



# Las Virgenes Municipal Water District

## Tackling a Challenging Environment with the Neptune® R900® System.

Located less than an hour north of Los Angeles, the Las Virgenes Municipal Water District (LVMWD) is home to a wide array of different environments. From sprawling suburban communities to steep mountains and canyons that stretch all the way to the Pacific Coast Highway, the District provides water and wastewater services to a 122 square mile service area that includes the City of Agoura Hills, City of Hidden Hills, City of Calabasas, and the City of Westlake Village.

### LAS VIRGENES' UNIQUE CHALLENGES

According to Craig Jones, Resource Conservation Manager for the District, their extremely rugged terrain posed a significant challenge for meter reading. As the District began planning for a new meter reading system, it was critical to find a solution that could overcome their topographical complexities. One example was an area known as Box Canyon, where the District was "...ready to put up a separate network site based on its geographical location, anticipating that it would be a challenge," according to Jones.

With extreme drought conditions a common occurrence, and an executive order to mitigate ongoing water supply challenges, water conservation has become way of life in California. As a water agency, LVMWD is responsible for every drop of water that comes into and out of their system, and they have an obligation to help drive the state's conservation efforts. The District was an early adopter of a budget based rate structure in 2015, providing customers with an indoor and outdoor water budget unique to each customer based on square footage of irrigated area and other variables. The District had aging meter inventory and was eager to implement a fail safe AMI (Advanced Metering Infrastructure) state-of-the-art metering solution, with the ability to automate the meter reading process and share



### CUSTOMER

Las Virgenes Municipal Water District, Las Virgenes, California

### SERVICE TERRITORY

The District provides water and wastewater services to a 122 square mile service area

### SOLUTION BENEFITS

Highly accurate meter reading supports budget-based rate system and tight timeframes

Achieve 98% AMI network coverage regardless of terrain

Spend much less time in the field, freed up for other duties

Offer high-quality, cost-effective, environmentally-sensitive water service



## Water Budgets

83% within water budget in Period 2023-07

Compared to previous period ▲ **4.8%**

Compared to one year ago ▲ **9.8%**

% ACCOUNTS WITHIN WATER BUDGET



consumption data between their staff and make it public facing to their customers.

“We have a budget-based rate system, and the bill is calculated by the number of days in the actual reading period, so tight and consistent reading timeframes were a big deal for us,” Jones shared. “Before implementing AMI, customers would call after they received a high water bill and wonder what was going on, and we were limited in our ability to provide the customer their water use information without near real time data and better understanding if there was a leak and for how long?”

In addition to the District’s service area and regulatory challenges, their previous AMR system was unable to deliver the operational efficiency and customer service benefits they were looking for. By 2020, the District decided to pursue a new metering solution from a new partner, and they were under “...quite a bit of pressure to deliver and deliver well,” Jones recalls.

By the time the decision to move forward had been made, the Coronavirus Pandemic had shut everything down, adding an extra level of complexity to the project.

## FINDING THE RIGHT SYSTEM SOLUTION

As LVMWD began looking for a solution, Neptune was quickly identified as a strong candidate. Neptune’s long history and reputation for proven results made Jones and the District feel optimistic that Neptune would design the right solution for their specific challenges.

After consulting with LVMWD and discussing their long-term goals, Neptune recommended the R900® System, powered by LoRaWAN® technology. LoRaWAN is a global standard managed by the LoRa Alliance with a focus on long-range wireless connectivity, power efficiency, and lengthy device lifecycles. By utilizing LoRaWAN technology in this instance, Neptune’s AMI solution could achieve robust performance in an environment that would be challenging for traditional AMI networks.

Initially, LVMWD did not expect total network coverage due to their geographic challenges. However, Jones reports achieving approximately 97-98% coverage.

Jones had managed an AMI project prior to working with LVMWD that utilized a different network configuration. “In my previous AMI project experience with a different system, a landscape wall or some obstacle could have caused an impedance,” he said. “With the Neptune System, it just seems to overcome those obstacles. For our district and its geographical terrain, it’s pretty incredible.”

With the implementation of Neptune's LoRaWAN-based solution, even the anticipated challenges with the Box Canyon region were nonexistent. According to Jones, every single meter in the area is being read without the need for additional infrastructure. "It's been an amazing System that can clearly accomplish what it claims it can do," Jones added.

#### UNPRECEDENTED CUSTOMER SERVICE IMPROVEMENTS

Neptune's R900 System also allowed LVMWD to step into a new era of water metering.

"The ability to achieve that high reading rate and that overall high percentage network coverage really frees up our staff up to do other duties – less time in the field burning up gas and being able to realign our efforts in the field – to fit more with our goals of becoming more efficient," Jones said. "So really a game changer when it comes to the traditional meter reading and the time spent in follow-up in the field."

LVMWD experienced customer service improvements as well, which included the implementation of a consumer portal that provided LVMWD's customers with easy access to their water usage information, along with the ability to set water conservation goals and usage alerts. According to Jones, the District observed a large increase in water conservation from consumers who signed up for the portal, furthering LVMWD's mission to preserve and steward California's most precious natural resource.

"The Neptune System helped us make a paradigm shift in our customer service capabilities", he said. "With the implementation of the Neptune metering system we are leaps and bounds beyond those days of the big black box and have seen incredible efficiency increase in customer service."

#### A TRUE PARTNERSHIP

Neptune worked diligently alongside local implementation partner, Ferguson, to ensure that LVMWD's AMI project was a success from start to finish. Despite the many challenges presented by their topography, in addition to having to deploy an AMI system during a pandemic, Neptune's expertise and American-made products helped ensure the project's timely success.

Neptune's high standards for project execution, product quality, and support, were critical for LVMWD.

"Everyone at Neptune is easy to work with, they communicate well, and there was always an expectation during the project that we were the priority," he said. "I think that led to a great success story across the board with Neptune."



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