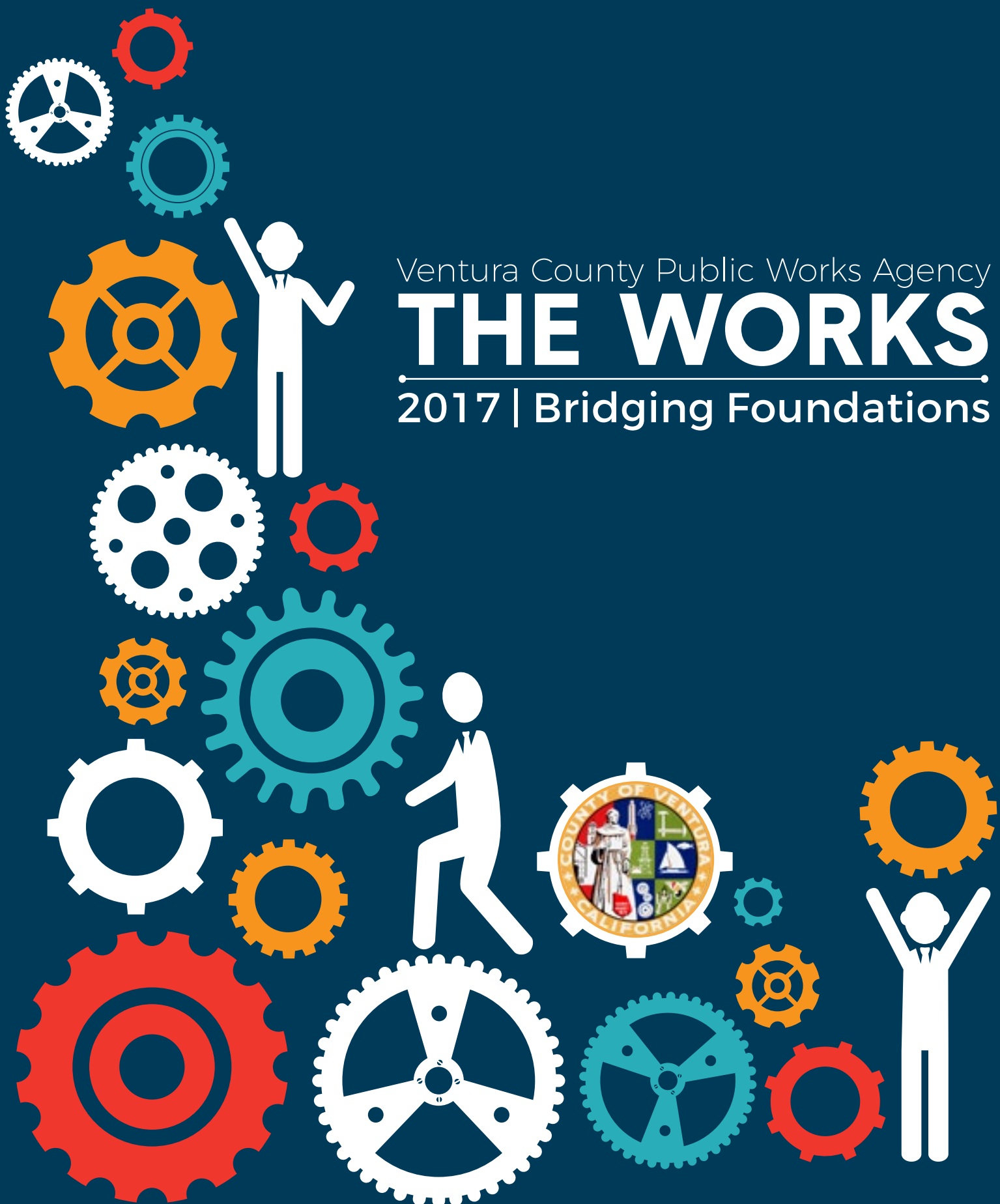


Issue# 3
Volume 8



Ventura County Public Works Agency

THE WORKS

2017 | Bridging Foundations

DIRECTOR'S NOTE

Dear Friends,

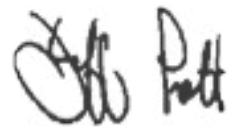
VCPWA knows we would be nothing without STEM graduates – that's shorthand for Science, Technology, Engineering and Mathematics. We encourage students to explore careers in these exciting and challenging fields any way we can, and recently hosted tours for Oxnard High School's Green Technologies Academy. Read on to find out what they saw, and how we learned a bit from them as well.

The recent rainfall in our region has been an answer to a great need and a challenge for VCPWA crews. It has prompted many to ask if our drought has come to an end, and how we are preparing for potential flooding, erosion, and other rainfall-related concerns. Supervising Hydrographer Ronald Marotto answers these questions as well as offers insight into some of the equipment his team uses in their research. Groundwater Recharge is a crucial issue for Ventura County, and we're proud to announce that the VCPWA Watershed Protection District has been awarded a state grant for the Piru Stormwater Capture project.

VCPWA works hand-in-hand with the community to keep Ventura County one of the top places to live. In this issue, we get to know volunteer John Harrison as he shares his insight on keeping our watersheds clean.

Finally, we encourage each and every one of you to participate in the upcoming National Public Works Week May 21 through May 27 – Public Works *Connects Us*. Tuesday, May 23rd we will open our doors to over 500 students and community members to energize and educate the public on the importance of public works to their daily lives! Come out and join us for this engaging day with the public.

All the best-



Join us at the

VENTURA COUNTY GOVERNMENT CENTER
**FOR NATIONAL PUBLIC
WORKS WEEK
AWARENESS DAY**

MAY 23RD | 9AM - 2PM





Weathering the Storm!

SUPERVISING HYDROGRAPHER RONALD MAROTTO Q&A

Hydrology crews and first responders have been busy this season with record rainfall in Ventura County, after a prolonged California drought. VCPWA Watershed Protection District Supervising Hydrographer Ronald Marotto, who is also President of the ALERT (Automated Local Evaluation in Real Time) Users Group (AUG), has been in the thick of the storms with his crews. The Works sat down with Ron to learn more about the work his team has been doing:

Q: IT'S BEEN A RAINY FEW MONTHS IN VENTURA COUNTY. WHAT ARE YOU LOOKING AT WHEN THE CREW GOES OUT IN A RAINSTORM?

In the broader scope, we're looking at the quantity, not quality of water. We're measuring rainfall, stream flow, other meteorological data, but strictly surface water. In addition, we're looking at the lake level, wind direction, and more.

Q: CAN YOU TELL US ABOUT SOME OF THE EQUIPMENT YOU USE?

We mainly use an ALERT radio for telemetry, but additionally have satellite telemetry. Rain gauges called tipping buckets look like a teeter-totter that switches back and forth for every one hundredth of an inch of rain. For measuring streams without bridges, there's the launcher, which is a way to get a line across a creek that's too wide to throw across. And the Boogie board-looking thing is a hydroboard, which carries an acoustic Doppler current profiler for measuring stream discharge. The flow tracker, an acoustic velocity meter, is used when the flow can be waded to get velocity and depth in order to calculate discharge. The

silver box with an antenna houses a radar sensor that measures depth, which can be converted to discharge. A 100-pound weight with a velocity meter attached is used to measure discharge from bridges.

Q: WITH SO MUCH RAINFALL, ARE WE NEARING THE END OF THE DROUGHT IN VENTURA COUNTY?

It's hard to predict the end of the drought because we don't know how much recharge we will get into reservoirs and groundwater basins and how much will just flow out to sea. The drought probably won't end this year, but we are above normal on our rainfall sites for the water year. Now that the ground is saturated, we'll be getting a lot more flow which will help recharge our reservoirs.

Continued on next page



Q: WHY IS MEASURING RAINFALL SO VITAL TO VENTURA COUNTY?

There are a number of reasons to measure rainfall, like calculating multiple types of long term records, but the most vital is using the rainfall to run flood forecast models. These models predict what the streams will do and determine if evacuations might be necessary. The rainfall sensors are a critical piece to what we refer to as our flood warning network. This network also includes a number of other metrological sensors which includes stream and lake level gauges.

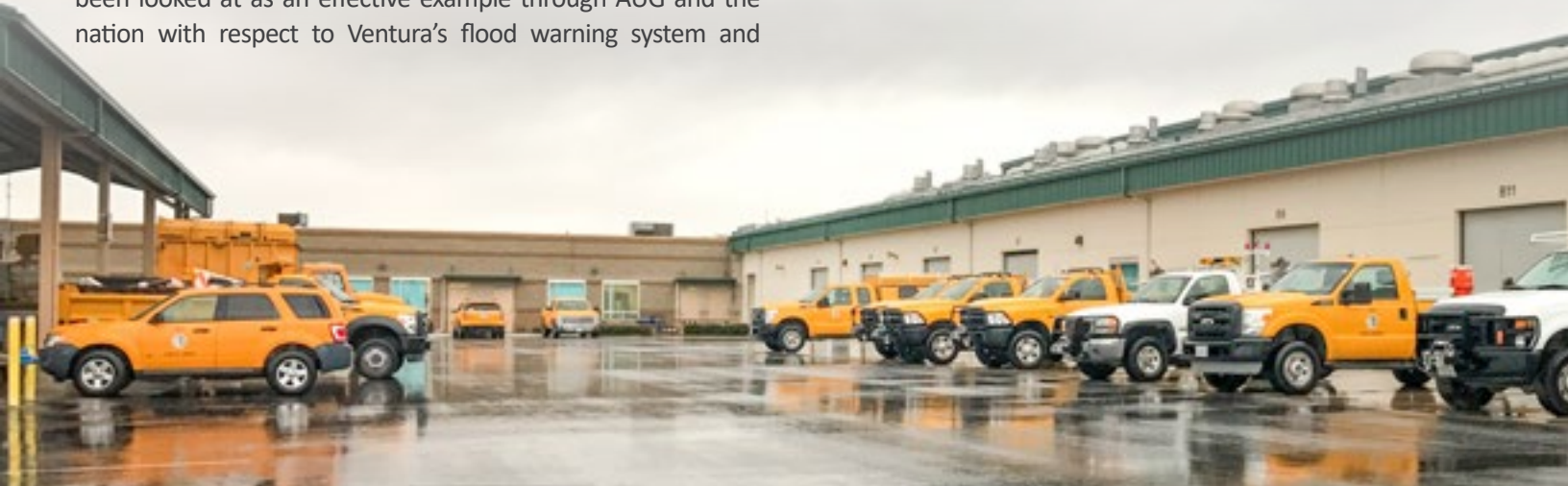
Q: CAN YOU TELL US ABOUT THE ALERT USERS GROUP?

The ALERT Users Group is not a County of Ventura association. I am the current President of the AUG association, which, in coordination with the National Hydrologic Warning Council (NHWC) are nonprofit organizations whose purpose is to help officials keep communities safe and manage water resources effectively. NHWC and AUG provide professional development, standards and guidance on the implementation and use of automated data collection systems. Ventura County has been looked at as an effective example through AUG and the nation with respect to Ventura's flood warning system and

the technology used for many years. AUG puts on meetings, trainings and conferences where the focus is on flood warning systems and the technology used. AUG is mainly focused in the Western region of the United States, but they get people from across the nation and the world attending their conferences.

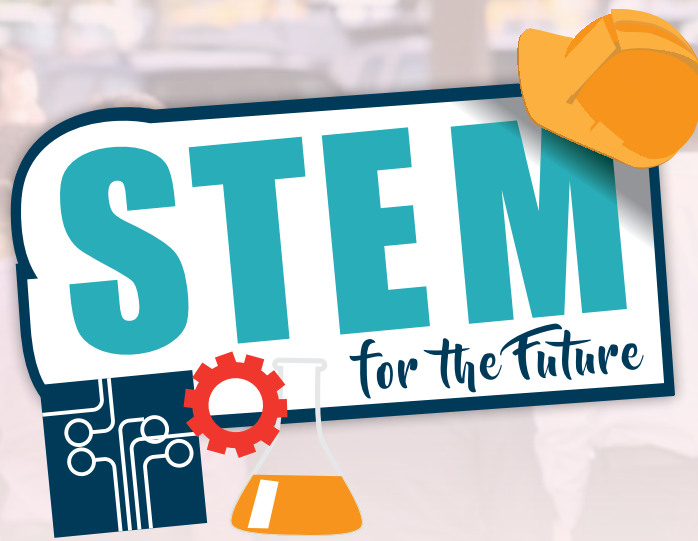
Q: WHAT DO HYDROLOGY CREWS DO WHEN IT'S NOT RAINING?

We continue to collect data and measure year round. Measuring the stream flow in times of no rain and or draught can be just as critical especially with the amount of agriculture here in Ventura. We also continually maintain the gauges and equipment that is in the field. We run calibration tests on all the sensors at the different stations along with doing repairs and new installations as needed. We are also in the process of upgrading all of the radio transmitters to a new radio protocol called ALERT2. Ventura County is the lead on two grants through the California Department of Water Resources (DWR) for all of Southern California to upgrade to the new ALERT2 radio protocol. Beyond that, we still have to download and compute all the data that is collected, which includes going through a quality control process before the data is considered official record.



**In the
News**

In the News - Congratulations to the VCPWA Watershed Protection District who secured a grant from the State Water Resources Control Board under Proposition 1 Stormwater Grant Program, Round 1, for the proposed Piru Stormwater Capture for Groundwater Recharge project. The project, which was selected for funding of \$455,837, will be a collaborative effort with the United Water Conservation District.



VCPWA is committed to engaging and educating students on the many facets of Public Works. Whether it's through speaking engagements, Public Works Day exhibits, or inviting local students for tours, VCPWA staff do an incredible job of communicating the many ways a STEM (science, technology, engineering, and mathematics) education could lead to career opportunities in engineering.

Last month, Oxnard High School staff took its Green Technologies Academy beyond the classroom to introduce students to real-life engineering pros and to learn about some of the most current and recently completed projects boasting the latest technology and forward-thinking concepts.

Green Technologies Academy is a course offered through the Oxnard Union High School District that provides a learning environment and supplemental resources for students studying the world of engineering and green technology.

VCPWA engineers hosted two tours for the students in attendance.

First, a group of young women met Engineering Services Project Manager Shawna Schlageter at the Ventura County Medical Center for a tour of the new hospital replacement wing (HRW).

The students were excited to learn about the sustainability features of the HRW; especially the planted green roof. Schlageter also walked them through the Engineers Office that overlooks the boiler room, PACU (Post Anesthesia Care Unit), Hybrid Operating Room, Medical Surgical Unit, ICU (Intensive Care Unit), Emergency Department, Pediatrics Unit, Post-Partum Unit, NICU (Neonatal Intensive Care Unit), and Labor and Delivery Unit including the C-Section Operating Room.

What personal advice can Schlageter offer to young adults considering a career in engineering?

"TOURS LIKE THIS ARE IMPORTANT FOR STUDENTS TO SEE HOW TO APPLY THE CONCEPTS, SOCIALIZATION AND SKILLS THEY LEARN IN THE CLASSROOM TO FUTURE CAREERS,"

- Shawna Schlageter





“Architecture and engineering is not all about math; listening, reading, writing, and communication are equally important for a successful career.”

Back at the Ventura County Government Center, Brian D’Anna and David Kirby hosted a group of students to tour two significant projects completed by our Engineering Services Department and Watershed Protection District over the past couple of years: the parking lot solar panels and pervious concrete retrofit.



According to Kirby, the students were most interested in the benefits resulting from the projects toured. For the solar panel project, the students were interested in the amount of electricity generated by the project and how that compared to the current monthly and yearly usage by the Government Center buildings. When touring the pervious concrete project, the students were most interested in learning how it worked as well as understanding and discussing the monitoring results, which illustrated significant stormwater volumes being infiltrated.

When students asked for advice in pursuing a degree in STEM, Kirby advised, “Obtaining any degree (engineering or other) is important as it opens many doors. That piece of paper proves that you are dedicated and that your brain has been trained to be a problem solver. I estimate that about 90% of what I know that I apply to my job as an engineer was obtained on the job.”



The following week, the Oxnard Union High School District presented VCPWA with a Certificate of Appreciation for its participation in National Job Shadow Day.





How is the Watershed Protection District working with the community to reach their zero trash goal to keep the Ventura River Estuary Clean?



Meet John Harrison, Volunteer...

VCPWA Watershed Protection District and other Total Maximum Daily Load (TMDL) stakeholders are collaborating with Ventura Hillside Conservancy to clean up and restore the Ventura River estuary.

Since 2016, volunteer John Harrison has been dedicated to helping us reach our zero trash goal. John volunteers weekly – sometimes on his own, with his friend Frank, or with the Saturday volunteer group. He helps clean up trash in the Ventura River estuary and along the Ventura River Bike Trail.

On a given day, John clears up at least 2 full bags of litter, which include aluminum bottles, clothing, shoes, tents, sleeping bags, barrels, bicycle parts and more.

What keeps John motivated to keep coming back? “Before volunteering, I had no idea about the amount of litter that regularly accumulates in the Ventura River estuary, and what kind of dangers this poses to the marine and wildlife in the area. Ventura citizens very much enjoy the native fish and birds; they are part of what makes our coast beautiful and special. Now, I am much more aware of litter, and I hope others learn to be more mindful when they toss water bottles or other garbage on bike and walking trails. We’re so accustomed to living in a clean environment, but people don’t realize they’re taking organized trash pick-up for granted.”





VCPWA IN THE COMMUNITY



CAREER FAIR

On February 23, Engineering Services Department Deputy County Surveyor Dan Walsh, along with Shawn Ohannessian, a Transportation Surveyor with Caltrans, were invited to participate in Monte Vista Middle School's Career Fair, which was open to all students within the Pleasant Valley School District. Dan and Shawn represented the career of Land Surveyors.



Dan Walsh & Shawn Ohannessian



Chris Cooper, Director Engineering Services Department

AMERICAN COUNCIL OF ENGINEERING COMPANIES

Ventura County Public Works' Engineering Services Department gave a presentation to the American Council of Engineering Companies to share upcoming opportunities related to design and construction activities planned by VCPWA with local consulting firms.

NATIONAL ENGINEERS WEEK

Thank you to the National Engineer's Week Planning Committee of Ventura and Santa Barbara Counties for hosting an incredible banquet celebrating the talents and efforts of the region's engineers. VCPWA's Transportation Department was honored to receive two Project of the Year awards for the Donlon Road Realignment Project on behalf of APWA and ASCE.



Shawn Kowalewski (MNS Engineers), Alison Sweet, Michael Ip (MNS Engineers), Chris Hooke, Dave Fleisch, Sujin Beck

CONGRATS, TEAM!