BEFORE THE INDIANA STATE DEPARTMENT OF HEALTH

AN ADMINISTRATIVE RULES HEARING
LSA DOCUMENT #12-157

HEARING OFFICER REPORT

This matter came before the duly appointed Hearing Officer, Hilari A. Sautbine, on the 16th day of July, 2012, at 10:00 a.m., at the Indiana State Department of Health (ISDH), 2 North Meridian Street, Indianapolis, Indiana.

Notice of time and place of the hearing was given as provided by law by publishing on June 20, 2012, in the *Indianapolis Star* and by publishing in the *Indiana Register* dated June 20, 2012. Proof of publication of this notice has been received by the ISDH and the notice and proof are hereby incorporated into the record of this cause by reference and placed in the official files of the ISDH.

ORAL STATEMENT

Randy Staley
President
Soil Service, Inc.

Mr. Staley testified at the hearing. He noted that his comments applied to both LSA Document #12-156 and LSA Document #12-157. His comments can be found on pages 4 through 24 of the hearing transcript, incorporated by reference as **Exhibit 1**.

WRITTEN STATEMENT

Randy Staley
President
Soil Service, Inc.

Mr. Staley also provided written comments at the hearing. Mr. Staley's comments are attached and incorporated by reference as **Exhibit 2**.

The record was left open until July 20, 2012.

Dated at Indianapolis, Indiana this 20th day of July, 2012.

Hilari A Sautbine

Hilari A. Sautbine
Hearing Officer

BEFORE THE INDIANA STATE
DEPARTMENT OF HEALTH

ORIGINAL

Public hearing before the Indiana State Department of Health on the 16th day of JULY, 2012, at 10:00 a.m., before Hearing Officer Hilari Sautbine, at the Indiana State Department of Health, Rice Auditorium, 2 North Meridian Street, Indianapolis, Indiana, and reported by Court Reporter and Notary Public, Marjorie A. Addington, CSR, CM.

ACCURATE REPORTING OF INDIANA
12922 BRIGHTON AVENUE
CARMEL, INDIANA 46032
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ISDH
EXHIBIT
1

HEARING OFFICER SAUTBINE: We're going to go ahead and start. I think we've given enough time. Okay, this is a joint public hearing for the Indiana State Department of Health on the 16th day of July 2012 at 10:00 a.m. at the Indiana State Department of Health, Rice Conference Room, 2 North Meridian Street, Indianapolis, Indiana, for rules docketed before the Executive Board of the State Department of Health as LSA Document No. 12-156, a rule to add 410 IAC 6-8.3 to update and clarify agency requirements pertaining to the design, construction, installation, maintenance and operation of residential on-site sewage systems. This rule repeals 410 IAC 6-8.2.

The second rule is docketed before the Executive Board of the State Department of Health as LSA Document No. 12-157, a rule to add 410 IAC 6-10.1 to update and clarify agency requirements pertaining to the design, construction, installation, maintenance and operation of commercial on-site sewage systems. This rule repeals 410 IAC 6-10.

Notice of time and place of this hearing was given as provided by law by publishing on June 20th, 2012 in the "Indianapolis Star" and on June 20th, 2012 in the "Indiana Register." Proof of publication of this notice has been received by the Department and the

notice and proof are now incorporated in this record of this cause by reference and placed in the official files of the Department.

My name is Hilari Sautbine and I have been appointed Hearing Officer by the State Department of Health to serve in this cause. The sign-in sheet should be completed by all individuals desiring to be shown as appearing of record and shall be completed by those who desire to be heard during this hearing. If you have not already signed the sheet, please do so at this time.

You will also find at the back of the room a copy of the proposed rule, the Small Business Economic Impact Statement, and the Indiana Economic Development Corporation's comments on the Economic Impact Statement. You are welcome to take a copy of each.

Additionally, the proposed rules and IEDC comments are posted on the Department's website at www.in.gov/isdh under "Rules." Oral statements will be heard and written statements may be handed to me, e-mailed to me at hsautbine@isdh.in.gov or mailed to me at Two North Meridian Street, Section 3H-99, Indianapolis, Indiana 46204, by July 20th, 2012.

All written and verbal comments will be recorded in my report on this hearing to the Executive Board of the Indiana State Department of Health. Each

person who wishes to speak for the record is requested to clearly identify yourself by giving your name, spelling it and identifying who you represent. I will take oral statements for each rule separately; however, if your statement applies to both rules and you wish to speak only once, please state prior to providing your comment that it applies to both rules. Thank you.

Regarding LSA Document No. 12-156, residential on-site sewage systems, is there anyone who cares to be heard?

MR. STALEY: Yes, yes.

HEARING OFFICER SAUTBINE: Okay, go ahead.

MR. STALEY: Okay. My name is Randy Staley, S-T-A-L-E-Y. I am a private soils consultant that does on-site investigations for the State Department of Health, I have been doing that for about 20 years. Prior to that I spent 20 years working in reclamation/ revegetation for the coal companies within the state of Indiana and the midwest. Presently serve on IOWPA's board of directors and also certified as one of the installers for septic systems in all three categories that IOWPA certifies in. I do not install them but I just did it because of having a deeper, more thorough understanding of the ramifications of when I'm meeting with the clientele out there to help assist them in

getting them through the process of the permitting and what kind of recommendations that the Health Department would be making. The Health Department makes the final call but just the more information I think the better.

The information that I wish to present, I do have some written comments here, basically are addressing just the residential but I think it would be applicable also to the commercial side of things, too, so from that standpoint the comments I make here would be considered under both aspects of it.

I'd like to begin my testimony by actually in reference to definitions and in particular 8.2-10 dealing with densic material, this was added in the 8.2 version of the regulation, Section 10. "Densic material, quote-unquote, means relatively unaltered materials, in brackets, do not meet the requirements for any other named diagnostic horizons nor any other diagnostic soil characteristic, that have a noncemented rupture resistance class." Rupture resistance class, okay, that's what we're talking about with densic material.

It goes on to say "The bulk density or the organization is such that the roots cannot enter, except in cracks. These are mostly earthy materials, such as till, volcanic mudflows, and some mechanically compacted

materials. Some noncemented rock can be densic materials, if they are dense or resistant enough to keep roots from entering, except in cracks. Densic materials are noncemented and thus differ from paralithic materials," which is basically bedrock type materials, "and the material below a lithic contact," which is bedrock, "both of which are cemented. Densic materials have, at the upper boundary, a densic contact if they have no cracks or if the spacing of the cracks that roots can enter is 10 centimeters or more," which is basically four inches, okay? "These materials can be used to differentiate soil series if the materials are within the series control section." This is actually out of the rule and the definition of what densic material is.

With that, actually, at this point in time my comments. I have other copies here if you would like a copy. The discussion at this point in time is centered around what was called calcareous till and based upon the definition the State has included in here, it is any time we get into a material that is calcareous there's a quick little test that we use, it's called hydrochloric acid put on there and when it fizzes or bubbles that's an indication of calcareous material, which basically indicates you could have a pH of 8.2 or

higher in the soil. And 410 IAC 6-8.2-57, dispersal area, Section 57(a)(2)(F) is a B, BC or CB horizon in a soil developed from Wisconsin glacial till that shows effervescence when treated with a 10 percent hydrochloric acid solution is what the present regulation is.

I'd like to suggest a change in that regulation, and in the revised there, "In a B, BC or CB horizon in soil developed from dense-compact Wisconsin glacial till that shows effervescence when treated with a 10 percent hydrochloric acid solution, containing little or no moisture, and contains little or no roots."

The first suggested change I have there is actually in the beginning of that statement. The capital A there is a little confusing. If you look at all the sections above there, A through E, all of them begin with a non-capitalized letter, but when we get to F there's a capital A, that is somewhat confusing because we actually have A horizons that exist in the soil, so is the reference here to A horizons and if it is, there should be a comma after A, which there's not, or is it just supposed to be a small A in reference to BC? And I think it should probably be just in reference to a B, BC, CB because in 69(6) and in 71(6), when you talk about again the calcareous Cs there is no capital A

in front of it, so I just make that point of hopefully clarification there in that, okay?

The purpose of identifying what this effervescence in glacial till is is to determine what is a limiting layer in the soil. This limiting layer, basically, is designed such that it does not allow water or roots to move through it, and it's very important in designing our septic systems to understand that.

Matter of fact, this whole regulation, okay, is designed upon soils and the understanding of the soils and to have the proper diagnosis and understanding soils to determine just how does water move through it or does water not move through it and that has a major impact on the design criteria, the types of systems and what is going to be recommended by the Health Department. So we need to make sure that we get the basic information right in order to make sure we get these septic systems properly designed.

This is one area that basically this calcareous till is such that there is a major question of what is it and does just the quick test of effervescence truly indicate proof-positive that it is a limiting layer. I personally have seen soil profiles and have a major question on this definition and how it applies, and actually I think we are designing our

systems incorrectly based upon this definition. Based upon this definition, the State Department of Health basically any time it is calcareous determines this to be a limiting layer. This is a quick test, yes, but to me it's an indication of a possible limiting layer but not proof-positive. The present regulation takes that to a proof-positive in saying that it is a limiting layer and if it is a limiting layer then based upon definitions it should not have any moisture in it and the roots should be very much limited in it and, actually, according to the definition, only growing in the cracks of it.

Myself and other soil scientists are seeing this same scenario and questioning this interpretation and definition of what is a limiting layer deemed with calcareous soils. So, therefore, that's why I'm proposing that the definition be changed here from Wisconsin glacial till to dense-compact Wisconsin glacial till and then added in "contains little or no moisture and contains little or no roots."

This I think is the true intent of what this regulation is because if water is moving through it, then we need to recognize this, and just to let you know, about five weeks ago I had 80 pits dug in Hancock County encountering this scenario and we've been, what,

two and a half months in our dry weather now? This calcareous till we're finding anywhere from 30 to 40 inches, but in the bottom of these pits, which were dug five, five and a half feet deep, there is water running into the pits about five to ten minutes after the holes were dug. I've encountered this scenario several, several times.

I've also talked to other soil scientists, Bill Hostetler, which was the State's assistant soil scientist in Indiana here, also confirms this. Gary Hudson also will confirm this. Even Gary Struben, who spent almost 40 years in Indiana and now is the Illinois state soil scientist, and his comment in several of our soil classifier meetings in regards to this, and I asked and called him can I quote him on this and he said yes, I can, he calls it bad science, bad science.

We have taken this and put it into regulation and now it's in there in black and white. I think this needs to be changed. And, actually, I've been in contact with Purdue University, Dr. Gary Steinhardt, which actually was in a meeting, what, we were in, what, a week and a half ago or so talking about this issue, am I correct? Mike, I think you were there, Mr. Dunn, both were there talking about that. I've also talked to Dr. Phillip Owens at Purdue University and

Dr. Darrell Schulze, also a scientist up there. And let me say, I work very closely with Purdue University, too. Matter of fact, they recommended me on assisting with Vincennes University in their soils department now directing their soil judging teams from the collegiate level.

But the ramifications of this actually come down into the latter part of what I'm putting in here in Section 8.2-63 dealing with drainage. In the present regulation it says "If the seasonal high water table is perched, the subsurface drain trench shall be constructed at least two inches into the massive clay, glacial till, or fragipan." This also is in the same language that's in 63(c), too.

My suggested change here is if the seasonal high water table is perched, the subsurface drain should be constructed at least six to eight inches into the massive clay, dense-compact glacial till, or fragipan. The proposed depth of the perimeter drain should be based upon the lowest densic soil limiting layer within the proposed absorption field. Most densic soil limiting layers will vary more than two inches within the proposed absorption field. Therefore, the deeper the perimeter drain, the better, at least six to eight inches or more into the lowest densic soil limiting

layer depending upon the site outlet elevation for the perimeter drain. The concern I have here with just two inches into a limiting layer, if it's a true limiting layer, okay, two inches into it -- actually, when we put our perimeter drains in, they're four inches in thickness -- two inches and if this is a true limiting layer, actually I think we need to have them deeper in the limiting layer because the purpose of the perimeter drain is, what, to seal off any additional water coming into the absorption field.

Let's divert to talk about water in the absorption field. We have to understand the dynamics of what is happening here with any treatment system we put out there. Matter of fact, this past, what is it, March we had the pumper and cleaner show in Indianapolis here and two days of education. I think, Mike, you were there and I know Alan, we all met there and as a matter of fact I think we even had lunch together on that. The design of those, actually, a point that was driven home to me on these is on our septic systems the design of digestion, 10 percent takes place in the tank, which is underwater digestion, anaerobic, 90 percent of the digestion of the effluent takes place in the absorption treatment field and that is done with aerobic, we need air in there. Welcome to the clays of Indiana, welcome

to the precipitation we normally get, okay, during the year. We're looking at, what, normally on an annual basis somewhere between 45 to 50 inches of precipitation a year and in our clay soils water doesn't move that well through them, so the design of these septic systems is critical and in particularly the perimeter drain to make sure we maintain good aerobic digestion in those absorption fields.

If we don't have aerobic digestion, what happens? Water gets in there and instead of at 90 percent digestion we drop back to 10 percent, which has a major effect on the efficiency and how long that system's going to last and how well it's going to last, so the design of putting these just two inches in, to me they need to be deeper because we actually backfill these things with peat or gravel, okay, to allow for better effluent or water flow into that perimeter drain.

Let me also talk about the septic systems and the design of them is we're normally on a three-bedroom system, typical system we're looking at five 100-foot long lines, which is a 1500 square foot system based upon the standard calculations of loading rates and things like that. We're normally designing these systems to handle about 2 to 300 gallons of water coming out of that house on a daily basis. Actually, if

you look at the calculations it's 450, I think, gallons on a family of five that we're looking at, a three-bedroom house design of 1500 square feet. The concern I've got and most of the time I tell people as long as you're running between 2 to 300 gallons you're within what it's designed to handle, when you start hitting 400, 500, even 600, you're above the design of what that soils can absorb, and then we take them again from an aerobic state to an anaerobic state and the digestion does not take place and that's where you actually over time start to see the black stuff rising up over where the finger systems are. So water is one of those major critical things that we need to understand the dynamics of it.

Now let me say this much, too. Do you know how much water falls on an acre of ground with just one inch of precipitation? 27,000 gallons of water. If we don't get those perimeter drains designed right, we've got water moving over top of that perimeter drain or in some cases and with this calcareous till I think we've got water moving underneath of them, too, and if they move underneath of them, they come right up into your finger system, which 27,000 gallons versus if we're just 2 to 300 gallons over is going to cause problems. How and where we put these perimeter drains is very critical

and the deeper we can get them the better the system will be, and in particular I think the two inches, as I say, actually what we're finding out there is it varies more than that in the profile and that's why I've included language that we should design it such that whatever -- We take normally two to three samples out into the field. We should design it based upon the lowest sample that we have there what water is moving through.

And in particularly in that lowest area it's critical, too, that we get it the deepest because where's the water going to be if you've got a limiting layer in that lowest point and, matter of fact, with all the amount of water that you've got out there, you're going to have a hydraulic head that's actually going to be pushing water underneath that lowest point and out. Matter of fact, 27,000 acres, but what if you've got 20 acres coming toward you and what if you've got two to three inch rains and we're talking about just a couple hundred gallons difference, so the critical point of understanding how we get this water away from us is a major impact on the longevity of the system and that's why I'm making the suggestions that I am here. Six to eight inches into it with a four-inch pipe actually gives you some freeboard for that water to fall in and

move in that gravel trench to where it can get in the pipe and out. If you just have it two inches into it, I don't think that's enough, really, that it actually might go right over top of it and into your absorption field where you don't want it. So I would suggest putting it deeper and the deeper the better.

On to Page 2 here actually addresses another point with putting the perimeter drains deeper. Some have concerns because we have outlet problems because when we go deeper at this point in time we have to gravity-flow these systems out. The present language says in 63(b)(9) "The subsurface drainage trench and the associated discharge piping shall be constructed to permit water to flow by gravity throughout its length. No pumps or siphons shall be utilized to effect the movement of the collected water."

Suggested change here I have is "The subsurface drain trench and the associated discharge piping shall be constructed to permit water to flow by gravity throughout its length to a point of discharge. It is preferred to discharge this subsurface perimeter drain into an existing functioning tile or to an adequate ditch, depth and size. If an outlet is not available for the subsurface drain, then a pump and pump tank may be used to discharge into an existing ditch.

When a pump and pump tank are used, there will be an operating and maintenance permit required with an inspection and maintenance scheduling of the pump on a quarterly basis."

If we do put the perimeter drains in deeper it's going to limit the amount of areas that are available within the state for this and in limiting that then basically permits will be denied, homes will not be built, but I think we're in the 21st century now where we do have a way of dealing with that issue of perimeter drains.

In the past basically the State in the questions that we've raised with that you allow pumps into a dosing system, why won't you allow pumps into the perimeter drain? And the standard answer that we've got on that is if the pump goes bad in a dosing system, it will back up in the house, the homeowner will get it changed, but if the pump goes bad on the perimeter drain, nobody's going to change it, it's not going to get fixed, so then you're going to end up with water in the system. But now with having included in 8.2 an operation and maintenance permit we can actually tie them, operation and maintenance, to the perimeter drain pump and this will actually add to a lot of building within the state because now all of these small lots

that they couldn't build on because they didn't have access for perimeter drain outlets because now if you have to cross the property you have to have easements and things like that, it doesn't happen. Matter of fact, let me give you an example. The State is actually already approving pumps on perimeter drains on a repair situation, the best judgment in the health departments are doing this, actually already putting pumps on perimeter drains on repairs and I think the State basically says "That's no problem." I think we need to take that up a step farther and actually include it in new construction, so that is my recommendation.

Matter of fact, let me give you an example of one here just a couple months ago over in Parke County. Small lot, existing house, the couple wanted to tear down the house and build a brand-new house but was denied because they did not have an outlet for the perimeter drain, but what the Health Department offered them was they could remodel their existing house, put a perimeter drain on the existing septic system and then pump it. I consider that to be nothing but arbitrary, capricious, malicious and totally deceitful to the citizens and taxpayers of the state of Indiana. You could do it one way but you can't do it another way? I think it's time that we consider this and actually allow

this to be -- Now I think we need to have design criteria and I really suggest that maybe this is the next step that the wastewater committee within the environmental health association put together some design criteria for pumps, and matter of fact, actually some of the health departments have asked me for some information from the State dealing with the design, how to correctly design tanks for perimeter drains and the sizing of the pumps that need to go into those, so the health departments are asking for this information even on a repair situation.

Matter of fact, I tell you one time I went out to one that they took a 12-inch culvert, turned it upside down or longways, vertical, stuck it in but the thing is where they put the pipe to the perimeter drain and where they pump in was above where the pipe came in. Matter of fact, the pipe was kind of sitting at an angle. When I took the lid off, shook the float loose, then the pump started working. To me this is not a good design, but this is what one health department allowed happen. So I think really we need to have additional guidance into this if we decide to go this direction and actually have it where we can build homes on some of these flat grounds that we cannot presently build on and to me this would be a win-win situation for everyone.

The latter part of the second page here basically concerns over the soil loading charts in Section 69 and Section 71. 69 I think deals with the belowground system and 71 for the aboveground.

Point 1 there, different rates for the same texture and structure between the two charts. An example of Table 5 there, which I think is Section 69, for a clay loam, strong structure the rating is .60 gallons per day per square foot, and for Table 6, which is the aboveground system, the same texture and structure, the rating is .25 gallons per day per square foot.

So in other words, what we're saying is how water moves through the system depends upon what kind of system you put on it. I don't think water moving through the soil knows what kind of system it's using. Water moving through the soil should be the same.

Now, I understand what I think you're getting to here is yes, there are differences in probably the systems and to me they should be addressed more into the rating of the systems, not changing how water moves through the soil because water moving through the soil, matter of fact, if you look at this, we have an inground system, okay, that's a .6 but an aboveground system that's .25. In other words, there's

twice as much water moving through the soil once you get it in the ground versus putting it on top of the ground. I don't think so. It's a difference in the systems, and if that's the case, then it should be in the loading rates of the system, not into the soils.

Matter of fact, Alan the last meeting gave me several other midwest copies of their loading rates, Wisconsin, I think it was, Michigan, Illinois, I think, and in looking through these, they all have one chart, they don't have different charts, I don't think, for different systems. I just make that point.

2, we need to take a closer look at the soil rate compared with the other states in the midwest and I think more research is needed in this area to make sure we are having the correct numbers in these charts because, actually, if you look at the loading rates on some of these in here versus the loading rates that we have there's some differences there and I think we need to realize, too, that it's best to utilize research here within the midwest than research that comes from, shall I say, the United Nations, which is more of a world scenario. That's one thing Purdue did teach me is when you do research, you can look at somebody else's but make sure you do on-the-farm research to know how it works in your area, for sure.

Point 3 there is change the prismatic structure back to the 8.1 revision of the regulations. Other midwest states have the prismatic structure with the blocky structure and no changes in the loading rate. What I'm saying there is upon examining the additional information, in this last 8.2, in the loading charts basically prismatic was moved out of the blocky structure, strong and moderate, into the weak, but when you look at the other states, they actually all have them listed as the same, which is what was in Revision 8.1. Gary Hudson will be making additional comments along those lines. We've talked about it and I will concur with what he will be submitting, too, on that just to let you know on that, so I think just to take a look at it.

Point 4 here, according to the charts for the soil loading rates, a clay texture with a massive structure has a loading rate of .25, but in Section 63, when you go back and read it, massive clay is considered a soil limiting layer. Now, at one point we're saying we've got water moving through it and in another part of the regulation we're saying it's a limiting layer. Little conflict there, I think.

And Point 5, where is the research for the soil loading rates and who makes the major changes

within 8.1 and 8.2 versions? Basically that was what our meeting was, what, a week and a half ago when we talked about those changes and what took place there, but I just raise that question again of where's the research and who makes these changes because if you look between 8.1 and 8.2 there were some major changes in the loading rates on some of those.

At this point in time that kind of concludes what I have written up. Can I take any questions or comments or statements along those lines or is it just a one-way presentation?

HEARING OFFICER SAUTBINE: To clarify, when you mentioned 8.1, are you talking about the current version of the rule which is actually 8.2, and then --

MR. STALEY: No.

HEARING OFFICER SAUTBINE: -- 8. -- When you're talking about 8.2, do you mean the proposed rule which is actually 8.3?

MR. STALEY: No, actually what I'm in reference to is 8.2, which is the existing rule. 8.3 is the proposed rule.

HEARING OFFICER SAUTBINE: Right.

MR. STALEY: And then prior to that was in 8.1.

HEARING OFFICER SAUTBINE: So these

references here really are 8.2?

MR. STALEY: Correct, yeah, yeah.

HEARING OFFICER SAUTBINE: Okay.

MR. STALEY: But they should be incorporated into 8.3 in the proposed changes because I think they may have changed the numbering in the categories, so I wasn't a hundred percent sure just which numbering system would be underneath the 8.3. Sorry to confuse you there on all of that stuff.

HEARING OFFICER SAUTBINE: Okay, thank you.

MR. STALEY: Thank you.

HEARING OFFICER SAUTBINE: Is there anyone else who cares to be heard regarding LSA Document No. 12-156, residential on-site sewage systems?

(No response.)

HEARING OFFICER SAUTBINE: Okay, we'll move on to regarding LSA Document No. 12-157, commercial on-site sewage systems, is there anyone who cares to be heard?

MR. STALEY: I'd just comment that the comments I made on that one --

HEARING OFFICER SAUTBINE: Sure.

MR. STALEY: -- would relate to also that aspect.

HEARING OFFICER SAUTBINE: Okay. Seeing and

hearing everyone who wants to be heard at this time, I want to thank each of you for your presentation. My report of the hearing will be in writing to the Executive Board of the Indiana State Department of Health for their consideration before final adoption. These proceedings pursuant to notice are hereby concluded. This cause is, therefore, adjourned until final order of the Executive Board. Thank you for coming.

(WHEREUPON, at 10:45 a.m., July 16, 2012, this hearing concluded for the day.)

CERTIFICATE

STATE OF INDIANA
ss:
COUNTY OF HAMILTON

I, Marjorie A. Addington, the undersigned Court Reporter and Notary Public residing and maintaining offices in the City of Carmel, Hamilton County, Indiana, do hereby certify:

That I reported to the best of my ability in machine shorthand all of the words spoken by all parties in attendance during the course of the hearing;

That I later reduced my shorthand notes into the foregoing typewritten transcript form, which typewritten transcript is a true record to the best of my ability of the hearing;

That I am not a relative or employee or attorney or counsel of any of the parties, nor am I a relative or an employee of such attorney or counsel, and that I am not financially interested in this action.

IN WITNESS HERETO, I have affixed my Notarial Seal and subscribed my signature below this 16th day of JULY, 2012.

Notary Public
County of Residence: Hamilton (Seal)
My Commission Expires on: August 22, 2015

Suggested Regulation Changes for the Proposed 410 IAC 6-8.3
Submitted by Staley's Soil Service, Inc.; Randy E. Staley, CPAg/SSc/SC #1845
IRSS #71, IOWPA #263

410 IAC 6-8.2-57 Dispersal area

Sec. 57 (a)(2)(F) A B, BC or CB horizon in a soil developed from Wisconsin glacial till that shows effervescence when treated with a ten percent (10%) hydrochloric acid solution

Suggested Revised Language and Change:

In a B, BC, or CB horizon in soil developed from dense-compact Wisconsin glacial till that shows effervescence when treated with a ten percent (10%) hydrochloric acid solution; contains little or no moisture; and contains little or no roots.

Suggested Change would also apply to 410 IAC 6-8.2-69 (6) and 410 IAC 6-8.2-71 (6)

When no B, BC, or CB horizon from the ground surface to twenty-four (24) inches below the proposed trench bottom in a soil developed from dense-compact Wisconsin glacial till shows effervescence when treated with a ten percent (10%) hydrochloric acid solution; contains little or no moisture; and little or no roots.

410 IAC 6-8.2-63 Drainage

Sec. 63 (b)(2) If the seasonal high water table is perched, the subsurface drain trench shall be constructed at less two (2) inches into the massive clay, glacial till, or fragipan. Also in Sec. 63 (c)

Suggested Revised Language and Change:

If the seasonal high water table is perched, the subsurface drain trench shall be constructed at less six to eight (6 to 8) inches into the massive clay, dense-compact glacial till, or fragipan. The proposed depth of the perimeter drains should be based upon the lowest densic soil limiting layer within the proposed absorption field area. Most densic soil limiting layers will vary more than two inches within the proposed absorption field. Therefore the deeper the perimeter drain the better, at least six to eight (6 to 8) inches or more into the lowest densic soil limiting layer depending on the site outlet elevation for the perimeter drain.

ISDH
EXHIBIT 2

Suggested Regulation Changes for the Proposed 410 IAC 6-8.3
Submitted by Staley's Soil Service, Inc.; Randy E. Staley, CPAg/SSc/SC #1845
IRSS #71, IOWPA #263

410 IAC 6-8.2-63 Drainage

Sec. 63(b)(9) The subsurface drain trench and the associated discharge piping shall be constructed to permit water to flow by gravity throughout its length. No pumps or siphons shall be utilized to effect the movement of the collected water.

Suggest Language and Change:

The subsurface drain trench and the associated discharge piping shall be constructed to permit water to flow by gravity throughout its length to a point of discharge. It is prefer to discharge this subsurface (perimeter) drain into an existing functioning tile or to an adequate ditch - depth and size. If an outlet is not available for the subsurface drain, then a pump and pump tank may be used to discharge into an existing ditch. When a pump and pump tank are used, there will be an operating and maintenance permit required with an inspection and maintenance scheduling of the pump on a quarterly basis.

Concerns over the soil loading charts of Sec. 69 and Sec. 71

1) Different rates for the same texture and structure between the two charts - i.e. Table V for a Clay Loam - Strong structure is 0.60 gpd/ft2 for Table VI same texture and structure the rate is 0.25 gpd/ft2

2) Need take a closer look at these soil loading rate compared to other States within the Mid-west. More research is needed in this area.

3) Change the Prismatic structure back to the 8.1 revision of the regulations. Other Midwest States have the prismatic structure with the blocky structure and no change in loading rates.

4) According to the charts for the soil loading rates - a clay texture with a massive structure has a loading rate of 0.25 gpd/ft2, but in Sec. 63 massive clay is considered a soil limiting layer.

5) Where is the research for the soil loading rates and who makes the major changes with the 8.1 and the 8.2 versions?

Respectively submitted.