The Monthly Dirt

February 2019

Dewatering

A Monthly Newsletter on the California Construction General Permit

By WGR Southwest, Inc.

A project is being planned for a new commercial center in a California beach community with a subterranean parking garage. But, according to the geotechnical report, groundwater is shallow, and the excavation contractor can expect to encounter it between 6 and 9 feet below ground surface. Soils at the site consist of a sandy loam. After consulting with a geotechnical engineer, you learn it is estimated that this site is going to produce up to **100,000 gallons per day** of groundwater. *That is a lot of water!* What are we supposed to do with it? In this month's edition of the **Monthly Dirt**, we are going to talk about permitting options and logistical water quality considerations for dewatering projects.

So, what are we going to do with 100,000 gpd? That is the question that many construction managers find themselves asking? To put it in perspective, it will fill five "Baker" tanks each and every day. Not only is that expensive, but a project manager will quickly find himself or herself running out of room to stage so many tanks. This is when the project manager comes to emphatically inform you that you will have to find a way to get rid of the water. Your list of options include:

- ☐ Discharging it to the ground
- ☐ Capturing and reusing it
- ☐ Trucking it off site to a municipal wastewater treatment plant
- ☐ Discharging it to the municipal sanitary sewer
- ☐ Discharging it to the municipal storm drain

After making a quick assessment of these options, you quickly realize that the first three options do not make any sense – there is just way too much water. For sites with smaller volumes of water, especially during the dry season, discharging the water to the ground or capturing the water and using it onsite for dust control, irrigation, or other construction related activities, may make sense. But, with such high daily yields, the site would be inundated and there is no way so much water could be used on-site. For the same reason, trucking is also not an economical option. This leaves the last two choices as the only potentially viable options.

☑ Sanitary Sewer Option:

This option involves pumping or gravity-draining the groundwater to a municipal sanitary sewer manhole. But, before you go pop open a manhole lid, you need to get authorization from the sewer owner. Some municipalities struggle with having enough capacity just for their normal operations (especially during rain events) and will categorically not accept dewatering. Other municipalities will conditionally allow it depending upon the capacity of the system where the project is located. In all cases, however, before discharging to a public sanitary sewer system, the sewer district agency needs to be contacted, and a permit application submitted.

The advantages of discharging to a sanitary sewer system include:

- ✓ Typically, a more streamlined permitting experience;
- ✓ Usually, easy access to the discharge point;
- ✓ Typically, higher permit limits than compared with a NPDES Permit, meaning less pre-treatment needed;
- ✓ Typically, less sampling and monitoring requirements; and
- ✓ Typically, less onerous reporting requirements than under a NPDES Permit.

Disadvantages of going to a sanitary sewer system include volume and flow rate restrictions and a volume - based (and, sometimes, pollutant concentration-based) discharge fee. Many times, this fee can be very substantial.

☑ Storm Sewer Option:

This option involves pumping or gravity draining the groundwater to a municipal storm drain or, sometimes, directly to a water body. But, before you stick the end of the hose in the closest storm drain inlet, let's review some important Federal and State regulations. Ultimately, it is the Federal Clean Water Act that regulates these types of discharges. But, the USEPA has delegated permitting authority to the California State Water Resources Control

Board (SWRCB). The SWRCB issues State-wide National Pollutant Discharge Elimination System (NPDES) permits for discharges of water to municipal storm drain systems or water bodies. But, the SWRCB allows the nine Regional Water Quality Control Boards (RWQCBs) to implement NPDES permits for specific types of discharges within their regions. The NPDES Construction General Permit allows for certain types of non-storm water to be discharged off-site, which are called ***"authorized"*** non-storm water discharges. These include discharges from dechlorinated potable water sources such as: fire hydrant flushing, irrigation of vegetative erosion control measures, pipe flushing and testing, water to control dust, **uncontaminated ground water from dewatering**, and other discharges not subject to a separate general NPDES permit adopted by a Regional Water Board. *Ah, so we can discharge dewatering under the CGP – cool!* Not so fast … did you notice the last line? ***"… other discharges not subject to a separate general NPDES permit adopted by a Regional Water Board."*** I know it is easy to miss, but the fact is that all but one of the RWQCBs have a separate general NPDES permit that covers de-watering.

Regional Board	NPDES No.	Order No.	Permit Name	Issued Date	Expiration Date
1	CA0024902	R1-2015-0003	GENERAL NPDES PERMIT FOR LOW THREAT DISCHARGES	03/12/2015	09/20/2020
2	No Separate Permit – Dewatering allowed to be discharged under the Construction General Permit				
3	CAG993001	R3-2011-0223	LOW THREAT DISCHARGES	12/01/2011	12/01/2016
4	CAG994004	R4-2013-0095	GROUNDWATER FROM CONSTRUCTION AND PROJECT DEWATERING	06/06/2013	07/06/2018
5	CAG995001	R5-2013-0074	DEWATERING & OTHER LOW THREAT DISCHARGES THE CENTRAL VALLEY REGIONAL BOARD IS NO LONGER ACCEPTING APPLICATIONS FOR COVERAGE UNDER THE LOW THREAT GENERAL ORDER. NEW APPLICANTS SHOULD APPLY FOR COVERAGE UNDER THE LIMITED THREAT GENERAL ORDER (GENERAL WASTE DISCHARGE REQUIREMENTS/NPDES PERMIT FOR LIMITED THREAT DISCHARGES TO SURFACE WATERS, Order R5-2016-0076/NPDES Permit No. CAG995002).	10/14/2016	05/01/2018
5	CAG995002	R5-2016-0076	LIMITED THREAT DISCHARGES TO SURFACE WATER	05/31/2013	01/30/2022
6	CAG996001	R6T-2014-0049	LIMITED THREAT DISCHARGES TO SURFACE WATER	06/18/2014	06/17/2019
7	CAG997001	R7-2009-0300	LOW THREAT GENERAL PERMIT	11/19/2009	11/18/2014
8	CAG998001	R8-2009-0003	DE MINIMUS THREAT DISCHARGES	03/27/2009	03/01/2014
9	CAG919003	R9-2015-0013	GROUNDWATER EXTRACTION DISCHARGES	06/24/2015	09/30/2020

To pursue the NPDES permitting option, you will need to determine which region you are in and download the appropriate permit. (Refer to the hyperlinks in the above table.) A Notice of Intent (NOI) will be included in each of the above-referenced permits. It will need to be completed and submitted to the appropriate RWQCB with a permit fee (approximately $2,200) and whatever additional information that is requested in the permit. Usually, this will include a site map; a dewatering plan showing the method for groundwater extraction, volumes, rates, and discharge location; and analytical results (although some of the permits may not require analytical testing until the system begins operation). Do not be surprised to find that the permit discharge limits for various analytical parameters may be hard to meet and require treatment. The water coming straight out of the ground may have higher levels of metals, nitrates, pH, or other constituents than what is allowed by the permit. It is very likely that a treatment system will be needed to not only make sure that turbidity and solids are below the permit limits, but also to remove other problematic constituents.

For a discharge to a municipal storm sewer system, the Water Board is not the only entity from whom you will need to obtain authorization. The owner of the storm sewer system will need to be contacted to make sure that they have capacity for the volume you plan to discharge. Municipal code usually requires that they be notified. In addition, there may be other entities to contact depending upon the project's location. For example, if your project is near, and discharges to, the Monterey Bay, you will need to submit a NOI to the Monterey Bay National Marine Sanctuary as required by the Region 3 Low Threat Discharge NPDES Permit. ***MD***

Permitting Confusion?
Call us at (209) 334-5363, ext. 110

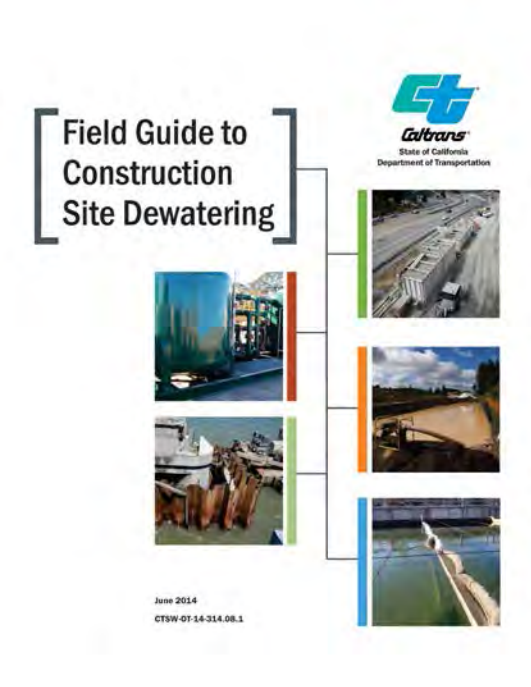
Upcoming Training

Got SWPPP? Classes coming to Lodi:

- ✓ Sampling School, March 21, 2019
  Call for more information (209) 334-5363 x110
- ✓ QSP/QSD Training, April 2 - 4, 2019
  (To register for the class, go to http://www.gotswppp.com/events.html)

Download the Caltrans Comprehensive Guide to Dewatering

It is a 1,600-page manual that has applicable information to any dewatering projects in California. It is packed-full of information on permitting, treatment, system configuration and design, and much more.



http://www.dot.ca.gov/hq/construc/stormwater/field-guide-to-construction-site-dewatering.pdf

Please contact us if you have any questions …

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Technical Questions about Environmental Compliance?
Call …
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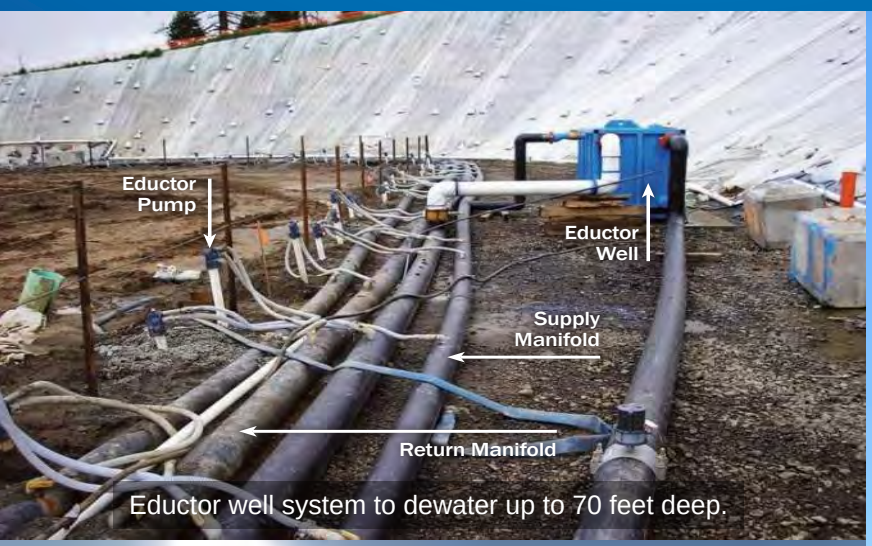
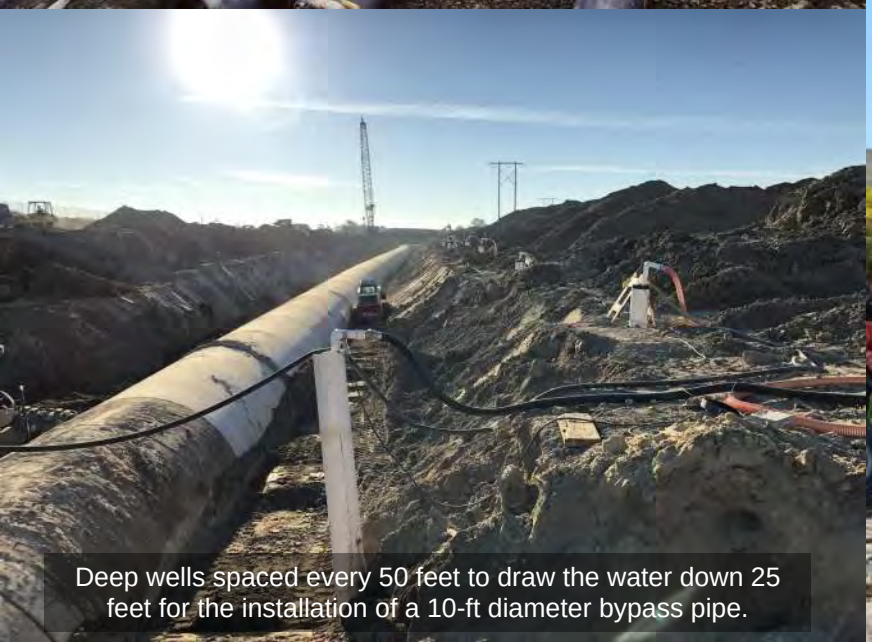


Eductor well system to dewater up to 70 feet deep.


Deep wells spaced every 50 feet to draw the water down 25 feet for the installation of a 10-ft diameter bypass pipe.

Deep well installation utilizing fully cased methods instead of drilling aids to keep the holes open to depth.

GROUND WATER REMEDIATION SOLUTIONS

The dewatering process on a construction site is the extraction of groundwater to temporarily lower the water table for construction purposes. Typically this work is performed by drillers who drill deep holes in the ground around the periphery of the planned excavation. They insert casings into the holes and place a submersible pump in the bottom. The groundwater is then conveyed to a water treatment system which has been designed to remove constituents which could cause environmental pollution or harm.

Active Treatment Systems, Inc. provides temporary dewatering effluent treatment solutions. It has extensive experience using proven and effective treatment technologies that are designed to meet difficult water quality discharge requirements associated with the extracted construction ground water.

ATS will work with a contractor's need for a small footprint due to limited space or access. ATS assists with submittals, permitting requirements and serves as a regulatory interface. ATS experience managing groundwater has focused on the following applications: sub-grade and subterranean construction, drilling, and tunneling, trenching, micro boring and more.

ATS systems have added safeguards to help maintain water quality discharge compliance; such a data collection with upload to internet web site, on-site laboratories and alarm systems. ATS can mobilize systems quickly and provide emergency response services in case of system upset. Our design features help reduce costs and footprint while maintaining discharge compliance.

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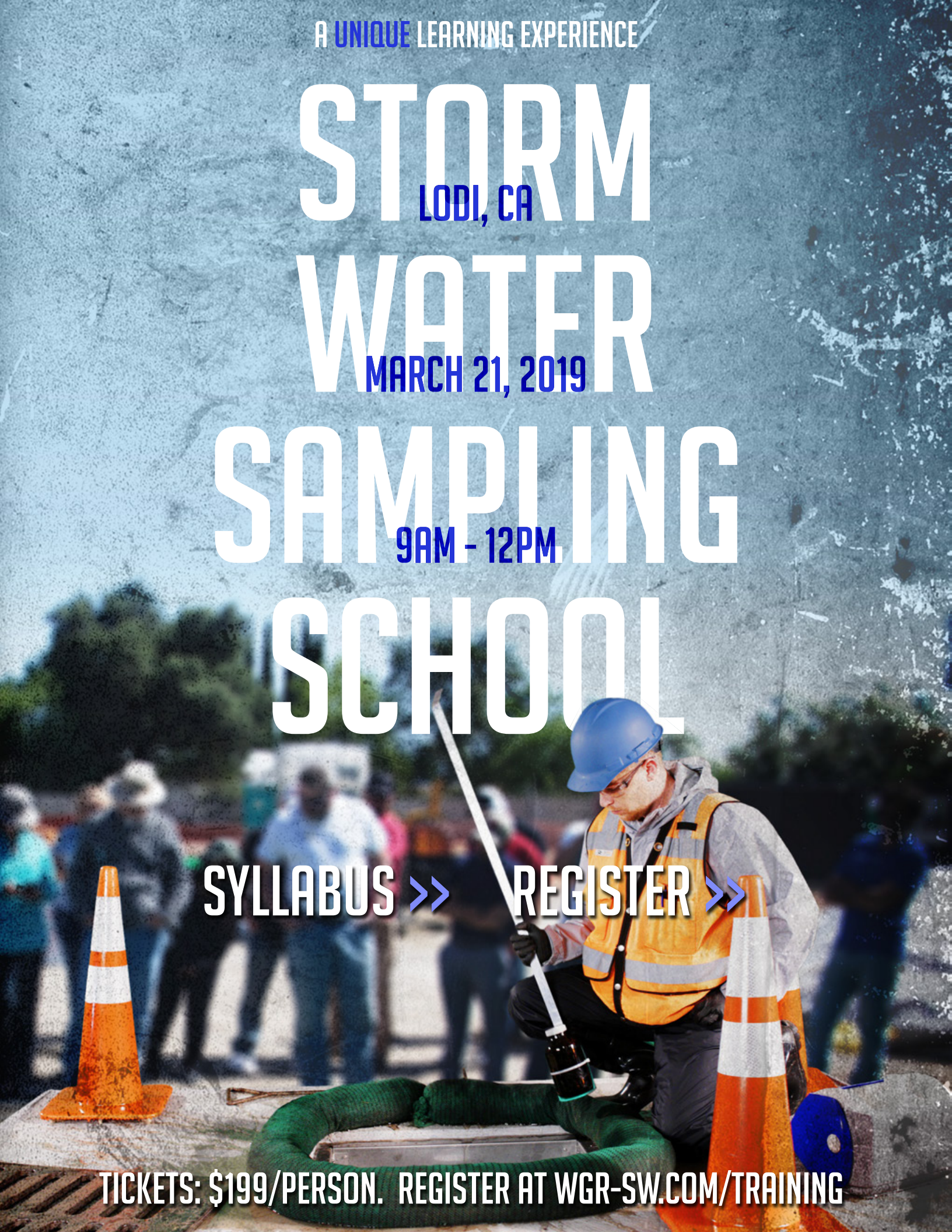

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DIRT TIME

EROSION CONTROL BMP SUMMIT
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APRIL 25TH-26TH 2019 @ SHASTA COLLEGE EROSION CONTROL FACILITY

This two day workshop is intended to de-mystify the BMP selection process, the SWPPP, while learning about the importance of drainage, infiltration, rooting depth, grading for erosion control, and some steep slope applications. The instructor will be John McCullah.

More than ever before your BMPs must be effective. According to the CGP (CA General Permit) the efficacy of the BMPs outlined in your SWPPP will be evaluated by inspections before, during, and after a storm event. The main learning points taken from theses events will be How to SELECT, INSTALL, and INSPECT BMPs.

A Trade show will be on site with EC equipment, products, suppliers and the latest in erosion control BMP practices. Just a walk away is the Shasta College Erosion Control Training Facility where we will spend the second day watching and participating in BMP implementation. Check out this BMP video: https://www.youtube.com/watch?v=VbmjJTEmS78&feature=youtu.be

Cost is $400.00 per person. Beverages and lunch are provided for two days. You will receive a certificate of attendance for continuing education.

25% discount on each ticket for groups of 4 or more.
10% discount for early registration before March 20TH
Free registration for the first 20 enrolled students to register

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