Trimble

CASE STUDY

Capitalizing on Flow Monitoring with Trimble Raven Eye™

Background

The Des Moines Wastewater Reclamation Authority (WRA) is the regional wastewater facility for the Des Moines metro area, providing water services to 18 metro area municipalities, counties, and sewer districts in the Des Moines area. WRA is an award-winning clean water agency, having received the National Association of Clean Water Agencies (NACWA) Peak Performance Silver Award ten consecutive times.

WRA has 110 flow meters placed throughout the metro area to assist in monitoring flows within the city's water infrastructure network. They also use these flow meters to determine each community's share of WRA expenses depending on the flows from different sections of the city.

Flow monitoring data is instrumental in tracking the inflow/infiltration that comes from each community. The data collected is used to implement plans for reducing extraneous flows and informs various aspects of community development such as master planning and strategic planning initiatives for future growth.

DES MOINES METROPOLITAN
WASTEWATER RECLAMATION AUTHORITY

WRA By the Numbers

- Serve a population of nearly **500,000 people**
- Treat an average of **57.8 million gallons** of wastewater per day
- Treat over **21,100 load**s of commercial and industrial hauled waste from 90 different customers
- Produce over **81,000 wet tons** of biosolids for application on surrounding agricultural land
- Inject **104,218 MMBTU** of refined biogas into the natural gas pipeline
- Save **$1.052 million** by reusing 641 million gallons of treated effluent for operational processes

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Challenge

Cumming, Iowa is a small community of about 350 people, Southwest of Des Moines. The flows from Cumming have a very low level of about 1 inch or below, and a slow velocity of about 1 foot per second. WRA had previously tried two other brands of non-contact flow meters at the site, however, neither gave them the accuracy, quality, and consistency of results that were being sought after. Data accuracy is critical to inform their asset operational decisions, improve billing accuracy, reduce operational costs and support their capital planning initiatives.

Treat an average of 57.8 million gallons of wastewater per day

Solution

After researching Trimble's water solutions and speaking with product experts, it was determined that the Trimble Raven Eye flow meter with the Trimble Unity Remote Monitoring software would be the best option for Cummings specific needs, especially the low-flow application. After a successful demonstration, WRA and the City of Cummings decided to move forward and install the Raven Eye along with an ultrasonic level sensor and an RU-35 meter on June 8, 2021.

WRA chose the Raven Eye not only for its durability and ability to survive harsh conditions, but also for its dependability in flow monitoring that works for both open channel and sewer flow measurement. With the sensor positioned above the water surface, it is an easily portable or stationary solution for WRA and is helping to deliver dependable results in the high-risk distribution channels of Cummings.

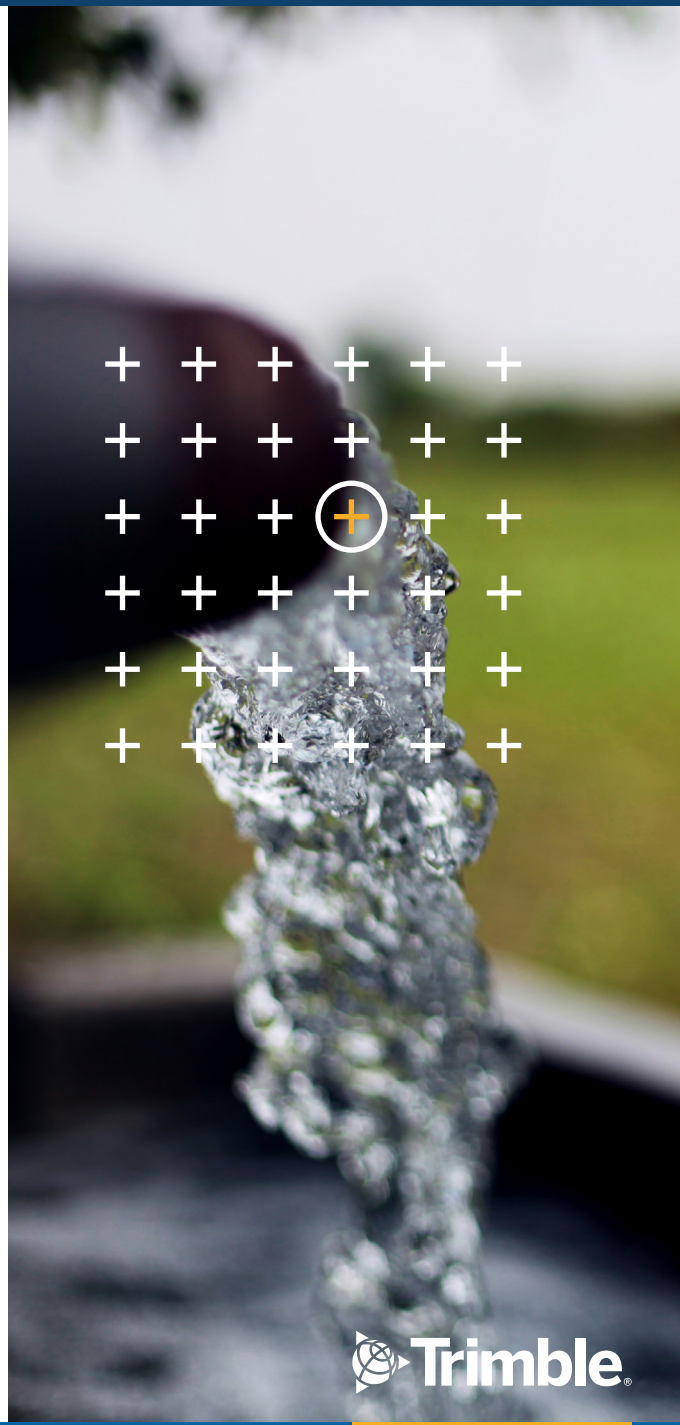
Produce over 81,000 wet tons of biosolids for application on surrounding agricultural land

Outcome

To verify the accuracy of the Raven Eye solution WRA installed a weir plate to generate a known level-to-flow downstream of the flow meter. They created a workflow for level inspection and velocity at various times to make sure the sensor was accurate.

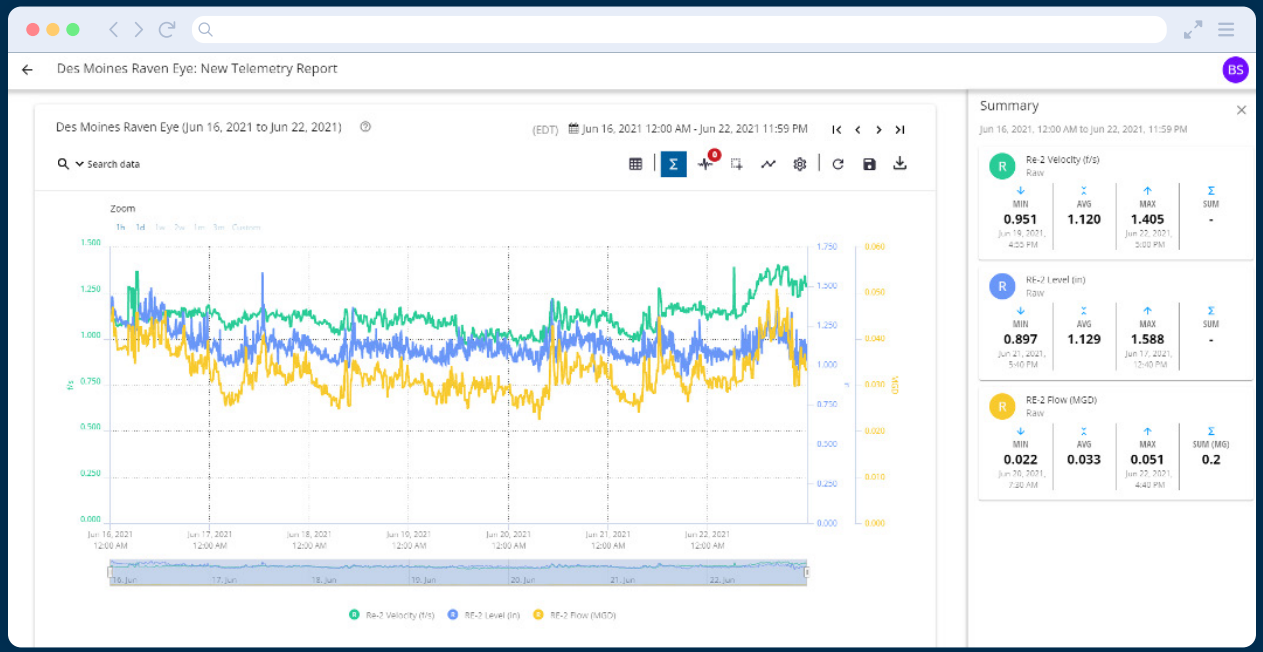
All the data that was collected matched the data from the Raven Eye very closely. After several months of testing and verifying that the data from the Raven Eye was accurate, WRA contacted Trimble to purchase the Raven Eye.

Save $1.052 million by reusing 641 million gallons of treated effluent for operational processes



Benefits

With the Raven Eye sensor installed, WRA is now getting accurate data. This saves them many trips to the site to do more tests and verify the data. Cumming is one of the furthest communities from the treatment plant so a trip to the site would require a couple of hours to travel to the site and take samples. With the Raven Eye installed, they are getting good data and are confident that they are providing the best service for the community.



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Learn More

To learn more about the Telog Raven Eye and Trimble Unity Remote Monitoring, our GIS-Centric software platform, watch the video **Trimble's Telog Raven Eye 2 & Trimble Unity RM software, The latest solution for all Flow Monitoring Applications**.

Set up a personal demo at **Utilities.Trimble.com**