a fatal blow.

Tina says that in the first two years, she and Matt learned just

about every job in the directional boring trade and they were ready to branch out in new directions with those skills and the equipment they had invested in.

First, they started contracting with Birmingham area cities and developers to install waterlines without tearing up streets or worrying about the delays that traditional installations face from weather. After establishing Southern Directional as a competitor in waterline projects, the Calmas moved on to the installation and replacement of natural gas distribution lines.

Those new directions were precursors to a path that has taken Southern Directional from that original three-person staff to about 90 employees today, and it has branched into four primary services working with underground utilities, including the original directional drilling operation; waterline/main installation, replacement and repairs; natural gas distribution installation, replacement and repairs; and underground electrical duct bank installation. The company is also prepared to tackle a wide variety of underground construction projects beyond that basic list.

Southern Directional's solid track record in all lines of underground utility construction has resulted in a heavy demand for its services, a development that Tina says they have tried to address not only with added staff, but also with more efficient processes.

LOCATING A NEW DIRECTION

One of the biggest steps forward in recent years, Tina says, was a decision five years ago to find a better way to locate existing services before the company's crews start many of their under-



ground projects. Until a few years ago, Southern Directional would use two- to four-man crews manually digging and searching for existing utilities in the areas where the company was preparing to dig open trenches or do directional drilling. Since many of the company's projects are repair or replacement jobs, there are often a number of existing underground utilities already in the ground where the crews need to work. The failure to pinpoint the locations of those lines could lead to dangerous and costly breaches of existing utilities.

In the past, many projects involved Southern Directional crews manually digging holes and locating other services — a process that could take a full day or more. What the company's leaders found as they researched the problem was that many companies doing similar work were using hydroexcavation during the locating process. With hydroexcavation, they were able to quickly and safely locate and mark the utility cables and pipes they needed to avoid when excavation or drilling began. The water jets did not harm the existing lines and their use reduces the time required for location to an hour or two for a two-person crew.

When Southern Directional decided to adopt the process for locating services, it first invested in several trailer-mounted vacuum units. Company leaders were impressed with the new equipment's ability to reduce the time required to locate services and added several trailers to their fleet.

But Calma says the company soon learned that the trailer units lacked the capacities that Southern Directional employees often needed to make the most of the new efficiencies. That's when the company went shopping two years ago and decided the Vac-Con X-Cavator was the right equipment for their needs. Once they made that decision, they ordered three units in a short timespan, including a 2015 model and two 2016 models.

"It took us a little while to get to the point where we knew exactly the size of the machine that works for us," Tina says. But with the three trucks, the company is now moving ahead and making the most of its new equipment.

Southern Directional has a two-man crew attached to each

The team at Southern Directional includes (from left) division superintendents Bruce Smith and Drew Hopkins, operator Christopher Grafe, Vice President Matt Calma, President Tina Calma and project foreman Andrew Relfe.

truck and Tina says they keep busy, often working 10-hour days to keep all of the company's projects on schedule.

Calling hydroexcavation a great "damage prevention" process, Calma says the machines now play a key role in Southern Directional's operations. "We rely upon them heavily. Now we're talking minutes locating as opposed to hours spent on locating. It really allows us to do a larger volume of work."

The vac trucks' rapid rise to a key role in Southern Directional operations is not unusual in the company's two decades of operation. The Calmas have always focused on finding better ways to do the job and build the business.

HARD PUSH TO GROW

Back in 2001-03, as Tina sought ways to widen the scope of the family-owned business beyond the fiber optic installations, she was also committing a lot of her time to securing state and federal certifications that would help Southern Directional become competitive in securing government contracts.

Although she was still spending some time in the field with Matt and their employees when she was needed, most of her focus turned toward the business operation. "It was just a hard push to get our certifications and our general contractor's license."

As a result, Southern Directional holds the Small Business Association's Certified Woman Owned certification as well as designation as a Disadvantaged Business Enterprise by the State of Alabama. Southern Directional was certified under the SBA 8(a) program in 2012. The certifications give the company some competitive advantages in seeking government contracts as well as access to some direct contracts without competition. The certification programs can include provisions requiring ongoing participation in training, ensuring that the company keeps its employees abreast of the skills needed to compete in a shifting construction business.

Calma says Southern Directional continued along a path of growth that included not only expanding its primary lines of business, but in new directions, as well.

Along with its expansion into directional boring for water and gas lines, Calma says the company took a big step forward in 2003 when it contracted to build an electrical duct bank at the end of a runway extension at Birmingham-Shuttlesworth International Airport. Although it is the smallest of the business services that Southern Directional advertises, the construction of such duct banks and the associated underground cables remains a regular line of business for the company and Calma considers it a prime example of their willingness to learn and to move forward rather than become stagnant.

The company also offers open trench construction for underground utilities, particularly for water mains and individual waterlines. Tina says that the company's business is now split pretty evenly between open trench and directional boring installations.

Calma says the ability to work with either directional drilling or open trenches makes the company more attractive to many potential customers and helps it keep its employees busy in a territory that essentially includes all of Alabama and even occasional jobs in neighboring Tennessee and Georgia where Southern Directional is also certified as a disadvantaged company.

The president of the growing family business says that having that breadth of services is one of the keys to finding new directions for growth. ■

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HOLDEN INDUSTRIES



VAC-CON
MORE POWER TO YOU

The Tools to Live Well

El Dorado has equipped itself to keep its community clean and environmentally friendly

By **Giles Lambertson** | PHOTOS BY **DENNY MEDLEY**



oastal, urban residents might snicker at the official slogan of the Kansas city of El Dorado: “The Fine Art of Living Well.” They might think it’s pretentious for a small, landlocked rural city in flyover country to characterize itself that way. But in terms of water quality, environmental awareness and public facilities, the label fits pretty comfortably.

Much of the credit goes to the city’s water distribution and sewer maintenance department where El Dorado native Gary Taylor has worked for 31 years, the last 10 as superintendent. He knows the ins and outs of the city’s subterranean infrastructure, not to mention its valves, lift stations, manholes and hydrants. He has personally visited many of the system’s buried components over the years — more recently with the help of the hydroexcavation unit on the city’s Vac-Con combination sewer-cleaning truck.

“The truck’s usually running all the time. When the water distribution side of the department isn’t using the truck, the sewer maintenance side is,” Taylor says of the Vac-Con rig. The working end of the four-year-old unit is painted an official El Dorado shade of green, its tandem-axle Peterbilt cab and chassis dressed in white.

The department is responsible for 123 miles of water distribution mains and 91 miles of sewer collection lines, plus all the meters and valves, fire hydrants and manholes that serve them. Taylor has a crew of nine to keep tabs on all the effluent moving underground and to intervene when the subterranean flow slows or stops.

ADDRESSING PROBLEMS

Stoppages occur too frequently thanks to El Dorado’s aging pipes. Sewer lines on average have been in the ground about 75 years, and waterlines closer to 100 years. Lots of valves have been replaced over the decades and, in some cases, whole sections of pipe. In the last couple years, the city laid new PVC sewer pipe in the southwest section of town, replacing 2 or 3 miles of undersized vitreous clay pipe, some of it through pipe bursting.

“We’d like to replace all of the old leaking pipe,” says Taylor. “We have a lot of infiltration and inflow in those lines. When the ground gets saturated from rain-





City of El Dorado, Kansas,
Water Department
Superintendent Gary Taylor
says their four-year-old Vac-
Con truck is usually running
all the time.

City of El Dorado, Kansas

Service area: 8.9 square miles

Population: 13,000 city residents, 45,000 county residents, density 1,894 people per square mile

Infrastructure: 91 miles of sewer collection pipeline, 123 miles of water mains

Annual Budget: Water Distribution Budget - \$787,225, Sewer Collection Budget - \$238,740

Employees: 10 full time, 1 part time

Website: www.eldoks.com/27/City-Government

storms, the lines take on a lot of water. But because of budget restraints, we really just take care of problem areas.”

A recurring problem is the intrusion of tree roots. The woody tentacles enter the pipes through cracks or joints and filter the material moving through the pipe before stopping the flow altogether. In 2014, the city acquired the Vac-Con unit, which came outfitted with a Vaporooter injection system that fills targeted pipes with dual-chemical foam the consistency of shaving cream. One chemical destroys the roots on contact and the second one adheres to the inside of the pipe as a film that blocks root re-entry.

“The Vac-Con Vaporooter option has proved to be a tremendous benefit,” Taylor says. “We’ve been using it for four years and the number of sewer blockages has dramatically dropped. That tells us that a primary cause of blockages is tree roots and when we can stop that, it buys us some time. The Vaporooter is arresting the deterioration of the pipes.”

El Dorado also ordered the truck with a Vanguard antibacterial and antimicrobial washdown system, which is a boon to operator safety. Using the system, the operator can wash down any tainted tool or hose that has been immersed in sewage or stormwater. Taylor’s crews routinely wash off their boots and disinfect everything at the end of a project.

LEADING THE FLEET

In the water and sewer department’s equipment yard are a range of responses to underground challenges, including three John Deere backhoes and a compact excavator. A John Deere skid-steer is the go-to cleanup tool after a dig. A Vermeer direc-

tional drill handles understreet work. Several dump and panel units comprise the truck fleet and a trailer-mounted Ditch Witch vac unit is used in tight situations.

But the Vac-Con combo truck is the piece of equipment that rolls out of the yard daily. Its 11-yard debris body handles most projects, as does its 1,300-gallon water tank. The truck’s three-stage vacuum unit is a major upgrade from a previous vac truck of a different brand. “It has a lot more suction power,” Taylor says of the Vac-Con.

The truck also is quieter to work around because it is a dual-engine combo unit. The auxiliary engine drives the water pump, so the vacuum and water systems can be run independently of one another. Consequently, while lines are flushed using the auxiliary engine, the main chassis engine can idle. “It’s quieter,” Taylor says. “You don’t have to run the main motor to move water. You can do it running off the auxiliary motor and it’s definitely quieter.”

In addition to quiet operation, neither of the truck’s two engines are fueled by gasoline or diesel. The city is methodically



El Dorado Water Department employees (from left) Barry Brown, Dave Windle, Allen Stalnaker, Gary Taylor, Kevin King and Chase Holton. Three city water crews and two sewer crews share the Vac-Con truck painted with the official shade of El Dorado green.

switching over its fleet to compressed natural gas. The Vac-Con combination truck was Kansas' first CNG-fueled sewer-cleaning vehicle. The city also was the first in the state to order a natural gas-fueled street sweeper and a trash-recycle collection truck. The goal is to have a quarter of the city's fleet running on 130-octane CNG by the end of this year.

The switchover lowers the city fleet's carbon emissions, but also reduces fuel costs. The cost of CNG is about half that of gasoline. City officials believe that the payback on converting old equipment and ordering new natural gas vehicles is no longer than four years. The city's public works department designed its own CNG fueling station, which opened in 2014. When the Vac-Con truck rolls in for a refill, its tanks can hold the equivalent of 60 gallons of diesel fuel. Vac-Con offers the CNG option for its single-engine and dual-engine combination trucks specifically to help localities meet air-quality standards.

Three city water crews and two sewer crews share the Vac-Con truck. The employees are cross-trained so they can fill in as needed for big water or sewer projects. Other than the biggest jobs, the crews perform the bulk of repair work in both water and sewer systems. An ongoing effort to rehabilitate 1,800 manholes to reduce I&I is contracted out. Roughly one-third of the access facilities have been overhauled and regouted to date.



"There are so many uses for the Vac-Con truck on the water side," Taylor says, adding that hydroexcavation accounts for half of the truck's use in water distribution work. Depending on the time of year, the truck is employed in service emergencies, or to search for leaks, or in replacement of hydrants or valves.

The Vac-Con combo truck's hydroexcavation unit also is called upon to keep an eye on water mains running between the reservoir and the city, which are 2 miles apart, as well as lines connecting the city water supply to the HollyFrontier crude oil refinery on the outskirts of town. The facility has a production capacity of 135,000 barrels a day and El Dorado supplies the refinery with 445 mgd of water.

LIVING WELL

El Dorado's switch to compressed natural gas for its Vac-Con truck and other vehicles reflects the community's environmental awareness and initiative, as does the town's commitment to providing high-quality water to its residents.

El Dorado supplies most of Butler County's 45,000 residents with potable water from El Dorado Lake, an 8,400-acre U.S. Army Corps of Engineers reservoir. Because almost 90 percent of the lake's watershed is native tallgrass prairie land with the Walnut Creek flowing through it, the treated water is notably drinkable. In 1986, the American Water Works Association named El Dorado's water the best in Kansas. In 2016, the community entered the competition again and was rewarded with its second water award.

The city doesn't just benefit from its natural habitat. It is actively challenging conventional thinking to keep things clean. Eleven years ago, it tried something different in construction of a new wastewater treatment facility. Resisting an EPA directive to build a plant big enough to handle treatment during a megaflooding event in which 15 mgd or more of runoff would flood the facility (normal daily flow is about 2 mgd) the city won approval for a smaller treatment facility that works in conjunction



At left, operator Allen Stalnaker uses the spray wand to create slurry for the truck to extract. Above: foreman Dave Windle runs the controls on the Vac-Con truck.

with wetlands. Specifically, adjacent to the plant, the city constructed a 25-acre wetlands area that naturally filters overflow after storms.

The innovative project won the 2008 national project of the year award from the

American Public Works Association. "Going the wetlands route saved us millions of dollars," says Kurt Bookout, El Dorado's director of public utilities. "It does a tremendous job for us."

In addition, the wastewater treatment plant was declared the best in the state. "When you win, you sit out for two years to become eligible again. Over the last 10 years, we have won every year we have been eligible. That's pretty remarkable," says Bookout. "It goes back to everyone taking pride in what they are doing." Other community water and sewer departments regularly tour the facility to see how El Dorado does it.

Taylor keeps his crews hopping to monitor all of these lines and hydroexcavate them when necessary for a closer look. Running state-of-the-art equipment like the shiny green-and-white Vac-Con combo truck is part of his plan to satisfy both his customers and his employees.

"We like to think of ourselves as professionals," Taylor says. "We keep things clean and looking good and equipment is taken care of. When things look good, people assume things are running well. And I think that's accurate." ■



Bill Kerr (left) and Clark Kerr say the durability of the Vac-Con products is key to customer satisfaction.

SMALL BUT MIGHTY

Dedicated customer service leads to steady growth for Oklahoma dealer

BY SARAH UMHOEFER | PHOTOS BY RYAN WEST

Frontier Equipment Sales of El Reno, Oklahoma, may only sell a handful of Vac-Cons a year, but it controls half the territory's market thanks to strong customer service and a durable product, owner Clark Kerr says.

"That's what Vac-Con does really well: durability. Their products can survive operators who are still learning or are maybe careless to some degree," says owner Clark Kerr. "And the simplicity of their machines make it easy to diagnose issues. Vac-Con keeps it simple and straight forward."

Frontier's customer base comprises the state of Oklahoma. "We have a small territory. There are only three to five combination units sold in the state per year, and we get about two to three of them," he says. "It's a small market, and it varies based on wherever oil prices are."

Although the economy is impacted by this unpredictable variable, Frontier sees steady growth. "Every year we grow about 5, 6, 7 percent, and eventually our service will need to expand. Right now we only have one 30-foot by 60-foot service bay, but



it fits our needs perfectly. And where we're located, we have room to expand when we need to," Kerr says.

Frontier Equipment Sales' Austin Hoover works on a Vac-Con truck.

PURSUING VAC-CON

Kerr's father founded Frontier Equipment Sales in 1986, selling saw blades and used equipment. "About four years after he started Frontier, I was old enough to help him out and repair the equipment that he sold. That was my first endeavor into the equipment business."

When Kerr purchased the company in 2011, Vac-Con already had a dealer for the Oklahoma territory, but that didn't stop Kerr from pursuing the line.

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Below: The team from Frontier Equipment Sales includes, from left, Austin Hoover, Bob Stavino, Hayley McImore, Bill Kerr, Clark Kerr, Tera Kerr and Casey Kerr. Right: Clark Kerr eyes up a Vac-Con truck in the company shop. His in-person training visits with customers not only create strong relationships, but also increases satisfaction with Vac-Con equipment.



“I’VE REPPED A WHOLE BUNCH OF DIFFERENT LINES OF EQUIPMENT OVER THE YEARS, AND HERE’S ONLY A SELECT FEW THAT ARE REALLY GOOD COMPANIES THAT STAND BEHIND THEIR PRODUCT. **VAC-CON IS ONE OF THOSE.”**

Clark Kerr

“I worked and worked trying to get the Vac-Con line. We took the second-best line we could find, but I still kept after Vac-Con. Every time we went to a trade show I’d find Darrell LeSage and I’d find Todd (Masley), and I guess I finally just wore them down.”

Throughout the process, Vac-Con’s loyalty to their dealers struck Kerr.

“What impressed me about them was their reluctance to move away from a dealer. That meant a lot to me as a future dealer, that they would stick with you and help if you have a downturn in your economy, and they wouldn’t go out and look for somebody else.”

PRIORITIZING EDUCATION

Educating customers is worth the time and money investment, Kerr says. “If a customer needs training on a piece of equipment they bought from us, they can set up a time and we’ll get someone out there. Most of the time it’s me; I love getting out and doing that. I’d rather go out and work with a guy for a day and show him the do’s, don’ts, and get him started on the right foot so he’ll have better success with the equipment rather than talk to him over the phone. That usually doesn’t do much.”

The investment pays dividends in the long run. “It costs a lot of money and takes time, but two things happen: It builds trust, and then the customer is going to like the machine better since the person operating it is going to know how to run it.

“When a customer buys from us, we’re a team; we’re family. When their machine breaks down, it’s our machine broken down, as well. That’s the way we look at it.”

CONSISTENCY IS KEY

Vac-Con and Frontier consistently go the extra mile to take care of customers.

“There isn’t any one instance that stands out above the rest, but more of a series of smaller opportunities to go above and beyond the call of duty,” Kerr says, citing one contractor just starting out that they worked with as an example.

“He had bought a used hydroexcavator and just had heck with it — couldn’t get service, just didn’t like it — so he bought one from us. Well, about four years in the hydrostatic pump went out on the unit, and it’s a very expensive part. We diagnosed it and told him what was going on, and after we gave him a price he said, ‘Clark, I just don’t have the money in my budget for that right now. I don’t know what I’m going to do.’”

Cue Vac-Con to go the extra mile. Kerr called Brad Zangla in the Vac-Con parts department and explained the situation and that this was a loyal customer who wanted to keep doing business with Frontier. “I gave Brad the whole story. Oklahoma’s economy is driven by oil, and at the time the oil had dropped down in price so the work had dried up. The contractor said he had work for the hydroexcavator, but he didn’t have the money upfront to fix the machine.”

One hour later Zangla called back with good news: He found a rebuilt motor for the contractor, at a significantly lower cost. “He didn’t have to do that. Most of the time manufacturers will give you a price and then go on to the next guy. Well, Brad’s a real guy and he understood how important it was to get this contractor back up, so he found a solution.

“The neat thing is Vac-Con is filled with people just like that — quality, solid people, and that’s what I really enjoy about working with Vac-Con,” he says. “I’ve repped a whole bunch of different lines of equipment over the years, and there’s only a select few that are really good companies that stand behind their product. Vac-con is one of those.”

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Buena Park Public Works' Sewer Services department uses a single-axle truck with a hydroexcavation kit and CCTV onboard.



Perfection in a Small Package

California utility bolsters its capabilities with a custom-made combination truck

By Jared Raney | PHOTOS BY COLLIN CHAPPELLE

W

hen a customized rig can knock six months off your cleaning schedule, you know you picked the right truck. A cleaning crew in a high-density community with small streets in Southern California recently did just that.

Buena Park, California, is a notoriously difficult area to perform cleaning work in, especially with the large rigs typical to the industry. So when the utility started looking for a new truck in 2011, sewer system supervisor Frank Moore wasn't just looking for a great truck, he was looking for the ideal truck for his system. And he found it: an unusual single-axle truck with a hydroexcavation kit and an extra hose reel for a mainline camera.

This new rig cut the cleaning schedule down from two years to 1.5, in addition to saving the city money by providing inspection and hydroexcavation services that had typically been hired out.

SMALL CITY, SMALL TRUCK

Buena Park is a small city compared to its Southern California neighbors, but with a population of 80,000 and a small land area, it is population dense. When looking at new trucks, one of the sewer department's primary requirements was a single-axle unit that could navigate the city's close quarters.

Usually that would mean a lot of sacrifices, but Vac-Con was able to deliver the same performance as a double-axle while only losing 2 cubic yards on the debris body to stay within weight requirements.

"Being a small city with a lot of small streets, we needed something that would operate the same and do what we needed it to do as far as a bigger truck was concerned," Moore says. "They said, 'Yeah, we can build that truck for you.'"

“It’ll only take 10 minutes for my guys to grab the camera, and boom — there you have your issue. Then they know what nozzle to put on to take care of it at that moment. It saves time and money.”

FRANK MOORE



Above: Rene Villalobos prepares the CCTV camera for insertion in a sewer line for a routine inspection. At left: Rene Villalobos (right) works alongside Andie Zetina as they operate Buena Park's CCTV camera.



People tend to be enticed by more system strength and cleaning power, but though they could have gone with a stronger, higher-flow option, Moore says his crew gets the same quality of cleaning with the smaller 30 to 50 gpm unit while also conserving water — a major plus in drought-prone California.

The unit also uses a fan system for vacuum, which many consider a weaker alternative to positive displacement blowers, but Moore says it has never been a problem.

“We have a stormwater lift station that’s 27 feet deep, and we clean that once a year. We’ve never had an issue with the lift and pull of the fan system at that depth,” Moore says. “It performed like a champ.”

And they got more than cleaning performance, further customizing the unit with add-ons that increased its versatility.

“We added a few things to it, which makes it kind of a unique truck for us. We had a mainline camera installed on it, so we actually have an extra reel above our main hose reel where we can attach a mainline camera.”

INSPECTION ON THE FLY

The Buena Park system is on a five-year inspection cycle,

with outside contractors handling all the work. Because of that, when the cleaning crew ran into a blockage or an unknown in the line, they would have to wait hours or potentially days for an outside crew to come in and run a camera through the line.

Now, with a mainline camera reel on their cleaning truck, the cleaning crew can inspect any day-to-day problems that crop up.

“You’re literally doing it right off the front of your truck. You have no downtime or anything,” Moore says. “Without it, we’d probably have to wait a whole day to get a contractor out, and that’s going to cost quite a bit of money.”

“It’ll only take 10 minutes for my guys to grab the camera, and boom — there you have your issue. Then they know what nozzle to put on to take care of it at that moment. It saves time and money.”

The city has had CCTV crews in the past and plans to add one in the near future, but even waiting for an in-house crew can take time. Avoiding downtime is how they were able to shave six months off their schedule.

But the truck doesn’t just benefit the cleaning crew. “Another unique factor I think on our truck is we have a hydroexcavation kit set up on it,” Moore says.

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Clockwise from left: Buena Park Senior Sewer Services technician Andie Zetina operates the department's Vac-Con V390LHA-O for a routine sewer maintenance inspection. The custom truck has never had a major mechanical issue in its eight years of service. Below, Sewer Services Supervisor Frank Moore says the reliable truck eliminates downtime for the three-man crew.



ADDED VALUE

The new truck's capabilities go beyond cleaning and inspection. Buena Park does most of its construction and system work in-house, and having a hydroexcavator available has saved the city potentially hundreds of thousands of dollars.

There are limits to what the small auxiliary package can do, but the city has had at least one job that exemplifies the system's potential.

"While it's not a full-blown hydroexcavation Vac-Con, it's still a 3,000 psi, high-pressure system that we can use to go out and trench," Moore says.

One job entailed 650 feet of trench, 2 feet wide and 5 feet deep, all done with the Vac-Con's hydroexcavation kit.

Moore estimates that job alone probably saved the city over \$100,000.

"With that truck it took us, oh, two days to do that trench, to lay our new pipe. Which was pretty phenomenal," Moore says. "It's just knowing how to operate and kind of be one with your machine, basically."

THE RIGHT FIT

It's a time of cutbacks and budget crunching for many municipalities, and a new vacuum truck is a big expense.

"You still have to maintain that same quality of work and same amount of work, and sometimes even more," Moore says. "Other utilities here in California, for our size, they would probably have two trucks, and a crew of six or seven guys."

Finding the right truck is essential, and Moore recommends being picky about what's best for the situation. For Buena Park's three-man crew, eliminating downtime was key, which is why they chose a reliable truck with fewer moving parts and great support.


"There are some trucks that have a lot more moving parts, where this one doesn't," says Moore. "And I think that's part of it. So your downtime is kept to a minimum, and you're able to have that truck out there in the field more often. You don't have to worry about it breaking down as much."

Despite going on eight years with the truck, Buena Park has never had a major mechanical issue. The city has its own fleet-maintenance department, and the truck's simplicity makes it easy for them to handle issues that crop up.

"If we ever had any questions dealing with Vac-Con themselves, we always got excellent service," Moore says. "That's kind of hard to find sometimes, nowadays, but the customer service end of it to me was a big selling point."

By taking advantage of the customizable options that Vac-Con offers, Moore and his crew are able to make the most out of the smaller truck.

"We have a goal of 34,000 feet of pipe cleaned per month," he says. "We easily meet that, and most of the time we exceed that. I think that all falls back on having a good piece of equipment you can rely on, like our Vac-Con truck."

"I've used every truck that's out there. There's not a doubt in my mind that we made the right choices when it came to our truck." 

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