BEFORE THE ENVIRONMENTAL QUALITY COUNCIL

STATE OF WYOMING

IN THE MATTER OF
WATER QUALITY RULES AND REGULATIONS DOCKET NO. 15-3101
RULEMAKING CHAPTERS 15 AND 25

TRANSCRIPT OF HEARING PROCEEDINGS

PURSUANT TO NOTICE duly given to all parties in interest, this matter came on for hearing on the 8th day of July, 2015, at the hour of 10:00 a.m., at the Herschler Building, 122 West 25th Street, Room 1699, Cheyenne, Wyoming, before the Wyoming Environmental Quality Council. Council Members present were Mr. Nick Agopian, presiding, with Dr. David Bagley, Mr. Aaron Clark, Mr. Richard Fairservis, Ms. Meghan Lally, Ms. Megan Degenfelder, and Mr. Tim Flitner, attending by telephone.

Mr. MacKenzie Williams, Attorney for the Council; Mr. Jim Ruby, Executive Director to the Council; Mr. Joe Girardin, Business Office Coordinator, were also in attendance.

A P P E A R A N C E S

For the DEQ: MR. DAVID P. ROSS
Senior Assistant Attorney General
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Assistant Wyoming Attorney General
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2424 Pioneer Avenue
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ALSO PRESENT: MR. KEVIN FREDERICK
MR. BILL TILLMAN
MS. GINA THOMPSON
MR. SETH TOURNEY
MR. RICH CRIPE

P R O C E E D I N G S

(Hearing proceedings commenced 10:00 a.m., July 8, 2015.)

CHAIRMAN BAGLEY: All right. Next on our agenda is Docket 15-3101. Mr. Agopian is the hearing officer. And at this time, I will pass the gavel to Mr. Agopian to handle this public hearing.

COUNCIL MEMBER AGOPIAN: Thank you, Mr. Chairman.

Good morning. Nick Agopian, hearing officer for Docket 15-3101, a rulemaking for the Water Quality Division of the DEQ for Chapters 15 and 25. This hearing is being held in Room 1699 of the Herschler Building, 122 West 25th Street, Cheyenne, Wyoming.

Present today from the council are Rich Fairservis, on the phone is Tim Flitner, Meghan Lally, Dr. Dave Bagley, Aaron Clark, Megan D. and myself.

The procedure for today's hearing is as follows: The DEQ will present the rule package and respond to any questions from the council.

Once the DEQ is finished, we will take comments from those who wish to testify in support of the rule package. Each person who testifies may be asked questions by the council.

Upon conclusion of supporting testimony, we will

take testimony in opposition to the rule package. Again, those who testify may be asked questions by the council.

Upon the conclusion of the opposition testimony, we will receive any neutral testimony. And after that, the DEQ will have an opportunity to make any comments.

Before we get going, just out of curiosity, by show of hands of those that are here this morning and intend to testify on this rule. Great. Thank you.

And when we get to that point, I'll remind you at that time, there's a sign-in sheet on the podium for those that will be testifying.

Mr. Frederick, please come forward and introduce your -- you've already introduced yourself. If you want to -- and your staff. Unless there's -- I don't see a change at the table there with you. If you wanted to begin your presentation, that will be great.

MR. FREDERICK: Thank you, Mr. Chairman, Mr. Agopian.

Just real briefly, again, attending here with me today, to my right Mr. Bill Tillman has been intimately involved in assisting with development of this regulation, modification of an existing regulation.

To Bill's right is Gina Thompson. Gina's here to provide any assistance in support to us if questions come up, so forth.

Behind me in the far right is Mr. Rich Cripe. Mr. Rich Cripe is the water and wastewater section manager within the Water Quality Division. He's a registered civil engineer, professional engineer, and has been involved with developing and modifying the regulation as well.

Also, I'd like to mention, again, the presence of the Senior Assistant Attorney General Dave Ross on behalf of Water Quality Division. To his right, Jeremy Gross, an Assistant Attorney General with the Attorney General's Office as well.

In the back row I also have a few staff members I'd like to at least acknowledge. Mr. Brian Mark is a civil engineer that manages our State Revolving Fund Program. That essentially provides loan recommendations, together with the Office of State Lands and Investments and the Wyoming Water Development Commission to the State Loan and Investment Board.

Also, I'd like to acknowledge Seth Tourney. Both Seth and Brian have been involved in working on this regulation as well. Seth is also a registered engineer with DEQ. He's our southeast district water and wastewater program engineering supervisor. So he's intimately involved with permitting water and wastewater systems, including those that we're going to be discussing today.

We essentially have been permitting small

wastewater systems under Chapter 11, which is a regulation that was promulgated back in 1984 under Governor Ed Herschler. The regulation was 31 years old, essentially.

Over that period of time, as sure as we all know, there have been advancements in understanding the importance of ensuring systems are designed such that the discharge of wastewater from these systems, septic systems and so forth, to the environment is not only protective of public health, but it's also protective of the environment.

Staff has spent a great deal of time reviewing and researching updates to thinking since 1984 on how to design and manage these types of systems, in line with that recognition that things have changed. And the regulation did need to be updated. There were gaps in the regulation. There was a need for clarity in the regulation. There was a need to make it more understandable to people who were permitting these things, trying to permit these things. There was a need to make sure that we were incorporating advances in technologies and understanding that would be better protective of human health and the environment and bring that clarity into this regulation.

The draft regulation has been before the Water and Waste Advisory Board four times; twice in 2013, twice in 2014, before it was moved to the council. In addition to those four hearings, there was an informational briefing

for the Water and Waste Advisory Board on regulation of greywater. That's included in this regulation in a little bit more specificity than in the existing regulation.

So over the past two years, we've had a lot of opportunity for public review and comment. We've had a lot of opportunity for questions and answers before the Water and Waste Advisory Board on several occasions, as I mentioned. At the end of the day, the Advisory Board moved the rule before the council. And this proposed regulation has been up for public notice, public comment, and so forth, now for the past several weeks. Since then we've received essentially a total of -- comments from six separate entities, if I'm not mistaken. We think we've done a reasonable, if not commendable, job in responding to those comments. And the council should have a copy of those responses to the comments that the Water Quality Division has developed.

So with that, I wanted to talk a little bit more specifically about the proposed rule changes. We'll start with summary revisions to Chapter 15. 15, essentially, included a general statewide permit for land application of domestic septage in remote areas. That is the new title for that particular part of Chapter 15, Appendix C, that's going to be relocated to a new Appendix B in Chapter 25, which is going to be this regulation before you today.

If there are any questions from the council regarding that proposed revision, now would be an opportune time to perhaps ask those before we move into the more substantive discussion on Chapter 25.

COUNCIL MEMBER AGOPIAN: Seeing none, please proceed.

MR. FREDERICK: Thank you, Mr. Chairman, Mr. Agopian.

I'll discuss now, with the assistance of Bill Tillman, essentially, the thinking and the logic in a little bit more detail behind the update to the 1984 rule and regulation. Bill's going to go through that in a little bit more detail for you all. And I'll leave it to the council's pleasure, Mr. Chairman, if you want to take questions as we proceed, or if you want to hold them for the end, we're flexible either way.

So with that said, we'll proceed with providing the council with essentially a broad overview of what we're attempting to do here. Thank you.

COUNCIL MEMBER AGOPIAN: Thank you.

Bill.

MR. TILLMAN: Councilman Agopian and Chairman.

Basically, as Mr. Frederick alluded to, this chapter has not been updated for some 30 years. And part

of the thinking, when we were considering updating this chapter, was that it primarily deals with small wastewater systems that are associated with domestic residences, so homeowners would be, you know, using this primarily more so than any other people in the public. And part of the idea was that we would develop enough information, design packages, if you will, so that those homeowners could basically design the system themselves, without the assistance of a professional engineer, which was required under state statute, that, you know, any modifications to a wastewater system had to be signed and sealed by a professional engineer, but with the small wastewater systems, the idea was that we could put enough information in the chapter for the homeowners to understand, but also develop design package that would be more of a fill-in-the-blank type of form that the homeowner would then be able to access online, be able to work through and then present that with an application without the assistance of a professional engineer, but with the oversight of an engineer that developed those. And that was the primary impetus in modifying this chapter.

And with that being said, there needs to be some expanded information, because as it was previously promulgated, a professional engineer would be involved, so a lot of the details -- some of the details as far as

things to be considered when designing a small wastewater system were not there, so we expanded quite a bit of information in different areas, again, to assist potentially nontechnical people in understanding some of the requirements and things they needed to pay attention to when trying to install a small wastewater system.

In Section 1, basically, it gives the authority or the statute that the state gives us to promulgate rules, and that's just something that we have in each and every chapter. Section 2 is also carried forward in format, and that it basically states the objective for the chapter, and in this case, small wastewater systems, it describes, basically, the design standards that are going to be presented in the chapter, but it also alludes to the UIC program that also references our design standards in their permitting and regulatory efforts. And that's also carried forward in this section of objectives.

Also, in the section of objectives, we have information about when a professional engineer needs to be involved. Like I just stated, the bulk of the information here was designed to be used by people without the assistance of a professional engineer, but there will be situations, different cases, where a professional engineer definitely needs to be involved because there are different nuances that need to be, you know, thought through a little

bit more carefully, and those are clearly stated when that professional engineer would be required in this section.

And at the end of Section 2, there's a reminder that, you know, anyone that's involved in installing or modifying any of the components of a small wastewater system, that there needs to be a permit to construct before they can do any of those activities.

In Section 2, the definitions, there were definitions that were already there, but they were fairly scant. And, again, with increasing the amount of information, the detail within the chapter, we felt there were additional definitions that needed to be added. Also, in some of the existing definitions we added some what we consider clarifying language, again, trying to take into account people that would be using this. And, again, not only are there nontechnical people, the homeowners, but there are still professionals that would be involved in using this chapter, in designing, so we did add some clarification for them as well. And basically -- I'm not going to go through each of the definitions, but, again, those definitions were modified as needed.

Section 4 gets more into the heart of the design of a small wastewater system. And it basically speaks to the design flows. And as we stated before, these design flows had not been updated in over 30 years. And

previously we had what we would call a constant rate, especially if we're talking for a home, meaning that it was considered 150 gallons per day per bedroom was a standard, and basically that was a constant. So if you had four bedrooms, you just took 150 multiplied by 4 and that would be the volume of wastewater that could be generated by that residence.

And some of the new way of thinking, there are definitely new fixtures, more energy -- or excuse me, water conservation fixtures, and things like that. So we -- we basically scaled that back, and we're proposing a -- more of a sliding scale. It would start at 150 gallons per day for one bedroom, but then would decrease as the bedrooms were also added to the residence. So, previously, if you had a four-bedroom house at 150 gallons per day, you would have roughly 600 gallons per day of wastewater that would be generated.

In our new scale, like I said, it's more of a sliding scale, a four-bedroom house would now produce only 470 gallons of wastewater. So, again, taking into account some of the water conservation fixtures people are installing. And that would basically reduce, you know, the size of an absorption system, because, again, the wastewater flow is the main thing that you're designing around in a small wastewater absorption system. In the

table that we have those flows in, we also added a footnote because people, when they're building houses, don't always finish their basements, but basements are a part of the residence. And we added that for -- from a conservative standpoint, that a basement -- an unfinished basement would be considered, essentially, two bedrooms. And you would add 80 gallons -- excuse me, you would be considered two bedrooms. So, again, it gives them a basis for how to project what the wastewater flow is, because, again, when somebody finishes a basement, sometimes they make a rec room, but, again, if they add bedrooms and increase the number of people in the residence, that wastewater flow needs to be accounted for.

And, again, the wastewater flows that we came up with, we used a guide, the wastewater treatment -- excuse me. It's called the Wastewater Engineering: Treatment and Reuse, and it's a standard used by many of the engineering professionals. It's by Metcalf & Eddy. The latest edition was in 2003. And in that book, basically, it presented a range of values for flows. And we tried to stay more in the middle. There were some that considered that flows nowadays are considerably less than what they were 30 years ago, and have gone completely to the other end, the smaller end of it. But, again, the smaller the flows, the smaller the system, and that's where you tend to get into some --

you can get into some problems if the system is not sized appropriately for, let's say, surges in volume. Namely, if you have people coming on holidays and things like that. You don't want to cut that volume too close, so we tended to be more in the middle of that range and took a conservative approach at that.

Some of the nonresidential flows were also updated. Some of their units of measure were changed. But by and large, we -- again, we adjusted for what we considered to be the more modern flows, and, again, tried to stay on the conservative end of that.

Section 5 is new for this chapter. And, basically, it covers systems not covered by this rule. And the intent of this section was, basically, to provide a means for new technology, new processes or equipment that didn't necessarily comply with requirements of the chapter that provided means for them to be evaluated and possibly installed, you know, in a small wastewater system.

Paragraph B within the section basically describes the type of data and information that needs to be included in the application with these noncompliant pieces of equipment or processes so that we could, again, evaluate their performance and see if they could be installed. And, again, that's -- it just gives them another avenue to present other new processes or technology as it evolves.

Section 6 is, basically, entitled Site Suitability, and it gives the applicant some of the criteria that's necessary to evaluate whether or not a piece of ground is a good site for the absorption field, which is a part of the small wastewater system.

The first two conditions, basically, give you -- or give the -- the applicant ideas of things to avoid when looking for site for an absorption field. And it also reminds the applicant that although they're designing and conducting a small wastewater field, a singular one, at some point down the road in the future that field may fail, so they need to, basically, have in their mind an area where replacement field would be located. And that is kind of a requirement that we are proposing for them to consider.

Further down, in Condition C, it basically refers to the need for 4 feet of soil -- 4 vertical feet of soil for treatment when considering a site for absorption system. And one of the types of technology that's available -- again, most systems are what we call gravity -- gravity systems, so there is no force or pressure applied to moving of wastewater or applying it to the ground, but in some instances a pressure distribution system, where that wastewater does have to be pumped out to the system is necessary. And in those cases, there's --

there is a -- a different amount of vertical feet necessary for treatment. And then pressure distribution systems, we can reduce that vertical feet necessary to 3 feet. But, again, that's in a pressure distribution system that wastewater is pushed out into the field, and you take more advantage of the entire absorption field, and you get more efficient treatment of the system, so we can reduce the vertical feet necessary by 1 foot in that instance.

In Table 3, basically sometimes when they're siting a -- the absorption system for a small wastewater system, the surface isn't flat. And Table 3 was also carried forward from our existing regulations, and it gives for locations for when there is a slope to the absorption field, and the associated percolation rate or absorption rate that's associated with that slope, because the idea is that if you have slope through the ground, if you start applying wastewater, if the slope is too great, you could have some seepage coming out from underneath the ground. So, again, there is a perc rate associated with a certain slope. And, again, that's carried forward from our existing chapter, and those values are unchanged.

Next we have conditions for what we call serial distribution. And, basically, what that is is if you're on sloping ground, serial distribution is where you go through a trench of absorption and the exit feeds the inlet to the

next trench downslope. So if you can imagine kind of an S turn, if you will, as you work your way down so -- or down the slope, that is what we call serial distribution. And we give some information as far as what needs to be considered if that is the situation that they find themselves in.

And, lastly, in that -- in that section, we give some requirements for if there is an exceedance of the slope, that the absorption field has to start a certain -- a distance away from that break in slope, again, just considering so we don't have seepage of that wastewater back to the surface once it's been applied.

Also, in that section, in paragraph F, we discuss the requirement for basically percolation tests and an exploration pit. And those are things that we require to get an idea what the ground -- what's its ability to absorb the wastewater is, and that plays into the sizing of the wastewater system. Delegated counties are required in their delegation agreement to require both a perc test and a soil exploration pit, and, basically, give conditions as far as what they need to do following that percolation test procedure, which is a part of Appendix A at the end of this chapter.

Also included in this -- in this section on site suitability is setback distances from different --

different contamination sources. And these setback distances were unchanged from the existing chapter. We did add a distance to a public well to that table, as well as distance to a cistern. But everything else is as it currently is in the regulation.

Things that we did delete from the chapter, there were Figures 1 through 6 that basically dealt with an aspect of groundwater or groundwater level that had to do with what we call mounding. Those figures and that concept are fairly -- very complex, and basically take an engineering background to understand and apply them correctly. We've deleted those from the chapter, and we're going to put those in a policy. And, again, they do have application, but not in this -- in the context of this chapter and what it's -- its intended audience, therefore, they were deleted.

In Section 7, we discussed the system sizing. And, basically, the opening paragraph, opening condition, gives an explanation of how the area, the absorption field, is calculated. We call it the infiltrative surface. And it's calculated by basically taking the wastewater flow that we derived out of Section 7 and dividing it by what we call a soil loading rate, or how much the soil can absorb. And that loading rate is given in units of gallons per day per square foot. So if you -- when you do the math on

that, you would take the wastewater flow, which is gallons per day, and divide it by the loading, and you basically come up with the square footage, an area of what's required for the wastewater flow that's proposed for residents.

In Figure 7, it gives our loading rates. And those are -- the loading rates are derived from the percolation test. And, previously, the loading rates that people would use was in a table form, and people would have to go -- excuse me, in a graph, and people would have to go to this graph and use their percolation rate, read up, and do your loading rate from that. And we thought that was a little more confusing than necessary, so we basically took that graph and converted it to a table, and we consider that to be a little bit easier to use. And none of the information that was contained in that table was changed at all. It's the same -- same information as previous.

Basically, in paragraph -- in the second paragraph, B, Condition B, it basically gives the surface area of how it's calculated for both trench- and bed-type systems in mathematical equation form in the previous -- excuse me, in the existing regulation, those calculations were given verbally. And, again, they're similar to word problems. Not everybody is versed at converting those, so we thought we would convert those to a mathematical equation with variables to make them a little bit easier to

understand.

In the trench sizing calculations, we're still giving credit for sidewall and trench configurations. And basically, we're giving credit for up to 12 inches of sidewall height. Some people go deeper on those trenches. That is acceptable, but we're only giving credit for the 12 inches. And that's an important thing to note, because again, some people have limited acreage, and they're away from a public access to a public sewer system, and being able to add the sidewall area as part of the total area of the system as calculated, limits the footprint that they have to put in the ground. So, again, if they have limited area, it gives them a way to still accommodate and have a wastewater system, you know, for a small amount of area.

And in paragraph -- the last paragraph C, basically, reminds professional engineers that, you know, sometimes traditional subsurface system isn't applicable or doesn't work, and especially if you have what we call fast-perking soils or soils that absorb water rather quickly. And in those cases they would need to bring in fill material to basically slow down that percolation rate so that you can get better treatment through the soil of the wastewater that would be applied.

And Section 8 deals with building sewer -- building sewer pipes. And the division basically still

requires that all building sewer installations follow the International Plumbing Code. In the proposed regulations we're revising that to the 2012 International Plumbing Code. Basically, the same references in the existing regulations. We just updated it for the -- for the latest version.

Also, in that section, we list acceptable materials of construction for the sewer pipe. In paragraph B, we give some of the sizing parameters for sizing that building sewer pipe, what they need to consider as far as peak flows from the -- from the occupants of the building, but also gives what the minimum pipe size should be.

Additionally, it also states that if you have different materials, obviously you need to use the proper fittings to connect and adapt to the different types of materials. Some of the proposed slope for installation of building sewers is the same as it is now, as far as the decrease per foot, because, again, these sewers are gravity fed. And so, again, make sure they flow downhill as opposed to uphill. And also in these conditions, we require that additional cleanouts along the various locations of the sewer run, and this would aid in troubleshooting and maintaining the system.

The last two conditions within Section 8 basically deal with requiring the pipe to be bedded,

protected from rocks and debris, care in backfilling, and also try to minimize horizontal movement and prevent freezing. All these things are basically carried forward, again, from the existing regs.

The next section, Section 9, deals with septic tanks and other types of treatment tanks. In the first condition we basically give the type of fabrication requirements from materials that would be accepted, and basically how those tanks would be reviewed when they're sent in with an application and by whom. Part of this condition also describes, you know, this review process, and that is new, new to the regulation.

The installation requires that you -- you bed these tanks on firm beddings, level, again, remove any rock debris that could damage them. And if you have things that could protrude and damage the tanks, that you remove and put in or replace with sand and crushed gavel, again, information that needs to be considered, you know, when install septic tanks or other types of tanks.

We do not allow tanks to be buried deeper than what the manufacturer suggests as a maximum depth. Again, depending on the materials of construction, whether it's concrete, fiberglass, or something, they might have different structural strengths, which dictate how deep you can bury those.

We also restrict the minimum cover over the top of the tank to 6 inches. Backfill, when you're backfilling around the tanks, again, care needs to be considered so you don't damage any connecting piping or put any undue strain or any components attached to that tank. And, lastly, when siting that tank, when putting it in the ground, care -- or need to remind them it's not to be located in a place where you're going to have a lot of vehicular traffic, or anything like that, unless the tank is designed for those loads, for that application.

The minimum tank size that we're proposing in the new regulation is the same as before. For a four-bedroom house, a thousand-gallon tank is the minimum size. For each additional bedroom over four bedrooms, we're adding a minimum -- or a requirement of 150 gallons per bedroom. Previously, that was 250 gallons that were added for minimum tank size.

For high-strength wastewater or nonresidential wastewater, these applications, the capacity minimum is, again, a thousand gallons, or has to have capacity to retain the peak flow for 48 hours. And most of these conditions are unchanged from the existing chapter, but they still retain the basic intent.

And I'm not sure exactly how familiar the council is with the design or layout of septic tanks. If you don't

mind, I'd like to basically draw a diagram so that the further discussion we'll have a better idea what we're -- the components and pieces we're talking about.

COUNCIL MEMBER AGOPIAN: Please do.

THE REPORTER: Mr. Tillman, just keep your voice up, if you will.

MR. TILLMAN: Okay. That's water in the tank. It's going to be blue. I know it's going to be blue.

COUNCIL MEMBER FAIRSERVIS: Color coded.

MR. TILLMAN: Basically, what we have in a septic tank, the structure here is the outside wall. You have a middle partition that separates the two chambers. Again, the blue representing the water level. This green that we have under here, what we refer to as sludge that will accumulate in the tank. The inlet line comes into what we call an inlet baffle or T, okay? It's basically -- most times this inlet baffle, or T, and the outlet baffle, or T, are basically made of plastic PVC. They're plastic fittings of pipe. Namely, on the inlet side, when you bring this in, you have a portion of that T that runs down into the liquid. And mainly what you're trying to accomplish there is to dissipate the energy that's coming in with the incoming stream, and also to prevent what we call short circuiting, and short circuiting would be where

flow comes in and immediately surges and runs over into the second compartment without adequate residence time for treatment. Again, these -- this T is plastic. It can be bought at basically Menard's, Home Depot, irrigation supply store.

The part above the T is basically to prevent scum -- scum from coming into the tank. It was basically on top of the water level. You're going to have a layer, you know, of scum. By driving that incoming liquid further down into the existing liquid, you don't disturb that scum layer. Above that, in this portion here above the wall -- excuse me, above the partition wall, we have what we call vent space. And that vent spacing is to take care of any gases that are generated during digestion, during liquefaction process of treatment that's going on, you know, within the tank. And, typically, that's going to be vented out through the incoming piping through the house vent, through the house piping.

This portion above -- excuse me, you have a portion above the liquid inlet/outlet. You have a transfer wall. Again, in the transfer wall, excuse me, a hole in this partition, is a means for that liquid to transfer from the first compartment over into the second compartment. And, again, you want that down into the clear space. You want to keep out of the sludge things that settle at the

bottom. You want to keep the scum layer on the top, and you want to just draw that clear liquid over into the second compartment. Thus the reason for having, again, this baffle or fitting extend down into the liquid so far.

On the outlet side, again, what you're trying to do, again, you're trying to stay out of the scum layer, trying to keep any sludge settled on the bottom, again, in the tank. So, again, you're drawing out of the clear liquid that's going to your septic -- excuse me, to your absorption field. So, again, this -- the extension of that goes so far down into the liquid. And also on the upper side, the part that's above the liquid, again, is trying to keep the scum and other materials from, again, getting out and going into the absorption fields that cause problems as far as plugging -- plugging up your absorption field and causing failure.

Again, these fittings, the inlet and outlet baffle, this transfer, as well as the outlet, those are separate pieces from the concrete -- or, excuse me, from the structure of the tank. Okay? Those are typically added afterwards. Occasionally, you might have these pieces cast in, okay, casted into the concrete. But, again, being the fact they're plastic, and they're typically fittings, they can be adjusted, changed, modified fairly simply, either by, you know, coupling in glue, or,

again, by hacksaw and changing them.

Some of the dimensions that we require, again, this vent space above -- above your inlet baffle. Sometimes if you don't have enough space, what some of the -- excuse me, one commenter in particular, Mike Vaughn, Vaughn Concrete, what he says in order to make sure that he has enough space to make sure that it's proper venting of the tank is he'll take this inlet pipe and basically extend it underneath what we call access openings. Okay? And, again, being that's a separate part of the tank, you're not involved in the structure or recasting the tank. You just extend that out a little bit, and now you take advantage of additional space you have underneath that access opening.

Again, so any type of changes or modifications that we're proposing, we considered, you know, their impact, you know, to tank manufacturers in the state. We looked at all the tanks that basically we have approved to date, and -- with their drawings, and all of them could comply to our new regulations with minor modifications. And the modifications, basically, would be to this inlet T or to the outlet T or baffle. And in some cases you're talking just in an inch or two, you know, cutting a piece off or extending it by adding a coupling or another piece of pipe.

COUNCIL MEMBER AGOPIAN: Mr. Tillman, could

you please describe for the council the process by which a homeowner would be granted an exception to modify the design?

MR. TILLMAN: Basically, when they -- with their application, they would give a drawing of the septic tank they would propose to install. And we would evaluate it for the proper dimensions. And if we found -- let's say they didn't have enough of the inlet baffle going down into the liquid, we would basically propose a change, and we would, you know, explain to them what we would -- what the change could be, how simply it could be done, and give them that option.

So, again, if they had a tank that was already there, existing, that had minor modifications, we would try to work with them to achieve compliance. And, again, most of these things can be done, I'm thinking, for, you know, less than probably 50 bucks, because, again, couplings and fittings I believe we looked it up on the Internet, and this inlet T was like $12.

COUNCIL MEMBER AGOPIAN: So this isn't something that would require a professional engineer stamp?

MR. TILLMAN: No.

COUNCIL MEMBER AGOPIAN: It would conform with the existing -- the design packages that are being proposed in the rules as well?

MR. TILLMAN: Yes. There would be no engineering stamp or seal of design required to make those minor modifications, because, again, in almost every case we're talking, you know, a few inches here or there to make -- to come into compliance. And in the existing rule, part of the thing that we've done is we've added dimensional requirements to -- as far as the amount of the baffle or T that's above the liquid level on the inlet pipe, the amount of baffle that needs to extend down into the liquid. In the existing chapter, all we told them was that you have to have an inlet baffle, you need to have an outlet baffle, and the outlet needs to extend into the middle third of the liquid. Those are all the requirements that we required at that time. So essentially every tank that was proposed pretty much would be accepted, because there was no regulation to deny it against.

And what we're proposing, these dimensionals that we are putting into the chapter, we're taking from the EPA guidance manual on on-site wastewater treatment as a guidance, but also the concrete -- as concrete standard ASTM 1227-13 also follows that. We're proposing, I believe, 6 inches above the waterline for that T. EPA guidance says 6, the ASTM precast says 5. So, again, we're right in with that -- with those requirements.

They require that, basically, you have vent space

across the top of the tank. Again, we have that same amount of vent space requirement. The amount of extension into the liquid that's required in both cases, I believe ASTM, the precast says 8 inches. EPA says 30 to 40 percent of the liquid level. So, again, those are minor -- minor differences, but they're both basically saying the same thing.

Sir, do you have a question?

COUNCIL MEMBER AGOPIAN: Mr. Bagley.

CHAIRMAN BAGLEY: Yeah. Before you get into all the details of how much inches and everything, which I know is very important, but would this -- these new regulations, would they apply to systems that are already out there and they wouldn't -- people would have to go back and fix it to do this?

MR. TILLMAN: No, no. The systems that are already in place are basically grandfathered. This would be requirements for new systems that would be installed.

CHAIRMAN BAGLEY: Okay. Thank you.

COUNCIL MEMBER AGOPIAN: Mr. Clark.

COUNCIL MEMBER CLARK: Mr. Tillman, if someone had to go back and modify an existing system, what -- would there be no requirement to meet these -- these -- for a homeowner to meet these new requirements?

MR. TILLMAN: If they're modifying -- let's

say a system failed, and they're going to redo the absorption field. We would not necessarily make them go back and redo their septic tank at the same time, unless they were modifying, you know, changing the septic tank.

COUNCIL MEMBER CLARK: So you said "not necessarily." What does that mean? Those are the weasel words that make me uncomfortable.

MR. TILLMAN: Okay.

COUNCIL MEMBER CLARK: You would not, is that what you're saying?

MR. TILLMAN: We would not make someone go back and change an existing septic tank that was already installed.

COUNCIL MEMBER CLARK: If their leach field failed?

MR. TILLMAN: If their leach field failed.

COUNCIL MEMBER CLARK: Thank you.

One more question, if I may, before we get into the details.

Mr. Vaughn's letter, this is the thing that kind of caught my eye. It says, "Proposed requirements would force most manufacturers to change their forms, causing a significant cost increase to the consumer." And from what I'm hearing you say today is that -- that we're talking 50 bucks kind of a deal in terms of cost increase. And you're

comfortable with that, and Mr. Vaughn's statement is not correct; is that right?

MR. TILLMAN: I think so.

COUNCIL MEMBER CLARK: There's no form change required?

MR. TILLMAN: We do not see any form changes from the drawings we have of tanks we approved already. We looked at those drawings, and there would be no form change required. It would strictly be adjustments to the inlet and outlet baffles.

COUNCIL MEMBER CLARK: In this -- did you, by chance, look at one of these premade tanks from Vaughn Concrete Products?

MR. TILLMAN: Yes.

COUNCIL MEMBER CLARK: And that would not require a form change either, right?

MR. ASAY: No, sir, it would not.

COUNCIL MEMBER CLARK: Thank you.

COUNCIL MEMBER FAIRSERVIS: I've got one question, Mr. Tillman. On the 18th of June, Mr. Harmon wrote a letter, and he talks about 90 percent of the tanks that are currently being manufactured would not be acceptable in today's environment with your new rules and regulations, whereas, you know, he had asked reverse that to where 90 percent of them are accepted.

MR. TILLMAN: Right.

COUNCIL MEMBER FAIRSERVIS: I didn't see a response to his comment.

MR. TILLMAN: I think we did respond to his comment, but, basically, in the -- in the -- I believe the information that he had that he made that statement from, there was some errors in that spreadsheet.

COUNCIL MEMBER FAIRSERVIS: Okay.

MR. TILLMAN: So I don't think the -- if I recall correctly, I don't think there was quite at 90 percent that would not comply. But as I stated, we've looked over that list, and all of the tank manufacturers, with minor modifications to this plastic pipe in the inlet baffles and Ts, would comply. So their noncompliance, we're talking an inch or two, minimal dimensions, here or there. None, again, to the form or the cast of the tank.

COUNCIL MEMBER FAIRSERVIS: So more in the ABS or the PVC, not in the concrete.

MR. TILLMAN: Yes, sir.

MR. FREDERICK: Mr. Chairman, if I might.

COUNCIL MEMBER AGOPIAN: Please.

MR. FREDERICK: Mr. Agopian, I'm going to direct Councilman Clark to response to comments, page 6, Section 9, about in the middle of the page. I believe that's --

COUNCIL MEMBER FAIRSERVIS: What date is this, Mr. Frederick? Because ours --

COUNCIL MEMBER LALLY: June 24th.

MR. FREDERICK: This is July 2, 2015.

COUNCIL MEMBER AGOPIAN: This would be rulemaking responses to written comments, period ending June 24th.

COUNCIL MEMBER LALLY: Not written comments.

COUNCIL MEMBER AGOPIAN: Response to comments for EQC public notice period June 24, Chapter 25.

COUNCIL MEMBER CLARK: Well, that's -- what page did you say, Mr. Frederick?

COUNCIL MEMBER LALLY: 6.

MR. FREDERICK: Mr. Chairman, Councilman Clark, page 6.

COUNCIL MEMBER FAIRSERVIS: Okay.

COUNCIL MEMBER CLARK: I think my question, Mr. Frederick, was the cost, and I didn't see that cost address that -- that the response directly addressed that cost issue of the tank. But if it does, then I must have blown past it, but I don't see that.

COUNCIL MEMBER FAIRSERVIS: It does not.

COUNCIL MEMBER CLARK: I don't think it does. My question is primarily are we increasing the cost

to the consumer, as Mr. Vaughn suggested, and Mr. Tillman's answered that for us.

MR. FREDERICK: Very well, sir. Thank you.

MR. TILLMAN: Council, any other questions on the drawing?

Continuing on, the proposed tank configurations that we're proposing, we're still going to allow single compartment tanks, as long as it has the 2-to-1 length-to-width ratio, as in the existing regulations. Septic tanks with two or more compartments are required to have at least half of the volume of the tank contained in the first compartment, again, same as existing requirements.

The maximum depth of the tank of the water level is 6 feet, but the minimum depth of the water level is 3 feet. That is the same as the requirement in the precast concrete requirement, that depth. Again, I mentioned that the partition has to allow for venting of the tank across both compartments.

Again, the dimensional detail that we added in the proposed chapter are in the -- on the inlet baffle, that it must extend at least 6 inches -- excuse me, the inlet and the outlet has to extend at least 6 inches above the liquid level. The inlet baffle has to extend at least 30 to 40 percent into the liquid level, as well as the outlet.

I think the ASTM recommendation is 5 inches above the liquid. We have 6. EPA guidance is 6. So, again, we're, I think, complying with both regulations in that regard.

Another requirement is that we have at least 3 inches of space above the T. And, again, that is for the vent space of the tank. And, again, that is in compliance with requirements of the EPA guidance manual. The ASTM, the precast concrete that Mr. Vaughn brought up, again, it also states that it needs to have 9 inches min -- or at least 9 inches above the liquid level in the top of the tank. And I believe our dimensions that we are proposing is right in step with that -- with that requirement.

Okay. So, again, our compliance with both precast, as well as EPA guidance, I think we're -- we're right in the middle of the road there. And I think the dimensional that we've added is no different than what should have been designed originally.

CHAIRMAN BAGLEY: I have a question.

COUNCIL MEMBER AGOPIAN: Please.

CHAIRMAN BAGLEY: So this 3-inch clear space, it says here above the baffles or T. So those are the inlet and outlet, correct?

MR. TILLMAN: Yes.

CHAIRMAN BAGLEY: So what about that thing

in the middle?

MR. TILLMAN: That is a partition wall.

CHAIRMAN BAGLEY: So is there a 3-inch requirement on that too?

MR. TILLMAN: No, but it has to have space in order to allow venting between the compartments. As long as it doesn't touch the top of the lid, it will allow that to take place.

COUNCIL MEMBER CLARK: Just for gas?

MR. TILLMAN: Yes.

CHAIRMAN BAGLEY: Okay. That 3 inches does not apply to that center --

MR. TILLMAN: No.

CHAIRMAN BAGLEY: -- partition.

MR. TILLMAN: No. No.

CHAIRMAN BAGLEY: Okay.

MR. TILLMAN: And as I mentioned before, all the tanks that are currently on our list, with minor modifications, would comply with our new regulations. Occasionally, there may be instances where a single -- a single septic tank does not have enough volume for the situation, and you must put tanks in series. And if the tanks are put in series, we have requirements that basically any successive tank needs -- the inlet of the next tank need to be 2 inches lower than the outlet of the

previous tank. And, again, this is to allow for gravity flow to cascade through the system.

Within that, you don't want any baffles or Ts between the inlet of the first tank and the outlet of the last tank, again, to cause any obstructions. And the first tank in that series needs to have at least 50 percent of the total capacity of the septic tank volume.

As in -- the existing rule also requires that the access openings, which I show on the lid there, the access openings need to be one for each compartment, and the minimum diameter needs to be roughly 20 inches. There needs to be a riser that extends from the access opening to the surface. The riser can terminate no more than 6 inches below the surface, and if it extends above the surface, they need to have a cap, a locking device, for that.

For tanks that are part of a pressure distribution system, we're requiring that you have a filter on the outlet effluent of that tank. And, again, that's to protect the pump and the small diameter piping associated with pressure distribution type of a treatment system, absorption system.

We thought at some time it was considered whether or not we needed filters on all septic tanks, but, again, if the configuration is as we proposed, where they would have the outlet T extend down into the liquid, we feel like

you're in the clear zone, and you shouldn't have a need for filter, you know, in most instances. And as Mr. Frederick spoke to in Chapter 15, there was an appendix as far as land application of septage, that was an appendix for that chapter, since that chapter will be deleted, if you will, being we do not have primacy on that. We're going to continue that land application of septage in remote areas as part of Appendix B within this chapter. And that is also allowed by permit by rule, meaning as long as they follow the requirements in the appendix, they do not have to come to us for a board permit to do that, and we're continuing that practice.

The next part of tanks -- type of tanks is what we call a dosing tank. And, again, a dosing tank is associated with a pressure distribution system. Typically, those dosing tanks are going to be separate from a septic tank, additional to it. And in the Table 6, we basically give the necessary capacities of that dosing tank, what capacities are required for a given flow rate, those are same as what -- what we have in existing chapter. We basically rearrange to try to make it a little more understandable. That was the attempt. And high-level alarms are also going to be required on dosing tanks, basically, mostly to make sure we don't overflow those into -- into the environment.

Holding tanks are also delineated in the -- in the section, and, basically, follow the same materials and access riser requirements as existing tanks. Holding tanks, being that they do not have any discharge, basically need to be located in an area where they're easily accessible.

And holding tanks are going to be allowed basically on a -- a temporary or seasonal basis. They're not allowed -- if there's alternatives, if there's a public wastewater system available or other means, we typically don't recommend people putting holding tanks just to have one. Again, holding tanks would need to be pumped. They need to be sited also in a place where they need to be aware what the groundwater, high groundwater, seasonable high groundwater is. You don't want the tank to float at any point.

The minimum volume for holding tank is a thousand gallons or seven days of storage, based on the wastewater flows that come from the source. Included in the -- in the chapter, we're going to have a design package for holding tanks to assist homeowners basically designing those, if they need to -- a holding tank for their application.

Another type of tank that we have called out is what we call an intercepter type of tank. Particularly, a grease interceptor. And the difference -- main difference

in the design of a grease interceptor, as opposed to a septic tank, is in this partition wall. In a grease interceptor, you want this partition wall to go all the way to the ceiling. Because in an interceptor -- the function is different. In a septic tank, we're going for treatment. It's the primary treatment, as you're treating wastewater before it goes to the absorption field for the final treatment.

In an interceptor, what we're trying to do is basically knock out the chunks, all the big pieces. In a grease interceptor, you're going to have streams that are going to contain grease, fats, oils, and things of that nature. The idea of running that partition all the way to the top is so that when this flow comes in, you try to contain all those components in that first chamber -- or, excuse me, that first compartment. You will still have some of the same components as far as inlet and outlet baffle. You'll also have a transfer T as well. And the fact that you sealed this off, you try to keep the sludge, the grease, all those things there, and you, again, draw off the clear liquid that's generated in that first compartment. That goes over to the second, and then that is extracted and going out -- it goes on to a normal septic tank.

A grease interceptor or an interceptor is going

to precede a septic tank. And, again, it's trying to knock out the heavy chunks, pieces that could basically foul or cause failure in the down fields -- or, excuse me, downstream septic tank or absorption field.

And that is a primary reason why in the design difference for having this divider wall run all the way to the ceiling. Some people have used septic tanks as grease interceptors. I think in our current regulations we don't necessarily call out that a grease interceptor is required. It says it's if it's required, we give some sizing parameters, but we don't call out that you have to use one. And some people have used septic tanks in the past. But, again, the situation that you run into is the potential that all the grease and the floatable oils that you're getting in this first compartment can bleed over into the second, and then that goes out, and, again, will cause you problems, maintenance or trouble -- problems downstream. And that would be on the homeowner or the business owner, if they had this type of setup -- if they use a septic tank for grease interceptor.

And as I mentioned, a lot of the internal components are the same for grease interceptor, as far as the inlet/outlet baffles, the transfer. Again, the main difference, design difference, is for the function of the tank is having that partition wall go all the way up to the

ceiling.

In the proposed chapter we do call out when we feel a grease interceptor is required. There's a certain level of fats and grease in the stream. So we call out -- again, that is a different change, a change from the current regulations.

We also call out that the requirements for a grease interceptor that you need to plumb those directly to the interceptor. Any other sanitary fixtures, bathrooms, toilets, things like that, should be plumbed in downstream, just to minimize the capacity and volume that the interceptor has to deal with.

The grease interceptor should also be designed to prevent any backflow of the sanitary from the septic tank from backflowing into it as well.

There's some conditions as far as minimum and maximum distances for the location of the grease interceptor as it relates to the potential for either backing up of that fat -- that oil and grease stream, as well as keeping that from settling out in the piping prior to getting to the tank. And similar to septic tanks, again, the access opening and risers are also required.

The sizing equations for interceptors, specifically grease interceptors for commercial kitchens, are the same as in the current chapter. No changes there.

The sizing equations for laundries, using interceptor, they've been changed to be a little more specific as far as to account for the amount of volume that's required, based on the volume of cycles of the laundry of equipment that they've had to, again, more accurately size the capacity of that interceptor. And also on interceptors that are used for laundry applications, we require that they have a basket or wire filter to basically catch any rags, buttons, strings, again, anything that could possibly cause you operational problems to the downstream units.

For interceptors used for car washes, we've simplified that sizing criteria. Making it a minimum size of a thousand gallons for the first bay of a car wash, and then an additional 500 gallons required for each additional bay. Some care needs to be taken in also the design for car washes to try to keep rainwater and stormwater runoff from also entering into their interceptor, again, to minimize the size and capacity necessary for that application.

The last set of conditions in this section require -- or speak to the abandonment of septic tanks. It was in the existing chapter. It just gives some ideas of things that need to be done with a tank when it's going to be abandoned. Namely, pump the contents out, have those taken to a place that's responsible that can dispose of it

in a responsible manner. Then basically either fill the tank with some inert material, or remove the tank from the ground. Either one is acceptable, but we felt they should have some guidelines in the events they need to abandon a septic tank that's in place.

Section 10 deals with effluent distribution devices. And basically, these are devices, boxes, if you will, that divide the flow equally across an absorption field. We expanded that better a little bit in the current regs. I believe we have a one-sentence requirement. We expanded that a little bit. Namely, to give homeowners if you have the need for one, some better ideas for how to install it. Basically, to try to make sure it's on level ground, minimize any tilting or settling, and try to keep frost heave, you know, again, from, again, tilting this, because the idea of distribution devices is that it stays level and tries to make that flow split equally into the absorption field and any type of tilting or moving of that device is going to impair that.

And the last section -- excuse me, the last paragraph in this section, their condition speaks to the drop boxes that we will allow in this -- in the event of serial loading. And, again, serial loading, where you're working down a slope, and you have to use drop boxes in order to achieve that serial loading.

The next sections, Sections 11, 12, 13 and 14, basically are those -- those are what we've -- the bulk of the addition to this chapter. And they are what we consider to be typical absorption systems for treating wastewater. And, again, as I mentioned in the outset, that one of the things that we wanted to achieve in this chapter is that add enough information for homeowners, so that they could basically try to select a treatment system that would be applicable for their house and give them the design criteria and a design package to make that design themselves without the aid of a professional engineer, and also be able to put forth that application to the -- to the division.

COUNCIL MEMBER AGOPIAN: Mr. Tillman, could you -- has the department been able to identify the anticipated savings to the homeowner for utilizing one of these design packages versus having to hire and receive an engineer's stamp on your design drawings?

MR. TILLMAN: We have not -- I don't believe we've quantified it exactly, but typically a professional, a PE, in order to stamp a design, is going to be in the neighborhood of a thousand, 2,000 on average for a simple septic system. And, again, with their design packages we're proposing, which have been prepared by PEs on our staff, they would avoid that cost, as long as they

were what we considered standard typical systems that they're -- the soil that they would propose to locate it in fell within a certain absorption or percolation rate, then these design packages could be applied, again without a PE and thus have those savings. When you get out of those range, we're a little uncertain about what's going on and want to make sure that all the aspects are looked at so they don't have trouble with the installation.

COUNCIL MEMBER AGOPIAN: Thank you.

MR. TILLMAN: Again, what we're calling typical absorption systems are what we are going to call the rock and pipe types of absorption system, pressure distribution, mounted systems and small wastewater lagoons. The standard system, rock and pipe, typically can be either in a bed or trench configuration. You can also have chambers as well in those -- in that configuration.

Some of the things to consider basically in preparing for the area. Obviously, you don't want to do it when the ground is very wet or it can compact. You want to try to keep storm runoff away from the area you're going to locate your absorption system. You have a minimum amounts of cover of 12 inches of cover over the top, and, again, you want to allow air to basically get to that system, because that's part of the treatment process. We did add some new conditions, as far as the maximum depth of five

feet. And, again, the shallower the system, the better you get -- the treatment you get, the deeper you tend to go a little more anaerobic, and you can get premature failure if you make the system too deep in the ground. And, also, basically, you don't want any heavy equipment or anything like that driving over the absorption area during construction or while you're backfilling it.

Both the trench and bed configurations use a minimum pipe diameter of 4 inches. Various grades of PVC. We require rock and aggregate as far as to fill in underneath and over the top of piping system as filter material.

When we get to trench -- trench-type configurations, the maximum width of a trench that we're allowing is 3 feet. The excavation can be wider than that, whatever it needs to be, to install it, but the width of the trench that we're giving credit for is going to be 3 foot. The spacing between the trenches is a minimum of 9 -- or, excuse me, a minimum of 3 feet, but can be increased to 9 feet. And basically, that 9-foot spacing between trenches speaks to the requirement for having a reserve area available for replacement field. And that way they can basically site the reserve area between the trenches of the existing one, so, again, they would have to -- very minimum amount of work if they had to replace

that absorption field.

And one last requirement. The maximum width on bed systems is going to be 25 feet. And, again, that has to do with the ability to distribute the water evenly from a gravity type of system. Chambered requirements -- excuse me, chambered systems are also allowed within the standard bed or transfiguration. Previously, those were in policy -- the requirements for allowing chambers were in policy, we're incorporating those into the chapter now. Chambers are typically going to be arched, nondegradable. And their niche is that they distribute the effluent without the necessary use of a filter material. And they do get some reduction in the required area from the use of chambers as opposed to a standard pipe and trench -- excuse me, pipe and rock type of setup.

Within chambered systems, they're required to have at least a 6-inch elevation difference between the inlet of the pipe and the bottom of the chamber. The inlet -- inlet and outlet of the chambers have to have end plates on them. The end plate -- -- excuse me, the inlet side needs to have a splash plate underneath it so that the water comes in and doesn't immediately burrow down through the ground and create, basically, a trench before it goes straight to the ground, it doesn't allow it to go forward, so we require a splash plate underneath the inlet of a

chamber.

And maximum width for chambers is the same in trench spacing is the same as with the stone and pipe. For sidehill trenches, serial trenches, the spacing between the trenches has been increased from 3 foot to 6 foot. Again, that's just for when you're working down a sidehill. But, above all, again, the design package would be available for the design of the standard -- of the standard type absorption system would be available on line to assist the homeowner.

The next type is what we call pressure distribution system. And, again, the difference in that is that you have a dosing tank, a means to force the wastewater out to the system, and, typically, small-diameter piping to maintain that pressure. The benefit of using a pressure -- pressure distribution system is that you get a complete and even use of that absorption field. We require a pressure distribution when they're using a mounded system, or, like I said, if the bed width of -- a bed configuration is wider than 25 feet.

When you're using -- when designing a pressure distribution system, the pump needs to be designed and -- designed for pumping sewage, and it needs to be the size to deliver enough volume at a different pressure. And that's going to be dictated by the layout of the system. Those --

that information and how they can calculate that information would be included in the design package. The controls for a pressure distribution system are fairly simple. Would have basically a pump on/pump off and, essentially, a high-level alarm. The control needs to be housed to -- and designed for the environment, meaning sealed fittings, weatherproof or explosion proof enclosures, and conduit for the wiring, because, again, you're talking about in and around the septic tank.

The piping for dosing system, again, needs to be kept from freezing. Should be -- as you put together the system, the piping -- the small-diameter piping that would be a part of the absorption field requiring that to be solvent-welded, whereas in the pressure piping coming off the transfer system via pump or siphon, that can either have flexible joints or can be solvent welded.

And, again, pressure distribution system, the difference between that being pressurized as opposed to gravity, you have a smaller requirement as far as vertical feet. With the pressure distribution, you can have minimum of 3 feet of vertical space underneath the absorption field. Between that and the high watermark, when using a pressure distribution system. Again, a design package is available -- will be available on line, you know, for this, if it's desired by the homeowner.

Sand mounds, the next type of system that we're going to have a package available for. And sand mounds are typically used in high groundwater situations, where the homeowner doesn't have the necessary vertical distance between the high ground -- seasonal high groundwater in the bottom of their absorption field, so we basically require -- you can basically mound material above the grade to achieve that distance. Typically, sand mounds are what they would install, and that sand mound would have basic components of the sand aggregate and then a soil cover.

When you're applying -- when you're applying or going to install a sand mound system, typically, the soil needs to have a perc between a 5 -- between 5 and 60 minutes per inch, and that's in our specified range. That needs to be within that first foot of the soil, because, again, they don't have a lot of room between the soil and the high groundwater mark, so we want a certain percolation rate of the soil that is available.

The sand that would be the first layer above that -- above the ground would have a minimum depth of at least 1 foot. The sand would have to comply with ASTM C33, which is specs for using sand, have a certain sieve requirement. And the slopes on the part of the sand of the mound would have a 3-to-1 slope. The aggregate that would be above that would be contained in geotextile material

above the sand. It would have the same shape and size of the sand as far as the square footage that it would encompass.

You have -- a minimum depth of that rock would be 9 inches, with at least 6 inches below the distribution pipe, and maybe 2 inches above as a minimum. The preferred shape is long and narrow for sand mound, but, again, it can be no wider. We don't want any wider than 25 feet.

When sizing that area for a sand mound system, basically, you're going to use the loading rate for sand, which would be roughly a .8, and you would use the wastewater flows that you would generate from your residence in order to help size that system. You would size the sand as well as the aggregate above it. That would be the same size, based on the same criteria.

The soil cap that we require on top would be a sandy -- excuse me, a loamy soil, with at least 6 inches on the edges, roughly about 12 inches minimum in the middle. And, again, the sides would slope 3 to 1. We require that you basically encompass the entire mound with a topsoil and seed it to have a shallow root vegetation, you know, above that. And, again, design package would be available that would encompass all these requirements for the homeowner to fill out.

Last in the available packages would be what we

call wastewater lagoon, and those have very limited application in Wyoming. Basically you have to have an evaporation rate that exceeds the annual rainfall, during the active part that it's going to be used, which it is kind of iffy in the state.

There's also additional requirement that the perc has to be -- the percolation rate of the soil has to be greater than 60 minutes per inch or extremely slow. Typically, those are going to be found in your clay type of soils. So basically the water doesn't percolate.

And that soil -- that soil has to extend at least 2 feet below what you would consider below the bottom of your wastewater lagoon. In the existing regs, we allow -- if they don't have that soil, we allow for them to have a nonpermeable liner, and we're not allowing that in the proposed regs going forward.

Lagoons obviously should not be located in a hundred-year floodplain, for good reason. In addition to setback distances for the wastewater lagoon, it can't be placed -- it has setback distances in Section 6, but also the addition that it can't be placed within a hundred foot of a property line. And, basically, that's to keep people -- if you're the first one in the area, and you don't want someone putting a lagoon in an area that precludes their neighbor from doing things with their

property.

The location for the lagoon would prevent runoff, storm runoff, from entering the lagoon. You want it on a slope of less than 5 percent. You want the lagoon exposed maximum sun and wind. And, again, these lagoons have a zero discharge.

One thing we changed from the existing regs in the sizing for these lagoons in the existing regs, there was a 30 percent adder to the sizing. And we found that to be problematic in that it led to oversizing that gave you problems with minimum water level, as well as odor. So we -- we've eliminated that 30 percent extra from the current -- from the proposed sizing.

The slope of the dike around a lagoon will be 3 to 1, as in the current regs. We've reduced the width of the dike a minimum from 8 foot to -- we're proposing a 4-foot width of that dike.

The fill material and the palm -- fill material is the same. Needs to be basically impervious, compacted, free of rocks, frozen soil, large materials. The minimum depth of the pond is still 2 feet, as well as minimum freeboard, that's still 2 feet. The lagoon needs to be kept free of vegetation, other things like that, as opposed to just clearing the site from debris prior to construction.

Again, this -- the lagoons, if that is an option, we would have a design package available for people online to design one of those if that was desired.

Next -- the next section, Section 15, involves privies. Privies are basically outhouses, if you will. Privies have to adhere, again, to the setback distances that are in Section 6. They no longer have to have a soil expert exploration underneath where they were going to site a privy, but basically they need to be conscious if it has -- tends to flood or have high ground, so, again, you don't float the vault underneath your privy.

The minimum size of the privy has changed. In the current regs 500 gallons is the minimum size, and the proposed regs we're changing that to 200 gallons, or 27 cubic feet, roughly the same. The privy should be designed to prevent access from flies or rodents; therefore, all the exterior openings need to be screened. It should be adequately vented, and, again, not located in a floodplain. Design packages again will be available for privies, if they're desired.

Section 16, greywater. Greywater generated quite a bit of conversation during the waste and water advisory board proceedings. And greywater is a new section for this chapter. In the existing regs, I believe we have a couple paragraphs dedicated to it, but greywater we're proposing

would be permitted as a required permit to construct. Two of the larger municipalities in the state, namely Casper and Cheyenne, asked to have greywater regulations included in the chapter. The regulations that are included in the chapter now are -- like I say, I think they're two sentences and basically speak to it needs to be a separate system from your blackwater and sized accordingly.

That did not give those municipalities enough guidance in order -- excuse me, requirements in order to enforce one of the greywater systems that they found that they thought there was a problem or a threat maybe to human health. They were not able to go forth with that. So, again, they requested that we put regulations in place, so that, again, they would have policy -- excuse me, they would have requirements that they could enforce where they found situations that were -- needed to be addressed.

One of the things that we -- that we try to -- that we try to put forth is that greywater is still a subset of wastewater. Some people feel that it's, you know, fairly harmless, but, again, greywater can contain bacteria, fecal coliform, oil and grease and other microorganisms. And depending on your lifestyle or personal hygiene, some of the contamination sources can be varied. And it's not just soiled diapers that can contaminate greywater. And unfortunately soap or

surfactants that are used in washing machines and things like that, also do not offer adequate treatment for greywater for certain reuse.

The division, we feel we have a responsibility to protect waters of the state from contamination. So, again, we are going to stick with the requirement that greywater systems be permitted. It's our way to ensure that the construction is protective of the environment and also of public health.

COUNCIL MEMBER AGOPIAN: Mr. Tillman, was there any guidance that you used to developing Section 16, or any scientific standard that utilized in developing the rule?

MR. TILLMAN: Yes. We looked not only at neighboring states and their regulations, but also there was a study in 2012 by the University of California Los Angeles that basically took a critical look at greywater systems and regulations across the country, and we used that as a basis for guiding us in our regulations. And in that study, I guess the summary would be somewhere between no regulation and not allowing greywater at all, is where it needed to be.

Regulation they say gives people education and also gives us, again, assurance that the environment is protected. And the study called that out. You have

roughly -- I think there were 30 states right now that require greywater permitting. So, again, we felt that we were consistent with what the study was trying to put forth.

COUNCIL MEMBER AGOPIAN: Thank you.

MR. TILLMAN: Basically again --

COUNCIL MEMBER AGOPIAN: Ms. Degenfelder.

COUNCIL MEMBER DEGENFELDER: Sorry. One more question.

MR. TILLMAN: Oh, go ahead.

COUNCIL MEMBER DEGENFELDER: Is there a reason that it's measured by number of occupants in the dwelling rather than per bedrooms, as was discussed earlier or --

MR. TILLMAN: I don't believe so. That's just, I believe, the way the guidance documents the way they sized them. I don't -- I don't recall that there was a particular reason why that was the case.

COUNCIL MEMBER DEGENFELDER: Okay. Thank you.

MR. TILLMAN: And when we -- when we promulgate -- or, excuse me, proposed this section, one of the things we want to make clear first and foremost was the things that we were restricting that we were not going to allow. Some of those things were basically the spray

irrigation of greywater. Again, with the conditions in the state that the wind occasionally blows, we felt greywater spray in the air would be a bad thing. Greywater cannot leave the property on which it's generated.

Certain streams, depending on where they are coming from, known contaminants, such as, I believe, streams that have high fecal counts or that have hazardous materials, were to be excluded from the greywater system. Greywater was not allowed to come in contact or impact surface or groundwater. Greywater systems need to be protected from freezing, if they're used in the winter, also.

As I mentioned, paragraph C, that Councilman Degenfelder alluded to, basically gives sizing for the greywater system. And, again, it's based on -- it's not necessarily the number of bedrooms or occupants, but gives you your sizing for the greywater system. Some of the basic components of that system are going to be a means of diverting the flow to a greywater system. Greywater collection tank, piping, and disinfection, if it's desired to be used on surface. And that would probably be one of the main points that we have in this section is that with the use of greywater, as long as it's used subsurface for irrigation, no disinfection is required, but if it's going to be used on surface for flood irrigation or that -- that

type of irrigating we are requiring disinfection. Again, just because of the known contaminants that would be in it, and try to protect people if they happen to contact that water.

The greywater tank has specifications as far as that it needs to be a part of the application and submitted to the department for approval. The tank needs to be durable, not subject to excessive corrosion, structurally designed for the loads, not allow insects or rodents or humans to enter into that tank. Needs to be located outside, but if it's located inside the residence, it needs to be in accordance with the International Building Code for blackwater plumbing. And the greywater collection tanks should hold its contents for no more than 24 hours.

The piping associated with the greywater system needs to be labeled as greywater, or -- or basically the pipe should be colored purple. I believe within Cheyenne, the water reused piping over at the golf course is also colored purple.

The piping needs to have -- needs to be drained by gravity or have connections so that you can use compressed air to evacuate the piping. Again, the disinfection requirement is if it's only going to be used for surface irrigation. And the disinfection can be achieved by the typical chemicals of iodine, chlorine or

bromine, or UV disinfection is also allowed. What we're shooting for in this -- for disinfection, if that greywater is used on surface, is that the fecal count of that greywater needs to be less than 200 milligrams per 100 milliliters of greywater. And that is -- that's consistent with, I believe, the Class C Water Reuse -- or excuse me, Class B Water Reuse, that is -- that was in Chapter 21, that's now part of Chapter 11. It's consistent with that standard.

There's a buffer zone requirement for greywater application. Needs to be at least 30 feet from the adjacent property line or public right-of-way. There's a separation of at least 30 feet between application sites. And there's a hundred-foot separation between the greywater site and any potable water supply wells.

Paragraph F basically gives some ideas for greywater reuse, minimal requirements for each application. And basically the subsurface irrigation for land, for crops, multi basins are discussed. Depending on the application, the volume of greywater that you're going to generate needs to be considered, where you're applying it, so you basically don't get oversaturated soil and end up with overland flow of this greywater. Flood irrigation, again, is allowed as long as the greywater is disinfected.

And for greywater systems, we will, again, have

design packages available online to assist homeowners in designing greywater package. And greywater systems, I believe, from the division, we feel that education is key in also understanding some of the things to consider also would -- would help them in promoting greywater, and just the fact they have to get a permit shouldn't discourage them from installing a greywater system.

Section 17 is new. It's an O&M, operation and maintenance. And this is just intended to give the homeowner some suggestions for maintaining their system to try to ensure more trouble-free operation.

Section 18 is carryover from the existing regs. Basically it's a section dedicated to the UIC permitting and regulations, because they reference our -- these design parameters in their permitting. We basically have a section for that. We did add the section on setbacks that was our existing Table 7, and it just shows the setback requirements for the commercial industrial waste.

The appendix, Appendix A, these are perc test procedure, percolation test procedure. We've modified that slightly. I'd like to draw a diagram again to discuss percolation.

Hole. Ground. All this here is the earth underneath it. With our -- what we've changed in our percolation tests was basically to address the ability to

perform that test by nontechnical people, namely, homeowners, and also to get repeatable consistent results.

In our existing regs -- excuse me, existing procedure, we have -- we say the hole size would be anywhere from 4 to 12 inches. We tightened that up. Basically we want a 12-inch hole, again, for consistency.

We also changed the requirement -- or the procedure to where when they're doing the percolation test, rather than trying to -- the original -- excuse me, in the original test, that was -- that was originated in New York, when they were doing the test they would look to see, time, how far it would take for that water that you would put in your test hole to drop 1 inch, and you would try to time that. So trying to watch and then get to your clock and do that consistently we thought was -- would be difficult at best. And we tried that. The staff has tried that.

And what we've gone to is rather than try to measure how far it drops -- or the time it takes to drop in 1 inch is basically waiting for 10 minutes and then just measuring the drop that covers over 10 minutes. In doing that, you can do multiple holes, because we require, I believe, a minimum of three test holes. So you can set up multiple holes at the same time and do them all at the same time. Obviously, timed differently, whereas in the -- in the original tests, you would have to wait and do that test

and complete that hole before you can move on to the next one.

So, again, for ease of doing the procedure, as well as repeatability in tightening up the requirements as far as the size of the hole, we felt that those were good changes. One of the comments that we got was regarding the change as far as how we actually do the test, the amount of water that you put in the hole to measure the absorption.

And one of the things that needs to be remembered is that prior to doing the percolation test, the soil in the hole is sat -- is presoaked. And what you're trying to simulate is the same conditions that the absorption field would be under. Maybe it's not going to be completely dry soil. It's going to be wet, saturated at some point. So we presoaked this hole for, I believe, four hours. Once we get -- get the water to just quit running out, we require a minimum of four hours of soak time. And in that -- when you have that four hours, what happens is not only do you have water in the hole, but all the soil underneath -- underneath your hole also becomes saturated. You get some saturation a little bit out to the sides before it goes down.

So essentially you have a column of water, column of saturated soil, underneath your hole in addition to the water that's in the hole. Okay? So when you're measuring

the absorption of the soil or its hydraulic conductivity, it's the entire driving force of that column of water. It is not just the water that's in the hole or the incremental amount more that we've added, because, I believe, before it might have been 6 inches. We added another 6 inches to make total of 12. It, again, makes it easier to read your ruler. But that additional 6 inches is almost negligent or non -- doesn't have any impact when you consider that you have a column of water underneath that hole that can extend several feet. Okay? So, again, the difference of adding additional six inches of water when doing the test has no effect based on the driving force for the flow to the bottom of your perc hole.

So we considered -- we looked at that, and we considered that to have no impact on -- on the absorption or performing of the test, but the consistency that we think we would get from the same diameter, and also measuring on a time basis, would get better and more consistent results. And, again, this percolation rate that you determine only leads you -- it's a small portion of the size, and it leads you to a soil loading rate. And that loading rate that we use within the state is much more conservative than other folks may use elsewhere. And remembering the calculation, it's the wastewater flow divided by that loading rate that determines that size.

And if you're conservative on your flow, meaning you have larger flows, and then your loading rate is the same, we have not changed our loading rate for a certain given percolation. We just changed our procedures. So, again, we feel that the conservativeness that we've put into our calculation would keep us from having premature failures, and I believe our record dictates that. I don't believe we've had a lot of failures in the state. And also called out in the EPA guidance manual, they commended us for having one of the lowest failure rates for what they have measured for small wastewater systems.

But, again, the changes in the percolation tests was just the diameter and how you perform the test as far as, you know, timed -- a time and then looking at your -- the amount of water that's absorbed as opposed to trying to wait a minute and then catch that.

And the last appendix is basically the carryover from Chapter 15, which is Land Application of Septage, which is basically unchanged from the current appendix.

COUNCIL MEMBER AGOPIAN: Mr. Tillman, thank you.

MR. TILLMAN: I'm done talking.

COUNCIL MEMBER AGOPIAN: Did you run out of water?

MR. TILLMAN: Almost.

COUNCIL MEMBER AGOPIAN: Before we go to the questions, I just want to ask the chairman what his desire is for the rest of the morning and this afternoon on timing. We would take -- the question to you and then hearing from proponents and opponents.

CHAIRMAN BAGLEY: My suggestion, Mr. Hearing Officer, is that we have the council ask its questions of the DEQ, and then at that point we take our lunch break and come back and hear from supporters and any other -- or nonsupporters at that point.

COUNCIL MEMBER AGOPIAN: Great. With that, any questions from the council for Mr. Tillman or members of the DEQ staff?

CHAIRMAN BAGLEY: I have some questions.

COUNCIL MEMBER AGOPIAN: Okay.

CHAIRMAN BAGLEY: Mr. Tillman, in Section 4 was your design flows, and they had been decreased, as you indicated. These seem to be very important numbers. A lot of the other aspects of the regulation are going to depend on these flows, like converting to your area from your loading rate, the sizing of your septic tanks. And it used to be it was just 150 gallons per day for every additional bedroom, and now it's sort of a decreasing down to finally above six bedrooms, you go to 80 gallons per day and just add on to that.

I believe you said you were getting those from Metcalf & Eddy, very respected reference in this area, but could you comment as to how you feel that's appropriate, say, for Wyoming. Metcalf & Eddy gathers data around the entire country. Do you think these numbers that you -- decreasing these flows is appropriate for Wyoming?

MR. TILLMAN: Yes, we do. We've -- as we stated before, Metcalf & Eddy gave a range of values, and we went to the middle that range. Some folks, I believe, have gone down to as low as 75 gallons per day per bedroom. I believe one of the counties that commented said they would like to go with 200 gallons per day. And we felt that starting at 150 and have a slowly sliding scale of getting progressively smaller would be appropriate for Wyoming, and also for the new fixtures -- water conservation fixtures that people are using.

CHAIRMAN BAGLEY: So that's what's driving the decrease is water conservation, is fixtures?

MR. TILLMAN: Yes.

CHAIRMAN BAGLEY: So now you do delegate to some of the counties. Are the counties, then -- they're uncomfortable with these smaller numbers, are they still welcomed to use larger numbers in their permitting?

MR. TILLMAN: Yes. All delegated counties can be more -- more strict than we are. So at the very

minimum, they can follow us. If they wanted to use higher flows, they are more than welcome to.

CHAIRMAN BAGLEY: Okay. Now the tank sizing in Section 9, you start with a thousand gallons, which I believe is what you started with before in the existing regulation. And now instead of going 250 gallons for every bedrooms after four, you've gone to just 150 gallons. I did some calculations on -- on what I think is a key issue, which is the retention time.

MR. TILLMAN: Uh-huh.

CHAIRMAN BAGLEY: Did you consider those things as you adjusted the sizing of the septic tanks?

MR. TILLMAN: Yes. I believe the -- the 150-gallon addition per bedroom should take into account decrease in flow of the wastewater. Also take into account the 48-hour retention time for those flows. So both of those were accounted for in that 150 gallons per minute -- or, excuse me, gallons per day.

CHAIRMAN BAGLEY: Yeah I did some calculations, and actually with the new sizing and flow rates together, so you got to take them both together, you decrease the flow rates. At six bedrooms, the proposed regulation will keep retention time of 2.06 days. So slightly higher than 48 hours. The previous retention time was only 1.7 days. So we've, in theory, got in a higher

retention time. So I assume that's a good thing --

MR. TILLMAN: Yes.

CHAIRMAN BAGLEY: -- higher retention time.

MR. TILLMAN: Yes.

CHAIRMAN BAGLEY: But it depends on the reduced flows are appropriate. So that's kind of why I'm pressing on that, see if we're more comfortable with those reduced flows.

MR. TILLMAN: I believe we are comfortable with both reduced flows and the adjusted sizing criteria for the minimum holds -- excuse me, minimum septic tank size.

CHAIRMAN BAGLEY: Okay. Now, the greywater raised a lot of comments, as we looked at the comments, and I'm sure we'll hear more this afternoon. I guess one of the questions I've got, and has to do with this disinfection. And this is maybe a minor point, but the regulation, the current -- the proposed regulation says E. colis of 200 per 100 milliliters, that doesn't seem like the right unit. Should it be 200 CFU per milliliters, or 200 what?

MR. TILLMAN: Council --

MR. TOURNEY: CFUs.

CHAIRMAN BAGLEY: Colony forming units is CFU.

MR. TILLMAN: CFU, I incorrectly stated that.

MR. RUBY: You need to -- whoever answered that needs to come up and let the court reporter know who you are.

MS. THOMPSON: Quickly, fellas.

MR. TOURNEY: I guess I'm it.

THE REPORTER: Your name, sir.

MR. TOURNEY: My name is Seth Tourney. I'm with Wyoming DEQ, southeast district engineer.

Bill, that is correct. I was just reading this as you were saying that, but, yes, that would be 200 CFUs, colony forming units --

CHAIRMAN BAGLEY: Okay.

MR. TOURNEY: -- that are current on there.

CHAIRMAN BAGLEY: That would need to be added to the text, right?

MR. TOURNEY: Yeah, that would be clarify the fecal coliform level.

CHAIRMAN BAGLEY: Okay. Thank you.

I just have one last question, Mr. Hearing Officer.

So you've added Section 5, which I -- I think is a good addition to the -- to the regulation, because it allows things that aren't specified, something new. Now,

this brings up an interesting point, though. We have existing systems out there that don't meet the new -- some of the new proposed regulations. So someone says, you know, I don't really want to go to those inches or whatever changes, very detailed technical changes, so I'm going to propose to use a system that So-and-so's been selling for the last 20 years and seems to be successful, one of the requirements you had there in Section 5(b)(1) was that if you had full scale of data, that it was successful, it could be approved. So does that mean if I'm really not all that interested in following the new regulations, you can just continue to use the systems I've been using in the past, as long as I can say, well, I have data from 20 years worth of use, it's not been a problem, would that be an issue for the DEQ for something like that coming in?

MR. TILLMAN: The regulations that we're proposing for new applications would be enforced. We would look at -- let's say if it was a septic tank per se, they would propose that we would look at that proposal, and, again, suggest modifications that would bring it into compliance with our new regs. We would work with them, kind of talk them through the changes that we deemed necessary to meet our regulations.

I understand where you're -- possibly where you're going with that, but I think that would be our

approach, is to try to get them to comply with the new regs, as opposed to leave the existing tank as it were.

CHAIRMAN BAGLEY: Right, a new -- an existing design applied to a new system.

MR. TILLMAN: Right. We would try to get them to comply with the new regulations.

CHAIRMAN BAGLEY: While that section is there, the intent of that section is really for something new --

MR. TILLMAN: Completely new.

CHAIRMAN BAGLEY: -- completely different.

MR. TILLMAN: Yes.

CHAIRMAN BAGLEY: Not to say, well, you know, we used that for 20 years, it worked. We want to continue it to use it in this new application. You say we're not all that enthused about that. We're going to push you to make the changes.

MR. TILLMAN: Correct, sir.

CHAIRMAN BAGLEY: Thank you.

COUNCIL MEMBER AGOPIAN: Mr. Clark.

COUNCIL MEMBER CLARK: Mr. Tillman, I understand the greywater regulations are all new. You were -- I'm assuming this would apply to anybody that was currently using greywater, correct? So if you were -- if you're using greywater for irrigation in a floodplain,

would these regulations prohibit the future use of that, if you're currently doing that?

MR. TILLMAN: I would have to defer to our legal counsel for clarification as to how we would define that.

COUNCIL MEMBER CLARK: Another one, the same thing, if you're now going to prohibit spray irrigation of greywater, which is currently not prohibited, correct? You can do that?

MR. TILLMAN: Yes, because in the current regulations there were -- I don't believe there were any prohibitions to --

COUNCIL MEMBER CLARK: Right. So --

MR. TILLMAN: -- greywater units.

COUNCIL MEMBER CLARK: -- you're saying if there's existing systems out there, I guess my question is there's no grandfather clause in here the way it's written. So all the people that are currently using greywater -- and I know people in Platte County that are using it for some of these systems for surface application -- they would be prohibited from doing such; is that correct?

MR. TILLMAN: I believe so, yes.

COUNCIL MEMBER CLARK: So what's the outreach for those folks? How are you going to implement this? How are you going to let the public know that

something they've been doing for a long time is no longer allowed?

MR. TILLMAN: Part of our public outreach and education would have to be that way. We'd also probably -- and I guess I'm -- I need to give this more thought, but just off the top of my head, I would think that we would need to develop a policy of how to evaluate older systems and how we would try to get them to transition into compliance with the new regulations. That would take some thought.

I don't believe we had talked at length about existing systems and them being noncompliant with the current regulations. That would have to -- that would be a discussion amongst staff, and I believe a policy would have to be developed in order to address that.

MR. FREDERICK: Mr. Chairman, if I might.

COUNCIL MEMBER AGOPIAN: Yes.

MR. FREDERICK: There's a couple of different ways to approach this. Mr. Tillman mentioned one of them. Another option may be simply to invite a period of time in which existing systems may essentially come under coverage of a new permit. We've done that before with the existing underground injection control wells when a new regulation came on, for instance. So we would give that some consideration as well.

COUNCIL MEMBER CLARK: Mr. Frederick, would you do that in this regulation, or would you do that as a matter of policy? My concern here is that the way you read this, this is a basically a cease and desist on all of these systems -- I don't know how many there are -- that are out there and people are currently using that would not be consistent. There is no -- there is no way for them to go and try to get a process for them to become consistent with these regulations for some period for them to, you know, develop a process -- a compliance program.

MR. FREDERICK: Sure.

COUNCIL MEMBER CLARK: This is kind of like you're in a floodplain, you're using this, you've got to stop right now, because it would not be consistent with these regulations.

MR. FREDERICK: Mr. Chairman, Councilman Clark. Very good question. Thank you for that.

I believe we've addressed it in regulation in the Class VI EYC well for existing systems. I know we've addressed it also in general permits that essentially are designed to allow an existing system to apply for coverage under the general permit. And it provides essentially a deadline by which that authorization or that coverage needs to be -- that application needs to be provided for coverage.

So we can do it either way. Both ways make sense. If the council prefers to have that clarity or regulation, I don't see anywhere why we can't develop some language to accomplish that.

COUNCIL MEMBER AGOPIAN: Other questions?

COUNCIL MEMBER FAIRSERVIS: I'm going to reserve mine.

COUNCIL MEMBER AGOPIAN: I'm hearing none. I'm not sure the procedure, if we just -- if we move for recess on hearing.

CHAIRMAN BAGLEY: I think you can just -- you can just call the recess. You're running the show.

COUNCIL MEMBER AGOPIAN: Call for a recess. You want to do 1:00 or 1:30?

CHAIRMAN BAGLEY: What?

MR. RUBY: I would urge you 1:15, 1:30, because to get to eat and be back --

COUNCIL MEMBER AGOPIAN: Right. Call for recess until 1:15.

(Hearing proceedings recessed 11:54 a.m. to 1:31 p.m.)

CHAIRMAN BAGLEY: We're ready.

COUNCIL MEMBER AGOPIAN: Great. We're back from recess. Where we left was we had had questions for the department following their presentation of the rule.

Were there any more questions from the council for the department at this time?

CHAIRMAN BAGLEY: No.

COUNCIL MEMBER AGOPIAN: With that, we would ask for anybody that would wish to speak in support of the rulemaking -- of the rule package.

Seeing none, anybody that would like to offer neutral or comments about opinions?

Please come forward. Have you signed in, sir?

MR. KROEGER: I have not, but I will do that now.

COUNCIL MEMBER AGOPIAN: When you're done signing in, if you would please state your name, spell your last name and provide your address.

MR. KROEGER: My name is Roy Kroeger. I'm with the Cheyenne/Laramie County Department. Kroeger is spelled K-R-O-E-G-E-R. And I am with the Cheyenne/Laramie County Health Department, representing the delegated authority to do septic system permitting in Laramie County.

And the reason I wanted to speak was because greywater is a huge issue. I'm constantly getting questions on can we install greywater systems, can we do this, can we do that with regards to greywater. And the existing current regulations do not, in our opinion, in Laramie County, allow us to write regulations and/or allow

greywater systems.

I know there are some policy letters. There's general permit. There's permit by rule. But none of those things are acceptable, in our legal opinion, to allow residents to put in greywater systems. And so earlier there was the question of what do we do with existing greywater systems.

Well, I can tell you in Laramie County that any greywater system that's currently in existence is illegal, so we will not have an issue with that; however, we would love to see DEQ set something up so that we can, basically, either accept or build upon that rule and regulation so that we can have and allow greywater systems within our county.

And I would like to add that I think Casper, Natrona County, kind of has the same feeling we do. We'd love to all see some rules we can actually build on and use for greywater within the state.

As far as the rest of the changes, I think there's some pros, there's some cons, but we can live with almost all of them. With the ability to be able to write stronger, more restrictive rules than what the state has, I think we'll be able to very well amend and change the rules that fit our needs here in Laramie County, and we really support the changes.

COUNCIL MEMBER AGOPIAN: Thank you for your comments.

Are there any questions from the council?

CHAIRMAN BAGLEY: No.

COUNCIL MEMBER AGOPIAN: Hearing none, again, thank you.

Any other individuals that would like to speak in a neutral position?

Seeing none, anybody that would like to speak in opposition?

In opposition.

MR. HARMON: Yes, sir.

COUNCIL MEMBER AGOPIAN: Please come forward. If you haven't signed in, please do so. State your name, spell your name and provide address, please.

MR. HARMON: Yes, sir.

Chairman, Hearing Officer, my name is Louis, L-O-U-I-S, Harmon, H-A-R-M-O-N. I'm a professional engineer and professional geologist registered in the state of Wyoming. I actually worked for DEQ for 23 years: 14 years as a southeast district engineer, the position Seth Tourney holds today; and four years as wastewater program manager, the position that Rich Cripe holds. I retired in 2012, and continue to be active in the water and wastewater industry.

And I would like to start my comments, first of all, this drawing is driving me nuts. May I have permission to correct this drawing?

COUNCIL MEMBER AGOPIAN: No.

MR. HARMON: No?

COUNCIL MEMBER AGOPIAN: I'm comfortable -- if you would like to provide your own drawing, but that's not --

MR. HARMON: I can describe it.

COUNCIL MEMBER AGOPIAN: Okay.

MR. HARMON: Rule number one in the water and wastewater industry is waste products only flow downhill by gravity. In this drawing, you'll see that the pipe is above the water level in the center partition. That pipe must be below the water level for anything to get from the upstream side to the downstream side. That pipe is normally just a simple penetration in the partition wall. That defies the law of gravity, and so far we violate the laws of the state at random, but laws of physics --

COUNCIL MEMBER AGOPIAN: Mr. Harmon, I can appreciate your comments in that respect. I think just for demonstration purposes to help illustrate for the council. It's not a model of the -- of the requirements in the rule. So if you would keep your comments, please, to the rule at

hand.

MR. HARMON: Okay. And then I'd like to reflect on one other statement that was made this morning, and I'd like to make permanent part of the record and DEQ policy. It was stated that the height of the partition is not considered the height of the baffle, but the height of the partition may be up to 1 inch below the top of the tank. That was said -- I believe you can go back and visit the record -- by Mr. Tillman. If that's the case, then that reduces part of my objection.

COUNCIL MEMBER AGOPIAN: I don't know that we're set up to review the record live at this hearing today.

MR. HARMON: Well --

COUNCIL MEMBER AGOPIAN: And so I don't -- and at the end of your comments, Mr. Tillman or Mr. Frederick will have the opportunity to respond.

MR. HARMON: Okay. Secondly -- well, then Mr. Vaughn was, essentially, blown off by DEQ, saying that they looked at it, and Mr. Vaughn's statement, in his comments, that it would necessitate changing the forms for construction. Mr. Vaughn is a respected local manufacturer and a Wyoming professional engineer of 30 years standing. If Mr. Vaughn tells me that the rules require changing the forms to comply with the new rules, I have to go with

Mr. Vaughn's opinion, because that's what he does on a daily basis.

And there was some comment made that the spreadsheet that I was using that said 90 percent of the tanks were not in compliance was in error. I would have to defend that spreadsheet as not being in error. The spreadsheet was carefully prepared, although not all exclusive. There are other minor products reviewed, but other than that, that spreadsheet is quite accurate.

Okay. As far as comments. Privies. One of the things I developed in all my years at DEQ is a minimalist approach to regulation, plus the additional issue of regulation you should only write regulations that you can enforce. This is why I recommend permitting said privies by rule rather than a general permit requiring a submittal to the state and a review.

DEQ at the state level has no way of knowing if a privy is constructed without a permit, unless some neighbor should complain about that permit. The local programs have a lot more eyes on the ground. They're a lot more closely associated. So if a local program wants to permit a privy they're in the position to know if somebody's building a privy without a permit. We -- we -- I no longer work for the State of Wyoming. At the state government level, there's no way of knowing if somebody's out there building

a privy without a permit, so why set them up to break the regulations.

Create a permit by rule. Use the same standards for privies that are in the proposed regulation, but make it permit by rule. Then if you hit a problem with a privy, you have the regulation, you have the rule. The neighbor's the one that's going to tell you that the privy stinks next door. You can go out and you can effectively address the issue. But why set these people up?

Now, to the one that's the greatest concern to me that's -- over the years I've developed a strong feeling about, and that's use of greywater. I think if any one of you would carefully read all the proposed rules we're making about greywater, they effectively prohibit the use of greywater. Nobody's going to mess with going through all that hassle to put in a greywater system.

Additionally, across the nation, I have not been able to locate a case of illness caused by the use of greywater. Greywater just isn't the issue that we are building it up to be here today. The people that want to use greywater -- and I've seen this from personal observation -- are very passionate about it. It's part of their environmental ethic, if you will. They think that it's necessary to make maximum use of their resource, the water. So why should we be making it difficult for them to

use their greywater? If there's some risk involved -- as long as they keep it on their own property, they're taking their own risk. I mean, if I want to stand up on one leg on the peak of my roof, I'm probably going to fall off, but that's my own problem, as long as I don't fall on the neighbor. Somewhat the same philosophy with the greywater. Why do we need to make it difficult for them to use greywater? Tell them keep it at home. Case closed.

If, again, the local people want to have a more rigorous approach to greywater, it's in the regulation. And, again, the greywater rule by permit is essentially -- essentially something the State's not going to know about unless it's brought to their attention by somebody objecting the use of it when it gets off the greywater user's property. California just revisited their greywater regulations, and said you know what, we don't need all these. Keep it at home. And California loves to write regs.

I offered some other comments in writing. That's all the oral comments I have.

COUNCIL MEMBER AGOPIAN: Mr. Harmon, thank you for being here today. Are there any questions from the council?

MR. Clark.

COUNCIL MEMBER CLARK: Mr. Harmon, one of

the things we're struggling, at least I'm struggling with trying to get a handle on, how big is the world of greywater in Wyoming. I know of a few of them in Platte County. Is greywater currently being used in Laramie County? Could you -- without getting anybody in trouble, is it common? Is it rare? You know, how big is our universe here?

MR. HARMON: The universe is not large, and it's been stifled by regulation throughout the time.

I concur with Mr. Kroeger's comments. I might regulate greywater different than he does, or would like to, but I think setting up a state rule that gives him the freedom -- or gives Laramie County the freedom to decide how greywater should be used in Laramie County is just fine. And if Platte County decides if -- you want to keep it at home, fine.

I was very frustrated when I worked for DEQ, because people called up wanting to use greywater, and I had to tell them, well, you need a permit, and we really don't have any rules for it, so we'll just treat it like a blackwater system, you're allowed to take a little bit out to use for greywater.

COUNCIL MEMBER AGOPIAN: Other questions from the council?

Mr. Frederick, do you have any questions for

Mr. Harmon?

MR. FREDERICK: Not at this time.

COUNCIL MEMBER AGOPIAN: Thank you. Thank you, again, Mr. Harmon.

Any others that would like to testify this afternoon?

Please come forward, ma'am. State your name for the record, spell your last name, and provide your address, please.

MR. RUBY: No, you don't need to touch that.

MS. CAHN: No, I don't need to? Good.

My name is Lorie Cahn, C-A-H-N.

My main comment today, I think, would be if it ain't broke, don't fix it, as far as septic tank configurations. We heard Mr. Tillman's presentation on what changed, but not necessarily on why some of the septic tank configurations changed, particularly in Section 9(a)(iv)(E).

I have served 14 years on the Water and Waste Advisory Board, and probably the longest-serving member of that board. I served three governors, starting with Governor Geringer. I'm here to represent the public at large. And in my 14 years on the board, I received more comments on these proposed -- or concerns -- communications

from concerned professionals on Chapter 25 than I ever had on anything I've seen in 14 years, and not much change between the drafts other than wordsmithing.

And at each meeting the board expressed concern over whether stakeholder -- over whether stakeholder concerns were being adequately addressed.

At our last board meeting on this proposed regulation, which was July 25, 2014, which was our fifth one, the board could not reach a quorum unequivocally in favor of the proposed Chapter 25. And out of frustration --

COUNCIL MEMBER AGOPIAN: Ms. Cahn, can you do me a favor and define breach of quorum unequivocally.

MS. CAHN: Yes. There were three members present. We needed three for a quorum.

COUNCIL MEMBER AGOPIAN: So you had a quorum.

MS. CAHN: We had a quorum.

COUNCIL MEMBER AGOPIAN: Okay.

MS. CAHN: But we couldn't unequivocally say the entire package was ready to go to EQC. So the board voted 3 to 0 to forward the rules on to EQC, provided that EQC would be made aware of the items for which some of us still had concerns. And the concerns we had ran the gamut from those were either too prescriptive or those were

not protective enough.

At the request of the board, DEQ prepared a letter providing their perspective on these issues outstanding -- that we considered outstanding. And those have been in your docket. So they're available to you. After our last meeting in July, there was some concerns raised within DEQ that would have prompted me, as a board member, to vote against forwarding the rules on to EQC, which would have given it 2 to 1, and it would not have come forward.

My concern is that the proposed Chapter 25 does not meet the intent of Governor Mead's streamlining government initiative. Due, in part, to some overregulation. DEQ told the board repeatedly, and I think they've also in the response to comments, that Wyoming has a very low failure rate for septic systems. And so to me, it's unclear why is there a need to change this portion of the regulations. And I get back to my if it ain't broke, don't fix it. So the information that -- in the spreadsheet in my comments that was provided to you that was prepared by a member of DEQ after the last time the board heard it. It listed approved manufacturers and specifications for all the septic tanks that are on the approved list for the state of Wyoming, and whether or not they meet the proposed requirements in Section 9(a)(iv)(E).

And that spreadsheet -- and I have included it in my comments -- there's a lot of pink on there. This is a copy in red, just to make it easier to see. But, basically, almost all of the -- over 90 percent of the manufacturers do not meet these requirements.

Now, Mr. Tillman has told us that this is simple fix. You can just change the piping. But my question is if it ain't broke, why are we changing it? If we don't have a lot of failures, why do we need these new -- these more restrictive regulations, that would then cost -- and there's a discrepancy whether or not manufacturers like Vaughn say this can be fixed cheaply, or what Mr. Tillman is saying, that it can be fixed inexpensively.

One of the comments that I submitted to EQC was on -- suggested that a simple, inexpensive improvement to the regulations could be requiring an effluent filter on the tank discharge, and that would prevent solids from leaving and going out into the fields. And this would improve public health and safety. It's a simple and inexpensive installment, it costs between 20 and a hundred dollars, roughly. They're easily removed for cleaning with a garden hose. And that comment was not responded to in the response to comments.

I move on to greywater, which is something that was of concern to the board. We felt that it should be

encouraged, and the regulations seem too onerous, and we feel would -- or I will speak just for myself, I feel it would discourage greywater use.

One other issue was the percolation tests. And I myself have trained in modeling effluent flow through porous medium, and so I understand that models are only as good as the assumptions and the data going into them.

One of my comments was that the new method devised by DEQ was not field tested to gauge whether or not it reproduces a similar range of results to the original method in the regulations, the previous regulations. And this comment was also not addressed.

So with that, I -- I think the other -- rest of my comments are in the record. I will close.

COUNCIL MEMBER AGOPIAN: Ms. Cahn, thank you for being here today and testifying.

Are there any questions from the council?

Mr. Clark.

COUNCIL MEMBER CLARK: On the spreadsheet that you attached to your comments, all the red, those -- those would be inconsistent with the current regulations as they're currently -- those tanks are currently constructed, correct -- or designed?

MS. CAHN: No. Excuse me, these are the ones that would be -- as currently constructed, they would

be inconsistent with the new regulations.

COUNCIL MEMBER CLARK: Right. Right.

MS. CAHN: So these are on the approved list for state of Wyoming. All these manufactured are on the approved list for the state of Wyoming. So those tanks meet the current regs. What's in red are the ones that were not -- aspects of this that would not meet the new regs. So, to me, that's a large if you have 97 percent or 90-plus percent that don't meet it. And you've got, you know, DEQ telling us that Wyoming has extremely low failure rate for septic systems. So my question is why the change? Why --

COUNCIL MEMBER CLARK: Let me.

MS. CAHN: Sorry.

COUNCIL MEMBER CLARK: Let me ask the rest of my question.

This doesn't take into account Mr. Tillman's discussion that -- that for, use your words, $50, you can retrofit these to meet that design and meet the new regulations; is that correct? You're not saying these can't be -- through minor modifications, be adjusted to meet the new regulations. Is that -- that's not your point, is it?

MS. CAHN: Well, the only manufacturer that I've seen comments on is Mr. Vaughn. And Mr. Vaughn says

that it's -- it's more -- you know, it's not a simple $50 fix. So I can't answer that question. I think it's something that DEQ -- you know, EQC could ask DEQ to go to these manufacturers and find out how much it's going to cost to make modifications to their system, which would give us more information. But I think it's a question of whether it can be done for $50.

COUNCIL MEMBER CLARK: I think it's a question. But when you went through your board, did you not reach out to the manufacturers and ask those questions?

MS. CAHN: This information that they couldn't meet these new requirements was not made available to the board. The -- the email that went through DEQ with the spreadsheet on it happened in January of 2015. Our -- we voted to send it on to you in July of 2014. So this was after we had already voted to -- we did have some manufacturers come and speak before the board, and there was some discussion. I know one of the things that was discussed is the 1 inch versus 3 inches for the void space. That was something. And it seems like -- I still think it's confusing in the wording whether or not that applies to the divider or whether that applies to above the Ts. I don't think that's -- that's clear. And if it's 3 inches, some of these manufacturers won't meet it. If it's 1 inch for clear space above the dividers, then these can, so...

COUNCIL MEMBER CLARK: It's your opinion that -- that there has not been adequate outreach to the manufacturers to determine what the cost of the public's going to be?

MS. CAHN: Yes.

COUNCIL MEMBER CLARK: Thank you.

COUNCIL MEMBER AGOPIAN: Any other questions from the council?

Seeing none, Mr. Frederick, do you have any questions at this time?

MR. FREDERICK: No, I don't. Thank you.

COUNCIL MEMBER AGOPIAN: Ms. Cahn, thank you again for your time today.

MS. CAHN: Thank you.

COUNCIL MEMBER AGOPIAN: Is there anybody else in the audience today?

Please come forward, sir. Please state your name for the record.

MR. BERQUIST: My name is Eric Berquist. Last name spelled B-E-R-Q-U-I-S-T, and I represent Infiltrator Water Technologies. I'm here on behalf of Mr. Dick Bachelder, who has sent in three comments, and I'll touch on -- on all three real briefly. I'm going to be reading from -- if you guys want to follow, our responses to written comments, bottom of the page 5,

Infiltrator Water Technologies. Our comments was Infiltrator Water Technologies requests that Section A, subsection B, be modified to include a 30 percent reduction.

COUNCIL MEMBER AGOPIAN: Mr. Berquist, if you could hold on one second.

MR. BERQUIST: Yes.

COUNCIL MEMBER AGOPIAN: You're referring to 7(b)(iii)?

MR. BERQUIST: Yes.

COUNCIL MEMBER AGOPIAN: Okay. Sorry. Thank you.

MR. BERQUIST: Section 7(b)(iii) be modified to include 30 percent reduction and be rewritten to state for standard bed systems. Response, DEQ, we agree that the 30 percent reduction needs to be added in. So we're good there. I think it's just -- it's a little vague. And if I can ask that we see the language prior to it going into regulation, that's all we ask, that if that's possible we can review that language.

So we're in agreement there, okay?

I'll move on to page 7. It's our second comment. The comment is Infiltrator Water Technologies requests that the passage be changed to septic tanks shall be fabricated or constructed of concrete, fiberglass, thermoplastics,

which is underlined, that's what we want to include, or an approved material. DEQ's response. They decline Infiltrator Water Technologies' request to adjust the statement. Thermoplastics may be evaluated under Section 5 as new technology.

You know, at this point, it's more of a suggestion versus a -- a -- a -- lost my train of thought here. It's more of a suggestion versus a request. I mean, thermoplastic technology -- plastic tanks have been around for 20 years. It's not new technology. We're simply asking that you recognize maybe the IAPMO, which is our national standard where all plastic manufacturers get certified. If you're an IAPMO certified tank -- and pretty much every state in the country recognizes IAPMO, or Canadian standards, which is the CSA standard.

I think if you start looking at plastic tanks as a new technology, you're going to add some extra work, more on the permitting process time. If a variance has to be filled out every time a plastic tank is used, I think it's just a lot of extra time through that process. So, I mean, that's what we're asking, is that you reconsider, and maybe if you need some extra contacts or IAPMO or CSA, we can get you that. But that's pretty much the standard for plastic tanks.

The last comment that we sent in, we are in

agreement, so I'm not even going to go there. Mr. Tillman pretty much explained it. It had to do with the space above the inlet pipe, and he's -- he's clarified that, so we're good there. So really just that second one I was talking about.

COUNCIL MEMBER AGOPIAN: Mr. Berquist, thank you for being here and your comments.

Are there any questions from the council?

Seeing none, Mr. Frederick, do you have any questions for Mr. Berquist?

MR. FREDERICK: No, sir.

COUNCIL MEMBER AGOPIAN: Thank you. Anybody else in the audience wish to testify today on the rule?

Seeing none, we'll close public comment, public testimony, and I'll ask Mr. Frederick if he has any closing statements that he'd like to make on the rulemaking.

MR. FREDERICK: I would, Mr. Chairman, Mr. Agopian.

I'm a little puzzled about the comment that there's a need for additional stakeholder outreach. That puzzles me just a little bit, given the four public hearings, public notices, and the general conversation that's obviously been out there from some very concerned citizens, all be it what I consider to be a small subset.

Nonetheless, we received one comment from one of the tank manufacturers.

There seems to be I think perhaps a little disagreement on the interpretation of the regulation between his concern and what we understand his issue to be. I think we're pretty confident that situation that he described can be easily accommodated. I'm a little confused on what the issue is.

I'd like to remind the council that this new regulation is for systems going forward. This is not a regulation that essentially says that everybody's got a septic tank out there has to redo it.

And I'd like to remind the council that, as I mentioned earlier, the existing regulation under which we've been permitting these systems is 31 years old. Technologies have advanced. Science has advanced. For the life of me, I cannot understand why the Department of Environmental Quality wouldn't want to recognize those advancements and approve its ability to protect human life, human safety, human health and the environment. That's what the agency is -- is all about. That's what this regulation is all about.

We think we've balanced that objective -- those objectives very nicely in the context of what it actually means for someone in the public to implement it. We've

tried to clarify, we've tried to simplify, and we tried to improve the regulation. We're developing permitting systems that essentially eliminate what's now required for professional engineering design, seals, and so forth, that are costly to the consumer.

The individuals that were primarily involved in developing this regulation don't just have government experience. Mr. Tillman used to work at Dyno-Nobel, designing multimillion-dollar treatment systems for that particular application. He was also responsible for making sure this stuff got built. So I think in Mr. Tillman's opinion, when he thinks that these are relatively easy minor modifications that can be accommodated, he's probably got a sense of what he's talking about. And others that have been involved in this regulation have got real-world experience as well.

We're not about foisting punitive regulations on the public. On the contrary, our objective is to try and implement reasonable approaches to environmental and health protection, and I think we've done that here.

I think the regulation has had lots of exposure. I think that if there were such a large outcry over what we're trying to do here, we would have seen it at public hearings that we've had before the advisory board, and we'd see it here today. And quite frankly, I don't think this

is what I would consider a call to arms in a huge public outcry.

We're -- we recognize that we aren't going to please everybody. We're aren't going to make everybody happy. But I think what we've developed here is a balanced and reasonable approach. I think it's going to pay off with environmental dividends in the future as the state continues to grow, as we continue to see more and more development in urban areas, replacing water supply wells next to septic systems. And, yeah, we don't have a real history on the failure rate of septic systems in the state of Wyoming, but we haven't gone out and actually done a survey either.

We're basing that primarily on a number of complaints we've received. If we were to go out and take a look, I suspect we'd probably hear more about it than what we have so far. There's no question that nationally septic tanks are one of the most common sources of groundwater pollution in the country. We all deal with it.

That's all I have to say. Thank you.

COUNCIL MEMBER AGOPIAN: Thank you, Mr. Frederick.

Before we take action on the rulemaking package, are there any last questions from the council for Mr. Frederick?

Mr. Fairservis?

COUNCIL MEMBER FAIRSERVIS: No, go ahead.

COUNCIL MEMBER DEGENFELDER: I was just wondering, could you reiterate the proven benefit of the change of the piping from 1 inch to 3 inches?

MR. FREDERICK: I'll ask -- excuse me, Mr. Chairman, I'll ask staff to address that question.

COUNCIL MEMBER DEGENFELDER: Thank you.

MR. TILLMAN: Council Degenfelder, was your question is the benefit of having 3 inches above the inlet pipe compared to a 1 inch?

COUNCIL MEMBER DEGENFELDER: Right, and how that will impact the ventilation system. I didn't recall hearing an actual impact or if that changed.

MR. TILLMAN: Okay. Basically, the reason -- or part of the reason for putting that in there, currently there is no specification as to what the inlet pipe needs to be, how long, or any -- any specifications dimensionally other than they need one. And all we did was clarify what those dimensions should be. And those dimensions followed EPA guidance, and also followed the precast concrete specifications within an inch. And so all we did was basically make that a part of the rule as opposed to just letting people put in whatever.

And what we have seen from the approved list is

that part we didn't have any specification on, we had quite a bit of variability. And all we were doing was trying to tighten up the consistency of the designs that we get and make sure that they comfort -- comply with reasonable engineering technology, as we know it today, for what's necessary for the proper operation of that tank.

COUNCIL MEMBER DEGENFELDER: So there hasn't been a clear standard amongst manufacturers at this point?

MR. TILLMAN: Well, they've been using it in our rule. Our rule didn't state anything. Our rule just said you have to have an inlet to your baffle. That was it. It didn't give any dimensions as far as how tall it needed to be, how far in the liquid. It just said you needed to have one. And our rule that we were proposing now, clarify what those specifications need to be, and they're in line with current industry standards. And that's why when we did our analyzing tanks that were approved, we saw that what was -- what we considered to be modification to come in compliance. There didn't seem to be a big change necessary. And those are based on the drawings that we have in-house.

COUNCIL MEMBER DEGENFELDER: Thank you.

And one second question. Did you all look into a rough number of Wyoming citizens that would effectively be

impacted by the greywater? I know we brought that up with one of the testimonies, kind of struggled to know how many citizens that will actually affect.

MR. TILLMAN: We don't have any way to track greywater permitting systems in place, so we don't have exactly any idea how many out are there, let alone how many are in compliance, as far as I'm aware of.

MR. FREDERICK: Mr. Chairman, if I might have a moment.

COUNCIL MEMBER AGOPIAN: Certainly.

MR. FREDERICK: Mr. Chairman. Ms. Degenfelder, current regulations require a permit for greywater applications. And the brief research that we've done, we essentially have identified seven systems that have been permitted.

COUNCIL MEMBER DEGENFELDER: Thank you.

MR. FREDERICK: I cannot tell you how many systems are out there that exist that don't have a permit, but should have one.

COUNCIL MEMBER DEGENFELDER: Thank you.

COUNCIL MEMBER AGOPIAN: Other questions from the council?

Ms. Lally.

COUNCIL MEMBER LALLY: I have a question. In Mr. Vaughn's comments, he stated that he preferred that

they adopt the ASTM standards, which are the manufacturing. What's the difference between the ASTM standard and the proposed rule?

MR. FREDERICK: Mr. Chairman, Ms. Lally, Bill can go over that in fairly good detail for you.

COUNCIL MEMBER LALLY: Okay.

MR. TILLMAN: Basically, I have the standard right here, and they say in their Rule 7.2.2, and that's in Section 7 on physical design requirements. The air scum volume, which is the volume above the scum layer, needs to be a minimum -- or, excuse me, shall be at least 12 and a half percent of the volume of the liquid, but not less than 9 inches high for the entire height above the liquid. Our regulation requires that the part of the T above the liquid level is 6 inches. We require another 3 inches of clear space above that, which gives 9 inches, which complies exactly with what their regulation asks for.

The max -- the minimum depth of water in a tank, 36 inches, or 3 feet, we have 3 feet for our minimum depth. The maximum depth is 72 inches or 6 feet. We have 6 feet. On baffles and outlet devices, the inlet baffle shall extend at least 8 inches below the liquid level. Our recommendation is 30 to 40 percent of the liquid level, so you're talking maybe an additional -- just off the top of my head, I believe 4 or 5 inches maybe. Additional length

into the liquid. The extension of the baffle above the liquid level shall be at least 5 inches. We're recommending 6 inches.

On the outlet baffle, or outlet filter, the liquid -- the outlet baffle shall extend below the liquid not more than 40 percent of the depth of the liquid. We have 30 to 40 percent. The extension above the liquid level, 5 inches, we have 6 inches. So other than an inch, we comply with their rule. One thing this rule does have in there, they do not allow single compartment tanks, don't allow it, we do.

So, again, that would -- then we had quite a bit of conversation about that earlier on in the Waste and Water Advisory Board meetings about not having single compartment tanks. So, again, I think that is a bonus for the people of the state of Wyoming, if they choose to have a single compartment tank. But by and large, we comply with all the requirements of this standard. We just don't call out the stand as the end all.

COUNCIL MEMBER LALLY: Okay. Thank you.

COUNCIL MEMBER AGOPIAN: Other questions from the council?

Seeing none, we'll ask if somebody would like to move the rule package forward.

CHAIRMAN BAGLEY: So moved.

COUNCIL MEMBER AGOPIAN: Second?

COUNCIL MEMBER LALLY: I'll second.

COUNCIL MEMBER AGOPIAN: So at this point we have -- I'd like to take up the proposed revisions that were posted yesterday by -- on the EQC website, proposed by DEQ to Sections 3 and Section 7.

Can I have a motion to move the amendment?

COUNCIL MEMBER CLARK: So moved.

COUNCIL MEMBER AGOPIAN: And a second?

CHAIRMAN BAGLEY: Second.

COUNCIL MEMBER AGOPIAN: Any discussion?

Hearing none -- hearing none, all those in favor.

CHAIRMAN BAGLEY: Hold on. Are we voting --

COUNCIL MEMBER AGOPIAN: We're going to vote on the amendment.

CHAIRMAN BAGLEY: Just the amendment?

COUNCIL MEMBER AGOPIAN: Just the amendment.

CHAIRMAN BAGLEY: I do have a comment, Mr. Hearing Officer.

COUNCIL MEMBER AGOPIAN: Okay.

CHAIRMAN BAGLEY: The amendment does appear to add some language that had been requested by commenters, and, you know, it's -- this -- some of this is quite

technical and quite detailed, so I will trust that commenters and DEQ have -- feel this is appropriate for this, but I am glad to see that they heard a comment and have added it, and they seek approval.

COUNCIL MEMBER AGOPIAN: Mr. Frederick, do you have any comments about the amendment?

MR. FREDERICK: Mr. Chairman, Mr. Agopian, I do.

The council, prior to convening for lunch, seemed to express a little interest in perhaps having some clarifying language with respect to the effective date or the timing of complaints.

COUNCIL MEMBER AGOPIAN: So Mr. Frederick, let me ask if we can take our vote on this amendment, and then we'll have time to discuss that.

So all those in favor of the motion to approve the amendment that was filed yesterday afternoon and made available to the public, please say aye.

COUNCIL MEMBER CLARK: Aye.

CHAIRMAN BAGLEY: Aye -- do a roll-call.

COUNCIL MEMBER AGOPIAN: I'll do a roll-call.

Councilman Lally.

COUNCIL MEMBER LALLY: Aye.

COUNCIL MEMBER AGOPIAN: Mr. Clark.

COUNCIL MEMBER CLARK: Aye.

COUNCIL MEMBER AGOPIAN: Mr. Bagley?

CHAIRMAN BAGLEY: Aye.

COUNCIL MEMBER AGOPIAN: Mr. Fairservis.

COUNCIL MEMBER FAIRSERVIS: No.

COUNCIL MEMBER AGOPIAN: Ms. Degenfelder.

COUNCIL MEMBER DEGENFELDER: No.

COUNCIL MEMBER AGOPIAN: I believe the motion pass -- the amendment passes.

CHAIRMAN BAGLEY: How did you vote, Nick?

COUNCIL MEMBER AGOPIAN: Oh, aye. Excuse me.

Tim, are you still on line?

MR. GIRARDIN: No. He passed.

COUNCIL MEMBER AGOPIAN: The motion -- the amendment passes.

Now would be a good time for some discussion on the proposed rule for the council. I think Mr. Frederick would like to make a comment about the timing of the implementation of the rule.

MR. FREDERICK: Thank you, Mr. Chairman, members of the council.

Recognizing the interest that the council had -- at least some members of the council had and perhaps some clarification on implementation with respect to existing

systems, we've given that some consideration for the council -- council's pleasure.

And, again, recognizing that certainly with respect to existing systems covered by this regulation, all of those addressed in the current regulation currently require permit for Chapter 3 permit to construct more precisely or coverage under an existing Water Quality Division general permit under the existing rules and regulations.

So with that in mind, perhaps language to help clarify the status and standing of those existing systems might be helpful in responding to the council's question earlier.

COUNCIL MEMBER CLARK: Are you speaking just of greywater systems?

MR. FREDERICK: No, sir. Septic systems as well.

COUNCIL MEMBER CLARK: So the whole kit and caboodle?

MR. FREDERICK: Yes, sir.

Maybe a new section could be added that would read timely of compliance with these regulations. Any Chapter 3 permit to construct issued for facilities otherwise subject to this chapter prior to the effective date of these regulations shall remain in effect so long as

the facility is not modified. And any facility authorized under division's general permit to construct, install modify, or operate a small wastewater facility may remain covered under this permit. Any individual permit issued under Chapter 3 prior to the effective date of these regulations fulfills all the requirements to obtain a permit under this chapter. New construction following the effective date of this regulation must obtain individual permits to construct.

That would be consistent with the regulatory requirements in the proposed rule for individual permits. This is relatively consistent with language we've used in the past with respect to regulations governing Class V underground injection control wells. Thank you.

COUNCIL MEMBER AGOPIAN: Questions from the council?

COUNCIL MEMBER FAIRSERVIS: I don't think I've got a question, just comments as we move along here.

COUNCIL MEMBER CLARK: I'd like to see that in writing, if we could.

MR. RUBY: Kevin, if you would email that to me?

COMMISSIONER THOMPSON: Oh, I can.

COUNCIL MEMBER AGOPIAN: Are there general -- is there discussion that the council would like

to have or comments they'd like to make about the rule as it's proposed right now? If so --

COUNCIL MEMBER DEGENFELDER: Just a quick question. To reiterate, that covers both greywater and septic; is that correct?

MR. TILLMAN: (Nods head.)

COUNCIL MEMBER DEGENFELDER: Thank you.

COUNCIL MEMBER AGOPIAN: Mr. Fairservis.

COUNCIL MEMBER FAIRSERVIS: Yes. I just -- you know, I'll vote against the motion, anyway. And this is specifically, you know, referenced in Chapter 25.

You know, I read the 34 comments. Of those 34 comments there's maybe 50 percent of them -- maybe 50 of them that didn't fall on deaf ears. I feel like the DEQ did a very poor job in their response.

And Mr. Frederick, you stated that current regs are 31 years old; is that correct?

MR. FREDERICK: Yes, sir.

COUNCIL MEMBER FAIRSERVIS: And technology has advanced a lot. But on the other hand, you've got a system that's 20 years old, a thermoplastic system that, you know, one you will not accept. So, you know, maybe technology is advanced in one sense, but I don't think the DEQ has advanced in accepting the suggestion.

Third of all, Mr. Harmon states, and Mr. Vaughn,

a cost, and Mr. Tillman. You know, we've got a big deviation there. I think it would really behoove us all to go back and get the manufacturers involved and really find out what an honest number may be. It may be 50 bucks. It may be $500. That's a lot of money.

So, you know, personally, I don't think this thing is ready for prime time, and I'll be voting against it.

COUNCIL MEMBER AGOPIAN: Mr. Chairman.

CHAIRMAN BAGLEY: I'd like to just make some comments. I see a lot of positives in this new regulation. And I -- I like the idea -- the idea that when it's finally tidied up -- I don't think it's quite ready yet either -- when it's finally tidied up, members of the public may be able to use what DEQ put online, follow their application procedure, and not have to -- if as long as they're following that design procedure, not have to employ a professional engineer -- I am a professional engineer, so maybe I should vote against it, just because it's a good job for professional engineers, but I won't. I think it's important for the public to have that kind of opportunity.

And those sorts of things, like Section 5, which allows for new ideas to come forward and be evaluated, which is not in the current regulation, I think is very important to have that kind of thing. It's clear to me,

though, that there's been a lot of discussion on some details. They're important details, technical details. As Mr. Fairservis said, the cost issue is a concern. And we only know what we hear, and we're hearing two different things. And I suspect that both sides are probably right. We've got to get some kind of convergence on something so we can feel comfortable with what the cost might be when this regulation is implemented.

The greywater issue, I guess I'm one of those people who like to see greywater used. And -- but I feel concerned that it's not quite ready. I mean, if someone -- if the counties -- counties say, well, we just don't want to touch it yet, because we need some feedback. Well, let's get that tidied up so that those with legitimate use of greywater have a very clear -- it has to protect the health and the environment, I completely agree with that. But I think we need to look at that in a little more detail.

So I will also be voting no. I think we're close, but I think we need some additional revisiting with the manufacturers and also tidying up.

That language you suggested, Mr. Frederick, sounds very good, but I'd like to see where it's going to fit in and how that all fits in.

COUNCIL MEMBER AGOPIAN: Mr. Clark.

COUNCIL MEMBER CLARK: I -- I think I share the concern, especially with what Rich says. The greywater thing bothers me, because I think -- I, too, would like to see it easily used. And I'm not sure there aren't some situations that greywater couldn't be used and permitted by rule.

I'm also questioning why privies couldn't be permitted by rule. And maybe there's legitimate reasons not to do that, but I don't understand them, and I don't know what they are. And you guys are going to have to work more to convince me of that. I do think you need to take the tank costs out to the manufacturers. I think that's something that's our responsibility is to get the best information possible before we make a decision. And I am hearing two different things completely. And that's bothered me since we -- since we started reading the comments and the response to comments.

I do think it would be great if those folks that wrote comments in and said it's going to be a deal killer in terms of costs, you know, would be able to come back and say now we understand it better. It's really a $50 deal. Even a couple hundred bucks, guys, in today's economy -- you know, Platte County it makes a difference. So I'd like to know what those costs are really going to be.

So based on that, I do think I understand there's

been a tremendous amount of work put into this, and I do think it is really good for the future to get this all redone. The rules are quite old, and they need to be changed. But, boy, I just think I have a lot of questions yet that remain, and if I do, then I just can't vote yes for this. I'm going to be voting no as well.

COUNCIL MEMBER AGOPIAN: Ms. Lally.

COUNCIL MEMBER LALLY: I have a couple of comments. One on the greywater. The way it's written right now makes it almost impossible to use in an industrial scale. You know, in the middle of a hayfield, on a center pivot, where there's no houses nearby, spray irrigation should be okay. But within a certain distance to a home, maybe not, you know, for a yard sprinkler. So that need to be addressed.

And in terms of the septic tanks, I feel pretty strongly that they need to be changed. Thirty-year-old regulations aren't strong enough for today's -- today, but I think we need to look again at the manufacturing standards and make sure that they -- you know, that be the minimum maybe, rather than making ours so much more stringent. But I think it's a good start.

COUNCIL MEMBER AGOPIAN: Thank you.

Hearing the comments from the council members, I wonder, Mr. Bagley, if you would be interested in

withdrawing your motion to move the rule forward, and then as a council we could potentially consider providing some direction to the department on how we think it would be best to move forward.

CHAIRMAN BAGLEY: I could do that, if you feel it's right way to do it, as opposed to voting it down.

COUNCIL MEMBER AGOPIAN: I personally feel that voting it down would be a disservice to the department and all of the efforts they put into this. I wouldn't -- you know, all the work that Bill and his staff had put into this, I don't think it would reflect very well on their positive efforts and their hard work. And I don't know that I share everybody's concerns about the outreach, but I think that would be an appropriate way to go forward.

CHAIRMAN BAGLEY: Yeah. Any feedback on that, Jim?

MR. RUBY: You can go either way. You can also have a withdrawal of the second.

CHAIRMAN BAGLEY: Right.

COUNCIL MEMBER AGOPIAN: MacKenzie, could you offer us your thoughts on these?

MR. WILLIAMS: Yes. Mr. Chair, Mr. Hearing Officer. As Jim said, a withdrawal of the motion and second would be an appropriate way to resolve it, if that's the direction the council was leaning, but that's really up

to the movant, and it's their choice.

CHAIRMAN BAGLEY: I'm willing to withdraw my motion and a second to Aaron's, also.

COUNCIL MEMBER LALLY: I think I seconded. I'll withdraw my second.

COUNCIL MEMBER AGOPIAN: Okay. So we're back to the square one. The rules in front of us, it sounds like there are some concerns about where we're at right now, and we'll get input, looking at some of the costs, and specifically looking at the impacts associated with the implementation of the greywater regulations.

What is the Council's pleasure in terms of moving forward and giving some direction to the department?

MR. RUBY: Only thing you can do is either table it or -- or that's it. That's all you can do. You can table it.

MR. WILLIAMS: Mr. Chair, that's correct, the department may propose some amendments at a subsequent meeting, based on perhaps the feedback it's hearing at this point. It seems, at least from my hearing, that the concerns have been pretty well articulated at this point.

COUNCIL MEMBER AGOPIAN: I'd ask a motion to table.

COUNCIL MEMBER CLARK: So moved.

COUNCIL MEMBER FAIRSERVIS: Second.

COUNCIL MEMBER AGOPIAN: We'll do a roll-call.

Ms. Lally.

COUNCIL MEMBER LALLY: Aye.

COUNCIL MEMBER CLARK: Aye.

COUNCIL MEMBER AGOPIAN: Mr. Clark.

Mr. Bagley.

CHAIRMAN BAGLEY: Aye.

COUNCIL MEMBER AGOPIAN: Mr. Fairservis.

COUNCIL MEMBER FAIRSERVIS: Aye.

COUNCIL MEMBER AGOPIAN: Ms. Degenfelder.

COUNCIL MEMBER DEGENFELDER: Yes.

COUNCIL MEMBER AGOPIAN: And aye for myself as well.

I just want to make a comment to the DEQ staff that we really do appreciate all your hard work and effort, and I can imagine this is a frustrating situation this afternoon, but it is the council's desire to have another look at it and make sure that we're getting it right and in favor of having the right rule instead of a rule. So thank you, again, for all your time and your effort.

MR. FREDERICK: Thank you.

CHAIRMAN BAGLEY: You going to return the gavel to me?

COUNCIL MEMBER AGOPIAN: It's all yours,

Mr. Chairman.

MR. RUBY: Mr. Chairman.

CHAIRMAN BAGLEY: Yes.

MR. RUBY: Could you take a five-minute break for Joe? He needs to deal with his computer.

CHAIRMAN BAGLEY: We will take a 10-minute break, and -- let's see what time is it -- be back here at 2:40.

(Hearing proceedings concluded 2:30 p.m., July 8, 2015.)

C E R T I F I C A T E

I, KATHY J. KENDRICK, a Registered Professional Reporter, do hereby certify that I reported by machine shorthand the foregoing proceedings contained herein, constituting a full, true and correct transcript.

Dated this 23rd day of July, 2015.

KATHY J. KENDRICK
Registered Professional Reporter