

NON-VISIBLE POLLUTANTS

AND HOW TO SAMPLE THEM

The Monthly Dirt

A Monthly Newsletter on the California Construction General Permit
By WGR Southwest, Inc.

For those of you familiar with the 1933 film that launched the acting career of Claude Rains (*Casablanca*, *Mr. Smith Goes to Washington*), you may recall that the protagonist of *The Invisible Man* was eventually captured by following his footsteps in the snow. But what does this have to do with storm water? The Construction General Permit requires that construction sites perform “Non-Visible Pollutant Monitoring” where construction materials are exposed to storm water and a discharge could contribute to an exceedance of a water quality objective. The monitoring process for these non-visible pollutants is similar to *The Invisible Man* in some ways – since you can’t see a non-visible pollutant, you can “follow the footprints” through storm water monitoring.

Non-visible pollutant monitoring is a Permit requirement common to all three risk levels of traditional and LUP projects. The requirements for Risk Level 1, 2, and 3 projects are found in Attachments C, D, and E, respectively. They include:

- Dischargers shall collect one or more samples during any breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water.
- Dischargers shall ensure that water samples are large enough to characterize the site conditions.
- Dischargers shall collect samples at all discharge locations that can be safely accessed.
- Dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.
- Dischargers shall analyze samples for all non-visible pollutant parameters (if applicable) – parameters indicating the presence of pollutants identified in the pollutant source assessment required (dischargers shall modify their monitoring plans to address these additional parameters in accordance with any updated SWPPP pollutant source assessment).
- Dischargers shall collect a sample of storm water that has not come in contact with the disturbed soil or the materials stored

or used on-site (uncontaminated sample) for comparison with the discharge sample.

- Dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis. Dischargers shall keep all field and/or analytical data in the SWPPP document.

The non-visible pollutant monitoring requirements are slightly different for LUP projects. See Attachment A for a list of these requirements.

So, what is a non-visible pollutant? The Permit gives a good definition in the Glossary (Appendix 5):

“Pollutants associated with a specific site or activity that can have a negative impact on water quality, but cannot be seen through observation (ex. chlorine). Such pollutants being discharged are not authorized.”

A visible pollutant is something that can be detected visually in a storm water discharge – such as petroleum sheens, suspended solids, sawdust, or drywall dust. Some examples of non-visible pollutants would include things that can’t be easily seen in a discharge – fecal coliforms from a portable toilet spill, insecticides and herbicides from landscaping activities, etc. According to the Permit, each discharger is responsible for developing a list of potential pollutants that are or could be present on the project site. This list should include all potential non-visible pollutants. For



instance, if you have portable toilets or landscaping activities, you will need to include fecal coliforms and fertilizers on the potential pollutant list. It gets a little more complicated because non-visible pollutants also includes such things as soil amendments (lime treating, etc.), and historical pollutants. If there is contaminated soil on the project site due to past industrial activity or a spill, non-visible pollutant monitoring will need to be performed.

When is non-visible pollutant monitoring required? You may have heard non-visible pollutant monitoring being referred to as "Uh-oh sampling," meaning that it occurs after some sort of spill or mishap. While this is true, it isn't the whole picture. According to the Permit's Fact Sheet, non-visible pollutant monitoring is required whenever pollutants associated with construction activities may be discharged with storm water due to a spill, BMP failure, or failure on the part of the discharger to adequately clean up construction materials or pollutants. So, in other words, if someone on your site leaves out their used cutting oil after a pipe-threading job, you may have triggered non-visible pollutant monitoring, which will need to take place during the next qualifying rain event. This is a good impetus to make sure your project stays neat and tidy. The process for collecting a sample for non-visible pollutants is pretty simple. Just remember "2 + 2:" Two samples will need to be collected within two hours of the start of discharge. One of the samples will be collected downstream of the pollutant source, and another "control" sample will be collected upstream (or cross-gradient) of the pollutant source. The results from the two samples can then be compared, and if the numbers are comparable, it's a good sign that the pollutant has been cleaned up, or is not present. Usually, non-visible pollutant sampling is a one-time event for each pollutant exposure, assuming the results came back negative for the pollutant. If a portable toilet tips over, you will need to sample for fecal coliform during the next rain event, but you won't have to sample for fecal coliform again unless the port-a-potty tips over again or the sample results indicate the continuing presence of fecal coliform.

So, think of non-visible sampling as following the pollutant's "footsteps" in the ground. You can't see these pollutants, so the Permit requires you to examine your project site to see if the pollutants are present in your storm water runoff. And remember, while non-visible pollutant sampling can be triggered by a spill, it can also be triggered by sloppy handling of construction materials. So save yourself the extra money of sending samples to a lab by keeping your project site clean. **MD**

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SWPPP Radio

Non-Visible Pollutant Sampling

In the February 2015 edition of The Monthly Dirt, we included a SWPPP Radio interview with John Teravskis about non-visible pollutant sampling, especially when triggered by a portable toilet spill. Since the topic is relevant to this month's edition, we decided to air it again!



<http://swpppradio.org/listen.php?ID=16>

REMEMBER

2 + 2

NON-VISIBLE SAMPLING REQUIRES
 2 samples collected within
 2 hours of start of discharge

Please contact us if you have any questions ...

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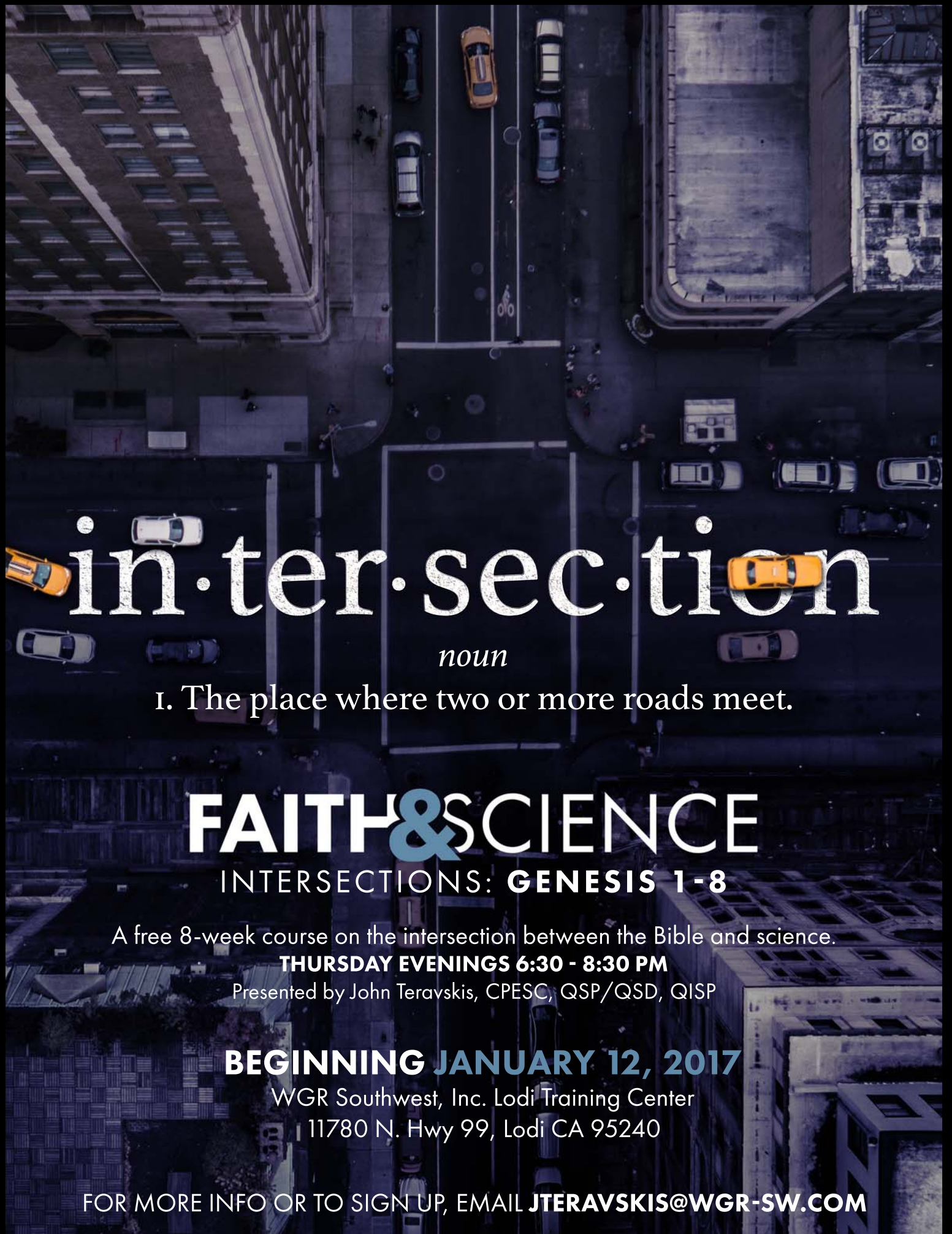
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