

# CHASTAIN-SKILLMAN, INC.

ENGINEERS • ARCHITECTS • SCIENTISTS • SURVEYORS

## CONSULTANT'S UPDATE

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### BOUNDARY SURVEYING AND HISTORY

By J. Richard Noland, Jr., PSM



Land Surveying to establish property boundaries and the history of a particular geographic area certainly go hand-in-hand. The history of the area in which the survey is to be conducted can provide valuable information to the land surveyor, and will assist in the difficult decision-making process to solve complicated boundary issues. If historic information was easily available for every survey marker uncovered in the process of performing a boundary survey, this would lead to fewer boundary discrepancies and fewer litigation cases for boundary disputes.

Each boundary survey performed should be preceded by a comprehensive research into the particular area's history. Land surveying to establish property boundaries began in Florida in the early 1800s, when the United States General Land Office commissioned surveyors to partition and field monument the Public Land Survey System (PLSS) (see CSI Consultants Update 3<sup>rd</sup> quarter of 2007). During that time in history, wood posts were used to monument the corners of the PLSS. Over the years, for multiple reasons, those wood posts have been replaced, and the question facing every surveyor since the original survey was performed is whether the original position of

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### THE CLOCK IS TICKING...COUNT DOWN TO BIOSOLIDS LAND APPLICATION SITE PERMITTING

By Douglas E. Jones, PE



Sweeping changes are in store for facilities that generate or land apply domestic wastewater biosolids. The latest revision to biosolids rules (Chapter 62-640, Florida Administrative Code) has been in the works since 2002, with final adoption by the Environmental Regulatory Commission in 2010. These changes have remained below the radar of most owners, but the full effect is about to be realized as existing application sites must be permitted by the end of 2012.

The goals of the revised rules are to (1) reduce nutrient loading in water bodies and groundwater by requiring nutrient management of all sites, (2) improve accountability and land application site management, and (3) address continuing public concerns of biosolids.

FDEP indicates permit applications will be reviewed at both the district and state level.

Given the number of sites in the state, FDEP is strongly encouraging permit applications be submitted for review as soon as is possible to ensure sites will be permitted by the end of 2012. A bottleneck is expected at the testing portion of the permit application process because of the number of soil samples that must be processed by either state or private laboratories.

#### Critical Changes

1. All existing land application sites must be permitted under the new rules by December 31, 2012. Proposed new sites will also be permitted under the new rules. Biosolids may not be applied to unpermitted sites after this date. There will be no exceptions or extensions allowed even if the site is in the permitting process (permit must be in hand).
2. Site permits must be renewed every 5 years.

*(Biosolids—Continued on page 2)*

### EOHS NEWS

#### Local EOHS Professional Development Conferences:

- American Society of Safety Engineers (ASSE) EPA Region IV Safety & Health Conference  
Tampa, Florida  
April 2012
- American Industrial Hygiene Association (AIHA) Florida AIHA Spring Conference  
St. Petersburg, Florida  
April 2012

#### EOHS Professionals in Demand:

- A recent National Institute for Occupational Safety & Health (NIOSH) survey and assessment results of the EOHS profession/workforce resources confirm that future national demand for EOHS services will significantly outstrip the number of EOHS professionals with the necessary training, education, and experience to provide such services.

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the wood post has been perpetuated or guesstimated. It is the history of each corner monument, subsequent to the completion of the original survey, which could be the most vital piece of information to possess or uncover in a surveyor's research.



There are a number of valuable resources for researching the history of PLSS and, subsequently, the monumentation that delineates the boundary corners in a particular area. Researching

the historic information at the relevant County Surveying & Mapping department is an excellent resource. County Surveying & Mapping departments have been in existence for many years, and contain valuable historic survey records to assist in solving boundary line issues. In areas where a large land based industry may exist, similar to a phosphate mining operation or power company, these industries are another valuable resource. Florida Department of Transportation (formerly State Road Department) historic right-of-way maps may provide a snapshot in time.

An example of a favorite historic record located in Polk County, Florida is the

“Boyd Survey Book”. This book is located in Polk County micrographics or Surveying and Mapping sections of the county. W. Lacy Boyd was a Land Surveyor working in and for Polk County from 1910 to 1947. His record's accuracy, precision and integrity are impeccable for the period in time that he performed his survey work. According to the year accomplished, Mr. Boyd generally replaced the wood posts set during the original survey for the PLSS with sandstone concrete monuments; these monuments do not contain any metal. Due to the absence of metal in these monuments, the monuments are usually difficult and sometime impossible to find with conventional metal locators for the use of locating magnetic material. These metal locators are a common tool used by almost all surveyors today. The sandstone monument is more durable and is a better material than the wood post to defend against natural elements. The most valuable aspect of Mr. Boyd's records is the notations about each PLSS corner found. He gives a brief description of what was found at each corner or, if not found, how he re-established the location of each PLSS corner.



The ideal situation for each boundary corner involved in the boundary surveying process is to be able to create a timeline, commencing from the initial corner set during the PLSS survey (wood post) to the present day monument. In most situations, wood posts were replaced by sandstone monument by Mr. Boyd, which, in many situations have been replaced by a Permanent Reference Monument per County regulations for platting of a development or other type of monument used by modern day surveyors.



Chastain-Skillman, Inc. has been in business for over 60 years, and during this time we have accumulated an extensive library of survey records. This, together with our knowledge of the area, provides our clients with a valuable source of surveying history in central Florida.

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3. Wastewater treatment facilities must identify permitted sites before beginning biosolids application at the site. This requires submittal of the Treatment Facility Biosolids Plan to FDEP.
4. Site permitting requires a site-specific 5-year nutrient management plan (NMP). The plan must be prepared by a professional engineer or certified nutrient management planner. The NMP replaces the old Agricultural Use Plan, but is much more comprehensive.
5. NMP determines whether biosolids loading is based on nitrogen or phosphorus. This determination may have a dramatic impact on the quantity of biosolids that may be applied to a site.
6. Application rates must consider phosphorus assessment, all nutrient sources, nitrogen mineralization, crop yields, and calcium carbonate equivalency.
7. Soil testing for fertility and background metals is required.
8. Groundwater monitoring of sites may be required under certain circumstances.
9. New requirements for alkaline-treated biosolids includes ¼-mile setback to property lines for surface application or waiver from neighboring property owners.
10. Minimum 75-foot setback to property lines must be met.

#### Terminology Changes

- “Biosolids” replaces “domestic wastewater residuals”
- “Biosolids treatment facility” replaces “residuals management facility”

#### New Forms

- Treatment Facility Biosolids Plan - Form 62-640.210(2)(a)

- Treatment Facility Biosolids Annual Summary - Form 62-640.210(2)(b)
- Biosolids Application Site Annual Summary - Form 62-640.210(2)(c)
- Biosolids Application Site Permit Application – Form 62-640.210(2)(d)
- Biosolids Application Site Log – Form 62-640.210(2)(e)

#### Prohibitions

- New provision clarifies spilling or tracking biosolids off-site by a hauling vehicle prohibited
- Land application prohibited within the primary and secondary protection zones of the Wekiva Study Area
- New land application restrictions in the St. Lucie River, Lake Okeechobee, and Caloosahatchee River watersheds

We recommend that all land applicators of biosolids begin the permitting process promptly as a significant backlog of applications are expected by FDEP. Again, it is imperative to begin this process early to prevent disruption of your operations come the end of 2012. The permitting process is much more extensive than the old Agricultural Use Plans.

Chastain-Skillman's engineers and scientists are currently preparing site application permit applications and nutrient management plans for clients. Please contact us should you have any questions. Additional information can be found at <http://www.dep.state.fl.us/water/wastewater/dom/resmake.htm>.

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## EXPOSURE ASSESSMENT: SIGNIFICANCE VS IMPORTANCE

By Paul L. Osley, PE, BCEE, CIH, CSP



EOHS professionals and scientists who perform and/or evaluate potential exposure related health outcomes and provide expert litigation support services tend to utilize

or rely on exposure assessment data statistical significance in an effort to decide whether a causal relationship exists between a potential exposure and the subsequent level of importance of the adverse health outcome. The underlying principle is that a non-significant relationship is more likely to be due to chance than a true causal relationship.

Consequently, it is critical that the professional review as much of the scientific literature as possible or feasible (based upon the project scope of work and especially so with regard to expert litigation support services and meeting the Daubert standard/challenge requirements) before making a decision and/or providing an opinion about the probability/chances of a serious/adverse health outcome resulting from an exposure.

The following considerations are provided in an effort to assist in making better informed decisions regarding these exposure determinations:

- Are there peer reviewed and/or scientifically validated studies that have evaluated a relationship between the exposure and adverse health outcome?

*If no, then the possibility of a causal relationship still exists.*

- Is there at least one peer reviewed and/or scientifically validated study that establishes a strong causal relationship?

*If yes, the professional should consider the quality of the study, specific exposure conditions/similarities, the degree of association and the severity of the adverse health outcome.*

- Are there a few peer reviewed and/or scientifically validated studies that document at least a weak causal relationship?

*If yes, indications are there is either a marginally significant or significant causal relationship but the overall risk is considered low.*

- Are there numerous peer reviewed and/or scientifically validated studies that indicate a weak causal relationship?

*If yes, indications are there is a probable causal relationship, and the professional must consider specific exposure factors between actual field/site conditions and those of the study before a final determination is made and/or action is taken.*

- Are there adequate peer reviewed and/or scientifically validated studies that clearly establish a causal relationship?

*If yes, the professional must undertake appropriate actions immediately.*

In summary, when scientific literature searches do not identify adequate peer re-

viewed and/or scientifically validated studies, the possibility of a causal relationship remains viable. If adequate studies exist that indicate no causal relationship, the professional can conclude that the exposure adverse health outcome is unlikely. If adequate studies exist that indicate a weak or marginal causal relationship, the professional should consider other specific exposure factors, such as (without limitation) field/site environmental conditions/parameters, contaminant concentration, duration, and PPE/human behavioral factors before making a final determination on significance and importance. And finally, the obvious one of course (although rare) is if there are adequate peer reviewed and/or scientifically validated studies that clearly establish a causal relationship between a known exposure and an adverse health outcome, this is both significant as well as important and action needs to be taken immediately.

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### Confidential No Longer:

- EPA releases previously confidential Chemical Health and Safety Studies on chemicals that children and families are exposed to every day. As of November 28, 2011 hundreds of previously confidential studies on the critical health and safety of chemicals are now available to the public through the EPA website chemical data access tool. In addition, EPA announced that over the next year several thousand additional studies will be reviewed by EPA, and many of these will become more accessible to the public as well.

### OSHA's Top 10 list of violations offers employers key information for evaluating and improving EOHS programs:

1. Fall Protection (29 CFR 1926.501)
2. Scaffolding (29 CFR 1926.451)
3. Hazard Communication (29 CFR 1910.1200)
4. Respiratory Protection (29 CFR 1910.134)
5. Lockout / Tagout (29 CFR 1910.147)
6. Electrical – Wiring Methods (29 CFR 1910.305)
7. Powered Industrial Trucks (29 CFR 1910.178)
8. Ladders (29 CFR 1926.1053)
9. Electrical – General Requirements (29 CFR 1910.303)
10. Machine Guarding (29 CFR 1910.212)

This newsletter is provided solely for informational purposes and presents only highly condensed summaries relating to the topics presented. Therefore, it should not be relied upon as a complete record for purposes of regulatory compliance, nor is it intended to furnish advice adequate to any particular circumstances. For additional information on any of the topics in this newsletter, please contact the author, or Jay Chastain, (863) 646-1402, or e-mail us.

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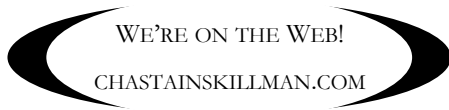
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