



Huff & Huff, Inc., THE RELEASE

FALL 2010

Huff & Huff
Environmental Consultants

Changes to Clean Construction and Demolition Debris (CCDD) Requirements



Clean construction or demolition debris (CCDD) is uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, or reclaimed asphalt pavement generated from construction or demolition activities. When uncontaminated soil is mixed with any of these materials, the uncontaminated soil is also considered CCDD. (Uncontaminated soil that is not mixed with other CCDD materials is not CCDD.)

Public Act 96-1416, effective July 30, 2010, makes changes that affect both CCDD facilities and those choosing to send CCDD materials to these facilities. The owners/operators of CCDD facilities will continue to assess each load with a photoionization detector (PID) to determine the presence of volatile organic compounds (VOCs) with load rejection based on ANY level of detectable VOC contamination. In addition, the Illinois EPA has imposed other requirements for acceptance of CCDD material such that these facilities must obtain permits from (CCDD facilities) or register with the IEPA (soil only facilities), pay fees to the IEPA, document the source of the material, the hauler, weight, date, time, and confirm the CCDD or uncontaminated soil was not removed from a site as part of a cleanup.

Of primary concern to those supplying CCDD or uncontaminated soil to these facilities is supplying certification to the accepting facility that the material is "uncontaminated". This can be accomplished in one of two ways depending on the type of site the material originates from:

1. Certification from the owner or operator of the site of origin that the site has never

been used for commercial or industrial purposes and is presumed to be uncontaminated soil (Form LPC-662); or

2. Certification from a licensed professional engineer that the soil is uncontaminated (Form LPC-663).

The Illinois EPA has determined all roadway use to be industrial/commercial, even if roadways are in residential areas.

Within one year of the effective date of the new CCDD law, the Illinois EPA has to propose rules defining uncontaminated soil by specifying the maximum concentrations of contaminants that may be in uncontaminated soil. This includes standards and procedures to protect groundwater. The Illinois Pollution Control Board has one additional year to adopt these rules.

A P.E. can rely on a records search identifying potential Recognized Environmental Conditions (RECs). If none are present in the subject area, Form 663 can be signed by a P.E.

One approach H&H is using for Public Works Departments is to develop a map depicting all RECs with appropriate set back zones. This can be of great value in segregating "clean" CCDD from the potentially impacted CCDD. H&H is currently developing such maps for a number of communities.

Illinois Nutrient Update

The Illinois EPA hosted a two-day "Nutrient Summit" September 13-14 to update the stakeholders on the status of nutrient regulations. Both point sources and the agricultural industry were well represented. Take home messages from this summit were:

- IEPA has determined the technology limit for effluent phosphorus is somewhere between 0.1 and 0.5 mg/L.

Inside this issue:

Employee Profile	2
Recycle Centers	3
Asiatic Carp Myths	4
Federal Noise Update	5
Vapor Intrusion	6
EZVI Update	6

- 6.5 percent of the POTWs in Illinois currently have a phosphorus limit.
- Sewage effluents in Illinois contribute 47% of the Total P statewide loading (and only 16% of the total N loading).
- A water quality standard, for Illinois will likely be set at or below 0.1 mg/L. Both Environmental Law & Policy and U.S. EPA made it clear that if the IEPA and Nutrient Advisory Committee don't act soon, one or both of them will.
- The Nutrient Advisory Committee will meet October 14 to see if nutrient standards can be agreed upon that Region V will support. (Both Wisconsin and Ohio have now proposed standards.)
- While there remains interest in a total nitrogen water quality standard, it appears likely that Illinois will proceed with a phosphorus water quality standard, phased-in over several permit cycles, and defer a nitrogen standard at this time.

Biological P removal is the primary technology of choice, and starting to develop the site specific performance data sooner than later will pay dividends.

Employee Profile

H&H NEW HIRE

Shane Cuplin



Huff & Huff has no shortage of experts who can identify all manner of flora and fauna in order to make a determination of a site's ecological health. But even if a field survey indicates the possibility of an environmental issue, the wildlife situation is just a

symptom. Finding the cause means getting to the root of the problem, and who better to dig deep for answers than a geologist? Drilling for solutions is part of the reason Shane Cuplin is such a valuable member of the H&H family.

Shane, a Professional Geologist, has been with Huff & Huff since 2007. His work with underground storage tanks and site assessments has taken him throughout the country. Certainly his choice of studies has provided him with a "chance to get out of the office," as he had hoped would be the case when pursuing his preferred line of studies.

Shane's expertise in conducting soil and groundwater studies has been invaluable in completing numerous transportation, remediation, assessment and monitoring projects. His varied geological experiences have been beneficial in providing him with knowledge to handle project obstacles. But no matter how much experience one has, you can never fully anticipate what you'll find once you start digging or drilling. Shane's biggest surprise so far was uncovering a group of drums at a site excavation.

A graduate of Western Illinois University, Shane is also the father to two kids and a husband to one wife. In his spare time he has managed to find a way to use his data analysis and predictive abilities in a way that is actually detrimental to his office mates: Shane is Huff & Huff's reigning Fantasy Football Champion. Dig that!



A World Series champion wouldn't pass up a chance to sign an available Cy Young Award winner. The best way to guarantee making a positive difference moving forward is through continual improvement. In that spirit, Huff & Huff is extremely excited to announce that Clarita Lao, P.E., has joined the team.

Clarita will bring her nearly three decades' worth of experience in planning, programming, managing, designing and coordinating transportation projects to directing the Huff & Huff transportation division as Vice President.

She believes her transportation knowledge "blends very well with what we do here at Huff & Huff." As Huff & Huff examines project alternatives and impacts, Clarita looks forward to using her talents and experience for examining the technical aspects of the resulting environmental issues.

Clarita's hobbies lend insight to her creativity and relentless push for solutions. For example, she enjoys beading. Her start with this type of jewelry-making came on a beach in the Philippines, where she picked up some beautiful pieces at a great price. But she was unsatisfied with the clasps used. Her response to the problem was to get herself to a craft store and study up on how to make her own jewelry. She's since made numerous pieces, each its own exercise in planning, creativity and design.

But it's not all precious stones and hard metal with this engineer; she's no stranger to things organic as well. She loves gardening. Here too, Clarita demonstrates an attitude of relentless searching for solutions. After a decade or so of repeated attempts, this season Clarita finally managed to coax a beloved orchid into re-flowering. Hard not to see that as an omen for how her work will bloom at Huff and Huff as well.

Phosphorous Detergents Phasing out of Illinois



Effective July 1, 2010, the State of Illinois, along with 15 other states, has enacted a law requiring the sale of low-phosphorous detergents. Stores are no longer able to sell dishwasher detergents that contain more than 0.5% phosphorous. However, the law does not apply to commercial dishwashing products. Previously, detergents could contain as much as 9 percent phosphorous by weight. The goal of this law is to improve water quality, aquatic ecosystems, reduce wastewater treatment costs, for (future) nutrient removal. (Article cont'd page 5)

(Phosphorous Detergents article cont'd from page 2)

As a result of this new law, some wastewater treatment plants have seen up to a 13 percent reduction in incoming phosphorous loads. Unfortunately, some consumer feedback has indicated that low-phosphate detergents do not work as well, resulting in "re-running" the dishwasher, especially if the water is "hard" (i.e. contains magnesium, calcium, or iron salts). The next time you visit the store to purchase laundry or dishwasher detergent, perhaps it is worth a look at the label.

Hines Emerald Dragonfly Surveys



U.S. Fish & Wildlife Service

If you happened to have been driving through the Joliet/Lemont area recently, you may have seen people standing along the roadway in remote areas along train tracks, gazing skyward. These people weren't lost souls or confused, but were a dedicated group of scientists conducting aerial surveys for the federally endangered Hines Emerald Dragonfly (*Somatochlora hineana*).

Huff & Huff biologists were part of a team of scientists who were selected to conduct the adult dragonfly surveys along south suburban rail lines as part of the High Speed Intercity Rail Project. The goal of the survey was to determine if these dragonflies are present near existing rail corridors. During the four weeks of surveys, adult Hines Emerald dragonflies were observed by the team members. The raw data collected by the team are being analyzed now to estimate population numbers and other critical information for the species relative to rail traffic. Our biologists all had the rare opportunity to see this very elusive species in the field. The adult dragonflies emerge from their larval stage in June and remain as adults for 6 to 8 weeks, foraging, mating, and then dying. So the window for observation is limited.

These dragonflies which occur in only very specialized habitat in certain Midwest areas are known to inhabit the Joliet/Lemont area. The Hines Emerald Dragonflies are very sensitive to water quality changes and are good indicators of high surface water quality and good overall environmental conditions. Also during the short period of adulthood, these dragonflies are voracious eaters of many insect pests including mosquitoes, which was good news for these dedicated observers. The surveys conducted by the team will help to preserve and protect this species.



Saturday Night Fever In the Chicago Area Waterway System (CAWS)

In a study released in April of 2010, the US Army Corps of engineers determined that an additional deterrent barrier composed of a hybrid system of sound, strobe lights and bubble curtains should be utilized to help prevent Asiatic carp from crossing such a barrier, yet not interfere with commerce or private boat traffic.

Far from an Andrew Lloyd Weber Production, the sound and light show will be produced to deter Asiatic carp, based on several scientific studies. The Illinois Natural History Survey's work on bubble curtains, sound deterrents, and strobe light deterrents, with carp was one of the keys in helping to determine the efficacy of such systems.

The preferred location of this demonstration project is at the Brandon Locks in Joliet Illinois, chosen from among eight other locations. The lead-time for installation of this project is eight months from the time authorization is given to the US ACE, which could happen during October 2010. Once constructed, this demonstration project, unofficially termed the *DiscoBarrier*, will be evaluated and fine tuned for approximately one year. The operating costs of this type of deterrent barrier is significantly lower than the electric field barriers already in operation and this barrier is inherently safer to both recreational boaters and barges with flammable cargo.



FEDERAL NOISE UPDATE

In July of this year, the Federal Highway Administration (FHWA) promulgated the *Procedures for Abatement of Highway Traffic Noise and Construction Noise* and the *Highway Traffic Noise: Analysis and Abatement Guidance* for use in the evaluation of transportation projects. These documents update the existing versions previously in use, and will affect all future transportation projects where noise analyses are required, including projects with vehicular traffic noise and train noise.

Regulation changes include additional activity categories, revised definitions of project types, and additional requirements for local official and public involvement.

All state transportation agencies must have an FHWA approved noise policy reflecting the changes in the federal regulation by July 13, 2011. The Illinois Department of Transportation's Traffic Noise Policy is currently under revision, and is scheduled to be submitted to FHWA in January 2011 for approval early next year. Traffic noise studies currently being conducted should be reviewed with FHWA to determine which set of regulations should be followed.

Huff & Huff, Inc.
Environmental Consultants

Visit us on the web at:
www.huffnhuff.com

915 Harger Road
Suite 330
Oak Brook, IL 60523
630-684-9100



Vapor Intrusion Update

In April, our newsletter described the status of vapor intrusion regulations in Illinois. At that time, the need for actual soil gas testing of volatiles was minimized by applying alternative groundwater tier 1 objections for indoor inhalation and alternative soil tier 1 objectives for outdoor inhalation. U.S. EPA Region V has recommended “multiple lines of evidence” to improve the confidence in the analysis.

Volatiles organics can partition into the gas phase from both contaminated soil and groundwater. Once in the gas phase, the vapors migrate upward by diffusion. However, if a building is above or in close proximity, reductions in the air pressure within the building will cause the gas beneath or adjacent the building to be pulled into the building through cracks in the building floor or basement walls. This is termed “advection.” The Illinois EPA has proposed that advection be considered if the contamination is within 5 feet of the building, either beneath the floor or within five feet of the walls.

Based on the U.S. EPA comments, the IEPA has made further changes to the vapor intrusion proposed regulations, and presented the proposed changes to the Site Remediation Advisory Committee (SRAC) on September 8. Further minor changes were agreed upon based upon SRAC’s comments, and IEPA plans to formally propose the vapor intrusion regulations to the Illinois Pollution Control Board this Fall.

So now that you are confused, let’s go through an example. You have a gasoline site, and benzene is the key pollutant. After conducting soil and groundwater sampling, you compare the highest groundwater result to the Diffusion plus Advection Table, where the remedial objective is 0.14 mg/L for benzene. If all of the groundwater results are below this, you have successfully completed your vapor intrusion analysis. If, how-

ever, the highest benzene in the groundwater is above 0.14 mg/L, you can either 1) Measure soil gas or 2) Accept a deed restriction of no building constructed over the area or any building will have vapor control.

For outdoor areas, you can use the Diffusion only table, where both groundwater and soil gas must be evaluated (U.S. EPA’s multiple line of evidence). Higher remedial objectives are associated with this pathway; however, if you use this table you have to accept the same deed restriction about no buildings or buildings with vapor control. This gets you to the exact same spot as using the Diffusion and Advection table and skipping the soil gas testing.

One additional new wrinkle is that the indoor inhalation pathway can be excluded for benzene, toluene, ethyl benzene, and total xylenes if a demonstration of active biodegradation can be demonstrated. We will save how one makes this demonstration for the next issue.

EZVI UPDATE

H&H has held a license from NASA for Emulsified Zero-Valent Iron (EZVI) for four years. We have used EZVI on seven sites where soil and/or groundwater has been impacted with chlorinated solvents. We have collected sufficient performance data to support our belief that this technology is not only extremely effective and fast, but also consistently the low cost option. To begin to market to other perspective users, we have a new website, www.ezvi.net up and running. This site explains both the science behind EZVI and provides case studies summarizing the performance. Check out our new website.



Printed on recycled paper.