

# Improving Roadside Revegetation and Stormwater Quality with Compost-Based BMPs - August 26-27, 2020 Webinar

*Directions on registering for the webinar are available on page 8 of this brochure.*



Compost Berm replaces multi-failed silt fence, Highway 101, Windsor, CA, photo courtesy of Salix Applied Earthcare

- ▶ Caltrans Compost and Mulch Specifications
- ▶ Treating Stormwater
- ▶ Improving Soil
- ▶ Reducing Runoff
- ▶ Improving Erosion Control
- ▶ Ensuring Compost Product Quality
- ▶ Successful Roadside Applications
- ▶ Improving Roadside Revegetation

## WORKSHOP SUMMARY

The Caltrans Landscape Architecture Program, in partnership with CalRecycle, University of California Riverside, University of Washington, Filtrexx Sustainable Technologies, Salix Applied Earthcare, United States Composting Council, California Compost Coalition, and R. Alexander Associates, Inc., is presenting two half-day workshops that focus on the use of compost-based best management practices (BMPs) to improve roadside revegetation, control erosion, filter stormwater, reduce runoff, and improve stormwater quality.

In addition to rolling out innovative methods of improving water quality, these workshops will provide attendees with the opportunity to ask questions of a diverse team of experts. The workshop team consists of University professionals, researchers, soil scientists, California compost industry professionals, Caltrans landscape architects, and other subject matter experts.

The workshop is for Caltrans district designers, including landscape architects, biologists, and stormwater quality coordinators; Caltrans contractors, and others involved in improving stormwater quality. The workshop will provide practical tools and information on improving roadside revegetation and stormwater quality with compost based BMPs.



Compost Incorporation, Placer County, Route 267, photo courtesy of Caltrans

### BENEFITS OF COMPOST AND MULCH

Compost and mulch benefits the environment in a number of ways.

- ▶ Decreases runoff and erosion
- ▶ Improves roadside revegetation establishment
- ▶ Reduces irrigation requirements; improves drought tolerance
- ▶ Supplies significant quantities of organic matter
- ▶ Improves drainage of clay-based soils and water-holding capacity of sand-based soils
- ▶ Improves and stabilizes soil pH
- ▶ Improves cation exchange capacity (CEC) of soils, improving their ability to hold nutrients for plant use
- ▶ Supplies macro- and micronutrients; encourages slow release of nitrogen; improves plant health and vigor
- ▶ Supplies beneficial microorganism
- ▶ Suppresses certain soil-borne diseases
- ▶ Binds and degrades specific pollutants
- ▶ Reduces the need for fertilizers and pesticides



## Day 1 August 26, 2020

### 9:00 Welcome and Introductions

#### 9:10 A California Perspective

Neil Edgar will discuss relevant legislation and the role of compost-based BMPs in meeting California's sustainability goals and mandates.

#### Q&A /Stretch Break (5 - Min)

#### 9:30 Mulches, Soil Amendments, and Organic Fertilizers

Dr. David Crohn will discuss the characteristics and uses of mulches, soil amendments, and organic fertilizers.

#### Q&A /Stretch Break (5 - Min)

#### 10:00 Improving Storm Water Quality through Compost BMPs

Dr. Britt Faucette will discuss the use of compost BMPs in treating stormwater.

#### Q&A /Stretch Break (5 - Min)

#### 10:30 Contracting – Tools and Practical Application

Michael Ferrara will discuss Caltrans compost and compost-based standard specifications, special provisions and bid items. Michael will discuss the history and background of the construction contract work items that utilize compost. Q&A /Stretch Break (5 - Min)

#### 11:00 Compost Quality Testing and Reporting

Matt Cotton will discuss the United States Composting Council's Seal of Testing Assurance Program and how it assists purchasers in ensuring compost meets Caltrans specifications.

#### Q&A /Stretch Break (5 - Min)

#### 11:30 Day Wrap up and Evaluation Survey



Biofiltration swale, photo courtesy of Caltrans

## Day 2 August 27, 2020

### 9:00 Welcome and Introductions

#### 9:10 Compost Applications for Stormwater

Jim Philip will discuss compost applications for stormwater projects throughout the state.

#### Q&A /Stretch Break (5 - Min)

#### 9:40 Compost Applications

John McCullah will discuss the case studies on applications and use of compost on various projects from CA to New Zealand to the Canadian Rockies, spanning 15 years.

#### Q&A /Stretch Break (5 - Min)

#### 10:10 Compost Practical Applications

Scott Dowlan will discuss how the California Department of Transportation, Caltrans, uses compost to protect water quality, establish vegetation and build healthy soils.

#### Q&A /Stretch Break (5 - Min)

#### 10:45 Compost Practical Applications

Jeff Pietrzak will discuss the lessons learned on applications and use of compost on various Caltrans projects throughout the state.

#### Q&A /Stretch Break (5 - Min)

#### 11:15 Compost for Water Quality Improvements

Dr. Sally Brown will discuss the Soils for Salmon Program and the water quality benefits of compost.

#### Q&A /Stretch Break (5 - Min)

#### 12:00 Panel Discussion

Get answers to your questions on using compost and mulch on roadside applications from a panel of experts representing Caltrans, compost industry, erosion control specialists, and the University of California.

#### 12:30 Evaluation Survey and Closing Remarks



Seeded compost erosion control blanket, photo courtesy of Filtrexx

## **SPEAKER / PANELIST BIOS**

### **Ron Alexander, R. Alexander Associates, Inc.**

Ron Alexander is a horticulturist by training, studying landscaping, turf and fruit/vegetable production, and has worked with the California landscaping industry for over 20 years. He possesses over 35 years of experience working with organic recycled products in landscaping. Ron has developed both national (e.g., AASHTO Erosion Control Specifications for Compost, 'Landscape Architecture Specifications for Compost Utilization') and California (e.g., Caltrans) specifications pertaining to the use of compost in landscaping and soil management. He also managed the national compost quality program (US Composting Council's Seal of Testing Program) for 10 years. More recently, Ron has been working with compost in stormwater management and water efficient landscape applications in the Bay Area. He is also a Landscape Architecture Continuing Education System (LA CES) certified trainer.

### **Dr. Sally Brown, University of Washington**

Sally is a research professor at the College of the Environment at the University of Washington. She has worked identifying beneficial uses for biosolids and composts for almost 30 years. She is a Fellow in the Soil Science Society of America and was a two-term member of the National Academy of Science Committee on Soil Science. She writes a column for Biocycle Connect.

### **Matthew Cotton, United States Composting Council (USCC)**

Matthew has over 30 years of experience in the composting industry. His company has provided technical, composting-related consulting services to public and private clients in California for over 25 years.

### **Dr. David Crohn, University of California Riverside Extension**

David earned his Ph.D. in 1992 from Cornell University where he concentrated on Soil and Water Engineering, Water Resource Systems Engineering, and Biogeochemistry. Since then he has been working as a professor and Cooperative Extension specialist at the University of California, Riverside, where his research has emphasized beneficial uses for organic residues as composts, fertilizers, and mulches.

### **Scott Dowlan, Caltrans**

Scott is currently the Senior Landscape Architect for Caltrans in District 5 and has over 25 years of experience practicing landscape architecture. He graduated from California Polytechnic State University, San Luis Obispo with a Bachelor of Science degree in Landscape Architecture, is a Licensed Landscape Architect, and a Certified Professional in Erosion and Sediment Control.



Sediment trap, 12-inch diameter filter socks in pyramid stack, photo courtesy of Filtrexx



**Neil Edgar, Edgar & Associates, Inc.**

Neil is a Senior Project Manager with Edgar & Associates in Sacramento, California. Neil is also Executive Director, and co-founder, of the California Compost Coalition, a statewide lobbying coalition that focuses on legislative and regulatory development regarding composting and other organics management options. Neil is a member of the United States Composting Council's Legislative and Environmental Affairs Committee and serves as a policy liaison for the California Organics Recycling Council, a statewide advocacy group dedicated to increasing the sustainable use of recycled organics.

**Dr. Britt Faucette, Filtrexx International**

Britt is an Ecosystem Scientist, Certified Professional of Erosion & Sediment Control (CPESC), and Leadership in Energy and Environmental Design Accredited Professional (LEED AP). Britt currently directs research, technical services, and regulatory approval programs for Filtrexx International and the organics recycling and storm water management industries. Britt serves on multiple technical committees with the American Society of Test Methods (ASTM), the Board of Trustees for the US Composting Council Research & Education Foundation (CCREF), and is a technical advisor to the Water Environment Federation (WEF) National Testing Standards Working Group Committee, the National Living Soil Alliance (LSA), and Elemental Impact (EI) - a non-profit dedicated to Zero Waste. Britt has authored over 20 peer-reviewed scientific publications, over 100 popular press articles, and developed federal (7) and state (nearly 50) specifications on organic materials used in erosion and sediment control and storm water management. He has worked with foreign governments, taught graduate students, consulted on organic materials management and storm water related projects in 15 countries, been awarded approximately \$500,000 in state and federal research grants, conducted seminars and trainings at over 100 national and regional conferences, and published three books on research and design elements of organic materials used in storm water management.

**Mike Ferrara, Caltrans**

Mike is a Senior Landscape Architect with Caltrans' Office of Roadside Management, responsible for coordinating the production of roadside policy, procedures, and standards. Mike coordinates with designers and Contractors the development of erosion control and compost contract specifications for the reduction of storm water run-off and sedimentation, maintenance of water quality, and improvement of soil and plant health.



Rain garden retrofit replaced excess asphalt as part of green infrastructure project in Berkeley, photo courtesy of Matt Fabry

### **John McCullah, Salix Applied Earthcare**

John brings over 21 years of experience training others in erosion and sediment control, watershed restoration, stream restoration, and biotechnical erosion control. John has been a Certified Professional in Erosion and Sediment Control (CPESC #311) since 1986, has a BS in Watershed Geology from Humboldt State University, and is a California Contractor. Currently, John owns and operates Salix Applied Earthcare (Salix), a consulting firm located in Redding, California, and practicing in the fields of erosion and sediment control, watershed restoration, stream restoration, and biotechnical erosion control. John managed the Caltrans 24-hour Certified Stormwater Training at Shasta College. He is the Project manager for the Shasta College Erosion Control Training Facility, a six-acre site built to replicate construction site conditions in order to research and demonstrate the proper use of BMPs. For over 6 years John was the co-instructor for "Field Application Training for Erosion and Sediment Control BMPs on Caltrans Construction Sites", two-day field courses provided to personnel at each Caltrans District. This hands-on training led John to develop and produce the erosion control training video series "Dirt Time" with John McCullah. Salix has also developed popular design manuals on CD: ErosionDraw, BioDraw, and ESenSS.

### **Jim Philip, Caltrans**

Jim is a Pennsylvania native who came west to California after joining the U.S. Navy in 1979. Attended San Diego State University and graduated with a degree in Mechanical Engineering, class of 1991. Started as a Nuclear Engineer at Mare Island in Vallejo California working on nuclear submarines and then transitioned to Environmental Engineer when the base was slated for closure. Transferred to Beale AFB as an Environmental Engineer and did design work on two landfill closures and tertiary treatment of wastewater. Joined the Caltrans Team in 1997 in the Hydraulics Unit where he did drainage design and Construction support for 17 years. Transferred to project development and delivered several projects that included pavement replacement, bridge replacement and several safety improvement projects. Over the last three years has been providing storm water design support Statewide for designers doing stormwater treatment installations.

### **Jeff Pietrzak, Caltrans**

Jeff is the Senior Landscape Architect for Caltrans at Headquarters in Sacramento, and has 27 years of experience practicing landscape architecture. He graduated from the University of California, Davis with a Bachelor of Science degree in Landscape Architecture, is a licensed landscape architect and a Certified Professional in Erosion and Sediment Control. For over 15 years, he designed roadside design solutions for Caltrans spanning the North Coast, Sacramento Valley, Sierra Foothills, and the Sierra Nevada. Design challenges found within these environments included climate, parent soils, and construction soils. He embraces the use of compost in design solutions in order to build healthy soils, protect water quality and re-establish habitat.



Roadside application of compost blanket, photo courtesy of Caltrans



## ***Confirm your reservation!***

To register for this webinar, go to

<https://cadot.webex.com/cadot/k2/j.php?MTID=t4cad05a754d13ac4abd5962c2ae32c2d>

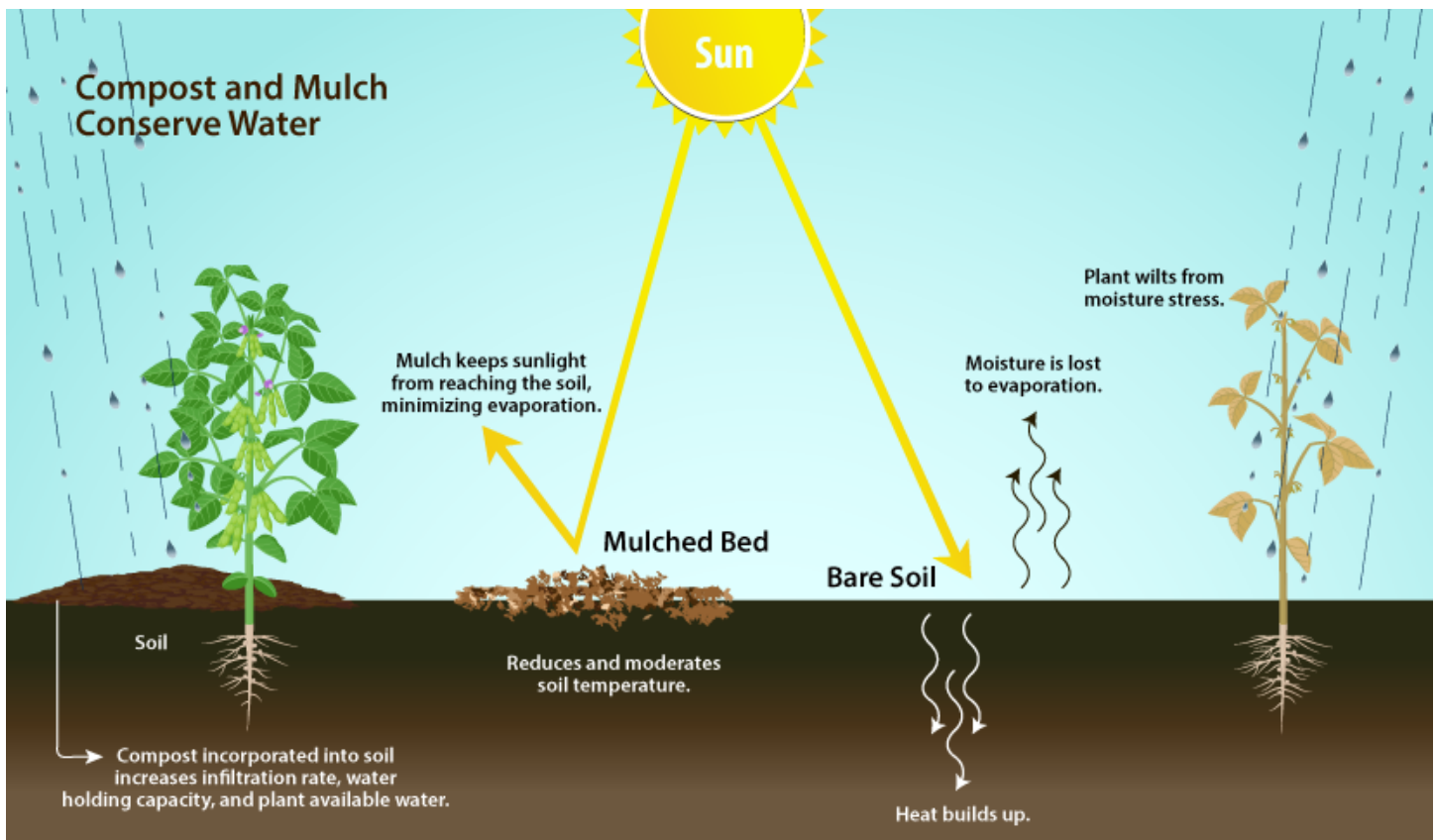
Once you are approved by the host, you will receive a confirmation email with instructions for joining the session.

To view in other time zones or languages, please click the following link

<https://cadot.webex.com/cadot/k2/j.php?MTID=t6492e2f63a18b0a58783e073ae53203c>

Caltrans staff that want to receive credit for the course will have to also sign up in LMS.

In the event you have a problem in registering, contact Jeff Pietrzak at [Jeff.Pietrzak@dot.ca.gov](mailto:Jeff.Pietrzak@dot.ca.gov)



Compost and mulch conserve water, illustration courtesy of CalRecycle



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A joint project of Caltrans, CalRecycle, University of California, University of Washington, United States Composting Council, California Compost Coalition, Filtrexx Sustainable Technologies, and Salix Applied Earthcare.



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US COMPOSTING  
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