BARSCREEN BEE

The Official Newsletter of the Northern Sacramento Valley Section of the California Water Environment Association

www.cwea.org/nsv

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WWW.CWEA.ORG/NSV The Barscreen Bee is a publication of the Northern Sacramento Valley Section of the California Water Environment Association.

Welcome to Colusa for Training Tuesday, May 22, 2018 Colusa City Hall 425 Webster Street, Colusa



8:30 SIGN-IN and NETWORK with your peers over coffee & donuts.

9:00 NON METALLIC PUMP OPTIONS Kevin Peters, R.F. MacDonald

9:50 NEW TECHNOLOGIES FOR ASSET MANAGEMENT OF COLLECTION SYSTEMS

Michelle Beason, P.E., Regional Manager, National Plant Services

10:40 CITY OF COLUSA'S UPGRADE TO RECYCLED WATER

Dan Rich, P.E., Principal, NEXGEN Utility Management The City of Colusa has been constructing improvements to its wastewater treatment plant that enhance nitrogen removal, increase aeration and clarification capacity, and allow the city to seasonally store tertiary effluent prior to reuse onto nearby farmland. The presentation will provide photos of the construction project and discuss the economics of producing recycled water and other ancillary benefits the project has provided the City.

11:30 TOUR– CITY OF COLUSA'S WASTEWATER TREATMENT PLANT AND RECYCLED WATER PROJECT 2820 Will S Green Ave, Colusa CA

12:40LUNCH \$10, cash or check payable to CWEA NSVS

Attendees of technical sessions will be issued up to four Continuing Education contact hours toward CWEA Technical Certification and or 4 SWRCB education points toward wastewater certification.

To find out if a class qualifies for CWEA continuing education in your area of certification, go to the CWEA web site. Click on Certification - Wastewater Trainers and Educators - CWEA Trainers- Training Subjects, for list of class subjects.

All wastewater relevant sessions count as one education point per 50 minute presentation for the purpose of SWRCB operator certification.

Directions to Colusa Training Meeting

From Redding, take I-5 South to Hwy 20 East near Williams (toward Colusa). Take Hwy 20 in Colusa and turn Right onto Webster Street.

From Chico, take CA 45 South to Colusa. Turn Right onto Hwy 20 (10th Street). Turn Left on Webster Street.

From the South, take I-5 North to Hwy 20 East at Williams (toward Colusa). Take Hwy 20 in Colusa and turn Right onto Webster Street.

Once you arrive in Colusa, the City Hall building is located on Webster Street between 4th Street and 5th Street. The main parking lot is located off of 5th street. Street parking is available.



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NSVS Calendar of Events VOLUNTEERS

May 22, 2018 Training in Colusa June 19, 2018 Board Meeting July 17, 2018 Training, Oroville Aug 14, 2018 Board Meeting Sept 18, 2018 Training. Redding Oct 16, 2018 Board Meeting Nov 13, 2018 Training, Location Needed Dec 11, 2018 Board Meeting Jan 19, 2019 Dinner Banquet at Sierra Nevada Brewery, Chico, CA 5-8 pm Board meetings held at 10:00 a.m., Italian Cottage Restaurant 2234 Esplanade, Chico Members always welcome

NEEDED:

2-Year Director: Attends board meetings, trainings, helps direct future training content.

Website Manager: Updates website using "Word Press" software, updates Facebook page for local section.

Contact any of the NSVS Executive Board members on page 1 if interested.

Mark your calendar! 2019 Annual Banquet Saturday January 19, 2019, 5-8 p.m. Sierra Nevada Brewery,Chico, CA

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March 20 Yuba City training summary by Ted Couch and Tracy Wyhlidko

We would like to thank the staff at the Yuba City Wastewater Treatment Facility for hosting the first CWEA NSVS training day in 2018 on March 20th. The attendance was great with 42 members present. The food served was delicious and the tour after lunch was very professional.

The morning began with Mr. Chad Neville from Industrial Scientific presenting, "The iNet Integrated Solution for Gas Detection and Gas Monitors." Mr. Neville described the use and function of traditional gas detectors. He recommended that all of the gas detectors, calibration gasses, and calibration stations used within an agency should be the same brand and compatible. The ability to purchase calibration gasses that work for all machines is a huge benefit. The iNet system has electronic communication between the calibration stations, the gas detectors, and Industrial Scientific corporation. Calibration

gasses can be set up on an auto-fill ordering system so new bottles of calibration gas are automatically sent when the old bottles are beginning to run out. There is also the ability to communicate electronically between the gas detector and the company to determine if the gas detectors are functioning properly. Repairs to gas detectors are quicker because problems are detected early and replacement detectors can be automatically shipped to the agency.

Mr. Neville also described the use of having hand held gas detectors for the attendant monitoring

March 20 Yuba City training summary by Ted Couch and Tracy Wyhlidko (continued)

Second, Mr. Dan Cortinovis, P.E. Consulting Civil Engineer presented, "Activated Sludge Process Modes". Mr. Cortinovis has worked in northern California for several decades, formerly with Brown and Caldwell. He holds degrees in both Chemistry and Engineering. He has also written several wastewater books, including <u>Controlling</u> <u>Wastewater Treatment Processes</u> and <u>Wastewater Mathematics Made Easy</u>. For activated sludge plants, there are several factors that affect aeration efficiency,

including temperature, dissolved oxygen and bubble size. Several types of mechanical aerators have been used in the past, but the current trend is toward using 9" membrane diffusers to produce fine bubbles for aeration. Modern high speed turbine blowers typically use variable frequency drives (VFD's) to control aeration and dissolved oxygen concentrations. The presentation included a history of wastewater treatment plant improvements in California from the old style plug flow aeration basins and contact stabilization to activated bio-filters (ABF) and trickling filter solids contact plants.

The third presentation was by Ms. June Leng from Jacobs (formerly CH2M Hill) entitled, "Disinfection in Wastewater and Water Reuse – Challenges and Advancements." The presentation focused on the changing requirements for wastewater disinfection brought on by advancements in public health and environmental knowledge,

and expansion of water reuse. Previously, most discharge permits focused on coliform bacteria counts as indicator organisms, but now the discharge limits are beginning to use a virus, such as MS-2 Bacteriophage, instead. Virus lab detection is a faster process, and viruses are generally more responsible for disease outbreaks than coliform bacteria. Permits now frequently contain limits for disinfection byproducts and ammonia limits, which place challenges on the use of chlorine as a disinfectant. In addition, there are safety and security concerns for of chlorine storage and dosing. Due to increasing competition for fresh water resources, water reuse is a growing practice in our state. Wastewater treatment plants must consider potential downstream reuse in their disinfection facility planning. The concept of multi-barrier hybrid disinfection processes (i.e., UV and sodium hypochlorite) is gaining traction as a method to ensure reliable disinfection, while addressing issues surrounding disinfection byproducts and reuse. California has issued a list of approved disinfection technologies and configurations. Before exploring any new configuration, agencies should consult this list. Ms. Leng is available to discuss any disinfection issues or concepts at june.leng@ch2m.com.

March 20 Yuba City training summary by Ted Couch and Tracy Wyhlidko (continued)

The final speaker was Mr. Justin Fearn from Douglas Products speaking on, "Integrated Root Management." This presentation focused on managing root intrusion into collection system pipes. Conventional wisdom holds that roots will grow into pipes seeking water, but the roots can sense and seek out the nutrients present in sewage, and hence prefer sewer pipes to drinking water pipes. Roots traditionally were managed via cutting, but as cutting frequency increases, so does the strength and growth rate of the roots. Cut roots release growth hormones to accelerate and increase root growth for the plant. Roots enter pipes one cell at a time. The leading edge of a root is like a miniature drill bit. Roots can find their way into any crack, especially where lateral lines enter the city sewer pipe. This leads to more frequent, and more challenging maintenance. Chemical root control methods employing foam have several advantages, including:

- Coat, and cling to roots
- Deposit herbicide onto roots

• Foam can turn corners and go up laterals (the #1 place where roots come in) Can comply with bio-assay tests Douglas products recently did a survey of root control and found some general trends:

• It is generally cheaper to manage roots in-house vs. using a contractor, but there are advantages in management to

employing a contractor to oversee your root management program.

- Root control costs go up, year over year
- Sewer operations budgets stay flat or decrease, year over year

Mr. Fearns is available to discuss your particular root management issues at

Justin.fearns@douglasproducts.com.

After lunch, the tour of Sunsweet Prune Factory was stunning. The facility is so large, it's almost overwhelming. The company would not allow photographs in the facility, but we took a few before we entered. The plums that become prunes are all harvested during a few months in orchards, but it takes all year to fully process one season's harvest. The prunes are dried in several drying facilities and shipped dry to the Sunsweet Yuba City factory. Racks of large wooden crates full of dried fruit are stored in a climate controlled warehouse. As the prunes are processed for retail

packaging, they are washed, slightly re-hydrated, pitted using a fast rotating machine that pokes the pit out of each prune, sorted by size, weight, and color and packaged for sale. There are a lot of machines and robotics used in the factory. Forklifts are constantly moving product around. Also made at this factory are some bottled sports and iced tea drinks as well as other dried fruit like dried apricots. It was definitely worth the time to see this factory tour!

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*Per Engineering News-Record, April 25/May 2, 2016, "Top 500 Design Firms" ranking.

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JOB ANNOUNCEMENTS found on www.CAWaterJobs.org

Posted April 13, 2018

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Posted March 12, 2018

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Posted March 09, 2018

Wastewater Treatment Facility Operator II/III

City of Yuba City

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Posted May 04, 2018

Chief Plant Operator

Hydro Engineer – Electrical

City of Nevada City

Nevada City, CA, USA Full Time Compensation: \$75,074 to \$91,254 Annually Benefit Package Details on Website

Yuba County Water Agency Dobbins, CA, USA Full Time

Water Quality Laboratory Supervisor

Sacramento County Elk Grove, CA, USA Full Time Compensation: \$73,497.60 to \$89,345.52 Annually

Posted April 11, 2018

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