

Case Study: Sacramento Area Sewer District (SASD) Conducts Proactive Tests To Assure Smooth Technology Upgrade Path for Sewer Monitoring

The [Sacramento Area Sewer District \(SASD\)](#) is California's second largest sewage collection utility, serving over 1.6 million people, encompassing 3360 square miles (932 sq km), 5,200 miles (8369 km) of sewer pipes, 117 pump stations, and over 700 sewer staff members. As part of SASD's commitment to subscribers and other stakeholders, the district has historically taken a proactive stance toward the use of advanced technologies to monitor and manage the sewer infrastructure for optimal efficiency, controlling costs, and protecting the environment.

For example, SASD is invested in remote monitoring systems from ADS Environmental Services® (ADS), which include over 80 [TRITON+® flow monitoring units](#), 20 [ECHO™ monitors](#), and several [RainAlert®III™ systems](#). SASD internal engineers use the ADS systems for Infiltration and Inflow (I/I) analysis, model calibration/capacity planning, and data QA/QC to create work orders. The SASD operations staff also use the monitors for Sanitary Sewer Overflow (SSO) prevention.



Although the ADS units have delivered excellent results, near real-time data, and robust performance for more than 10 years, as part of SASD's forward-looking planning over the long term, the district's management is continuously staying abreast of new technologies to assure optimal value, avoid risk of component supply chain disruptions, and to take advantage of improved features and performance opportunities. With monitoring technologies continually evolving, it is important to understand new options both from a capabilities perspective and smooth compatibility.

According to Dave Pitts, Supervising Engineering Technician, "In our first attempt to test one of the new ADS AV|MAX™ sensors, we were happy to see that the low-profile chassis of the new ADS AV|MAX was very similar in size to the older Peak Combo™ sensors we have been using for the last 10-12 years. We have found the ADS low-profile design in these sensors allows for the flow to move around it without collecting debris on it over the length of its service. We also noticed the robust features added with the recessed eyes on the AV|MAX sensor nose and top that will help minimize impact from floating debris making contact on the sensor as the flow goes over it."

Side-by-Side Testing Was Key for Transition Planning

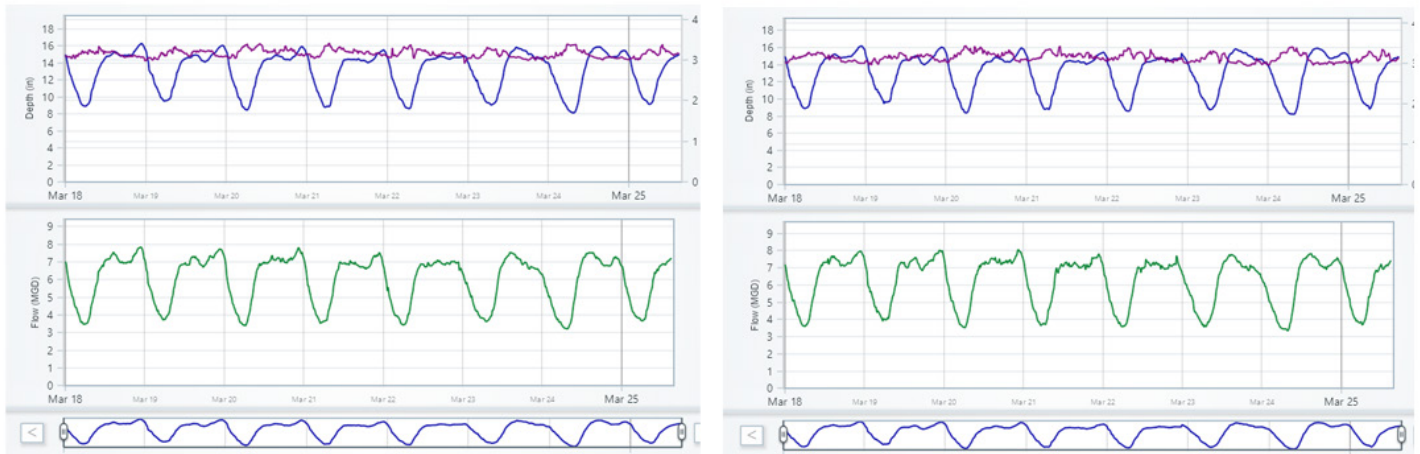
Introduced in October 2022, the [AV|MAX™ area velocity sensor](#) is the newest member of the ADS Flow Monitoring Sensor family. Designed to work with TRITON+® monitors, the AV|MAX is a wetted sensor that is installed directly in the pipe flow to provide consistent, high quality data collection capability.

AV|MAX measures four key parameters:

- Depth – using ultrasonic “UpDepth”
- Depth – pressure
- Velocity – continuous wave ultrasonic Doppler
- Water temperature

For the first field test, SASD installed both a Peak Combo and AV|MAX sensor on a stainless-steel ring, side by side, in a 54” (1.37 m) gravity mainline. According to Dave Pitts, “We couldn’t have been happier with our results as the new Peak Combo, and AV|MAX have worked flawlessly in this application as the data confirms. Our confidence in the new AV|MAX design and performance looks very promising moving forward and using these new sensors will be a seamless upgrade as our older Peak Combo sensors need to be replaced as they reach their “end of life expectancy” over the next few years.”

As shown below in a comparison using ADS PRISM™ software, which was also part of the upgrade, the testing confirmed that data was fully compatible and a seamless and hassle-free transition to AV|MAX was possible.




Simultaneous data from ADS model Peak Combo™ and AV|MAX™ installed side-by-side in the same pipe.

Summary


The proactive, side-by-side testing conducted by Sacramento Area Sewer District was a critical step for SASD to understand options for guiding their continual planning for taking advantage of the latest technologies, while minimizing any disruptions or unnecessary changes to their established processes and systems.

As described by SASD’s Dave Pitts, “Over the last 18 years, SacSewer has developed a successful relationship with ADS Environmental Services. ADS has made themselves available for technical support and provided consistent competitive pricing giving SacSewer a level of confidence and feeling of collaboration with them in the field of flow monitoring.”

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