JEFFERSON COUNTY COLORADO
Public Health

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2020 OWTS Regulation Revisions
Comments on DRAFT1

INTRODUCTION

Jefferson County Public Health submitted DRAFT1 of the revised onsite wastewater regulations to the STAKEHOLDER GROUP1 on November 6, 2020. On November 30, 2020, a stakeholder meeting was held via Zoom to allow for additional stakeholder comment. STAKEHOLDER GROUP1 consisted of approximately 30 stakeholders from the following onsite wastewater sectors: Citizens, Regulators, Designers, and Distributors. Comments were accepted through December 15, 2020, at which the public comment period closed.

*Grammatical errors, misspellings, and font color were intentionally left in the comments to not change the comments submitted. Note some names about commenters have also been omitted and replaced by "Name"

COMMENTOR	SECTION	COMMENT
1	Section 9 Transfer of Title Permits	I disagree with "Transfer of Title". People Know it as Use Permit. Maybe somehow you can incorporate the two? Transfer of Title (Use) Permit? I would never think to look under Transfer of Title. Or Use (Transfer of Title) Permit?
1	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	I totally concur with Name on the fact that this is not the time to have people have to upgrade to HLT when they have over an acre up to 5 acres of land, pre 73. Most people are doing repairs and got in when the prices were cheap and I know several elderly people in the mountains. This would cause them to lose their homes. I have been helping them try to find them help to find a way to pay for their repairs as it is. HLT would break them.
1	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	I understand the newer lots would need to be HLT. Homeowners would have to bite the cost. But older lots shouldn't have to. That's where I have a problem with losing the dates. I understand that part, but it's hard with the difference of Pre-1973 and after 1977. There are many that are 1998 that are coming in now that I'm catching.
2	Section 3 Bedroom Definition	Thanks for copying us on your proposed changes Mitch! I like your bedroom definition – cut and dry! We may need to copy that from you.
	7.1 Systems Cleaners	Glad to see you're adding some training requirements. I think it will be great to have those requirements across our region. One comment for your consideration is that under 7.1.D you have that cleaners must pass the NAWT Cleaner Course or approved equivalent. I don't believe there is a NAWT Cleaner. The course you may be referring to is the NAWT Vacuum Truck Technician.
	18.8 Portable Chemical Toilets	I also noticed that you're requiring a permit for portable toilets. I haven't heard of any other jurisdictions that do this. It may be a good topic for WQPM down the road.
3		Thank you for including me on your list for the regulation revision process. I have a few comments/questions that I wanted to pass along for consideration. Overall, great job – it looks like a lot of really good changes. I know how much work it is to go through all of this, so I appreciate the amount of work you all have put into this.

COMMENTOR	SECTION	COMMENT
	Section 3 Bedroom Definition	Your new definition of a bedroom added “in a dwelling” to the wording. Would this impact a detached garage or barn with a proposed bedroom since they are not technically a “dwelling”?
	4.4 Repair Permits	For repairs where there is no county record – it states that the Engineer must do a full evaluation/inspection of the system including soils. Does this mean non-engineer Designers would not be able to complete these evaluations?
	7.1 Systems Cleaners	In the section regarding Cleaners, I don’t think there is a NAWT Cleaner Course. There is an online NAWT Vac Truck Course, is that what you mean?
	Section 14.8 Metal and Cinderblock Tanks	For tank prohibitions (installation and use) it states metal, homemade (ie. Cinderblock) OR <u>any tank that is not approved by CDPHE</u>. If they have an existing tank that was installed prior to Reg 43, but isn’t necessarily approved by CDPHE, like an Erie Precast tank for example, would they not be allowed to keep it even if it was in good working condition?
	Section 15.14 STA Repairs	For the section on wide beds for repairs, I see that the allowance for wide beds without HLT was removed. Just wanted to clarify that this means that in order to do a wide bed in a repair situation they will now need to add HLT. Repairs will be more stringent, but don’t feel they’re off the mark. Challenges of adding HLT would already exist because of site limitations, not necessarily because it’s just adding HLT
	Section 15.15 Remediation Systems	For the section on remediation technology – are the types of technology you are now prohibiting similar to the Terralift?
	Section 18.2 Vaults	Would vaults now be permitted for use for full time occupancy homes in situations where an STA would not be suitable?
3	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	Feels a ½ acre property may be small, but can be treated and properly developed. If there are already developed lots, the county cannot say “can’t build because the lot is now too small.” Maybe have a separate policy for Indian Hills? Feel there should be TL3N in those sensitive areas, ½ acre lots. A TL3N system cost more around $30-40k for a 4 bdrm home, not $20k as mentioned. There are advantages to the types of unit used, Advantex not running a blower all the time like FAST and so don’t have cost with running and replacing blowers more frequently. HLT designs take more work on the designer part
	Section 14.23 Repairs to Septic Tanks	Repairs get tricky with tank replacements. Had to put in a Norweco for a property and tank replacement because of setbacks. With addition of HLT, you get a better LTAR, which also allows for less sand usage, that saves cost. System lasts longer because of better effluent. Costs shouldn’t really be an issue- costs are usually offset by continual maintenance (installation of tap and monthly sewer bill)
4		I appreciate your effort to seek comments. I have a few comments/questions for your consideration: If I misunderstood anything, just let me know.
	Section 4.2 Minimum Treatment Level Requirements - Repairs to	Why does the County feel it necessary to MANDATE higher level treatment on smaller lots? What is the rational? Is the science to support the need for HLT? Are there other Counties requiring HLT on virtually all systems? What is the State stance on this? Is the County aware that there are only two 3N systems approved in Colorado, and one is relatively new, not having a distribution or service base yet. Mandating 3N appears to borderline on necessitating use of a single manufacture? Is there legal implications with this? Is the County aware of the price point for installation of septics and the net increase for HLT systems? And the cost for ongoing maintenance? And the impact this has on families trying to build in Jeffco. Has the County evaluated the environmental impacts of production of a HLT system, trucking systems into Colorado, HLT energy usage and if the environmental impacts of cleaner effluent support a HLT mandate on smaller lots?”

COMMENTOR	SECTION	COMMENT
	Existing Systems	Of all the properties requesting OWTS permits in the last 24 months what was the breakdown of lot sizes? (i.e. less than 0.5-1 Ac, 1-2 Ac, 2-4 Ac, and >4 Ac) What is the plan for small lots with existing systems that fail and need to be replaced? Just a BOH hearing an TL3N? It appears that if on a well, then they have to vacate the house???
	Section 14.23 Repairs to Septic Tanks	Why is the County requiring a full system (STA) replacement if a tank requires replacement?
	4.4 Repair Permits	So, when a damaged pipe is noted during a Use Permit inspection, or missing tank tee, the County is going to require a FULL system evaluation with test pits??? Why does this have to be an engineer. Isn't most of this information being provided by the NAWT certified pumper with Use Permit Paperwork - Tank capacity, site plan, etc could be added to the basic requirements.
	Section 16 Intermittent Sand Filters	Primary sand is not available. Why do we still have it in the regs?
	Section 16.6 Mound Systems	Mounds, rumor was mounds were going to be required with fractured rock. Was that item for consideration dismissed, and over-excavation still allowed for fractured rock areas? Even if blasting might be necessary for hard areas?
5		Find attached my comments related to the proposed new regulations for OWTS. My comments are specifically directed to the changes in Table 4.1 I would like to attend the meeting on November 30. Please sign me up to receive an invitation to this virtual meeting. My email is: Just a heads up: The hornet's nest has been stirred up here among the mountain communities and the hornets are getting restless. Thank you for notifying us regarding this issue. We truly appreciate it.
	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	I am commenting on the specific issue related to Table 4.1, Minimum Treatment Level Requirements, on page 18 of proposed new OWWTS regulations. I am opposed to this regulation which permits OWTS on small lots in general in the mountain regions of JeffCo and specifically on very small lots based on the date of platting, rather than on the extensive scientific evidence indicating that in the mountainous areas, 5 acres is the amount of land needed for both recharge of water and dilution of effluent from OWTS. My points are as follows: 1. **Silo thinking (or bureaucratic mentality):** This proposed regulation, using the type of HLT being used as the only criteria, reduces a complex issue to a single perspective – size of lot related to HLT being used – and would increase density to harmful and unsustainable levels in those areas affected. This 'silo' mentality fails to address many larger issues and fails to look at the reality of conditions in the mountain communities of JeffCo. Some of the issues that need to be considered in preparing these regulations are: - Drought conditions, which are severe now and are projected to get worse as we deal with climate change. - Very limited water, particularly in the Bear Creek Watershed, which relies ONLY on snow or rain to recharge the water supply. Other areas can access additional water from the Western Slope but this watershed has only one source of water. - Given the decreasing supply of water, adding densely packed OWTS, no matter their level, will further add to the ground water pollution. - As the water supply diminishes, the means of fighting fires also diminishes. - Adding to the issue of water supply is the increasing difficulty of processing water in our Water Districts because of increased nitrates. Dense OWTS systems will add to this nitrate pollution, no matter what level of treatment they perform. - The regulation allowing dense OWTS systems, would also result in dense development. There are numerous issues related to dense development when it is allowed in the mountain areas of JeffCo. One issue is the increased fire danger because of houses close together. Fire jumps from one house to another. Another is the burden added to the local fire departments (mostly staffed by volunteers) for increased fire protection, while they can barely cope with trying to protect what they have now. - The regulation does not address the size/type of house being built. There is a huge difference between a two bedroom house and a six bedroom house in terms of occupancy and projected waste effluent. - The reality is that if half acre or even one acre lots are approved, the houses built will be big and expensive and will in no way address the concern for affordable housing. Paying for a HLT system and a source of water, whether drilling or water district, will cost between $60,000 to $100,000. And that is before any actual building even begins. - This proposed regulation would encourage unscrupulous developers to push their plans for using every half acre they could manage to find to increase their business plans and fill their pockets. It would automatically produce many developer/resident conflicts, and take the time of JCPH staff to mitigate/adjudicate these conflicts. - Bottom line, there are many issues that need to be considered beyond the one issue of HLT when allowing property to have an OWTS, particularly in the mountain areas of JeffCo.

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		Silo thinking is like burying one's head in the sand and pretending that all the other issues will go away. 2. **Scientific Data:** The Indian Hills Study Group read through all relevant scientific studies done within the last 20 years, along with the study done in the 80s by the State Water Engineer's office, and found that the current standard minimum of 5 acres for a OWTS and water source is the best for for healthy, sustainable development. Our findings were presented to the BOH in July 2019. Five acres seems to provide enough area for water recharge to take place and OWTS effluent to be diluted. In the regs, there is a variance allowed for reduction to 3.5 acres with a special application and meeting certain requirements. This is the current regulation and is backed up by science. In our presentation to the BOH, we provided a science-based calculation that JCPH could use to calculate the nitrate loading capacity of a particular site (mountain areas). This calculation guide is able to adjust to variables such as number of bedrooms, type of HLT used, etc. This information was supported by JCPH staff, which in fact, later gave a presentation to the BOH supporting this approach in determining the lot size that promotes sustainable development. The current proposed change in Table 4.1 eliminates the arbitrary dates between November 10, 1973 and December 5, 1977. This is proof that arbitrary dates can be eliminated. What makes the date of Nov. 10, 1973 so sacred? Regulating OWTS based on arbitrary dates of platting or ONLY on the use of HLT systems, rather than science-based nitrate loading calculations makes no sense. 3. **Treatment of JeffCo residents:** During the presentation to the BOH, the Indian Hills residents were assured that they would receive feedback by the end of the year 2019. The end of the year came and went and there was no communication. A year later, in a county meeting at P&Z, when asked about the status of the report and why a response had not been forthcoming, Jim Rada responded that he needed to run it by scientific experts, to vet it, before it could move forward. This was almost one year after the presentation and it became clear that Jim Rada, from JCPH, had no intention of doing anything with the information presented by the Indian Hills study group. During this experience, Jim Rada did not show even a modicum of professional courtesy by either acknowledging the hard work of the residents or updating them on the status of their report. JeffCo residents were treated with contempt by a 'professional' whose job it is to protect the health and environment of the public for which he works. In the minutes from a recent BOH meeting, Jim Rada, when asked about this issue, said that he would check with the realtor association he works with. ["Board discussion with Mr. Rada and Jefferson County Planning and Zoning, Jefferson County PublicHealth and Planning and Zoning will continue to work together and work with the metro area realtor's association.] This is a clear conflict of interest, when a so-called public official who primary job is to work for the health of the residents he represents, would treat those residents with disdain while seeking help and support from those who stand to profit financially from weakened regulations. Situations like this destroy citizen's trust in their public institutions, and it seems to me that JCPH as well as CDPHE need all the public trust they can get, particularly as they prepare to oversee distribution of vaccines for COVID. 4, **Timing:** It is curious that these disputed regulations are being pushed through while we are all suffering the disruptive effects of COVID, we are in-between County Commissioners, and JCPH is without a Director. 5. **Dereliction of Duty:** JCPH has long resisted eliminating the discriminatory practice of determining OWTS regulations based on the date of November 10, 1973, the date of platting of the land. Although JCPH has policing powers which can be used to protect public health, it has failed to use those powers to protect residents from dense development and septic systems that are crowded together and/or in wetlands. JCPH was not slow to use it policing powers when confronting Bandimere Speedway with its events that violated the rules regarding masks and social distancing. Why is it so remiss in addressing this even more damaging concern of nitrates in the groundwater which will affect the mountain communities for years to come, and even expand to effect water issues more broadly in the metro area? 6. **Pressure on Water Districts:** By neglecting its duty to protect public health, and 'passing the buck' to local water districts, JCPH is hiding behind regulations to avoid doing the job it is mandated to do. It could even be regarded as dereliction of duty. If a developer can get two houses on one acre, you can be sure he will put intense pressure on water districts in order to do so. With these new regs, the pressure would be directed to the local water district to supply water to the desired build on half an acre, while these local Special Districts are struggling just to provide water to their customers. In Indian Hills, the permitting of non-conforming OWTS has led to excessive nitrates in the water which must be either filtered out (VERY EXPENSIVE) or diluted with clean water. When there is a drought such as now, the district must truck in water in order to meet its customer's needs. OWTS of any kind on half acre lots in the mountain communities of JeffCo is dereliction of its duty to protect the health, safety and welfare of its residents. Indian Hills Water District (about 450 customers) could be considered the canary in the coal mine. All mountain area Water Districts are facing these issues in the future. Any further nitrate additions will only add to the severe problems the Districts are facing. 7. **Wildfire:** The area of Evergreen and Conifer is considered to be the area most at risk of becoming another Paradise, CA – in the entire country!! We all saw what happened this summer in Grand and Larimer Counties. JeffCo has no protection from such a disaster, and when it takes place, 40,000 homes are at risk as well as thousands of lives. Rather than trying to prepare for such a 'public health' disaster, JCPH is adding fuel to the fire by continuing to assume that there is enough water, HLT is the solution to the problem, and mostly, by making it easy for unscrupulous developers to game the system, do permanent damage to residents living in the JeffCo mountain communities and then leave with their money. JeffCo needs to wake up to a new reality. We can no longer do business as usual. 8. **Indian Hills Groundwater Water Quality Modeling Project:** In 2016 JCPH paid for and published this study to better understand the correlation between OWTS and ground water pollution, recharge, etc. Here is a quote from the study: "Development of more parcels in high density areas in the upper and lower valley areas may reduce groundwater recharge and thus increase pollution concentrations to both IHWD community and private wells…Recommendations include …seeking to keep densities above 2 acres to the extent possible." 9. **Bottom Line:** We are living in challenging times. Things that worked in the past are not working today. JeffCo is in a perfect storm – extreme drought as a result of climate change, wildfires unlike those ever seen before, the COVID pandemic, the economic fallout, intense pressure from developers given Denver's hot market, and playing host to thousands of residents from the Denver-metro area in its outdoor parks. Unfortunately, Jefferson County, both the Health Department as well as P&Z, need to recognize that regulations should be targeted to specific areas. The flatlands are very different from the mountains. Regulations

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		need to be developed on a regional basis. Government officials need better long-term planning in order to better balance the competing interests of developers, businesses and residents. Without such wisdom and foresight, it is very likely that 20 or 30 years from now, portions of JeffCo will be uninhabitable. The OWTS regulations need to be one piece of a multi-piece puzzle as we look forward to flourishing, sustainable communities. A number of other counties in Colorado are moving in this direction (Larimer, Douglas, Summit). I urge JCPH to take its mandate of protection public health and the environment seriously and look at residents as partners, not as enemies.
6		My comments to your proposed edits to your local OWTS regulations are provided below. Note that these are preliminary review comments from a preliminary draft document and subsequently does not serve as an official comment of local regulations that must eventually be submitted through the defined review process.
	Section 3 Designer Definition	"Designer": You state that the design must be "approved by a prof. eng." Do you mean "approved" or "stamped"? Does "approved" mean a letter accompanying the design submittal? Additional clarification should be provided.
	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	Section 4.2: You state, "*Installation of a <u>new</u> OWTS must conform….*" As this may be a controversial item, you may want to consider defining "new" within your definition section.
	Section 4.5 Expanded Use of an Existing OWTS	Section 4.5; Be sure to review section 43.4.B.8 of Reg. 43 to ensure that you meet the minimum requirements of that section.
	7.1 Systems Cleaners	Section 7.1 and 7.2; does it reference in your reg. if the licensed individual must be onsite or actually conduct the service, or can individuals working for him work under his license?
	7.2 Transfer of Title Permit Inspectors	The Transfer of Title Permit Inspectors section should be identified as "7.2" (you skipped it)
	Section 7.3 Transfer of Title Inspectors	Section 7.3 (Service Providers) – you have two sections identified as 7.3 Section 7.3.C; you reference "sampling". Is it required? Typically not; you may want to clarify.
	Section 9.1 Application Requirements	As you plan to delete items that are noted in section 43.4.L.3 of Reg. 43, please indicate how you plan to address these items if removed from your regulation.
	Section 15.3 General Requirements for Design of Distribution Systems	Section 15.3.B; I know that this is not a substantial edit from the existing regulation, however this section seems to be missing some specific items from section 43.10.E.1.b of Reg. 43 which references O/M req's. of section 43.14.D of Reg. 43. Please address.

COMMENTOR	SECTION	COMMENT
	Section 18.1 Seepage Pits	Note that section 43.12.B.3 of reg. 43 notes that PD is not required for dispersal to seepage pits. This sometimes comes into question when HLT effluent is dispersed in a seepage pit. To avoid confusion, you may or may not want to address this here if not elsewhere. It is provided in 18.1.E of your reg.
	Section 18.2 Vaults	This section references “grey water”, a term that was removed from Reg. 43. You may want to consider a revision to this section that removes this term and references something similar to, “all other effluent or wastewater from the structure must be collected in a vault….” Table B-2, footnote 1; also references “grey water”. See note above. Reg. 43 does not prohibit the use of this term, it’s just that we are looking for consistency across the state.” Regulatory agency
	Table C-2	Table C-2; It was noted that modifications to the “Max. LTAR” column received edits from 0.8 down to 0.6. Note that the WQCD Implementation Policy CW 9 makes this a mute point as it directs systems to be designed using LTAR’s per the requirements of section 43.11.C.3.b of Reg. 43. See CW 9 for reference. A further review of your footnotes for your Table C-2 indicates that some of the footnotes for Table 10-1A of Reg. 43 have been omitted from your regulation. Please review to see that your regulation is in compliance with Reg. 43 requirements.
7		I reviewed the proposed revised OWTS regulations. I think you and your team have done a good job in preparing the Draft Revised Regulation.
	Section 18.5 Incinerating, Composting and Chemical Toilets – General Requirements	I have some comments on Section 18.5: 18.5 Incinerating, Composting and Chemical Toilets – General Requirements 1. The installation and use of incinerating, composting and chemical toilets is permitted in accordance with this section. 2. An incinerating or COMPOSTING TOILET may be used for toilet waste where an OWTS is installed for treating wastewater remaining after removal of toilet waste. Subject to these regulations and other applicable regulations or codes (e.g., COLORADO PLUMBING CODE if a local code does not exist), the compartment may be located within a dwelling or building provided the unit complies with the applicable requirements of this regulation, and provided the installation will not result in conditions considered to be a health hazard as determined by the DEPARTMENT. Compartment and appurtenances related to the unit must include fly-tight and vector-proof construction and exterior ventilation. 3. All other discharges from the dwelling utilizing an incinerating toilet, composting toilet, or chemical toilet must be treated in an approved OWTS. Section 18.5 2. Uses the terms "Toilet", "Compartment" and "Unit". Is "Compartment" an integral part of the "Toilet" or "Unit", or is it separate? Does "unit" refer to the incinerating or composting toilet, or is it a separate part of the the toilet? I think you need to define the terms "Unit" and "Compartment" to avoid confusion. 18.5 1. I am not familiar with the use of chemical toilets inside buildings This section says chemical toilets are permitted; however, the remainder of this section doesn't give any detail about them, as 18. 5. 2 does for incinerating and composting toilets. Do the conditions in 18.5.2 apply to chemical toilets, or do those have separate requirements? You may need to specify how those will be used.
8	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	I understand that Jefferson County is once again revising OWTS regulations. I’m a former resident of Indian Hills (1990-2007), where I had municipal water and a small, rudimentary septic system on a quarter acre. Since 2007, I’ve lived in unincorporated JeffCo with a well and a robust, fully-functional 2-tank septic system on 3 acres (surrounded by mostly larger properties). I had serious concerns about water quality when I lived in Indian Hills and am thankful to now live where wells and septic systems are more spread out. Communities like Indian Hills, originally platted more for “campsites” than permanent residences, pose a real problem for water quality in JeffCo foothills. I’m concerned for my former neighbors and friends in Indian Hills, and also for the broader mountain community in light of the revisions you’re considering to JeffCo’s OWTS regulations. I believe these revisions are likely to lead to increased density in our mountain communities, resulting in: • Increased nitrate pollution (though you’re requiring high-level treatment systems, those do still produce nitrates and once nitrates are in the water supply, they’re very difficult to eliminate). High nitrates could actually close down local water districts as they fail to meet EPA standards. • Water shortages; • Wildfire danger; and • Developers pressuring local water districts (some who can barely supply their current customers). Further, the proposed regulation revisions are based arbitrarily on the date of platting (rather than science-based calculations of what will best assure safe drinking water for a community) and the proposed revisions fail to account for differences in dwelling size (which can vary from 1000 to 7,000 square feet).

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		None of this sounds like a well-thought-out approach or long-term vision for JeffCo mountain community water quality. Would it be possible to take a step back and craft a more holistic view of the situation? Is JeffCo actively seeking grants to help impacted communities improve current water quality, for example? Over my thirty years here, it seems the County consistently defers to developers' wishes, and my sense is that these proposed revisions do more of the same. Such irresponsible shortsightedness must cease. We must look beyond development profits to the long-term well-being of our communities.
9		I wanted to bring up a couple concerns I have with the proposed revisions.. I cc'd everyone in the hope that my comments might elicit some conversation from others on the team as well.
	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	With respect to the replacement of table 4.1; I'm unsure about the present draft, but maybe not for reasons you'd assume. I was at the hearing when the Board instructed Jim and Craig to replace 4.1. I'm impressed with all the work and research you all have put into the model that is being proposed. However, I thought the intent was to do away with plat dates and their influence on development entirely. I was confused (and still am) during our last meeting when it was stated that plat date prior to (can't recall the year) would allow the development of .5 acre lots. Combine that with our adherence to lot minimums and I think we now have an amalgamation of the model Roy has been developing and table 4.1. Is this really what the Board wanted? This seems to me like 2 years' worth of effort and we still didn't cross the finish line I believe in our goal to upgrade our aging OWTS infrastructure. I support our current policy of upgrading to HLT if there are subminimum distances and no alternative to obtain the setback distances. But I'm literally losing sleep thinking about the ramifications of requiring HLT for repairs on lots that are less than 5 acres and are meeting minimum setback requirements. I have brought this up before and recall Jim's answer as something to the effect of "the prices people are getting for houses and land along the front range will more than offset the cost of HLT". I disagree, unless those people are selling and moving to Missouri. Have the people needing repairs to their OWTS and who are not selling their home been considered? Are we setting our regulations up to force people to sell their homes because of a tank failure? Are we setting up the conditions for more pirated repairs or installations? (I know of 2 systems that have gone in this year alone without a permit or our knowledge- one in Indian hills!) Engineers and contractors alike have admitted they know of people who strictly work on weekends and do that very sort of thing under the table. If 95% of the lots are going to require HLT, I can envision more of this happening. If you take a couple more steps back and look at 2020 as a whole, I do not think the timing of this change is optimal. People are struggling financially and Jeffco has already received negative press regarding COVID response and enforcement issues. Is this the best time to add $10,000 plus to almost every OWTS repair? Maybe that's not a reasonable consideration for the changes, but I can't help thinking about the extreme financial burden we will be putting on people and our proclaimed desire to focus on public relations and let people know about the good things we do. I have to believe there's a middle ground somewhere that still accomplishes the goal of OWTS improvement (albeit slower), but considers the impact to Jeffco residents.
	Section 10 Operating Permits	I do like the deletion of the limited use agreement and monitoring of vaults as we monitor HLT systems. The limited use was unenforceable for the most part. I have to ask if Craig is concurrently working on how to integrate vault agreements with HLT service on AMANDA and if our requirements for vault maintenance has been discussed. If this proposed change is passed, the influx of people wanting to capitalize on properties that were formally limited use will be like watching nuclear fission take place. I think we need to be ready rather than try to develop the program in the midst of chaos.
	7.0 Systems Contractors and Owner Installers	I also like the added restrictions for homeowner installations. These are without a doubt on the rise and a major source of wasted time and angst.
10		After reading Name's email, I realized that I too share some of the same concerns. I believe Name summarized his thoughts pretty well but I have a few additions to the first two bullets.
	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	If the directive from the board was to get rid of plat dates entirely, will they be happy with this proposal? I assume there is no other way to, for a lack of a better word "grandfather- in", the older properties without describing a specific plat date. To my understanding the plat date of prior to 1975 allows undersized properties, up to 0.5 acres, to have a NEW onsite wastewater treatment system with TL3N and municipal water supply, correct? We should consider the financial impact to homeowners in Jefferson County. I also agree that if we go through with this we should be able to demonstrate to the public the negative impacts of leaving the regulation the same vs the benefits the changes will bring to them. We should be prepared to demonstrate in simple terms how this benefits the community.
		As far as the last two bullets, I agree 100%. Now for my own review of the regulations:

<table>
<tr><th>COMMENTOR</th><th>SECTION</th><th>COMMENT</th></tr>
<tr><td></td><td>7.0 Systems Contractors and Owner Installers</td><td>Section 7, D (7) states: beginning January 1, 2022, provide record of completing a total of six hours of ongoing refresher training and continuing education to renew their license.
Please excuse my ignorance but how often does the license expire? Is this done yearly? Should we include this information in the regs? Please excuse me if it is already in there and I missed it.</td></tr>
<tr><td></td><td>Section 15.1 Calculation of Infiltrative Surface of Soil Treatment Area</td><td>TABLE 15-2
SIZE ADJUSTMENT FACTORS FOR TYPES OF DISTRIBUTION MEDIA IN SOIL TREATMENT AREAS FOR TREATMENT LEVEL 1 SYSTEMS

<table>
<tr><th rowspan="2">Type of Soil Treatment Area</th><th>Category 1 MEDIA</th><th>Category 2 MEDIA</th><th>Category 3 MEDIA</th></tr>
<tr><th>Rock or Tire Chips</th><th>Other MANUFACTURED MEDIA</th><th>CHAMBERS or ENHANCED MANUFACTURED MEDIA</th></tr>
<tr><td>TRENCH or BED</td><td>1.0</td><td>0.9</td><td>0.7</td></tr>
</table>

This is only applicable to TL1 and systems installed on in-situ materials. I know that secondary or preferred sand is considered “TL3” and therefore wouldn’t qualify for this reduction but I feel like we have had multiple engineers misunderstand that as we do not consider sand or TL3 as HLT to reduce setback distances. Shall we provide clarification on this?</td></tr>
<tr><td></td><td>Section 18.5 Incinerating, Composting and Chemical Toilets – General Requirements</td><td>I get calls all the time asking if there is a reduction for design flow for incinerating/ composting toilets. Has there been consideration to this? I see there IS a reduction in setback distances given that NO BLACKWATER is discharged to the system and meets TL1 effluent.</td></tr>
<tr><td>11</td><td>Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems</td><td>I’m writing today to voice my concerns about the proposed revisions to the OWTS regulations. I am an Indian Hills resident/ property owner and have lived in rural Colorado the majority of my life. As we are all aware Indian Hills has a unique history when it comes to water and groundwater Nitrate contamination. In general I’m concerned about ALL revisions to the OWTS permitting process that reduces the size of a plot of land that is eligible for OWTS system. Most concerning to me is the proposal to allow a OWTS system on a plot of land that is .5 acres with a water tap from our local water district. Allowing a TL3N OWTS on a 5. Ac plot of land will significantly increase population density, ground water nitrate levels, and puts further strain on critical fire protection services within Indian Hills. The idea that having a water tap (VS a Well) will reduce the nitrate impact on ground water seams backwards to me, especially considering that Indian Hills Water District water largely comes from wells within Indian Hills.

The Indian Hills Water District’s water infrastructure is antiquated which results in constant shortages, outages, and this year we were on water restrictions for most of the year. By reducing the amount of land that qualifies for a OTWS/ building will create higher population density and further stress the already failing water system in Indian Hills.

It is my understanding that a developer/ owner of a 3 acre plot of land located across from me at 24255 Navajo Road has been advised by JCPHD staff that there would be no restrictions on installing up to 16 OWTS to accommodate 8 duplexes/ 16 dwellings. This appears absurd to me and definitely not within the current regulations and even outside of the proposed regulations. I implore you to consider going the other direction on revising the OWTS requirements, we need less density and more regulation to protect our fragile and already contaminated groundwater stocks NOT less regulation and more density.

Indian Hills is also unique in the way the original camping plots were platted with tiny lots that were originally intended for summer getaway camping spots for city dwellers. I would suggest that regulations regarding the consolidation of lots be required to obtain a OWTS permit and to disallow any grandfathering of older plots that allow for a OTWS on a plot less than 3 acres.

I can appreciate the pressures that you must feel from all directions on such a contentious subject, thank you for your due diligence and allowing me to provide my input on this matter.</td></tr>
<tr><td>12</td><td></td><td>Thanks Name and Name for summarizing your thoughts, concerns and questions so eloquently! Mine have been spinning around in my head since our How Goes it meeting, and I’m working to get them down</td></tr>
</table>

COMMENTOR	SECTION	COMMENT
		in some sort of sensible format
	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	I agree that we do need to consider the financial impact these changes will have on homeowners. I do think that we need to address the aging infrastructure in the county, and that we have an obligation to ensure groundwater protection for all who live here. I was trying to spend some time thinking about this from a health equity/environmental justice perspective. My biggest concern is that the burden of cost will fall primarily on those that can least afford it. I fear that we are now requiring a level of treatment that comes with a high cost, but do not currently have any funding options (or alternative solutions) available for those communities that do not have the financial capacity to accommodate those costs. How are other counties in Colorado addressing the issue of OWTS on small lots in densely populated areas? I know we are working on gathering more water quality data, and unfortunately our well program has been on hiatus with covid. Do we have data showing negative effects on groundwater for properties less than 5 acres but are still able to meet 200' setbacks? I agree with Madison that we definitely need to be able to demonstrate to the industry and to the public the need to change our current regulations.
	7.0 Systems Contractors and Owner Installers	I like the propose changes to homeowner installations. I also like the requirements for continuing education for all licensed installers. Bad installers have been a source of frustration to me lately.
	Section 12.1 Single Family Residential Homes	I think addressing short term rentals in the era of air bnb is a good idea. (12.1.F) One issue I see with that is that most people decide to rent out their house well after it's built (and the septic system is done). Are they not allowed to do short term rental if their system is not sized at 2 ppl/bedroom? Do they have to limit the number of people they allow to fit those parameters?
13		Our comments for the draft regulation are attached to this email. Please let me know if you have any questions.
	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	Installation of a new OWTS shall be permitted only on properties that must conform to the minimum TREATMENT LEVEL requirements set forth in Table 4-1. Does this apply to system repairs? If not, it should be noted to make it clear.
	Section 4.5 Expanded Use of an Existing OWTS	The regulation states that an existing system may be suitable for higher design flows if it is determined, "the existing system is adequately DESIGNED and constructed for the higher DESIGN FLOW rate." It should be noted that the existing system is to have been a documented, permitted system. This gives assurances it was designed, installed, and inspected to verify soil type and separation distances to ground water and bedrock. It should be made clear that the existing system needs to meet current regulation requirements, such as the use of suitable sand filter material (not an overexcavated system), or pressure distribution on a sand filter. These are examples of regulation changes that have been deemed necessary for proper wastewater treatment.
	Section 4.13 Changes in Plans or Specifications	The use of "Any change of plans or specifications" is too vague. This should apply to any significant changes in plans, such as bedroom capacity, soil treatment area sizing, the addition of higher level treatment, etc. Minor changes, such as the change of a septic tank location; concrete tank to poly tank; dispersal gravel to chambers, etc. are typical construction variations due to contractor preferences or unexpected site conditions. These things occur as a matter of practice and it is standard in the construction industry to have these changes covered in the as-built documents. This is the primary purpose of as-built documentation. Requiring a design change for these items adds to the cost of a system, but more importantly, it causes construction delays that can be very costly for an Installer.
	4.15 Inspections	A. Final approval of the PERMIT by the DEPARTMENT must include, but is not limited to:

COMMENTOR	SECTION	COMMENT
		Receipt of a RECORD DRAWING which includes a scale drawing showing all COMPONENTS of the OWTS from including their location from to known and findable points, their dimensions, depths, sizes, manufacturers' names and models as available, and other information relative to locating and maintaining the OWTS COMPONENTS. The RECORD DRAWING shall also include the distances from all applicable setbacks in Table B-1; "dimensions, depths, sizes" are not part of a scale drawing. This implies the regulation wants "dimensions, depths, sizes" of the septic tank, higher level treatment system, distributing valve, pump system, flushing valves, etc. Resolution of any outstanding pertinent requirements. Should this be "permit requirements" instead of "pertinent requirements"?
	Section 9.2 Minimum Criteria for Approval	Submit results of a water test from the onsite well. What water tests? We recommend nitrates and coliform bacteria. Nitrates and coliform bacteria are reasonably direct measurements of how adequately onsite wastewater treatment systems are treating wastewater. And since the Health Department is tasked with regulating OWTS to protect ground water, this information is needed to determine the efficacy of the OWTS regulations. We believe this requirement is long overdue. The alternative is the installation of monitoring and sampling ports at the time of installation of an OWTS, with compliance monitoring to verify the OWTS is operating properly. For those who want evidence of a methemoglobnemia problem, it should also be noted that nitrates are also an indicator contaminant. If nitrates are making it to a well from an OWTS, then it is probable other contaminates of emerging concern, including pharmaceuticals and personal care products, are also making it to the well. Since individual wells do not necessarily need to comply with drinking water standards for maximum contaminant levels like public water systems, then there should not be repercussions for a nitrate level over 10 mg/l. This result should be noted on the approval for potential buyer awareness.
	Section 14.23 Repairs to Septic Tanks	This section requires all current separation distances to be met. If higher level treatment is needed, then "The existing SOIL TREATMENT AREA may remain unpressurized until it is replaced." If the higher level treatment system is properly operated and maintained, then the STA will never need to be replaced (there is not enough organic material added to the sta to form a biomat). The reason pressure distribution is required with HLT systems is because they do not form a biomat, and pressure distribution is needed to ensure an unsaturated flow. An unsaturated flow is needed for pathogen removal. A reasonable compromise is to require dosing. Wetting and drying periods will help to maintain an unsaturated flow, especially with small doses. The current practice of not requiring dosing when an engineer says he doesn't want to do it, should be stopped. A dose as small as a few gallons can be used, and this will not adversely affect even the oldest sta's.
	Section 15.3 General Requirements for Design of Distribution Systems	The INFILTRATIVE SURFACE must be no deeper than four feet below grade unless TL2 or higher EFFLUENT is applied to the distribution MEDIA. The depth of the INFILTRATIVE SURFACE will be measured on the up-slope side and at the lowest point of the TRENCH or BED. The second sentence is not needed. If it remains, change "lowest point" to "lowest elevation".
	Appendix A; Commercial Wastewater	From previous work in the county – JCPH Estimates Daily Wastewater flow by Use in Gallons per day for Event Centers = Ranges from 5-gallons per person for a 4-hour event to 15 gallons per person per 8-hour event. Can this be added to the Appendix?
	Table C-2	Why is the maximum LTAR for soil type R-1 (option 1) changing from 0.8 to 0.6? Regulation 43 uses 0.8. Although the counties are allowed to be more stringent, we do not see why this soil loading rate should vary from county to county. If this change is deemed to be needed, it should made at the State level. The inconsistencies in regulations from county to county make it difficult for practitioners working in multiple counties.
	Appendix D; Reduction Based on Impermeable Bedrock Conditions	This section suggests you can determine whether or not there are any fractures in the bedrock that might allow OWTS effluent to enter into a well. If there are no fractures, then OWTS cannot enter a well. It is not practically feasible to determine there are no fractures in the bedrock, within the entire area in which the OWTS effluent may migrate. If it were possible to make this determination, then it should apply only to wells located uphill from the STA. For a downhill well, OWTS effluent can migrate across the top of the bedrock to the well casing, then travel down the well casing. ▪It may be argued the surface grouting of a well head prevents this from happening. However, in practice, the well is surface grouted before the water line is installed. Once the well head is excavated to install a water line, this surface grouting is nearly always compromised.

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		For those cases in which the bedrock is determined to be impermeable, but in fact there is actually fractures down gradient from the STA, it should be noted that even though a well head might be uphill from the STA, the water source for the well is actually closer to the STA than if the STA was installed uphill from the well. We recommend this distance reduction no longer be allowed.
14	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	I have just been made aware of proposed changes to OWTS regulations in Indian Hills. As a 45 year resident of the community and a senior citizen who will likely be selling my property in the next few years, I ask that you consider the consequences of relaxing requirements. I see this as a threat to quality of life in Indian Hills and a disregard for property values. I can not see how the later would benefit me or the county. I had my well tested last year and learned the nitrate level is slightly above the recommended level. I do not yet know if this is a problem that can be remedied with filtration. I have heard that it can be difficult. I need to learn more about how to address this concern. A few years ago, I saw plans submitted by a developer to build homes on a small parcel on Navajo Road. There did not appear to be an inch to spare between wells and septic systems in the "creative" mapping he submitted. Density of this degree maximizes the developers profit but undermines quality of life and water. As drought continues and the threats of climate change increase, our water quality is jeopardized accordingly. More stringent measures seem to be prudent. Instead, the opposite is being considered. Please base your decisions on the circumstances we face in 2020, instead of the size of lots that were platted a hundred years ago. I urge you to look at the issue from the perspective of the residents of Indian Hills instead of the desires of developers who want to exploit our community for their own gain. I ask that you protect my community so that future residents can enjoy living here.
15		Please find attached the Committee's objections/recommendations regarding the currently proposed revisions to Jefferson County Public Health OWTS regulations.
	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	The Committee has reviewed the proposed revisions to the Jefferson County Public Health Onsite Wastewater Treatment Systems (OWTS) regulations that were attached to the email you sent on November 6, 2020 with subject line, "Jefferson County OWTS Regulation revisions and stakeholder meeting" inviting public comment; therefore, we make the following comments in reference to that attached document entitled, 2020 REGULATIONS DRAFT 11-6-20 (redline). At a fundamental level, revisions to OWTS regulations must be measured against the threshold question: Is the proposed regulation sufficiently protective of public health? In answer to this basic question, the Committee offers the following specific objections and recommendations in opposition to the proposed regulation revisions: In Section 4.2 Minimum Treatment Levels, paragraph B., it is proposed that current regulations are revised to read, "For proper subdivisions of land platted or recorded prior to November 10, 1973, the property size may be reduced to 0.5 acres if the following conditions are met: 1. The design includes Treatment Level 3N or better, and; 2. The public water system submits to the health department a will serve letter for the property." Objections/Recommendations: a) The proposed change in site acreage requirements in Section 4.2.B.1 & 2 are not sufficiently protective of public health, since, as a matter of actual performance, the nitrite and nitrate load carrying capacity of a 0.5 acre parcel of land is not sufficient to be actually protective irrespective whether or not that parcel was platted or recorded prior to November 10, 1973 and/or will be connected to a public water system and b) as a matter of public policy and law, the practice of grandfathering must be set aside when a regulation must be balanced against its possible effects on public health; therefore, this proposed revision must be removed in its entirety. In Section 4.2 Minimum Treatment Levels, paragraph C, the change in language makes the paragraph essentially meaningless. Objections/Recommendations: The language, as written, has little meaning; therefore the paragraph has no regulatory purpose. The original language must be restored.
	4.3 Permit Term	In Section 4.3 Permit Term, paragraph C, the removal of the paragraph may prove injurious to public health. Objections/Recommendations: The language in paragraph C of the current regulation is intended to protect public health and safety, the removal of this language may result in injury to the public health; therefore, the original language must be restored.
	4.4 Repair Permits	In Section 4.4 Repair Permits, paragraph B, language intended to provide flexibility to both the OWTS Owner and Department, the removal of this language may result in an undue burden on the OWTS Owner. Objections/Recommendations: In order to ensure compliance with these proposed OWTS regulations while providing flexibility to the OWTS Owner, the original language must be restored.
		The committee offers to Jefferson County Public Health the above objections and recommendations in opposition to the subject proposed regulation revisions in order to ensure that any new OWTS regulations are protective of public health.
16		Thankyou, for keeping us informed. Also, for yourself and the BOH, stated commitment to science based, data driven, and equitable change. Keeping in mind, as you say, the regulations are a starting point. Point taken, however some of the proposed OWTS regulations have taken a huge leap backward before we have even begun. Many others and I view this potential relaxing of OWTS regulation as validating perceptions that JCPH has ignored all the hard work of residents over the past couple years and even decades for some residents. See the attached discussion.

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	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	To County Commissioners, Board of health, and JCPH, In May 2020, JCPH Director Rada, proposed a concept that would "eliminate the need for the date of legal parcel" that "creates an inequity", in favor of the concept of "nitrogen loading and carrying capacity". He recommended modification of Table 4-1 to "eliminate the date of legal parcel" and "base required wastewater treatment levels on lot size". The May BOH meeting minutes and Nov JCPH proposed redlines are included below for reference. It's refreshing that JCPH Director, indeed recognizes current JCPH regulation "creates inequities between neighboring properties" specifically the inequity of permitting "development at higher density with lesser treatment" is discriminatory regulation. JCPH Director further embraces that regulation be science based, in this case being a proponent of development "based on nitrogen loading and carrying capacity" which is consistent with the NGLC Nitrate Ground Loading Concept, presented by Indian Hills community members 2+ years ago, and a similar nitrate loading carrying capacity model more recently proposed by JCPH staff Mr Laws. In May, the Jeffco BOH, instructed the JCPH director, "that they would like to see permitting decisions be supported with data-driven models", an obvious reference to when the JCPH staff proposed its data-driven groundwater nitrate loading model to the BOH. At which time both the BOH and public comment, concurred replacing table 4.1 with a data driven model was preferred over a table of arbitrary numbers. Four decades of groundwater studies and rising groundwater nitrate data, clearly indicate the 40-year-old minimum lot size regulation has been inadequate to protect public health in the mountain region. Thus, what possible agenda would possess the JCPH director to return to the BOH this November and propose regulation redlines to table 4.1, that not only represents an "epic fail" of an attempt to stem the ever-rising groundwater nitrates, but against all reason and necessity, the JCPH director proposes to further liberalize existing regulation that can only serve to perpetuate and hasten the destruction of groundwater resources that threatens public health. JeffCo CMP – Ground Water – "When an area has been identified by the County or Colorado Department of Public Health and Environment as having a Ground water quality problem, **proper mitigation of the problem should be implemented before** zoning, health variances or changes are approved that would aggravate the problem." Please, where is this effectively codified anywhere in OWTS regulation? The existence of the Indian Hills OWTS moratorium, certainly proves and documents an area with "a ground water quality problem". The simple fact groundwater nitrates continue to rise, shows "proper mitigation" has not yet occurred, and the proposed relaxing regulation will naturally only "aggravate the problem". At least one local area of a documented "groundwater quality problem" is related to the fluctuating water table in tributary wetlands flushing effluent directly into the groundwater. This is a significant problem in regard to nitrates, however a recent paper out of CU Boulder had found COVID-19 tainted groundwater. For just these two contaminants, let alone others, JCPH must finally accept responsibility and appropriately regulate OWTS within "tributary wetlands" as defined in statute. A tributary wetland is defined in C.R.S. as a surface water feature, consisting of both surface and ground waters hydro-logically connected, further that said feature in regard to dumping pollutants, is considered as a "Lake". CWQCA basic standards apply, specifically that ZERO pollutants are lawful and appropriate setbacks to lakes are required just like any other body of water. The JCPH director was made aware in a meeting with several Indian Hills residents over a year ago, that in the ongoing local development in Indian Hills, the OWTS are in a documented area of groundwater quality problems, within statutory tributary wetlands, permitting effluent (consisting of nitrates, potentially COVID-19, who knows what else) effectively being directly dumped into a "Lake", no setbacks from OWTS to said "Lake", OWTS at a high density not even sustainable for non-tributary wetland areas, adjacent to OWTS prohibition parcels, and up-gradient and likely hydro-logically connected to private and water district drinking water wells (at least 2 so far, are known to have succumbed to nitrate toxicity). Yet, no action has been taken, outside of showing blatant disregard for concerned community members, public health, and statutes. Tributary wetlands are in statute, why still absent in Jeffco regulation? Concepts such as wetlands, setbacks, gradient, adjacent wells or OWTS, community water sources, flood plains, etc are best visualized in context of each parcel. That said, its rather puzzling to see it proposed to no longer require an OWTS plot plan or site map. It's already difficult enough or impossible to locate prior development records, groundwater quality data, etc, this proposed change just doesn't compute. **Comparison of the Indian Hills community, JCPH staff, and JCPH director's table 4.1 proposals.** All three proposals concur the date of legal parcel creation, is not a science-based criterion, and it bears no direct relationship to protecting public health. Such discriminatory criteria inherently create regulatory inequity. Notably the constitution's equal protection clause bars regulatory inequity, therefore said criteria "shall not be adopted or enforced" All three proposals in word, seek to protect against vs create, institutionalized inequities, aka discriminatory practices resulting from non-scientifically based arbitrary regulation. However, in practice only the Indian Hills community and JCPH staff proposals would do as the say, and protect against institutionalized inequities, where JCPH director's proposal would perpetuate and intensify, said inequities. All three proposals in word, recognize the relationship of OWTS treatment level and OWTS density (aka lot size), as measurable criteria directly related to regulation being either protective or detrimental public health. However, in practice only the Indian Hills community and JCPH Staff proposals do as they say, and can be shown via science-based data, to be protective of public health, where the JCPH director's proposal can be shown to be detrimental to public health, as it exceeds nitrate carrying capacity of the groundwater. All three proposals in word, are based on ground nitrate loading and carrying capacity concepts. However, in practice only the Indian Hills community and JCPH Staff proposals are as they say, based on ground nitrate loading which is the product of the dwelling design occupancy and OWTS treatment level to determine the minimum lot size required for each proposed dwelling, whereas the JCPH director's proposal ignores design occupancy in favor of an arbitrary lot size scheme, thus the JCPH director's proposal that despite a misleading caveat on table 4.1, cannot rationally be based on ground nitrate loading whilst ignoring dwelling design occupancy.

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		The Indian Hills community and JCPH Staff proposals concur the basis of “date of legal parcel creation” is discriminatory and inappropriate, however the JCPH Director’s proposed, 0.5-acre exemption is inexplicably based on the “date of legal parcel creation”. It’s absolutely contradictory for the JCPH director to recognize using the “date of legal parcel creation” as criteria for parcels 1-acre or larger creates an unacceptable regulatory inequity, however, re-instituting the very same “date of legal parcel creation” as criteria for parcels of less than 1-acre, yet somehow wouldn’t create the very same inequities that the JCPH director expresses concern against. Yet again the JCPH director acts other than what is spoken. The JCPH director’s May proposal was slightly liberalized but similar to the 40-year-old standard JCPH regulation, itself being demonstratively inadequate, shows for a TL1 OWTS a minimum of 5-acres. Note TL1 is not the same as TL1N, the N is for nitrate reducing OWTS. TL1 sets the comparison benchmark for nitrate reducing OWTS. For this comparison design occupancy is held constant at a 2-bedroom dwelling. A TL2N OWTS is a 50% reduction of nitrates as compared to a TL1, therefore when considering ground nitrate loading a TL2N on 2.5-acres is equal to a TL1 on 5-acres. A TL3N OWTS is a 70-80% reduction of nitrates as compared to a TL1, therefore when considering ground nitrate loading a TL3N on 1.5 acres is equal to a TL2N on 2.5-acres or a TL1 on 5-acres. TL3N is the highest treatment level technology approved for use by CDPHE. Therefore NO, approved technology exists today, to sustainably support 0.5-acre lot sizes. A 0.5-acre lot, even with a TL3N will add 300% more groundwater nitrates than their neighbors, thus cannot remotely be considered equitable regulation, let alone sustainable. The proposed JCPH regulatory changes distributed November 2020, are far more liberalized than the JCPH director’s May 2020 proposal. The 40yr standard, property size >= 5 acres, treatment level required would be TL1 (conventional septic tank and STA), would be reduced 20% to >= 4 acres. Property size < 5-acres and >= 2.5 acres, treatment level required is TL2N (minimum 50% nitrogen reduction), would be reduced 20% to < 4 acres and >= 2 acres. Property size < 2.5 acres and >= 1-acre, treatment level required is TL3N (70-80% nitrogen reduction), would be reduced 20% to < 2 acres and >= 1 acres. Proposed grandfathering Exemption, with a “will serve” letter from a public water system and TL3N or better OWTS, proper subdivisions platted prior to November 10, 1973 (proposed 2000?) would be slashed 50% to 0.5-acres. For example, it appears it would be legal for a resident on 1-acre of pre 1972 lots, that no longer has a potable well, to at significant expense hookup to district water, sell off 0.5-acres (likely to pay for the costly water district hookup), then a developer will game the 0.5-acre exemption, build a McMansion, and be permitted to dump several times the effluent in the groundwater, adjacent to surrounding wells already threated by nitrate toxicity. Why would the JCPH director champion this 0.5-acre exemption that would allow one neighbor to develop at twice or more the density, in already at risk areas, thus re-institutionalizing the same inequity, the JCPH director professes to avoid, let alone place all surrounding wells at risk and ignoring surrounding neighbors constitutional right, for others to not interfere with their present beneficial use of states waters? There is no science-based data, that shows a 2-bdrm OWTS on a 0.5-acre parcel will not negatively impact surrounding parcels by affecting or limiting property rights of neighbors. The septic moratorium in Indian Hills is a prime example of overly dense development that has resulted in hundreds of parcels barred from new development. Consider a 6-bdrm (or more) McMansion would be permitted on a 0.5-acre parcel that effectively has no occupancy limit. A 2-bdrm dwelling OWTS is not sustainable on a 0.5-acre parcel, let alone the resulting nitrate loading from a 6-bdrm McMansion effluent, even with using TL3N, will far exceed the of carrying capacity for a 0.5-acre parcel thus creating the inequity of “development at higher density with lesser treatment” recognized by the JCPH director, which is dis-proportionately detrimental to water quality of adjacent landowners. Both the date of legal parcel creation and water source criteria for this 0.5-acre exemption effectively abandons the nitrogen loading and carrying concepts JCPH director professes his proposal to embody. Permitting excessive nitrates is detrimental to potable groundwater resources and therefore fails to show the lawfully necessary relationship with regulation being “in the interest of public health”. The JCPH director’s proposed, 0.5-acre exemption considers the source of water, public water district vs private well, as a permissive criterion. “**Source of water” is a totally irrelevant criteria**, as OWTS effluent is causally related to public health, the source of water entering a dwelling as related to OWTS, has no bearing on public health. Moreover, Title 32 water districts do not enjoy the exercise of regulatory police powers that Jeffco does. This wrongfully shifts the burden of defending ground water quality to title 32 districts that have limited jurisdiction. Shifting this burden to title 32 districts is viewed as a lack of fortitude, supervision, and willful abdication of duty to public health, that will likely cause confiscatory regulation litigation against water districts that lack the broader “in the interest of public health” jurisdiction that counties enjoy. Private wells owners’ rights will be trampled upon and ignored, as neither Jeffco or title 32 water districts will be considering their rights at time of development vs after the costly fact, when discovering their wells have already succumbed to nitrate toxicity, as has already recently happened to local wells and their owners. The JCPH director not considering design occupancy, will continue to institutionalize financial discrimination for same size parcels, encouraging the wealthy to build a so called “McMansion” dwellings that produce many times more nitrate loading than modest dwellings of those residents of lesser means. JCPH director, **how is wealth a lawful criterion to permit dumping excess pollutants into the groundwater?** How ethical Is it to allow the wealthy to buy their way out of equitable and sustainable development, especially when the wealthy are most able to do so? McMansion’s take parcels off the market that would otherwise be used for more modest dwellings, thus deepening the shortage of affordable housing. The table 4.1 proposed by the JCPH director is unfortunately oversimplified to the point of effectively abandoning nitrogen loading and carrying concepts thusly detrimental to public health that perpetuates and even promotes inequity. The JCPH director’s proposed table quite simply falls short, because it does not account for dwelling occupancy, a factor of density, which he himself had recognized as criteria directly related to being protective of public health. For example, the JCPH director’s proposed table where parcel size and treatment level are held constant, the case of 3, 2-bdrm dwellings and a 1, 6-bdrm dwelling each on 1-acre parcels could occur. Where is the equity of a 6-bdrm dwelling being permitted 300% nitrate loading compared to its neighbors?

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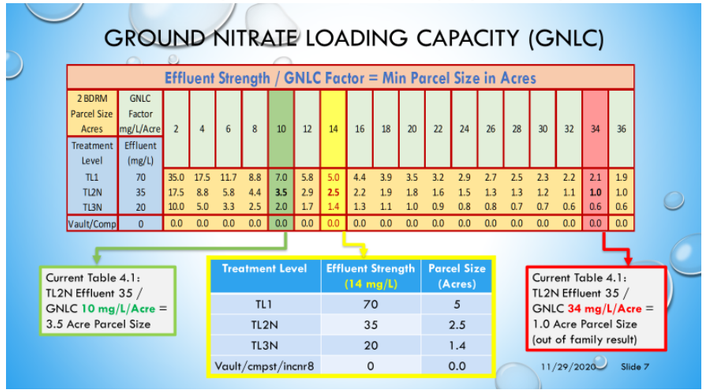
Another example, the JCPH director's proposal would allow a 6-bdrm dwelling on 4-acres using a TL1 OWTS to produce twice the nitrate loading than an adjacent 6-bdrm dwelling on 3.9-acres using a costly TL2N OWTS. Again, pollution, financial and regulatory inequity would be avoided if regulation considered design occupancy, OWTS treatment level, AND sustainable groundwater nitrate loading vs discriminatory and arbitrary criteria, to determine a sustainable minimum lot size.

Both examples precisely illustrate "development at higher density with lesser treatment", the very inequity, the JCPH director identified in the P&Z proposed land development regulation changes. To avoid the inequities recognized by the JCPH director, dwelling occupancy cannot be neglected.

Both the Indian Hills community and JCPH staff proposed nitrate loading models, do appropriately consider dwelling occupancy as a factor inherent to OWTS density. In both models proposed, the max nitrate loading is held constant, at a sustainable level based on the EPA nitrate MCL. Parcel size is determined by the variable criteria, dwelling occupancy, treatment level and Max nitrate loading.

Indian Hills Community, science based GNLC proposal, as presented to the BOH and accepted into public record, 2 years ago.



JCPH Staff, Mr Laws presented to the BOH, a similar science-based nitrate loading model, using a more stringent approach than the Indian hills community proposal. The JCPH director's disregard for transparency and accountability only stokes public distrust and ire detrimental to Jeffco efforts to be equitable and protective of public health. What's absent from the JCPH director's public statement in May is quite telling, "will continue to work together and work with the metro area realtor's association". Sadly, where is the JCPH director's commitment to work with the communities that he represents? In the JCPH directors' emails, he opines he personally disagrees with findings of JCPH commissioned studies, without offering any studies or data to back his opinion. Is the Realtors Association's health at risk from groundwater nitrate toxicity vs the residents he represents? Do our taxes pay the JCPH directors salary or does the Realtors Association, his statements imply his loyalty may be vested in the latter? The Realtors Association lacks standing as either home owners or as developers, so why does the Realtors Association even have a seat in the discussion? Is it time to find a new JCPH director, that offers science vs personal opinion-based regulation, that is dedicated to public health, equity, and representing the taxpayer's?

Respectfully from a 3rd generation Indian Hills resident. Chris Arnold

May 2020, BOH minutes

New Business: Mr. Rada discussed with the Board Jefferson County Planning and Zoning's land development regulation changes regarding date of legal parcel. Nathan Seymour and Chris O'Keefe with Jefferson County Planning and Zoning also provided input on the proposed changes. Currently, Jefferson County Public Health uses Table 4.1 and the date of legal parcel to determine the amount of land needed for an onsite wastewater permit. The amount of land needed to obtain an onsite wastewater permit varies based on the date of legal parcel. Section 4.2.B of the Jefferson County Onsite Wastewater Regulation assigns the responsibility for determining the date of legal parcel to Jefferson County Planning and Zoning. Jefferson County Planning and Zoning conducts legal parcel research for all development applications. In cases of properly platted lots or proper metes and bounds legal descriptions, the legal parcel research is typically straight forward. In cases of improper subdivisions where trading portions of lots has occurred, the legal parcel research can be a tedious, expensive and a time-consuming process.

Proposed land development regulation revisions include: all improper divisions of land that occurred prior to January 1, 2000, will be deemed a proper division of land AND the date of legal parcel (proper division of land) will be January 1, 2000. Under the provisions of Table 4-1 these formerly improper divisions of land will need 5-acres of land to obtain an onsite wastewater permit, while the surrounding proper divisions of land platted prior to December 5, 1977 can still be developed at 1- and 2-acre densities. This creates an inequity between neighboring properties. Proper divisions of land platted prior to December 5, 1977 will still be able to be developed at higher density with lesser treatment. Mr. Rada proposed a concept that would eliminate the need for the date of legal parcel based on nitrogen loading and carrying capacity concepts: He recommended modification of Table 4-1 to eliminate the date of legal parcel and base required wastewater treatment levels on lot size as follows: property size 5-acres or more, treatment level required would be treatment level one (conventional septic tank and absorption field). Property size less than 5-acres and equal to or greater than 2.5 acres, treatment level required would be treatment level 2N (minimum 50%

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nitrogen reduction). Less than 2.5-acres and greater than or equal to 1-acre, treatment level required would be treatment level 3N (70-80% nitrogen reduction). Exemption, with the permission of an existing public water system and with Treatment Level 3N or better, proper subdivisions platted prior to November 10, 1973 may be reduced to 0.5-acres.

After Board discussion with Mr. Rada and Jefferson County Planning and Zoning, Jefferson County Public Health and Planning and Zoning will continue to work together and work with the metro area realtor's association. Planning and Zoning has agreed to continue conducting date of legal parcel research for JCPH until the end of 2020. The Board agreed the proposed changes would help simplify the process but expressed that they would like to see permitting decisions be supported with data-driven models and would like Mr. Rada to bring a draft to the Board for review within the next few months. The Board would also like Mr. Rada to review the variance policy within the next few months as well.

JCPH Nov 2020, proposed redlines

4.2 ~~Minimum Property Size~~ Minimum Treatment Level Requirements

Installation of a new OWTS ~~shall be permitted only on properties that~~ must conform to the minimum TREATMENT LEVEL requirements set forth in Table 4-1.

~~**TABLE 4-1 – MINIMUM PROPERTY SIZE REQUIREMENTS**~~

~~SOURCE OF POTABLE WATER~~	~~DATE OF LEGAL PARCEL~~		
	~~Before Nov. 10, 1973~~	~~Between Nov. 10, 1973 and Dec. 5, 1977~~	~~After Dec. 5, 1977~~
~~Individual wells, potable springs or cisterns~~	~~1 acre~~	~~2 acres~~	~~5 acres (3.5 acres if per Section 4.2.E)~~
~~Public water system~~	~~0.5 acre~~	~~1 acre~~	~~1 acre~~

~~**Date of Legal Parcel shall be determined by Jefferson County Planning and Zoning.**~~

TABLE 4-1 MINIMUM TREATMENT LEVEL REQUIREMENTS

Property size	TREATMENT LEVEL (TL)
1-acre to less than 2-acres	Treatment Level 3N
2-acres to less than 4-acres	Treatment Level 2N
4-acres or more	Treatment Level 1

These lot sizes were determined based on nitrogen loading to the property.

For proper subdivisions of land platted or recorded prior to November 10, 1973, the property size may be reduced to 0.5 acres if the following conditions are met:
The DESIGN includes TREATMENT LEVEL 3N or better, and;
The PUBLIC WATER SYSTEM submits to the HEALTH DEPARTMENT a will serve letter for the property.

~~For repairs to, or the expanded use of an existing OWTS, Table 4-1 shall not apply, provided that the property size shown in the original construction records, if any, has not been reduced and the proposed system complies with all other aspects of this regulation.~~ When more than one property is required to meet the requirements in Table 4-1, those properties shall be merged through applicable procedures of the Jefferson County Planning and Zoning Division, or restricted through a PERMIT condition and/or supplemental agreement with the DEPARTMENT such that none of the properties needed to meet the requirements of Table 4-1 shall be sold separately without ~~approval of the DEPARTMENT~~ upgrades to the OWTS to bring into compliance with Table 4-1.

~~Property sizes for new subdivisions using individual wells or cisterns as a water supply may be reduced to a minimum of 3.5 acres provided that prior to plat approval by the Jefferson County Planning Commission, the applicant submits to the health officer the following data for each property of less than five acres in the proposed subdivision:~~
~~a scaled plot plan prepared by a professional engineer showing locations of the following:~~
~~proposed or existing wells or cisterns;~~
~~proposed or existing OWTS;~~

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		~~proposed area of alternate or replacement OWTS should the primary system require repair or replacement; and~~ ~~streams, lakes and other surface water features.~~ ~~topographical data including slope direction, ten-foot contour intervals and location of floodplains;~~ ~~soil test data as required in Section 11 for the area of the proposed and alternate or replacement OWTS; and~~ ~~any other information that may be required by the health officer.~~
16	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	**1. Based on date of creation** a. The problem in mountain region development with assuming a public water system will clean up the water and protect the resident, is that water districts are not contiguous and adjacent to neighboring properties not on the public water system. b. Removing groundwater contaminants is exponentially more expensive after the fact. c. The fatal flaw with hindsight of Relying on local water districts to clean up the water of overly dense development is overwhelming and exceeding the capacity of a water district to clean the water. **2. Sense of entitlement to develop property to its best and profitable use** a. SCOTUS has repeatedly held a property owner is NOT entitled the best or profitable use of property **3. 1985 SEO Model** a. Recharge is 3.2, however the SEO says only half that is available for pumping. Therefore, consumptive use is twice what is cited. **4. Dr. Herzog's recommendation of 2 acres was based on the assumption that occupancy was ~2.25 persons per dwelling.** a. Does not expand on McMansion effect **5. NGLC model figures are consistent with the SOE letter and DR Herzog's recommendations.** **6. Roy's Model** **a. does account for McMansion/occupancy** **b. Does account for precipitation** **c. Does account for nitrate loading** **d. Does account for Treatment level** **e. Does account for dilution** **f. All to determine the appropriate lot size.** **g. Omg Roy this is a good start.** **Mitch and Roy, can you summarize and distribute all the comments you have collected from this meeting, Please.**
17	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	Table 4-1 needs to be replaced with the science based formula that was presented to the BoH over 1 year ago now. Why anyone continues to push the idea of land prior to November 10, 1973 some how absorbs effluent differently than land as of November 11 1973 is beyond insane. Yep, on November 11, 1973 God changed the earth, working together with only JCPH, said that only in Jefferson County – land platted by man in man maintained books will no longer absorb sewer waste as it did on the prior day or prior years in all of earths 4.5 Billion year history. Now – that's a staggering thing to realize, isn't it? Absolutely beyond ridiculous. Let's see, this plat originally platted has 1.2 acres of land next door to it has 2.3 acres of land. The 1.2 acres is down hill from the 2.3 acres. The 1.2 acres of land is somehow "different" in that it magically absorbs septic waste differently cause it was platted at 1.2 acres prior to 1973 and the 2.3 acres (forever and ever MERGED together) – that's "bad icky land" cause that was 13 individual lots platted in 1926, but today it is 2.3 forever legally merged land with a single family home on it – wow, didn't know God played such games with land, did you? Oh, I forgot, it isn't God, is it? How exactly does ½ acre properly and fully absorb OWTS effluent when JCPH including Mr. James Rada during past BoH Public Health hearing stated it takes more than 2 acres for effluent to property disburse from an OWTS. In fact prior Jefferson County Employee and current contract labor Mr. Craig Sanders has repeatedly stated the same "Fact" in multiple past BoH public meetings over many years – 2 acres to properly disburse the effluent from an OWTS. The Board wants data, wants scientific based – Good Luck – cause all the reports have been provided, study upon study and JCPH has all but ignored the recommendations. Look – Table 4-1 remains and continues to somehow the 1973 ½ acre is allowed to be developed. If that is fine for the "flat lands" of Jefferson County – perhaps JCPH should finally recognize the Jefferson County Mountain Groundwater Overlay district and all of the unique requirements when dealing with fractured geology and fractured rock, versus ignoring the public health issues we have in the Mountain Groundwater Overlay District part of Jefferson County. Why not just make it simple – have separate OWTS regulations? Just like Fire Code has now, why? Because of the distinct and unique requirements and well, because Public Health.

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		May 2020 JCPH BoH Minutes – "Mr. Rada and Jefferson County Planning and Zoning, Jefferson County Public Health and Planning and Zoning will continue to work together and work with the metro area realtor's association" – I didn't realize how close the relationships were with realtors association, who sole purpose and mission is real estate sales – make commissions and sell then next opportunity. Hmmm, does that explain maximize profits, developing ½ acre lots at the expense of public health? I hope that undue influence does not override public health – certainly is interesting to see such relationships. Seems like a rather potential serious conflict of interest, cozy relationships with realtor associations while being deaf to volume of ground water studies, recommendations and to what the concerned tax paying citizens of our county have to say. Realtor Associations typically are also registered as lobbyists. Do the citizens get equal voice with Mr. James Rada as the Realtor Assocations? Why would the voice of the citizen have had zero meaning? Why would the recent scientific ground water studies and recommendations have zero meaning? Past emails obtained from CORA requests – also showed where a particular JCPH director just does not believe in the recommendations provided within the most recent Indian Hills ground water study (2 acres minimal for future development), a science based report completed by a scientific expert – and years later appears that director has continued influence keeping table 4-1 in place and keeping the ½ acre allowance in place regardless of science, data, reports, etc. Thankfully CORA exists. Interesting to the citizens of the county. https://www.coloradorealtors.com/political-advocacy/legislation/ And so – years of citizen input, hard work, recommendations, data, scientific studies – and table 4-1 still exists and those in JCPH continue to recommend ½ acre development regardless of negative ground water impact. Name's write up that he provided needs to also be reviewed by the Board of Health.
18	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	As we understand it, according to the ground nitrate loading capacity model that was developed by Name and our Indian Hills water quality advocacy group, the minimum OWTS lot size that can adequately deal with effluent is 1.4 acres, using a TL3N system. There is no scenario where half an acre or an acre could be considered adequate, based on that model. Furthermore, in light of the threat of increasing drought as a result of climate change, no one can guarantee that adequate ground water will be present so that effluent from OWTS systems can be effectively diluted and filtered in septic drain fields. In parts of Indian Hills and other communities in Jefferson County, the nitrate levels in wells are already well above 10ml/L. By allowing smaller lots for OWTS installation it seems obvious that the density of development, and therefore the quality (and quantity) of water will be further reduced. Frankly, we think the current (old) regulations are better, using the minimum lot size of 3.5 acres for OWTS systems. The old platting, however, is obviously still a big barrier. The proposed regulations don't address that issue at all. Where the groundwater has been polluted with nitrates already, no further development should be allowed, no matter what year the platting. Using a one-size-fits all approach, without consideration of especially vulnerable or already impacted areas, feels like a huge step backwards. We would hope to see JCPH take a more forward looking and proactive approach that addresses the many challenges that will be faced in the future.
19	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	Our family has owned property in Indian Hills since the late 1970s and have watched growth explode in the mountain communities since then. Since then we have seen the effects of water shortages and the danger from wild file increase dramatically due to two ongoing and well-documented trends: increasing population and climate change. Neither of those trends appears likely to slow down in the future – if anything, they may accelerate further. Either one by itself would be problematic enough, but combined, they are putting unsustainable stresses on our communities, particularly in uniquely sensitive mountain environments. The issue obviously goes well beyond what our family has experienced over the past decades. As a local civil and water resources engineer, I've also been working with regional water managers who are struggling to maintain a sustainable supply of water and to stay in compliance with wastewater treatment effluent requirements, in the face of population growth pressures. We recognize that JeffCo is working to revise current regulations, which remain too development-friendly, particularly for our mountain communities. This will only exacerbate our currently growing problems over the coming years and decades. We need to limit development in these sensitive areas despite the attraction of revenue. It will take effort in terms of how to most appropriately apply current regulations, and how to best refine and modify regulations for a changing future, as your team has been working toward. We see this as one of the most important challenges for Public Health and other agencies in our region and state – and across the West. We strongly encourage Jefferson County to take these matters into paramount consideration, to help persevere the health of our mountain communities for current and future generations of Coloradans.
20		I was not able to attend the meeting this morning. I made a few comments to this. They are in dark green. Otherwise, any additional comments are in line with what Name sent you.
	Section 4.2 Minimum Treatment Level	What about properties platted after 11/10/73 that are less than an acre? There must be consideration of these properties as well.

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	Requirements - Repairs to Existing Systems	
	4.4 Repair Permits	This will inevitably require a full system replacement. If these systems are old enough to not have records, there is no way the STA will comply with current regulations. This is very substantial cost to the homeowner. Has this been considered at all? If the STA is functioning normally, I see no reason to replace it. Also, this would require excavation to determine the limits of the STA, which could potentially damage the system. Changes like this will drastically increase the cost of designs as well.
	Section 4.13 Changes in Plans or Specifications	I see no problem with this so long as a change can be made in the form of an addendum. Submitting a redesign is very time consuming, especially for small changes. In situations where the bedroom count changes, it makes sense to require a redesign. For small changes, or manufacturer changes, it is not realistic.
	7.0 Systems Contractors and Owner Installers	We should get rid of owner installations altogether. They are rarely done correctly and always end up requiring more inspections from the designer and county inspector.
21		I have read through the proposed red lined changes to the current regulations and do agree with the comments that have come in from Name in Conifer. He does his homework well. So as a board director with Name Water Company, we will support those comments. There was, as I'm sure you know, a piece in the Sunday Denver Post Perspectives that spoke to the drainage of the Ogallala Aquifer for agricultural needs and issues of some very much outdated regulations on all levels of government. What struck me was the use of the phrase "but the first principle should be "do no harm" ". Good advise to consider for your group working on this project.
22	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	Sorry for getting this out so late I thought I had already sent this to you. Below are my quick thoughts on what I have seen. Table 4-1 1) Are there plans on reducing current requirements on TL3N in order to have more competition in order to create a more competitive market? Could data gathered from outside of the state of Colorado be used to fast track some of these other products that exist? Currently it is incredibly difficult for other companies to get their foot in the door. 2) I believe this will lead to a vast increase in people attempting to install systems without obtaining permits. 3) As I understand this regulation the increased costs of installs on most properties under 2 acres will be anywhere from $6,000.00 to $25,000.00. What happens when people cannot afford that? 4) I could see this creating inventory issues statewide.
23		A Table of Contents would be helpful in the next draft.
	Section 3 Bedroom Definition	Bedroom definition talks about a dwelling, but there is not definition of a dwelling in the proposed regulations. The Zoning Resolution defines a dwelling as: A building designed for occupancy by one (1) or more families. We are changing our definition of a bedroom to include detached space, so these should be aligned as much as possible. Additionally, we have a definition of a detached living space, which is different than an ADU, it is a space that could have a bedroom and bathroom but would not contain a kitchen. If it contained a kitchen, then it would be considered an ADU under our definitions. Perhaps some of these definitions could reference the Jefferson County Zoning Resolution.
	Section 4.2 Minimum Treatment Level Requirements - Repairs to	The lot size for OWTS is changing to a minimum lot size based on nitrogen loading. While this does seem more scientific, we do question how that will change the ability for small lots in existing subdivisions to develop and what that may do to the amount of water being withdrawn from a basin. Additionally, some of our minimum density recommendations in the Comprehensive Master Plan were based on the minimum lot sizes for a new OWTS, so until we update all of the Area Plans again, we may have some discrepancies between our land use recommendations and the OWTS regulations. As we evaluate those recommendations, we will consider the amount of area needed for adequate recharge of a well.

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	Existing Systems	
	Section 3 Designer Definition	Definition of replacement says “See Repair”, but in the document sometimes the uses the word replacement in situations where the word “Repair” may not be an appropriate definition. We recommend that a search is done for the word replacement and evaluated for the appropriate word.
	Section 9.1 Application Requirements	Transfer of Title applications. We would recommend that the Transfer of Title applications also include an affidavit from the owner stating that the number of bedrooms in the dwelling matches the number of bedrooms allowed by the OWTS permit.
	Section 12.1 Single Family Residential Homes	The guidance for short-term rental in proposed regs is different than the guidance we have previously been given by Public Health. Was this intentional? ADUs. Planning & Zoning regulations do not allow more than 3 people in an ADU, no more than 6 people on the lot in total and no more than 2 bedrooms. Therefore, some of the scenarios for 3+ bedrooms would not be permitted to occur.
	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	In the property merger section there is language about a property merger by Planning & Zoning “or restricted through a permit condition”. We recommend it just be by property merger with Planning & Zoning.
		We are happy to coordinate on notification to the Regulation Advisory Panel (RAP) and the Regulation Update Notify Me list that is used for Planning & Zoning regulation updates.
24	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	Attached is a letter to JCPH regarding the revisions being made to the OWTS regulations. Also, there are two other documents attached that provide insight and validation to our concerns about our water quality and quantity. We look forward to working with the BOH to ensure proper revisions are made in regards to all Jefferson County residents backed by scientific evidence and data. The Indian Hills Water District, including its Board of Directors, it’s employees, and it’s residents have concerns regarding the proposed changes to Jeffco BOH’s Onsite Wastewater Treatment Systems policy that is currently being assessed for revision. We would like to refer to our Source Water Protection Plan that was completed in March of 2017. Many stakeholders in the District spent months building this plan to organize our efforts to protect our community’s drinking water, both for IHWD customers and those whose water source is a private well. Jeffco BOH representatives, Roy Laws and Jim Rada, attended and participated in many meetings during this process and supported our efforts. Many wells in Indian Hills, both District and private, have nitrates well above the 10.0 MCL. The Water District continues to test individual well’s for nitrate levels in order to find out where the high nitrate levels are located. There is a high cost for the nitrate issue in the community. IHWD’s current nitrate removal system is outdated and expensive to operate. The District is planning to install an updated nitrate removal system at a cost of approximately $600,000.00. Our customer water rates are increasing to help pay for this necessary water treatment system. Jeffco BOH’s OWTS policy for repairing, upgrading, and installing systems will impact this community to a high degree, both in quality of water and quality of health. Jeffco Public Health commissioned a Groundwater Water Quality Modeling Project in 2016 to study decades of research, conduct analysis, and review evidence to determine if and how potential development might increase nitrate levels above the accepted 10.0 MCL. From this study, we discovered that the existing OWTS are the main cause of the nitrate issue. We also know that when a new home is built with a new OWTS, water quantity is impacted. Water is a limited resource and new construction on smaller lots has an effect on our water situation in more than one way. We ask that the Board of Health take into consideration that our community is concerned about both water quality and quantity. We continue to review tap applications knowing that if we decide not to issue a tap, the Colorado Division of Water will proceed with issuing a well permit. This is a discouraging position for our Water District. Without more discerning building permit practices by the county, the district will

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		have costs become unaffordable for the community and the water supply will be unsustainable, leading the district and the community to fail. Regardless if the State continues to issue well permits, the county needs to be cognizant of the water quality and supply concerns for all Jefferson County residents, current and future.
25	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	I apologize for the lateness of my comment. I wanted to get through the entire regulation to make sure I didn't have any other comments. I wanted to weigh in on proposed Table 4-1: For proper subdivisions of land platted or recorded prior to November 10, 1973, the property size may be reduced to 0.5 acres if the following conditions are met: A copy of the recorded plat to verify recordation date, The DESIGN includes TREATMENT LEVEL 3N or better, and; The PUBLIC WATER SYSTEM submits to the HEALTH DEPARTMENT a will serve letter for the property. By keeping a date, it will still require staff to find out the plat date from Planning and Zoning if not readily available on the Assessor's records. I think this should be the responsibility of the applicant and that the applicant must provide documentation as such. I would request that the proof of documentation should be on the applicant. If the applicant does not do this, is Planning and Zoning willing to continue looking this information up for us? It was my understanding that P&Z said they would only do this for EH until the end of the year. There is not always a plat recorded in the Assessor's record. What is the scientific reason for the date? My opinion is that the date simply needs to be removed and the entire table should rely on science not dates. I think if we are going to break away from dates, we should do this entirely. I would recommend that Statement A. should read as follows: For proper subdivisions of land that will be served with public water, the property size may be reduced to 0.5 acres if the OWTS design includes Treatment Level 3N and a letter from the Public Water District provides a will serve letter for the property.
26	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	What happens when it's a use permit, the tank fails, they need to do HLT? Result in a lot of entire OWTS replacements? The cost worth the benefit? What happens when someone just wants to add a bedroom, meets setbacks but doesn't meet lot size; they need to add HLT just for that? How do we deal with repairs to lots that are outside of Table 4-1? Do we we require a <1 acre lot to go before the BOH for a repair? Will we be requiring the installation of HLT for tank replacement because of the lot size. Should we be looking at expansions/additions different? When it's a repair for to an existing OWTS that is <1 acre, would they need to go before the BOH? How do we deal with repairs to lots that are outside of Table 4-1? Do we require a <1 acre lot to go before the BOH for a repair? If they have to do HLT b/c of property size, the setback then goes to 100 ft pretty much.
27	Section 4.2 Minimum Treatment Level Requirements - Repairs to Existing Systems	I agree with the approach regarding requiring HLT; it was nicely brought to attention in a mathematical way, not emotional and based on a formula. It made sense. I agree with the approach regarding requiring HLT; it was nicely brought to attention in a mathematical way, not emotional and based on a formula. It made sense. As a product supplier this could be good and bad. This is good because it's better for the environment. This can be tricky for demand, "How can I get into the TL3N level quickly?" Looking to bring back the SeptiTech STAAR system and BioBarrier for a TL3N option. Trying to bring more options.
	Section 14.8 Metal and Cinderblock Tanks	Cinder blocks tanks should be removed. These are safety issues.

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	Section 14.23 Repairs to Septic Tanks	What if a property cannot fit a system, are we still allowing “grandfathering?” What if it is a tank replacement and well is <200 ft? Had a scenario where the tank collapsed. It was an old tank and wanted to look at the STA but the property owners didn’t want it looked at. We replaced the tank, only to find the STA needed to be replaced as well. We would like a little more to hang our hat on to look at STA and make the necessary fix.
28	Section 9.2 Minimum Criteria for Approval	Talk with other counties with rural areas, all 3 have different regs, JCPH doesn’t require lids to be at grade during use permit inspections, so many homes don’t have effluent screens- mandate it more. Think it’s good that use permit inspectors fill in records- require a record drawing. Clear Creek and Park already require this. They require house, well, tank, STA and distances. Inspector said he’s already submitting missing info. Need to find balance between compliance and functioning requirements. When failing a system and require sending report to JCPH, put in regs requiring reporting failures within a time frame.
29	Section 14.23 Repairs to Septic Tanks	Evaluating a repair could cost quite a bit and make a tank replacement very burdensome.